GUIDANCE

Hong Kong Sustainable Seafood Coalition ("HKSSC") Voluntary Codes of Conduct

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Overview

This document is designed to support the implementation of the Hong Kong Sustainable Seafood Coalition's ("HKSSC") Voluntary Code of Conduct on Responsible Fish and Seafood Sourcing (the "Sourcing Code") and the HKSSC Voluntary Code of Conduct on Responsibility Claims (the "Labelling Code").

This guidance is intended to help HKSSC members ("Members") in the interpretation and implementation of the Sourcing Code and the Labelling Code, and includes recommendations on best practice. Ultimately, it is the responsibility of individual businesses to ensure alignment with the Sourcing Code and the Labelling Code and Members are free to implement such standards and recommendations as they deem appropriate. This guidance will be reviewed on an annual basis.

The Sourcing Code and Labelling Code cover all own-brand or private label wild and farmed fish and seafood. Other branded products are beyond the scope of the Codes at this time but Members may engage with suppliers of other brands if they so wish. Hereafter, 'fish' refers to any wild captured or farmed fish, crustacean, mollusc or other aquatic invertebrate used for any purpose (including derived products such as surimi as well as fish meal). It also includes freshwater or brackish species. At the moment, the Sourcing Code and Labelling Code are in relation to food for human consumption and will apply to all products containing fish within two years (by January 2021). Common terms and abbreviations are highlighted throughout, with a glossary provided in Appendix 6.

Note on use of the HKSSC logo

The HKSSC logo is available for use by HKSSC Members to demonstrate their affiliation with the HKSSC and/or to promote the work of the HKSSC.

The HKSSC logo is not an ecolabel. It cannot be used to 'certify' the environmental status of fisheries or aquaculture sources for particular products and therefore cannot be used on pack or anywhere else it could be deemed an ecolabel (such as on individual tickets at a fish counter, or next to specific items on a menu) or mislead consumers. It can, however, be used to show whether a company is an HKSSC Member and/or to promote the work of the HKSSC. Use of the logo is not mandatory. Examples of how the logo should or shouldn't be used are shown in Table 1.

Use of the HKSSC logo will be accompanied by a link to the HKSSC website, and in the case of use in store/restaurants, must include a statement that '[Name] is a Member of the [logo]'. Members may also wish to demonstrate their affiliation in relation to the following:

- On a menu (in a restaurant); or
- On public facing or business to business communications (such as a leaflet or website).

Examples of suitable wording include:

> *[MEMBER] is a Member of the Hong Kong Sustainable Seafood Coalition (HKSSC). Find out more at* www.hksustainableseafoodcoalition.org
>
> *[MEMBER] is a Member of the Hong Kong Sustainable Seafood Coalition. We are working towards a sustainable future for fish. Find out more at* www.hksustainableseafoodcoalition.org

These examples are not exhaustive and if a Member wishes to use their own wording this must be approved by the secretariat.

Table 1 Examples of proper and improper use of the HKSSC logo

Sector	Proper use	Improper use
Brand/Supplier	On a website; exhibition stands; posters; corporate social responsibility reports.	On a specific product; in advertising relating to specific products.
Food service	At the bottom of a menu; on a website; posters.	Next to specific food items on the menu; on takeaway food boxes.
Retailer	On a website; leaflets; magazines.	At point of sale where it could be associated with specific food items; anywhere on pack.

Part 1

The Voluntary Code of Conduct on Responsible Fish and Seafood Sourcing

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1. Introduction

The Sourcing Code outlines five good practice principles for Members. These good practice principles are traceability; transparency; risk assessments/ audits; sourcing decisions based on the risk assessments/audits; and an appropriate response.

Members should apply the general principles of good practice encompassed by the spirit of the Sourcing Code.

Members should take measures to avoid both fish and marine ingredients for fish feed, that is likely to have been sourced from illegal fishing activities or derived from threatened, endangered or protected species ("TEP").

1.1. Traceability

Members should have sufficient measures in place to trace fish from the source fishery or farm to its point of sale. Members should be aware and follow any legal requirements on traceability, and where these are lacking in Hong Kong, to consult international best practice, for example under the Common Organisation of the Markets ("CMO" see Appendix 3).

Members should ensure that suppliers also have robust traceability and risk assessment protocols in place. For farmed fish, this includes traceability of the marine ingredient components of fish feed back to the source fishery or to the feed processing factory. However, Members are not required to conduct an audit on marine ingredients directly (unless they independently determine it appropriate to do so).

Some of the considerations listed in the guidance under risk assessments and audits will already be in place for food safety requirements and included as part of a Member's quality management system. They are included here as best practice and to ensure all Members have access to the same guidance.

Best Practice Advice:

- Examples of traceability compliance are provided in two ISO standards 'Traceability of finfish products' for wild capture and farmed fish (12875:2011 and 12877:2011, respectively) and Members may wish to refer to those.
- Members may also wish to refer to WWF's Traceability Principles for Wild-Caught Fish Products and USAID's Fisheries Catch Documentation and Traceability in Southeast Asia (Technical Concept and Specifications).
- Traceability back to vessel, or group of vessels, is best practice for wild capture fish.
- Providing consumer facing traceability can enhance credibility and reputation. This could be done through the use of QR or bar codes.

1.2. Transparency

It is recommended that general sourcing policies should explicitly state that they cover both wild and farmed own-brand or private label fish and, if applicable, other branded fish. As a minimum, non-commercially sensitive information on sourcing policies should be made available on request. This should include information on:

- Traceability systems and controls; and
- Species and the source of fish, such as stock, fishing/farming area, capture/farming method.

Best Practice Advice:

- Members should:
  - make their sourcing policy publicly available and consider/solicit feedback.
  - communicate sourcing policies back to the supply chain, to help drive adoption of better environmental practices.
  - provide a summary of the results of risk assessments and corresponding responses (e.g. the improvements that the member is supporting) to suppliers and on request from other stakeholders.
  - not share specific feedback on suppliers amongst its competitors or other Members of the HKSSC if such information would be considered competitively sensitive information or if it could have an anticompetitive effect on the market for the supply of fish or related products.

Members should be able to assure any challengers that they have met the commitments in either the Sourcing Code or Labelling Code as relevant. Members are free to implement the standards and recommendations contained in the Sourcing Code and Labelling Code as they deem fit.

2. Sourcing wild capture fish

For wild capture fish, the Sourcing Code recommends Members to risk assess the legality of fishing operations and supply chains as well as the biological status of all the fisheries from which they source. A checklist of considerations and where to find more information within the guidance is shown in Table 2.

Table 2 Checklist for sourcing wild capture fish

	Action	Section
What species do I buy?	Consider making a list of all the species.	-

	Action	Section
Where do I buy from?	For each of the species above, consider listing the fishery [flag country of vessel(s), FAO fishing area, or more detailed if possible such as ICES area, and whether EEZ or high seas].	-
How much do I buy? *(Best practice)*	Consider adding quantity purchased per year to species listed above.	-
For each fishery:		
Is the fishery certified to a sustainable fishery standard?	If yes, record who certifies the fishery.	2.2
Does the certified fishery and supply chain have independently audited chain of custody in place to trace the fish from point of sale to its source fishery?	If yes, record who audits the chain of custody. If no, confirm if the transparency, traceability and product integrity criteria have been met.	7.1
Does this certification meet the requirements of the HKSSC?	If yes, bullet point why, or consider having a document that justifies this elsewhere (see Table 3). If there is no certification, you should find other evidence of the status of the fishery to make a judgement.	2.2
If needed, consider seeking advice from an organisation/s or national government fishery department with sufficient knowledge to assess the fishery or to validate your risk assessments (best practice). Consider keeping a record of responses.		2.1
Consider assessing the supply chain risk (IUU & traceability) and categorise the fishery and supply chain as Low, Medium or High risk	May purchase from Low risk supply chains without further engagement. May purchase from Medium risk supply chains if checks and measures are in place to ensure the integrity of the product and/or engage in improvement according to your influence. Should not purchase from High risk supply chains until improvements are in place.	2.3.1
Consider assessing the source fishery status (sustainability) and categorise the fishery as Low, Medium or High risk	Assess the fishery status and categorise the fishery as Low, Medium or High risk. May purchase from Low risk fisheries without further engagement. May purchase from Medium risk fisheries if the trend is positive and/or engage in improvement according to your influence. We do not recommend purchase from High risk fisheries if the species is vulnerable, endangered or critically endangered or threatened. Any CITES II listed fish must be sourced legally with relevant permits.	
What improvements are needed in the supply chain and fishery?		4/4.1

	Action	Section
Can my suppliers or I influence these improvements directly, is it a priority (e.g. high risk), and do we have the required resources?		4/4.1
Who else can I work with to influence the supply chain and fishery?	Identify partners such as NGOs, government and industry partners	4/4.1
Can I join or support an existing Fishery Improvement Project (FIP)?		4/4.1
Can I help start a new FIP or other forum to explore potential improvement actions?		

To assess the supply chain risk and the fishery's status, Members should have access to suitable risk assessments of each fishery. Members can use publicly available fishery risk assessments, or carry out their own. Risk assessments should be updated at least annually.

Fisheries that are certified to a third-party environmental standard would be considered low risk if the standard meets the criteria detailed in Table 3 (Section 2.2). Appropriate responses and sourcing decisions should be dependent on the risk assessment outcomes as illustrated in the decision trees (Figures 1 and 2 in the Sourcing Code).

2.1. Risk assessment

A risk assessment is a systematic process of evaluating the potential risk that may be involved in a supply chain. Information can be gathered from the supplier, fishery or through the help of a third-party (e.g. a non-governmental organisation "NGO" or consultant). A risk assessment should mean the Member reviews the supply chain and/or fishery against the criteria listed in the Sourcing Code to arrive at a low, medium or high-risk outcome, as described in Section 2.3.1. Two key risk areas should be assessed namely 1) supply chain risk in relation to illegal, unregulated or unreported ("IUU") fishing and traceability; and 2) source fishery risk in terms of biological status. In regards to supply chain risk, a methodology has been provided to the HKSSC Members as outlined in Section 2.1.2. In regards to source fishery risk, Members can choose to use a risk assessment created by another body, such as the WWF Common Wild Capture Fishery Methodology/Common Aquaculture Methodology, the Sea Fish Industry Authority's Risk Assessment for Seafood Sourcing ("RASS") tool, or any other assessment tool which covers the criteria listed in Section 2.1.3 (see Appendix 7 for a list of useful risk rating websites). Equivalent outcome ratings, such as red, amber or green on a traffic light system are acceptable, as long as they demonstrate the level of risk for each consideration.

Before conducting the risk assessment Members should map out supplies in terms of what species they buy, where they are from, and how much is bought annually. This can help your business determine the leverage and resource you might have to engage in improvement work if needed. A gap analysis template could contain this information, as well as the risk rating for each product/supply, to give a quick overview of all your supply chains.

It is important to remain aware that competitively sensitive information on suppliers, fisheries or related bodies gathered during your risk assessment should not be shared with your competitors or with Members of the HKSSC. The sharing of such information could negatively impact such suppliers resulting in a possible boycott which would be contrary to competition laws in Hong Kong.

Best Practice Advice:

Consider having the risk assessment structure endorsed by an independent competent party. Examples of independent competent parties include, but are not limited to: Members of the Global Seafood Ratings Alliance (www.globalseafoodratings.org) and private consultancies.

2.1.1. Risk assessment considerations: basic data on what you are buying

The fish product should be assessed to understand the following:

- Species - common and scientific name (e.g. Atlantic cod, *Gadus morhua*).
- Catch area (e.g. FAO Areas 51 and 57: Indian Ocean Tuna Commission ("IOTC") , FAO Area 27: the North East Atlantic, International Council for the Exploration of the SEA ("ICES") subdivision IV: the North Sea etc.); and whether in a country's exclusive economic zone ("EEZ") or the high seas.
- Flag of the vessels.
- Management authority (e.g. Indian Ocean Tuna Commission, Fisheries Management and Fishing Port Superintendence Bureau of South China Sea, Australian Fisheries Management Authority, Inter-American Tropical Tuna Commission ("IATTC"), and other regional fisheries management organisations ("RFMO") etc.).
- Fishing methods used (e.g. longline, purse seine, gillnets, pole and line etc.).
- Form of product when bought and sold (e.g. whole round, fillet, headed and gutted, fresh, frozen, dried, paste, sauce, fermented, salted, IQF, frozen block, bottled, canned, bulk packaging etc).

To ensure the supply chain and fishery meets the requirements in the Sourcing Code, the risk assessments should also include each of the following considerations:

2.1.2. Risk assessment considerations: supply chain (IUU and traceability)

Best Practice Advice:

Consider seeking guidance on possible risks in fishery supply chains and the types of checks over and above conforming to all existing legal obligations in fish trading. Find out what can be done to help reduce the risk of Illegal, Unreported and Unregulated ("IUU") fish in your supply chain. Useful resources include:

- PAS 1550:2017 Exercising due diligence in establishing the legal origin of fishery/seafood products and marine ingredients – importing and processing – Code of practice;
- An advisory note for the UK supply chain on how to avoid IUU fishery products (produced by the Environmental Justice Foundation ("EJF") and the British Retail Consortium ("BRC"), in collaboration with WWF-UK, 2015); and
- ASEAN Guidelines for Preventing the Entry of Fish and Fishery Products from IUU Fishing Activities into the Supply Chain, 2015.

a. Chain of command (who supplied the product)

The Member should review the supply chain to identify the relevant parts such as at-sea capture, port details, buyers/brokers involved, domestic transportation company, processor/s, export transportation company and export authorities. Data capture at each point of the supply chain should be recorded. Such data should include, but is not limited to, logbook and Captain's certificate, catch certificate or other verification document, purchase order, cargo manifest or delivery order, raw material, batch ID and finished good ID, certificate of origin, packing list, health certificate, bill of lading, import and export declaration (specific to Hong Kong).

The Member's risk assessment should review:

- The person/enterprise with custody and ownership of the seafood/marine ingredient after landing;
- If there is a record of the names of all the companies that handle the seafood before taking ownership of it;
- If the product is procured directly from the raw material supplier or through a broker; and
- If the product is procured from only one supplier or multiple.

b. Where the product came from

The Member should review the country of origin, the exact location where the fishing activity took place (coastal waters/inshore/EEZ/high seas), whether the product undergoes transformation prior to landing (e.g. at sea processing, co-mingling, segregation, or aggregation), and location of processors.

c. Legality, compliance and traceability

The Member should review the fishery to ensure that appropriate documentation is in place to verify the fish is from a legal source and has been legally traded (e.g. exported). This may include a review by the Member or their supplier of documents such as catch certificates, product specification and landing declarations to provide assurance that the source is traceable and legal.

Best Practice Advice:

Conduct regular spot checks of documents to ensure the source is traceable, legal and adheres to your own sourcing requirements.

The Member's risk assessment should ensure that:

- A full list of fishing/processing vessels are recorded including vessel name, name of company that owns the vessels, flag State, International Maritime Organisation ("IMO") number where relevant or other unique vessel identifier ("UVI") number, home port;
- A full list of transport vessels are recorded, if applicable, (including name of company owning the transport vessels, flag State, IMO or other UVI number, home port);
- Fishing vessel registration details are available;
- Transhipment vessel registration details are available, if applicable;
- Authorised vessel registers and lists are identified, if applicable (e.g. RFMO registered lists);
- Transhipment records are kept;
- Flag details of fishing and transport vessels are checked against IUU lists (European Union ("EU") red and yellow cards and other blacklists);
- Port State (country of landing) details are recorded and that appropriate measures are in place to avoid and/or combat IUU fishing, and those measures include identification and implementation of port state control and enforcement;
- Vessels comply with fisheries management arrangements
- There is an electronic traceability system or documented paper trail in place (e.g. catch certificates, product specification and landing declarations);
- Evidence of Chain of Custody certification is identified;
- The prevailing International Union for the Conservation of Nature ("IUCN") status is recorded and that critically endangered, endangered and vulnerable species are avoided (current status can readily be checked on the IUCN website; note that species might be reassessed from time to time, typically once per decade; assessments may change due to change of status or to refinement of assessment criteria);
- A system is in place to track all the processing facilities (primary and further processing);

- The names of all ports the product travelled are recorded;
- Dates are recorded (e.g. sale of raw material and freezing dates);
- Total catch quantity of the raw materials is recorded and processed weight reconciled against the original catch quantity; and
- Sales transactions between actors in the product's supply chain are accompanied and traced by unit or batch numbers on or accompanying invoices.

Best Practice Advice:

As part of your risk assessment, it is a good idea to review whether the flag of the vessel you source from is that of a country that has been issued with a yellow card or even red card by the EU under its EU IUU regulation.

The existence of a yellow card will indicate a higher risk of IUU fishing, and details of those risks will be listed in the European Commission's document outlining why the yellow card has been given. It remains legal and legitimate to trade with a country that has a yellow card. Indeed, the yellow card is not intended to stop trade; it is intended by the EU to act as a catalyst to faster change, particularly by the authorities of the nation concerned. Further, it may well be advisable to continue to trade with a yellow card country since it would not be best-practice to drop a supplier without due warning and establishing the facts with that supplier, and most importantly, the market and industry has significant influence that can and in best practice should be used to encourage improvements to a fishery. The existence of a red card means that the European Union and third country has failed to agree on an action plan for improvement or that the improvements are insufficient to meet its demands. In the case of an EU red card it is advised that the Member avoid/stop imports of seafood from that country due to the ongoing high risk of IUU fishing.

Additional measures to manage supply chain risk

The Member should review if the supplier has implemented additional measures to manage risk and safeguard against seafood fraud and IUU. This may include verification of data and trace-back exercises; DNA tests to verify the species and stock origin to counter fraud; getting involved in industry initiatives or have plans to improve traceability of raw material and processed product to prevent illegal fish entering the supply chain.

Best Practice Advice:

To utilise DNA testing within traceability systems to verify species and stock origin to counter fraud and verify the species and catch area stated in the catch certificate is an emerging technology. It is good practice to remain aware of the evolution of this technology and consider its application in spot checks.

2.1.3. Risk assessment considerations: source fishery

Best Practice Advice:

The risk assessment on the source fishery could additionally align with best practice standards, such as the AIPCE-CEP Principles for Environmentally Responsible Fish Sourcing.

a. Fishery certification status

This is where a fishery carries an independent third-party certification or it is undergoing an assessment for certification.

It may also be possible to consider other independent ratings where either the fishery, or species, is rated by a reputable independent organisation whose assessments are based on scientific evidence. This approach may be appropriate where a fishery is considered inherently responsible by both the reputable independent organisation rating it and industry, and there are strong practical reasons for it not being certified. If the outcome of the independent rating is of environmental concern, the precautionary approach (which is in line with FAO guidelines) would be for the Member to treat this as having a high risk outcome. If using NGO advice to support sourcing decisions a record should be kept of the evidence that supports that decision.

b. Biological status of the fish stock

The following should be considered in relation to the health of the fish stock:

- The health of the stock is considered relative to reference points, for example, by checking that the stock biomass is above that estimated to produce Maximum Sustainable Yield, and fishing levels are below Maximum Sustainable Yield;
- The most recent scientific advice on stock health is reviewed, including whether or not the stock is overfished;
- The most recent scientific advice is reviewed to check whether overfishing of the stock is occurring; and
- The species or stock status is checked against a conservation list (national or international) and is not undergoing steady declines in catch rates or fish sizes caught, both indicators of possible overfishing. Any species that is heavily caught while still in its juvenile size range or is heavily taken on its seasonal spawning aggregation should be particularly carefully assessed because such cases are particularly susceptible to overfishing.

c. Fishery management practices

Considerations of stock management practices should include reviewing whether:

- Catch or effort limits and reference points (or proxies) are in place for the stock, where applicable;
- Catch or effort levels follow best available scientific advice;
- Management of the fishery is in accordance with the precautionary principle, where relevant; and

- Management of the fishery is in accordance with the Food and Agriculture Organisation ("FAO") Code of Conduct for Responsible Fisheries (Appendix 1).

