SPOTLIGHT ON:

Laundering illegally caught fish at sea

TMT

Fisheries intelligence,
analysis & capacity building
to combat illegal fishing

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Acronyms

AIS	Automatic Identification System
DWF	Distant Water Fishing
EEZ	Exclusive Economic Zone
EM	Electronic Monitoring
ESG	Environmental impact, social responsibility and corporate governance
FAD	Fish Aggregating Device
FAO	United Nations Food and Agriculture Organization
GPS	Global Positioning System
IUU (Fishing)	Illegal, Unreported and Unregulated
JAC	Joint Analytical Cell
MMSI	Maritime Mobile Service Identity
PSMA	Port State Measures Agreement
RFMO	Regional Fisheries Management Organisation
VMS	Vessel Monitoring System

SPOTLIGHT SERIES

The TMT Spotlight Series highlights the tactics, loopholes, and enforcement gaps exploited by illegal fishing operators to access resources, ports, and markets, and to avoid sanctions. Each Spotlight is based on real operations and case analysis, grounded in TMT's extensive field experience supporting partner States to detect, investigate, and respond to IUU fishing and associated crime.

Designed for coastal, flag, and port State authorities, regional fisheries bodies, enforcement agencies, and policymakers, the series provides practical insights and lessons learned to strengthen fisheries governance. By exposing where risks occur and how they are exploited, Spotlights help stakeholders focus resources, close enforcement gaps, and build transparency in global fisheries. Developed with partners, Spotlights are written to be practical, relevant, and directly usable by those on the front lines of combating IUU fishing. Find out more about TMT and our Spotlight Series at www.tm-tracking.org

This Spotlight is dedicated to Alistair McDonnell, who was a key contributor to several of the cases that informed this report. Throughout his career, Alistair worked tirelessly to shine a light on fisheries monitoring, control, and surveillance issues that demanded greater attention. He was a valued colleague and friend, whose insight and generosity will be greatly missed.

SPOTLIGHT ON:

Laundering illegally caught fish at sea.

Illegal, unreported and unregulated (IUU) fishing undermines global efforts to manage fisheries sustainably, protect coastal livelihoods, and ensure food and nutrition security. One of the most complex and under-addressed vectors for IUU fish to enter global supply chains is through laundering at sea, where illegally caught seafood is mixed with legal catch and masked through fraudulent documentation, transshipment, and port loopholes.

While often hidden from view, these laundering operations are not rare exceptions. They occur across multiple regions, fleets, and fisheries, taking advantage of enforcement blind spots and regulatory inconsistencies between flag, coastal, port, and market States. The result is a leakage of high-risk catch into legitimate markets, with consequences not only for fisheries governance, but also for traceability, health standards, and consumer trust.

This Spotlight is based on operational intelligence and technical cooperation between TMT and our partners. It identifies and explains how fish laundering works at sea, the tactics used by unscrupulous operators, and the points in the supply chain where detection and disruption are still possible.

Key takeaways

Laundering happens before the fish reaches port
Illegally caught fish are mixed with legal catch at sea and disguised through vessel identity fraud, repackaging, and transshipment, often beyond the reach of port or market controls.

Transshipment is a key laundering vector
At-sea and in-port transshipments are frequently exploited to mask the origin of catch. Weak controls, documentation loopholes, and misclassification between 'landed' and 'transshipped' fish enable laundering to go undetected.

Quantification remains a blind spot
Despite growing evidence of laundering methods, the scale of the problem remains largely unmeasured. Without data, it is difficult to assess risk, measure impact, or strengthen accountability.

Legal and illegal fish become inseparable
Once mixed, even small amounts of illegally caught fish can compromise entire consignments, undermining traceability, prosecution, and consumer confidence in certified seafood.

Enforcement gaps are systemic, but solvable
Stronger vessel tracking, coordinated controls between states, targeted use of electronic monitoring, and industry accountability all offer real opportunities to close laundering pathways.

Regional coordination is critical
Laundering thrives where there are gaps in jurisdiction. The proposed Blue Cordon, linking Africa's regional MCS centres, would help ensure that vessels denied in one place cannot simply shift operations to another.

Introduction

This spotlight identifies how illegally caught fish are laundered into legitimate markets through a range of operational tactics and enforcement gaps, often whilst still at sea. It focuses on the processes used to conceal the illegal origin of catch, through mixing, mislabelling, and fraudulent documentation, and the points in the supply chain most vulnerable to abuse. The analysis outlines the three main pathways through which illegally caught fish can enter the market.

1) Weak or unregulated markets - where seafood provenance is not monitored or enforced;

2) Black market sales - where fish bypasses all documentation and enter informal supply chains;

3) Laundering into legal supply chains - through mixing, transshipment, and fraudulent documentation that conceal the illegal origin of catch.

The third route – laundering – is the central focus of this report and refers to the deliberate process of disguising illegally caught fish as legal through a combination of at-sea operations and documentation fraud.

Illegal fishing and document fraud in fisheries pose widely reported challenges to international seafood supply chains. The practises of using false catch logs, catch certificates and landing documents to bypass license conditions or catch restrictions, avoid or underpay related fees, falsify hygiene reports, and to mislabel species are also well documented.[1] Despite this, assessments to date have primarily focused on the fraud that occurs in paperwork, with less attention paid to the underlying fishing operations that seek to 'launder' illegally caught seafood into legal catches while still at sea.

This TMT Spotlight focuses on those fishing operations, identifying how some operators can mix legal and illegal catches while fishing, and then exploit gaps in regulations and controls to insert the illegally-caught seafood into supply chains via weak enforcement points such as at-sea transshipment or ports with lax controls.

The fish laundering operations outlined in this report are based on TMT's collaborations with our partner countries as they implement and strengthen their fisheries monitoring, control and surveillance capabilities. This provision of fisheries intelligence and technical assistance is central to the cooperation with these countries, both directly and via our work with partners such as Stop Illegal Fishing and the member organisations of the Joint Analytical Cell (JAC).[2]

While the examples outlined in this report have been identified in different global regions and fisheries, the majority are based on TMT's direct experience with industrial distant water fishing operations which take place in African coastal waters and the adjacent high seas of the Indian and Atlantic Oceans, which remain the primary regions of focus for our work. These regions are particularly vulnerable due to the intensity of distant water fishing, overlapping jurisdictional challenges, and varying levels of port and coastal State enforcement capacity. In some cases, examples are based on enforcement actions taken by national authorities, but very often fish laundering operations are identified 'after the fact', with unknown

WHAT IS FISH LAUNDERING

Definition:
Fish laundering is the process of disguising illegally caught fish as legal, typically through mixing with legal catch, mislabelling, transshipment, or fraudulent documentation.

Example:
A vessel catches fish inside a restricted zone, mixes it with legally caught fish in its hold, and lands the combined cargo under the licence of another authorised vessel. Once mixed and documented as "legal," the illegal fish becomes almost impossible to detect.

Why it matters:
Laundering allows illegal catch to enter supply chains undetected, threatening fish stocks and ecosystems, undermining sustainable fisheries management, putting coastal livelihoods at risk, and eroding consumer trust in seafood markets.

quantities of illegal fish having entered seafood markets as legal. Some of the laundering operations presented in this report have been documented elsewhere, while several others have not. The intention is to pool the different known and possible risk operations into one document, allowing stakeholders to access and assess this information in one place. This report is therefore a technical overview of the fishing operations that perpetuate fish laundering, with external links to relevant case studies provided.

While grounded in real operational examples, the overall scale of seafood laundering at sea remains largely unquantified. Unlike port-based infractions or documented IUU fishing, laundering is concealed by design, often involving the deliberate mixing of legal and illegal catches offshore before inspection is possible. The covert nature of these practices means few cases are detected or prosecuted.

This evidence gap presents a critical challenge: without clearer baselines it is difficult to assess risk, allocate enforcement resources, or measure deterrence impact. Future efforts must prioritise the development of metrics and indicators, including detection rates, cross-referenced VMS/EM anomalies, and cases prosecuted involving mixed catch. A global initiative to quantify laundering risks and outcomes could significantly enhance enforcement targeting and policy urgency.

It is also highly likely that the operations described here are not exhaustive. These activities often occur far from opportunities to observe and document them, making it exceptionally difficult to obtain concrete evidence. Despite these challenges, advances in satellite imagery, vessel tracking analyses, patrols, observer programmes, and robust port controls now offer new opportunities to identify where laundering risks are taking place and to implement stronger responses.

