



IUU Fishing Risk in and around Japan

WWF Japan

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Acronyms

ABNJ	Areas Beyond National Jurisdiction
ADF	Alaska Department of Fish and Game
AIS	Automatic Identification System
ASFIS	Aquatic Sciences and Fisheries Information System
BIP	Border Inspection Point
BMSY	Biomass at Maximum Sustainable Yield
BSAI	Bering Sea and Aleutian Islands
CC	Catch Certificate
CCA	Crab Catchers Association
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CDS	Catch Documentation Scheme
CECAF	Fishery Committee for the Eastern Central Atlantic
CFMC	Centre of Fishery Monitoring and Communications (Russia)
CFR	Community Fleet Register
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CLP	ASFIS code for Herrings nei (Clupeidae)
CMM	Conservation and Management Measures
CoC	Chain of Custody (MSC)
COFI	Committee on Fisheries
CoP	Conference of the Parties
CP	Contracting Party
CR	Council Regulation
CS	Coastal States
CSA	Coastal States Agreement
DG IPOL	Directorate-General for Internal Policies of the Union (European Union)
DWFN	Distant Water Fishing Nations
EBS	Eastern Bering Sea
EC	European Commission
EEZ	Exclusive Economic Zone
EMP	Eel Management Plan
EPR	European Price Report (Globefish)
ETP	Endangered, Threatened & Protected
EU	European Union
FAF	Federal Agency for Fishery (Russia)
FAO	Food and Agriculture Organisation (of the United Nations)
FIP	Fisheries Improvement Project
FIS	Fish Information And Services
FMC	Surveillance Authority
FMO	Fishery Management Organisation
FMP	Federal Management Partners
FMSY	Fishing Effort at Maximum Sustainable Yield
FPA	Fisheries Partnership Agreement
FS	Flag States
FSB	Federal Security Service (Russia)
GFCM	General Fisheries Commission for the Mediterranean
GHL	Guideline Harvest Level

HAWG	Herring Assessment Working Group
HS	Harmonised Systems
IATTC	Inter-American Tropical Tuna Commission
ICCAT	International Commission for the Conservation of Atlantic Tunas
ICES	International Council for the Exploration of the Seas
IFQ	Individual Fishing Quota
IOTC	Indian Ocean Fisheries Commission
IPOA	International Plan of Action
IUCN	International Union for the Conservation of Nature
IUU	Illegal, Unreported and Unregulated (Fishing)
JFA	Japanese Fisheries Agency
JPN	Japan (Three letter code)
MAFF	Ministry of Agriculture, Forest and Fisheries
MARF	Ministry of Agriculture of the Russian Federation
MCS	Monitoring, Control and Surveillance
MEL	Marine Eco-Label (Japan)
MINSA	Mackerel Industry Northern Sustainability Alliance
MOU	Memorandum of Understanding
MRAG	Marine Resources Assessment Group
MS	Member States
MSC	Marine Stewardship Council
MSY	Maximum Sustainable Yield
NAFO	North Atlantic Fisheries Organisation
NEAFC	Northeast Atlantic Fisheries Commission
NGO	Non-Governmental Organisation
NIS	Norwegian International Ship Register
NMFS	National Marine Fisheries Service
NOAA	National Oceanographic and Atmospheric Administration (US)
NOR	Norwegian Ordinary Ship Register
NPAFC	North Pacific Anadromous Fish Commission
NPFMC	North Pacific Fisheries Management Council
NPOA	National Plan of Action
ODI	Overseas Development Institute
OECD	Organisation for Economic Co-operation and Development
OLE	Office of Law Enforcement
PONC	Port of Non-Compliance
PONCS	Ports of Non-Compliance
PS	Port States
PSC	Prohibited Species Catch
PSMA	Port State Measures Agreement
RA	Risk Assessment
RFMO	Regional Fisheries Management Organisation
RRP	Resources Recovery Plan
RSW	Refrigerated Sea Water
SEG	Sustainable Eel Group
SFP	Sustainable Fisheries Partnership
SGIPEE	Report of the Study Group on International Post-Evaluation on Eels
SPRFMO	South Pacific Regional Fisheries Management Organisation
SRFC	Subregional Fisheries Commission