The Member's risk assessment should ensure that:

Measures are in place to prioritise research and data collection to improve scientific knowledge of the stock. If the stock is data deficient, measures are in place to improve data collection.

- The potential impacts of the fishing activity on the habitat, ecosystem and wider environment are reviewed.

d. Wider environmental impacts of the fishing activity

Member's risk assessments should consider whether appropriate measures are in place to:

- Mitigate potential impacts of the fishing activity on the habitat, the ecosystem and wider environment;
- Avoid the capture of TEP species *and ensure any interaction is reported* (note that reporting is sometimes not mandatory but it is best practice to do so);
- Increase fishing selectivity to reduce the incidence of catch of non-target species, where possible;
- Reduce erosion of the target species reproductive capacity by avoiding the removal of excessive juveniles (pre-reproductive) fish or the taking of excessive numbers of fish that are in their spawning (reproductive) aggregation. Sufficient reproduction is needed to ensure healthy fish stocks and hence, as good practice, spawners and juveniles should not be targeted;
- Review the potential impact of fishing activities that take place within the boundaries of a Marine Protected Area;
- If ghost gear is known to be an issue in the fishery, then mitigation measures are in place; and
- Minimise or avoid discarding.

Best Practice Advice:

Consider the cumulative impacts of bycatch across all the fisheries operating in a given area, rather than on a fishery-by-fishery basis.

2.2. Third-party certification standards

No further assessment is required where a fishery has been certified to an independent third-party standard and a supply chain has been independently audited, with a chain of custody in place to trace the fish from point of sale to its source fishery. However, if relying on third-party certification, the Member should ensure the certification standard meets the assessment criteria so that the certified fishery would achieve a low-risk outcome in the Member's supply chain and source fishery risk assessments.

The criteria for best practice and the ideal scope of wild capture certification standards relevant to the Sourcing Code are shown in Table 3. They can be used as guidance in the selection of suitable certification standards.

Table 3: Best practice (assessment criteria) for scope of wild capture third-party certification standards

Elements of a certification standard	Best Practice
Certification	Is consistent with the principles of the FAO Code of Conduct for Responsible Fisheries[1] (see Appendix 1).
	Is consistent with the principles of the FAO Ecolabelling Guidelines, and compliant with FAO Private Standards for Certification of Fisheries and Aquaculture.
	Is consistent with ISO, or equivalent, guidelines on product labelling.
	Meets the 10 ISEAL credibility principles.
	Is accredited to the appropriate standard by recognised international accreditation bodies (e.g. to ISO 17065 or equivalent).
	Covers all stages of production.
Auditor	Is independent to the standard setter.
Standard Setting Development Process	Is transparent; including defined environmental scope, accreditation and certification mechanisms, being participatory and open to formal input and review.
	Provides opportunities for stakeholder comment and objection.
The Standard	Has criteria which have measurable indicators enabling effective and consistent auditing.
	Allows for revisions that include a multi-stakeholder process guided by clear governance rules, thus preventing minority opinions from dominating.
	Uses updated and credible science.
Standard Setters	Have a strong monitoring and evaluation system, which contributes data to measuring impacts on the environment.
	Have clear policies on claims and labelling that ensure accuracy.

[1] The FAO Code of Conduct for Responsible Fisheries is not considered to be an independent standard, but a voluntary code designed to 'ensure that all people working in fisheries and aquaculture commit themselves to its principles and goals and take practical measures to implement them'.

Examples include:

- The Marine Stewardship Council
- Iceland Responsible Fisheries

To ascertain whether any other certification standard meets these assessment criteria there are a number of avenues you can take:

- Consider speaking with the certification standard holder and enquire if these criteria are met and ask them to provide evidence in writing.
- Consider reviewing the outcomes of the Global Sustainable Seafood Initiative ("GSSI") assessment once completed.

Please note that to achieve a low risk outcome for the supply chain and source fishery risk assessments, extra criteria are required in addition to those listed in Table 3 (See Section 7.1 for more details). If these are met, the Member would not need to do further assessment on the supply chain.

2.3. Sourcing decision and appropriate responses

Members' sourcing decisions should be based on the outcome of their risk assessment. In some cases, particularly for high-risk outcomes, the Member may choose to take actions before sourcing; some of these are outlined below (Section 2.3.2).

2.3.1. Risk assessment outcomes

Risk assessment outcomes should be categorised as low, medium or high risk for both the supply chain and source fishery risk assessments.

a. Supply chain (IUU/traceability)

A low risk outcome identifies a source fishery and supply chain as:

- Certified to an environmental third-party sustainability standard and the Member has confirmed the transparency, traceability and product integrity criteria have been met; or
- Traceable with minimal IUU fish risk and checks and measures in place to ensure the integrity of the product being supplied.

A medium risk outcome identifies a source fishery and supply chain as:

- There is some indication of IUU fish risk; and
- Checks and measures are in place to ensure the integrity of the product being supplied.

A high risk outcome identifies a source fishery and supply chain with:

- IUU fish risk; and
- No checks and measures are in place to ensure the integrity of the product being supplied.

b. Source fishery (sustainability)

A low risk outcome identifies a fishery that is either:

- Certified to an environmental third-party sustainability standard; or
- A stable and productive low environmental impact fishery with precautionary management, proven effectiveness, ongoing stock status information/monitoring and confidence that the status will either be maintained or further improved (maximum sustainable yield). If the stock is data poor then measures are in place to improve data collection.

A medium risk outcome identifies a fishery which:

- Has a stable status (neither optimal nor poor); and
- Requires improvement to reduce the environmental impact, and/or to improve the management and/or the monitoring of the stock status. It may be a data poor fishery with stable catches and adequate and effective management.

A high risk outcome identifies a fishery which either has:

- No data available; or
- A proven poor fishery status and/or high risk of decline to poor status without appropriate management/ineffective management and/or high environmental impact.

2.3.2. Appropriate responses

An appropriate response to risk assessment outcomes will vary according to the relationship the Member has with the supply chain and fishery. If the Member sources from a fishery they will have either direct or indirect engagement.

For a low risk outcome, Members should seek continual improvement of the fishery where possible.

In the case of a medium risk outcome, improvements required to reduce the risk outcome of the fishery should be identified and appropriate actions be put in place for a Member to be able to source the fish. The improvements may be the supplier putting in place checks and measures to reduce risk in the case of IUU and traceability, or in the case of sustainability, informal or formal fishery improvement projects (see Section 4). Members should measure any progress made. Members should ensure that the appropriate actions continue as long as they are needed. Should there be insufficient improvement actions in place (for example a supplier has no intention of making improvements to mitigate risk in relation to IUU or a Fishery Improvement Project ("FIP" or "FIPs") that has not made any progress), an engagement plan should be developed. This should be based on the shortcomings identified during the risk assessment and may be undertaken collaboratively with other Members or stakeholders. Engagement could include a time-bound agreement with the supplier to implement checks and measures in the supply chain and a formal FIP (Section 4). Any plan should be communicated to the fishery managers and the supply chain as appropriate.

For high risk source fishery assessment outcomes for species that are not classified as endangered or threatened, the Member can continue to source but improvements should be identified and appropriate actions put in place. An effective improvement plan, including

monitoring, should be established in order to reduce the risk rating. Should a Member choose to source from a high-risk supply chain and fishery, the business should be able to show it prioritises addressing any issues associated with that supply chain and fishery. Members are likely to be under greater scrutiny and this should be a consideration in sourcing decisions. It is always possible for a Member to have an indirect influence on their supply chain. This could be by encouraging the supplier's engagement in the management of the fishery through a local trade body, export association, or representative body. Evidence of this should be kept.

2.3.3. Do not source

In the case of a high risk outcome from the supply chain assessment, it is advised that the Member avoid/stop sourcing until improvements have been put in place and the level of risk is reduced to medium. In terms of the source fishery risk assessment, it is also advised that the Member avoid/stop sourcing from a high risk fishery if the species is listed on the IUCN red list as vulnerable, endangered or critically endangered or is considered threatened in the national (source country) legislation. Any CITES II listed fish must be sourced legally with relevant permits. For all other species the Member can continue to source but improvements should be identified and appropriate actions put in place.

Where an engagement plan at the required level is not practical or is proving to be ineffective, Members should not source from this supply chain and fishery or should take the necessary steps to stop sourcing from this fishery. Members recognise that withdrawal from a problem supply chain and fishery is not the only, or necessarily the best, response to a medium or in some cases high risk outcome. For examples of ineffective management, see guidance from the Sustainable Fisheries Partnership and other organisations listed in Section 4.

For new suppliers, it would be more appropriate for the Member to agree to appropriate improvements over a timeframe and not engage with the medium or high risk fishery unless it commits to these improvements. In this way, the Member can provide a market incentive for improvement. For existing supply chains, the Member should prioritise improving the supply chain and fishery and withdrawal should only occur if the supply chain is deemed high risk or if the source fishery is deemed high risk and the species considered endangered or threatened, or after exhausting all realistic and practical avenues for improvement.

If this process results in a decision to not source the fish, Members may communicate the decision and reasoning to the supplier and fishery managers and indicate that changes could lead to future sourcing (if this is the case), thereby providing a market incentive for improvement.

2.3.4. Endangered species lists

Overfishing, illegal fishing/trading, water pollution and climate change are key factors that are endangering fish species, even threatening some with extinction. Members should take the following conservation and trade guidelines into account when sourcing their seafood:

- Appendices to the Convention on International Trade in Endangered Species of Wild Fauna and Flora ("CITES"); and
- IUCN Red List of Threatened Species™ ("IUCN Red List").

Appendix 4 contains a list of endangered species based on the above.

Members should also consult the relevant websites to check for any updates to the endangered species listed, as certain species may be added or removed in the case of CITES or change conservation status in the case of the IUCN Red List.

Random DNA tests would be a useful way to test whether suppliers are complying with these lists.

2.3.5. Shark procurement

Overfishing and international trading of shark fin poses significant challenge to the survival of shark populations globally. Biological characteristics of many shark species, such as a low birth rate and late sexual maturation[2], mean that recovery is problematic, with major impacts on the balance of ocean ecosystems. As a result, at least a quarter of the world's sharks, rays and related species, are threatened with extinction and Hong Kong accounts for 50 per cent of global shark fin imports annually[3]. Recognising these sustainability concerns, the world's largest shipping companies representing 79.5 per cent of the shipping market have established a No Shark Fin Carriage policy as have at least 40 airlines. Furthermore the majority of Hong Kong's leading hotels have also refrained from serving shark fin.

The HKSSC recognises that shark fins cannot currently be sourced sustainably and that the trade includes many species that are threatened with extinction. Peer reviewed research indicates that in Hong Kong's retail outlets, this amounts to 1 in 3 species on sale. Furthermore shark finning, the practice of retaining shark fins and discarding the remaining carcass while at sea, contravenes the FAO Code of Conduct for Responsible Fisheries and its International Plan of Action for the Conservation and Management of Sharks, as well as the resolutions of a number of other international marine bodies, all of which call for minimising waste and discards. HKSSC Members who have shark products within their seafood range would be expected to undertake both supply chain risk assessment as well as the source fishery risk assessment of their shark supply chains. Members can make independent decisions about whether they continue to source shark and shark products (including shark meat, cartilage, etc.), however, Members should be able to demonstrate that they have referred to section 4 of the Sourcing Code.

Appendix 4 lists out the shark species which can be found in wholesale markets in Hong Kong by IUCN status and CITES Appendix II listing.

2.3.6. Live reef food fish procurement

The live reef food fish trade ("LRFFT") is a valuable international trade that has grown in volume, but more significantly in value, over the last two decades. Unfortunately aspects of it, in particular wild-capture, are based on biologically unsustainable practices[4]. LRFFT is largely reliant on sourcing from unmanaged and poorly regulated fisheries throughout Southeast Asia and these are showing signs of localised depletions. Several of the most highly valued LRFF species traded are threatened or near-threatened with extinction (see Appendix 4 for definitions), while the demand side is prepared to pay increasingly higher prices for the

[2] WWF-Hong Kong, 2017. No shark fin carriage policy implementation guidelines, WWF-Hong Kong, Hong Kong Special Administrative Region.
[3] WWF-Hong Kong, 2016.Managing risk: Global shipping companies say no to shark fin. WWF-Hong Kong, Hong Kong Special Administrative Region.
[4] Sadovy de Mitcheson, Y., Tam, I., Muldoon, G., le Clue, S., Botsford, E. & Shea, S., 2017. The Trade in Live Reef Food Fish – Going, Going, Gone. Volume 1: Main Report. Parts I, II & III, pp.1-288. ADM Capital Foundation and The University of Hong Kong, Hong Kong Special Administrative Region.

desirable 'luxury' commodity. While relatively small in volume at about 13,000 MT annually (minimum estimate since much of this trade is unmonitored and unregulated), the LRFFT has an estimated retail value in excess of US$1 billion[5]. LRFF is ranked 8th by weight of all seafood imported into Hong Kong.

Almost all of the LRFF retailed in Hong Kong today are internationally traded and imported[6]. Prior to the 1980s, Hong Kong's LRFF market was mostly supplied by local catches. As popular species became increasingly overfished in local and adjacent waters, Hong Kong started relying more on imports. Trade continues to shift to exploit regions further away as stocks in the exporting countries become depleted[7]. Hong Kong remains the global trade hub and considerable volumes of fish are smuggled onwards into the People's Republic of China (the "PRC" or "Mainland China")[8].

See Appendix 5 for an overview of key challenges facing LRFF species and the LRFF supply chain and reporting requirements.

[5] ADM Capital Foundation, 2015. Mostly Legal, But Not Sustainable: How airlines can support sustainable trade in live reef food fish. ADM Capital Foundation,Hong Kong Special Administrative Region.
[6] BLOOM Association, 2017. Live reef food fish wet market survey.Hong Kong Special Administrative Region.
[7] Sadovy de Mitcheson et al. (2017)
[8] Sadovy de Mitcheson et al. (2017)

IUCN status of LRFF species in Hong Kong

According to a live fish survey conducted in 2017[9] and more recent IUCN Red List status assessments[10] a total of 8 species in Hong Kong's wet markets are listed as Near Threatened (2), Vulnerable (4) and Endangered (2) (see Appendix 4 for definitions). This indicates a real need for conservation action and Members are encouraged to initiate FIPs or choose alternative options as far as possible.

	Species (Scientific name)	Fish group	IUCN Red List Conservation Status
1	Plectropomus areolatus	Grouper	VU
2	Epinephelus bruneus	Grouper	VU
3	Epinephelus akaara	Grouper	EN
4	Cheilinus undulatus	Wrasse	EN
5	Epinephelus fuscoguttatus	Grouper	VU
6	Epinephelus polyphekadion	Grouper	VU
7	Choerodon schoenleinii	Wrasse	NT
8	Chiloscyllium plagiosum	Shark	NT

New species occasionally become popular and valuable in this trade and may become subject to conservation concern as a result. An important example currently is the grouper, *Cephalopholis sonnerati*, for which vigilance might be needed.

Safe-guarding against ciguatera fish poisoning[11]

Ciguatera fish poisoning is reported in Hong Kong from time to time, sometimes affecting large numbers of people. It is caused by the presence in the fish of toxins from the dinoflagellate and other algae that grow in coral reef areas. Fish eating the algae become toxic, and the effect is magnified through the food chain so that large predatory fish eating the toxic fish become the most toxic. Ciguatoxic fish occur worldwide in tropical areas but are particularly associated with certain geographical hotspots from where reef fish should not be sourced.

Ciguatoxin does not cause any harm to the marine fish but may cause gastrointestinal and neurological symptoms in humans several hours after consumption of the fish. Most cases of ciguatera fish poisoning are self-limiting and generally subside in several days to a few weeks. However, severe cases have been known to cause recurring neurological symptoms lasting for months to years and effects might be cumulative (i.e. an affected person may be more susceptible to symptoms when exposed a second time). In extreme cases death is caused. The toxin cannot be removed by normal cooking or refrigeration.

Ciguatoxic fish cannot be readily identified by inspection, taste, texture or smell. Quick and reliable screening tests for ciguatoxic fish are currently not available (identification requires a careful laboratory assessment). In general, the larger the fish, the higher the level of toxin, but small fish can also be toxic (such as peacock grouper) while certain species are more commonly associated with the condition than others.

[9] 2017, Live Fish Survey Full Report, Hong Kong
[10] Personal Comms, Yvonne Sadovy de Mitcheson (December, 2018)
[11] Food and Environmental Hygiene Department, 2004. Code of practice on the import and sale of live marine fish for human consumption. For prevention and control of ciguatera fish poisoning. Hong Kong Special Administrative Region.

According to past records of ciguatera fish poisoning cases reported in Hong Kong, fish species which are more likely to contain ciguatoxin include moray eel, lyretail grouper, black fin red snapper or two-spot red snapper, Humphead Wrasse, Tiger Grouper, Flowery Grouper and Spotted Coral Grouper.

Importers should avoid importing fish known to have a high chance of carrying ciguatoxin, or coral reef fish from unknown or suspicious sources and wholesalers and retailers should avoid purchasing and selling these types of fish. Members should consult The Food and Environmental Hygiene Department ("FEHD") for regular updates on a list of fish considered to be of higher risk for ciguatera fish poisoning and advice on locations known to be hotspots for ciguatoxic fish.

Proper and accurate records of the suppliers and distribution of all live marine fish with details on the source of fish, landing point, distribution, amount, types of fish, and addresses and names of purchasers and distributors for at least 60 days counting from the date of each transaction should be kept by importers, wholesalers and retailers. Importers used to be required to report to the Veterinary Public Health Section of FEHD within 48 hours upon arrival of live coral reef fish imports in Hong Kong. For further guidance on appropriate records to be collected by different parties and voluntary steps to be taken in reporting to the FEHD, Members may consult the FEHD's Code of Practice On The Import and Sale of Live Marine Fish for Human Consumption For Prevention and Control of Ciguatera Fish Poisoning.

Fish welfare

Hong Kong currently has no regulations controlling the transport, enclosure and stocking density of imported live fish[12]. Unregulated shipping conditions may involve cruel or injurious shipping of live specimens, such as high density crowding and lack of feeding for extended periods in transit. For wild-caught animals, which are used to travelling across large reef areas or migrating hundreds of thousands of kilometres at sea, the space restrictions placed on them are of particular concern, leaving them little room to swim and exposing them to injury from other fish. There is also the risk of the spread of zoonotic diseases. Whilst the Prevention of Cruelty to Animals Ordinance (Cap 169) applies to these animals, active enforcement is not pursued. Members are recommended to be aware of international best practice in animal welfare concerns in relation to the treatment and transportation of live fish and communicate best practice amongst its suppliers. See Appendix 3 for more details.

