BASEL INSTITUTE ON GOVERNANCE

Wildlife crime – understanding risks, avenues for action

Part 4: Corruption in marine wildlife trafficking

Green Corruption team | June 2021

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About this learning resource

This publication is the PDF version of a flexible and practical learning resource developed by the Green Corruption programme at the Basel Institute on Governance. It is aimed at:

- Private-sector companies exposed to risks of illegal wildlife trade and related crimes, including financial institutions, transport companies, traders and wholesale retailers
- Policy makers and practitioners in both conservation and anti-corruption fields
- Law enforcement

The aim is to broaden understanding of the threats that wildlife crimes pose to sustainable development and clean business. It provides relevant information, statistics and background knowledge to help enhance policies and processes aimed at curbing wildlife crime and associated risks. The focus is on financial crimes and supply chain vulnerabilities that facilitate the illegal trade in wildlife and thereby increase companies' legal, financial and reputational risks.

This learning resource and many more are available as interactive learning tools on the Basel Institute's LEARN platform: learn.baselgovernance.org.

The Green Corruption programme at the Basel Institute on Governance applies anti-corruption and governance tools to address environmental crime and degradation. For more information, see www.baselgovernance.org/green-corruption.

 It is based on content provided by Patricia Raxter with editing by Monica Guy, infographic creation by Alexander Berman and Shane McLean, and contributions by Manuel Medina, David Ward and Juhani Grossmann. The cover photo is by Dylan McLeod from Unsplash.

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Acronyms and abbreviations

C4ADS	Center for Advanced Defense Studies
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
ESG	Environmental, Social and Governance
EU	European Union
FITI	Fisheries Transparency Initiative
IUU	Illegal, Unreported and Unregulated (fishing)
NGO	Non-governmental organisation
UN	United Nations

1 Learning points

- Marine wildlife trafficking includes the **illegal collection, transport and sale** of a huge array of marine-dwelling wildlife.
- **Quantifying** the illegal trade in marine species as a whole is challenging due to the range of species involved and value in relation to weight and number in the trade.
- **Illicit proceeds** from the marine trade can be significant, **attracting organised crime groups** and criminals operating in legal companies and industries.
- Marine species are in demand globally for **food, medicine, as jewellery, decorative objects, the pet trade, and for zoos and aquariums**.
- **Regulating and enforcing regulations** to protect marine wildlife from trafficking face numerous challenges, including poor data, poor traceability, the involvement of serious organised crime networks and surging demand.
- **Impacts** of marine species trafficking include severe over-exploitation of marine species, destruction of habitats, disruption of ecosystems and consequences for communities dependent upon fishing for livelihoods and protein.
- A host of **criminality pervades marine species supply chains.** Key risks include smuggling, document fraud, tax evasion, bribery, money laundering, forced labour and other human rights abuses. The trade often converges with drug and human smuggling.
- **Organised crime groups and legitimate individuals and businesses**, sometimes in collusion, operate at every level of the supply chain, undermining efforts to trace, regulate or control the trade.
- Where **parallel legal and illegal trades** exist, products can be quickly laundered into the legal supply chain.

2 Introduction to trafficking in marine species

2.1 What, why, and which species?

Marine species trafficking covers a range of illegal activities around the collection, transport and sale of protected marine-dwelling wildlife. Similarly to illegal wildlife trade generally, it takes place in contravention of national laws and particularly laws under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

Commonly trafficked species include: corals, tropical fish, giant clams, seahorses, shark fins, sea cucumbers, marine turtles, fish swim bladders, eels, baby lobsters, abalone and caviar.

Marine species are in demand globally for food, medicine, as jewellery, decorative objects, the pet trade and for zoos and aquariums.

2.2 Supply chains risks and criminality

Like other wildlife crime, the legal and illegal trade in marine species are closely intertwined. Opportunities for laundering illegally collected and transported species into the legitimate trading sector abound. At the point of consumption, the true origins of marine products can be difficult, if not impossible, to discern.

