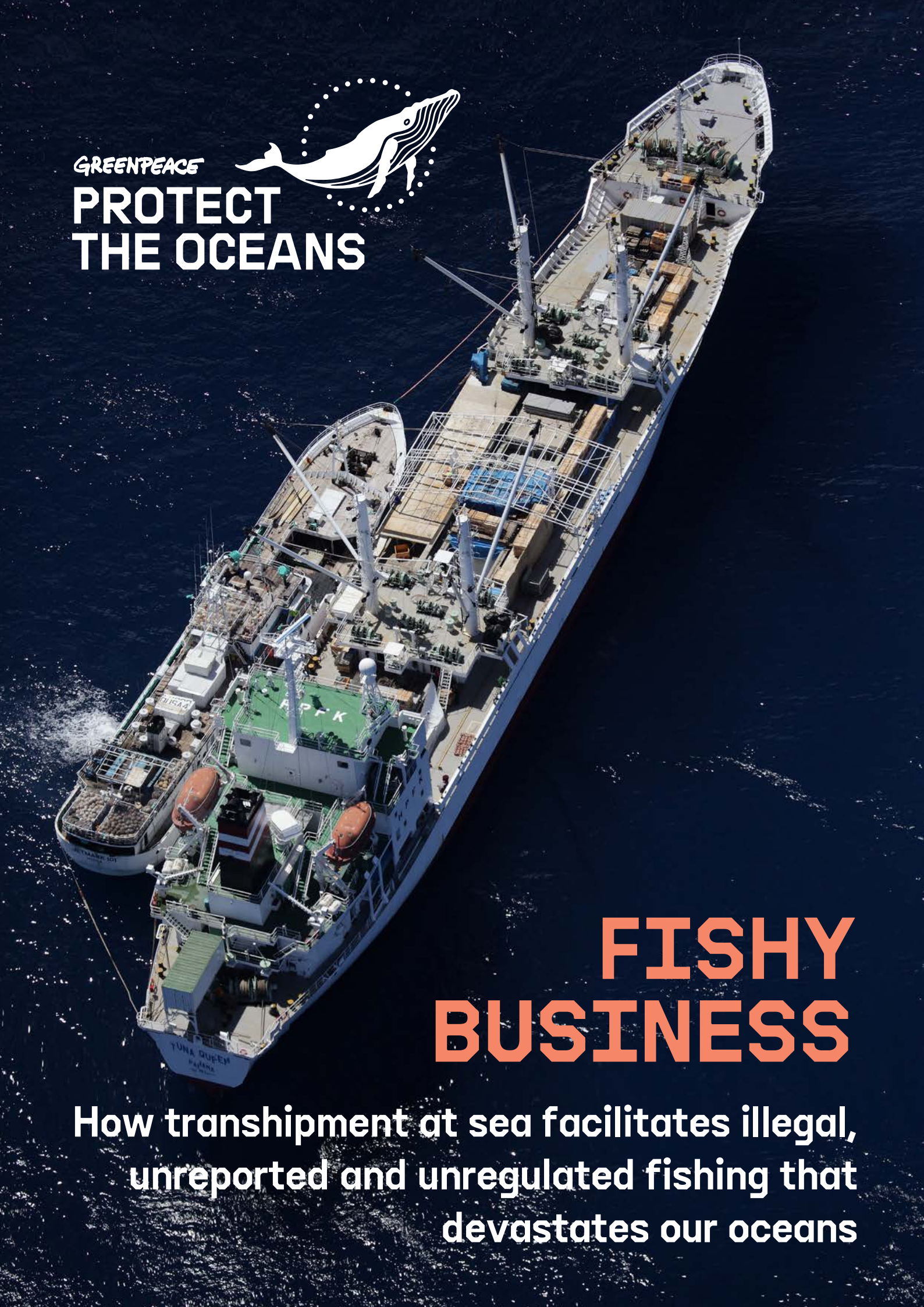


FISHY BUSINESS

How transhipment at sea facilitates illegal, unreported and unregulated fishing that devastates our oceans

With thanks to Global Fishing Watch, Kongsberg Satellite Services and Trygg Mat Tracking for the use of their data and their ongoing assistance.

Unless otherwise indicated, Greenpeace refers to Greenpeace International throughout this report.

A humpback whale in the Antarctic Ocean
© Christian Åslund / Greenpeace

CONTENTS

A transhipment of frozen tuna from the Hung Hwa 202 to the Hsiang Hao
© Tommy Trenchard / Greenpeace

KEY FINDINGS

- Using data from Global Fishing Watch and research from a wide range of maritime sources, Greenpeace has developed a record of 416 'risky' reefer vessels operating on the high seas. The way these vessels operate poses a threat to the marine environment by facilitating illegal, unreported and unregulated (IUU) fishing, and undermine the human rights of their workers.
- This global fleet hides behind complex ownership structures and 'flags of convenience' (FOCs) that reduce accountability and transparency. In a historic first, this report uncovers this murky system at scale.
- Every fishery where these vessels are allowed to operate is in effect supporting an increased risk of IUU fishing and human rights abuses.
- In 2019, the single most active fleet of reefers involved in transhipments on the high seas was owned and/or controlled by Greek shipping magnate Thanasis Laskaridis. Many of his vessels are reported to pose an environmental risk and use FOCs that require lower environmental, labour and safety standards.
- Even in the Antarctic, which purports to have some of the best fisheries management in the world, vessels with reported health and safety infringements operate regularly and evidence suggests they have possible IUU fish onboard.
- One vessel investigated by Greenpeace struck an ice floe inside Antarctic waters whilst carrying a significant quantity of fuel that could have polluted the pristine environment.
- Greenpeace urges immediate action by the relevant authorities in the Antarctic and across the world to prevent the continued environmental and human rights risks posed by this fleet.
- Greenpeace highlights the continued governance gaps that allow malpractice in international waters to continue and calls for a strong Global Ocean Treaty that would provide a more holistic approach to ocean governance.

Frozen tuna in the hold of the Heng Xing 1
© Alex Hofford / Greenpeace

INTRODUCTION

"Transhipment at sea allows entire fleets to operate out of sight where they can hide illegal catches and operate without returning to port, significantly increasing fishing operations and the likelihood of human rights abuses."

Overfishing and destructive fishing are among the greatest threats to marine biodiversity globally. On a warming planet, where climate change, ocean acidification, plastic pollution and habitat destruction are already decimating ocean life, restoring fish populations and ensuring well-managed fisheries is of utmost importance. Not only to safeguard marine life but to ensure the food security of 3.1 billion people, many in developing countries, for whom fish represents 20% or more of the animal protein they have access to.[1]

Fish is one the most internationally traded food products in the world. According to the UN Food and Agriculture Organization (FAO), in 2016 about 35% of global fish production entered international trade.[2] A key component of the international fish trade is a global fleet of refrigerated cargo vessels known as reefers. This report investigates the movements, behaviour and ownership structures of some 416 'risky' reefers identified as capable of taking part in transhipments at sea—the dubious practise of offloading catch from one fishing vessel onto another vessel, far away from port. We classified these reefers as risky due to a combination of factors, including geographical spread of operations, time spent on the high seas, ownership of vessels with a history of IUU fishing, periods of activity where no satellite tracking data was available, and visits to ports with lower regulations.

Transhipments at sea are considered a major loophole in monitoring fishing activities. By offloading catch at sea, vessels are able to smuggle IUU catches into the market by mixing them with legal catches. This makes it exceedingly difficult to detect fraud or trace a shipment of fish back to the vessel that caught it. It also allows entire fleets to operate out of sight, where they can hide illegal catches and operate without returning to port. This significantly increases fishing operations and the likelihood of human rights abuses.

This report explores how IUU fishing and transhipments at sea undermine existing rules aiming to prevent the overexploitation of marine resources, and why these rules must be strengthened to ensure compliance and robust ocean protection. The FAO itself notes that transhipments are a major facilitator of IUU fishing, and that 'not all the attention should be placed in fishing vessels only but also on refrigerated transport vessels and supply vessels'.[3]

This report exposes the pervasive impact of IUU fishing and transhipments at sea. It reveals the covert operations of reefer fleets, the use of shelf companies and FOCs to avoid scrutiny, the high concentration of ownership of the fleet, the practices that allow both reefers and fishing vessels to go undetected and how this facilitates unregulated transhipments, the fleet's appalling safety record and the high risk this poses to marine ecosystems, as well as the lack of scrutiny over transhipment activities in the Southern Ocean—one of the most pristine marine ecosystems left in the world.

The report ends with a set of recommendations for how to improve the monitoring of these fleets, how to increase transparency for transhipments at sea, and how to enhance the overall governance of Areas Beyond National Jurisdiction (ABNJ), where many of the more egregious examples of unsustainable and abusive practises are found. By following these recommendations with immediate effect, the relevant authorities can curb the strain of IUU fishing on our fragile marine ecosystems and ensure the rights and safety of all workers at sea.

A Greenpeace rhib observes a transhipment of frozen tuna from the Hung Hwa 202 to the Hsiang Hao
© Tommy Trenchard / Greenpeace

PART ONE
INVESTIGATING TRANSHIPMENT AT SEA

Mapping the fleet

The global fishing fleet has expanded to virtually every corner of the ocean. Consequently, efforts to monitor these activities have expanded too, with a number of methods increasingly available to track fishing vessel behaviour. These range from Vessel Monitoring Systems (VMS) which communicate the vessel position to a management authority, to sophisticated satellite tracking and imaging technologies such as the use of wandering albatrosses equipped with GPS trackers to detect radar emissions from fishing vessels.[4] Whilst the evolution and availability of these technologies is having an impact on the secrecy surrounding fishing activities, certain fleets continue to avoid tracking, often in a bid to provide cover for illicit behaviour.

One such technology, though a relatively unsophisticated one, is the Automatic Identification System (AIS), which was originally designed to help reduce the risk of collisions at sea. AIS continually broadcasts a ship's position and its use is mandatory for most vessels under international shipping regulations.[5] A ship has a legitimate reason to turn off its AIS when its safety or security is threatened, for example if there is the potential risk of pirates in the area. The master should report this action to the relevant authority, noting the reason and duration in the ship's log, then restart the AIS as soon as the danger has passed.[6]

The act of turning off AIS is strongly associated with illegal activity. Fishing vessels engaged in IUU fishing will often disable their AIS when entering a zone where fishing is prohibited or restricted, like a marine protected area (MPA), or when it doesn't hold a valid fishing license in a country's exclusive economic zone (EEZ). AIS is also disabled by vessels using illegal fishing gear or when carrying out unauthorised transhipments at sea. This is known as a vessel 'going dark', and efforts are being made to spot suspicious patterns from fishing vessels that turn off their AIS.[7]

A target vessel is seen on the radar of the Arctic Sunrise in the mid-Atlantic ocean © Tommy Trenchard / Greenpeace

Methodology

Beginning in 2017, Greenpeace set out to understand the scale of the misuse of AIS by the global reefer industry. The primary source material was provided by Global Fishing Watch (GFW),[8] namely a number of datasets containing details of the activity of 'transhipcapable vessels' based on satellite-captured AIS signals between 2012 and 2019. GFW define a transhipcapable vessel as a vessel with the capacity to take catch onboard from fishing vessels at sea, and store and transport it in a temperature-controlled/frozen state to port for offload. 'Transhipcapable vessels' is a catch-all phrase encompassing a range of possible vessel types used to tranship catch at sea. A tiny fraction of these might be considered something other than a reefer and therefore, for the purpose of this report, when referring to 'transhipcapable vessels' the word 'reefers' will be used instead.

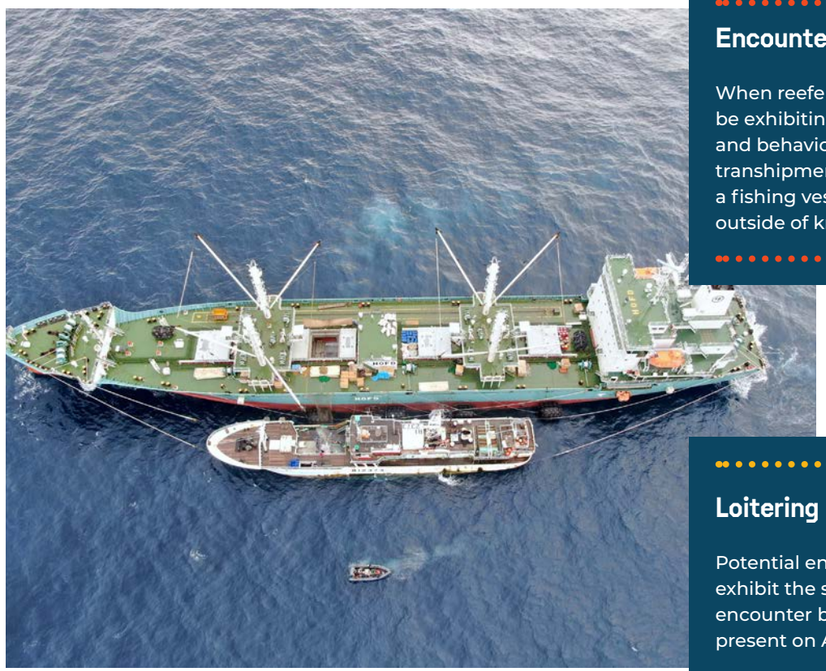
This report has primarily made use of three datasets:

- **A list of ~1,600 reefers identified in the data.**
- **Details of encounters between reefers and fishing vessels.**
- **Details of locations and times where reefers have been observed behaving in a manner that suggests a possible transhipment or encounter at sea but no partner vessel is visible in the AIS data.**

When reefers are seen by AIS to be exhibiting the same patterns and behaviours associated with transhipments, and are meeting with a fishing vessel that is also using AIS outside of known ports or anchorages, GFW defines this as an 'encounter'. The algorithm developed by GFW requires these vessels to be almost next to each other for a few hours, and for neither vessel to be underway. It is important to note that while using AIS to track vessels at sea beyond sight, it is only possible to establish that a transhipment has happened when there is full proof, either via visual confirmation, photo or video of the catch being transferred, or using regional fisheries management organisation (RFMO)/observer records.

GFW applied machine-learning to the reefer vessel tracks to spot potential encounters with AIS dark vessels by looking for vessels exhibiting the same track patterns, but without a second vessel present on AIS. They called this behaviour a 'loiter'.