Increase in mariculture/farming – a precautionary tale

The last decade has seen a gradual shift in the balance between farmed and wild caught fish supplying the LRFFT[13]. Today, at least half of all live groupers by weight on retail sale in Hong Kong are likely to have been farmed. This consists of animals produced by one or both forms of mariculture as recognized by FAO:

i. Hatchery-based aquaculture ("HBA"): the Philippines, Mainland China, Indonesia, Taiwan and Thailand are major suppliers of juvenile groupers from HBA; and

ii. Capture-based aquaculture ("CBA"): primarily in Indonesia, the Philippines, Malaysia and Thailand with some in Mainland China and Taiwan.

[12] Sadovy de Mitcheson et al. (2017)
[13] Sadovy de Mitcheson et al. (2017)

HBA is commercially viable for only a few of the grouper species in the trade, and the majority of species traded continue to come from the wild, either as adults or taken as juveniles for grow-out to market size in culture operations (CBA). CBA has implications for the sustainability of wild fish populations. For carnivorous species (like groupers), farming actually adds pressure to wild fish populations due to damaging practices (such as pollution from chemicals, food waste, disturbance to benthic habitats in coastal cage culture operations, potential escapes, disease/parasite transfer and releases of hybrid or exotic groupers) and the need for high volumes of wild fish feed, which can worsen overfishing in areas from where feed fish are sourced and their fisheries are not managed.

In the case of the Humphead Wrasse, which currently cannot be hatchery produced at commercial scales due to problems with feeding and high larval mortality, grow-out of wild-caught juveniles remains the major source of the trade. Animals are most commonly captured before sexual maturation (which occurs at ≥35 cm) and grown out to market size in captivity. Management of the species is currently insufficient to ensure healthy populations and a high proportion of the species on retail sale are likely to be illegally sourced[14].

It's important for Members to distinguish between CBA and HBA when conducting their farmed species audits and apply due diligence appropriately.

It is also important to consider what happens to the LRFF once transported into Hong Kong by fish carriers. If not offloaded at wholesale areas (such as, Aberdeen) then it is likely the fish will be destined for fish cages in coastal waters (fish hotels) before sale in Hong Kong or transhipment to Mainland China. The live fish that go into the fish hotels are not accompanied by quarantine papers, so there is a risk of disease.

Use of destructive and unsustainable fishing methods

To capture or culture certain LRFF species (such as the Humphead Wrasse, Leopard Coralgrouper and Flowery Grouper) and to supply fish feed for mariculture operations, damaging fishing methods or approaches are employed, or even widely used, in some locations[15]. These include cyanide (which is toxic and can kill living coral), targeting of spawning aggregations and blast fishing. Members are advised to remain aware of these practices and to apply extra due diligence when sourcing such species.

3. Sourcing farmed fish (aquaculture)

Members should ensure that the aquaculture source (considering feed mills, hatcheries, and farm sites) has been certified to a third-party standard with chain of custody (or in the case of no chain of custody, the transparency, traceability and product integrity criteria have been met), or audited to a Members own good aquaculture standard or code of practice. A checklist of considerations and where to find further detail in the guidance is shown in Table 4.

[14] Wu, J. and Sadovy de Mitcheson, Y. (2016). *Humphead (Napoleon) Wrasse Cheilinus undulatus trade into and through Hong Kong.* TRAFFIC. Hong Kong, Special Administrative Region.
[15] Sadovy de Mitcheson et al. (2017)

Table 4: Checklist for sourcing farmed fish

Consideration	Action	Section
What species do I buy?	Consider making a list of all the species.	-
Where do I buy from?	Consider adding Aquaculture Source (farms, hatcheries, feed mills) to each of the species listed above.	-
How much do I buy? ***(Best practice)***	Consider adding quantity to species listed above.	-
For each aquaculture **source:**		
Is the product certified to a responsible farming standard that includes all of the **HKSSC criteria?**	If so, should record who certifies the aquaculture source.	3.3
Does the certified product and supply chain have independently audited chain of custody **in place to trace the fish from point of sale to its source farm?**	If yes, should record who audits the chain of custody. If no, should confirm if the transparency, traceability and product integrity criteria have been met.	7.1
Has the aquaculture source passed an audit to a standard that includes all of the **HKSSC criteria?**	If so, should record the date of the audit of the aquaculture source.	3.1/3.2
Do you have evidence of the above?	Should have access to copies of current certificates and/or audit reports.	3.1/3.2
Are there any industry wide or zonal improvements that are needed that I can influence?	Should identify improvement needs and ascertain whether there are improvement processes in place.	4/4.2
How can I influence improvements either individually or collectively with other stakeholders?	Consider formulating a prioritised engagement plan either individually or with other stakeholders, which may be to create or join an **Aquaculture Improvement Project.**	4/4.2
Who else can I work with to influence?	Can identify partners such as NGOs, government and industry.	4/4.2

The scope of the audit should include all of the sections in the audit guidance (Section 3). Appropriate responses and sourcing decisions are dependent on the outcome, as illustrated in the decision tree (Figure 2 in the Sourcing Code).

3.1. Audit process

Sourcing decisions are dependent on the outcome of the audit. An audit of the source would include auditing their systems and could cover a selection of feed mills, hatcheries and farm sites. Audits to a Member's own standard can be completed by first, second, or third-party auditors. It is a pass or fail audit that allows a reasonable period in which to correct any non-conformances.

Competitively sensitive information on suppliers, fisheries or related bodies gathered during the Members risk assessment should not be shared with competitors or with Members of the HKSSC. The sharing of such information could negatively impact such suppliers resulting in a possible boycott which would be contrary to competition laws in Hong Kong.

3.2. Good aquaculture standard or code of practice

A good aquaculture standard or code of practice should assess aquaculture operations individually, with a scope that includes the following:

- Species common and scientific name (e.g. Atlantic salmon, Salmo salar*)*;
- Farming method (e.g. sea pens, or re-circulated closed system);
- Farming controls at the aquaculture source;
- Relevant legislation in the country of operation; and
- Feed supply.

Whether the Member is using their own standards or a certification, the audit should include all of the following considerations:

a. Legality: regulatory controls and compliance

The Member's risk assessment should ensure that:

- The aquaculture source is licensed; and
- The aquaculture source actively complies with the local regulatory controls and inspection regimes. For example, aquaculture source(s) may be subject to licences, which include regular monitoring via inspections by the management authority.

b. Farm site management practices

When considering the management practices of the farm site, the Member should ensure that:

- An Environmental Impact Assessment ("EIA") is carried out at appropriate intervals, and the EIA includes assessing the suitability of the site location, water source, and discharge impacts;
- The ponds, cages and/or tanks are fit for purpose, and appropriate control and monitoring processes are in place to prevent escapes;
- Any required water treatment on intake and/or discharge is in place;
- A veterinary health plan is in place to address all aspects of fish welfare and food safety. Measures are also in place to prevent and control disease and/or parasites, such as vaccinations (where appropriate);
- The aquaculture source has suitable controls and records, and appropriate staff training;
- Biosecurity risk is assessed and suitable controls are in place for the species; and
- Predators are deterred or excluded from approaching and accessing the stock where practical; lethal control must be by trained staff and is only used where it is legal, humane and necessary.

c. Wider environmental impacts of farming activity

Members' risk assessments should consider the following environmental impacts of the farming activity:

- Any sources of wild seed, fry and broodstock are assessed in line with the wild capture source fishery risk assessment in the Sourcing Code;

- Appropriate measures are in place to control waste (such as pond sludge and deceased fish);
- The methods of transport of live fish and shellfish are assessed for acceptable environmental impact and biosecurity risk; and
- Appropriate measures are in place to control all chemicals and their use in the aquaculture source (such as anti-foulants and veterinary treatments).

d. Marine feed ingredient sources

Members' risk assessments should consider the marine based ingredient sources of the fish feed and ensure that:

- There are feed manufacturing controls and traceability in place;
- The marine ingredients are sourced from fisheries that are certified to a responsibility or a sustainability standard, or come from responsibly sourced fisheries, where practical; and
- A risk assessment of the marine feed ingredient sources has been carried out to identify where there is a need for supplier and fishery improvements. This should guide Members' own engagement plans (see Section 4).

e. Traceability

- Members' audit should consider traceability of fish to farm source and ensure that there are traceability measures in place; and
- Checks and measures are in place to ensure the integrity of the product being supplied.

3.3. Third-party certification standards

The criteria for assessing a suitable third-party certification scheme are shown in Table 5.

Table 5: Best practice (assessment criteria) for aquaculture third-party certification standards

Elements of a certification standard	Best practice
Certification	Is consistent with The principles of the FAO Guidelines for the Ecolabelling of Fish and Fishery products from Marine Capture Fisheries. Is consistent with FAO Private Standards and Certification in Fisheries and Aquaculture. Is consistent with FAO Technical Guidelines on Aquaculture Certification (Appendix 2). Is consistent with ISO and/or ISEAL guidelines on product labelling. Where appropriate, is compliant with the EU Council Regulation on organic production and labelling of organic products (No 834/2007). Covers all stages of production.
Certification Bodies	Are accredited to the appropriate standard by recognised international accreditation bodies.
Auditor	Is independent of the standard setter and work of the certification bodies.

Standard setting development process	Is transparent; including defined environmental scope, accreditation and certification mechanisms, being participatory and open to formal input and review. Provides opportunities for stakeholder comment and objection.
The Standard	Has criteria which have measurable indicators enabling effective and consistent auditing. Allows for revisions which include a multi-stakeholder process guided by clear governance rules, preventing minority opinions to dominate. Uses updated and credible science.
Standard Setters	Have a strong monitoring and evaluation system, which contributes data to measuring impacts on the environment. Have clear policies on claims and labelling that ensure accuracy.

Examples include:

- The Aquaculture Stewardship Council;
- GlobalGAP; and
- The Global Aquaculture Alliance Best Aquaculture Practises.

To ascertain whether any other certification standard meets these assessment criteria there are a number of avenues you can take:

- Speak with the certification standard holder and enquire if these criteria are met and ask them to provide evidence in writing.
- Review the outcomes of the GSSI assessment once completed.

Please note that to achieve a pass for the aquaculture risk assessment, extra criteria are required in addition to those listed in Table 5 (See Section 7.1 for more details). If these are met then the Member would not need to do further assessment.

3.4. Sourcing decision and appropriate responses

The assessment process for aquaculture differs from fisheries in that it always requires an audit of the aquaculture source, and the outcome of this is either compliant or non-compliant.

3.4.1. Decision to source

If certified to a third-party responsibility standard with chain of custody or audited as compliant to a Member's own good aquaculture standard or code of practice, Members can source the fish. Members can also source the fish if all serious non-compliances are closed out in an agreed timescale. Timescales should be based on severity and impact of the non-conformance. For example, a critical non-conformance, such as one that would affect legal compliance, would not be sourced; a major non-conformance would need to be addressed as rapidly as possible and may require re-audit to check changes have been implemented. The process of regular review should consist of an annual confirmation of certification status or an annual re-audit.

In the case of cultured fish that depend on wild fish populations as food sources, the same guidelines as for wild capture fisheries should apply. If these conditions cannot be ensured, then the member should not source.

3.4.2. Appropriate responses

Where possible, Members should continue to engage with non-compliant aquaculture operations to support and guide them on the actions required to become compliant. This may also lead to certification.

For new supply chains, it would be appropriate for the Member to agree to the necessary improvements over a timeframe and not engage with the aquaculture source unless it formally commits to implementing these improvements. In this way, the Member can provide a market incentive for improvement.

Where Members are engaging with their existing supply chains, the Member should prioritise improving the aquaculture source, and withdrawal should only occur after exhausting all realistic and practical avenues for improvement.

Members may support the supplier and/or producer to participate or initiate Aquaculture Improvement Projects ("AIP" or "AIPs"); see Section 4.

3.4.3. Do not source

For non-compliant audits, if critical non-conformance, such as one that would affect legal compliance, the fish should not be sourced until corrective measures have been put in place; for serious non-compliances if these are not closed out within the agreed timescale the fish should not be sourced.

Where engagement at the required level is not practical or is proving to be ineffective, Members should not source from this aquaculture source, or will take the necessary steps to stop sourcing from it. Members recognise that withdrawal from a problem aquaculture source is not the only, or necessarily the best, response to a non-compliant outcome.

4. Supplier improvements and Fishery/Aquaculture Improvement Projects

If the Member has taken the steps to ensure the supply chain/fishery or aquaculture source they are sourcing from is engaged in an improvement programme but this does not necessarily have to be a formal, collaborative FIP, this demonstrates compliance with the Sourcing Code and they may source the fish.

FIPs or AIPs can be an effective way of addressing concerns using a collaborative approach. Improvement projects have a defined goal, workplan and timescales.

Individual Members have limited resources and should, where possible prioritise engagement to where they can make the most impact. Engagement in improvement projects can either occur directly as individual companies or indirectly through suppliers, trade associations, and by cooperating with other seafood trading companies.

Indirect engagement is most likely to occur for either larger Members that are already involved in other projects within the portfolio of fish they source, or for much smaller Members that are resource restricted (financially or otherwise) and so are unable to directly engage.

4.1. Supplier improvements to mitigate IUU and traceability risks

If a supply chain risk assessment results in a medium or high-risk outcome, Members are encouraged to engage directly with their supplier in making the necessary improvements. This may involve engagement with suppliers, wholesalers and fishers further up the value chain to identify the necessary data and documentation requirements to screen out IUU risk, improve on traceability measures and safeguard against seafood fraud. Measures should be put in place to address the risks identified in the risk assessment to move to a medium or low risk outcome.

Best Practice Advice:

Consider consulting the Publically Available Specification (PAS) 1550 *Exercising due diligence in establishing the legal origin of fishery/seafood products and marine ingredients – Importing and processing – Code of practice*; when designing due diligence measures for your fish supply chain.

4.2. Fishery Improvement Projects

FIPs aim to resolve problems within specific fisheries and/or particular aspects of fisheries that require improvement. FIPs work through the engagement of a variety of stakeholders including fishers, processors, policy makers and regulators, and NGOs that push for improved policies and management whilst implementing voluntary changes to purchasing and fishing practices.

If a fishery risk assessment results in a medium or high-risk outcome, Members are encouraged to engage directly with the fishery in a FIP. The improvement project should address the risks identified in the risk assessment to move to a medium or low risk outcome. The FIP may need to be formal, and/or involve several stakeholders (e.g. if national management of the fishery needs improving and is beyond the influence of one company alone) or it may only need to be an improvement project between the supplier and HKSSC Member (e.g. small modifications to the gear).

Improvements to a fishery could constitute a wide range of activities which may include, for example, gear changes to reduce environmental impacts or improve selectivity, increased data collection to improve research, or formal FIPs. Formal FIPs should be credible, including public communication of the aims, workplans, milestones and progress achieved to date; they can be industry, government or NGO led.

Best Practice Advice:

Consider collaborating with organisations that have experience in developing and implementing FIPs. Examples and more information can be found at: Sustainable Fisheries Partnership (SFP www.sustainablefish.org and www.fishsource.com); World Wide Fund for Nature (WWF www.wwf.org.uk); Marine Stewardship Council (MSC www.msc.org/documents/developing-world/fishery-improvement-projects); and Marine Conservation Society (MCS www.mcsuk.org).

The Conservation Alliance for Seafood Solutions (a group of North American NGOs) has developed guidelines for 'Supporting Fishery Improvement Projects'; this document defines the characteristics a project should have to be recognised as a formal FIP.

4.3. Aquaculture Improvement Projects

AIPs aim to improve policies, practices and management to reduce the environmental impacts of aquaculture either on a regional, farming system, or species level. AIPs work through engagement of stakeholders including farmers, suppliers, policy makers and regulators, and NGOs. Instead of being aimed at improving a particular aquaculture source, they are often aimed at an industry sector as a whole. For example, process improvements may be made in the transport methods to improve biosecurity.

During the assessment of an aquaculture source, the Member may identify a need to address the environmental impacts of a group of farms, or improve the processes used by the industry in general to reduce their combined impact. To address wider industry improvements, an AIP may be established.

Some examples of regional environmental impact improvement programmes may be in area management of disease controls with common vaccinations, or by improving feed conversion rates for the industry. The area covered by regional programmes can be defined by different boundaries, such as a common water input or discharge source, or a geographic feature, such as an island or coastal area. Alternatively, it may have defined zonal boundaries such as a government-designated administrative division like a development plan area or areas defined by integrated coastal zone management plans.

If the feed contains wild capture fish, or the farm is stocked partly from wild sourced seedlings, the sources of supply should be assessed using the wild capture risk assessment process. This may result in an AIP to change the source of feed materials for the industry in general, and/or reduce the proportion of wild capture fish in the feed, and/or address the fishery impacts in a FIP.

Part 2

The Voluntary Code of Conduct on Responsibility Claims

5. Introduction

The Labelling Code commits HKSSC Members, where they choose to make a self-declared responsibility claim, to only do so in accordance with the minimum criteria set out in the Labelling Code.

The Labelling Code aims to harmonise labelling of own-brand or private label seafood among Members. This means that there will be more clarity for consumers and other businesses when buying fish. Communication about fish should be clear, consistent and meaningful.

Responsibility claims can be communicated through product labels, websites, point of sale materials (posters, billboards, leaflets, menus), and other promotional materials or images, as well as other forms of public facing or business to business communication.

Best Practice Advice:

Consider encouraging consumers to learn more about the HKSSC and any responsibility claims being made by directing them to the HKSSC website (www.hksustainableseafoodcoalition.org).

6. Responsibility claims

To comply with the Labelling Code, Members are encouraged to use a responsibility claim on own-brand or private label products. This claim can only be made for fish derived from fisheries or farms that meet the relevant minimum criteria, as set out in the Labelling Code, and where sufficient documentation is available to support this claim. Where these minimum criteria cannot be met, however, no such claims can be made. The term *responsibility* is preferred over the use of the term *sustainability* in order to avoid cases of greenwash or misinterpretation.

The Labelling Code is without prejudice to the requirements set by any ecolabel or third-party certification standard used by the Member. This includes the use of any associated trademarks, claims and logos. It is also important to note that CITES-listed species require specific documentation to possess and sell CITES-listed species.

6.1. Responsibility

Responsibility relates to the behaviour of the business. Claims are optional; there is no requirement to make any such claim.

6.2. Additional claims

It is very easy to mislead a consumer by using terms that are difficult to provide evidence for. The HKSSC believes some terms lack meaning, including ‘environmentally friendly’, ‘better for the environment’, ‘eco’ and ‘green’. These terms should not be used. Terms with an agreed

definition such as 'well-managed', as used in the FAO's 'Product Certification and Ecolabelling for Fisheries Sustainability', may be used as long as it is included alongside the relevant responsibility claim.

In conjunction with the relevant responsibility claim, Members may wish to include additional terms related to the environmental practices of the fishery or farm. These terms should be clear, consistent and meaningful descriptors of practices, and follow the general principles of the Labelling Code.

6.3. Images: claims by association

Images used in relation to a fish or fishery product should not mislead the consumer in any way. Images should show a clear and accurate reflection of the fishing or farming method, the area it was sourced from, and/or any other defining characteristics. This applies to all images used, whether on-pack, online, in advertisements or in any other communication. It would not be appropriate, for example, to use a picture of an artisanal fisherman if the fish was caught as part of a long-line fishery.