As demand increases for marine products, and supply networks stretch across the globe to meet it, opportunities for illegality to seep into the supply chain will increase. The high profits and low risk associated with marine trafficking attract transnational criminal networks and criminals working undercover in legal companies and industries.

A host of criminality pervades the marine species trade, including smuggling, document fraud, tax evasion, bribery, money laundering, forced labour and other human rights abuses. The trade converges with drug and human smuggling.

Marine wildlife trafficking vs. IUU fishing

While this chapter will not address illegal, unreported, and unregulated (IUU) fishing more broadly, marine trafficking networks often commit IUU offences and may work in tandem with fishing fleets regularly accused of IUU practices.

The Netflix documentary *Seaspiracy* recently drew international attention to some of the issues involved in IUU fishing, including highly negative implications for climate change. For more information about IUU fishing, see resources from the:

- UN Food and Agriculture Organization web page on IUU fishing
- INTERPOL web page on fisheries crime
- European Commission web page on illegal fishing
- US National Oceanic and Atmospheric Administration web page on Understanding IUU Fishing

2.3 Scope and scale

Quantifying the illegal trade in marine species as a whole is challenging, yet it is known to occur globally and to be expanding as demand increases. Harvest levels are unsustainable. To take just a few examples:

- The ornamental fish trade is estimated to involve at least 150 million fish and 1.5 million coral colonies per year. Many are caught illegally to meet demand in the growing aquarium trade.
- Fleets of up to 200 Chinese vessels have been accused of poaching coral populations off the coast of Japan, destroying entire ecosystems.
- The over-exploitation of giant clams in Chinese waters has forced traffickers to harvest further afield in the Spratly Islands and beyond.
- Large quantities of CITES-protected marine turtles appear to be trafficked to China. A 2014 seizure in Vietnam involved more than 10 tons of hawksbill turtles, approximately 7,000 individual turtles.
- Seizures of seahorses and other small marine species can easily reach into the millions of animals, especially when their weight is reduced through drying. For example, one 3 kg seizure catalogued by marine conservation group Project Seahorse contained 1,000 seahorses. In another instance, an air traveller was caught with 20,000 seahorses in his luggage. Peruvian authorities seized 8 million seahorses from Chinese-flagged ships in 2016 in a single operation, and another 12.8 million in 2019.

- Most Romanian caviar labelled for export as farmed – more than 70 percent – is actually illegally harvested and processed for export. The result? Large-scale poaching is driving Beluga sturgeon to extinction.
- At least a hundred tonnes of CITES-protected European eels were estimated in 2018 to be trafficked each year.

Box 1: How much are marine species worth to poachers and consumers?

Illicit proceeds from the marine trade can be significant, attracting organised crime groups and criminals operating in legal companies and industries.

- The international trade in marine ornamental fishes is estimated to be worth over USD 1.5 billion.
- Beluga sturgeon can produce 150 kg of eggs (caviar) valued at USD 1,865 per kg.
- Hawksbill turtles can sell for more than USD 1,000 each.
- The glass eel trade is estimated to be worth billions of euros per year.
- The most highly valued species of dried sea cucumbers can fetch around USD 3,000 per kg in Chinese markets.
- Dried seahorses sell for anything from USD 600 to USD 3,000 per kg in Asian markets.
- The estimated value of 20,000 totoaba swim bladders seized in China in 2019 exceeded USD 110 million.

2.4 Demand drivers

Marine species are in demand for food, medicine, as jewellery, decorative objects, the pet trade and for zoos and aquariums.

The following infographic gives a brief overview of the main drivers. A full-size version is available in the Annex.

Figure 1: Key drivers of demand for the illegal marine products trade. Click on the image or see the Annex for a full-size version.