SSB	Spawning Stock Biomass
TAC	Total Allowable Catch
TAE	Total Allowable Effort
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea
UNFSA	United Nations Fish Stocks Agreement
USA	United States of America
USCG	United States Coast Guard
USD	United States Dollars
VMS	Vessel Monitoring System
WB	World Bank
WBG	World Bank Governance Indicators
WCPFC	Western and Central Pacific Fisheries Commission
WGEEL	Working Group on Eels (ICES)
WWF	World Wildlife Fund (USA) / Worldwide Fund for Nature (Worldwide)

1 Executive Summary

This project provides a detailed analysis of ten species selected from fifty that had been pre-selected based on the level of production in Japan and imports into Japan against a series of risk criteria for illegal, unreported and unregulated fishing. Ten species or species groups have been selected from the rapid risk assessment for further detailed investigation.

- Pacific salmon *nei*
- Herrings *nei*
- Mackerels (all)
- Octopuses, etc. *nei*
- Flatfishes *nei*
- Tanner crabs *nei*
- King crabs (all)
- Smelts
- Eels (all); and
- Jumbo flying squid.

This report assesses the likelihood in detail for six criteria: (i) Fishing vessels, legal personalities and companies, (ii) the fisheries for that species that supply the market, the (iii) flag States, (iv) coastal States and (v) port States involved in the fishery and finally (vi) the market State (in this case Japan).

Each of these criteria have been evaluated for each species based on a number of individual scoring elements that can be found in the individual risk assessments (see Section 5) and a summary can be found in Table 1. For each species we have then identified those criteria and specific scoring elements that are of particular higher risk (i.e. where weaknesses exist) to enable mitigation measures to be proposed.

Table 1 Summary of the results of the detailed risk assessments.

Risk Area	1. Fishing vessels, legal personalities and companies	2. Fisheries	3. Flag State	4. Coastal State	5. Port State	6. Market State	Average
Eels <i>nei</i>	3.00	2.90	2.83	2.91	2.90	2.16	2.78
Flatfish <i>nei</i>	2.33	2.08	2.28	2.04	2.11	1.84	2.12
Herring <i>nei</i>	2.63	1.67	1.05	1.10	0.99	1.81	1.54
Jumbo flying squid	2.33	1.37	1.66	1.70	1.46	1.84	1.73
King crabs	2.33	2.32	1.36	1.24	1.65	2.02	1.82
Mackerel <i>nei</i>	1.54	1.17	1.45	1.67	1.61	1.81	1.54
Octopus <i>nei</i>	2.42	2.27	1.01	1.26	1.40	1.86	1.70
Pacific salmon <i>nei</i>	2.50	2.07	1.28	1.18	1.75	1.91	1.78
Smelts <i>nei</i>	2.64	2.12	1.35	1.17	1.52	1.88	1.78
Tanner crabs	2.29	1.88	1.31	1.31	1.48	1.81	1.68

There are three groups we would consider in this assessment process. The first are those that present a low-medium level of risk of IUU fish or fisheries products entering the Japanese market. This includes small pelagic industrial fisheries for the herring and mackerel and for octopus. These fisheries typically have good regular stock assessment with well-defined reference points and have clear management and control at the flag State, coastal State and port State level. Weaknesses still exist in each of the risk assessments, where improvements are recommended. For example, the octopus fisheries have a medium-high risk associated with the fisheries themselves as they tend to be overfished e.g. in West Africa where the latest CECAF stock assessment estimated the octopus stock to be at approximately 50% of B_{MSY} , or where no current biomass estimate or MSY estimates for the fisheries exist. In these cases we would recommend that suppliers only source from stocks with a clear indication of a sustainable fishery that is not being overfished and is not in an overfished state. Mackerel and herring fisheries also score better due to a number of MSC certified fisheries through which a lower risk can be shown.