6.4. Factual information

Other factual information that is not legally required can also be provided as long as it is consistent with the Labelling Code. This includes information such as date of catch or production techniques and practices. As with responsibility claims, a clear, consistent and meaningful approach should be taken. See Appendix 3 for details of legal requirements for mandatory and voluntary labelling.

6.5. The 95% commitment

This commitment addresses all claims in relation to a product or dish containing fish, such as a fish pie or crab sticks. It does not relate to other ingredients, such as breadcrumbs in a fish cake, but does include the fish based ingredients, such as stock. It applies to a product or dish that contains:

- Fish from more than one fishery or aquaculture source;
- Fish from more than one country; or
- Several species of fish.

At least 95% (by weight) of the *component* fish in the product or dish must satisfy the criteria for any claims and, ideally, this should be 100%. This only relates to responsibility claims and not to providing further information or for the use of images, which should both relate to 100% of the fish.

Examples of the 95% commitment

- A fish pie in which 95% of all the fish meet the criteria for claims of responsibility could be labelled 'made with responsibly sourced fish'.

- In a fish stick, if 90% of the fish used is pollock, which meets the Labelling Code criteria for responsibility, but the other 10% of fish ingredients do not, Members cannot make a responsibility claim on the whole stick (e.g. 'responsibly sourced fish stick') but can on the pollock element of it (e.g. fish stick with responsibly sourced pollock).
- In a dish where all of the fish is the same species from the same area (e.g. cod from the North Sea), if 80% is sourced from vessels belonging to a country which has third-party sustainability certification (e.g. the United Kingdom (the "UK"), and the rest comes from vessels flagged to a different country that does not have certification (e.g. Norway)), Members cannot make a claim on the product.
- A seafood paella in which only the haddock and the mussels meet the criteria for responsibility and the prawns do not, could be labelled 'seafood paella with responsibly sourced haddock and mussels'.

7. Labelling for claims regarding responsibility without risk assessment

Members can make a responsibility claim without conducting further risk assessments if they can demonstrate that the minimum criteria in the Labelling Code have been met. This can be through:

- *An* independent certification *to a credible third-party standard with chain of custody; or*
- *An equivalent level of stewardship and assurance of provenance (i.e. an independent audit that meets the criteria in* Section 7*).*

7.1. Minimum criteria

For all responsibility claims without further risk assessments, the following minimum criteria should be met:

- An independently audited chain of custody is in place to trace the fish from point of sale to its source fishery or farm;
- The source fishery or farm is monitored at least every two years through a surveillance audit and fully reassessed every five years by the independent auditors;
- The source fishery or farm is consistent with the principles of relevant key international standards and codes of conduct and is operated in a manner consistent with the principles of the FAO Code of Conduct for Responsible Fisheries in the case of wild capture or the FAO Technical Guidelines for Aquaculture Certification in the case of aquaculture.
- Where relevant, the use of labels is consistent with the relevant[16] International Standardisation Organisation ("ISO") standard guidelines on product labelling;

[16] ISO 14020, 14021, 14022,14023, 14024, 14025.

- Without prejudice to requirements for bodies operating product certification systems (e.g. ISO 17065) the standard and audit are transparent and participatory, open to formal input and review, and provides opportunity for stakeholder comment and objection;
- Audits are performed by independent auditors that are accredited to a standard recognised by international accreditation meeting, at a minimum, ISO 17065; and
- Any certification is consistent with the FAO guidelines for the ecolabelling of fish and fishery products from marine capture fisheries.

7.2. Additional points

If independent certification for the source fishery is suspended and/or the fishery or farm no longer meets the minimum criteria in the Labelling Code, claims of responsibility should no longer be made. Claims may still be made on stock bought when the fishery or farm did meet the commitments, but no claims may be made on new stock sourced and labelled after the source fishery or farm was suspended or stopped meeting the criteria.

Appendices

Appendix 1 – Summary of Key Principles in FAO Code of Conduct for Responsible Fisheries

The key principles in this document apply at a member state (country) level, not an individual business level, but are a good form of guidance for any organisation involved in the conservation or management of fishery resources. For further detail readers should refer to the full, original document. The key principles are:

- Preventing overfishing and excess fishing capacity and implementing management measures to ensure that fishing effort is in proportion with the productive capacity of the fishery resources and their sustainable utilisation;
- Basing conservation and management decisions for fisheries on the best scientific evidence available, also taking into account traditional knowledge of the resources and their habitat, as well as relevant environmental, economic and social factors;
- Assigning priority to undertake research and data collection in order to improve scientific and technical knowledge of fisheries including their interaction with the ecosystem; encouraging bilateral and multilateral cooperation in research as appropriate; and recognising the trans-boundary nature of aquatic ecosystems;
- Adopting management measures that ensure the conservation of both the target and any associated or dependent species. The absence of adequate scientific information should not be used as a reason for postponing or failing to take measures to conserve target species, associated or dependent species and non-target species and their environment;
- Further developing and applying selective and environmentally safe fishing gear and practices to maintain biodiversity and to conserve the population structure and aquatic ecosystems and protect fish quality. Minimising waste, catch of non-target species, and impacts on associated or dependent species;
- Harvesting, handling, processing and distributing fish and fishery products in a manner which will maintain the nutritional value, quality and safety of the products;
- Protecting and rehabilitating critical fisheries habitats in aquatic ecosystems including mangroves, lagoons and reefs (this includes the protection of fish spawning and nursery areas). Habitat protection efforts should focus on limiting destruction, degradation, pollution and other significant impacts resulting from human activities that threaten the viability of fishery resources;
- Promoting awareness of responsible fisheries through education and training, ensuring that fishers and fishfarmers are involved in the policy formulation and implementation process;
- Considering social impacts alongside economic ones;
- Cooperating in complying with relevant international agreements regulating trade in endangered species; and
- Developing international agreements for trade in live specimens where there is a risk of environmental damage.

Appendix 2 – Summary of Key Principles in FAO Technical Guidelines for Aquaculture Certification

Minimum substantive criteria for developing aquaculture certification standards are described by the FAO and provided for a) animal health and welfare; b) food safety; c) environmental integrity; and d) socio-economic aspects. The extent to which a certification standard seeks to address the issues should be explicitly stated by the standard. For further detail readers must refer to the full, original document.

Aquaculture activities are conducted in a manner that:

- Assures the health and welfare of farmed aquatic animals, by optimising health through minimising stress, reducing aquatic animal disease risks and maintaining a healthy culture environment at all phases of the production cycle (animal health and welfare);
- Ensures food safety by implementing appropriate national or international standards and regulations including those defined by FAO/World Health Organisation ("WHO") Codex Alimentarius (food safety);
- Is in accordance with local, national and international laws and regulations; encourages restoration of habitats and sites damaged by previous uses in aquaculture; ensures impacts are identified and adverse impacts are managed or mitigated to an acceptable level; uses native species for culture and measures to minimise unintentional release or escape of cultured species into natural environments (environmental integrity);
- Sets measurable benchmarks that encourage improvement and innovation in environmental performance of aquaculture. Certification standards may consider application of the "precautionary approach" in accordance with the relevant provisions of the FAO Code of Conduct for Responsible Fisheries;
- Approaches risk through a suitable scientific method of assessing the likelihood of events and the magnitude of impacts, and take into account relevant uncertainties. Appropriate reference points should be determined and remedial actions taken if reference points are approached or exceeded. Certification standards should endeavour to promote the internalisation of environmental costs (risk analysis); and
- Is socially responsible and within national rules and regulations, with regard to the International Labour Organisation's conventions on labour rights, not jeopardising the livelihood of aquaculture workers and local communities (socio-economic aspects).

Appendix 3 – Legal Requirements

The Sourcing Code and Labelling Code are voluntary and do not replace any existing or future legal requirements. Moreover, Members are free to implement the Codes and recommendations contained in the Guidance document as they deem appropriate for their business. Businesses must refer to the original legislation for full requirements. It is the responsibility of the Member to ensure their reporting and labelling meets such mandatory requirements including, but not limited to the following legislation and amendments thereto:

- Food Safety Ordinance (Cap 612);
- Food and Drugs (Composition and Labelling) Regulations Guidelines on Identification and Labelling of Oil Fish/Cod;
- The Public Health and Municipal Services Ordinance and the Trade Descriptions Ordinance;
- Food Adulteration (Metallic Contamination) Regulations;
- Hong Kong Harmonized Commodity Description and Coding;
- Import and Export (Registration) Regulations (Cap 60E); and
- Marine Fish (Marketing) Ordinance – Fish Marketing Organisation.

Hong Kong does not have a specific regulatory regime governing the labelling of seafood or products containing seafood. There are, however, a number of measures in force that do affect how seafood products are sold and labelled – including general regulations applicable to all food products, and also laws and guidelines concerning some particular types of seafood or seafood products.

The mislabelling of seafood is not always intentional. Some fish swim in the same areas, or look similar to other fish, which can lead to unintentional mislabelling. However, as noted, there are many negative impacts to mislabelling of any kind, which is why traceability and labelling rules not only reduce intentional fraud, but put the onus on suppliers to adopt a precautionary approach[17].

The summaries of legislation and our interpretation below are for information purposes only and not for the purpose of providing legal advice. We recommend all Members seek independent legal advice with respect to their obligations and any particular question they have about the law. Whilst we endeavour to ensure our summaries of the laws are accurate, the HKSSC does not accept any liability for error or omission.

Food Safety Ordinance (Cap 612)

In Hong Kong, regulations concerning country of origin and traceability requirements can be found in the Food Safety Ordinance (Cap 612) (the "FSO"). Under the FSO, food traders are required to keep records of the businesses from which they obtained their food (including seafood) and the business to which they supplied their food[18]. According to government publications, the record keeping requirement: "aims to help tracing, in case of food incidents, where the problem food comes from and where it has gone to. This is in

[17] Global Rights Compliance, 2016. An internal report commissioned by ADM Capital Foundation.
[18] Global Rights Compliance, 2016. An internal report commissioned by ADM Capital Foundation.

line with international trend that food businesses are required to maintain a "one-step-backward, one-step-forward" approach in record-keeping[19].

The government has also issued a Code of Practice on Keeping Records Relating to Food (the "Records Code") to clarify the record-keeping requirements under the FSO[20]. These requirements apply to food that is intended for human consumption, and includes live aquatic products such as fish, although it does not apply to the propagation or promotion of growth of live aquatic products in captivity. Specifically as applied to seafood, the information required to be recorded and kept would depend on whether the seafood is acquired as imported food or captured as "local aquatic products", or both. The latter category (meaning "fish, shellfish, amphibian or any other form of aquatic life other than a bird, mammal or reptile" that is "captured from a local fishing vessel, whether in Hong Kong waters or in other waters") in some respects requires more detailed information than the former.

For acquisition of imported food (s.22 of the FSO), a record must be kept of the date the food was acquired (when possession or control of the food occurs) and the place from where the food was imported[21]. However, whilst the FSO provides a traceability mechanism down the supply chain, from retailer down to the country of origin, it is important to note that this is an individual record-keeping exercise, not the provision of information to the consumer. Under the FSO regime, a consumer is no wiser as to the country of origin despite the retailer being required to keep records of the same and to produce them upon request by the authorities.

Seafood traders are already required to keep records of certain information under the FSO. Thus, to require display of the same on labels would not require them to gather further information, but merely to pass it on to consumers.

However, where the seafood is imported, the relevant section (s.22) does not require records be kept of the actual country of origin, but only the place from which it was imported. If there had been one or more re-exports along the supply chain, therefore, the Hong Kong importer or retailer may not know the actual place of origin. Furthermore, there are no strict rules on the level of detail as to the "description" of imported seafood. The guidelines state only that the description must be enough to "identify the food products recorded in order to ensure traceability".

Further information on the detailed text for the FSO and the Records Code can be found on pages 51-54 in Sadovy et al (2017).

Food and Drugs (Composition and Labelling) Regulations)

This relates to prepackaged food only and is mandatory[22]. The term prepackaged is defined as referring to food packaged so that (a) the contents cannot be altered without opening or changing the packaging and (b) the food is ready for presentation to the ultimate consumer or a catering establishment as a single food item. Clearly this definition covers some seafood products – and indeed much frozen and dried seafood, as well as other packaged products containing seafood or seafood extracts, is likely to be

[19] See online source:
http://www.cfs.gov.hk/english/whatsnew/whatsnew_fstr/files/FSO_COP_Record_Keeping_e.pdf
[20] Global Rights Compliance, 2016. An internal report commissioned by ADM Capital Foundation.
[21] Global Rights Compliance, 2016. An internal report commissioned by ADM Capital Foundation.
[22] Global Rights Compliance, 2016. An internal report commissioned by ADM Capital Foundation.

"prepackaged" for this purpose. Certain information must appear on prepackaged food, usually in Chinese and/or English. This includes (i) the name and designation of the food, (ii) a list of ingredients in order of volume, (iii) a 'used-by' or 'best-before' date, (iv) any special conditions for storage or use, (v) the name and address of the manufacturer or importer and (vi) the weight, volume or count. The limitations to the regulations are that most fresh and live seafood products will not be covered at all and the regulations do not extend to a number of important matters including:

(1) The designation of the species and its scientific name;
(2) Whether it has been frozen and/or defrosted;
(3) Country or place of origin;
(4) Whether it is farmed, or caught in fresh or salt water;
(5) Method of catch (e.g. line catch, reef trawling, seabed trawling, etc.); and
(6) The identity of the original party responsible for the catch/other form extraction (etc.).

There are two posters available online that help to clarify the legislation:

1. Food labelling on prepacked foods: http://www.cfs.gov.HK/english/multimedia/multimedia_pub/files/food_label_pos.pdf
2. Labelling on food allergens: http://www.cfs.gov.HK/english/multimedia/multimedia_pub/files/allergen_pos.pdf

Guidelines on Identification and Labelling of Oil Fish/Cod

This set of voluntary guidelines issued by the Centre for Food Safety (Food and Environmental Hygiene Department) were promulgated following numerous complaints of oily diarrhoea by Members of the public after consuming "cod", which in fact proved to be oil fish. As is evident from the title of this instrument, however, it is not a mandatory standard and it is extremely limited in scope – addressing only the need to distinguish between oil fish and cod[23].

The Public Health and Municipal Services Ordinance (the "PHMSO") and the Trade Descriptions Ordinance

Section 61 of the PHMSO outlaws the sale of food with any label that falsely describes the food or is calculated to mislead as to its nature, substance or quality. To do so is a criminal offence, with liability attaching potentially to any person in the supply chain[24].

Certain trades designated as possessing an "offensive" nature, referred to as "offensive trades" under the PHMSO, require a separate licence for the carrying on of activities related to that trade[25]. The processing of sharks' fins, for example, is considered an "offensive trade" and therefore cannot be carried out without an offensive trade licence granted by the Director of Food and Environmental Hygiene.

[23] Global Rights Compliance, 2016. An internal report commissioned by ADM Capital Foundation.
[24] Global Rights Compliance, 2016. An internal report commissioned by ADM Capital Foundation.
[25] Martin, S., Jordana, A., Tam, I., Ngai, Y., & Parker, T., 2017. Beyond Cites. Shark fin trade recommendations for Hong Kong. Global Rights Compliance and the HK Shark Foundation, Hong Kong Special Administrative Region.

Similarly, section 7(1) of the Trade Descriptions Ordinance proscribes the selling of products bearing a false trade description, which includes misleading information as to place and method of manufacture/production/processing, composition and history[26].

The government used to implement a Code of Practice on the Import and Sale of Live Marine Fish for Human Consumption: for Prevention and Control of Ciguatera Fish Poisoning (the "Old Code of Practice"), the latest published version is dated 15 December 2004. The Old Code of Practice encouraged some actors in the supply chain to provide certain information but did not improve seafood labelling[27].

Food Adulteration (Metallic Contamination) Regulations

These rules prohibit the sale of products containing metals above certain prescribed levels (e.g. arsenic, mercury). Although they do outlaw the sale of seafood contaminated with excess levels of metal, they do not impose any labelling requirement in relation to foodstuffs that are otherwise compliant[28]. These regulations have a particular emphasis on seafood including shark fin[29].

Hong Kong Harmonized Commodity Description and Coding

The Harmonized Commodity Description and Coding System (the "HS") was designed by the World Customs Organization to serve as a multipurpose classification suitable for use by customs and statistical authorities, traders, carriers and others concerned with international trade. Although Hong Kong is not a contracting party to the International Convention on the HS, Hong Kong has adopted the HS in full for trade declaration purposes since 1 January 1992 (the "HKHS"). The HKHS uses an 8-digit classification system. The additional 7th and 8th digits are used to further breakdown the commodity classification to meet the needs of Hong Kong. The HKHS undergoes annual amendments to reflect changes in trade patterns and technology[30].

Hong Kong Imports and Exports Classification List (Harmonized System) lists the commodity code numbers for fish and crustaceans, molluscs and other aquatic invertebrates on pages 21 – 37[31].

LRFF fall within the food items classified in Appendix I of the current HKHS, and the relevant import declaration form is Form 1A. A payment of 20 cents as declaration charge per declaration irrespective of value is required. The relevant export/re-export form is Form 2.

[26] Global Rights Compliance, 2016. An internal report commissioned by ADM Capital Foundation
[27] Global Rights Compliance, 2016. An internal report commissioned by ADM Capital Foundation
[28] Global Rights Compliance, 2016. An internal report commissioned by ADM Capital Foundation
[29] Martin, S., Jordana, A., Tam, I., Ngai, Y., & Parker, T., 2017. Beyond Cites. Shark fin trade recommendations for Hong Kong. Global Rights Compliance and the HK Shark Foundation, Hong Kong Special Administrative Region
[30] Sadovy de Mitcheson, Y., Tam, I., Muldoon, G., le Clue, S., Botsford, E. & Shea, S., 2017. The Trade in Live Reef Food Fish – Going, Going, Gone. Volume 2: Appendices, pp.1-76. ADM Capital Foundation and The University of Hong Kong, Hong Kong Special Administrative Region
[31] Census and Statistics Department. 2017. Hong Kong Imports and Exports Classification List (Harmonized System). C&SD, Hong Kong Special Administrative Region.

Import and Export (Registration) Regulations (Cap 60E)

Particulars of all cargo are to be provided in the form of "manifests" to the Commerce and Economic Development Bureau ("C&ED") to facilitate clearance and for compilation of cargo statistics. The Census and Statistics Department ("C&SD") has been authorised by C&ED to collect the manifest on its behalf. A copy or extract should also be submitted to the Trade and Industry Department for trade control purposes.

Manifests can be submitted electronically or on paper, but it is "the ultimate objective of the government to accept electronic submission of cargo manifest (for the air, rail, ocean and river modes of transport) as the only means of submission"[32].

Particulars of the cargo in the manifest need to include the description and number of packages, gross weight and volume, the name and address of the consignor and consignee of each package, the place where each package was loaded on to the vessel, aircraft or vehicle, reference numbers and letters of the bill of lading, air waybill or air consignment note, a clear indication of whether or not the cargo is transhipment cargo, the import licence number, where applicable, the name, date or arrival and the voyage, flight or vehicle number of the carrying vessel, aircraft or vehicle etc.[33]

Under the Import and Export (Registration) Regulations, every person who imports or exports any article other than an exempted article is also required to lodge with the Commissioner of Customs and Excise an accurate and complete import or export/re-export declaration within 14 days after the importation or exportation of the article. Import/export requirements include: importer/exporter details; shipment details (arrival date, port/place of loading; exporting country); transportation details for air mode/ocean/river mode/road mode; commodity details (origin country, goods description, commodity code, quantity and unit of quantity); packaging details etc. Transit cargo and transhipment cargo are exempted from declarations.