- **Luxury food.** An expansion of the middle class in some countries has resulted in an increase in demand for exotic foods that may signify economic prosperity in the local culture. These include shark fin soup and sea cucumbers, which are eaten both whole and dried. Sea turtles are used both for food and as decoration, through a process to chemically taxidermy the creatures while they are still alive. Trafficked eels have been known to find their way into sushi in North America.
- **Traditional Chinese medicine** may use species such as dried seahorses for medicine.
- **Decorative objects.** Corals and giant clams are carved into jewellery, used in decoration or sold live into the aquarium trade.
- **Pets and aquariums.** Hobbyists and professionals create miniature ecosystems in both home fish tanks and commercial aquariums, populated with reef species.

Demand for some species stretches across each of these categories, stressing populations from multiple angles.

3 Impacts on ecosystems and sustainable development

Trafficking in marine species imperils endangered marine wildlife and can quickly lead to the collapse of wildlife stocks. Destructive capture and harvest methods can contribute to the degradation and destruction of entire ecosystems.

This adds to existing stresses on marine populations from pollution, development and habitat destruction.

3.1 Over-exploitation

Over-exploitation consists of exploiting a species beyond biologically sustainable levels – i.e. fish populations are exploited at a rate much faster than the rate needed for them to recover.

Traffickers commonly over-exploit species, far exceeding export quotas or circumventing them entirely. European eel stocks have dropped 90 percent in three decades. It is estimated that more than 90 percent of ornamental fish are dead within a year of being caught.

Sea cucumber traffickers wipe out entire populations very quickly before moving on to new and more fertile grounds. The totaoba trade has directly led to the near extinction of vaquita populations in Mexico. All marine turtles are endangered, and populations of most shark species are declining.

3.2 Destructive harvesting methods

Destructive fishing methods are the main drivers not only of over-exploitation but also of long-term damage to marine ecosystems. These methods, such as trawling and the use of explosives, which are forbidden in several coastal states, are known to devastate marine ecosystems beyond their natural recovery point. It is very important to note that these methods are a flashpoint in terms of social conflict between local artisanal fishing communities and industrial fishing.

One example is the use of banned or harmful equipment such as seine nets or destructive processes like bottom trawling to harvest as many wild species as possible. Ornamental fish and clam poachers destroy environments to immediately access marine species. For

example, giant clam poachers loosen the clams from reefs using boat propellers. In the process, they destroy the reefs, seriously degrading or destroying the entire local ecosystem.

Other illegal fishing methods, such as using dynamite or cyanide to harvest corals and fish, have similar impacts.

3.3 Disruption of ecosystems

Over-exploitation of certain species has significant knock-on effects on other fish populations. For example the over-exploitation of a predator leads to an over-population of lesser species, which will in turn cause an imbalance in marine ecosystems.

Illegal fishing and over-fishing of reef fish have also led to the loss of corals worldwide, as fish grazers help keep corals healthy.

3.4 Consequences for communities

Other serious impacts of marine trafficking fall on communities dependent on marine resources for protein and economic opportunities. These communities suffer from food insecurity and loss of sustainable livelihoods.

4 Regulatory and enforcement challenges

Major challenges in protecting marine wildlife include:

- A lack of scientific data on non-CITES listed species
- Weak or non-existent regulatory regimes in source countries
- Expanding sourcing networks
- The emergence of serious organised crime within the supply chain
- Surging demand for a growing number of species
- Lack of enforcement capabilities in coastal states

While CITES provides trade protections for some species, most are not protected at the international level. In many cases, they also fall outside the law of any country. As a result, much of the trade in coastal marine species in particular remains unregulated.

For example, sea cucumbers across much of their range and North American eels receive no protections from trade and are harvested and shipped to Asia without oversight. Almost all ornamental marine fish are wild caught – only 25 marine ornamental fish species are captive-bred commercially – and most species in the trade are not assessed. In addition, insufficient data exists to evaluate appropriate levels of trade.

The lack of traceability creates opportunities for illegal activity throughout the supply chain.

Box 2: Seahorse trading – a high-risk industry

Approximately 37 million individual seahorses are traded each year, mostly to China via Hong Kong for use in traditional Chinese medicine. This occurs despite national and international laws and export bans.

