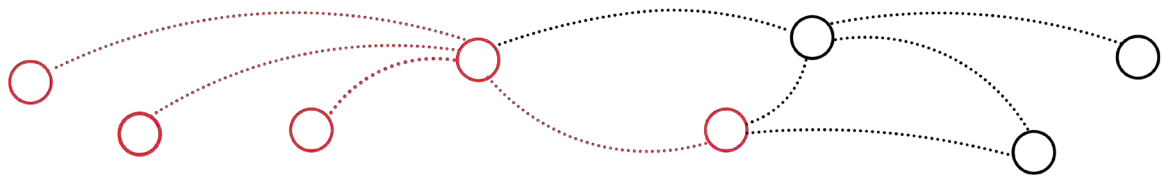# FUTURE of FISH

Tackling Fraud with Traceability

Leveraging Data & Technology to Defend Against Potential Fraud

THE SHEER DIVERSITY of species and product forms, and their lengthy and complex global supply chains, make it easy for fraud to occur in seafood. And because full-chain traceability is rare, many incidences of fraud go undetected—putting responsible seafood companies (and consumers) at risk.

Here's why: in the absence of robust traceability, a fraudulent product is virtually indistinguishable from a legitimate fish. Without a clear understanding of where fraud is most likely to occur, upstanding businesses may unknowingly source and sell "dishonest" fish, leaving them unwittingly complicit in fraudulent activity. Beyond individual risk, seafood fraud also creates an unlevel playing field across the industry, where unscrupulous actors gain unfair competitive advantage over those attempting to play by the rules.

The following tool was created to assist seafood companies with tackling fraud by (1) describing where fraud can occur throughout an otherwise legitimate seafood supply chain; and (2) highlighting ways in which individual companies can defend against fraud and reduce their risk by prioritizing traceability data and technology. Please note: The supply chain overviews and examples provided here serve to describe the diversity of fraud that can exist—it is rare for all these forms of fraud to occur all at once within one supply chain.

Recently, seafood companies have begun employing more sophisticated technologies, adopting policies, and participating in industry standard developments to help reduce the risk of fraud and other unsustainable practices within the industry. Equipped with a holistic view of where fraud can happen, industry actors can better identify gaps, assess risks, and craft solutions within their own organizations and across their supply chains.

WHERE FRAUD CAN HAPPEN

This simplified industry map shows the many and varied ways in which different actors in the global supply chain intentionally commit fraud. This map omits piracy, collusion, and other forms of illicit practices associated specifically with the black market.
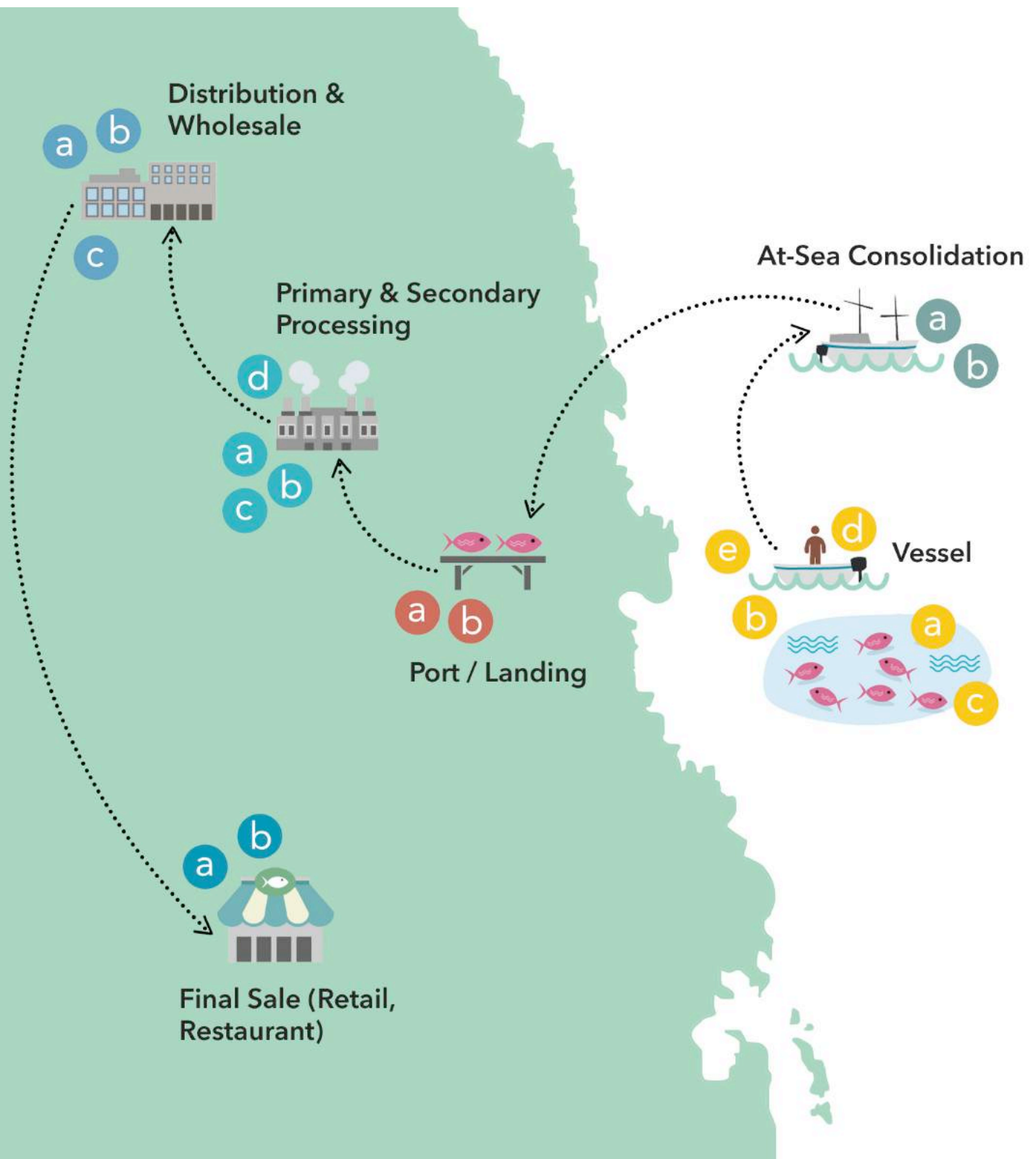
VESSEL