Under the HKHS, shark fin, for example, has a specific code (0302 9200). The importation of shark fin requires lodgement of a separate declaration by virtue of being an item specified in Appendix I of Hong Kong SAR's Imports and Exports Classification List. Recent investigations show that shipments of shark fin have avoided detection by being declared and labelled under generic categories such as "seafood" or "dried marine products".

Financial and in some cases imprisonment penalties apply for failure to provide manifests and declarations or inaccurate records knowingly or recklessly provided.

See pages 36 – 47 of Sadovy et al (2017) for more detailed legal text applicable to Hong Kong import and export requirements.

Marine Fish (Marketing) Ordinance (the "MFMO") - Fish Marketing Organisation

The Fish Marketing Organization ("FMO") (established by the MFMO) has assumed responsibility for the regulation and conduct of seven wholesale marine fish markets in

[32] Sadovy et al (2017).
[33] Import and Export Manifests Notice (Cap 60C)

Hong Kong[34]. It supplies fish imported from overseas to wholesalers and buyers to fill the supply gap and also supplies fish to restaurants and supermarkets. Fish and invertebrates entering Hong Kong on local fishing vessels are required by law to be landed at one of the seven designated fish markets of the FMO, and it is through these landings that Hong Kong fisheries' production can be determined[35]. But live fishes are notably excluded from this requirement because they are not part of the FMO's definition of "marine fish". Cap 291 distinguishes between live and non-live fish and invertebrates: "marine fish" (海魚) means any fish or part thereof, whether fresh or processed, in any manner indigenous in sea water or partly in fresh water and partly in sea water, including any product derived therefrom, but excluding all crustaceans or molluscs and fish alive and in water'. Nevertheless, the FMO maintains a list of wholesale prices of fresh marine fish and shellfish and of live marine fish and shellfish, listed by Chinese name, English name and scientific name only.

The Agriculture, Fisheries and Conservation Department ("AFCD") began to informally collect data on live fish by conducting interviews with fishing vessel owners. A list of traders was provided by Hong Kong Chamber of Seafood Merchants Ltd ("HKCSM"), which is formed by the major seafood merchants in Hong Kong, to AFCD. The listed traders are willing to provide their trade information on a voluntary basis and are claimed to be representative in the trade (in trade volume), although not all members of the chamber participate.

In 2007, the Marine Department introduced a classification for locally licenced fishing vessels (Class III), such that fish carriers were identified as Class III(a) and for the first time were clearly distinguished from fishing vessels (Class III(c)). This provided clarity as to the designation of fishing vessels, and stipulated that fish carriers should only transport fish and not carry out any fishing activities. Since Class III(a) fish carriers are involved in the transport of fish from overseas fishing grounds, they are effectively importing live fish cargo into Hong Kong and are therefore required by law to submit import declarations to Customs, with a high penalty imposed for unmanifested cargo.

Following the advisory in late 2016 that these locally licenced carrier vessels should declare imports to Customs, it was expected that there would be a decrease in AFCD volumes reported and an increase in C&SD volumes. But this does not appear to be the case. Despite a notable increase in the number of fish carriers in the last decade, there has been no corresponding increase in recorded imports via sea to reflect the rise in vessel numbers. This strongly suggests that few, if any, of the fish carriers have been (fully) reporting their imported fish cargo to C&SD (but it appears AFCD is still recording).

Note that Class III(c) vessels are still not required to report "live fish" to the FMO, even though most are landed at FMO facilities (traders pay rental fees to the government to use the space).

Live fish traders often do not report their import cargo to Customs (both manifests and declarations) partly because they think it is too time-consuming, and partly because they have not previously been obliged to do so. In practice, these vessels are certain to have records of what they have on board because detailed records are kept of cargo; hence,

[34] Global Rights Compliance, 2016. An internal report commissioned by ADM Capital Foundation .
[35] Sadovy de Mitcheson, Y., Tam, I., Muldoon, G., le Clue, S., Botsford, E. & Shea, S.,2017. The Trade in Live Reef Food Fish – Going, Going, Gone. Volume 1: Main Report. Parts I, II & III, pp.1-288. ADM Capital Foundation and The University of Hong Kong, Hong Kong Special Administrative Region

there should be no excuse based on practical or operational considerations for not reporting. The HKCSM appears to recognise this, but it cannot compel its Members to make reports.

Because vessel classification is not indicated on cargo data submitted to Customs and these vessels are not required to register their entries and exits to/from Hong Kong with the Marine Department (which deals mainly with safety issues), their movements and activities are difficult to track. Customs cannot follow up to ensure that manifests and declarations have been filed appropriately.

Therefore it is likely that a considerable volume of live fish goes unreported. AFCD claims that it covers most of the live fish traders in its monthly interviews but this remains unsubstantiated.

The Aberdeen Fish Marketing Organisation handles most of the live seafood in Hong Kong; 60% of this is reportedly cultured and 40% is wild-caught.

Current regulations in force under the MFMO include, amongst others:

(1) Cap 291A Marine Fish (Marketing and Exportation) Regulations; and

(2) Cap 291B Marine Fish (Marketing) by-laws.

Further details of the above regulations can be found in Sadovy et al. (2017).

International Best Practice

Labelling and Transparency

Given the progressive nature of product labelling in the EU and elsewhere, HKSSC Members are encouraged to voluntarily take steps towards displaying more information about their fish products in terms of the below, while recognising that no voluntary information should be displayed if it cannot be verified.

Fair, accurate and sufficiently detailed labelling of products is a fundamental public good. Consumers ought to have access to key information about what it is they are purchasing. This includes, for example, the source of the seafood; the presence of additives, chemicals or metals; use (or not) of sustainable and/or ethical fishing practices, and so forth. Armed with that information, consumers are empowered then to make informed choices about exactly what they are consuming and what economies their spending power is contributing to.

The EU's Common Organisation of the Markets Regulations

The EU's Common Organisation of the Markets Regulations outlines mandatory and voluntary labelling requirements for fish products in the EU. Specifically Article 35 in the CMO requires all products to be labelled with:

- The commercial designation of the species and its scientific name;
- The production method: this will be "caught…", "caught in freshwater…", "farmed…";

- The area where the product was caught or farmed, and the category of fishing gear used in capture of fisheries, as laid down in the first column of Annex III to the Regulation;
- If the product has been defrosted (some exceptions e.g. frozen for health safety, food/ingredients for which freezing is part of the technological process); and
- The date of minimum durability, where appropriate.

Where a mixed product is offered for sale to the final consumer or to a mass caterer that consists of the same species but which has been derived from:

- Different production methods: the method for each batch shall be stated; and
- A variety of catch areas or fish-farming countries: at least the area of the batch which is most representative in terms of quantity shall be stated, together with an indication that the products also come from different catch or farming areas.

In addition to mandatory information in Article 35, the following information can be provided on a voluntary basis, provided it is clear and unambiguous. There is a legal requirement that no voluntary information will be displayed if it cannot be verified.

Voluntary information includes date of catch/harvest, landing data or port, additional fishing gear type info (as listed in Annex III of the regulation), flag state of fishing vessel, environmental information, ethical or social information, production techniques and practices, and information on the nutritional content of the product.

Further information can be found at: https://eur-lex.europa.eu/eli/reg/2013/1379/oj

UN FAO's Guidelines for the Ecolabelling of Fish and Fishery Products from Marine Capture Fisheries

Members are encouraged to consult the guidelines to understand the principles upon which it is based, and to offer consumers appropriately ecolabelled seafood products that are certified as compliant with international environmental, ecological and ethical standards.

Any ultimate consumer of seafood (or any product containing seafood) should in principle be readily able to access the following information:

(1) Either the common or commercial name and/or the scientific species designation;
(1) The country, region or place of origin ("origin" referring to place of catch or the relevant housing marine nursery/breeding farm, as opposed to place of processing);
(2) The method of catch (including, but not limited to, line caught in fresh or salt water, farmed, reef trawled, seabed trawled, ocean trawled);
(3) The name of the company or other party responsible for its original catch, farming or obtaining by whatever means;
(4) Whether it has been frozen and/or defrosted;

(5) Any treatment(s) applied (for example, but not limited to, smoking, drying), and the location of any such treatment(s) and the name of the company or other party carrying out such treatment(s); and
(6) Whether there has been any genetic modification.

In order to facilitate this, parties selling seafood to ultimate consumers (such as supermarkets or market traders) should supply a label or sign that clearly indicates the above information about any seafood they sell. The information should be made available to third parties purchasing seafood for supply to ultimate consumers, such as restaurants, clubs or catering establishments.

EU's Food Information to Consumer Regulation ("FIC")

The mislabelling of seafood can involve the illegal representation of species, weight of the fish, country or origin and harvesting areas. It is for these reasons that mislabelling is considered a serious offence and a violation of many domestic laws internationally. Article 7 the EU's FIC states that food information shall not be misleading in relation to the characteristics of the food and its nature, identity, properties, composition, quantity, durability, country of origin, place of provenance, or method of manufacture or production[36].

Similar regulations can be found in the United States, Canada, Mainland China, Australia and Japan[37].

Fish Welfare

Given the lack of regulations controlling the transport, enclosure and stocking density of imported live fish in Hong Kong[38] it is important to look to international best practice.

European Food Safety Authority on Animal Welfare: Recommendations on the Welfare of Fish

The European Food Safety Authority ("EFSA") on Animal Welfare recommendations include:

11.2. Recommendations on Transport of Fish

1. *Fish should be loaded, unloaded and provided with transport conditions according to their needs. For most fish, high oxygen availability is needed and should be maintained. This should normally be provided by bubbling oxygen through the water in which the fish are transported.*

2. *All fish should normally be loaded and unloaded without being put into air.*

3. *The method used to load fish should reduce physical contact between the fish body surface and other surfaces as much as possible. Care should be taken to reduce distances fish may drop from pumps or elevators. The handling before loading and the loading itself should be of as short duration as possible.*

[36] Global Rights Compliance, 2016. An internal report commissioned by ADM Capital Foundation .
[37] Global Rights Compliance, 2016. An internal report commissioned by ADM Capital Foundation .
[38] Sadovy et al. (2017)

4. *Although fish may be deprived of food for a short time before transportation, to preserve water quality during transport except in well boat or towed cage systems, the length of deprivation should be adapted to the fish species, the size of the fish and the temperature. This duration is critical since the immune status of fish deteriorates after a short period of starvation.*

5. *The design of container or boat wells should not allow the fish to injure themselves, and should be watertight to avoid risk of biosecurity breaches due to spillages.*

6. *Water quality and condition of the fish during transport should be checked regularly and logged in writing.*

7. *The duration of transport, stocking densities and environmental conditions during the process may vary with species but should always be designed with the aim of providing that poor welfare of the fish is avoided.*

The welfare of fish when they reach the seafood markets is also of concern. Research shows that in wet markets in Hong Kong, fish are routinely kept alive on platters and surfaces for display, with no water, while they suffocate. Some are chopped through the middle and left to die slowly. Where fish are removed from water and exposed to air, their gills collapse and there is reduced oxygen intake, resulting in anoxia. The time to death is temperature and moisture dependent, but the EFSA has reported that death may take minutes to hours. The World Organisation for Animal Health ("OIE"), of which Hong Kong is a participant through the PRC, has stated that the most basic requirements for the welfare of fish include handling methods appropriate to the biological characteristics of the fish and a suitable environment to fulfil their needs.

The New Zealand Animal Welfare (Commercial Slaughter) Code 2010 requires that:

- Fish pumps, brailing equipment, nets and other fish handling equipment must be designed, maintained and used in a manner that minimises harm to live finfish;
- Where finfish are held in tanks, they must not be overcrowded to the extent that their welfare is compromised;
- Manual concussion must not be used to stun unrestrained fish;
- Killing methods must result in rapid and irreversible loss of consciousness; and
- Gill arches must not be ripped or severed in unstunned fish.

The Code applies to all finfish caught and held for killing at a later time. It identifies acceptable methods of killing fish: appropriate doses of euthanising drugs, concussion, brain spiking (by experienced handlers only) or electrical stunning (at specified levels for each species).

Food Safety

The Codex Alimentarius international food standards, guidelines and codes of practice contribute to the safety, quality and fairness of the international food trade. The Codex

Alimentarius Commission (commonly referred to as Commission) is the body established by FAO and WHO to develop these food standards[39].

The Code of Practice for Fish and Fishery Products[40] was developed by the Codex Committee on Fish and Fishery Products and is primarily of a technological nature, offering general advice on the production, storage and handling of fish and fishery products on board fishing vessels and on shore. It also deals with the distribution and retail display of fish and fishery products.

While most aquaculture certification standards would have Codex references included, below provides a selection of some of the key issues outlined in the Code of Practice that are important to be aware of when sourcing farmed seafood products.

Code of Practice for Fish and Fishery Products Developed by the Codex Committee on Fish and Fishery Products

Section 6 Aquaculture Production

Fish farms should operate effective fish health management practices, to maintain fish free of disease to the extent possible. Fish should be routinely monitored for disease using, where applicable, the methods described in the OIE Manual of Diagnostic Tests for Aquatic Animals. When using chemicals at fish farms, special care should be exercised so that these substances are not released into the surrounding environment.

6.2.1 Hazards

Aquaculture products pose broadly the same hazards that are present in corresponding varieties caught in the wild (Section 5.3.3.1). Potential hazards that are specific to aquaculture products include residues of veterinary drugs in excess of recommended guidelines and other chemicals used in aquaculture production, and contamination of faecal origin where the facilities are close to human habitation or animal husbandry.

6.2.2 Defects

The same defects are present in aquaculture products as in corresponding varieties caught in the wild (Section 5.3.3.1). A defect that may occur is objectionable odours/flavours. During transportation of live fish, it is important to reduce stress, as stressing fish can lead to deterioration in quality. Care should also be taken to minimise physical damage to fish as this can lead to bruising.

6.3.1 Feed Supply

Veterinary drug and other chemical treatments should be administered in accordance with recommended practices and comply with national regulations.

Medicated feeds should be clearly identified on the package and stored separately, in order to avoid errors.

Farmers should follow manufacturer instructions on the use of medicated feeds.

[39] http://www.fao.org/fao-who-codexalimentarius/en/

[40] FAO/WHO, 2016. Code of Practice for fish and fishery products: CAC/RCP 52-2003. Codex Committee on Fish and Fishery Products.

Product tracing of all feed ingredients should be assured by proper record keeping.

6.3.2 Veterinary Drugs

All veterinary drugs for use in fish farming should comply with national regulations and international guidelines

Prior to administering veterinary drugs, a system should be in place to monitor the application of the drug to ensure that the withdrawal time for the batch of treated fish can be verified.

For those fish which tested with drug residue concentrations above the maximum residue limit ("MRL") (or, in some countries, by an industry imposed lower level), harvest of the batch should be postponed until the batch complies with the MRL.

6.3.3 Growing

Source of post-larvae, fry and fingerlings should be controlled to ensure healthy stock.

6.3.4 Harvesting

Appropriate harvesting techniques should be applied to minimise physical damage and stress.

Live fish should not be subjected to extremes of heat or cold or sudden variations in temperature and salinity.

6.3.5 Holding and Transportation

Fish should be handled in such a way as to avoid unnecessary stress.

Equipment for the transportation of live fish should be designed for rapid and efficient handling without causing physical damage or stress.

Records for transportation of fish should be maintained to ensure full product tracing.

6.3.6 Storage and Transportation of Live Fish

Only healthy and undamaged fish should be chosen for live storage and transportation. Damaged, sick and dead fish should be removed before introduction to the holding or conditioning tanks.

Holding tanks should be checked regularly during storage and transportation. Damaged, sick and dead fish should be removed immediately when found.

In order to reduce fish stress, clean water utilised to fill holding tanks, or to pump fish between holding tanks, or for conditioning fish, should be similar in properties and composition to the water from where the fish were originally taken.

Water in holding and conditioning tanks should be well aerated before fish are transferred into them.

No fish feeding should occur during storage and transportation of live fish. Feeding will pollute water in holding tanks very quickly and, in general, fish should not be fed 24 hours before transporting.

6.3.6.1 Live Fish Stored and Transported at Ambient Temperature

For species known to exhibit strong territoriality, cannibalism or hyperactivity when under stress, these fish should be separated in individual tanks or appropriately secured/banned to prevent damage (an alternative method is reduction in temperature).

6.3.6.2 Live Fish Stored and Transported at Low Temperatures

Conditioning should aim at reducing the metabolic rate of fish in order to minimize the stress to them. Conditioning of the fish at low temperatures should be done according to the characteristics of the species (minimum temperature, cooling rate, water/humidity requirements, packaging conditions).

When performing conditioning, only approved anaesthetics and procedures accepted by the regulations should be used.

Section 7 Processing of Live and Raw Bivalve Molluscs

Bivalve molluscs species, such as oysters, mussels, and manilla and hard shell clams, can survive for extended periods out of water and can be traded for human consumption as live animals. Other species like cockles can be traded live if carefully handled, but are normally processed. Species not adapted to dry conditions soon die out of water and are best handled as chilled products or processed.

The main hazard known for the production of bivalve molluscs is microbiological contamination of waters in which they grow, especially when the bivalve molluscs are intended to be eaten live or raw. Because molluscs are filter feeders, they concentrate contaminants to a much higher concentration than the surrounding seawater. The contamination with bacteria and viruses in the growing area is therefore critical for the end-product specification and determines the process requirements for further processing. Gastro-enteritis and other serious diseases such as hepatitis can occur as a result of agricultural runoff and/or sewage contamination like enteric bacterial and/or viral pathogens (norovirus, viruses causing hepatitis) or from natural occurring bacterial pathogens (Vibrio spp.). Another hazard is posed by biotoxins. Biotoxins produced by some algae can cause various forms of serious poisoning like diarrhetic shellfish poisoning, paralytic shellfish poisoning, neurotoxic shellfish poisoning, amnesic shellfish poisoning or poisoning caused by azaspiracid. Chemical substances, such as heavy metals, pesticides and organochlorides, and petrochemical substances, may also pose a hazard in certain areas.

Appendix 4 – Endangered Species Lists

Regulation under CITES

By far the most significant aspect of the Hong Kong regulatory framework to the trade of shark fins and endangered species is the local legislation implementing CITES[41].

The Protection of Endangered Species of Animals and Plants Ordinance (Cap 586) ("Endangered Species Ordinance") bans the cross-border trade of species listed in the

[41] Martin, S., Jordana, A., Tam, I., Ngai, Y., & Parker, T., 2017. Beyond Cites. Shark fin trade recommendations for Hong Kong. Global Rights Compliance and the HK Shark Foundation, Hong Kong Special Administrative Region.

Appendices to CITES without a relevant licence for the purpose. Depending on whether the species in question is listed in Appendix I, II or III, the licensing requirement may apply to its import, introduction from the sea, export, re-export, and even possession or control of relevant specimens in Hong Kong SAR.

The authority to issue such licences rests with the AFCD.