Laundering fish at sea operations

Identifying fish-laundering operations is exceptionally challenging. These activities take place far out at sea, often beyond the reach of inspectors, and are obscured by sophisticated tactics that disguise the true origin of catch. The findings in this report are drawn from at-sea patrols, observer data, electronic monitoring, robust port inspections, satellite imagery, and intelligence sources. These remain the most effective tools for detecting laundering practices. In some cases, crew testimony has been critical when fisheries agents are investigating these types of operations , however safeguards must be ensured.

The first stage of the fish laundering process takes place at sea. Unscrupulous operators employ various tactics designed to make illegally caught fish appear to be caught by authorised vessels. The following operations have all been documented as systems utilised by such operators to launder illegally-caught fish; these methods may take place individually, or can be combined, making detection even more difficult.

Vessel Identity Fraud

Vessel identity fraud is a tactic used by fishing vessels to fish illegally, and/or evade authorities after illegal fishing has been detected. There are three main forms of vessel identity fraud, which may occur alone or in combination:

1) **Stolen identity:** A vessel falsely uses the identity of another legitimate vessel, creating situations where multiple vessels operate under the same name or licence.

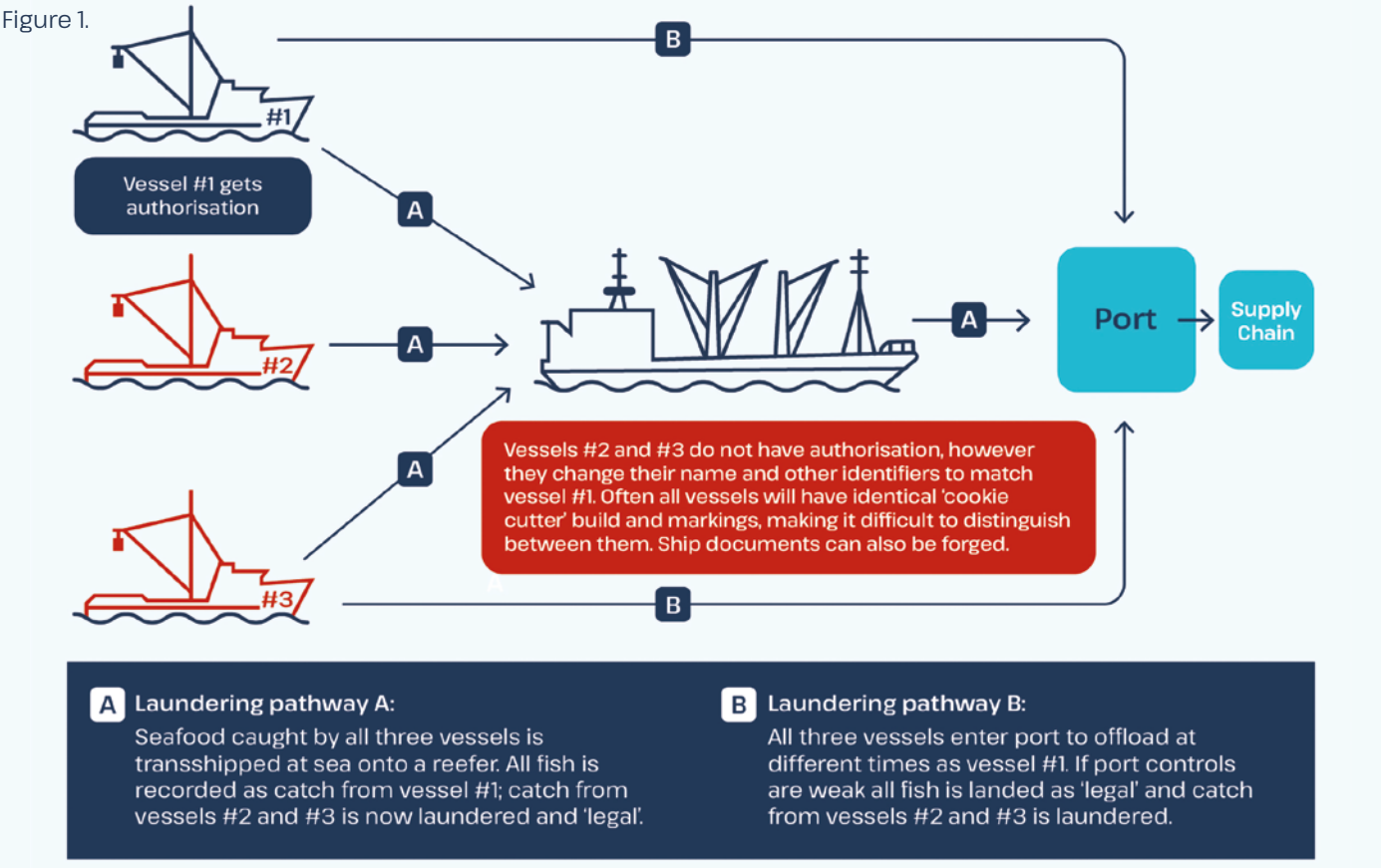
2) **Multiple identities:** A single vessel alternates between different names, flags, and identifiers in different jurisdictions, some legitimate and some fabricated.

3) **False indentity:** A vessel operates under an entirely fictitious identity not registered with any national authority.

The first form of vessel identity fraud creates significant opportunities for illegally caught fish to enter the supply chain, as it allows vessels to operate under the cover of a legitimate vessel's identity. This tactic typically involves a fishing fleet operator purchasing a legal licence for one vessel, but then using that licence across several other vessels that assume its identity. Any fish caught by these fraudulent vessels is illegal, yet can appear legitimate because it is attributed to the one licensed vessel.

The most common laundering pathway arises when multiple "ghost" vessels use the identity of a single authorised vessel. As shown in figure 1, their catches are mixed with that vessel's genuine catch, often through transshipment, and once combined the illegal fish is indistinguishable from the legal, allowing it to pass into supply chains undetected.

Figure 1.

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‘Cookie-cutter’ fleets

So-called “cookie-cutter fleets” are groups of sisterships built to near-identical specifications, often in the same shipyard, and given almost identical names. Their identifiers are often crudely painted and easily altered, and many do not carry International Maritime Organization (IMO) numbers. This allows vessels to swap identities, licences, and documentation with minimal risk of detection. This tactic has been repeatedly documented in distant-water trawl and longline fleets. Without unique identifiers such as IMO numbers, it is nearly impossible for enforcement agencies to distinguish vessels or verify catch origin reliably.

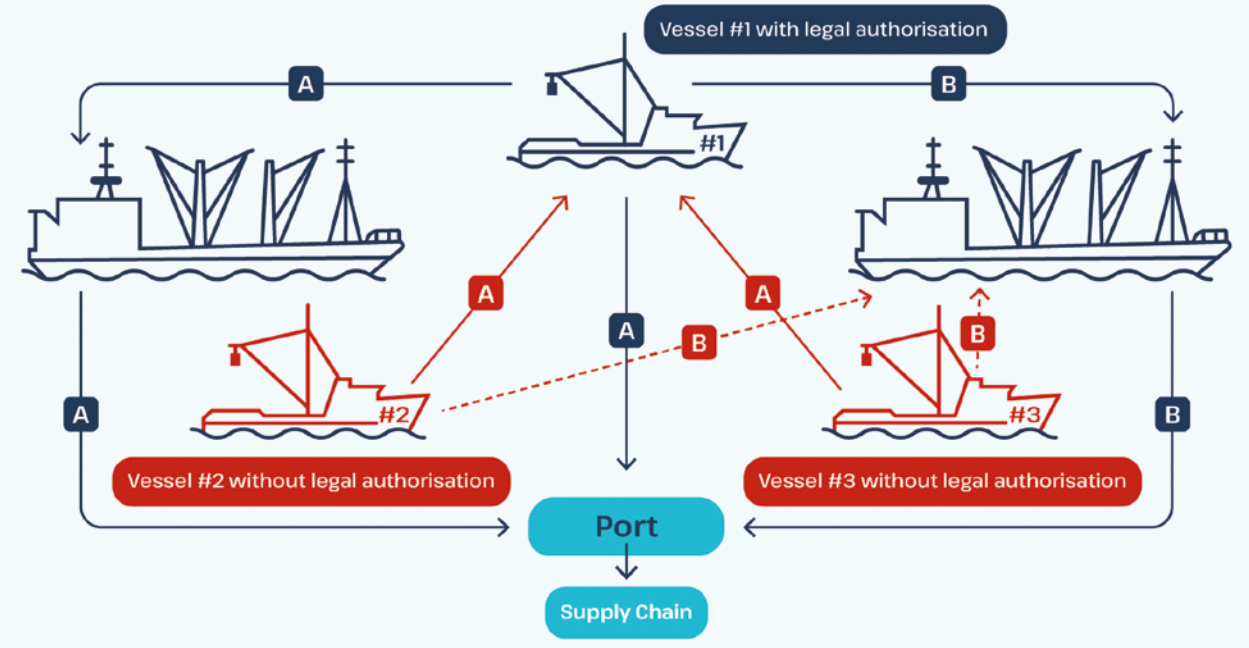
‘Cookie-cutter’ fishing fleets - sisterships that have near identical builds and features, as well as identifiers - substantially increase the risk of vessels altering identities to share licenses and evade detection by authorities. Numerous examples of sister ships in cookie cutter fleets swapping identities have been identified, particularly in distant water bottom trawl and longliner fleets.