a   Fishing in protected waters or seasonal no-take zones

b   Using illegal fishing gear or banned harvest techniques

c   Overfishing, harvesting beyond allowed quota, or ignoring rules around fish size or sex

d   Illegal labor practices, including slave labor, child labor, or undocumented/unlicensed crew

e   Fishing without a license or under a counterfeit flag

AT-SEA CONSOLIDATION
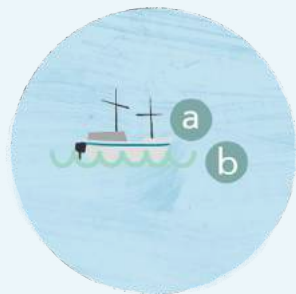
a   At-sea transfer of illegal catch

b   On-board processing of illegal product along with legitimate product

AT PORT / LANDING
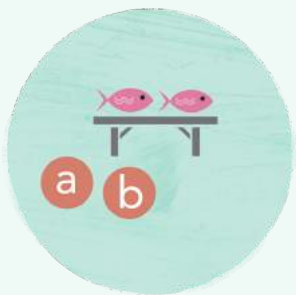
a   Falsifying landing documents in order to mask full truth of fishing activities. This includes under-reporting weights, misrepresenting gear type, misstating harvest location, and failing to report overfishing, illegal catch, or interactions with at-risk species (e.g., birds, mammals, turtles, sharks)

b   Offloading to an unregistered receiver or at an unmonitored port where paperwork is omitted or filled-out dishonestly

PRIMARY & SECONDARY PROCESSING
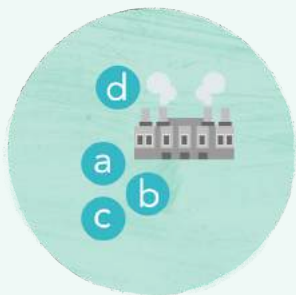
a   Using illegal processing methods, including unreported chemicals

b   Employing slave labor, child labor, or undocumented workers

c   Mixing illegal catch with legitimately harvested catch of same species

d   Mislabeling product to mask illegality

DISTRIBUTION & WHOLESALE
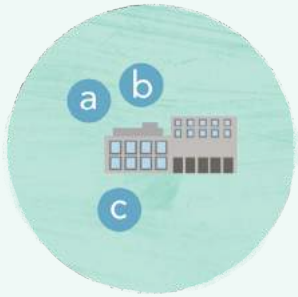
a Mixing imports with domestic product (if same or similar species) and selling all as domestic to get higher price or satisfy customer requirements