For species listed under Appendix I, no licence will be granted for the commercial trade of specimens of wild origin, and a licence is required for its import, export and re-export. Less stringent rules apply to species listed in Appendix II – a licence is required for its import if the specimen is live and of wild origin. An import licence is not required if the specimen is not of wild origin, but will require the presentation of an export permit or CITES certifying documentation from the country of previous export. As regards the export of such species, a licence is required and will only be issued if the specimen was legally obtained and if the export of such specimen will not be detrimental to the survival of that species. Such species may also be re-exported upon the grant of a licence that will only be issued if the AFCD is satisfied that the specimen was imported in accordance with the CITES. The possession of such species will require a licence only if such specimen is live and of wild origin.

In 2018, the CITES Appendices listed 30 different protected shark and ray species, of which 23 were listed in Appendix II and 7 under Appendix I. These are:

Sharks: Basking Shark, Whale Shark, Great White Shark, Porbeagle Shark, Oceanic Whitetip Shark, Scalloped Hammerhead Shark, Great Hammerhead Shark, Smooth Hammerhead Shark, Silky Shark, Thresher Shark (3 species)

Rays: Sawfishes (7 species, Appendix I), Manta Rays (2 species), Devil Rays (9 species)

In the LRFFT, just one species, the Napoleon fish, is listed under CITES Appendix II (as of 2005).

At present, the penalties imposed for a breach of the laws and regulations in respect of species listed in Appendix I attract a maximum fine of HK$5,000,000 and imprisonment for two years for summary offences. For offences convicted on indictment, penalties include a HK$10,000,000 fine and imprisonment for 10 years.

The penalties for an offence in respect of species listed in Appendix II is a maximum fine of HK$500,000 and imprisonment for 1 year in the case of summary offences. For offences convicted on indictment, penalties include a HK$1,000,000 fine and imprisonment for 7 years.

The Endangered Species Ordinance provides various powers to assist in the enforcement of the regime, including powers to require production of documents or things for inspection, powers of entry, inspection, seizure, search and detention, forfeiture of things seized in respect of the offences and protection of informants.

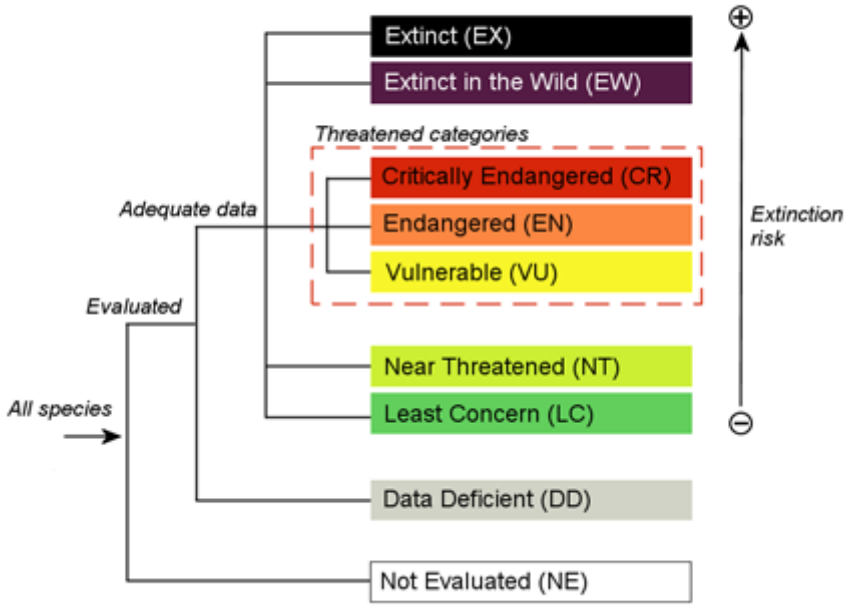
This domesticated CITES regime is also strengthened by the fact that it does not provide statutory defences. Strict liability is imposed as long as the accused had knowledge of the relevant goods, even if the accused was unable to identify them as endangered species.

IUCN Conservation Status Definitions

The IUCN Red List is the world's most comprehensive inventory of the global conservation status of plant and animal species. It uses a set of criteria to evaluate the extinction risk of thousands of species and subspecies. These criteria are relevant to all species and all regions of the world. With its strong scientific base, the IUCN Red List is recognised as the most authoritative guide to the status of biological diversity.

All taxa listed as Critically Endangered qualify for Vulnerable and Endangered, and all listed as Endangered qualify for Vulnerable. Together these categories are described as "threatened". The threatened categories form a part of the overall scheme. It will be possible to place all taxa into one of the categories.

Figure 1 Structure of the IUCN Red List Categories



How the categories are defined[42]:

Critically endangered	Facing an extremely high risk of extinction in the wild
Endangered	Facing a very high risk of extinction in the wild
Vulnerable	Facing a high risk of extinction in the wild
Near threatened	Close to qualifying for or is likely to qualify for a threatened category in the near future

[42] The IUCN Red List of Threatened Species. Version 3.1, http://www.iucnredlist.org

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List of CITES listed[43] and IUCN red listed[44] species (molluscs, fish, echinoderms and mammals)

Generic Common Name	Species Common Name	Chinese name 中文名字	Scientific Name	IUCN Status	CITES
Abalone	Black Abalone	黑鮑螺	Haliotis cracherodii	Critically Endangered (CR)	None
Abalone	Pinto Abalone	堪察加鮑螺	Haliotis kamtschatkana	Endangered (EN)	None
Bony Tonuge	Golden Dragon Fish, Asian Arowana	亞洲龍魚, 美麗硬骨舌魚	Scleropages formosus	Endangered (EN)	Appendix I
Bony Tonuge	Arampaima	巨巴西骨舌魚	Arapaima gigas	Data Deficient (DD)	Appendix II
Bony Tonuge	Myanmar Arowana	馬來硬骨舌魚	Scleropages inscriptus	Not Evaluated (NE)	Appendix I
Carp	Cui-ui	貴玉屈魚, 丘裂鰭亞口魚	Chasmistes cujus	Endangered (EN)	Appendix I
Carp	Jullien's Golden Carp, Isok Barb	穗須原鯉, 湄公河原鯉	Probarbus jullieni	Vulnerable (VU)	Appendix I
Catfish	Mekong Giant Catfish	巨無齒鱘, 湄公河巨鯰	Pangasianodon gigas	Critically Endangered (CR)	Appendix I
Cichilid	Ghana Cichilid	羅氏緣邊麗魚	Limbochromis robertsi	Endangered (EN)	None
Clam & Whelk	Giant Clams	硨磲蛤	Tridacnidae spp.		Appendix II
Cod, Haddock & Whiting	Roundnose Grenadier	圓吻突吻鱈	Coryphaenoides rupestris	Critically Endangered (CR)	None
Cod, Haddock & Whiting	Senegalese Hake	塞內加爾無鬚鱈	Merluccius senegalensis	Endangered (EN)	None
Coelacanths	Coelacanth	西印度洋矛尾魚	Latimeria chalumnae	Critically Endangered (CR)	Appendix I
Coelacanths	Indonesian Coelacanth	印尼矛尾魚	Latimeria menadoensis	Vulnerable (VU)	Appendix I
Conch	Queen Conch, Pink Conch	女王鳳凰螺	Strombus gigas	Not Evaluated (NE)	Appendix II
Croaker	Totoaba	加灣石首魚, 加利福尼亞灣石首魚	Totoaba macdonaldi	Critically Endangered (CR)	Appendix I
Croaker	Chinese Bahaba	黃唇魚	Bahaba taipingensis	Critically Endangered (CR)	None

[43] Last checked in 2018
[44] Last checked in 2018

Generic Common Name	Species Common Name	Chinese name 中文名字	Scientific Name	IUCN Status	CITES
Croaker	Cassava Croaker	塞內加爾似牙鮸	Pseudotolithus senegalensis	Endangered (EN)	None
Croaker	Madagascar Kob, Southern Meagre	腋斑白姑魚	Argyrosomus hololepidotus	Endangered (EN)	None
Eel	European Eel	歐洲鰻鱺	Anguilla anguilla	Critically Endangered (CR)	Appendix II
Eel	Japanese Eel	白鰻, 日本鰻, 河鰻	Anguilla japonica	Endangered (EN)	None
Eel	American Eel	美洲鰻鱺	Anguilla rostrata	Endangered (EN)	None
Grouper/Garoupa	Atlantic Goliath Grouper	伊氏石斑魚	Epinephelus itajara	Endangered (EN)	None
Grouper/Garoupa	Warsaw Grouper	淺黑下美鮨	Hyporthodus nigritus	Near Threatened (NT)	None
Grouper/Garoupa	Tiger Grouper	老虎斑	Epinephelus fuscoguttatus	Vulnerable (VU)	None
Grouper/Garoupa	Flowery Grouper	清水石斑魚	Epinephelus polyphekadion	Vulnerable (VU)	None
Grouper/Garoupa	Napoleon Wrasse	蘇眉, 拿破崙魚, 龍王鯛, 曲紋唇魚	Cheilinus undulatus	Endangered (EN)	Appendix II
Grouper/Garoupa	Nassau Grouper	拿騷石斑魚, 眼帶石斑魚	Epinephelus striatus	Critically Endangered (CR)	None
Grouper/Garoupa	Island Grouper	灰喙鱸	Mycteroperca fusca	Vulnerable (VU)	None
Grouper/Garoupa	Dusky Grouper	烏鰭石斑魚	Epinephelus marginatus	Vulnerable (VU)	None
Grouper/Garoupa	Gulf Grouper	喬氏喙鱸	Mycteroperca jordani	Endangered (EN)	None
Grouper/Garoupa	Hong Kong Grouper	赤點石斑魚	Epinephelus akaara	Endangered (EN)	None
Guitarfish & Wedgefish	Stripenose Guitarfish	鰩	Acroteriobatus variegatus	Critically Endangered (CR)	None
Guitarfish & Wedgefish	Brazilian Guitarfish	霍氏犁頭鰩	Pseudobatos horkelii	Critically Endangered (CR)	None
Guitarfish & Wedgefish	Blackchin Guitarfish	吻斑犁头鰩	Glaucostegus cemiculus	Endangered (EN)	None
Guitarfish & Wedgefish	Common Guitarfish	琴犁頭鰩	Rhinobatos rhinobatos	Endangered (EN)	None
Guitarfish & Wedgefish	African Wedgefish	利氏尖犁頭鰩	Rhynchobatus luebberti	Endangered (EN)	None
Mussel	European Date Mussel	歐洲石蜊	Lithophaga lithophaga	Not Evaluated (NE)	Appendix II

Generic Common Name	Species Common Name	Chinese name 中文名字	Scientific Name	IUCN Status	CITES
Nautilus	Nautilus	鸚鵡螺	Nautilidae spp.		Appendix II
Parrotfish	Greenback Parrotfish	三棘鸚嘴魚	Scarus trispinosus	Endangered (EN)	None
Porgy	Threadfin Porgy, Crimson Sea Bream	鯧鯛, 血鯛, 二長棘犁齒鯛	Evynnis cardinalis	Endangered (EN)	None
Porgy	White Steenbras	長頭石頷鯛	Lithognathus lithognathus	Endangered (EN)	None
Porgy	Red Steenbras	南非強齒鯛	Petrus rupestris	Endangered (EN)	None
Puffer	Chinese Puffer	中華多紀魨, 中華河魨	Takifugu chinensis	Critically Endangered (CR)	None
Salmon & Trout	Japanese Huchen, Sakhalin Taimen	遠東哲羅魚	Hucho perryi	Critically Endangered (CR)	None
Sawfish	Sawfishes	鋸鰩	Pristidae spp.		Appendix I
Sea Bream	Seventyfour Seabream	波紋擬牙鯛	Polysteganus undulosus	Critically Endangered (CR)	None
Sea Bream	Red Stumpnose Seabream	駝背麗眼鯛	Chrysoblephus gibbiceps	Endangered (EN)	None
Sea Bream	Daggerhead Seabream, Dageraad	紅鰭麗眼鯛	Chrysoblephus cristiceps	Endangered (EN)	None
Sea Cucumber	Brown Sea Cucumber	南美梅花刺参, 墨西哥腰参	Isostichopus fuscus	Endangered (EN)	Appendix III
Sea Cucumber	Japanese Spiky Sea Cucumber, Japanese Sea Cucumber	仿刺參	Apostichopus japonicus	Endangered (EN)	None
Sea Cucumber	Prickly Red Fish, Pineapple Sea Cucumber	鳳梨參, 梅花參	Thelenota ananas	Endangered (EN)	None
Sea Cucumber	Golden Sandfish	黃疣海參	Holothuria lessoni	Endangered (EN)	None
Sea Cucumber	Sandfish, Garlic Bread Sea Cucumber	糙海参	Holothuria scabra	Endangered (EN)	None
Sea Cucumber	Teatfish	黑乳海參, 烏圓參	Holothuria whitmaei	Endangered (EN)	None
Sea Cucumber	Black Teatfish	黑乳海參, 烏圓參	Holothuria nobilis	Endangered (EN)	None
Seabass	Giant Seabass	巨堅鱗鱸	Stereolepis gigas	Critically Endangered (CR)	None
Seabass	Camotillo	白斑副鱸	Paralabrax albomaculatus	Endangered (EN)	None
Seahorse	Seahorses	海馬	Hippocampus spp.		Appendix II

Generic Common Name	Species Common Name	Chinese name 中文名字	Scientific Name	IUCN Status	CITES
Shark	Angelshark	扁鯊	Squatina squatina	Critically Endangered (CR)	None
Shark	Pondicherry Shark	印度真鯊	Carcharhinus hemiodon	Critically Endangered (CR)	None
Shark	Ganges Shark	恆河露齒鯊	Glyphis gangeticus	Critically Endangered (CR)	None
Shark	Sawback Angelshark	疣突扁鯊	Squatina aculeata	Critically Endangered (CR)	None
Shark	Striped Smooth-hound	橫帶星鯊	Mustelus fasciatus	Critically Endangered (CR)	None
Shark	Smoothback Angelshark	白斑扁鯊	Squatina oculata	Critically Endangered (CR)	None
Shark	Scalloped Hammerhead	路易氏雙髻鯊, 紅肉丫髻鮫	Sphyrna lewini	Endangered (EN)	Appendix II
Shark	Great Hammerhead	無溝雙髻鯊	Sphyrna mokarran	Endangered (EN)	Appendix II
Shark	Whale Shark	鯨鯊, 豆腐沙	Rhincodon typus	Endangered (EN)	Appendix II
Shark	Broadfin Shark	特氏寬鰭鯊	Lamiopsis temminckii	Endangered (EN)	None
Shark	Smoothtooth Blacktip Shark	光齒真鯊	Carcharhinus leiodon	Endangered (EN)	None
Shark	Winghead Shark	布氏真雙髻鯊	Eusphyra blochii	Endangered (EN)	None
Shark	Zebra Shark	大尾虎鯊, 豹紋鯊	Stegostoma fasciatum	Endangered (EN)	None
Shark	Narrownose Smooth-hound	舒氏星鯊	Mustelus schmitti	Endangered (EN)	None
Shark	Honeycomb Izak	蜂巢似梅花鯊	Holohalaelurus favus	Endangered (EN)	None
Shark	Hidden Angel Shark	巴西扁鯊	Squatina occulta	Endangered (EN)	None
Shark	Angular Angelshark	斑扁鯊	Squatina punctata	Endangered (EN)	None
Shark	Sharpfin Houndshark	尖鰭皺唇鯊	Triakis acutipinna	Endangered (EN)	None
Shark	Borneo Shark	婆羅真鯊	Carcharhinus borneensis	Endangered (EN)	None
Shark	Oceanic Whitetip Shark	長鰭真鯊	Carcharhinus longimanus	Vulnerable (VU)	Appendix II
Shark	Smooth Hammerhead	錘頭雙髻鯊, 犛頭沙	Sphyrna zygaena	Vulnerable (VU)	Appendix II
Shark	Basking Shark	象鯊, 姥鯊	Cetorhinus maximus	Vulnerable (VU)	Appendix II
Shark	Great White Shark	大白鯊，食人鯊	Carcharodon carcharias	Vulnerable (VU)	Appendix II
Shark	Porbeagle	鼠鯊	Lamna nasus	Vulnerable (VU)	Appendix II
Shark	Silky Shark	絲鯊, 鐮狀真鯊	Carcharhinus falciformis	Near Threatened (NT)	Appendix II

Generic Common Name	Species Common Name	Chinese name 中文名字	Scientific Name	IUCN Status	CITES
Shark	Thresher Sharks	狐鯊	Alopias spp.		Appendix II
Skate	Maltese Skate	突尼斯白鰩	Leucoraja melitensis	Critically Endangered (CR)	None
Skate	Longnose Skate	鳶長吻鰩	Dipturus confusus	Critically Endangered (CR)	None
Skate	Common Skate, Blue Skate	藍長吻鰩	Dipturus batis	Critically Endangered (CR)	None
Skate	Smooth Skate	紫紅醜鰩	Malacoraja senta	Endangered (EN)	None
Skate	Undulate Skate	波鰩	Raja undulata	Endangered (EN)	None
Skate	Sandy Skate, Sandy Ray	圓白鰩	Leucoraja circularis	Endangered (EN)	None
Skate	Rough Skate	粗背鰩	Raja radula	Endangered (EN)	None
Skate	White Skate, Bottlenose Skate	白鼻鰩	Rostroraja alba	Endangered (EN)	None
Skate	Winter Skate	密點白鰩	Leucoraja ocellata	Endangered (EN)	None
Sole, Halibut & Flounder	Atlantic Halibut	庸鰈, 大西洋比目魚	Hippoglossus hippoglossus	Endangered (EN)	None
Stingray	Pakistan Whipray	魟	Maculabatis arabica	Critically Endangered (CR)	None
Stingray	Giant Freshwater Whipray	多鱗沙粒魟	Urogymnus polylepis	Endangered (EN)	None
Stingray	Roughnose Stingray	糙吻蘿蔔魟	Pastinachus solocirostris	Endangered (EN)	None
Stingray	Brazilian Cownose Ray	巴西牛鼻鱝	Rhinoptera brasiliensis	Endangered (EN)	None
Stingray	Ornate Eagle Ray	蝠狀無刺鱝	Aetomylaeus vespertilio	Endangered (EN)	None
Stingray	Mottled Eagle Ray	花點無刺鱝	Aetomylaeus maculatus	Endangered (EN)	None
Stingray	Daisy Stingray	珠粒魟	Fontitrygon margarita	Endangered (EN)	None
Stingray	Longheaded Eagle Ray	無斑鷂鱝	Aetobatus flagellum	Endangered (EN)	None
Stingray	Manta Rays	鬼蝠魟, 雙吻前口蝠鱝	Manta spp.		Appendix II
Stingray	Devil Rays	蝠鱝	Mobula spp.		Appendix II
Sturgeon	European Sea Sturgeon	歐洲鱘	Acipenser sturio	Critically Endangered (CR)	Appendix I
Sturgeon	Japanese Sturgeon, Amur Sturgeon	史氏鱘	Acipenser schrenckii	Critically Endangered (CR)	Appendix II
Sturgeon	Beluga Sturgeon	歐洲鱘, 黑海鱘	Huso huso	Critically Endangered (CR)	Appendix II