GFW define a loitering event as an occasion as an occasion when a reefer is observed traveling at less than two knots for at least four hours while more than 20 nautical miles (nm) from shore while apparently unaccompanied by other vessels. Although there are many legitimate reasons for this behaviour (vessels often have to wait for paperwork to clear



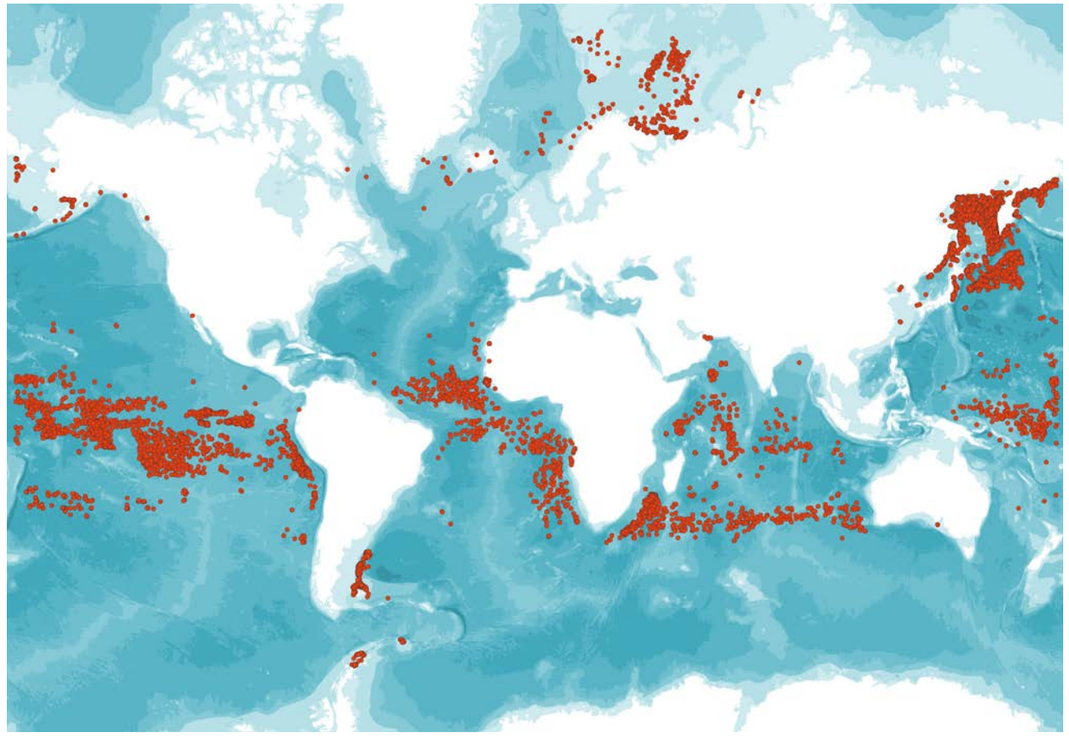
Transhipment in the Mid-Atlantic Ocean
© Greenpeace

Encounters

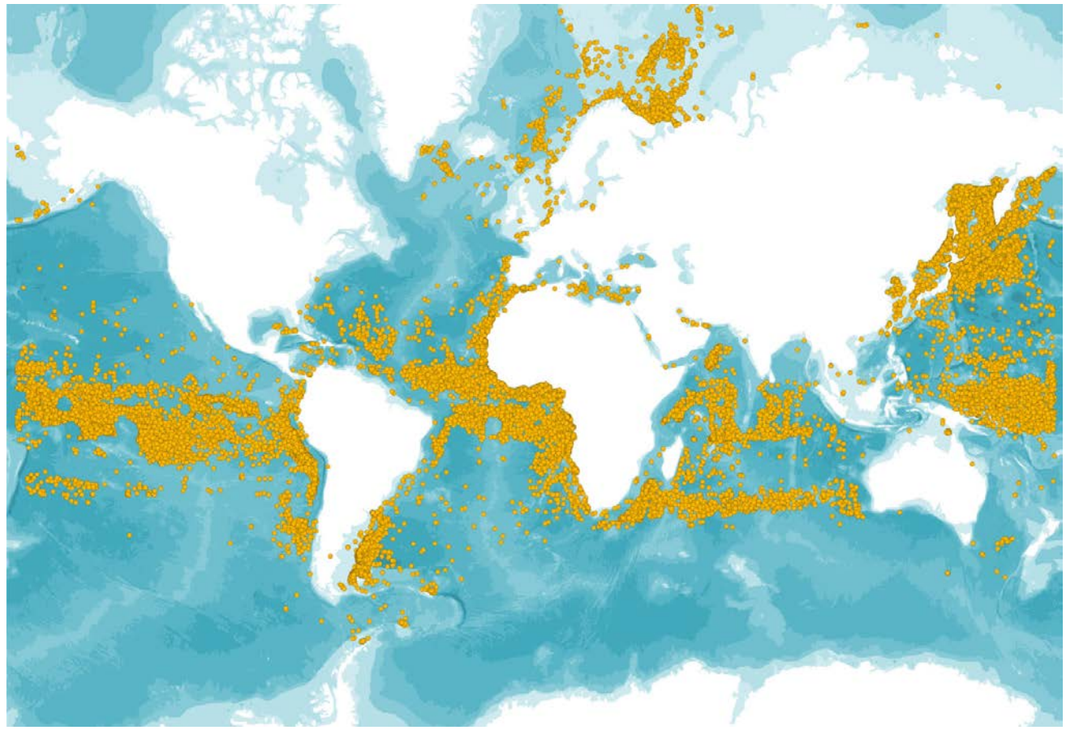
When reefers are seen by AIS to be exhibiting the same patterns and behaviours associated with transhipments, and are meeting with a fishing vessel that is also using AIS outside of known ports or anchorages.

Loitering

Potential encounters, where vessels exhibit the same track patterns as an encounter but without a second vessel present on AIS.



Encounters tracked by Global Fishing Watch from 17 January 2012 to 11 June 2019.



Loitering tracked by Global Fishing Watch from 1 January 2012 to 4 January 2019.

.

before entering or exiting ports or EEZs, or may be held up waiting instructions for other administrative reasons before transiting specific areas), both GFW's work and Greenpeace's own comparison of activity within Antarctic waters, which are governed by the Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR), indicates a high degree of correlation between loitering and transhipment activity.

Since all this data is derived from AIS broadcast information, the identities of vessels are defined by the identification fields included in these broadcasts, namely:

→ Vessel name

Vessel names are a very unreliable way to identify a vessel. It is surprisingly easy to change a vessel's name, which happens regularly, and names are often reused and duplicated. Language, translation and spelling of a name can vary greatly, especially with numbers which can be represented in a variety of ways, for example: Pesca 2, Pesca Two, Pesca II, Pesca2, Pesca-2.

→ IMO number

The International Maritime Organization (IMO) ship identification number scheme was introduced in 1987 as a measure aimed at enhancing "maritime safety, and pollution prevention and to facilitate the prevention of maritime fraud". It is a permanent number assigned to each vessel and should remain unchanged upon transfer of the ship to other flags or owners. The implementation of the scheme became mandatory for reefers as of 1 January 1996.[9]

→ MMSI number

The Maritime Mobile Service Identity (MMSI) number is a unique nine-digit number for identifying a ship. It is programmed into all AIS systems and very high frequency (VHF) electronics on board of the vessel and provides an internationally standardised number for contacting the vessel. This number is assigned to a vessel by the appropriate authorities in the country of registration of the vessel. In some cases, it is possible that the MMSI number of a vessel changes, e.g. the vessel is sold or long-term chartered and the flag changes.[10]

→ Callsign

A vessel's callsign or international radio call sign (ICRS) is allocated nationally to all vessels with radio equipment on board as part of the radio licensing process. The callsign can change over the lifetime of a vessel, especially with a flag change, but there should never be two vessels with the same callsign at the same time.

With the exception of the IMO number, which is not available for all the vessels in our database, these values can change over time as boats are sold, re-registered or reflagged and the data itself is subject to errors introduced during transmission, reception or processing of the tens of millions of AIS broadcasts being captured daily on a global scale. This means that the same physical boat can appear multiple times in the data under the various identities it has operated under over the years, and erroneous identities can be created by the transposition or omission of numbers from an ID field.

The 2009 Agreement on Port State Measures

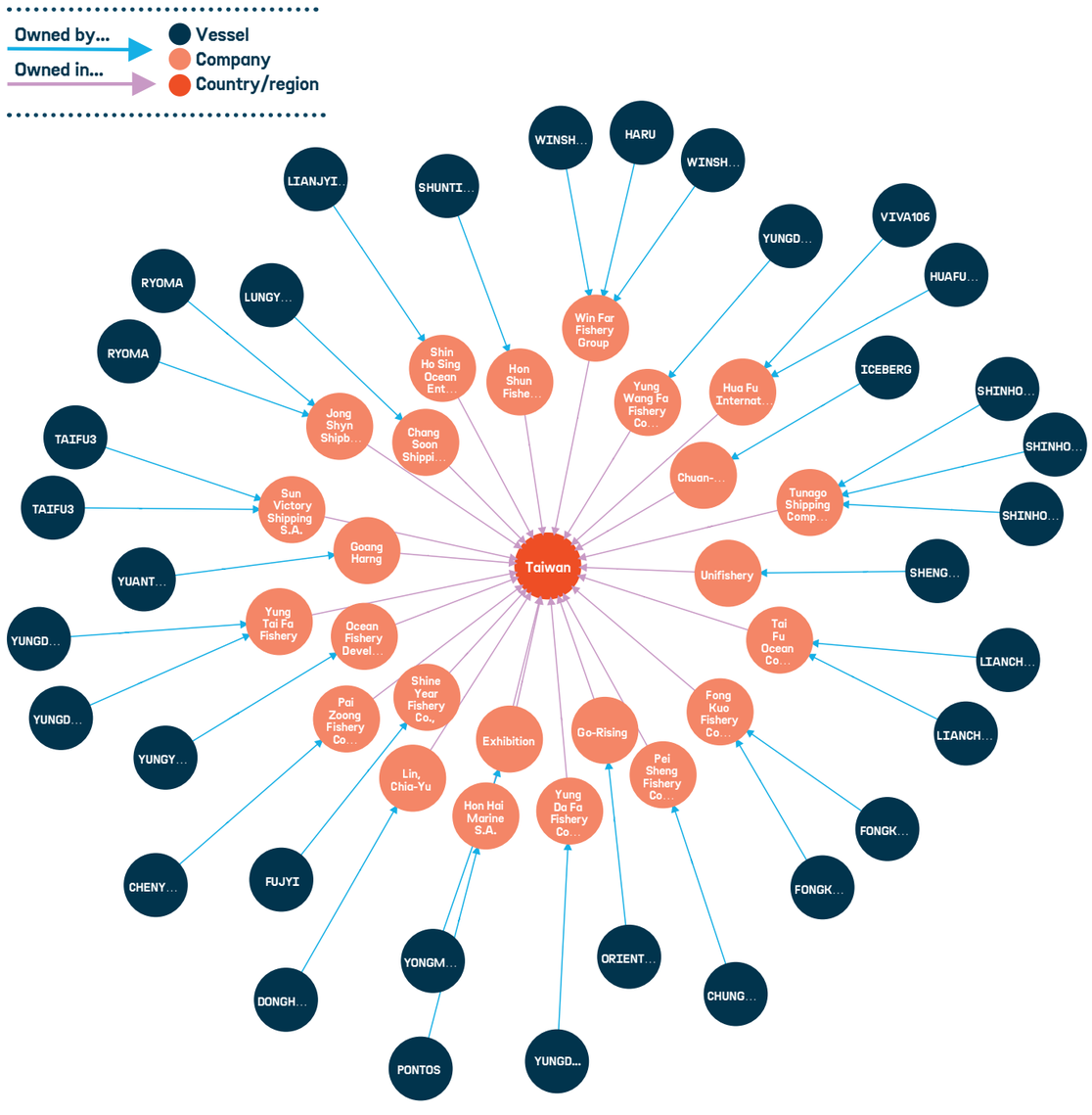
The PSMA is the first binding international agreement to specifically target IUU fishing. It entered into force in 2016 and currently has 66 parties.[12] The PSMA establishes a range of measures seeking to prevent vessels engaged in IUU fishing to land their catches and place illegally caught fish in the market.[13]

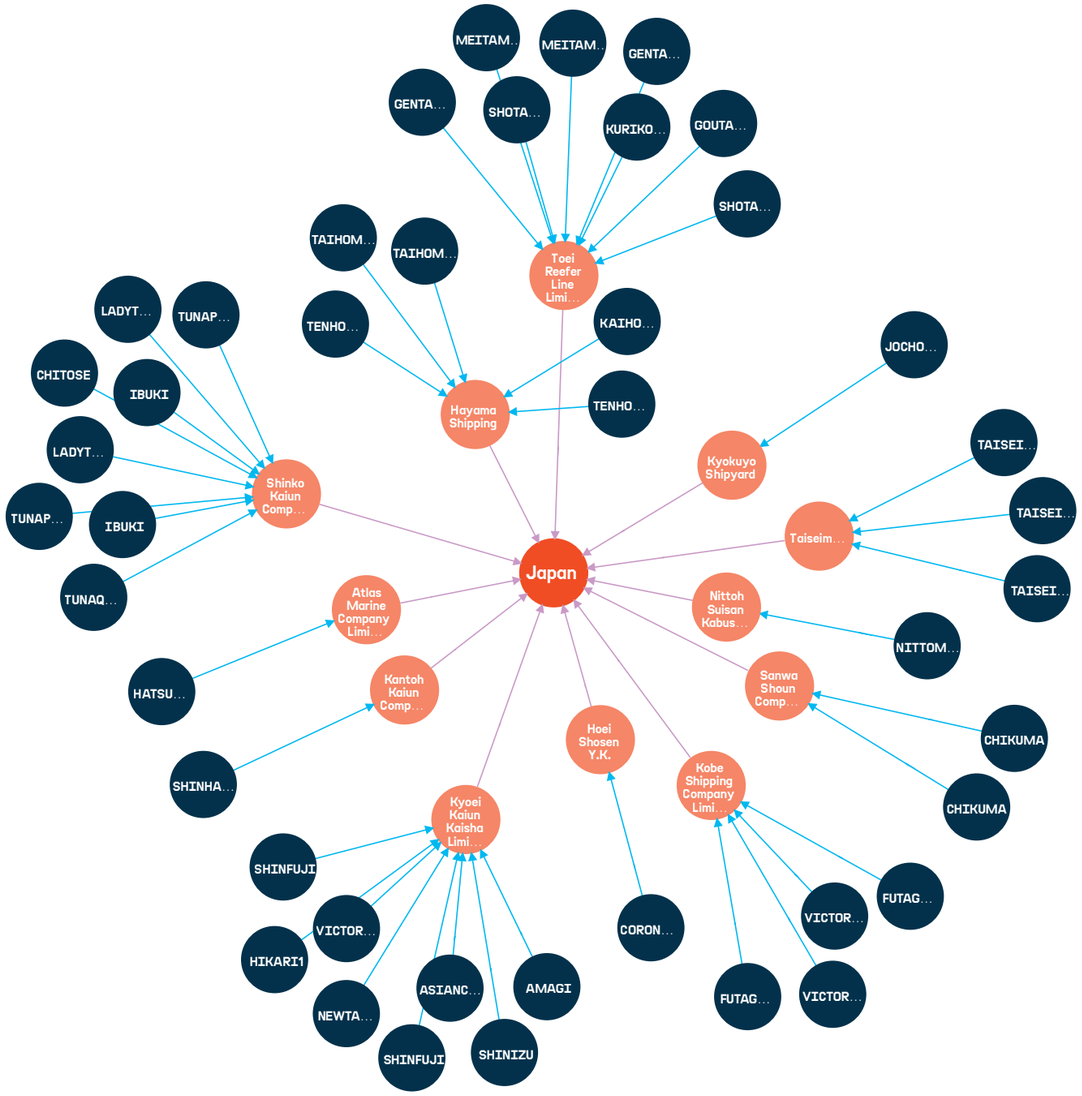
The provisions of the agreement apply to fishing vessels, including reefers, that seek to enter a foreign port. They include: the designation of ports where foreign vessels can offload catches to ensure that there is sufficient capacity to inspect catches; the establishment of minimum levels for inspection of vessels; submission of information to port authorities prior to access; denying the use of ports where there is evidence of IUU fishing activities, and increased cooperation between port states and flag states to establish the legality of the catches. Unfortunately, many important port states, including several of those analysed in this report, have not yet ratified this agreement and are not bound by these measures.

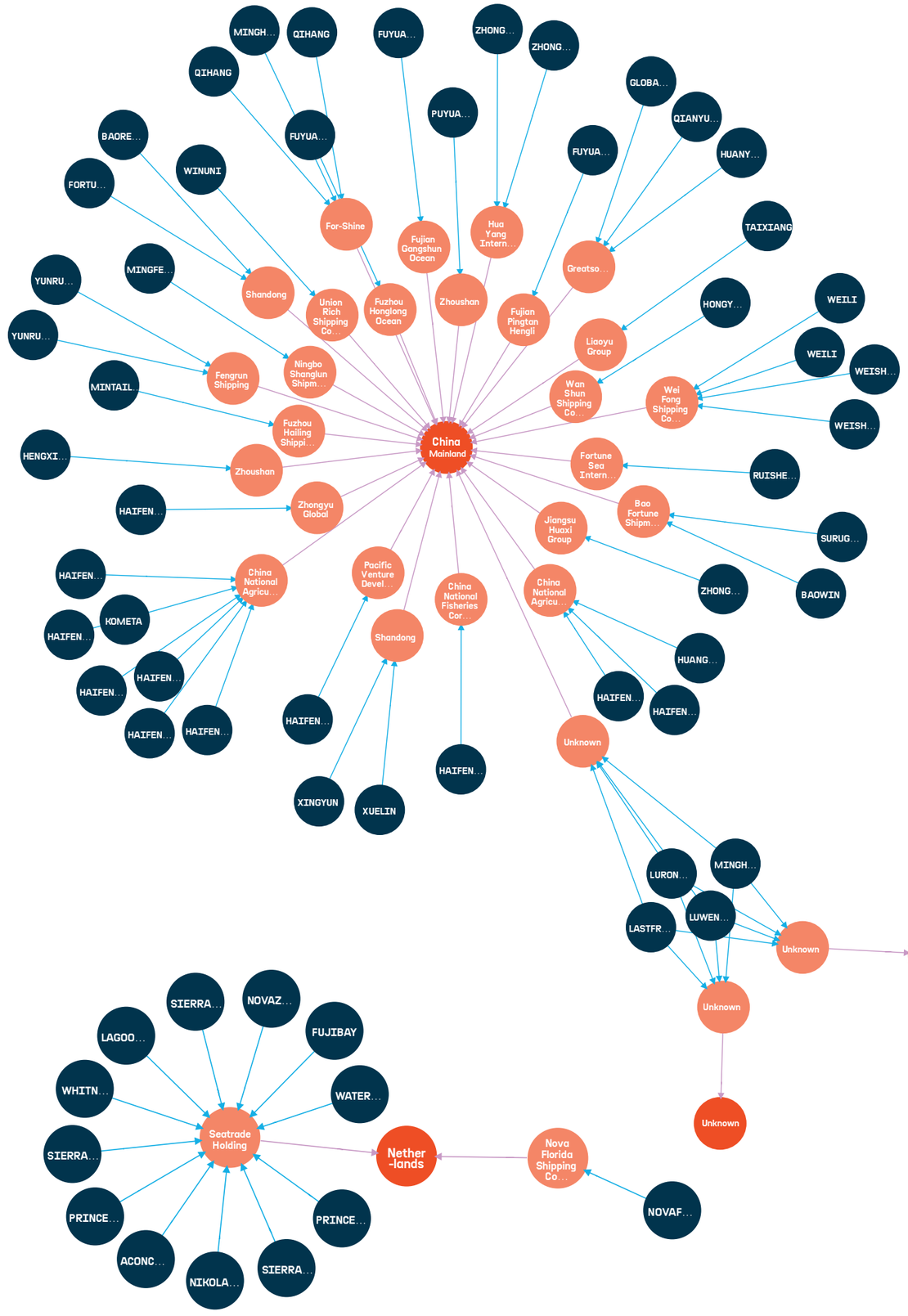
Mapping the owners

This report aims to identify the networks, companies and individuals controlling the global reefer fleet. To do this, Greenpeace first attempted to establish the different identities each transhipment-capable reefer assumed over its lifetime, given that a change of identity often corresponds with a change in ownership. Researchers then cross-referenced these with the encounters and loitering data to exhibit vessel activity during each different identity, as well as over the lifespan of the vessel.