Mislabelling of seafood packaging at sea

Some vessels process and package seafood at sea, using packaging typically labelled with details such as vessel name, species, weight, and catch date. However, there are no internationally harmonised standards for what information must be included. Best practice is that packaging should state the vessel name, the gear type used, the local common and Latin name of the species, the product state (for example, whole, headed and gutted, or filleted), the declared weight and grade, and the location and date of catch or production. In some cases, packaging may also indicate the FAO catch area or the country where the fish was caught.

The absence of clear and consistent standards creates opportunities for laundering. A common tactic is for unauthorised vessels to catch and package fish at sea and then falsely label it with the identity of an authorised vessel. As illustrated in figure 2, once mislabelled the fish can be transshipped to a carrier, loaded onto an authorised vessel and landed as its own, or taken directly into ports with weak controls where the falsification is unlikely to be detected. In this way, illegally caught fish can easily enter supply chains under the guise of being legally harvested.

Figure 2.



A **Laundering pathway A:**
Seafood caught by all three vessels is processed and/or packed into packaging labelled with the details of vessel #1. Vessels #2 and #3 can then transfer the seafood to vessel #1, which then either transships or lands the catch in port as legal.

B **Laundering pathway B:**
All three vessels transship the packaged seafood labelled as coming from vessel #1. This is then landed by the reefer as legal catch.

Mini-reefers

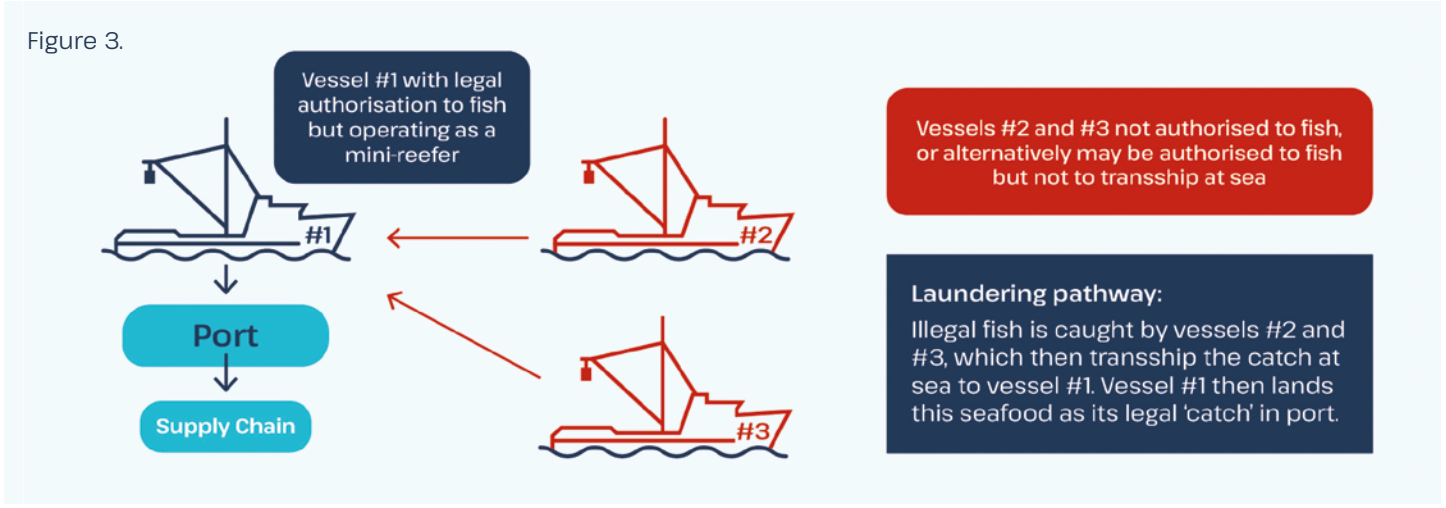
Mini-reefers are former fishing vessels refitted to act as refrigerated carriers. They collect catch from fishing vessels at sea, allowing those vessels to remain on the grounds and reduce fuel costs. Mini-reefers may also transport crew and supplies, extending fishing time. They are particularly found in tuna longline fisheries.

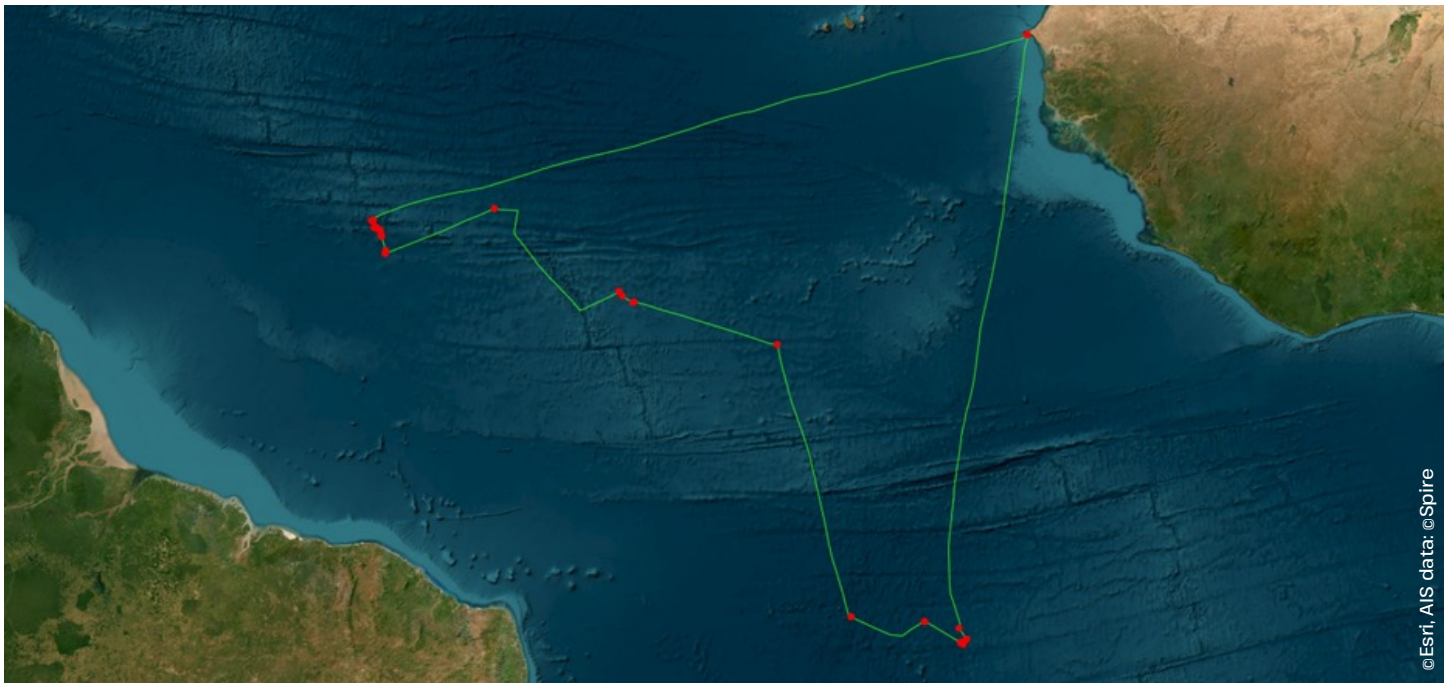
When authorised and monitored, mini-reefers are legal. But laundering occurs when a vessel authorised as a fishing vessel instead operates covertly as a mini-reefer, landing catch it never caught itself. This masks the origin of seafood and allows unauthorised or excess catch to enter the supply chain as legal, see Figure 3.

This practice can be complicated further when the mini-reefer goes on to further offload the catch to a larger refrigerated cargo vessel via transshipment at sea. Alternatively the vessel may land the cargo in a port with lax controls where indications that the vessel did not actually engage in fishing activity are less likely to be noticed.