Generic Common Name	Species Common Name	Chinese name 中文名字	Scientific Name	IUCN Status	CITES
Sturgeon	Russian Sturgeon, Danube Sturgeon	俄羅斯鱘	Acipenser gueldenstaedtii	Critically Endangered (CR)	Appendix II
Sturgeon	Ship Sturgeon, Fringebarbel Sturgeon, Bastard Sturgeon	裸腹鱘	Acipenser nudiventris	Critically Endangered (CR)	Appendix II
Sturgeon	Stellate Sturgeon, Star Sturgeon	閃光鱘	Acipenser stellatus	Critically Endangered (CR)	Appendix II
Sturgeon	Chinese Sturgeon	中華鱘	Acipenser sinensis	Critically Endangered (CR)	Appendix II
Sturgeon	Sakhalin Sturgeon	米氏鱘	Acipenser mikadoi	Critically Endangered (CR)	Appendix II
Sturgeon	Siberian Sturgeon	西伯利亞鱘	Acipenser baerii	Endangered (EN)	Appendix II
Sturgeon	Shortnose Sturgeon	短吻鱘	Acipenser brevirostrum	Vulnerable (VU)	Appendix I
Sturgeon	Sturgeons	鱘	Acipenseridae spp.		Appendix II
Tilefish	Golden Tilefish, Great Northern Tilefish	脊項弱棘魚	Lopholatilus chamaeleonticeps	Critically Endangered (CR)	None
Tuna & Mackerel	Southern Bluefin Tuna	南方藍鰭金槍魚, 南方黑鮪	Thunnus maccoyii	Critically Endangered (CR)	None
Tuna & Mackerel	Atlantic Bluefin Tuna	大西洋藍鰭金槍魚	Thunnus thynnus	Endangered (EN)	None
Whale, Dolphin, Porpoise	Fin Whale	長鬚鯨	Balaenoptera physalus	Endangered (EN)	Appendix I
Whale, Dolphin, Porpoise	Sei Whale	塞鯨	Balaenoptera borealis	Endangered (EN)	Appendix I
Whale, Dolphin, Porpoise	Blue Whale	藍鯨	Balaenoptera musculus	Endangered (EN)	Appendix I
Whale, Dolphin, Porpoise	Narrow-ridged Finless Porpoise	窄脊江豚	Neophocaena asiaeorientalis	Endangered (EN)	Appendix I
Whale, Dolphin, Porpoise	Sperm Whale	抹香鯨	Physeter macrocephalus	Vulnerable (VU)	Appendix I
Whale, Dolphin, Porpoise	Humpback Whale	座頭鯨, 駝背鯨, 巨臂鯨	Megaptera novaeangliae	Least Concern (LC)	Appendix I
Whale, Dolphin, Porpoise	Grey Whale	灰鯨	Eschrichtius robustus	Least Concern (LC)	Appendix I

Generic Common Name	Species Common Name	Chinese name 中文名字	Scientific Name	IUCN Status	CITES
Whale, Dolphin, Porpoise	Omura's Whale	大村鯨, 角島鯨	Balaenoptera omurai	Data Deficient (DD)	Appendix I
Whale, Dolphin, Porpoise	Right Whales, Black Whales	露脊鯨	Eubalaena spp.		Appendix I
Whale, Dolphin, Porpoise	Beaked Whales	喙鯨	Beradius spp.		Appendix I
Whale, Dolphin, Porpoise	Dolphins, Whales, Porpoises	鯨魚, 海豚, 鼠海豚	Cetacea spp.		Appendix II

Given that species may be added to or removed from the CITES Appendices or the status may be changed on the IUCN Red List, Members should consult the respective websites to check for any updates:

https://www.cites.org/eng/app/appendices.php
http://www.iucnredlist.org.

Shark species which can be found in wholesale markets in Hong Kong by IUCN status and CITES Appendix II listing[45]:

Shark species scientific Name	Shark species common Name	Shark fin Name	Status in IUCN red list	Cites appendix ii Listed species
Prionace glauca	Blue	Ya jian	Near Threatened	N
Isurus oxyrinchus	Shortfin Mako	Qing lian	Vulnerable	N
Carcharhinus falciformis	Silky	Wu yang	Near Threatened	Y
Carcharhinus obscurus	Dusky	Hai hu	Vulnerable	N
Carcharhinus plumbeus	Sandbar	Bai qing	Vulnerable	N
Galeocerdo cuvier	Tiger	Ruan sha	Near Threatened	N
Sphyrna zygaena/Sphyrna lewini	Smooth Hammerhead / Scalloped Hammerhead	Chun chi	Vulnerable/ Endangered	Y
Sphyrna Mokarran	Great Hammerhead	Gu pian	Endangered	Y
Alopias spp., 3 species	Thresher	Wu gu	Vulnerable	Y
Carcharhinus leucas	Bull	Sha qing	Near Threatened	N
Carcharhinus longimanus	Oceanic Whitetip	Liu qiu	Vulnerable	Y

There have been cases of illegal imports of CITES-controlled shark fins identified at the Hong Kong International Airport and in shipments from countries like Oman, Panama, India, Egypt, Kenya and Peru without valid licence or relevant permits. Identifying legal vs illegal shark fins remains complex in the face of an increasing number of regulatory efforts to protect sharks[46]. Note that the above list was based on research conducted in 2017.

[45] WWF, 2017. No Shark Fin Carriage Policy Implementation Guidelines. WWF-Hong Kong, Hong Kong Special Administrative Region

[46] WWF, 2017. No Shark Fin Carriage Policy Implementation Guidelines. WWF-Hong Kong, Hong Kong Special Administrative Region

Appendix 5 – Live reef food fish trade

Key challenges facing live reef food fish species

With few exceptions, government oversight of the LRFFT by both exporting and importing countries has been poor and sometimes entirely lacking[47]. The trade as a whole remains largely unregulated and unmonitored despite threats to several species and to reef habitats (from cyanide fishing). Even where regulations are in place, a significant proportion of the trade operates illegally or in the 'shadows'. As a result, our true understanding of the volumes and values of live fish traded is minimal at best, particularly for the wild-caught component of the trade.

Groupers make up the majority of the LRFF market in the restaurant trade and most of the groupers found in Hong Kong's live fish wet markets are juveniles[48], reflecting a problematic trend. Hybrid grouper species, especially the Sabah grouper (a cross-breed between the tiger grouper and giant grouper) introduced to the Hong Kong market in the late 2000s, are more abundant. A variety of snappers, pompanos and wrasses can also be found in both wet markets and restaurants. The illegal trade in Humphead Wrasse, a species listed in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora ("CITES"), reflects the threats to the species' conservation status in Southeast Asia. Note that although an increasing proportion of the fish in the trade are produced by HBA, consumers often still favour, and are prepared to pay highly for, wild-sourced fish and hence fishing pressures will continue on wild populations even as mariculture develops.

In 2016 WWF-HK found species being mislabelled in many local supermarkets[49]. Some species were misidentified on supermarket labels as more expensive species, allowing consumers to be overcharged, but they also found threatened and endangered species.

While large quantities of seafood are imported and consumed locally, a significant but largely unregulated and unmonitored proportion is also re-exported illegally to China. Humphead Wrasse is one such species, where retail sale across the border is far in excess of the number of permits and prosecutions in Hong Kong. Trader interviews also confirm routes through Hong Kong and the practice of avoiding customs declarations[50].

Understanding the LRFFT supply chain and reporting requirements

The customer base served by this trade is largely located in Hong Kong and China, as well as in Chinese enclaves elsewhere[51]. The trade predominantly consists of fewer than 20 species, mainly groupers, supplied to millions of consumers by tens of thousands of fishers,

[47] Sadovy de Mitcheson, Y., Tam, I., Muldoon, G., le Clue, S., Botsford, E. & Shea, S., 2017. The Trade in Live Reef Food Fish – Going, Going, Gone. Volume 1: Main Report. Parts I, II & III, pp.1-288. ADM Capital Foundation and The University of Hong Kong, Hong Kong Special Administrative Region.
[48] BLOOM Association, 2017. Live reef food fish wet market survey. Hong Kong Special Administrative Region
[49] BLOOM Association, 2017. Live reef food fish wet market survey. Hong Kong Special Administrative Region
[50] ADM Capital Foundation, 2015. Mostly Legal, But Not Sustainable: How airlines can support sustainable trade in live reef food fish. ADM Capital Foundation, Hong Kong Special Administrative Region.
[51] Sadovy et al. (2017)

through a complex trade chain controlled by a relatively small number of traders and shippers.

Some species are hatchery-produced or farmed, but the more valuable species in the trade are predominantly wild-caught. Hong Kong serves as the major international hub for the trade, where substantial volumes of LRFF are imported, transhipped and re-exported, almost exclusively into the PRC (see figure 4).

The fish pass through a complex supply chain from capture through to consolidation, exports and wholesale before reaching the retail sector. Between the producers and consumers is a bottleneck of players made up of a smaller group of exporters, traders and transporters. While records from the Census and Statistics Department show that Hong Kong currently imports LRFF from over 40 countries/territories globally[52], the major source countries are Malaysia, Philippines, Indonesia, Thailand, Australia and Taiwan. LRFF enters Hong Kong by air and by sea (on both Hong Kong and foreign vessels)[53].

Hong Kong thus plays a varied role in the LRFFT supply chain as the importer, consumer, re-exporter and transhipment carrier. The local laws applicable to these players and the fish trade in general fall under the areas and legislation set out in Table 6.

Table 6: Main Laws Applicable to the LRFFT in Hong Kong[54]

Hong Kong regulation	Department
Import and Export Ordinance (Cap 60) and accompanying regulations, particularly the Import and Export Manifests Notice (Cap 60C) and the Import and Export (Registration) Regulations (Cap 60E)	Customs Regime
Marine Fish (Marketing) Ordinance (Cap 291)	Fish Marketing Regime
Food Safety Ordinance (Cap 612)	Food Safety Regime
Protection of Endangered Species of Animals and Plants Ordinance (Cap 586)	Conservation Regime
Merchant Shipping (Local Vessels) Ordinance (Cap 548) and accompanying regulations, particularly the Merchant Shipping (Local Vessels) (Certification and Licensing) Regulation (Cap 548D), which applies to fishing vessels and fish carriers.	Shipping Regime

As there is no centralised legal framework, the live fish trade is governed by a patchwork of laws and regulations that cover different branches of the framework and involve several government agencies with varying functions and authority.

Key reporting requirements[55]

Consignments by air: Requirements include Customs and Excise documentation (cargo manifests and declarations of cargo content, gross weight and gross volume) and in the case of

[52] BLOOM Association, 2017. Live reef food fish wet market survey. Hong Kong Special Administrative Region
[53] Sadovy et al. (2017)
[54] Sadovy et al. (2017)
[55] Sadovy et al. (2017)

CITES species, AFCD documentation. Consignee collects the cargo with an Air Waybill (for air carriage) and letter of authorisation from the consignor. The Air Waybill/Bill of Lading (for sea carriage) must be prepared by the carrier's cargo handling agent with original copy attached to the cargo and photocopy sent by fax to the consignee. The consignee will appoint a transportation company to withdraw the cargo from the airport.

Consignments by sea: Procedures differ depending on the vessel type. For foreign vessels, requirements are similar to that of air carriers. For Hong Kong-licensed Class III (c) vessels (fishing vessels), these are exempted from reporting live fish trade to the government (see Appendix 3). Class III (a) vessels (fish carriers) must submit manifests and declare their cargo. Research suggests that many such carriers may not be adhering to proper procedures and that much of their live fish cargo may be undeclared and unmanifested (a serious offence)..

Due to unknown levels of under-reporting of imports from Hong Kong-licensed fishing vessels and Hong Kong-licensed fish carriers, it is not possible to accurately evaluate the relative importance of air versus sea shipments over time[56].

The manifest, as required by the Hong Kong government, is a fairly simple document, with minimal mandatory information requirements. Species identification is not required, and, in terms of place of origin, only the place where the LRFF was loaded is required and not the provenance of the fish. This is compounded by the types of containers used to transport LRFF. Both traditional styrofoam boxes and purpose-built aerated or oxygenated transport bins are sealed before reaching airport cargo areas, making it impossible for the contents to be inspected without opening the container, which could possibly compromise the cargo. Thus it is difficult for airlines to know what they are carrying with any degree of certainty in regards to LRFF.

[56] Sadovy et al. (2017)

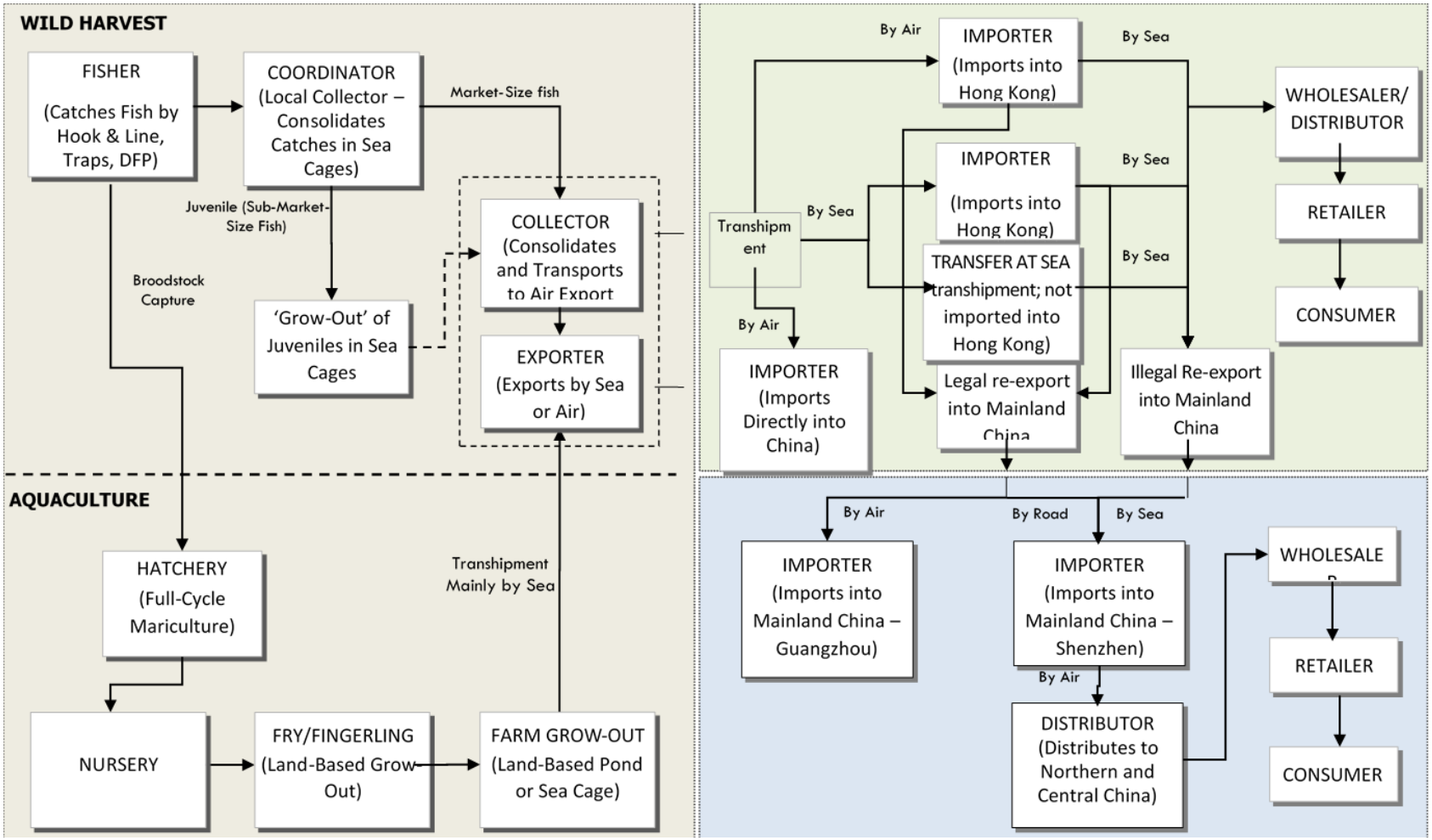

Figure 2 Supply chain components and linkages for farmed and wild-caught live reef food fish from source countries to Hong Kong and Mainland China

Data Source: Hanson et al., 2011

Appendix 6 – Glossary

AIP
See Aquaculture Improvement Programme.

AIPCE-CEP
AIPCE is the European Fish Processors Association; CEP is the European Federation of National Organisations of Importers and Exporters of Fish www.aipce-cep.org.

Appropriate response
Actions to be taken by the Member in response to the risk assessment outcome.

Aquaculture
The farming of any aquatic organisms including, but not limited to fish, molluscs, crustaceans, aquatic plants, reptiles and amphibians.

Aquaculture Improvement Project (AIP)
An alliance of stakeholders working together to address sustainability issues in a fish-farming process or region. AIPs work to reduce environmental impacts of aquaculture particularly on a regional level. See Section 4 for further information.

Aquaculture source
Each of the processes in the production chain of fish produced by aquaculture, including sea ranching. This may include the hatchery or source fishery, the farm site, the fish feed, the place of processing and the feed mill.

Audit
A planned and documented activity performed by qualified personnel to determine by evaluation of objective evidence the adequacy and compliance with established procedures, and the effectiveness of implementation.

- **First Party audit**
  First party audits are produced and conducted internally by the company.
- **Second Party audit**
  Second party audits are conducted by an independent body.
- **Third Party audit**
  Third-party audits are external audits performed by organisations that are independent of both the business and the standard, or issue referred to.

Biological reference point
A scientific reference to help fisheries managers know when a stock and fishing activity is at minimum, safe and target levels. It is determined based on scientific stock assessment data, and usually managers use three types of biological reference point:

- The total amount of biomass (or size) in a stock;
- The biomass of mature fish (which are able to reproduce) in a stock; and
- The fishing mortality (death of fish caused only by fishing) on that stock.

Biosecurity
The procedures or measures designed to protect the population and environment against harmful biological or biochemical substances.

Blast fishing
The use of explosives to catch fish often associated with the LRFFT in areas such as Sabah, Malaysia. This method is often employed to source fish used as feed for both culturing of LRFF full-cycle species as well as the grow-out of large volumes of wild-sourced juvenile LRFF species, such as groupers and the Humphead Wrasse, which require large amounts of feed. The use of explosives has severely degraded many coral reefs on which millions of people rely economically and for food.

Broodstock
Broodstock, or broodfish, are a group of mature individuals used in aquaculture for breeding purposes. Broodstock can be a population maintained in captivity as a source of replacement for, or enhancement of, seed and fry numbers.

Capture-based aquaculture ("CBA")
The harvesting of wild individuals from very early stages in the life cycle to large mature adults for on-growing under confined and controlled conditions.

Catch limit
A quantitative limit on all fish caught over a given period.

Certification
Procedure by which a third-party gives written or equivalent assurance that a product, process or service conforms to specified requirements. Certification may be, as appropriate, based on a range of inspection activities which may include continuous inspection in the production chain.

Certification body
The party that conducts audits and issues certificates against a given standard, thereby declaring conformity to that standard. The certification body is a third-party, not the standard owner, and is responsible for ensuring the standard is adopted and applied consistently.