The Advanced Risky Reefer Record (ARRR) is an ongoing Greenpeace project and is the marriage of research by experienced maritime intelligence investigators. By poring over company records, vessel registration and insurance documents, investigators are able to identify the organisations, individuals and countries owning or controlling each reefer on our research list—with the history of that vessel's activity derived from GFW's loitering, encountering and other datasets. The result is a record of vessel activity aggregable at a number of levels, from specific periods of ownership and registration, to fleet or nationwide activity.

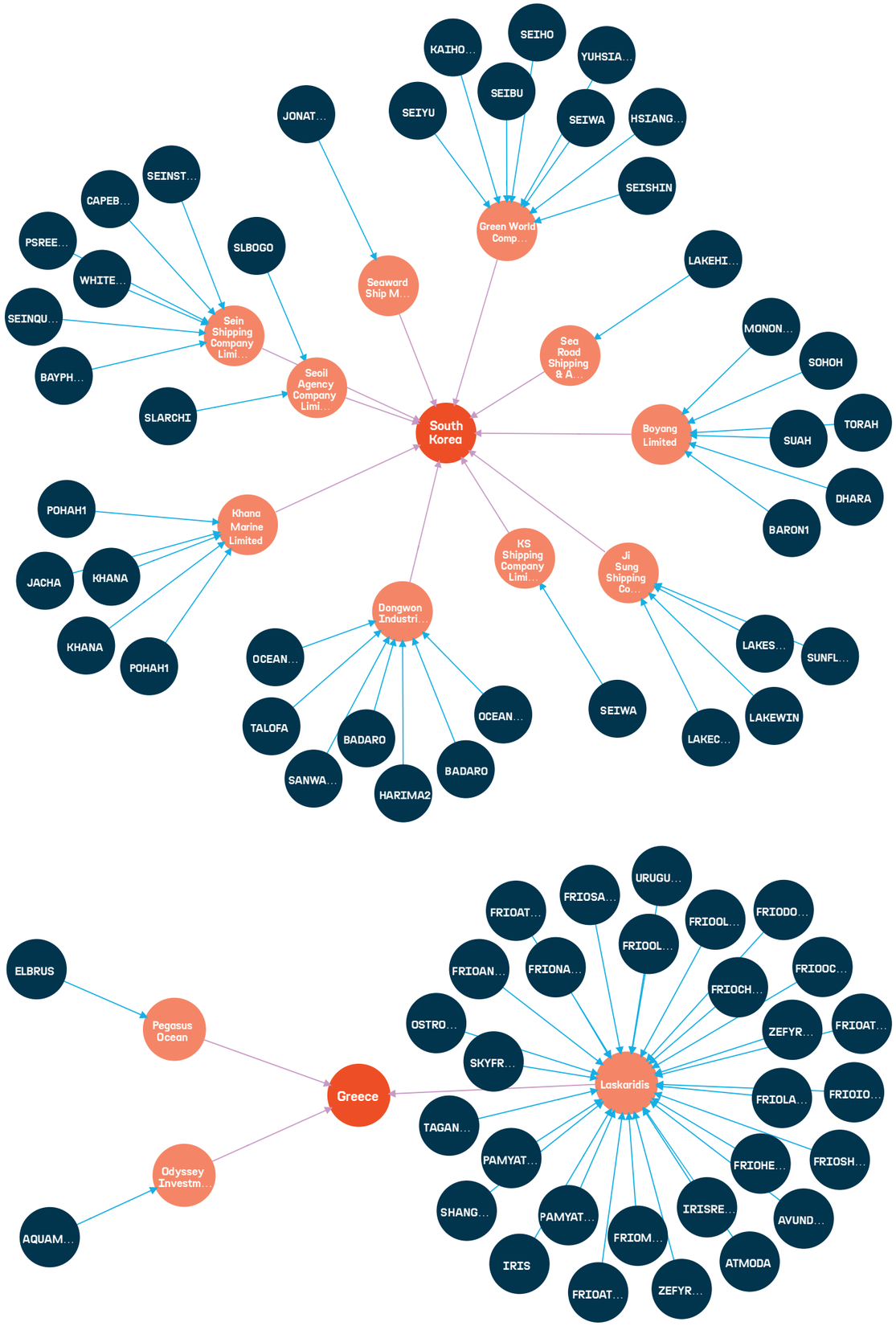




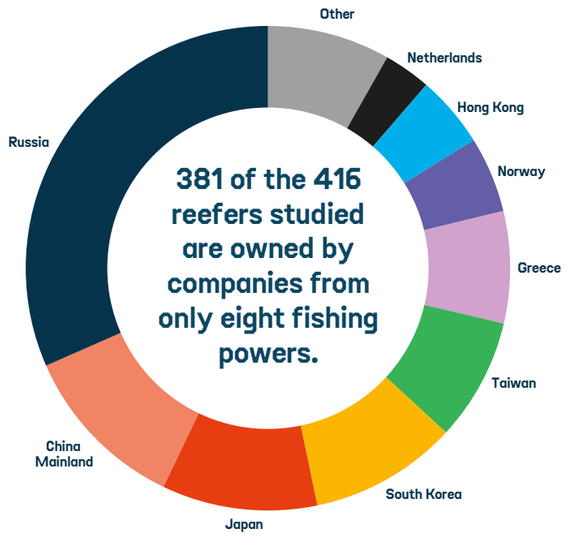


Greenpeace has calculated a risk score for each vessel identity that takes into account volume, recency, frequency and geographic spread of operations, as well as connections with any IUU fishing vessels (i.e. they share an owner or operator) featured on RFMO or other official lists. Furthermore, the volume, frequency and length of gaps in the AIS data and visits to ports in countries which are not a party to the 2009 Agreement on Port State Measures (PSMA) was also taken into account. The ARRR can be used to identify groups of vessels representing specific geographies or owners, or used to create rough rankings of relative risk using the different criteria.

When initially developing ARRR, investigators removed 593 reefer identities that the data did not show encountering or loitering anywhere between 2012 and 2019. The global spread of a vessel's activity was analysed and a number of reefers were identified that appeared to limit their activities to a specific region and landing port. Notably, there are a very large number of encounters that occur between Russian-flagged fishing vessels and Russian-flagged reefers in the North Pacific. Previously published work by GFW found that 96% of Russian transhipment events were with Russian fishing vessels, and 98% of the events were within the Russian EEZ.[11] Russia's fishing economic model relies on reefers in its coastal waters to bring catch from its local fishing boats into port, and it has a large fleet of over 130 vessels in order to do this. It therefore represents a relatively self-contained system that does not appear to interact with the global reefer industry. Therefore, for the purpose of this investigation, Greenpeace set these vessels and their activity aside.



Once the list of target vessels was reduced to ~700 different identities (noting that one vessel may have multiple identities), researchers began the painstaking process of trawling through registration and insurance records, information from previous Greenpeace activities, Lloyd's List Intelligence, Marine Traffic databases, and RFMO records in order to establish the most likely identity and location of the actual owners of these vessels at a specific point in time. The resulting dataset provides, in a historic first, an overview of the actual ownership structures (as defined by Lloyd's List Intelligence), and networks behind the global transhipment industry, and the volume and location of activity over time at a fleet/ ownership level. For details of the different ownership structures and terminology, see Appendix A.

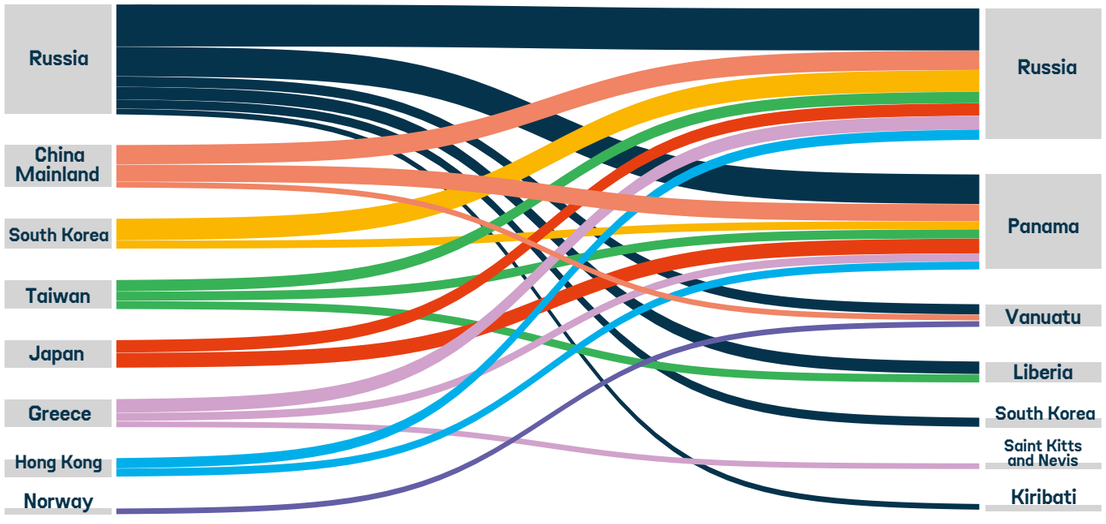


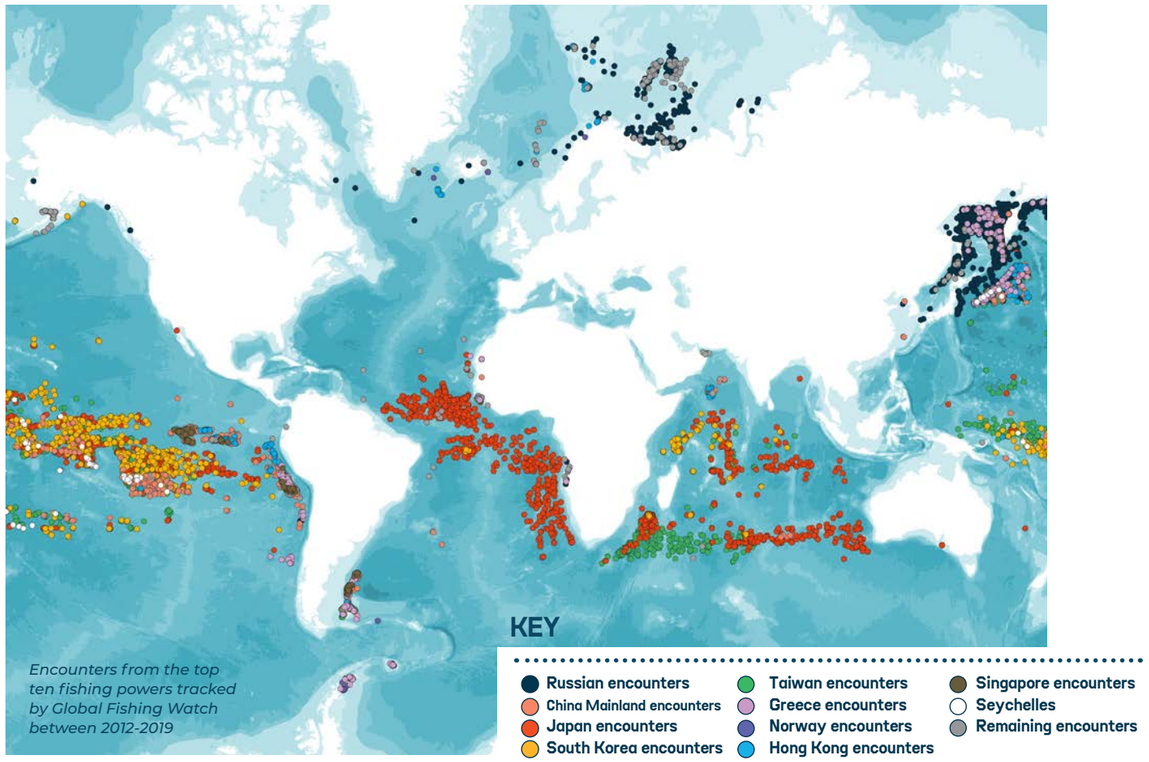
Greenpeace was able to identify and study 416 vessels from around the world, accounting for these ~700 vessel identities, confident that they account for the vast majority of reefers that have transhipped at sea in the period 2017-2019. Despite their global reach, 381 of these vessels are owned by companies from only eight fishing powers: Russia, China Mainland, Japan, South Korea, Taiwan, Greece, Norway and the Netherlands. Putting aside Russia's self-contained system, transhipping on the high seas, in CCAMLR waters, and in the EEZs of developing nations in the Pacific and the coast of Africa is dominated by 250 ships from the remaining seven powers.

But while the owners of these vessels can be found in just seven powers, in many instances the corresponding flag will not be found flying on the vessel. In order to reduce costs and avoid more stringent environmental and labour regulations, ships of many types are registered in countries that fall under the label 'flag of convenience' (FOC). This is particularly prevalent in the reefer business, with 74% of the non-Russian vessels in this report flagged to FOCs. Panama leads the way with 95 registrations, followed by Liberia and Vanuatu. There are, therefore, some significant limitations to what has been achieved during the process. The limitations of AIS-based reporting are well known, and the gaps and inconsistencies these introduce into the data limit the certainty with which Greenpeace can draw conclusions from it. More problematically, the corporate structures around the ownership of large boats are traditionally quite complex and designed to limit the liability of owners and financiers. In the case of the global reefer fleet, the issue is further confused by the extensive use of FOCs and chains of ownership that pass through several different countries, as well as the periodic re-flagging and re-registering of vessels.

Vessel ownership and FOCs

As part of tracing a vessel's main commercial operator, Greenpeace looked at vessel ownership and the other companies involved, such as the technical manager or operator. Some of the large owners have bigger fleets under their control than the term 'ownership' suggests—using the same back-end administration and operating companies. Greenpeace designated a 'company of interest' category for each vessel. This was often the beneficial owner but sometimes a larger known reefer operator connected through management or operation of the vessel. We then compared the company of interest's country/region (left column) with the flags of vessels linked to that company (right column) to demonstrate the extent to which owners of vessels hide behind the same FOCs, regardless of where the ultimate parent company is based.





Encounters from the top ten fishing powers tracked by Global Fishing Watch between 2012-2019

Under the 1982 United Nation Convention on the Law of the Sea (UNCLOS), a state flagging a vessel is responsible for ensuring that it complies with all relevant agreements and regulations, from shipping standards to pollution prevention, working conditions and fisheries conservation measures. UNCLOS requires that a 'genuine link' exists between the flag state and the vessel.[14] A 'genuine link', however, is poorly defined[15] and often not implemented in practice. The practice of 'flagging out'—flagging a vessel to a state different from that of its owner—is very old, linked historically to obtaining a range of benefits, from avoiding trade restrictions in certain territories to even trafficking slaves. Several terms are used to refer to different situations where vessels are flagged to a certain state in order to avoid compliance with existing rules or to benefit from lower standards. These include FOCs, Flags of Non-Compliance (FONCs), and other lesser known ones.[16]

The International Transport Workers Federation (ITF) defines a FOC vessel as one that flies the flag of a country other than the country of ownership.[17] Usually these vessels use what is known as an 'open registry', where a state offers its flag with very flexible requirements and enticing conditions for foreign vessel owners, including cheap vessel registration, lax monitoring and control of fishing activities, low taxes, and poor labour regulations. Globally, around 35 States have open vessel registries.