b Mislabeling product or falsifying product pedigree (e.g., species, harvest location, harvest date, landing date, gear type, certification, etc.) to garner higher price, make a sale, or offload inventory

c Unreported substitution to fill an order

FINAL SALE (RETAIL, RESTURANT)
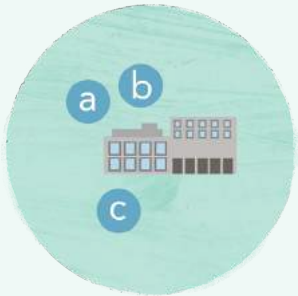
a Substituting (without consumer knowledge) and selling product other than what is listed for sale on the menu, ad, or in the seafood case or an ad

b Misrepresenting details of product (e.g., species, harvest location, harvest date, landing date, gear type, certification, etc.) in order to garner higher price or make a quick sale

SAMPLE SUPPLY CHAINS

The following examples demonstrate where fraud can occur at different points in the supply chain, who benefits, who is at risk, and the types of traceability technology available to help mitigate this risk.

FIRST MILE FRAUD

A boat captain lands his catch before sunrise at a remote dock where he is met by a small, refrigerator truck. The captain has been fishing all night in a closed area for a species that garners a high price in high-end restaurants. The fish itself is legal, but he breaks the law by harvesting in a no-take zone. The truck driver (first receiver) doesn't ask questions, but simply pays the captain in cash for his catch. He issues no landing receipt and fails to fill out the state-required paperwork. The truck driver serves as a middleman for a processing facility, which buys the full catch, no questions asked. The fish is processed, packaged, and labeled with the common name. The fish is then sold to a restaurant, which unknowingly serves illegal and unreported fish to unsuspecting customers, who pay a premium for a popular but relatively rare dish.
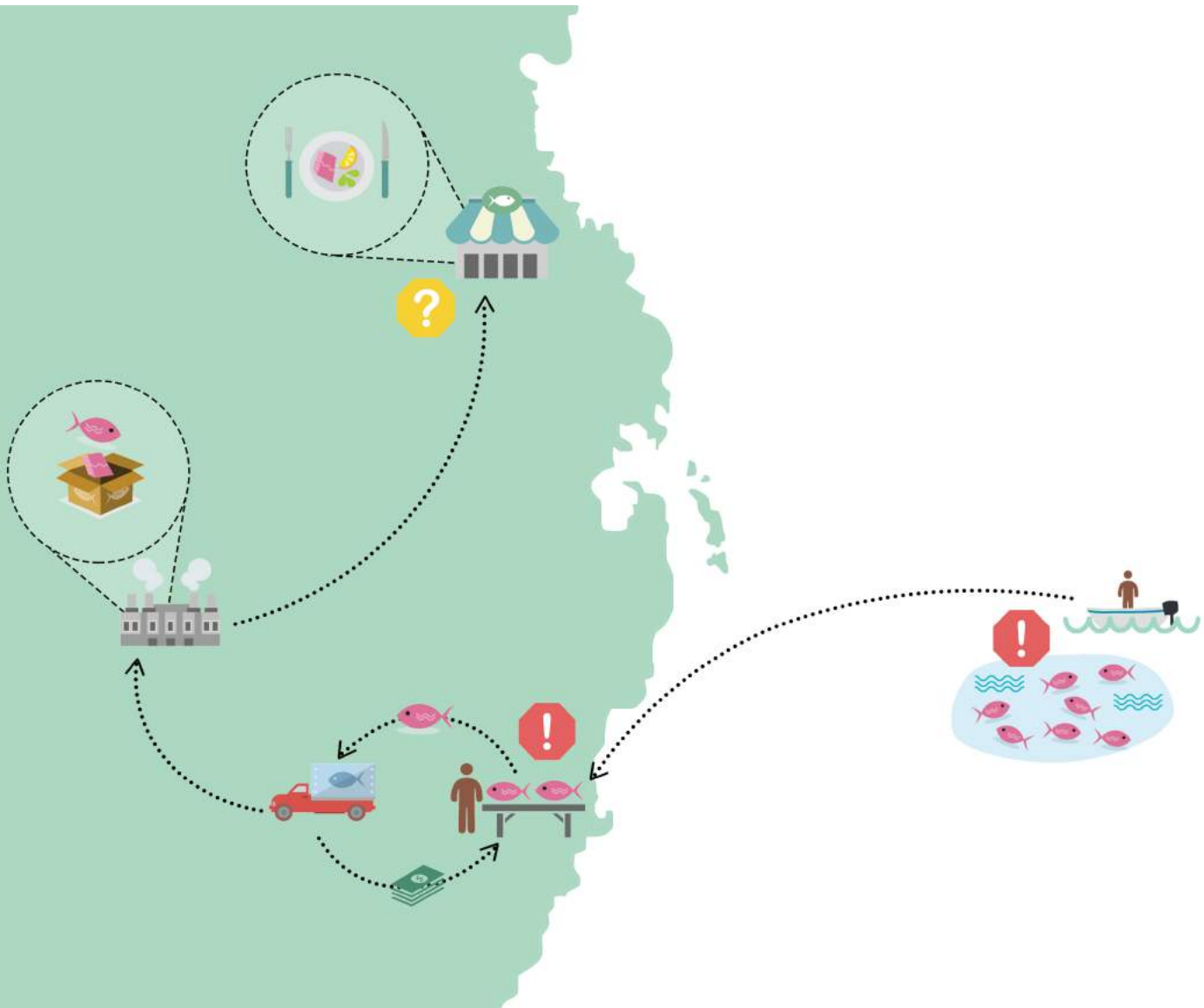
THE PLAY-BY-PLAY