Approximately **95 percent of seahorses are exported from countries with trade prohibitions**. All seahorses are listed under CITES Appendix II, meaning non-detrimental trade can in theory continue. However, several countries have banned the trade outright, while others are under recommendations by CITES to suspend trade.

An important import hub, Hong Kong does not provide legal protections to seahorses but only requires an export permit from the country of origin. According to NGO reports, the authorities rarely examine export permits to determine legality.

As a result of the huge demand, seahorse traffickers are expanding their geographic scope, targeting populations in Europe, Africa and Latin America after depleting populations in Asia.

The scope and scale of environmental destruction associated with seahorse trafficking present companies engaged in the production of medicines and other products using seahorses as ingredients, as well as investors, with significant ESG risks. Legal risks related to the largely illegal nature of the trade present further risks to exporters, importers, production facilities, transporters and financial institutions.

5 Marine wildlife trafficking supply chain

The supply chain for illicit marine products involves a range of actors including fishers (individuals or commercial vessels), wholesalers, intermediaries, trans-shippers, manufacturers, artisans, exporters and importers, wholesalers, and retailers.

Organised crime groups and individuals operating legitimate businesses, sometimes in collusion, operate at every level of the supply chain, undermining efforts to trace, regulate or control the trade. Where parallel legal and illegal trades exist, products can be quickly laundered into the legal supply chain.

Crimes range from IUU fishing, poaching and forced labour to document fraud, drug smuggling and human trafficking.

The following infographic gives a simplified overview of the supply chain and its vulnerabilities. See the text below for more detail on the individual elements. A larger version of the infographic is included in the Annex.