The term FONCs is often used to address the fact that some flag states consistently fail to comply with international obligations, irrespective of whether they operate an open register.[18] In 2002, CCAMLR adopted a Resolution on Flags of Non-Compliance.[19] This term was later endorsed by the FAO which used it in the context of the FAO Expert Consultation, leading to the adoption of voluntary guidelines on flag state performance in an attempt to improve flag state control over fishing vessels.[20]

The use of FOCs and FONCs has often been connected with exploitation, forced labour, human trafficking and even terrorism and murder.[21] An astonishing 74% of the reefers researched for this report are registered to countries considered as FOCs by ITF, with Panama, Liberia and Vanuatu dominating.[22]

It appears that, in some cases, ownership structures have been intentionally designed to obscure the true controlling interest owning many of these boats at a given point in time. This means there have been some cases where, despite best efforts, Greenpeace has been unable to identify the ownership of a boat, and others where experience, prior knowledge or common sense have been employed to draw connections that are not completely apparent from the available data. This lack of transparency regarding vessel ownership is typical of the industry, and indicates a dubious regard for the safety of both the ship's crew and the environment.

Panama: a convenient flag to hide behind

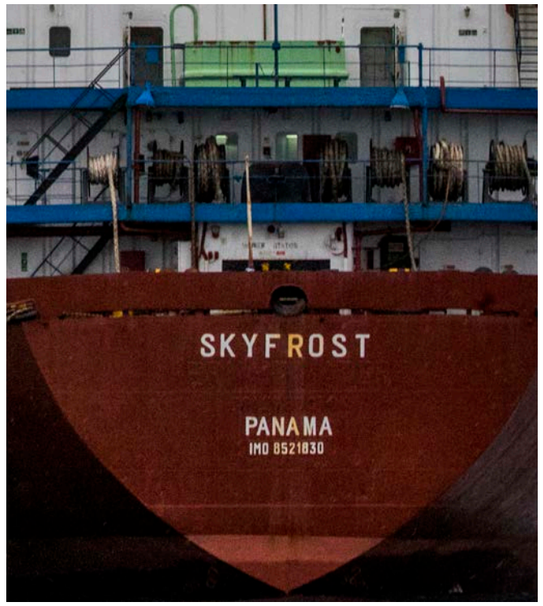
As stated, 74% of the reefers researched for this report are registered to countries considered to be FOCs. 95 of them are registered to Panama, followed by Liberia and Vanuatu. The question is, what makes these flags such attractive flag States for the reefer fleet?

The European Union has one of the most advanced legislative frameworks to combat IUU fishing.[23] Under EU law, when the European Commission has evidence that a country is not cooperating in the fight against IUU fishing, it can identify it as a non-cooperating country and eventually prevent its fish products from entering the EU—one of the largest fish markets in the world. Before a country is identified as non-cooperative, or 'issued a red card', a country is first pre-identified (or 'issued a yellow card'). In order to issue a yellow card, the Commission provides an account of the reasons and then initiates a dialogue with the flag state to solve the issues of concern and take corrective action to avoid a red card.[24]

On November 2012, the EU issued its first yellow card to Panama after finding 'clear' indications that the country 'failed to undertake its flag state responsibilities under international law' and 'to exercise its responsibilities effectively, to comply with RFMO conservation and management measures and to ensure that its vessels do not engage in any activity which undermines the effectiveness of such measures.' In one of the cases highlighted, a Panamanian reefer inspected in an EU port was found to have transhipped illegally in the waters of Guinea Bissau and contained fish caught illegally in the waters of Liberia. Despite Panama having been warned by the Commission of the illegal activities of this reefer, the vessel was allowed to continue its activities without any measures taken by Panama in response. The Commission identified many shortcomings in Panama's ability to monitor and control the activities of its fleet, including that VMS data was not available to Panamanian authorities, and inspection schemes were not fit for purpose.[25] However, following a bilateral dialogue between the EU and the Government of Panama, the Commission decided that Panama had introduced sufficient measures to correct the problems identified and lifted the yellow card in October 2014.

Yet concerns remain regarding Panama's lack of control over the activities of its flagged reefers. It is not surprising then that in December 2019, Panama was again issued a yellow card as a non-cooperating third country in the fight against IUU fishing. This lack of control and the Panamanian fleets engagement in IUU fishing features prominently in the Commission's decision to issue the yellow card again.[26] The Commission states that 'carrier vessels that were registered as general cargo vessels were effectively used in the transport of fishery products without a licence' and 'without any other type of control' from the management authorities in Panama. Several cases related to IUU fishing activities are described in the South, Western and Eastern Tropical Pacific, Southern Ocean, Indian Ocean or West Africa, with many of them linked to transhipments at sea. The Commission found that 'Panama did not monitor the compliance of those vessels with national provisions governing transhipment activities' and that 'the sanctions imposed to vessels engaging or supporting IUU fishing activities, are not effective and deterrent.' 80% of the fines imposed on serious infringements between 2014 and 2018 were below 12,000 USD and only two were above 20,000 USD.

This situation is not dissimilar for other known FOCs. Liberia was issued a yellow card in 2017 because, according to the Commission, 'Liberia has the second biggest shipping registry in the world with over 100 fishing transport vessels registered under this flag. The national fisheries authorities do not have the information or means to control this fleet.'[27] Vanuatu was issued a yellow card in 2012, which was lifted in 2014.[28]

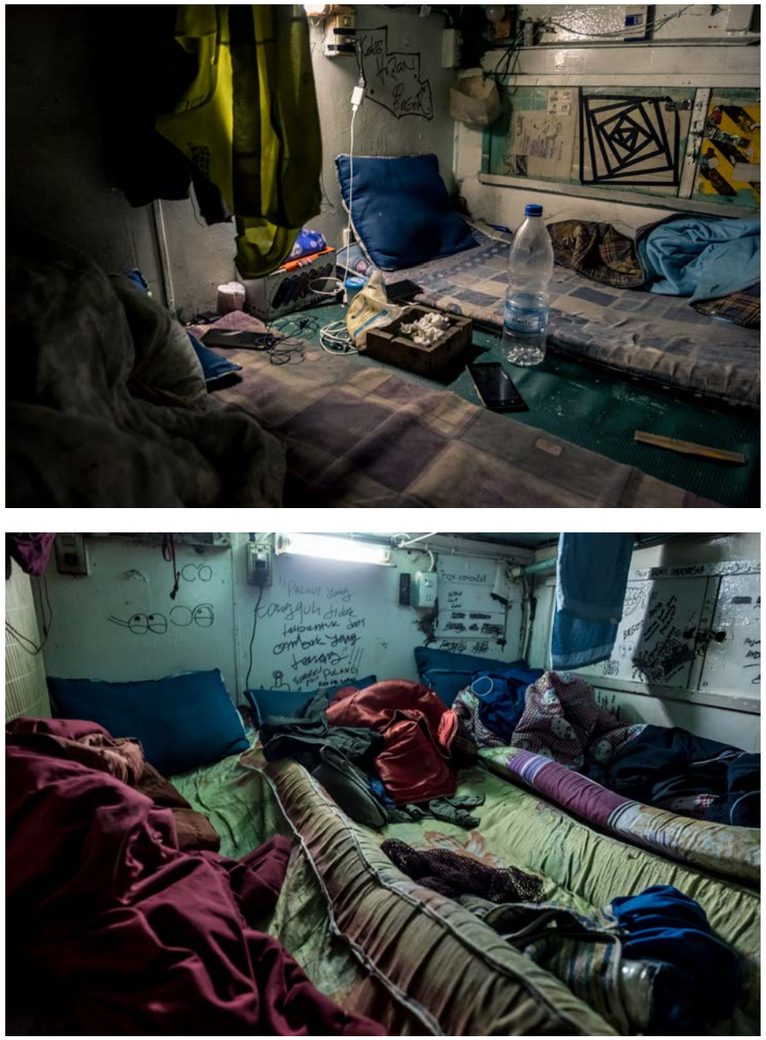


The Greek owned, Panamanian-flagged reefer Skyfrost
© Paul Hilton / Greenpeace

"Many cases have been documented of fishermen being forced to work exhausting shifts in unsafe conditions, having their pay withheld and documents confiscated, and even being denied access to clean food and drinking water."

Human rights

Many of the vessels that tranship to the reefers in this report are operating out on the high seas and in the EEZs of developing countries, far from the prying eyes of port inspectors and law enforcement officers. Being so far from scrutiny facilitates IUU fishing and can lead to human rights abuses, particularly as transhipment at sea allows fishing vessels to spend months or even years at sea without returning to port, raising the possibility that they are effectively enslaving their crew members. Many cases have been documented of fishermen being forced to work exhausting shifts in unsafe conditions, having their pay withheld and documents confiscated, and even being denied access to clean food and drinking water.[29] A significant number of reefers investigated by Greenpeace are reported to have multiple health and safety deficiencies which could impact crew members' rights when working at sea. See Appendix B for further details.



Cramped living quarters onboard the Harvest 907, a longliner owned by a Taiwanese company fishing for tuna in the mid-Atlantic ocean
© Tommy Trenchard / Greenpeace

Case study: Hsiang Hao—encounters and loitering

The Hsiang Hao is a Taiwanese-owned, Panama-registered reefer built in 2018. Greenpeace has observed, both through data and at sea, the Hsiang Hao undertaking journeys typical of the global reefer fleet. Its ultimate owner is Mr. Pi-Hsiang Han, the founder and chairman of the *Jong Shyn Shipbuilding Group* and also the current president of *Taiwan Shipbuilding Industry Association*. *Jong Shyn Shipbuilding* bought *Lien Cherng* (聯成) *Shipbuilding Co., Ltd.* and another private company *Lien He* (聯合) *Shipbuilding Co., Ltd.* in 2004, then *Jong Shyn* formed *Jade Shipbuilding Co., Ltd.*[30] These companies build hundreds of fishing vessels, including large-scale longliners, purse seiners and squid vessels. *Lien Cherng Shipbuilding Co. Ltd.* of Kaohsiung, for example, launched 18 vessels in five years (2000-2005), all flying FOCs when they left the shipyard. Ten of these 18 vessels have been implicated in IUU fishing for Patagonian toothfish.[31]

The Hsiang Hao's technical managers *Ocean Grow International Shipmanagement Consultant Corporation*[32] are, according to Lloyd's List, the beneficial owners of the New Regent, a bunkering tanker currently under UN sanctions after engaging in a ship-to-ship transfer, likely of oil, with North Korean oil tanker Kum Un San 3 on June 7, 2018.[33]

According to Lloyd's List, *Ocean Grow International Shipmanagement Consultant Corporation* are also the technical managers of the Lung Yuin,[34] a reefer that Greenpeace took action against in Taiwan in 2011. The Lung Yuin has been under the same ownership since 2002.[35]

According to Lloyd's List, *Jong Shyn* built the Hsiang Hao in 2018. According to its historical AIS data, it sailed on 23 February 23 2018 from Kaohsiung and arrived in Montevideo anchorage on 28 March, where it stayed until late April before sailing for Walvis Bay in Namibia. It traded on the West Africa coast, stopping in Congo, Angola, Ghana, the Ivory Coast, Nigeria, Togo, Cameroon, Benin, and Mozambique. It offloaded in Las Palmas, Canary islands. Congo, Angola and Cameroon are not members of the PSMA. On 29 August 2019 it departed from Tangier, Morocco on what appears to be its first voyage to tranship on the high seas.

In the Mid-Atlantic on 25 September 2019, a team onboard Greenpeace's vessel the Arctic Sunrise observed the Hsiang Hao's AIS signals in a loitering pattern for several hours with no other AIS-visible vessel present. The next day, the Arctic Sunrise intercepted the Hsiang Hao and observed it transhipping tuna and sharks from a Taiwanese longliner, the Hung Hwa 202, which was not transmitting AIS.

Greenpeace observing a transhipment from the Hung Hwa 202 to the Hsiang Hao in the middle of the Atlantic Ocean
© Tommy Trenchard / Greenpeace

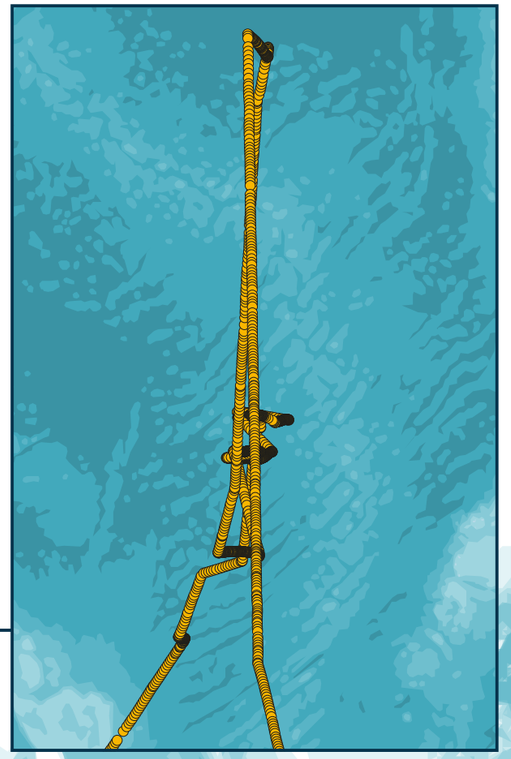
Frozen tuna transferred from the Hung Hwa 202 to the Hsiang Hao in the Mid-Atlantic Ocean
© Tommy Trenchard / Greenpeace

Case study: Hsiang Hao

Hsiang Hao's movements from May 2019 to January 2020

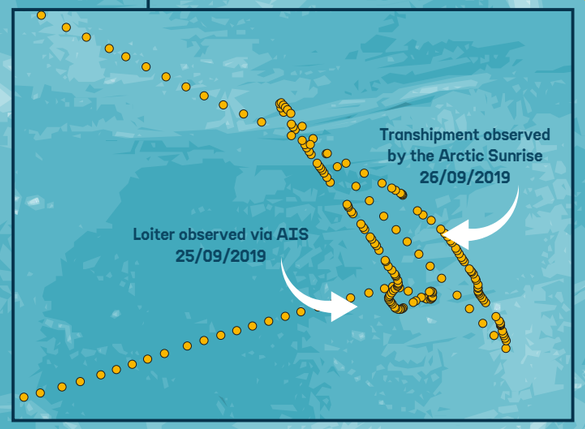
The Hsiang Hao's track from 13 May 2019 to 5 January 2020. It can be seen loitering in the mid Atlantic Ocean, the South Mozambique Channel and the mid Indian Ocean, before heading to the Port of Shimizu in Japan.

The Hsiang Hao in the Mid-Atlantic Ocean
© Tommy Trenchard / Greenpeace



14/11/2019

Loitering activity in the Indian Ocean. During this time, there was longliner activity in the area from vessels flagged to Taiwan and the Seychelles.

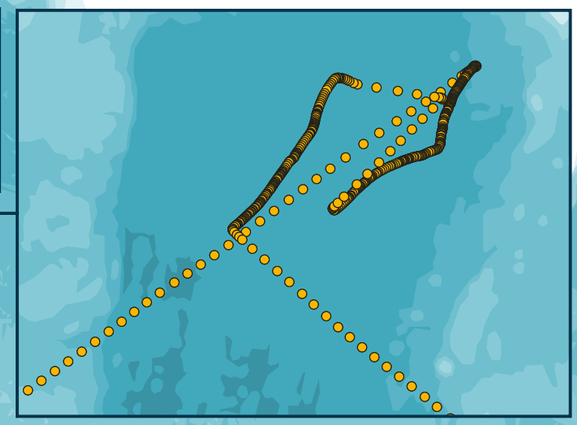


26/09/2019

A transhipment from the longliner Hung Hwa 202 in the Mid-Atlantic Ocean, as observed by a team aboard the Arctic Sunrise.

26/10/2019

Loitering activity in the Mozambique Channel. During this time, there was longliner activity in the area from vessels flagged to Japan, Taiwan, Spain, Portugal and the Seychelles.