In this scenario the boat captain is committing fraud by fishing in a closed area (illegal fishing). The first receiver then buys the fish without filling out the required paperwork (unreported fishing). The processing facility lacks any sort of internal criteria around data-gathering and traceability because its customers don't require detailed pedigrees. The restaurant trusts that its supplier (the processor) is abiding by the rules, but doesn't ask any questions to verify that the rules are actually being followed. The restaurant lists the fish accurately by its common name on the menu, but servers are unable to answer customers' questions about where and how it was caught.

Nearly all of the parties directly involved appear to benefit in the short-term by these fraudulent activities. The costs are borne by the fishery resource itself—which is unable to rebuild because of illegal harvests in closed areas—as well as by other fishers of that resource and other processors and distributors that are playing by the rules. If an influx of illegal product artificially drives down the price of that product, then the market also suffers. In rare instances public health could be put at risk, especially if a fishery is closed because of high levels of biotoxins, heavy metals, or other contaminants.

The absence of traceability enables actors to slip the illegal and unreported product into the legitimate supply chain. Here are some ways traceability technology and policies could mitigate these risks:

- Vessels that carry a monitoring device such as satellite-based vessel monitoring system (VMS) that tracks location dissuade captains and crew from fishing in closed areas and can verify responsible, legal practice;

- Onboard monitoring and recording by observers or through an electronic data reporting system such as e-logs can provide verifiable records of fishing activity and catch, and make it difficult for illegal and unreported seafood to enter the supply chain;

- Internal policies and procedures within the processing plant to capture all relevant data about the seafood they purchased, such as by utilizing a catch documentation scheme, can verify the legality of supply (e.g., requesting copies of landing receipts)—and help avoid buying from corrupt buyers; and

- Implementation of QR codes, or other digital platforms that attach product to data and that transmit detailed information about the origin of the catch can help restaurants verify legitimacy of product and offer multiple potential marketing opportunities—via telling the stories behind the catch, or meeting consumers' values for local, or novel seafood dishes.