Red flags for mini-reefer operations include: the absence of fishing gear despite a fishing licence; Yokohama fenders or hull markings from ship-to-ship transfers; and vessel-tracking patterns showing repeated rendezvous at sea without fishing activity. Mini-reefers are also likely to call in to port more frequently than fishing vessels of the same type, though this may be hard to detect if the vessel is using multiple ports and tracking infrequently on AIS.

Figure 3.





Track of a fishing vessel authorized by its flag state to the International Committee for the Conservation of Atlantic Tuna as a longliner, operating out from a port in West Africa. Despite being authorized only to operate with longlines, this vessel was in fact operating as a mini-reefer, transshipping and taking on catch from other longliners at sea, and then landing it in port as self-caught. The nature of this operation can be drawn from the tracks of the vessel, where no segments in the track indicate the distinct longline fishing pattern, but instead show targeted transits out to specific points at sea with shorter drift patterns observed (in red), indicating transshipment operations.

Consumer health considerations

Seafood laundering can also pose health risks to consumers. Many fishing vessels fail to meet required health and hygiene standards, which some operators exploit as a way to reduce costs. To control this risk, some Market States require that imported catch come only from vessels certified as compliant with hygiene regulations. When catch from uncertified vessels is laundered to appear as though it was harvested by certified vessels, it provides a pathway for unsafe seafood to enter markets.

For example, vessels listed on the European Commission Directorate-General of Health and Food Safety (DG SANTE) approval list for fishery products (FFP) are authorised to export directly to EU markets, but only if they are flagged to countries whose national hygiene authorities are accredited for certification. Many of these vessels operate in the waters of coastal States that do not themselves have an accredited competent authority.

In practice, cases have been observed where vessels flagged to countries that do not meet EU standards pack their catch into boxes labelled with the identity of vessels flagged to accredited countries included on the DG SANTE list. This can also be reflected in company practices around vessel flagging. In West Africa, for instance, some Chinese-owned bottom trawler companies flag the majority of their vessels to regional States that fall short of EU standards, while keeping a small number of vessels flagged to China, which does meet those standards.

Purse seiners mixing fish in holds

Tuna purse seiners can launder catches at the very first stage of the supply chain—when tuna from legal and illegal sets are stowed together in fish holds, or "wells." Once mixed, separation is impossible, and all subsequent records and traceability are compromised.

These fisheries are highly sophisticated, complex, and lucrative, subject to both national and international management structures as well as extensive reporting and control requirements. Despite this, some purse seine operators have developed specific strategies for laundering illegal tuna.

Ocean-going purse seiners typically remain at sea for 20 to 30 days until their wells are filled. Depending on the vessel's size, a voyage will yield 500-1,000 tonnes of whole tuna. Each well's stowage is recorded in the official logbook, which, along with refrigeration records, provides the basis for catch reporting and traceability. For example, a vessel with ten wells, each with an 80-tonne capacity, has a total design capacity of 800 tonnes. The logbook history of any individual vessel shows the sets, positions, and authorisations associated with its wells.

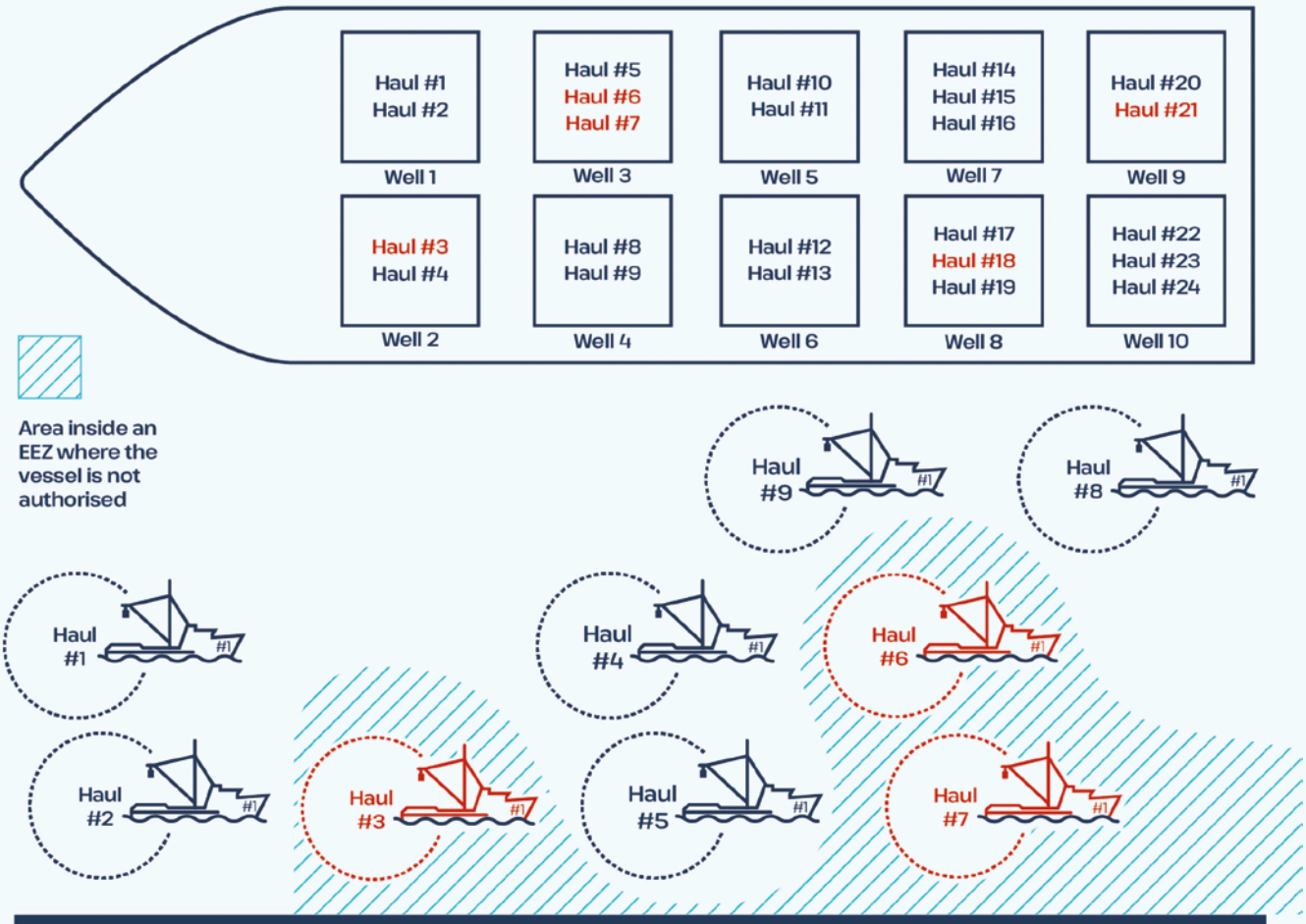
By regulation, each well should contain tuna from authorised sets recorded with the latitude and longitude of capture. In practice, however, catches from multiple sets are often combined within wells for stability and refrigeration purposes. This creates the opportunity to launder fish. If a vessel, for instance, legally sets its net on the high seas but then makes an unauthorised set in a neighbouring EEZ, the tuna from both sets can be stowed in the same well. If recorded as part of the legal set, the illegal catch is effectively concealed.

Once the wells are full, the catch is discharged either to a reefer in port or directly at the quay. From this stage onward, further mixing occurs as fish are sorted into bins by species and grade, then processed and canned. Traceability data—voyage identifiers, species, and grade—are carried forward into labelling and marketing, even down to consumer-facing "catch by vessel" claims on branded websites. Yet if illegal tuna was mixed at the first stage, the traceability chain is irreparably compromised.

This inextricable mixing raises serious consequences. Some authorities treat any evidence of illegal fishing during a voyage as grounds to reject the entire consignment, creating significant risks for exporters who may then be forced to divert products to less restrictive markets. Authorities themselves face the challenge of having the regulatory powers and risk management tools to investigate, determine culpability, and justify proportionate enforcement actions.

The laundering pathway for purse seiners follows a clear sequence, as detailed in Figure 5: an illegal set is mixed in a well, landed with the catch, further blended during processing and canning, and ultimately marketed as legitimate product. At each stage, the original illegality becomes harder to detect, making early intervention essential.

Figure 5.



Purse Seiner #1 will typically aim to be at sea until they fill their fish holds, commonly known as 'wells'. The purse seine net is set and retrieved multiple times over 20-30 days, with the catch distributed across the wells. Several sets can be mixed in each well until it is full. It is at this stage that the mixing of legal and illegally caught fish can occur.