Chinese fishing vessel the Long Ten transhipping krill to the Panamanian-flagged Skyfrost in Livingston Island, Antarctica
© Paul Hilton / Greenpeace

PART TWO
THE LASKARIDIS EMPIRE: A COMPLEX SYSTEM OF CONVENIENCE

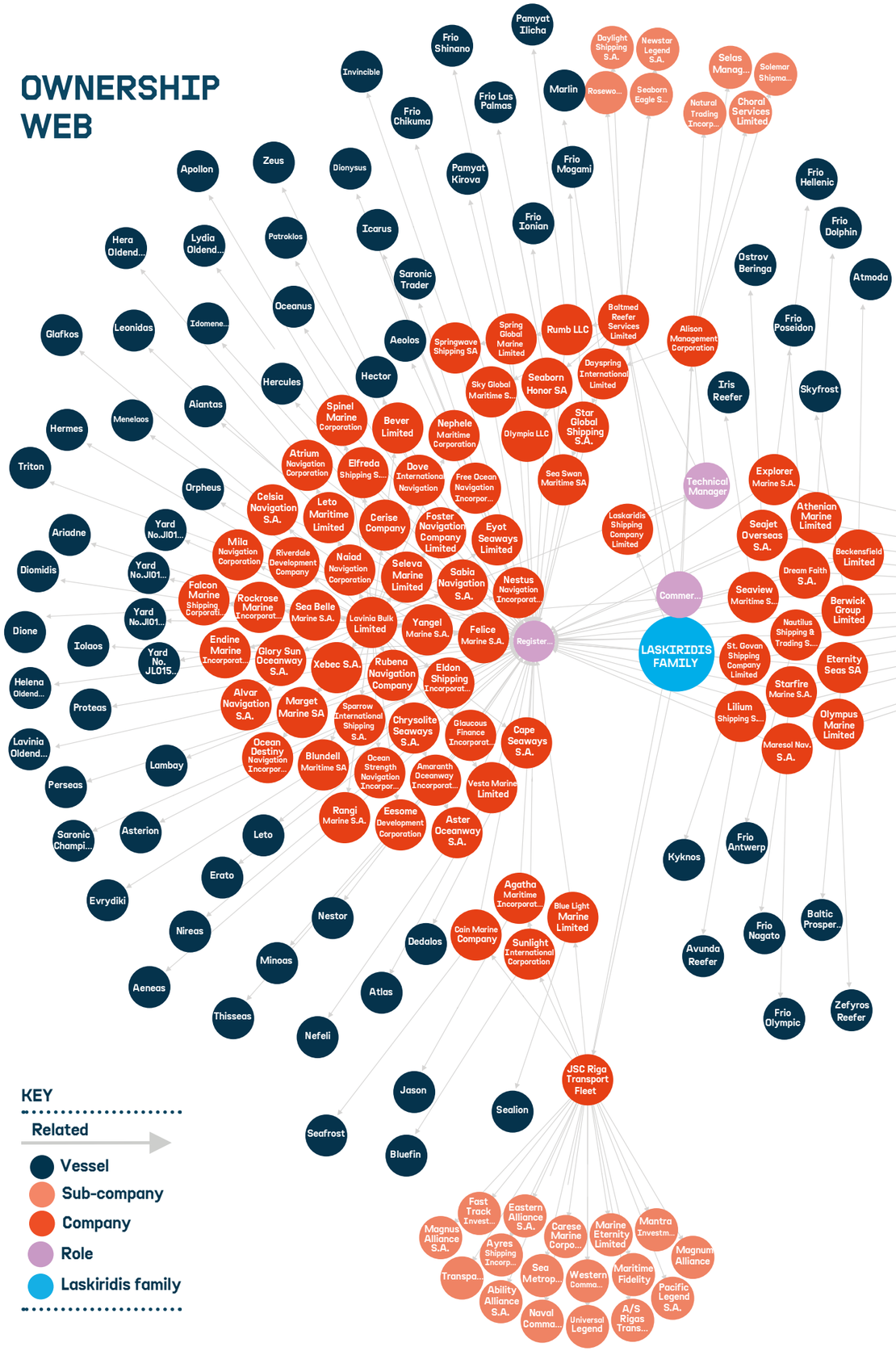
Whilst the majority of the world's reefers are attached to organisations in Russia, China and South Korea (see page 16), according to Greenpeace's research, the Laskaridis family companies own or control the largest global fleet of reefers involved in high seas transhipments. In 1977, brothers Panos and Athanasios Laskaridis began a small fishing company of just five boats, but soon expanded. Over the last 40 years, their fleet has diversified and grown to over 70 vessels, covering oil tankers, bulk carriers, chemical tankers and 20 refrigerated cargo vessels. These reefers scour the waves the world over, from the North Atlantic to the South Pacific, and dominate transhipping in CCAMLR waters. Indeed, more than two thirds of the reefers that have visited CCAMLR waters in the last three years are owned by the Laskaridis family. Before entering CCAMLR waters, many of these reefers have been observed operating in the largely unregulated fishery in the South West Atlantic.

"More than two thirds of the reefers that have visited CCAMLR waters in the last three years are owned by the Laskaridis family. Before entering CCAMLR waters, many of these reefers have been observed operating in the largely unregulated fishery in the South West Atlantic."

Alongside their marine interests, the Laskaridis family has a number of businesses in other sectors. Large businesses regularly use a complex system of companies and subsidiaries to manage their interests, reduce costs and mitigate liabilities, and the marine arm of the Laskaridis empire is no exception. In 1978, *Laskaridis Shipping Company Ltd*. set up *Lavinia Corporation Ltd.,* (*Lavinia Corp*) [36] [37] which is now valued at over $1 billion.[38] According to Orbis Company Listings, *Lavinia Corp* is listed as having 120 subsidiaries, each one of which is the owner of a vessel, many of them reefers. The management of the vessels is turned over to other Laskaridis companies (some of which also have their own subsidiaries that own vessels), typically *Baltmed Reefer Services Ltd* or *Lavinia Corp* itself, while crewing duties are carried out by the Laskaridis-owned *Seamen's Training Center*—a Russian company headquartered in Ukraine that specialises in recruiting sailors from ex-Soviet republics. This network of sister companies and subsidiaries spans many countries from Europe to Central America.

The Laskaridis family are pillars of the establishment in Greek society, yet *Lavinia Corp* is registered in Liberia, as are 39 of the Laskaridis bulk carriers and tankers. The vast majority of Laskaridis reefers are registered to Panama, and this widespread use of FOCs indicates a desire to reduce overheads at all costs—regardless of the impact on environmental safety and workers' rights.

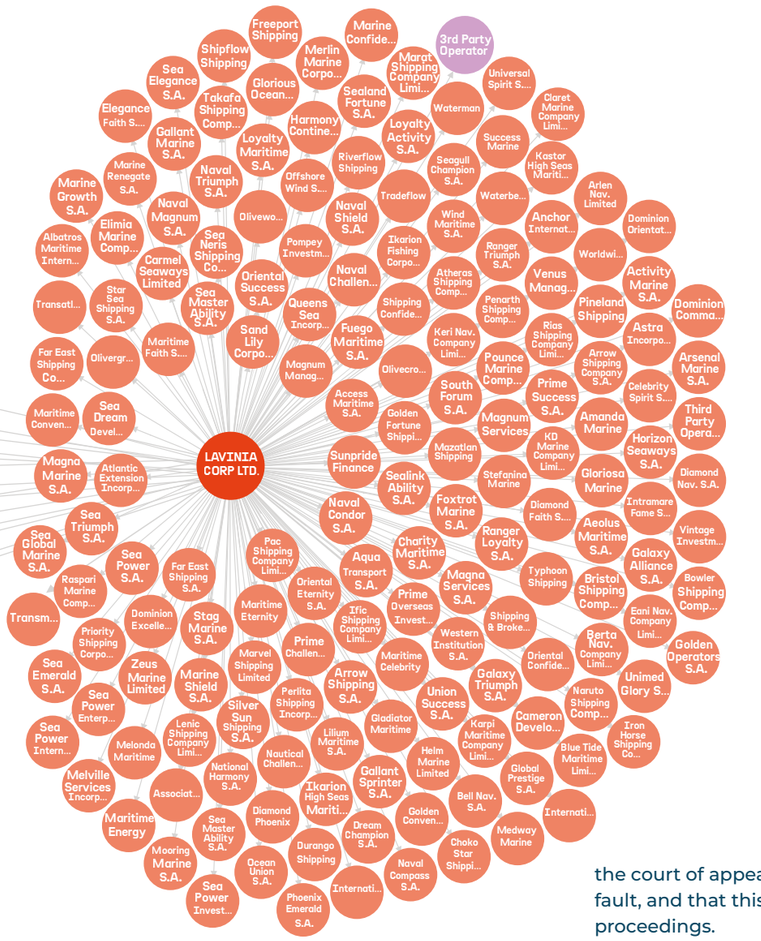
OWNERSHIP WEB



KEY

- Related
- Vessel
- Sub-company
- Company
- Role
- Laskiridis family

The Liberian Registry sells itself on the ability of Liberian-flagged vessels to avoid 'higher wages, inflated labour costs[...], and the potential for interference from organized labour',[39] while the local authorities in the flagging countries are generally unwilling or unable to enforce vessel inspections to make sure certain standards of operation are being met. As a result, it is not surprising that Laskaridis vessels have a poor record with Port State Control (PSC).



"The vast majority of Laskaridis reefers are registered to Panama, and this widespread use of FOCs indicates a desire to reduce overheads at all costs—regardless of the impact on environmental safety and workers' rights."

Laskaridis reefers operating in the CCAMLR area are reported to have a 60% failure rate for PSC inspections (failure is defined as at least one deficiency during an inspection; the majority of inspections record several). Laskaridis claim the majority of these deficiencies are minor and that ships quickly rectify them before continuing on their journey, however, there were also six boats detained in port between 2017 to 2019—the final course of action for a Port State Control inspector.[40] In one example of the consequences of these practices, according to a report by the Maritime Herald, *Laskaridis Shipping* was fined €1 million by the court of Brest after one of its Liberia-flagged bulk carriers, Thisseas, spilled oil off the coast of Brittany.[41] Greenpeace has been informed by Laskaridis that this incident was referred to the court of appeal where they were found to not be at fault, and that this case is still subject to ongoing legal proceedings.

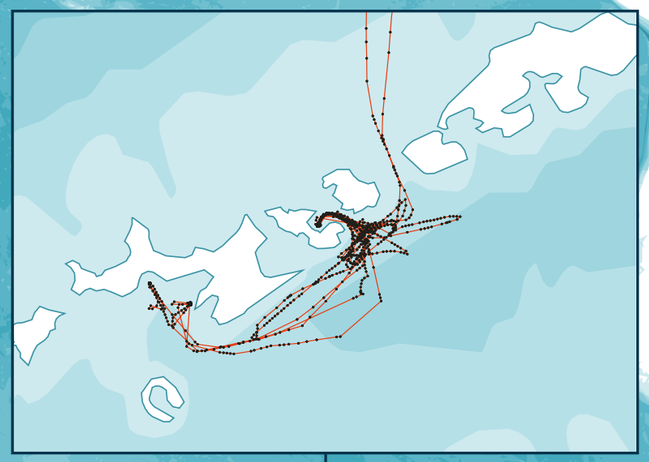
Laskaridis was contacted and offered an opportunity to comment, and they reject any suggestion that they are involved in any way with any form of illegal cargo. They stated they take very active measures, above and beyond the industry norm, to ensure that they do not carry, or be in any way involved with, any form of illegal cargo, including through long-established relationships with known fishing organizations, the incorporation by all contract and charter parties of the BIMCO IUU clause, the requirement of transhipment licenses by agents involved in transhipment, and the requirement of fishing licenses by an unconnected third party trawlers. They claim that they have performed many thousands of bunkering operations without a single environmental incident.

Case study: Skyfrost—a typical reefer journey

Skyfrost's movements from January to May 2018

This map illustrates a typical journey of a Laskaridis reefer operating in the Antarctic as it transhipps in the South-West Atlantic where the majority of fisheries are unregulated, before heading directly to the Antarctic. Skyfrost was built in 1985 and has been connected to Laskaridis since at least 2009. It has been flagged to Panama since 1999. Its current beneficial owner is *Berwick Group Limited*, a subsidiary of Laskaridis which is based in the Bahamas.

Skyfrost in South Bay, Antarctica © Paul Hilton / Greenpeace



START

11/01/2018

Skyfrost is in Ningbo-Zhoushan, China which is not party to the Port State Measures agreement.

28/01/2018

After an AIS gap of a week, Skyfrost passes Singapore.

END

29/05/2018

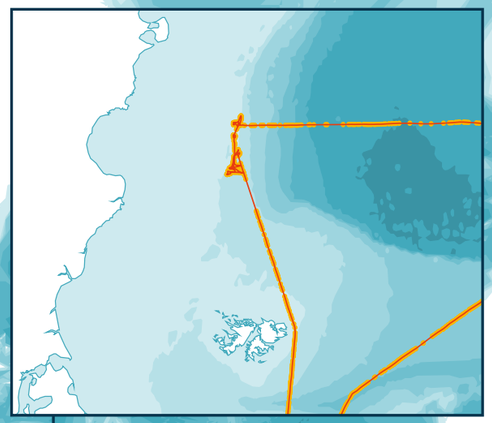
After an AIS gap of a week, Skyfrost's next signal is off Dalian, China where it then enters the port which is also not party to the PSMA.

21/05/2018

Skyfrost passes Singapore.

25/02/2018

Skyfrost arrives in the South West Atlantic—an area with a long history of IUU fishing where it likely meets vessels to pick up catch such as squid or hake which is unregulated.



10/03/2018

Skyfrost enters the CCAMLR Convention Area then anchors in Discovery Bay to tranship krill from six vessels—two from China, three from South Korea and one from the Ukraine. These transhipments are in accordance with current CCAMLR regulations.

18/04/2018

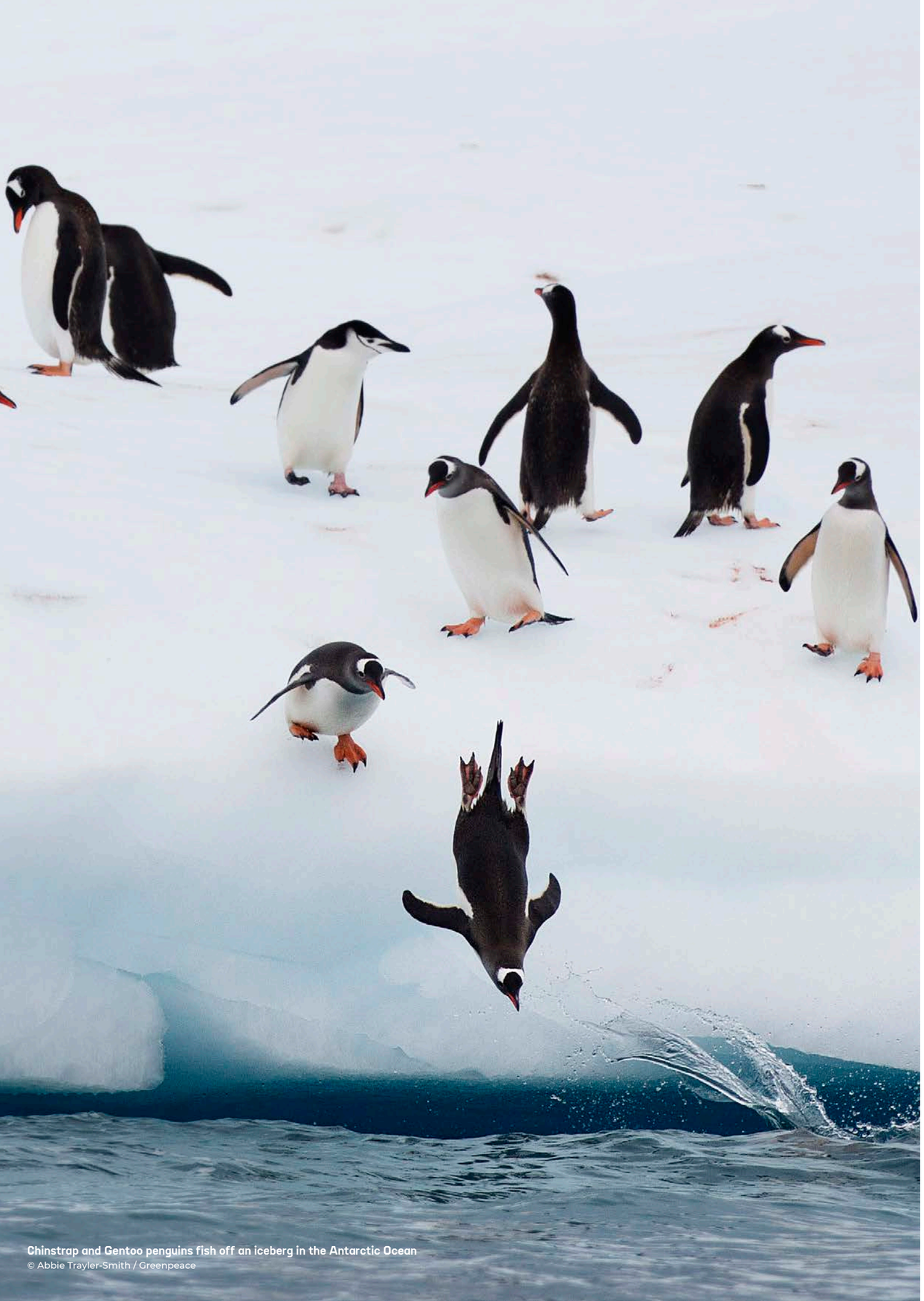
Skyfrost exits the CCAMLR Convention Area.