MID-CHAIN FRAUD

A large distributor sources seafood products from all over the world. Its customers—primarily regional retailers and restaurants—prefer domestically landed and certified product and are willing to pay higher prices for such seafood. The distributor regularly makes illegal substitutions and engages in mislabeling in order to meet demand, keep customers happy, drive down prices for its competition, and inflate profits. But because none of the distributor's customers have traceability systems in place to verify that the labels match the fish they're buying, they continue to pay the domestic price for imported fish and then pass along mislabeled products to consumers.
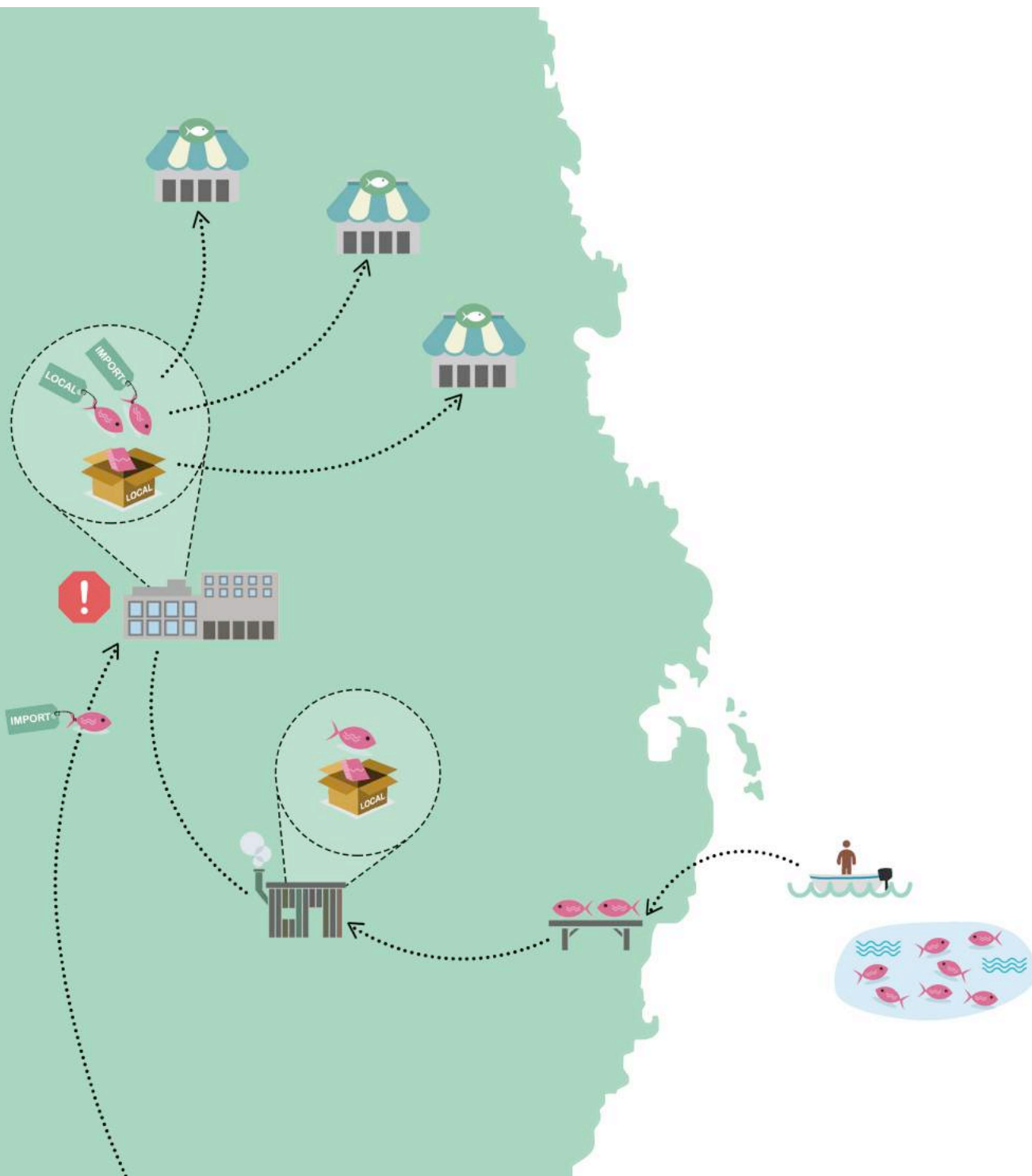
THE PLAY-BY-PLAY

The distributor in this scenario engages in multiple variations of mislabeling fraud:

1. Warehouse staff routinely pick from the imports bin (which may or may not be labeled as such) and then mislabel the boxes with the domestic species information. That "domestic" fish is then sold for a higher price than the imports would sell for (raising profit margins), but slightly lower than the going market price for the same domestic fish (undercutting the competition and driving down prices for local fishers).

2. When available inventory cannot fill an order the distributor will secretly substitute a similar but lower-value species and mislabel the box using the species information and higher pricing from the original order.

3. Distributor double-dips for certified fish: the distributor re-assigns the certification to the lower quality (actually uncertified) fish and then sells the actual certified fish as an uncertified, but high-quality, product. As long as the switch is one-to-one, it meets certification requirements of mass-balance (i.e., the company cannot sell more certified product than it purchases). The result is a double premium: One for certification, one for quality.