The two crab species groups (king crabs and tanner crabs) have average scores of 1.82 and 1.68 respectively. These would be considered medium-high. Due to the similarities between these two species we have considered them together as the recommendations apply across all crab species entering the Japanese market (including snow crab). These include a recommendation to ensure that the scientific name for the species (and FAO code) is used with all imports to avoid any misreporting between species or as species groups which masks the source of the crab. Crab stocks may be at risk of overfishing individually and grouping species and even stocks together can allow this to continue without detection.

Some species are considered higher risk given the scores from the assessment. These are typically those for larger species groups e.g. eels (where farming of a number of species adds significantly with an additional layer of confusion over sources), flatfish nei and Pacific salmon. The higher risk scores for these species are often caused simply by the larger unknowns or wider range from which the fish may be sourced. Flatfish nei for example as a group may include many different species, all of which appear very similar when processed, from a wide range of countries of highly varied stock status. Pacific salmon as a group covers a smaller number of species but because of the reproductive behaviour of salmon a vast number of individual stock units are under consideration and yet with this one large class it can hide potential IUU and unsustainable fishing.

The market State scores for Japan appear on the medium-high end of the scale. This highlights a number of areas where risks can be reduced in the market and Japanese supply chains for all fish and fisheries products. Generally there is a low incidence of IUU fish in the market and supply chains, however the complexity, transparency and length of the supply chains examined increases the level of risk. No catch certificate systems exist beyond those employed by RFMOs (e.g. bluefin tuna and toothfish). The level of audits and other checks in place in the supply chain, when observed is relatively low, though similar to many other developed countries, but there is a strong recommendation to carry out these checks. This would require information on the species, vessel, catch area and dates to be available with every shipment though, something that may not be possible for many of the higher risk species. Very few of the species considered are MSC certified, with the exception of the herring, mackerel and Pacific salmon fisheries.

These risks can be greatly reduced with better information provision and for individual supply chains guarantees that certain procedures (e.g. unmonitored transshipments and species specific recording) are taking place.

Underlying all species are a number of clear basic recommendations:

- Clear supply chain identification for all fish and fish products back to the vessel, date and location of fishing activity is required for all imports to the Japanese market in a manner similar to the EU catch certificate programme or the US Seafood Import Monitoring Programme (SIMP).
- All vessels operating in a fishery should be able to demonstrate their registration and authorisation to fish in that fishery. This information should be publically available and transparent.
- Clear identification of all species to the species level on import. Grouping of species into a larger family group e.g. flatfish nei, allows for the import of potentially illegal and unsustainable fish mixed in with legal and sustainable fish.
- Port States (including Japan) should ratify and implement the FAO Port State Measures Agreement.
- Clear, transparent supply chains should be maintained from source to consumer for all fish or fish products imported. In this way, high risk sources, in terms of flag States or coastal States, individual fisheries or high risk port States or individual ports can be avoided, reducing the risk of IUU fish or fisheries products entering the Japanese market. Where transshipment occurs in the supply chain, this should be considered at a higher level of risk, unless transshipment is monitored in port by national inspectors or at sea by independent observers on the vessels (e.g. IATTC, ICCAT, IOTC and CCSBT transshipment observer programmes for tuna fisheries).
- Where possible supply from MSC certified fisheries or those undergoing a FIP to reach MSC certification.

A more detailed summary of recommendations can be found in section 4.2.

2 Introduction and Background

This project provides a simple summary analysis of fifty species selected based on the level of production in Japan and imports into Japan against a series of risk criteria for illegal, unreported and unregulated fishing. The previous rapid IUU risk assessment was conducted to provide WWF Japan with a brief overview of the potential for IUU catch to enter a particular supply chain, identify potential risks in the supply chain from the fishery through to the market place and to then identify where interventions are possible to reduce and minimise this risk.