In this diagram the purse seiner makes 24 sets to fill its wells to capacity. During this time the vessel fishes on the high sea, where it has authorisation, but also dips into a coastal State's Exclusive Economic Zone, where it does not hold a license. If the purse seiner caught fish legally with set #5 on the high seas adjacent to the EEZ, and the next two sets #6 and #7 were within the EEZ where the vessel did not have a license, once the fish is all stored in the same hold it is impossible to separate between legal and illegal. In this diagram, four wells hold illegally caught fish, all of which is indistinguishable from the legally caught fish it has been mixed and stored with. Once the vessel returns to port to offload, the illegal catch is laundered into the seafood supply chain.

Factory vessels

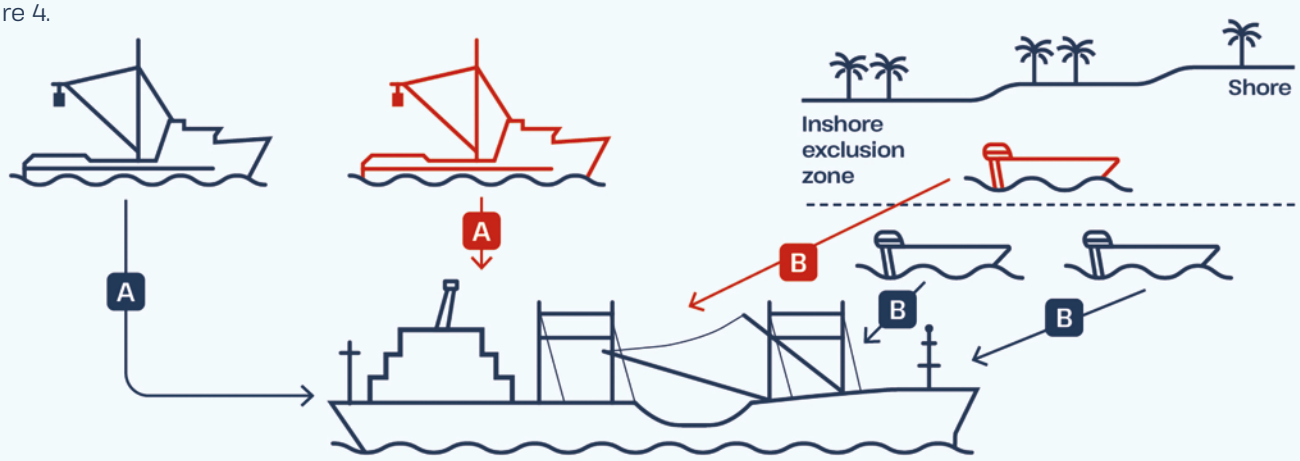
Several vessels have operated in West Africa as 'factory' vessels, supplying both seafood and fishmeal to local and international markets. These vessels, often converted from ex-fishing ships, process and package catch from multiple sources at sea, taking fish from industrial fleets, small-scale canoes, or acting as motherships. By concentrating and repackaging mixed catch, they create significant laundering risks.

During factory vessel operations, catches from different vessels–both legal and illegal–are processed, packaged, and labelled in one location, as per Figure 4. When seafood is processed and packaged for market, the same risks highlighted in the Mislabelling of Seafood Packaging at Sea section apply. When catches are instead converted into fishmeal, the laundering challenge is even greater. Fishmeal production obscures species identity entirely, and if raw catch is transshipped to the factory vessel at sea, it becomes almost impossible to determine whether the resulting fishmeal contains unauthorised species, fish caught in prohibited areas, or juveniles below minimum landing size.

Additional concerns arise when factory vessels act as motherships for canoe fleets fishing within Inshore Exclusion Zones or other areas reserved for small-scale fishing. While the catch itself may be legal when taken by canoes, once it is industrially processed and sold by a factory vessel, it undermines one of the core purposes of these zones: to protect small-scale livelihoods and secure access to food for local communities.

The laundering risks mirror those described in the mislabelling section, but with added complexity. Processing at sea obscures the origin of fish, mixing across fleets makes verification harder, and in the case of fishmeal production, species identity is eliminated altogether.

Figure 4.



A Laundering pathway A:
Fish caught by both legal and illegal vessels (or legal vessels catching unauthorised fish) transship to a factory vessel. Catch is then processed and landed as legal. If it is processed into fishmeal, any unauthorised species are near impossible to identify.

B Laundering pathway B:
Small-scale vessels supply the factory vessel. Some may fish inside exclusion zones established for local fishers to supply local markets. Industrial processing of such catches may be illegal, but are lost and laundered in the processing.

Reefer vessels taking on landed fish for transport to a further destination, and then transshipping on route

A common laundering tactic exploits confusion between "landed" and "transshipped" fish, with operators using multiple ports to mask catch origin and take advantage of gaps in how the Port State Measures Agreement (PSMA) applies to reefers.

The distinction matters because a large proportion of transshipment takes place in port rather than at sea, and while the PSMA applies to reefers entering port with transshipped fish, it does not apply to fish that have already been landed. Until recently, definitions varied, creating ambiguity that operators could exploit. In 2022, the FAO Voluntary Guidelines for Transshipment provided the first clear definitions:

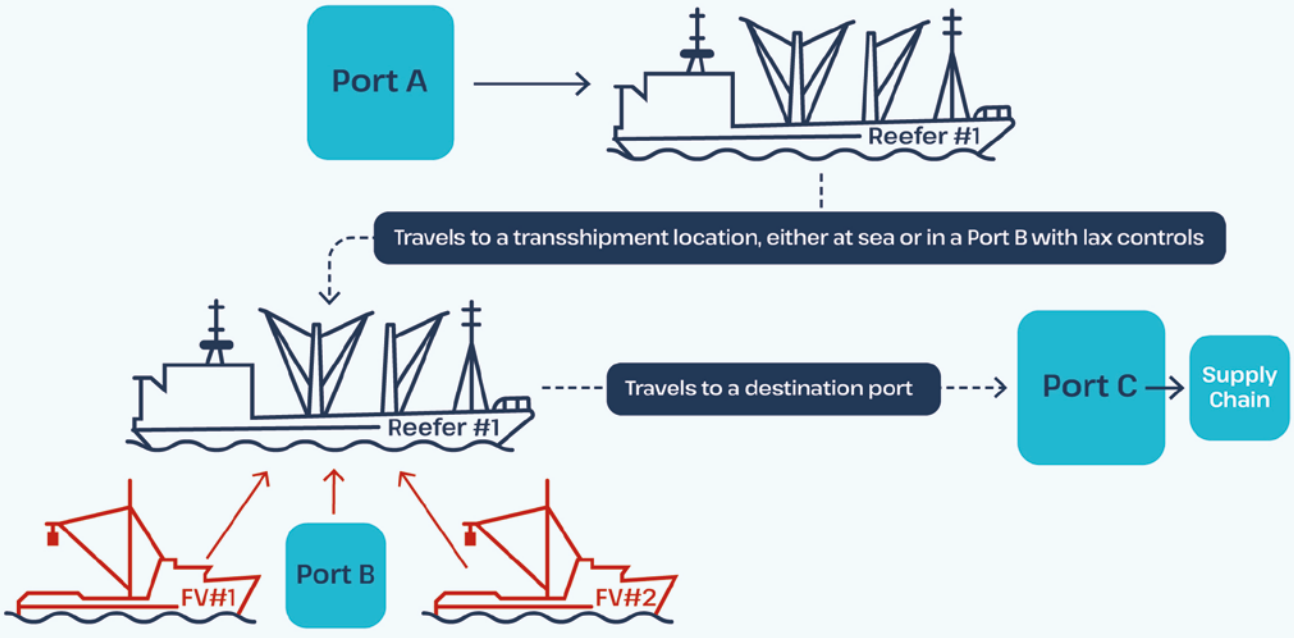
- **Transshipment** is the direct transfer of any quantity of fish from one vessel to another, without the fish being recorded as landed.
- **Landing** covers all other transfers, including to a port facility, another vessel through a port facility, or onward to containers, trucks, or other transport.

These guidelines were endorsed at the 35th Session of the FAO Committee on Fisheries in late 2022, but they have yet to be widely implemented at the national level. The resulting grey area enables operators to mix transshipped fish with previously landed fish so that, once the cargo reaches its destination, it is treated as "landed" and exempt from PSMA controls.

In practice, the scheme is straightforward, as illustrated in Figure 6. Fish is first landed legitimately in Port A and loaded onto a carrier vessel as legal seafood. That carrier then undertakes a transshipment–either at sea, where oversight is limited, or in Port B, where port controls may be weak. This mixes the legal landed fish with transshipped, potentially illegal fish. The combined cargo is then delivered to Port C and presented as a "previously landed" product, bypassing PSMA inspection. Forged or inconsistent documents such as bills of lading or export permits may accompany the shipment to reinforce the deception.