22/03/2018

As part of its historic krill campaign, Greenpeace activists take action against Ukrainian trawler More Sodruzhestva while it is transhipping to Skyfrost in the Bransfield Strait.

Port State Control (PSC)

Monitoring the safety of a ship and its crew is the responsibility of the state that it's flagged to but in 1978, some countries in Europe introduced measures to inspect the living and working conditions of the crews onboard foreign ships entering their ports. Later that year, the Amoco Cadiz supertanker ran aground off the coast of Brittany and spilled 1.6 million barrels of crude oil into the sea,[42] so inspections were expanded to include safety and pollution procedures. The inspection of foreign ships in national ports, called Port State Control (PSC),[43] extended globally and is organised through nine regional agreements known as Memorandums of Understanding (MOU). There is some variation between these agreements, but they are all guided by the same principle of auditing foreign-flagged vessels as a back up to flag-state implementation.[44] The current Paris MOU, which covers ports in most European countries, has over 500 deficiencies that may be identified during an inspection, such as emergency systems, fire safety, living conditions and safety of navigation. The results of the inspections are recorded by Lloyd's Register.



Chinstrap and Gentoo penguins fish off an iceberg in the Antarctic Ocean
© Abbie Trayler-Smith / Greenpeace

PART THREE

WHY CCAMLR MUST CLAMP DOWN ON TRANSHIPMENTS IN THE FRAGILE ANTARCTIC OCEAN

Antarctica was not discovered until 1773 and is situated so far from human habitation that it has thus far escaped much of the degradation associated with other natural habitats. Unfortunately, this has started to change in recent years, with Greenpeace documenting plastic pollution on the continent in 2018,[45] and an increased amount of marine traffic in the area following the expansion of krill and toothfish fisheries in the Southern Ocean, as well as the expansion of tourism in the region. These fishing vessels, and the reefers that accompany them, are working in an almost pristine ecosystem, so it is essential that they operate at the highest standards of safety and sustainability. Yet a review of the PSC history of 26 reefers transhipping in CCAMLR waters over the last three years does not produce encouraging results. Between 2017-2019, when Greenpeace observed and tracked 26 reefers operating in the Antarctic, 70% (119 out of 168) of their safety and environmental inspections were failed. According to Lloyd's List intelligence, these same owners have presided over a failure rate of 59% in the period since their ownership of these reefers began, with 370 failed inspections out of a total of 632. Failure is defined as at least one deficiency one deficiency, leading to what Greenpeace would call a 'failed' inspection, given vessels should not be operating at sea with deficiencies. The majority of inspections recorded several deficiencies.[46] For more detail on the PSC record of reefers transhipping in CCAMLR waters, see Appendix B.

The CCAMLR convention text recognises 'the prime responsibilities of the Antarctic Treaty Consultative Parties for the protection and preservation of the Antarctic environment'.[47] With this in mind, it is disturbing that so many of the listed deficiencies of CCAMLR reefers are related to ship waste and pollution. 11 vessels had deficiencies in Annexes I, IV, V and VI of the International Convention for the Prevention of Pollution from Ships (MARPOL), covering pollution from oil, sewage, garbage and exhaust emissions respectively. 'Safety of navigation' and various forms of laxity related to fire safety and prevention are recurring problems, suggesting that the vessels pose a significant risk of accidents and collisions. The inspections also raise questions about workers rights for the crews, with 14 vessels recorded with deficiencies associated with living and labour conditions. If deficiencies fail to be rectified, detention is the last course of action open to inspectors. Alarmingly, six of the 26 vessels have been detained in port at least once since 2017.

The many problems with PSC inspections show that the reefers operating in the CCAMLR Convention Area have a poor record on pollution prevention and operational safety. As such, they pose a threat to the Antarctic ecosystem. In 2017, the Uruguay Reefer collided with sea ice near the Antarctic peninsula and sank at sea. According to a Mercopress report, it was carrying 560 tonnes of heavy fuel oil (HFO) onboard[48]—a substance that is prohibited in the Antarctic by MARPOL.[49] Laskaridis deny that the Uruguay Reefer was carrying heavy fuel oil. However, regardless of the kind of fuel, it is lucky that whatever oil was onboard did not leak out and pollute the surrounding waters and coastline. Next time, the ecosystem may not be so fortunate.

CCAMLR

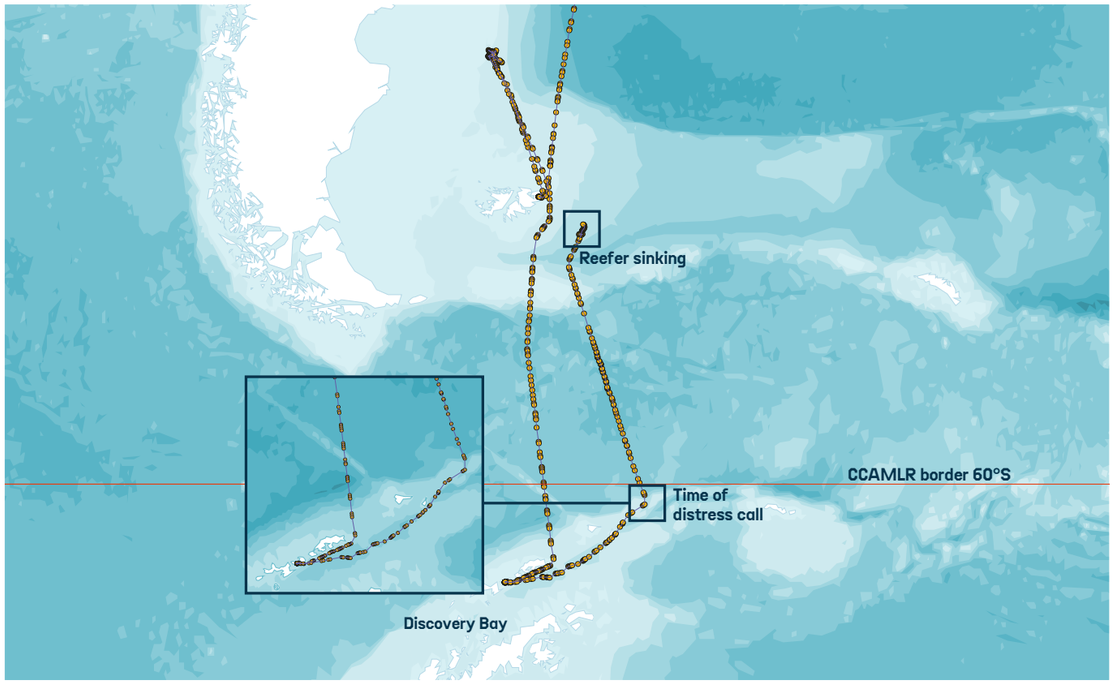
The Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) is the international body responsible for the stewardship of Antarctic waters. Founded in 1982, it is made up of 25 countries plus the EU. It distributes licences for the Antarctic toothfish and krill fisheries, and identifies itself as setting a global benchmark for sustainable fisheries management.[50] However, despite a 2009 commitment to create a network of MPAs by 2012, progress has been glacial. Although there have been some significant victories, such as the creation of the large Ross Sea MPA in 2016,[51] progress on environmental protection is regularly hindered by the countries that have a commercial interest in the krill and toothfish fisheries,[52] and industrial fishing and transhipment continues to take place in some of the most unsullied and ecologically important waters in the world.

The sinking of the Uruguay Reefer

The Uruguay Reefer was a vessel managed by Baltmed Reefer Services Ltd., part of the Laskaridis family's web of companies, with the Laskaridis family as the beneficial owners. At 5am local time on 5 Friday May 2017, the reefer sent out a distress call after colliding with ice in the Southern Ocean.[53] At the moment of the collision, it was at 60.5° S, 52.4° W—within the CCAMLR Convention Area and less than 75 miles from the Antarctic peninsula, an area teeming with iconic wildlife like penguins and whales. The 150m long Uruguay Reefer had previously been traversing the South Shetland Islands where it met three South Korean vessels (Sejong, Insung Ho and Kwang Ja Ho) to tranship illex squid and krill. It was also reportedly carrying 560 tonnes of HFO and 180 tonnes of marine gas oil (MGO).[54] Due to its highly toxic nature and very slow degradation—particularly in polar waters—HFO is banned under MARPOL from being carried on ships south of 60°S. According to a Mercopress report, the Uruguay Reefer disregarded this ban—although Laskaridis claim it was a lighter type of fuel that is within IMO regulations. The case of the Uruguay Reefer is still subject to legal proceedings.[55] [56]

According to a Mercopress report, the vessel then proceeded to steam northwards towards the Malvinas / Falkland Islands, and by 5am on 7 May 2019, it was 100 miles southeast of Stanley. After reportedly continuing to take on water for two days, the master decided to abandon ship and a crew of 43 people were safely evacuated to the Taganrogskiy Zaliv, a reefer that was also operating in the area. At this point, the Uruguay Reefer had left CCAMLR waters but was inside a highly biodiverse area, 200 miles from the coast of the Malvinas / Falkland Islands.[57] The ecological value of these islands is almost as high as the Antarctic itself, with penguins, whales, seals and albatrosses living on and around them.

Without a nearby port large enough to repair a vessel of its size, and with the hull resting low in the water, it became clear that the Uruguay Reefer would sink. After being towed 200 miles, it sank approximately 350 nautical miles from the coast in a water depth of 6000m.[58] The water temperature at a depth of 6000m in the Southern Ocean is around 2.5°C, making HFO viscous almost to the point of being solid and therefore unlikely to leak out of the ship and pollute the surrounding sea. However, this is merely a lucky escape. Worse weather conditions or a heavier collison near the Antarctic peninsula could easily have caused the fuel onboard to leak into the pristine waters, causing enormous harm to one of the most delicate and important ecosystems in the world.



Patagonian toothfish (Dissostichus spp.) is a high value species driving increased levels of IUU fishing *© Greenpeace / Roger Grace*

The Southern Ocean is the most remote area in the world's oceans, making both vessel safety and the control, monitoring and surveillance of fishing activities especially challenging. As such, preventing IUU fishing has been a critical issue facing the countries which are members of CCAMLR. Following increased levels of IUU fishing for high value species like Patagonian toothfish (*Dissostichus spp.*), CCAMLR introduced an array of measures believed to have significantly decreased IUU activities, such as a centralised Vessel Monitoring System and a catch documentation scheme to trace toothfish catches. Although the work has been commended, CCAMLR recognises that considerable uncertainty remains about the extent of IUU fishing in the Convention Area.[59]

While CCAMLR has been a leader on a number of aspects related to combating IUU fishing, transhipments remain an area where much progress is needed. As noted earlier, despite improvements in some fisheries and regions, transhipments continue to be considered one of the biggest loopholes that allow IUU-caught fish to enter the seafood supply chain. Clearly more needs to be done.

But it's not just civil society organisations like Greenpeace or the Antarctic and Southern Ocean Coalition (ASOC)[60] calling for action, but governmental bodies too. The Second Performance Review of CCAMLR called transhipments 'a significant gap in the chain of custody, yet to be addressed by the Commission'.[61] The panel noted, among other things, that 'receiving vessels are not subject to VMS, observer, or inspection requirements and transhipments are not covered by the electronic web-based CDS [Catch Documentation Scheme].' The 2016 review conference of the UN Fish Stocks Agreement (UNFSA)—an agreement that has been ratified by 90 States—equally requested that 'to the maximum extent possible transhipment occur in ports'" and where transhipment takes place at sea, called 'upon States and RFMO/As that have not done so to adopt clear and stringent measures for monitoring and regulating transhipment activity'.[62]

Skyfrost and Pamyat Ilicha at Discovery Bay in the Antarctic Ocean
© Paul Hilton / Greenpeace

Aerial view of James Ross Island in the Weddell Sea, the Antarctic
© Daniel Beltrá / Greenpeace

It's important to note that reefers (see pages 26-27) operating in the CCAMLR Convention Area conduct transhipments outside of it consecutively, offering ample opportunity to conceal illegal fishing catches in the absence of observers and comprehensive monitoring measures. One such area where this takes place is the South West Atlantic, where fisheries targeting high value species like Patagonian toothfish, hake or squids are not under the purview of an RFMO and thus are not subject to multilateral control and monitoring measures.

It is clear then that many of the reefers operating in the CCAMLR Convention Area pose a significant risk to the Antarctic marine environment. Strengthening the rules applying to transhipment activities in this area must be an urgent priority for the parties to the Commission, and improving the oversight of the reefer fleet is a crucial step in that direction.

Measures that must be urgently adopted by CCAMLR

- **The establishment of a comprehensive and publicly available record of Authorized Carrier Vessels.**
- **No transhipments, whether at sea or in port, should be allowed with any vessel not included in the record.**
- **To avoid the great difficulties of tracking the activities of these vessels, the record should include detailed information, including current and historical IMO number, name and flag, as well as ownership details and authorisation periods. It should also apply to CCAMLR Contracting Party vessels and to Non-Contracting Party vessels.**
- **Monitoring, control and surveillance (MCS) measures need to apply to all carrier vessels transhipping in CCAMLR waters.**
- **All transhipments should be observed by CCAMLR observers**

None of these are extraordinary measures: the FAO Global Study on transhipments indicates that of the seven out of ten RFMOs evaluated, four already require reefers to either be equipped with VMS or have observers on board.[63]

Illegal transhipments at sea are a key facilitator of IUU fishing. In this regard, Greenpeace notes that procedures that strengthen the work against IUU fishing could have an impact on the operations of the reefer fleet too. The Second Performance Review of CCAMLR rightly noted, for instance, that 'no criterion for common ownership is included as a basis for IUU vessel listings.'[64] This could have an impact on the operations of the wider reefer fleet, given the extent to which ownership is concentrated. It could provide a basis to include in the CCAMLR IUU list several or all reefers belonging to the same owner in accordance with an agreed procedure.[65]

Another area where important progress is needed is in ensuring that non-compliance has deterrent consequences. The Second Performance Review of CCAMLR noted that the Commission is unable to assess the proportion of infringements that resulted in sanctions.

Finally, the lack of transparency of CCAMLR's work continues to be far from best practice. Many CCAMLR reports are not publicly available or online. This is the case for the list of transhipments and much of the compliance information, which many other organisations tasked with managing fishing activities do make public. This has been recognised by CCAMLR parties themselves at the last meeting of the Commission, where some members expressed 'concerns regarding the lack of transparency by CCAMLR,' noting that 'the Antarctic Treaty System and other international organisations that manage fisheries are more transparent and that their meeting documents are often freely accessible and suggested that CCAMLR consider the release of meeting documents to support transparency.'[66]

It should be noted that civil society has played a fundamental role in exposing IUU fishing and laundering despite great difficulties in accessing the relevant information. For example, through cross-checking official transhipment notifications to CCAMLR with GFW data, Greenpeace has uncovered a number of discrepancies that we are raising with the relevant authorities. This role should be recognised and enabled. Furthermore, provisions should be put in place at all levels to ensure the transparency of data related to transhipments, thereby allowing public scrutiny and cross-checking of information.

"It's important to note that reefers operating in the CCAMLR Convention Area conduct transhipments outside of it consecutively, offering ample opportunity to conceal illegal fishing catches in the absence of observers and comprehensive monitoring measures."

An elephant seal on Elephant Island, Antarctica
© Abbie Trayler-Smith / Greenpeace

Frozen tuna is transferred from the Hung Hwa 202 to the Hsiang Hao in the Mid-Atlantic Ocean
© Tommy Trenchard / Greenpeace

PART FOUR
CONCLUSIONS AND RECOMMENDATIONS

Closing the gaps in ocean governance

Our oceans are vital for all life on earth. Yet overfishing and destructive fishing are wreaking havoc on marine life, threatening the food security and livelihoods of billions of people. This is why Greenpeace is calling for the protection for at least 30% of the world's oceans by 2030, with the remainder sustainably managed. This, however, cannot be realised without better overall governance.