The six IUU criteria as outlined are as follows:

- 1. Vessels** – Vessels that have been identified as fishing within the fishery and the risk associated with these vessels (e.g. vessels or fleets identified as IUU);
- 2. Fisheries** – The fisheries themselves and the risks associated with them (e.g. price, where higher priced species will be generally at a higher level of risk);
- 3. Flag State** – The flag States of the vessels in a fishery and their performance in controlling and managing their own vessels;
- 4. Coastal State / RFMO** – The coastal State(s) and / or RFMO in which the fishery occurs;
- 5. Port State** – The State(s) where the fish are initially landed;
- 6. Market State** – A consideration of the market related factors that could impact on the ability of IUU fish or fisheries products to enter the Japanese supply chains. This score will be very similar for all 10 species considered in this report as the risk assessments being considered the final market in each case will always be Japan.

This report assesses the likelihood of IUU material being able to enter the Japanese market. A detailed analysis for each the criteria for ten species chosen after the rapid risk assessment process. These risk assessments are based on publically available evidence where this has been available and where not it has been based on experience of similar fisheries (i.e. the same species, gear, region, scale etc.) but without an exhaustive series of data requests and extensive research from private and government sources.

An indication is then given in terms of a risk score for each scoring element in the criteria listed, then average values for each of the six criteria are calculated (each scoring element weighed equally in this assessment).

For each species we have then identified those criteria and specific scoring elements that are of particular higher risk (i.e. where weaknesses exist) to enable mitigation measures to be proposed.

3 IUU Risk Assessment Methodology

Ten fully detailed IUU risk assessments have been completed for the species as defined in Table 2 against the six IUU criteria listed.

Each risk assessment follows the same standardised structure:

- **Executive Summary** – A summary of the findings for each species or species group.
- **Identification** – Species, gear, source, port and trade routes.
- **Risk Assessment** – Assessment on a simple scale (1-3 with 3 being highest risk) against each of the scoring elements within each of the six criteria (vessels, fisheries, flag State, coastal State, port State and market State)¹. Each of the scoring elements may have one or more elements. An average score between 0 and 3 will be calculated for each scoring element and an average score for each criteria calculated.

For each of the IUU criteria available information sources have been searched to determine the available information for each fishery and supply chain. These information sources will typically include:

- National fisheries department documents (in the public domain);
- National fishing industry summaries (e.g. FAO summaries);
- MSC or other certification body fishery assessments and information on supply chains;
- FIP documentation;
- RFMO and national databases of vessels, stakeholders etc.;
- RFMO documents (Working groups etc.);
- Scientific papers; and
- Grey literature.

It should be noted that where no information is available this will be scored at a higher level of risk, i.e. in the absence of information to reduce the level of risk it will remain at a high level.

NB: A number of assumptions are made throughout the rapid risk assessments.

- **Recommendations** – A summary of the recommendations / mitigation measures for each species / species groups based on the risk assessment scoring.

¹ No detailed sustainability or social criteria have been scored for the ten fisheries in this risk assessment.

Table 2 Summary of assessments carried out (sorted by highest combined import into and production by Japan from FAO statistics).

#	Common Name	Scientific Name	Production (t)	Import (t)	Total (t)
14	Pacific salmones nei	<i>Oncorhynchus spp</i>	298302	967084	1265386
19	Herrings nei	<i>Clupeidae</i>	594583	511779	1106362
20	Mackerels (all)	<i>Scombridae</i>	---	1085552	1085552
21	Octopuses, etc. nei	<i>Octopodidae</i>	451741	598873	1050614
24	Flatfishes nei	<i>Pleuronectiformes</i>	518552	359063	877615
30	Tanner crabs nei	<i>Chionoecetes spp.</i>	50600	552732	603332
41	King crabs (all)	<i>Lithoidea</i>	---	277433	277433
42	Smelts	<i>Osmeridae</i>	---	261911	261911
48	Eels (all)	<i>Anguillidae</i>	---	206501	206501
49	Jumbo flying squid	<i>Dosidicus gigas</i>	201278	---	201278

Source: FAO FishstatJ capture production and import statistics.

NB: Number refers to the relative position of the fishery in terms of the total amount on the Japanese market e.g. Octopuses etc. nei. Occupies the 21st place in the order of total imports and production combined.