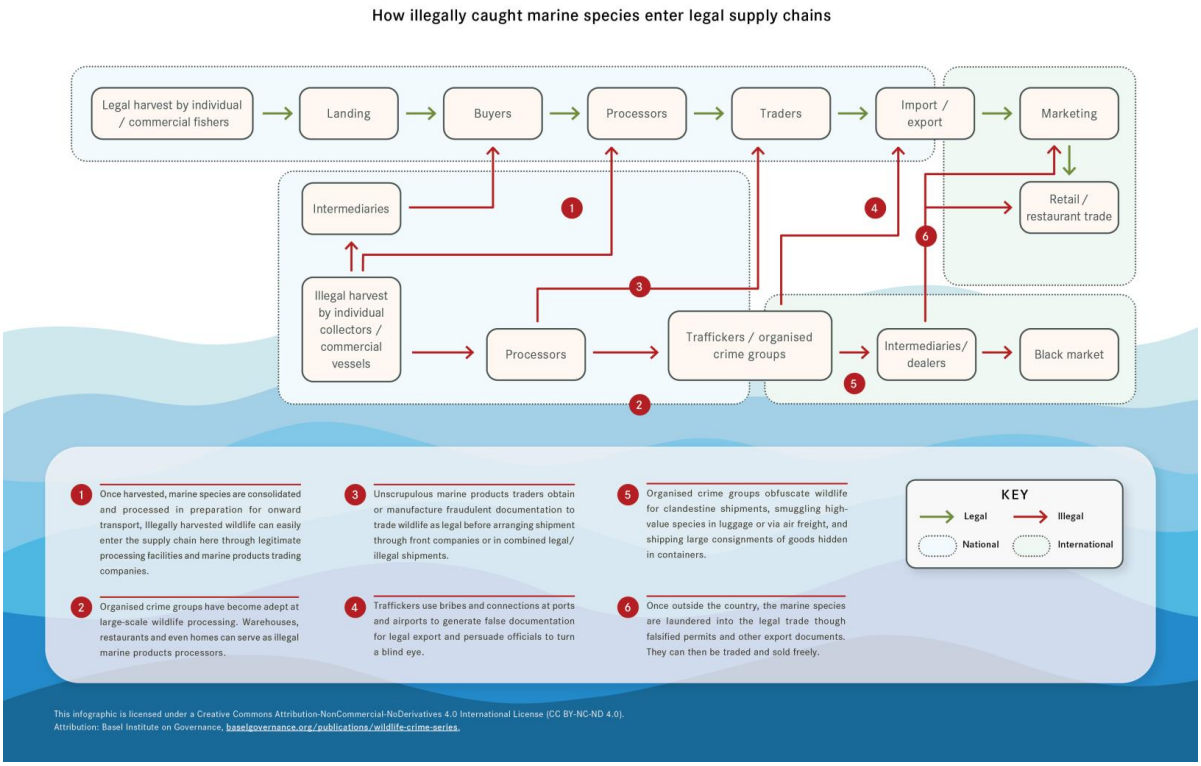


Figure 2: How illegal caught marine species enter legal supply chains. Click on the image or see the Annex for a full-size version.

5.1 Harvest networks

Traffickers source marine species globally, co-opting local supply chains to harvest species for the international trade. When local suppliers and local markets become embedded in global supply chains, depletion occurs very quickly, particularly for unregulated species and in source locations with few controls.

Illegal harvest involves both **individual local fishers and large commercial fishing vessels**. In some cases illegal harvest is coordinated and intensive, such as in coral poaching, while in other instances, such as seahorse trafficking, species are consolidated over time and sold to traders.

- Individual collectors are often small-scale fishers engaged in harvesting to supply intermediaries and wholesalers. They may be witting or unwitting participants in the trafficking networks.
- Commercial fishing vessels, sometimes as part of large fleets, may opportunistically poach by keeping animals caught through bycatch for illegal sale. They may also be

configured specifically to harvest protected species to traffic, such as Chinese and Philippine vessels in the South China Sea, Coral Sea and just off the exclusive economic zone of Japan.

For species popular in Asia, trafficking often follows a **"roving bandit"** pattern. Traffickers fan out across the globe to identify plentiful populations of wildlife, tap into local networks and begin trading species internationally. Harvest often follows a boom and bust cycle, where new populations are discovered leading to a boom before they are very quickly exploited. This pattern occurs time and again, from coral to sea cucumbers to giant clams.

Box 3: Laundering within eel trafficking networks

The illegal European eel trade is thought to be worth more than a billion dollars annually. All exports of European eels, whether alive or dead, are prohibited through CITES and within European law. Because the eels cannot be bred in captivity, this means all European eels traded outside of Europe are products of trafficking, and all proceeds from their sale is illicit.

The trade in eels often involves ranching, a process which uses wild-caught juveniles raised in farms to supply the trade. Legitimate traders/businesses and wildlife traffickers often interact to harvest wild animals to supply ranches.

Baby eels (elvers) are illegally caught in Europe and trafficked to Asia in air passenger luggage in oxygenated bags. The live eels are often falsely labelled as non-endangered fish if they are declared at all. One suitcase can carry 50,000 elvers, making eels the most trafficked animal globally.

Once they reach farms in China, the eels are grown to their full size – up to a metre and a half – and can then be sold on the market for the equivalent of over USD 10 each. Trafficked European eels are regularly mislabelled and exported to Europe or to North America as packaged, processed eel products.

5.2 Laundering

Once harvested, marine species are quickly **consolidated for processing and packaging** in preparation for onward transport. Live species such as eels, ornamental fish,

invertebrates, and corals are separated and stored alive. In the case of corals or molluscs destined for the jewellery or curio trade, they may be dried or otherwise processed.

Criminals operating in legal businesses play a key role at this stage, laundering wildlife into the supply chain through legitimate marine processing facilities and marine products trading companies. At the same time, **organised crime groups** have become adept at large-scale wildlife processing, as evidenced by sophisticated abalone and shark fin processing. Warehouses, restaurants and even homes can serve as illegal marine products processors.

Transhipment at sea has received growing attention in relation to IUU fishing, and the same mechanism could allow marine species traffickers to evade port controls.

5.3 Export

Unscrupulous marine products traders obtain or forge **fraudulent documentation** to trade wildlife as legal before arranging shipment through front companies or within combined legal/illegal shipments to markets.