This laundering pathway–legal catch landed in Port A, mixed with transshipped catch in Port B, and delivered to Port C as exempt from PSMA controls–creates a major blind spot in global enforcement.

Figure 6.



Laundering vector:
Reefer #1 takes on a partial cargo of legally landed seafood in Port A. It then travels to either a transshipment rendezvous with fishing vessel #1 and #2, or to a Port B with lax controls which transship illegal catch to the reefer. Forged documents are then produced that indicate that the entire cargo was taken onboard in Port A. When reefer #1 offloads in Port C, all illegal catch from fishing vessel #1 and #2 is laundered and enters the supply chain as legal.

UNCONFIRMED OR LEGACY RISKS

Some laundering methods are reported anecdotally or have been observed historically, but remain unconfirmed in current operations. These cases should not be treated as evidence of widespread or ongoing practices, but rather as "unconfirmed or legacy risks." They are included here because they illustrate the creativity of operators and the importance of vigilance in monitoring unusual or unexplained behaviours.

One example comes from historical reports of purse seine vessels offloading tuna to pole-and-line vessels, which then land the catch as their own. If it occurred, this would not only constitute illegal fishing but also defraud buyers, as pole-and-line caught fish commands a higher market value. Purse seine and pole-and-line vessels can fish around the same fish aggregating devices (FADs), and while in recent times their coordination has been observed, there is no evidence of at-sea transfers between them. Such transfers would also be logistically difficult, as neither vessel type is equipped for transshipment, and recent tracking data and observer reports provide no indication that this practice continues today. It may have occurred historically but appears to have declined with improved monitoring.

Another reported operation involves purse seiners offloading low-value bycatch, often described as faux poisson, to small-scale vessels. These vessels then land the fish into local markets, which generally have lower levels of monitoring and control. While this practice is commonly observed when purse seiners are at anchor in major tuna ports in Africa, more recent accounts suggest such transfers may also take place at sea in some regions.

A further example is the unusual behaviour of tuna longliners arriving in port with claims that their holds are only partially filled and that they therefore wish to offload only a small quantity of catch. This is atypical, as the financial model for longlining depends on staying at sea until holds are full. Possible explanations include that the vessel has already offloaded fish illegally at sea, or that the remaining wells contain prohibited or non-target species such as shark or shark fins. Given limited inspection of longliner landings in many ports, more investigation into this behaviour is warranted.

While none of these methods are widely documented, they highlight the ingenuity of operators and the continuing need for authorities to monitor unusual vessel practices that could indicate laundering risks.

FISH LAUNDERING VS SEAFOOD FRAUD

While laundering fish specifically disguises illegally caught fish as legal, other forms of seafood fraud involve misrepresenting otherwise legal products, such as species substitution or marketing farmed fish as wild. For example, lower-value tuna species are often sold as higher-value ones, deceiving consumers and distorting market prices.

Such misrepresentation thrives in markets where seafood labelling lacks standardisation and enforcement. Inconsistent naming conventions, weak oversight, and limited traceability systems create loopholes that are easily exploited. The result is a marketplace where consumers, retailers, and even regulators struggle to verify the true origin, species, or production method of seafood products. Tackling this requires stronger labelling standards, reliable verification, and greater transparency across supply chains.

The distinction is important: laundering introduces illegal fish into legal supply chains, while seafood fraud misrepresents legal fish to increase its value or marketability. Both erode consumer trust, but laundering has the added consequence of sustaining illegal fishing operations.

Vectors for laundered fish to enter the legal market

Once illegal fish is mixed with legal catch at sea, it must still pass through a landing point to enter supply chains. There are four primary vectors used by operators to disguise origin and gain market access: transshipment to carrier vessels, transshipment to other fishing vessels, landing in weak ports, and false documentation.

Transshipment to a carrier vessel

Refrigerated cargo vessels, or reefers, are central to many distant-water fisheries and represent a major laundering risk. They receive catch from multiple vessels either at sea or at port anchorages, often consolidating consignments into shared holds before transporting them to processing hubs or distant market States.

Transshipment to reefers allows fishing vessels to avoid lengthy returns to port, reducing fuel and operating costs. It can take place far from oversight at sea, or in port anchorages where controls are often limited and inspector access is restricted. Catch may be transferred already boxed and labelled with the catching vessel's name, or in bulk directly into reefer holds. While some Regional Fisheries Management Organizations (RFMOs) now require 100% coverage by observers on reefers engaged in at-sea transshipment, others do not. Moreover, many transshipments occur in fisheries outside RFMO mandates, where oversight is weaker, and observer requirements rarely extend to the substantial volume of transshipment that takes place in port.

These operations create laundering opportunities in two main ways.

1) Avoiding detection: Reefers enable fishing vessels to bypass direct landings in port, where they would normally face inspections and documentation checks. By transshipping at sea or in port anchorages, vessels can avoid this scrutiny. Oversight is particularly weak in fisheries outside RFMO mandates, where transshipment is common but official monitoring is rare.

2) Mixing catch in the hold: Reefers frequently carry catch from multiple vessels consolidated into a single hold. By the time the fish is offloaded in port, consignments are often already mixed, making it nearly impossible for authorities to match catch documentation with specific vessels or detect the presence of unauthorised fish.

Transshipment to an authorised fishing vessel

Another laundering pathway is transshipment from one fishing vessel to another, rather than to a reefer. In these cases, the receiving vessel lands or further transships the catch as if it were its own. Such transfers can take place with smaller "mini-reefers" or with active fishing vessels that offload catches from other boats alongside their own. When this happens, the original fish is falsely reassigned as the catch of the receiving vessel. Because the vessel is authorised to fish, the transferred catch is given the appearance of legality despite its illegal origin. This practice is particularly high risk: once catch is re-labelled under a licensed vessel's identity, its true origin is obscured, and it can move through supply chains as if legally harvested.

Landing fish in a port with lax controls

Ultimately, all fish must pass through a port to reach the market. The first point of landing is therefore a critical moment when authorities can either detect laundered catch or, if controls are weak, allow it to enter supply chains as though legally caught. The central role of ports in combating illegal fishing is recognised in the FAO Port State Measures Agreement (PSMA), the first binding international agreement designed specifically to address IUU fishing. While the PSMA has been widely ratified, many countries are still in the early stages of implementation, and significant variation remains in the level of monitoring and control across ports. Unscrupulous operators exploit these gaps, deliberately targeting ports where limited capacity, weak control processes, or corruption reduce the likelihood of detection. These "weak link" ports often represent the decisive gateway through which laundered catch enters global markets.

False documentation

Forged or altered documentation is central to most laundering schemes. Vulnerable documents include fishing licences and authorisations, transshipment permits, import and export papers, bills of landing, catch certificates, and logbooks. In many cases, documents are deliberately made difficult to verify, semi-legible, inconsistent, or presented in languages unfamiliar to fisheries officials. Local agents acting on behalf of operators are often involved in facilitating this type of fraud.

Document forgery is rarely confined to fisheries paperwork. In many jurisdictions, it extends to the falsification of official state records, elevating the offence from a fisheries violation to a serious crime. This makes document fraud not only a laundering tool but also an entry point for wider criminal networks to profit from illegal fishing.[3]

SEAFOOD SUPPLY-CHAIN TRACEABILITY

Global seafood demand is projected to reach $194 billion by 2027[4], creating powerful incentives for laundering. While regulatory frameworks in major markets such as the EU, United States, and Japan have strengthened, supply chain traceability still faces significant weaknesses. A recent review[5] of seven of the world's largest seafood companies found that only two had group-wide traceability commitments covering all seafood for human consumption and aquaculture feed. Most companies rely on certifications, but even the most widely adopted chain-of-custody programmes fall short of providing full-chain, digital, and interoperable traceability. Reported barriers include poor or incomplete data, continued reliance on paper-based records, limited technical capacity, and the need for sector-wide collaboration.

These challenges are not confined to emerging markets: even in regions with supposedly robust frameworks, poor data and inconsistent standards undermine traceability and transparency. Current systems also tend to assume that legality is confirmed once fish is landed in port. From there, seafood moves through complex transport, processing, and distribution networks, tracked by increasingly sophisticated systems designed to "follow the fish." Yet if the fish was already laundered before landing, every downstream step in the traceability chain is compromised.

Traceability systems are only as strong as their first link. If illegally caught fish is laundered before entering port, even the most advanced digital traceability cannot detect it. Ensuring legality at harvest is therefore the foundation of trustworthy supply chains.