CITES
The Convention on International Trade in Endangered Species of Wild Fauna and Flora is an international agreement between governments aimed to ensure that international trade in specimens of wild animals and plants does not threaten their survival. https://www.cites.org/eng/app/appendices.php

Common name
Commercial names as provided in the Hong Kong Imports and Exports Classification List (Harmonized System) or amendments thereafter. Where fish have multiple common names, the HKSSC recommends using the name that is most commonly found in Hong Kong and/or amongst other HKSSC Members.

Communication

Any communication by the Member regarding their labelling, presentation or advertising of fish to consumers or other businesses. This may include product labels, in-store signs, internet descriptions, magazines, advertisements, images or logos that portray the product origin/claim/information, social media, and direct consumer communications.

Competently endorsed
See Independent competent endorsement.

Conservation red list
A list of threatened and vulnerable species complied by an organisation (e.g. IUCN).

Conservation reference point
Values of fish stock population parameters (such as biomass or fishing mortality rate) used in fisheries management.

Cyanide
Spraying cyanide in solution form directly into the target fishes' habitat is a method employed to harvest certain high-value live fish such as the Humphead Wrasse and Leopard Coralgrouper, which may be difficult to catch efficiently using other gears in some areas. This method can kill living corals with repeated exposure. The use of cyanide as a fishing method also raises the question of possible contamination of the fishes that ingest the chemical, although nothing is known of the risk to humans of consuming large quantities of fish caught in this way.

Discards
The portion of fish or other animals in the catch, which are thrown away, or dumped at sea, either dead or alive, for any reason. It does not include plant materials and post harvest waste such as offal.

Ecolabel
A distinctive logo or statement which certifies that the fish has been harvested in compliance with conservation and sustainability standards. The logo or statement is intended to make provision for informed decisions of purchasers whose choice can be relied upon to promote and stimulate the sustainable use of fishery resources.

Environmental Impact Assessment
A sequential set of activities designed to identify and predict the impacts of a proposed action on the bio-geophysical environment and human health and well being, and to interpret and communicate information about the impacts, including mitigation measures that are likely to eliminate the risks.

FAO
Food and Agriculture Organization of the United Nations www.fao.org/home/en/.

Farm site
The physical location in which the fish is produced.

Farming
A form of intervention in the rearing process to enhance production, such as regular stocking, feeding, and protection from predators. Farming also implies individual or corporate ownership of the stock being cultivated. For statistical purposes, aquatic

organisms which are harvested by an individual or corporate body which has owned them throughout their rearing period contribute to aquaculture, while aquatic organisms, which are exploitable by the public as a common property resource with or without appropriate licences, are the harvest of wild capture fisheries.

Farming operation (farm)
See Aquaculture source.

FIP
See Fishery Improvement Project.

First Party audit
First party audits are produced and conducted internally by the company.

Fish
Any wild captured or farmed marine, freshwater, anadromous or catadromous fish, crustacean, mollusc or other aquatic invertebrate used for any purpose (including but not limited to seafood, fishmeal, and fish oil).

Fish stocks
Populations of single species, or occasionally species groups, which are caught in a particular geographic region.

Fishery
The activity of one particular fishing gear-type or method leading to the harvest of one or more wild species.

Fishery Improvement Project (FIP)
An alliance of stakeholders working together to resolve sustainability issues within a specific fishery or to improve a specific aspect of the fishery. A FIP works through key organisations and individuals talking through the management of the fishery and the challenges that it may face, identifying data that needs to be collected, agreeing on a set of priority actions that should be undertaken to improve the fishery, and then overseeing an action plan. See Section 4 for further information.

Fishing gear
Tools with which fish and seafood are captured, such as nets, lines, traps and pots.

Fishing selectivity
Ability to target and capture fish by size and species during harvesting operations, allowing juvenile fish and non-target species to escape unharmed.

Good aquaculture standard or code of practice
See Section 3.2.

GSSI
Global Sustainable Seafood Initiative www.ourgssi.org.

Hatchery-based aquaculture
A practice of producing and using “seeds” from hatcheries through manipulation of adult maturation and reproduction and larval and juvenile rearing.

ICES
International Council for the Exploration of the Seas www.ices.dk/Pages/default.aspx.

Illegal, Unreported and Unregulated ("IUU") fishing
A fishing activity that occurs either as an expressly illegal activity or, at a minimum, an activity undertaken with little regard for applicable regulations. IUU fishing has detrimental economic, social, environmental and safety consequences by undermining management practices and posing a threat to effective conservation and management.

Image
Any photograph, drawing, logo or other graphical depiction.

Independent certification to a third-party standard
An independent assessment to show that specified requirements pertaining to a product, person, process or management system have been met.

Independent competent endorsement
An external body that has a demonstrated knowledge and understanding of Asian and relevant international fisheries and aquaculture management practice, regulation and environmental standards and certification standards. This could include a fishery scientist or consultant with proven track record of relevant experience.

Independently audited chain of custody
Independent certifiers carry out assessments of fisheries and businesses against a certification body's standards (e.g. for sustainable fishing and seafood traceability). This ensures the process is robust, credible and meets best practice guidelines for standard-setting organisations as set out by the ISEAL Alliance ("ISEAL") and the FAO.

Integrity
Studies suggest that as much as 30% of seafood sold globally is not what it says it is[57]. Regardless of the extent of (potential) mislabelling, various incidents in the food industry have illustrated that food fraud occurs when there is a financial incentive. Errors in labelling can occur at two levels: at the fishery/farm level, or when tracing the product through the Chain of Custody. Members are encouraged to apply an independent Chain of Custody standard or ensure the traceability and product integrity criteria of the Sourcing Code have been met.

International Standardisation Organisation ("ISO")
ISO is a network of national standards bodies and the largest developer of voluntary international standards www.iso.org/iso/home.htm.

ISEAL
ISEALis a non-governmental organisation whose mission is to strengthen sustainability standards systems for the benefit of people and the environment www.isealalliance.org.

ISO 17 065

[57] Pardo, M.A., Jime´nez, E. and Pe´rez-Villarreal, B. (2016). Misdescription incidents in seafood sector. Food Control, 62, 277-283.

ISO 17065 (or EN45011 in its European version) specifies general requirements for third parties operating a product certification system. The accreditation must be performed against a standard and demonstrates competence to certain regulatory authorities.

ISO type I claim
Voluntary, multiple-criteria based third-party programme that awards a licence which authorises the use of environmental labels on products.

ISO type II claim
A single-attribute label developed by the producer for own-branded products.

IUCN Red List
An inventory of the global conservation status of biological species, compiled by the IUCN (International Union for the Conservation of Nature) http://www.iucnredlist.org.

Marine Protected Area
Any defined area within or adjacent to the marine environment, together with its overlying water and associated flora, fauna, historical and cultural features, which has been reserved by legislation or other effective means, including custom, with the effect that its marine and/or coastal biodiversity enjoys a higher level of protection than its surroundings. No take zones are areas designated where all forms of exploitation are prohibited and severely limits human activities.

Maximum Sustainable Yield ("MSY")
A biological reference point, which is determined based on scientific stock assessment data. Fish stocks at MSY levels are considered healthy. Fish stocks grow in the same way as most other groups of animals; the more mature fish within them that are reproducing, the faster the stock grows. This growth rate increases until competition for resources, such as food, causes it to decrease. It is this peak, where the growth rate is at its highest, that is known as MSY.

Members
Member of the HKSSC. An up-to-date list can be found on the website at www.hksustainableseafoodcoalition.org.

Non-compliance
Failure, or refusal, to comply (e.g. with a law, regulation, or term of contract).

Non-conformance
Failure to act in accordance with a standard.

Own-brand
Own-brand refers to any fish or seafood product that carries the HKSSC Members' name at the point of sale to the final consumer. These are private label brands managed solely by a retailer for sale in only a specific chain of stores. The retailer will design the manufacturing, packaging and marketing of the goods in order to build on the relationship between the products and the store's customer base.

Precautionary principle

When an activity causes a threat or harm to the environment, general precautionary measures should be taken. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

Private-label
Products that are typically manufactured or provided by one company for offer under another company's brand.

Products
Any goods or service.

Publicly available
Obtainable by any person, without unreasonable barriers of access. In the Labelling Code, this may refer to information in-store, online, by request, or by any other commercial communication.

Re-circulated closed system
Refers to an aquaculture system that is independent from the immediate environment. The re-circulatory nature of the system often refers to water use, where water is treated and recycled each time it passes through the aquaculture system.

Reference points
A basis or standard for evaluation, assessment or comparison. For example MSY is a biological reference point, estimated by scientific stock assessments, and used in fishery management to determine the maximum amount of fish that can be sustainably harvested.

Responsibility claim
Claims made by a Member with regard to the legality of the fisheries, fish farm and supply chain and the environmental concerns (biological status of the stock and/or impacts to the wider ecosystem) relating directly to fisheries and aquaculture. Food safety and fish welfare are included under aquaculture but other wider considerations, such as social compliance issues, are not included. It includes any ISO type II term, label, image, logo or other commercial communication in relation to all fish products offered for sale, and any commercial communication made in the context of fish, both consumer facing and business to business.

Risk assessment
An estimate of adverse effects that may result from exposure to certain hazards.

Risk Assessment for Seafood Sourcing ("RASS") tool
An online tool currently under development by Seafish Industry Authority to provide an indication of low, medium or high risk factors (not scores) associated with sourcing from a particular fishery or aquaculture supply chain.

Scientific name
Written as '*Genus species*' and often referred to as the Latin name.

Sea pens

A fenced, netted structure, located in the open sea and used in aquaculture practices, that is fixed to the bottom substrate allowing free water exchange.

Sea ranching

The harvest of enhanced capture fisheries to raise aquatic animals under extensive production systems in open space where they grow using natural food supplies. These are generally intended for human consumption. In some cases, these species may be released by national authorities and re-captured by fishermen as wild animals.

Second Party audit

Second party audits are conducted by an independent body.

Selectivity

See fishing selectivity.

Shark finning

The practice of retaining shark fins and discarding the remaining carcass while at sea. Shark finning contravenes the FAO Code of Conduct for Responsible Fisheries and its International Plan of Action for the Conservation and Management of Sharks, as well as the resolutions of a number of other international marine bodies, all of which call for minimising waste and discards. Shark finning has also contributed to major uncertainties about the total biomass and species composition of sharks caught.

Standard

Rules, guidelines or characteristics for products, processes and/or production methods whereby compliance is not mandatory. The standard may also cover relevant terminology, symbols, packaging, marking or labelling requirements.

Standard setter

The organisation responsible for managing the development or revision of a standard.

Sufficient measures

Measures to ensure a full traceability system, as described in the traceability section.

Targeting spawning aggregations

The practice of fishing on spawning aggregations can quickly compromise the reproductive capability of targeted populations, and many known aggregations have declined due to heavy fishing pressure over time. On the other hand, there is growing evidence that protected or controlled fishing on grouper aggregations can be sustainable and can encourage recoveries.

Third Party audit

Third-party audits are external audits performed by organisations that are independent of both the business and the standard, or issue referred to.

Third-Party Certification

A form of certification in which the producer's claim of conformity is validated, as part of a specific program, by a technically and otherwise competent body other than one controlled by the producer or buyer. The third-party certifier performs an audit specific to the certification program to ensure that the producer's claims are valid.

Threatened, endangered or protected ("TEP") species

Species that are protected under national or international laws, or listed as threatened or endangered on conservation lists, such as the IUCN Red List.

Traceability
Full chronological documentation of the fish from the time it is harvested from the source fishery or farm to the point when the final responsibility claim is made.

Veterinary Health Plan
Veterinary health and welfare plans ("VHWPs") are action plans aimed at improving the health and welfare of farm animals, which are drawn up between the farmer and his or her veterinary surgeon.

Wider environmental impacts of fishing activities
Impacts to the environment beyond the immediate targeted stock fish, such as by-catch of non-target species, damage to benthic habitats and other habitat destruction.

Wild capture
Fish harvested from a wild resource, such as the sea or a river.

Wild seedling
This can refer to eggs, spawn, offspring, progeny or brood of the aquatic organism (including aquatic plants) being cultured. The seed may also be referred to as fry, larvae, postlarvae, spat, and fingerlings. They may originate from captive breeding programmes or caught from the wild.

Appendix 7 – Useful references

FIP Directory

The FIP Directory (http://fisheryimprovementprojects.org) is a list of organisations that may be able to provide information, advice, or funding for FIPs.

Global Fishing Watch

Global Fishing Watch (http://globalfishingwatch.org/) is the product of a technology partnership between SkyTruth, Oceana and Google that is designed to show all of the trackable fishing activity in the ocean. This interactive web tool – currently in prototype stage – is being built to enable anyone to visualise the global fishing fleet in space and time.

Global Seafood Rating Alliance

The Global Seafood Rating Alliance (www.globalseafoodratings.org) is a collaboration of the leading seafood rating organisations in the world with the goal to harmonize fisheries and aquaculture environmental sustainability assessments worldwide.

Global Sustainable Seafood Initiative ("GSSI")

The GSSI (www.ourgssi.org) is a global public-private partnership that benchmarks seafood certification schemes against the FAO Code of Conduct for Responsible Fisheries, the FAO Guidelines for Ecolabelling of Fish and Fishery Products from Marine/Inland Capture Fisheries and the FAO Technical Guidelines for Aquaculture Certification. The seafood certification schemes must meet these recognised international guidelines in order to be recognised by GSSI and this brings clarity to the industry in terms of certification schemes.

IUU fishing, and yellow and red cards

In an effort to combat IUU fishing, the EU implemented Regulation (EC) No 1010/2009, which came into force in January 2010. Under this regulation the EU conducts an assessment of pre-identified non-cooperating third countries (i.e. countries outside the EU). If the European Commission believes a country is failing to do enough to combat IUU fishing, it gives them a yellow card warning. The country's progress to address the issues that the European Commission has highlighted is monitored regularly, and if the situation improves the country can be issued a green card. However, if the European Commission feels that not enough is being done, it can propose a red card, and if the Council of Ministers agrees, then that country can be identified as non-cooperating and blacklisted. This means trade measures are put in place banning all or certain species of fish from that country entering the EU until the country improves and is taken off the list. Many countries have successfully moved from a blacklisting (red) or yellow card to a green card (https://ec.europa.eu/fisheries/sites/fisheries/files/illegal-fishing-overview-of-existing-procedures-third-countries_en.pdf).

IUU fishing and identification of fishing vessels

Regulation (EU) No 468/2010 established the EU list of vessels engaged in IUU fishing and Commission Implementing Regulation (EU) 2018/1883 was adopted in December 2018. Upon the receipt from regional fisheries management organisations of the lists of fishing vessels presumed or confirmed to be involved in IUU fishing, the Commission updates the

Union list. Considering that the same vessel might be listed under different names and/or flags depending on the time of its inclusion on the regional fisheries management organisations lists, the updated Union list includes the different names and/or flags as established by the relevant regional fisheries management organisations. The full list of vessels can be found here: https://eur-lex.europa.eu/eli/reg_impl/2018/1883/oj

Seafood Traceability Financial Tool (Global Food Traceability Center)

The Seafood Traceability Financial Tool (https://seafoodtraceability.org/) aims to help organisations in the seafood industry assess the financial impact (costs and benefits) associated with implementing traceability.

OpenSeas (New Zealand)

The purpose of OpenSeas (http://openseas.org.nz/) is to provide businesses a single, comprehensive source for information about the environmental, social and production credentials of the New Zealand seafood industry. Species risk assessments are focused on environmental risk (target species, bycatch and ecosystems, and management system), are open source and backed by fully referenced legislation and regulation, government reports, scientific research, fisheries data, industry standards, international conventions and agreements. Each species profile on OpenSeas is supported by a third-party assessment of environmental performance (either an MSC certification assessment or an independent risk assessment). The website also contains information in regards to New Zealand's regulations around traceability, food safety, fishing rules, worker livelihood, workplace health and safety and customary fishers.

Seafish Risk Assessment for Seafood Sourcing ("RASS") (UK)

RASS (https://www.seafish.org/risk-assessment-for-sourcing-seafood) has been developed to help UK commercial seafood buyers make an informed judgement on the environmental risks they face when sourcing wild caught seafood. Currently the website hosts around 350 fishery profiles and provides information on four risk factors: stock status, management effectiveness, by catch and habitat risks. Nutrition information is also provided for several species. Each of these factors is assessed using a peer-reviewed publicly available risk assessment methodology and scored on a five-point scale of 1 (very low risk) to 5 (very high risk). Following the successful reception for RASS, Seafish were asked by industry stakeholders to develop a similar tool for aquaculture profiles. The resulting website (https://www.seafish.org/aquaculture/tool) was published early-2018 and offers information on nine farmed seafood species that are the most important to the UK market.

Seafood Watch (US)

The Monterey Bay Aquarium Seafood Watch program evaluates the ecological sustainability of wild-caught and farmed seafood commonly found in the United States marketplace. Seafood Watch makes its science-based recommendations available to the public in the form of regional pocket guides that can be downloaded from www.seafoodwatch.org. Each sustainability recommendation in the regional pocket guides is supported by a Seafood Watch Assessment. Each assessment looks at the current ecological, fisheries and ecosystem science on a species, then evaluates this information to arrive at a recommendation of "Best Choices," "Good Alternatives" or "Avoid." The summary and full assessment reports are available on the website. Seafood Watch uses research published in academic, peer-reviewed journals whenever possible. Other sources of information include government technical

publications, fishery management plans and supporting documents, and other scientific reviews of ecological sustainability.

Whichfish (Australia)

Whichfish (http://whichfish.com.au/) is a pilot scheme, funded by the Fisheries Research and Development Corporation. Independently commissioned assessments rapidly screen for environmental risks of Australian wild caught seafood using publicly available information. Assessments are then subject to independent peer review before publication on Whichfish. The information provided on the site is to help businesses find out more about Australian seafood to support informed decisions in line with sourcing policies.

WWF Common Wild Capture Fishery Methodology /Common Aquaculture Methodology (Global)

WWF, together with the North Sea Foundation and the Good Fish Foundation, developed two methodologies to assess the environmental sustainability of the origins of seafood species from wild-capture fisheries and aquacultures. These methodologies underpin the advice provided on the many consumer seafood guides that WWF has developed which guide consumers in making environmentally responsible seafood choices. These are desk-based assessments and each assessment undergoes a quality control (cross-check) regarding consistency by a member of the assessment team. The methodologies can be downloaded from the website (http://wwf.panda.org/get_involved/live_green/out_shopping/seafood_guides/methodology/).

Appendix 8 – Bibliography and best practice reference materials

Standards and Specifications

AIPCE-CEP Recommendations: Principles for Environmentally Responsible Fish Sourcing (https://www.aipce-cep.org/wp-content/uploads/2017/04/AIPCE-CEP-Recommendations-Principles-for-Environmentally-Responsible-Fish-Sourcing-2010.pdf)

ISO 12875:2011: Traceability of finfish products -- Specification on the information to be recorded in captured finfish distribution chains (last reviewed and confirmed in 2016) (https://www.iso.org/standard/52084.html)

ISO 12877:2011: Traceability of finfish products -- Specification on the information to be recorded in farmed finfish distribution chains (last reviewed and confirmed in 2016) (https://www.iso.org/standard/52085.html)

Publically Available Specification (PAS) 1550:2017 Exercising due diligence in establishing the legal origin of seafood products and marine ingredients. Importing and processing. Code of practice (https://shop.bsigroup.com/ProductDetail/?pid=000000000030337167)

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