Organised crime groups similarly obfuscate wildlife for clandestine shipments at this phase, **smuggling high-value species** in luggage or via air freight, and **shipping large consignments of goods** hidden within containers of cheap commodities.

- **Live fish and corals** are typically exported via air freight and laundered into the legal trade though falsified permits and other export documents.
- **Bulk shipments of dried corals** are often shipped by sea freight.
- **European eels** are typically trafficked in several ways: hidden within passenger luggage inside oxygenated bags or shipped as cargo, mis-declared as fresh fish, or hidden amongst live seafood to avoid detection. Importers are said to earn between EUR 800-1,500 upon arrival.
- **Marine turtles are off-loaded from commercial vessels** at trading hubs in China or Vietnam, where they are locally processed before being exported or sold into local curio markets.
- **Species such as sharks and sea cucumbers** that can only be traded from certain jurisdictions are often smuggled into those jurisdictions then mislabelled for export, though large-scale smuggling persists.

Box 4: Laundering through neighbouring jurisdictions

In areas where neighbouring states do not provide the same level of protection for a species that exists in both states' territorial waters, traffickers can easily harvest and transport wildlife for export.

For example, sea cucumber networks heavily poach species in protected waters in Southern India, where the trade in all sea cucumbers is fully restricted. They work through local fisherman to harvest the creatures, then either move them onshore for clandestine processing and shipment to Asia or move them via small boats directly to Sri Lanka upon capture. Sri Lanka's thriving marine products export sector provides numerous laundering opportunities, allowing tonnes of sea cucumbers to exit the region mixed in with legal shipments.

On the other side of the world, various reports testify to the trafficking of CITES-listed shark species from Ecuador to Peru for export to Hong Kong, via both legal and illegal border crossings and using fraudulent documentation.

5.4 Sale

Once imported, shipments pass to wholesalers and brokers for distribution to manufacturers and retailers.

At destination points, particularly in Asia, trafficked species can often be openly traded. However, even where laws on importing restricted species are strong, complex global supply chains and local situations present serious challenges to traceability and enforcement.

6 Understanding and mitigating risk exposure to marine species trafficking

Companies concerned about their risk exposure can access regularly updated information about trends, risks and red flags via the United for Wildlife Transport and Financial Taskforces.

Global Fishing Watch is a non-profit organisation that promotes transparency in the fishing industry by sharing near real-time data about global fishing activity for free online.

The Fisheries Transparency Initiative (FITI) is a multi-stakeholder initiative that seeks to encourage transparency and participation in the fisheries sector to promote sustainable development.

An innovative project led by TRAFFIC has created 22 replica shark fins from CITES-protected species as a training and support tool for frontline enforcement officials required to identify shark fins in international trade. See the project page.

7 Quick quiz

This quiz is designed to test your knowledge of marine species trafficking after reading this publication. To check your answers and find other quizzes and interactive resources, visit learn.baselgovenance.org.

7.1 Which of these sentences about marine species trafficking are true? Which are false?

1. Marine species trafficking covers a range of illegal activities around the collection, transport and sale of marine-dwelling wildlife protected under national and international laws include CITES. (True / False)

2. Marine species trafficking and illegal, unreported and unregulated (IUU) fishing are the same thing. (True / False)

3. Marine trafficking networks regularly engage in IUU offences or work together with fishing fleets accused of IUU practices. (True / False)

7.2 Which of the following are commonly trafficked marine species?

- ☐ Corals
- ☐ Tropical fish
- ☐ Giant clams

- ☐ Seahorses
- ☐ Shark fins
- ☐ Sea cucumbers
- ☐ Marine turtles
- ☐ Fish swim bladders
- ☐ Eels
- ☐ Baby lobsters
- ☐ Abalone
- ☐ Caviar
- ☐ All of the above

7.3 How much is the glass eel trade from Western Europe estimated to be worth each year?

- ☐ Tens of thousands of euros
- ☐ Hundreds of thousands of euros
- ☐ Millions of euros
- ☐ Billions of euros

7.4 Which of the following are negative impacts of marine wildlife trafficking? Which are drivers of demand for marine wildlife products?