The distributor is the only fraudulent actor and the sole beneficiary. The costs of those high profit margins, broad and secure customer bases, and reduced competition are borne by all other supply chain players: restaurants, retail customers, and consumers unknowingly overpay for misrepresented seafood. Upstanding distributors are harmed financially as they are unable to match the fraudulent distributor's artificially low prices. To stay in business, those distributors are forced to cut costs elsewhere—such as by paying lower wages, offering fishers lower prices, and foregoing much needed traceability technology. Finally, consumers purchasing based on price are duped into false sense of what legal, responsible, local product should cost; and are at the risk of foodborne illness due to mislabeled product.

- Distributors with a robust traceability system, such as software capable of storing and cross referencing KDEs, can prove themselves a less-risky trading partner and gain customer loyalty from retailers looking to mitigate risk in their supply chains. Such distributors would also be able to run mock recalls more efficiently, helping reduce their risk and costs during an actual event.

- Domestic harvesters using digital traceability reporting technologies can pressure distributors to pass along this information with their own, interoperable systems; then harvesters would be empowered to identify fraudulent actors quickly when their domestic product showed up outside their known chain.

- Certification bodies moving from mass balance to digital product-data pairing within their CoCs would make hiding fraud within mass-balance audits much more difficult to achieve; distributors that adopt such product-data technologies would stand-out as less-risky trading partners, potentially gaining market share.

- End buyers (retailers and restaurants) with policies that require verified data systems, such as spot-checking product attributes or auditing against a set of practice or standards, combined with product-data pairing by their suppliers, are able to greatly reduce risk of becoming victims of such mislabeling;

- End buyers preferentially purchasing product from distributors able to verify the accuracy of labels, would gain certainty about the legitimacy of their products and drive market share away from illegitimate actors; and

- Regular and unannounced audits—on site or via digital spot checks—of a detailed set of key data elements that were validated by catch documentation would make it less palatable for irresponsible actors to risk committing fraud.

LAST-MILE FRAUD

The seafood counter at an regional grocer is known for having the best deals in town, offering rock-bottom prices especially on popular and iconic fish and shellfish, such as Copper River Salmon, Red Snapper, Maryland Blue Crab, and Wild Gulf Shrimp. Other retailers and distributors suspect that something fishy is going on, but they have neither the power nor the resources to investigate.
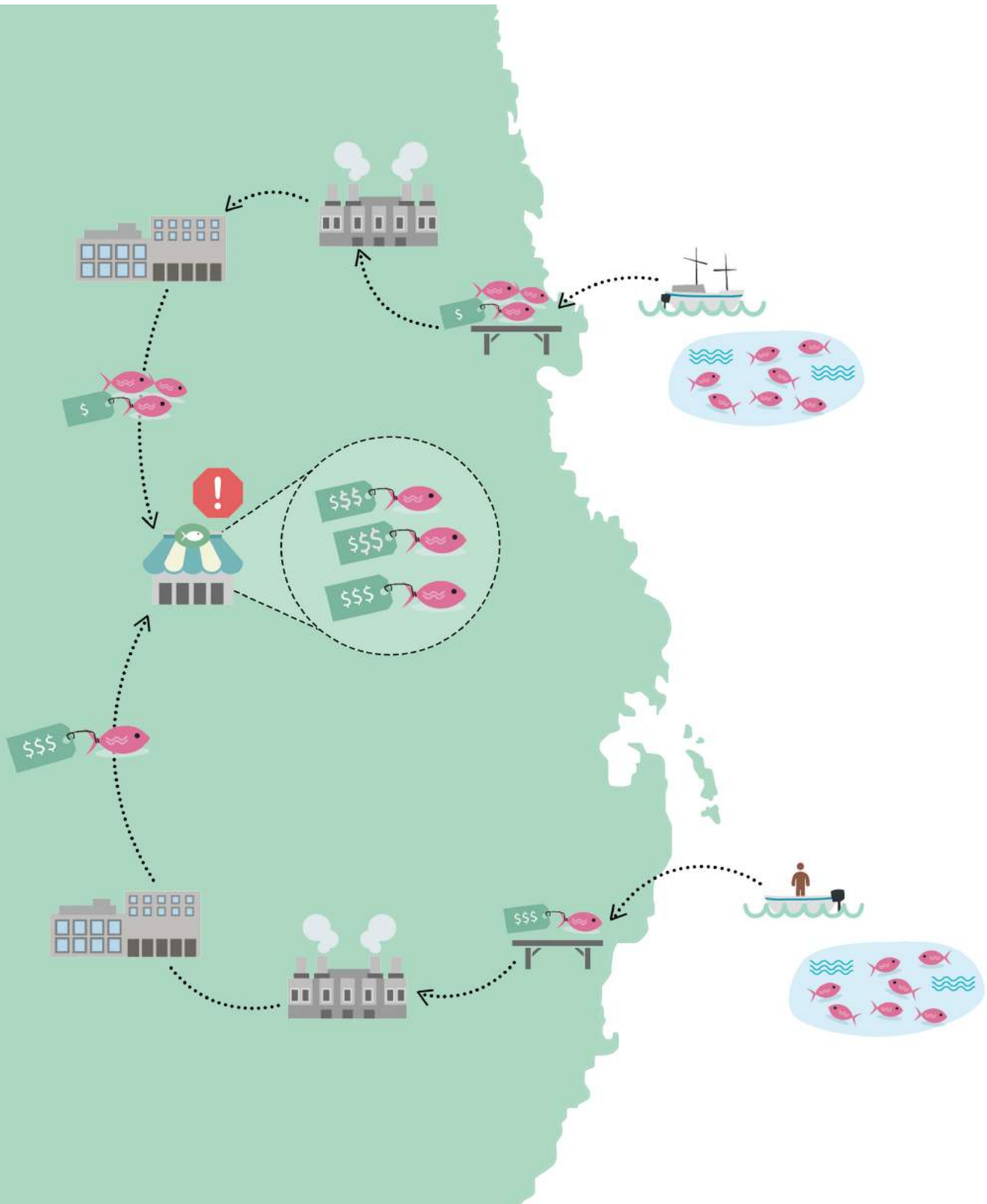
THE PLAY-BY-PLAY