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Real world case studies

The laundering risks described in this Spotlight are not theoretical. They occur in real fisheries operations, where loopholes in transshipment, licensing, and enforcement allow illegally caught fish to enter legal supply chains. The following examples illustrate three common laundering pathways identified in this report and show how coordination between States can help expose and disrupt them.

Case study 1: Nova Zeelandia

Concealed transshipments as a laundering gateway

The Nova Zeelandia, a large, refrigerated carrier, repeatedly went dark on AIS while moving between West and Southern African waters. Analysts identified track gaps consistent with unauthorised at-sea transshipments involving vessels already suspected of illegal fishing. These covert transfers are a primary laundering pathway: they allow unlicensed or excess catch to be mixed with authorised consignments long before port inspection is possible. Once consolidated in the carrier's hold, legal and illegal fish become indistinguishable, enabling it to be landed as "legitimate" catch.

Information shared between regional MCS centres triggered a targeted inspection when the vessel entered port. PSMA checks and documentation inconsistencies confirmed that parts of the cargo could not be verified to authorised vessels. Administrative action followed, and the vessel was added to a regional watchlist.

Key takeaway

Hidden or poorly monitored transshipments are a central laundering vector. Cross-regional intelligence exchange and coordinated inspections are critical to close these entry points before the fish reaches port.

Case study 2: TIAN YI HE 6

At-sea fishmeal production as an industrial laundering mechanism.

The TIAN YI HE 6, a fishmeal factory vessel, began operating in West Africa in late 2019 after transiting from China. Unlike refrigerated carriers that consolidate whole fish, factory vessels convert small pelagic fish into fishmeal at sea – transforming raw catch into a processed commodity before it ever reaches port.

Stationary activity inside the Senegal-Guinea-Bissau Joint Maritime Area triggered scrutiny from Guinea-Bissau authorities. Fisheries activity in this zone requires specific authorisations, and transhipments are restricted to a designated area near Bissau. Investigations revealed repeated unauthorised at-sea transhipments involving Turkish-flagged purse seiners supplying small pelagic fish directly to the factory vessel.

This model presents a powerful laundering risk. Once fish are reduced to fishmeal onboard, species origin, volume integrity, and catch authorisation become significantly harder to verify. The physical transformation effectively erases traceability links to the supplying vessels, allowing potentially unauthorised or excess catch to enter export supply chains as a homogenised, tradable product.

Authorities charged and fined the factory vessel and associated fishing vessels. In March 2020, a further interception revealed the use of a Senegalese transport vessel to move processed fishmeal to Dakar for export – extending the laundering chain beyond the point of production.

Since then, at-sea fishmeal production in the region has expanded. Fishmeal landed in regional ports – whether directly by factory vessels or via transport intermediaries – remains high risk and requires enhanced inspection and control measures.

In 2026, the Government of Guinea-Bissau banned fishmeal operations in its waters, marking a significant policy response to the compliance and food security risks associated with the sector.

Key takeaway

At-sea industrial processing can function as a traceability eraser. When catch is converted into fishmeal before landing, verification becomes exponentially harder. Strong zoning rules, real-time monitoring, and targeted port controls on processed commodities are essential to prevent industrial-scale laundering.

TMT intelligence and analysis have actively informed these cases. We also frequently work with partners such as Stop Illegal Fishing and as part of the Joint Analytical Cell. TMT and Stop Illegal Fishing have jointly produced various relevant case studies, please see: www.tm-tracking.org/updates-and-resources/categories/briefings-reports and stopillegalfishing.com/case-studies/.

Summary of laundering methods and vectors

The laundering methods described in this Spotlight are diverse and often happening concurrently or are overlapping. To help readers navigate the complexity, the following table brings together the main tactics and vectors in one place. Each entry summarises how the method works, why it creates risk, and provides examples drawn from TMT's operational experience. The table is intended as a reference tool for authorities, RFMOs, and policymakers to assess vulnerabilities and compare risks across different fisheries and regions.

Category	How it works	Risk factor	Example / case
Vessel Identity Fraud	Vessels use stolen, multiple, or false identities to operate illegally and pass off catch as legal.	Enables illegal catch to be documented under a legitimate vessel; difficult to detect at sea.	"Ghost" vessels using the same licence; multiple identities across jurisdictions.
Cookie-Cutter Fleets	Sisterships with near-identical builds and names swap identities and licences.	No IMO numbers; crude, changeable identifiers; easy to mask activity.	Bottom trawl and longliner fleets globally.
Mislabelling at Sea	Unauthorised vessels package catch with labels from authorised vessels.	Packaged fish enters supply chains as "legal" via transshipment or weak ports.	Frozen fish boxes with false vessel IDs.
Mini-Reefers	Fishing vessels refitted as small reefers land catch as their own.	Masks origin of seafood; often linked to transshipment hubs.	Longliner authorised as "fishing" but operating only as a carrier.
Factory Vessels	Process and repackage mixed catch at sea; convert fish into fishmeal.	Mixing obscures origin; fishmeal eliminates species traceability.	West Africa factory ships sourcing from canoes and industrial fleets.
Purse Seiner Mixing	Tuna from legal and illegal sets stored in the same well.	Once mixed, separation is impossible; records compromised from the start.	High seas + EEZ sets combined in holds.
Reefer Loophole (Port A → B → C)	Legally landed fish mixed with transshipped fish and reclassified as "landed."	Exploits PSMA loophole; weaker controls at intermediate ports.	Reefers moving between West African and European ports.
Emerging / Legacy Risks	Historical or anecdotal tactics (e.g., transfers to pole-and-line vessels, partial offloads).	Unconfirmed today, but illustrate operator creativity and adaptation.	"Faux poisson" offloaded to canoes; pole-and-line misrepresentation.
False Documentation	Forged or altered licences, catch certificates, and transshipment permits.	Common enabler of all laundering methods; often crosses into criminal forgery.	Fake bills of lading or export permits.
Weak Ports	Targeting ports with low capacity or corruption to land catch undetected.	Exploits governance gaps; key entry point to markets.	Lax PSMA implementation in West African anchorages.
Traceability Weakness	Illegal fish enters the supply chain before landing; traceability then records it as "legal."	Even advanced digital systems cannot detect illegality after laundering at sea.	Certified tuna supply chains compromised at harvest stage.

Ten ways forward

Complex fishing operations and enforcement gaps are exploited by unscrupulous operators to launder illegally caught fish into seafood markets, increasing profits at the expense of sustainable management. This undermines efforts to secure seafood as a key component of global food and nutrition security.

How much fish is being laundered into global seafood markets is unknown, and because these operations are concealed by design, even broad estimates are difficult. This evidence gap makes it hard to assess risk, allocate enforcement resources, or measure deterrence impact. While this report sets out ten practical actions that States, RFMOs, and industry can take to close laundering pathways, all of these actions must be underpinned by stronger data collection, risk assessment, and efforts to quantify laundering activity.

1 Require vessel tracking

All vessels engaged in fishing operations – including fishing vessels and support vessels such as reefers – should be subject to vessel tracking. This should combine Vessel Monitoring System (VMS) and Automatic Identification System (AIS) data. Monitoring centres (national and regional) must be staffed and resourced to analyse this information in real time. An international agreement on vessel tracking would be a major step forward, but action can still be taken in its absence : national and regional authorities can implement these requirements currently. Effective implementation also requires data-sharing protocols between neighbouring States and regional centres, ensuring that tracking information can be verified across jurisdictions rather than remaining siloed.

2 Require IMO numbers and other vessel identifiers

Every fishing vessel that is flagged, authorised to fish, or authorised to enter port should carry an IMO number alongside other identifiers such as vessel name, registration number, and home port, these identifiers must be clearly marked and visible on the hull and bridge. This measure is especially important to address "cookie-cutter" fleets, where sisterships with near identical features swap names and licences to disguise their activities, one of the most common laundering tactics documented in this report.

3 Strong fisheries port controls, including effective risk assessment

Ports are the final checkpoint where catch can be linked to the vessel that landed it, making them one of the most cost-effective points of control. All ports should apply risk-based inspections, prioritising vessels that present the highest risk of non-compliance. In addition to technical capacity building, robust port controls require anti-corruption safeguards and independent oversight, as weak governance and rent-seeking behaviour are frequently exploited in high-risk ports.