Luxury food | Over-exploitation of species | Destruction of marine environments | Traditional Chinese medicine | Decorative objects | Disruption of marine ecosystems | Pet trade | Reduced economic opportunities for fishing communities | Protein shortages for fishing communities | Aquarium trade

Drive demand	Negative impacts

7.5 What are some of the regulatory and enforcement challenges in the stopping the illegal marine wildlife trade?

- ☐ A lack of scientific data on non-CITES listed species
- ☐ Weak or non-existent regulatory regimes in source countries
- ☐ Expanding sourcing networks
- ☐ Serious organised crime within the supply chain
- ☐ Surging demand for a growing number of species
- ☐ Lack of enforcement capabilities in coastal states
- ☐ All of the above

7.6 What percentage of seahorses are estimated to be exported from countries with trade prohibitions?

- ☐ 25%
- ☐ 50%
- ☐ 75%
- ☐ 95%

7.7 Which illegal activities are closely linked to marine species trafficking?

- ☐ Smuggling
- ☐ Document fraud
- ☐ Insider trading

- ☐ Tax evasion
- ☐ Bribery
- ☐ Market manipulation
- ☐ Money laundering
- ☐ Confidence tricks
- ☐ Sedition
- ☐ Forced labour / other human rights abuses

8 Further resources and courses

1. Discover more in the ***Wildlife Crime – Understanding risks, avenues for action*** **series:**

- Part 1: Illegal wildlife trade and financial crime
- Part 2: Illegality in the exotic pet trade
- Part 3: Forest crime and the illegal timber trade

2. ACAMS Ending Illegal Wildlife Trade certificate. A free introductory online training programme (two hours) on how to identify and mitigate financial risks related to illegal wildlife trade in general. Co-developed by ACAMS (the largest international membership organisation for anti-financial crime professionals) and WWF with Basel Institute on Governance support. Go to course.

3. ECOFEL Wildlife Crime eLearning course. An introductory course to wildlife crime designed for Financial Intelligence Unit staff, law enforcement and supervisory authorities. Go to course.

9 Annex: Infographics

What drives the illegal trade in marine species?

Luxury foods

Some rare edible species have a cultural significance. Illegally harvested products appear everywhere from sea cucumbers and shark fin soup in China to eel sushi in the USA.