The manager at a grocery chain's seafood counter sells counterfeit fish to turn usual loss-leading seafood department into a profit-maker. This manager buys a small volume of legitimate premium species and then advertises them at significantly lower prices than the competition. When customers claim the deal at the seafood counter, they majority unknowingly buy a similar, yet inferior, substitute.

The retailer reaps the benefits of this fraud at the expense of consumers, competing retailers, and the honest trading partners producing and selling the premium products. Counterfeit seafood devalues legitimately labeled products, which reduces profit margins for truly premium supply chains. Further, low-quality counterfeit seafood may damage the reputation of the products they're claiming to be, further reducing demand for the legitimate labels. On a larger scale, mislabeling depresses market prices for high-quality, sustainably harvested seafood, which drives down prices for fishermen and makes it more difficult for honest supply chain actors to source and sell those items at a profit. Consumers likely overpay for lesser quality product and one that isn't necessarily aligned with the values upon which they base their purchasing decisions, including environmental, health, or ethical standards.

The process of conducting investigations and litigations against counterfeiting seafood labels is cost prohibitive, especially for the small and medium seafood enterprises most affected by the fraud. Thus, preventative measures are more expeditious way of battling this problem.

Traceability systems and technology could serve to reduce likelihood of counterfeit and expose existing counterfeiting operations:

- Full-chain traceability, inclusive of the five core functions, and a special stamp or label indicating authenticity, would make counterfeiting premium products more difficult and perhaps not worth the effort; and

- Creating marketing campaigns based upon the information only robust traceability data can provide, would put pressure on suppliers unable to provide detailed and verifiable data, making counterfeiting strategies less advantageous.

- Retailers that prioritize selling storied fish with verifiable traceability data using technology such as scannable QR codes that allow customers to trace product by batch or or lot, set a precedent—consumers eventually come to expect this information—whether it pertained to origin, health, environmental, or other value that matters to them. Consumers could then put pressure on potential counterfeiters by asking detailed questions about sourcing.

While a complex, global supply chain can invite fraudulent activity, there are many tools, guides, and technologies available to combat risk. By understanding where fraud can happen, seafood companies can work to actively reduce their exposure. Adopting full-chain, electronic traceability systems is a powerful way to root out multiple forms of fraud and limit the flow of illegitimate product through the legitimate supply chain. As improved traceability systems close the door to fraud along global seafood supply chains, these same systems provide the data that can distinguish and reward responsible actors in the marketplace.

We encourage seafood representatives to explore the other resources in this toolkit as they look to advance their traceability capacities and reduce their risk of fraud.