4 Summary results

4.1 Discussion

This report assesses the risk of IUU fish or fisheries products entering the Japanese market in detail for six criteria: (i) Fishing vessels, legal personalities and companies, (ii) the fisheries for that species that supply the market, the (iii) flag States, (iv) coastal States and (v) port States involved in the fishery and finally (vi) the market State (i.e. Japan).

Each of these criteria have been evaluated for each species based on a number of individual scoring elements that can be found in the individual risk assessments (see Section 5) and a summary can be found in Table 3. All risk scores are given between 0 (low / negligible risk) and 3 (high risk). For each species we have then identified those criteria and specific scoring elements that are of particular higher risk (i.e. where weaknesses exist) to enable recommendations to be proposed.

When looking at the scores for the individual criteria there are quite large differences. Criteria 1 (Fishing vessels, personalities and companies) generally scores quite high, (1.54 – 3.00), with five of the species or species groups in the very high risk criteria (i.e. >2.4). This is due to the largely unknown details of specific vessels and the level of control on vessels in the fisheries. Similarly, when looking at the level of IUU recorded for each fishery it is difficult to exclude a high level of potential risk without a clear identification of the actors in the system, hence the relatively high scores. The lowest scoring fishery here is “mackerel nei”, where the requirements for registering and licensing vessels in flag States are well known and many of the fisheries likely to supply Japanese fisheries may be MSC certified and therefore vessels are clearly identified and all detailed are public and transparent. This would be any ideal position for all fisheries to be in with respect to vessel and company transparency. The highest scoring are those where little or nothing is known, in particular “eels nei” where an extra level of farming is added to the supply chain, and the potential for illegal eels to be supplied to the farms and mixed with no knowledge with legal supplies is of great concern.

When analysing the risk scores for the fisheries themselves, i.e. history of IUU occurrence, management and status, quota allocation, access to the fishery and MSC certification, a wide range of scores between 1.17 and 2.90 were observed. The lowest scores of “mackerel nei”, “herring nei” and jumbo flying squid show the level of management that occurs for these species. This is helped by the relative small number of species in the two groups and the good management of those species including MSC certification in a number of fisheries. Several species score higher due to missing stock assessment or management information or where it does exist there may be evidence of overfishing and overcapacity (e.g. Octopus nei) or information just not being available due to uncertainty over the source (e.g. flatfish nei and eels nei). Particularly high scoring elements across the fisheries here are those relating to the establishment of reference points and how fisheries are operating relative to MSY. For mixed species groups or where information on stock assessments are missing these elements scored highly (average 2.25 and 2.35).

Flag State risk scores vary between a low of 1.01 and a high of 2.83. The lower flag State risk scores for the fisheries come from those fisheries with responsible flag States that can demonstrate control over their fleets (e.g. EU, US and Japan). Those fisheries that have mid-range scores often have some flag States with good control, and some with a medium level of control such as Russia, China or Peru and Ecuador. As above those species with higher scores are where clear identification of flag States has not been possible e.g. “eels nei” or where a very wide range of potential flag States is possible e.g. “flatfish nei”. A similar situation exists for coastal State and port State criteria, with score ranges of between 1.10 and 2.91 and 0.99 and 2.90 respectively. Scoring elements of concern here are typical of fisheries worldwide with the highest risk elements being shown for the lack of publically available

information on licensed / authorised fishing vessels at the flag State level (a score of 2.5) here the EU scores well for the list of vessels but outside of MSC fisheries it still remains difficult to link vessels to particular fisheries. One low scoring risk here for flag States (and repeated for coastal and port States as many of the fisheries are domestic rather than distant water) is the scoring elements related to RFMO membership and engagement. Many of the flag States supplying Japanese markets are active and responsible members of relevant RFMOs for all their fisheries, although outside of the North Pacific Anadromous Fish Commission (NPAFC) for “Pacific salmon nei” and the Northeast Atlantic Fisheries Commission (NEAFC) for “herring nei” and “mackerel nei”, the other seven species or species groups are not covered by an RFMO. Coastal State and port State scoring elements that appear higher than expected refer to the lack of designated ports and transshipment regulation in some States.