4 Effective at-sea monitoring (observers & electronic monitoring)

At-sea monitoring is essential to detect and deter laundering, as many operations occur far from port oversight. Monitoring can take two complementary forms:

- Human observers, who remain a key source of operational intelligence but require adequate coverage and strong protections for their safety and independence.
- Electronic Monitoring (EM), which combines Global Positioning System (GPS), cameras, and gear sensors to provide continuous, high-resolution data on vessel activity and catch handling. EM enables verification of fishing effort, species composition, and ship-to-ship transfers, with evidence admissible in court.

The most significant impacts come when EM and observer programmes are integrated with vessel tracking systems (VMS/AIS), allowing real-time detection of anomalies such as suspicious transshipments. Well-designed EM programmes that achieve this have already demonstrated measurable behavioural change across multiple fisheries.

5 Identify and prosecute false or fraudulent documentation

Most laundering operations rely on forged or fraudulent documents, including licences, transshipment authorisations, and catch certificates. Systems must be in place to verify all documents associated with vessels and their catch. Where forgery is detected, penalties should be significant and consistent. Importantly, forgery should not be treated only as a fisheries violation: aligning offences with national criminal codes allows cases to be prosecuted as serious crimes, not just administrative breaches.

6 Strengthen communications between flag, coastal, port, and market states

Many fishing operations are transnational, often spanning multiple jurisdictions. States must strengthen real-time communication to verify vessel authorisations, catch documentation, and transshipment records. Regional monitoring centres, cooperative task forces, and existing communication platforms already provide proven mechanisms that should be expanded to ensure effective cross-border information exchange

7 Strengthen supply chain verification and transparency

Seafood supply chains remain vulnerable when traceability breaks down at the point of harvest. Buyers, suppliers, and retailers should shorten and clarify their supply chains, building direct and transparent relationships with fishers. Relying only on codes of conduct or certification is insufficient. Linking robust verification to market access, environmental impact, social responsibility and corporate governance (ESG) compliance, and financing standards will give industry the incentives to invest in stronger due diligence.

8 Penalise violations

Often, laundering offences are penalised too lightly, allowing operators to treat sanctions as a cost of doing business. Penalties must outweigh potential profits. Authorities should apply measures such as catch confiscation, vessel blacklisting, licence suspension, and refusal of market access. Since laundered fish cannot be separated from legal catch once mixed, all catch on board should be treated as compromised. Beyond enforcement, companies engaged in fraud should also face commercial consequences, including termination of contracts and exclusion from supply chains.

9 Utilise state and non-state actor cooperation opportunities

Enforcement capacity can be amplified through cooperation between States and trusted non-State actors. Technical assistance, satellite monitoring, and intelligence-sharing platforms provide critical support to national authorities. Through direct cooperation with partner States and as a founding member of the Joint Analytical Cell (JAC)[6] TMT has assisted African authorities detect and respond more effectively to laundering tactics. Building on these partnerships can further extend the reach and impact of enforcement.

10 Expose new issues and measure the scale of fish laundering

Laundering tactics are constantly evolving. It is essential to identify and expose new methods quickly, before they become entrenched practices. This requires a feedback loop between observers, analysts, and enforcement agencies so that suspicious behaviour is rapidly documented and acted upon. A critical part of exposing new issues as well as better understanding existing laundering methods is measuring and tracking their prevalence: building stronger datasets on laundering cases, detection rates, and prosecutions will help quantify the scale of the problem and demonstrate the impact of enforcement.

The Blue Cordon: Closing laundering gaps through regional coordination

What it is

The Blue Cordon is an emerging, African-led initiative to link regional MCS centres and national authorities into a connected deterrence system against IUU fishing and laundering at sea. It connects and strengthens Africa's regional Monitoring, Control and Surveillance (MCS) systems – linking the operational centres in West and Southern Africa (FCWC and SADC-MCSCC) with emerging mechanisms in Central, Eastern, and Indian Ocean regions (COREP, SRFC, and IOC). Together, these regions oversee 12 million km² of ocean - larger than Europe and more than 8% of the world's EEZs and some of the richest fishing grounds on earth.

Why it matters

Laundering operations exploit the gaps between jurisdictions, mixing catch at sea beyond national oversight, shifting identity across flags, or landing in ports with weaker controls. National enforcement alone cannot close these loopholes; vessels simply move between zones and markets. The Blue Cordon connects those enforcement chains, reducing safe havens and enabling African authorities to act together across regions.

How it can work

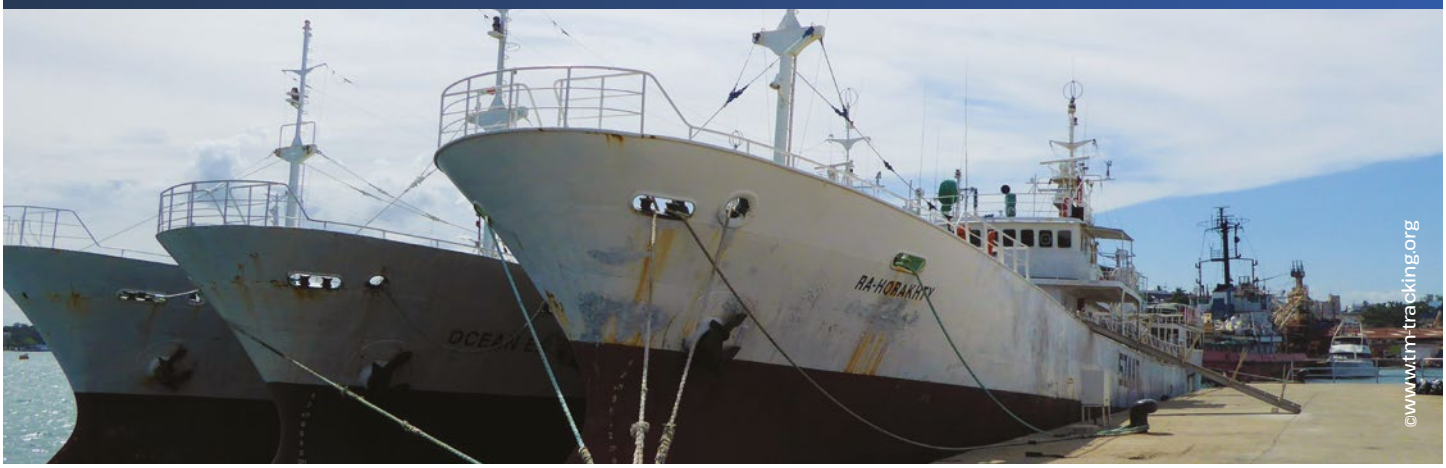
The Blue Cordon brings value where cooperation is decisive:

- Shared intelligence on vessel identity fraud, mini-reefers, transshipment routes, and mislabelling practices
- Aligned at-sea monitoring so suspect vessels cannot evade detection by crossing boundaries
- Stronger port checks with consistent risk assessments across entry points.
- Common identity standards to reduce "cookie-cutter" fleet swaps and false registrations
- Coordinated legal follow-through so cases and sanctions carry weight across multiple States.
- Market accountability through timely communication of enforcement outcomes to importing country

In essence, it connects the enforcement chain, from ocean to port to market, ensuring that actions in one jurisdiction are recognised in others. The Blue Cordon offers a pathway for African States to achieve this collectively, making illegal fishing and laundering unsustainable and unprofitable.

Laws and databases without follow-through remain paperwork; arrests without legal backing fail in court. The Blue Cordon makes the system whole, linking solid foundations (laws, SOPs, intelligence) with connected action (case tracking, sanctions, transparency).

Through this initiative, TMT and partners are committed to supporting the creation of Africa's first continent-wide deterrence system, where compliance and enforcement capacity is strengthened and illegal fishing becomes unsustainable, leading to improved food security, governance, and climate resilience.



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[1] For example Stop Illegal Fishing and TMT have together produced various relevant case studies, please see www.tm-tracking.org/updates-and-resources/categories/briefings-reports and https://stopillegalfishing.com/case-studies/.
[2] See www.tm-tracking.org/joint-analytical-cell
[3] TMT and Stop Illegal Fishing have produced a training manual on Document Verification to provide practical training and case studies illustrating how document verification has been used to uncover cases of illegal fishing. See www.tm-tracking.org/post/document-verification-manual-vessel-identity
[4] https://www.statista.com/statistics/821023/global-seafood-market-value/
[5] www.fairr.org/resources/reports/seafood-traceability-phase1-progress-report
[6] For more information on the Joint Analytical Cell, the member organisations, and the technical assistance that can be provided to States, please see www.tm-tracking.org

SPOTLIGHT SERIES

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TMT is part of the Joint Analytical Cell, a unique collaboration of organizations that provide maritime authorities with high quality fisheries intelligence, technology, data analysis and capacity building to help combat illegal, unreported and unregulated fishing.

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