Decorative objects

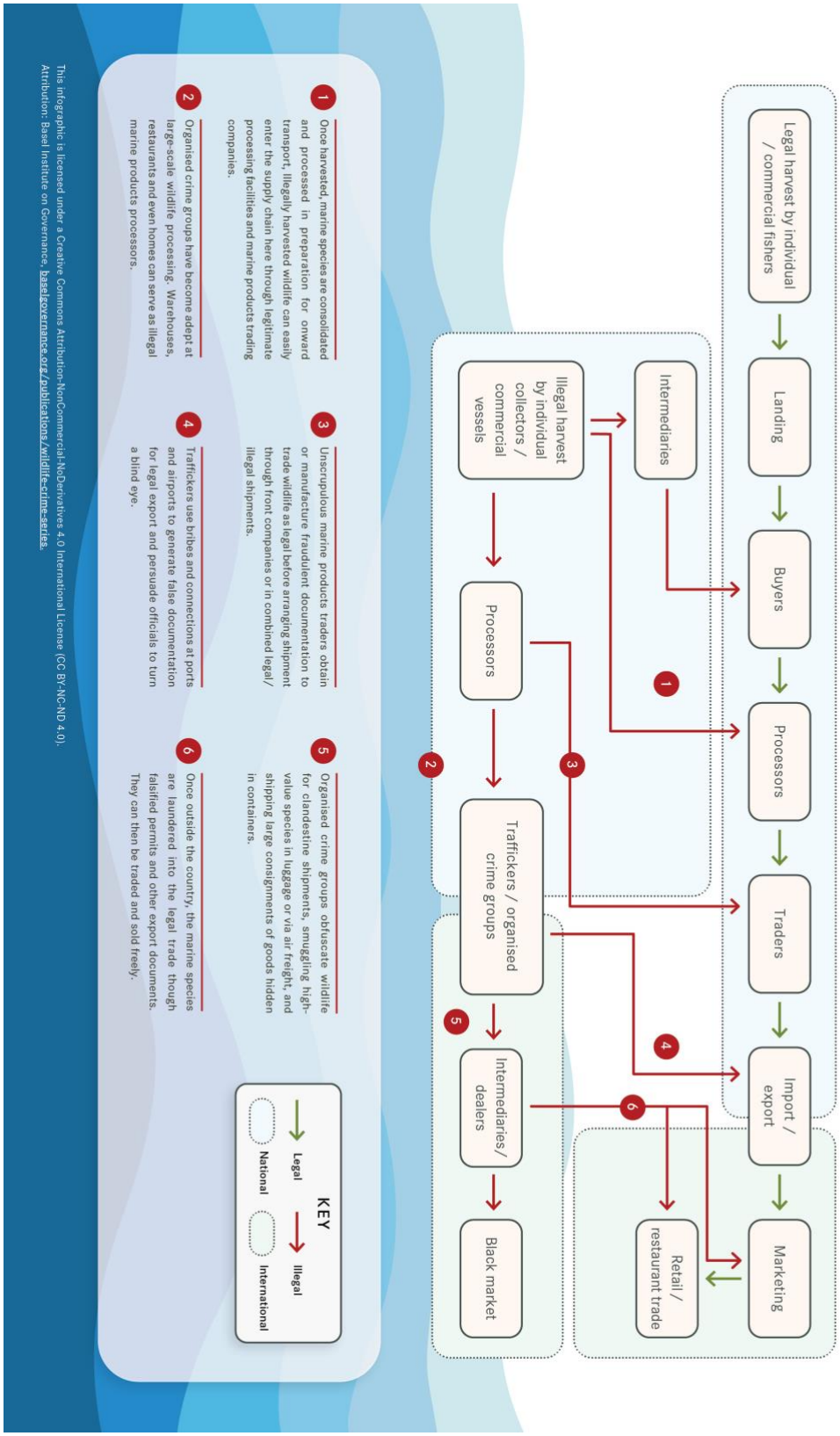
Corals and giant clams are frequently carved into jewellery or sold as ornaments and souvenirs.

Traditional medicine

Species such as dried seahorses are ground up for use in medicine and tea.

Pets and aquariums

Hobbyists and professionals populate both home fish tanks and commercial aquariums with reef species.


How illegally caught marine species enter legal supply chains
Legal harvest by individual / commercial fishers
Landing
Buyers
Processors
Traders
Import / export
Marketing
Intermediaries
Illegal harvest by individual collectors / commercial vessels
Processors
Traffickers / organised crime groups
Intermediaries/ dealers
Black market
Retail / restaurant trade
1
2
3
4
5
6
KEY
Legal
Illegal
National
International
1 Once harvested, marine species are consolidated and processed in preparation for onward transport, illegally harvested wildlife can easily enter the supply chain here through legitimate processing facilities and marine products trading companies.
2 Organised crime groups have become adept at large-scale wildlife processing. Warehouses, restaurants and even homes can serve as illegal marine products processors.
3 Unscrupulous marine products traders obtain or manufacture fraudulent documentation to trade wildlife as legal before arranging shipment through front companies or in combined legal/illegal shipments.
4 Traffickers use bribes and connections at ports and airports to generate false documentation for legal export and persuade officials to turn a blind eye.
5 Organised crime groups obfuscate wildlife for clandestine shipments, smuggling high-value species in luggage or via air freight, and shipping large consignments of goods hidden in containers.
6 Once outside the country, the marine species are laundered into the legal trade though falsified permits and other export documents. They can then be traded and sold freely.
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