In this report, we have revealed how a large fraction of the reefer fleet is operating under insufficient scrutiny. We have shown how this lax supervision facilitates IUU fishing and overfishing, threatens the lives of reefer workers and the safety of the marine environment. transhipments at sea are one of the biggest loopholes in the fight against IUU fishing. They help conceal illegally caught fish and, by mixing IUU catches with legal ones, make it impossible to trace fish back to the vessel that caught it. Transhipments undermine working conditions, allowing vessels to stay out at sea for months on end where they can avoid inspections. This not only contributes to overcapacity by facilitating more time spent fishing, but deprives developing coastal states of much needed revenue from the use of their port infrastructure.

Given this, Greenpeace strongly recommends that transhipments at sea be phased out and conducted exclusively at port where they must be met with the strictest scrutiny. This is in line with the 90 states party to the UN Fish Stocks Agreement who have requested that 'to the maximum extent possible transhipment occur in ports.'[67]

Any transhipment at sea that is permitted must be subject to the most comprehensive MCS measures available, so as to minimise the chances of illicit and irregular transhipments. Relevant MCS provisions should include a public record of vessels authorised to tranship; centralised VMS, including in the transport vessel; real-time data reporting; prior notification; or, observer coverage in both the transport and fishing vessel. Companies sourcing fish should avoid any transhipment at sea in their supply chain that does not have all of these measures in place. Companies that own fleets of reefers should begin the process of moving their operations into ports, as well as voluntarily implementing as many of these measures as possible. In particular, Greenpeace calls on them to ensure 100% observer coverage onboard, and to restrict their operations to fisheries where a robust management regime is in place, which would exclude areas such as the South West Atlantic where there is no active RFMO overseeing the majority of fisheries in the region.

In light of the harm caused by IUU fishing practices and unsafe shipping, owners and operators of these fleets need to be faced with deterrent sanctions following infractions. More effort should be put into analysing the activities of these vessels, including cross-checking catch and trade data to detect fraud and IUU fishing. Ownership should be widely included in the set of criteria used to determine inclusion in IUU fishing vessel lists.

Put simply, no vessel posing a threat to the marine environment and the safety of workers should be allowed to tranship. Flag states, regional fisheries management organisations and conservation agreements should take into account the vessels' inspection records when authorising transhipments. Transport vessels with repeated Port State Control infractions should not be allowed to engage in transhipment.

Greenpeace calls on states to adhere to the highest standards available. In that sense, we call on all states to ratify—and effectively implement the provisions of—the FAO Compliance Agreement, the FAO Port State Measures Agreement, the Cape Town Agreement on the Safety of Fishing Vessels and the UN Fish Stocks Agreement. States must support and accelerate the building of the FAO Global Record of Refrigerated Transport Vessels and Supply Vessels. Inclusion in the Global Record should be a requisite to be granted authorisation to tranship.

Finally, the covert operations of fleets exposed in this report would be inhibited if States and organisations embraced transparency in their works, publicising all relevant information and inviting stakeholders to scrutinise the activities of these fleets and cross-check information.

It's time for a strong Global Ocean Treaty

Our analysis provides a picture of the many gaps in ocean governance, ranging from fisheries management organisations and conservation agreements, to shipping regulators or flag states. These gaps need to be urgently closed and the practices of these fleets effectively controlled.

A crucial step towards achieving this is for governments to agree a strong Global Ocean Treaty in 2020. The Treaty must allow for the cumulative impacts of extractive industries to be regulated and for 30% of the world's oceans to be off limits to human activities altogether. This is especially important given the mounting impact of climate change on our oceans (for more on this subject, see Greenpeace's report: 'In Hot Water: The Climate Crisis and The Urgent Need for Ocean Protection').

Encouragingly, progress has already been made. In 2015, after more than a decade of concerted effort from a wide range of international stakeholders, UN member states developed a legally-binding agreement for the conservation of marine life beyond national waters.[68, 69] This represents a historic opportunity to change ocean governance away from a system primarily geared towards rights for ocean exploitation, to one where governments are held accountable for marine conservation and the sustainable extraction of marine resources. A UN action on the conservation of marine life on the high seas has not been made at this scale since the conclusion of the UN Fish Stocks Agreement in 1995.

But more must be done. A strong Global Ocean Treaty would enable the establishment of a global network of Marine Protected Areas (MPAs) and highly-protected marine reserves in international waters, creating global rules for environmental impact assessments (EIAs) that would prevent destructive human activities in the open ocean. The Treaty will also increase monitoring and reporting thus helping shed light and address harmful practices that damage biodiversity.

The treaty must also be supported by a global decision-making body in the form of a Conference of Parties (COP), through which states would act collectively to establish ocean sanctuaries and agree necessary conservation measures. This must be supported by monitoring, reporting, review and compliance mechanisms, as well as adequate financing, to ensure that the treaty is implemented by everyone.

In the current system, regional bodies like RFMOs lack the ability to address the cumulative impacts from other sectors, and so the ability to protect areas from threats other than fishing. Worse still, RFMOs do not have biodiversity conservation as a primary objective.

These major gaps in governance have resulted in the unprecedented crisis facing our oceans. Governments can and must address this crisis by unanimously agreeing to create a robust Global Ocean Treaty that is capable of protecting our oceans and the billions of people who depend on them.

"A strong Global Ocean Treaty would enable the establishment of a global network of Marine Protected Areas (MPAs) and highly-protected marine reserves in international waters, creating global rules for environmental impact assessments (EIAs) that would prevent destructive human activities in the open ocean."

A whale shark in Cenderawasih Bay, Indonesia
© Paul Hilton / Greenpeace

APPENDIX A

OWNERSHIP TYPES FROM LLOYD'S LIST INTELLIGENCE

Definitions for ownership as described by Lloyd's List Intelligence

Beneficial owner

The beneficial owner is our opinion as to who is or may be the ultimate owning entity, controlling party or representative thereof (either individual, company, group or organisation). According to our in-house research methodology, the beneficial owner may be the vessel's management company or the trading name of a group, both of which are, in our opinion, perceived to represent the ultimate owners of the vessel.

Commercial operator

The commercial operator is responsible for the commercial direction of a ship, including its employment. Our opinion, formed through our in-house research methodology, is that the commercial operator may be the principal operating affiliate of the beneficial owner or the same as the beneficial owner. An operating company acting on behalf of a group of registered owner's vessels may be regarded as their commercial operator. The commercial operator is responsible for ship operations, chartering, bunkering, port services and insurance, and may also oversee technical and crewing management, although these two functions may be outsourced.

Registered owner

This is the company or individual to whom the ship's legal title of ownership has been registered. This is where 'open registry', 'paper' or 'name-plate' companies are often involved, with ships being registered in a country whose tax on the profits of trading ships is low/absent or whose requirements concerning crewing or maintenance might be more relaxed.

Technical manager

The technical manager is the company responsible for the maintenance of the ship and the machinery, repairs, stores and spares, and—in many instances—crew. The technical manager can either be an in-house subsidiary or division of the beneficial owner, or a third party entity. It is often the case that the document of compliance company is also the technical manager.

APPENDIX B

PORT STATE CONTROL RECORDS OF REEFERS OPERATING IN ANTARCTIC WATERS FROM 2017-19

Information in this table is gathered from Lloyd's List Intelligence

Lloyd's inspections for ownership period
Failed Lloyd's inspections for ownership period
Percentage of inspections failed for ownership period
Total Lloyd's inspections
Total failed Lloyd's inspections
Percentage of inspections failed

Vessel	Ship name	Vessel flag	Beneficial owner	Owner country	Ownership started	Ownership ended	Example deficiencies	Detentions	Reasons for detention									
Atmoda	Atmoda	Panama	Laskaridis family	Greece	31/12/1997	–	Oil record book, establishment of working language on board. System: navigation. Sub system: Collision/grounding avoidance—MARPOL Annex I, oil filtering equipment, sewage treatment plant, labour conditions—accommodation, recreational facilities, food and catering, garbage, garbage management plan, fire safety, safety of navigation.	Detained: 19/12/2006 Location: Bayside Detained: 23/07/2018 Location: Majuro Atoll	Crew certificates—certificates for master and officers: expired. ISM related deficiencies—masters responsibility and authority: not according SMS. Oil accumulation in enginroom, other (firesafety), garbage.	55	30	55%							
Avunda Reefer	Avunda Reefer	Panama	Laskaridis family	Greece	29/01/2015	–	Life saving appliances, safety of navigation, pollution prevention—MARPOL Annex V, labour conditions—accommodation, recreational facilities, food and catering, garbage management plan, fire safety, safety of navigation.	Detained: 18/10/2019 Location: Zhoushan	Engine International Air Pollution Prev. Cert., Lifebuoys incl. provision and disposition, fire doors/openings in fire-resisting divisions, sewage treatment plant, launching arrangements for survival craft, other (fire safety), oil filtering equipment.	14	9	64%							
Cassiopea	Cassiopea	Lithuania	Limarko Shipping Company AB		10/10/2008	–	System: pollution prevention/response—oil discharge mon/contr system, life saving appliances, navigation. Sub System: collision/grounding avoidance, safety of navigation, fire safety, lifeboats.	–	–	35	12	34%						
Vysotsk	Vysotsk	Russia	Gidrostroy Joint Stock Company	Russia	31/01/2016	–	Lifeboats, lifeboat inventory, lifeboats, ozone-depleting substances, fire prevention structural integrity, garbage record book, auxiliary engine, seafarers' employment agreement (SEA), fire detection and alarm system, hospital accomodation (sickbay), certificate for medical care, cleanliness, oil record book.	–	–	14	14	100%					
Frio Athens	Frio Athens	Vanuatu	Laskaridis family	Greece	02/6/2010	13/06/2018	Auxiliary engine, fire prevention structural integrity, operational readiness of lifeaving appliances, oil discharge monitoring and control system, records of rest, sewage treatment plant, propulsion main engine, garbage record book, cleanliness, lifebuoys incl. provision and disposition, evaluation of crew performance (fire drills), oil record book, liquified gases in bulk, lifeboats, living and working conditions.	Detained: 04/10/2013 Location: Las Palmas Detained: 04/05/2015 Location: Punta Arenas Detained: 08/04/2016 Location: Mersin Detained: 12/06/2017 Location: Busan	Living and working conditions—working conditions, propulsion and auxiliary machinery, fire safety, propulsion main engine, auxiliary engine, sewage treatment plant, auxiliary engine, oil discharge monitoring and control system, records of rest, other (fire safety), fire prevention structural integrity, operational readiness of lifesaving appliances.	31	21	68%					
Crystal Amazonia	Crystal Amazonia	Russia	Far East Fleet LLC	Russia	04/01/2019	–	Lifeboats, fire detection and alarm system, garbage.	–	–									
	Frio Canarias	Panama	Laskaridis family	Greece	10/3/2018	3/1/2019	Emergency fire pump and its pipes, sewage treatment plant, lifeboats, fire doors/openings in fire-resisting divisions.	Detained: 23/11/2018 Location: Zhoushan	Lifebuoys incl. provision and disposition, emergency fire pump and its pipes, sewage treatment plant, lifeboats.	69	56	81%						
	Sasanqua	Panama	Santoku Senpaku K.K.	Japan	25/05/2005	9/3/2018	Cleanliness, means of escape, lifeboats, inflatable liferafts, danger areas, fire detection and alarm system, oil filtering equipment, garbage management plan, garbage record book, piping and discharge arrangements, oil record book, cold rooms, garbage record book—MARPOL Annex I, MARPOL Annex V, lifejackets.	Detained: 21/04/2007 Location: Suez 15/01/2015 Detained: 15/01/2015 Location: Kobe Detained: 09/02/2013 Location: Auckland	Fire safety measures, safety of navigation, garbage, lifejackets, means of escape, fire prevention, lifeboats, operation of machinery, fire pumps and its pipes.								
Frio Dolphin	Frio Dolphin	Panama	Laskaridis family	Greece	26/05/2010	1/12/2019	Hull—corrosion, International Oil Pollution Prevention (IOPP), bilge pumping arrangements, lifeboats, emergency fire pump and its pipes, garbage management plan, pollution prevention, MARPOL —Annex IV, safety of navigation, labour conditions —Health protection, medical care, social security,	Detained: 09/06/2012 Location: Gibraltar	Pollution prevention—MARPOL Annex I, living and working conditions—living conditions.	34	17	50%						

Frio Hellenic	Frio Hellenic	Panama	Laskaridis family	Greece	13/12/1998	–	66	30	45%	Structural conditions, fire safety, safety of navigation, emergency source of power, auxiliary engine, living and working conditions—working conditions, pollution prevention—MARPOL Annex I & Annex II, MARPOL-related operational deficiencies, MARPOL Annex V—garbage management plan, accident prevention, life saving appliances, working spaces and accident prevention.	Detained: 14/11/2007 Location: Antwerp Detained: 05/06/2008 Location: Leghorn	Safety of navigation—lights, shapes, sound-signals: inoperative, radiocommunications, MARPOL Annex I, fire safety measures, MARPOL Annex I, ISM related deficiencies—safety and environment policy, MARPOL Annex V—garbage management plan, life saving appliances.	66	30	45%
Frio Sapfir	Frio Sapfir	Russia	Unknown		24/01/2017	–	9	8	89%	Oil record book, emergency source of power, sewage discharge connection, oil filtering equipment, pumping, piping and discharge arrangements, fire control plan.	–	–	27	20	74%
	Frio Ionian	Panama	Laskaridis family	Greece	16/04/2010	23/01/2017	18	12	67%	Cargo ship safety equipment, oil record book, propulsion and auxiliary machinery, labour conditions—health protection, medical care, social security. Sewage treatment plant, oil filtering equipment, pollution prevention—MARPOL Annex I, pollution prevention—MARPOL Annex VI, emergency systems—Emergency fire pump and its pipes, safety of navigation, emergency source of power, living and working conditions.	–	–			
Frio Marathon	Frio Marathon	Panama	Pegasus Ocean Services Limited	United Kingdom	04/12/2018	–	3	2	67%	Bilge pumping arrangements, compass correction log, accident prevention.	–	–	42	10	24%
	Elbrus	Liberia	Agder Ocean Reefer KS	Norway	18/2/2009	3/12/2018	39	8	21%	Safety of navigation, system: fire fighting, labour conditions—health protection, medical care, social security, fire safety, living and working conditions.	Detained: 22/06/2009 Location: Piraeus	Arrested 23 June 2009 & in port 10 July Rptd 16 July not under arrest.			
Frio Mogami	Frio Mogami	Panama	Laskaridis family	Greece	18/07/2012	–	17	9	53%	International Air Pollution Prevention Certificate, lifeboat inventory, emergency fire pump and its pipes, auxiliary engine, cleanliness of engine room, safety of navigation.	–	–	17	9	53%
Frio Nagato	Frio Nagato	Panama	Laskaridis family	Greece	03/8/2016	–	8	3	38%	Labour conditions, life saving appliances, lifeboats, sewage treatment plant, incinerator, means of escape.	–	–	8	3	38%
Frio Olympic	Frio Olympic	Panama	Laskaridis family	Greece	03/10/2008	–	32	18	56%	Lifeboats, fire fighting equipment and appliances, hull—corrosion, pumping, piping and discharge arrangements, fixed fire extinguishing installation, auxiliary engine, labour conditions—health protection, medical care, social security, safety of navigation, emergency systems, inflatable liferafts, life saving appliances, lifeboats—not ready for use.	–	–	32	18	56%
Frio Poseidon	Frio Poseidon	Panama	Laskaridis family	Greece	27/08/2013	–	19	9	47%	International oil pollution prevention, operation of life saving appliances, fire prevention structural integrity, auxiliary engine, radar, propulsion main engine, hull—corrosion, sewage discharge connection, garbage, pumping, piping and discharge arrangements.	–	–	19	9	47%
Frio Shinano	Frio Shinano	Panama	Laskaridis family	Greece	01/10/2012	–	19	11	58%	Ready availability of fire fighting equipment, garbage, endorsement by flagstate, labour conditions—accommodation, recreational facilities, food and catering, structural conditions—ballast, fuel and other tanks, pollution prevention—MARPOL Annex VI, labour conditions—Health protection, medical care, social security, safety of navigation, lifeboats, cold room cleanliness, cold room temperature, auxiliary engine, bilge pumping arrangements, oil record book.	Detained: 22/11/2012 Location: Busan	Division—decks, bulkheads and penetrations, ready availability of fire fighting equipment.	19	11	58%
Hai Feng 678	Hai Feng 678	Panama	Zhongyu Global Seafood Corporation	China	16/08/2016	–	5	4	80%	Charts, ventilation, fire detection and alarm system, fire alarm, fixed fire extinguishing installation, lifebuoys incl. provision and disposition.	–	–	5	4	80%
Hai Feng 688	Hai Feng 688	Panama	Pacific Venture Development Limited	China	19/07/2014	–	6	4	67%	Launching arrangements for rescue boats, sewage treatment plant, emergency source of power—emergency generator, medical care onboard or ashore free of charge, emergency equipment for 2-way comm.	–	–	6	4	67%

			Company Limited							liferafts.					
Iris Reefer	Iris Reefer	Panama	Laskaridis family	Greece	09/12/2015	–	11	8	73%	Labour conditions—health protection, medical care, social security, structural conditions, ozone-depleting substances, lifeboats, sewage treatment plant, oil filtering equipment, oil record book.	Detained: 18/10/2017 Location: Zhoushan	Emergency source of power—emergency generator, lifeboats, oil filtering equipment, sewage treatment plant, steering gear, lifeboats.	11	8	73%
Pamyat Kirova	Pamyat Kirova	Russia	Laskaridis family	Greece	04/4/2012	–	23	23	100%	Steering gear, bunker delivery notes, lifeboats, echo sounder, auxiliary engine, emergency fire pump and its pipes, rudder angle indicator, sanitary facilities, ballast, fuel and other tanks, fire control plan, propulsion main engine, garbage management plan, other (MARPOL Annex I), means of escape, oil filtering equipment, garbage record book, reports of non-conf., accidents & hazardous occur., ozone-depleting substances, emergency source of power—emergency generator, oil record book.	–	–	23	23	100%
Pamyat Ilicha	Pamyat Ilicha	Russia	Laskaridis family	Greece	28/02/2013	–	15	11	73%	Lifeboat inventory, propulsion main engine, sewage treatment plant, lifeboats, steering gear, auxiliary engine, fire pumps and its pipes, garbage record book, garbage management plan, oil record book, bunker delivery notes, emergency source of power—emergency generator, oil filtering equipment, sewage treatment plant.	Detained: 22/04/2014 Location: Apapa-Lagos Detained: 18/08/2017 Location: Dalian	Other safety in general, oil record book, lifeboats, lifeboat inventory, other (life saving), propulsion main engine.	15	11	73%
Skyfrost	Skyfrost	Panama	Laskaridis family	Greece	11/9/2009	–	18	11	61%	MARPOL Annex V, safety of navigation, radio communications, pollution prevention/response, garbage record book, lifeboats, means of escape, fire control plan, oil filtering equipment, fire detection and alarm system, fire fighting equipment and appliances.	–	–	18	11	61%
Taganrogskiy Zaliv	Taganrogskiy Zaliv	Panama	Laskaridis family	Greece	01/2/2015	1/6/2018	9	6	67%	Safety of navigation, life saving appliances—stowage and provision of lifeboats, labour conditions,health protection, medical care, social security, radio communications, fire safety, propulsion main engine, garbage, sewage treatment plant.	–	–	9	6	67%
Uruguay Reefer	Uruguay Reefer	Panama	Laskaridis family	Greece	06/2/2015	18/05/2017	8	3	38%	Fire detection and alarm system, auxiliary engine, fire alarm, garbage.	–	–	8	3	38%
Zefyros Reefer	Zefyros Reefer	Panama	Laskaridis family	Greece	23/5/2010	–	27	17	63%	Auxiliary engine, propulsion main engine, garbage management plan, MARPOL Annex IV, sewage treatment plant, International Air Pollution Prevention Certificate, living and working conditions—working conditions, pollution prevention—MARPOL Annex I, safety of navigation, fire fighting equipment and appliances, inflatable liferafts.	–	–	27	17	63%
La Manche	La Manche	Vanuatu	Aker ASA	Norway	17/4/2009	–	22	9	41%	Life saving appliances, fire safety, auxiliary engine, Lifeboats, oil record book, electrical installations in general, fire pumps and its pipes, steering gear, pollution prevention—MARPOL Annex I, living and working conditions—working conditions.	–	–	22	9	41%

When given opportunity to comment, Laskaridis denied some of the information collected from Lloyd's List, stating that some of these vessels had since been scrapped or do not still belong to Laskaridis. Where information was available on ownership dates, this has been included in the above table.

CITATIONS

1 **Guillen, J., Natale, F., Carvalho, N., Casey, J., Hofherr, J., Druon, J. N., Fiore, G., Gibin, M., Zanzi, A., & Martinsohn, J. T.** (2018). Global seafood consumption footprint. Ambio, 1–12.

2 **FAO** (2018). The State of World Fisheries and Aquaculture.

3 **FAO.** (2018). Global study on transhipments. Regulations, practices, monitoring and control (advanced draft).

4 **Weimerskirch H., Collet J., Corbeau A., Pajot A., Hoarau F., Marteau C., Filippi D., and Patrick, S.C.** (2020). Ocean sentinel albatrosses locate illegal vessels and provide the first estimate of the extent of nondeclared fishing, https://www.pnas.org/content/early/2020/01/21/1915499117

5 "The regulation requires AIS to be fitted aboard all ships of 300 gross tonnage and upwards engaged on international voyages, cargo ships of 500 gross tonnage and upwards not engaged on international voyages and all passenger ships irrespective of size. The requirement became effective for all ships by 31 December 2004." See: http://www.imo.org/en/OurWork/Safety/Navigation/Pages/AIS.aspx

6 **IMO** (2015). Revised guidelines for the onboard operational use of shipborne Automatic Identification Systems (AIS).

7 **Oceana.** Avoiding Detection: Global Case Studies of Possible AIS Avoidance https://usa.oceana.org/publications/reports/avoiding-detection-global-case-studies-possible-ais-avoidance

8 Global Fishing Watch is an independent international non-profit organisation working to advance ocean sustainability and stewardship through increasing transparency, by offering data and near real-time tracking of global commercial fishing activity, supporting new science and research, and boosting the global dialogue on ocean transparency. See: https://globalfishingwatch.org/about-us/

9 **IMO**, IMO Identification Number Schemes, (Circular letter No.1886/Rev.5), Accessed February 2020: http://www.imo.org/en/OurWork/MSAS/Pages/IMO-identification-number-scheme.aspx

10 **Retsch, J.**, What is the difference between IMO and MMSI number?, Accessed February 2020: https://help.fleetmon.com/en/articles/2010884-what-is-the-difference-between-imo-and-mmsi-number

11 **Miller, N.A., Roan, A., Hochberg, T., Amos, J. and Kroodsma, D.A.,** (2018). Identifying Global Patterns of Transhipment Behaviour, Frontiers in Marine Science https://www.frontiersin.org/articles/10.3389/fmars.2018.00240/full#B12

12 See Parties to the PSMA: http://www.fao.org/port-state-measures/background/parties-psma/en/, as of 17 February 2020.

13 See FAO Port State Measures, as of February 2020: http://www.fao.org/port-state-measures/en/

14 **UNCLOS**, Article 91.

15 Churchill, R.R. and Hedley, C. (2000). The meaning of the "genuine link" requirement in relation to the nationality of ships. Retrieved from http://orca.cf.ac.uk/45062/1/ITF-Oct2000.pdf

16 In this report the term Flags of Convenience is used as it is the best known term by the general public. For an overview see Miller, D. D., & Sumaila, U. R. (2014). Flag use behavior and IUU activity within the international fishing fleet: Refining definitions and identifying areas of concern. Marine Policy, 44(February), 204–211.

17 **International Transport Workers' Federation (ITF)**. Flags of convenience, Avoiding the rules by flying a convenient flag. Retrieved from: https://www.itfglobal.org/en/sector/seafarers/flags-of-convenience

18 See FAO (2009). Expert consultation on flag state performance.

19 **CCAMLR (2002)**. Resolution 19/XXI on Flags of Non-Compliance.

20 **FAO (2017).** Voluntary Guidelines on Flag State Performance.

21 See International Transport Workers' Federation, Trade Union Advisory Committee to the OECD, International Transport Workers' Federation & Greenpeace (2002). More Troubled waters: Fishing, Pollution and FOCs. Major group submission for the 2002 World Summit on Sustainable Development in Johannesburg.

22 This figure excludes Russian flagged reefers, for the reasons explained on page 12.

23 **Council Regulation (EC).** No 1005/2008 of 29 September 2008 establishing a Community system to prevent, deter and eliminate illegal, unreported and unregulated fishing.

24 See: https://ec.europa.eu/commission/presscorner/detail/en/MEMO_19_201 for some more detail on the identifcation process.

25 **European Commission (2015).** Commission Decision of 1 October 2015 on notifying a third country of the possibility of being identified as a non-cooperating third country in fighting illegal, unreported and unregulated fishing (2015/C 324/07).

26 **European Commission (2019).** Commission Decision of 12 December 2019 on notifying a third country of the possibility of being identified as a non-cooperating third country in fighting illegal, unreported and unregulated fishing (2020/C 13/06).

27 See: https://ec.europa.eu/fisheries/fight-against-illegal-fishing-commission-lists-saint-vincent-and-grenadines-and-comoros-non_en

28 See: https://ec.europa.eu/fisheries/sites/fisheries/files/illegal-fishing-overview-of-existing-procedures-third-countries_en.pdf

29 See for instance Greenpeace East Asia report (2018) "Misery at sea. Human suffering in Taiwan's distant water fishing fleet" and Greenpeace South-East Asia (2019), "Seabound: The Journey to Modern Slavery on the High Seas".

30 See company website, as of February 2020: http://www.jongshyn.com/about.asp

31 **Gianni, M. and Simpson, W. (2005).** The Changing Nature of High Seas Fishing, http://assets.wwf.org.uk/downloads/flagsofconvenience.pdf

32 https://www.lloydslistintelligence.com/vessel/12843160/ownership

33 https://www.lloydslistintelligence.com/vessel/166764/sanctions

34 https://www.lloydslistintelligence.com/vessel/240133/ownership

35 **Greenpeace Australia Pacific (2011)**. Greenpeace blockades Pacific-bound unregistered Tuna ship in Taiwan harbour (2011), as of February 2020: https://www.greenpeace.org.au/news/greenpeace-blockades-pacific-bound-unregistered-tuna-ship-in-taiwan-harbour/

36 **Fish Information and Services.** Laskaridis Shipping Co. Ltd.. Accessed 17th February 2020 https://fis.com/fis/companies/details.asp?l=e&company_id=159046

37 **Fish Information and Services.** Lavinia Corporation, Ltd.. Accessed 17th February 2020. https://fis.com/fis/companies/details.asp?l=e&company_id=69587

38 **Mononews (2019).** Οι billionaires αδελφοί Λασκαρίδη, η κυριαρχία τους στο Σύνταγμα με 250 εκατ. ευρώ και η «ψήφος» εμπιστοσύνης στην οικονομία. By Dimitris Kokkoris, 17th November 2019. https://www.mononews.gr/business/i-billionaires-adelfi-laskaridi-i-kiriarchia-tous-sto-sintagma-me-250-ekat-evro-ke-i-psifos-empistosinis-stin-ikonomia

39 **Liberian Registry.** Unique Advantages. Accessed February 17th 2020. https://www.liscr.com/unique-advantages

40 This failure rate was established by checking each individual reefer's Inspections & Detentions record on Lloyd's List Intelligence.

41 **Maritime Herald (2017).** Greek shipping company Laskaridis Shipping fined for environmental pollution in France. By Stefani Igaz, 19th January 2017. https://www.maritimeherald.com/2017/greek-shipping-company-laskaridis-shipping-fined-for-environmental-pollution-in-france/

42 **NOAA Incident News**. Amoco Cadiz. Accessed 17th February 2020. https://incidentnews.noaa.gov/incident/6241

43 **International Maritime Organisation**. Port State Control. Accessed 17th February 2020. http://www.imo.org/en/OurWork/MSAS/Pages/PortStateControl.aspx

44 **OECD (2014).** International Regulatory Co-operation and International Organisations The Cases of the OECD and the IMO: The Cases of the OECD and the IMO

45 **Greenpeace (2018).** Microplastics and Persistent Fluorinated Chemicals in the Antarctic, June 2018. https://www.greenpeace.org/international/publication/16899/microplastics-in-the-antarctic/

46 Inspection records for each vessel were compiled for the entire period of ownership. For example, the Laskaridis family have owned Avunda Reefer since 2015, so all inspections since 2015 were included. Failure is defined by Greenpeace as at least one deficiency during an inspection; the majority of inspections record several.

47 **CCAMLR (2013).** Convention text. Accessed 17th February 2020. https://www.ccamlr.org/en/organisation/camlr-convention-text

48 **Merco Press (2017).** Falklands worried M/V Uruguay Reefer seems doomed to sink the Islands Conservations Zones. 11th May 2017. https://en.mercopress.com/2017/05/11/falklands-worried-m-v-uruguay-reefer-seems-doomed-to-sink-in-the-islands-conservation-zones

49 **International Maritime Organisation.** Shipping in polar waters. Accessed 17th February 2020. http://www.imo.org/en/MediaCentre/HotTopics/polar/Pages/default.aspx

50 **CCAMLR (2018).** Achievements and Challenges. Accessed 17th February 2020. https://www.ccamlr.org/en/organisation/key-challenges-and-achievements

51 **Greenpeace (2016).** Victory! World's largest marine protected area established off Antarctica. By Willie Mackenzie, 28th October 2018. https://www.greenpeace.org/international/story/7018/victory-worlds-largest-marine-protected-area-established-off-antarctica/

52 **Greenpeace UK (2018).** Governments have failed to protect the Antarctic - but this isn't over. By Mal Chadwick, 2nd November 2018. https://www.greenpeace.org.uk/news/governments-failed-protect-antarctic/

53 **Merco Press (2017).** M/V Reefer Uruguay in emergency heading for Falklands, was abandoned heavily trimmed by the bow. 8th May 2017.https://en.mercopress.com/2017/05/08/m-v-reefer-uruguay-in-emergency-heading-for-falklands-was-abandoned-heavily-trimmed-by-the-bow

54 **Merco Press (2017).** Falklands worried M/V Uruguay Reefer seems doomed to sink the Islands Conservations Zones. 11th May 2017. https://en.mercopress.com/2017/05/11/falklands-worried-m-v-uruguay-reefer-seems-doomed-to-sink-in-the-islands-conservation-zones

55 **International Maritime Organisation.** Shipping in polar waters. Accessed 17th February 2020. http://www.imo.org/en/MediaCentre/HotTopics/polar/Pages/default.aspx

56 **Oil Tanking.** Heavy Fuel Oil. Accessed 17th February 2020. https://www.oiltanking.com/en/news-info/glossary/details/term/heavy-fuel-oil-hfo.html

57 **Penguin News.** Stricken cargo ship under tow from Falklands waters. Accessed 17th February 2020. http://www.penguin-news.com/index.php/headlines/all-headlines/17-fishing/93-cargo-ship-will-sink-in-falklands-waters

58 **Merco Press (2017).** Stranded reefer loss in South Atlantic confirmed: "no oil pollution was observed". 17th May 2017. https://en.mercopress.com/2017/05/17/stranded-reefer-loss-in-south-atlantic-confirmed-no-oil-pollution-was-observed

59 See: https://www.ccamlr.org/en/organisation/key-challenges-and-achievements

60 **ASOC. (2018).** Closing the gaps in CCAMLR's oversight of at-sea transhipments in the Convention Area.

61 **CCAMLR. (2017).** Second Performance Review of CCAMLR – Final Report of the Panel.

62 **United Nations General Assembly.** Report of the resumed Review Conference on the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks. 2016. Report No.: A/CONF.210/2016/5.

63 **FAO (2019).** Global study on transhipments. Regulations, practices, monitoring and control (advanced draft).

64 **CCAMLR. (2017).** Second Performance Review of CCAMLR – Final Report of the Panel.

65 As noted by the CCAMLR performance review panel, "two highly migratory species RFMOs (IATTC and WCPFC) include this criterion in their measures for IUU vessel lists. This is designed to address one of the more difficult aspects of combating IUU fishing – beneficial ownership – as well as to broaden the economic impact of an IUU listing."

66 **CCAMLR (2019).** Report of the Thirty-eight meeting of the Commission. Preliminary version of the CCAMLR-38 Report as adopted on 1 November 2019.

67 **United Nations General Assembly.** Report of the resumed Review Conference on the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10, December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly M. 2016. Report No.: A/CONF.210/2016/5.

68 **UNGA (2015).** Resolution adopted by the General Assembly on 19 June 2015 - 69/292. Development of an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction. http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/69/292

69 **Wright G., Rochette J., Druel E. and Gjerde K. (2016).** The long and winding road continues: Towards a new agreement on high seas governance. IDDRI No.1/16 March 2016 Oceans and Coastal Zones. https://www.iddri.org/sites/default/files/import/publications/st0116_gw-et-al._high-seas.pdf

Cover photo:
Tuna transhipment in the Indian Ocean

Published by Greenpeace International
March 2020
greenpeace.org/30x30

GREENPEACE
PROTECT
THE OCEANS