The market State scores for Japan appear on the medium-high end of the scale. This highlights a number of areas where risks can be reduced in the market and Japanese supply chains for all fish and fisheries products. Generally there is a low incidence of IUU fish in the market and supply chains, however the lack of knowledge of the complexity, transparency and length of the supply chains examined increases the level of risk (scores of 3.0 commonly occur). No catch certificate systems exist beyond those employed by RFMOs (e.g. bluefin tuna and toothfish). The level of audits and other checks in place in the supply chain, when observed is relatively low, though similar to many other developed countries, but there is a strong recommendation to carry out these checks. This would require information on the species, vessel, catch area and dates to be available with every shipment though, something that may not be possible for many of the higher risk species. Very few of the species considered are MSC certified, with the exception of the herring, mackerel and Pacific salmon fisheries.

These risks can be greatly reduced with better information provision and for individual supply chains guarantees that certain procedures e.g. unmonitored transshipments and species specific recording are taking place.

Considering the scoring across all six criteria, overall there are three groupings of species and species groups we would therefore consider in this assessment process. The first are those that present a low-medium level of risk of IUU fish or fisheries products entering the Japanese market. This includes small pelagic industrial fisheries for the herring and mackerel and for octopus. These fisheries typically have good regular stock assessment with well-defined reference points and have clear management and control at the flag State, coastal State and port State level. Weaknesses still exist in each of the risk assessments, where improvements are recommended. For example, the octopus fisheries have a medium-high risk associated with the fisheries themselves as they tend to be overfished e.g. in West Africa where the latest CECAF stock assessment estimated the octopus stock to be at approximately 50% of B_{MSY} , or where no current biomass estimate or MSY estimates for the fisheries exist. In these cases we would recommend that suppliers only source from stocks with a clear indication of a sustainable fishery that is not being overfished and is not in an overfished state. Mackerel and herring fisheries also score better due to a number of MSC certified fisheries through which a lower risk can be shown.

The two crab species groups (king crabs and tanner crabs) have average scores of 1.82 and 1.68 respectively. These would be considered medium-high. Due to the similarities between these two species we have considered them together as the recommendations apply across all crab species entering the Japanese market (including snow crab). These include a recommendation to ensure that the scientific name for the species (and FAO code) is used with all imports to avoid any misreporting between species or as species groups which masks the source of the crab. Crab stocks may be at risk of overfishing individually and grouping species and even stocks together can allow this to continue without detection.

Some species are considered higher risk given the scores from the assessment. These are typically those for larger species groups e.g. eels (where farming of a number of species adds significantly with an additional layer of confusion over sources), flatfish nei and Pacific salmon. The higher risk scores for these species are often caused simply by the larger unknowns or wider range from which the fish may be sourced. Flatfish nei for example as a group may include many different species, all of which appear very similar when processed, from a wide range of countries of highly varied stock status. Pacific salmon as a group covers a smaller number of species but because of the reproductive behaviour of salmon a vast number of individual stock units are under consideration and yet with this one large class it can hide potential IUU and unsustainable fishing.

Table 3 Summary of the results of the detailed risk assessments.

Risk Area	1. Fishing vessels, legal personalities and companies	2. Fisheries	3. Flag State	4. Coastal State	5. Port State	6. Market State	Average
Eels nei	3.00	2.90	2.83	2.91	2.90	2.16	2.78
Flatfish nei	2.33	2.08	2.28	2.04	2.11	1.84	2.12
Herring nei	2.63	1.67	1.05	1.10	0.99	1.81	1.54
Jumbo flying squid	2.33	1.37	1.66	1.70	1.46	1.84	1.73
King crabs	2.33	2.32	1.36	1.24	1.65	2.02	1.82
Mackerel nei	1.54	1.17	1.45	1.67	1.61	1.81	1.54
Octopus nei	2.42	2.27	1.01	1.26	1.40	1.86	1.70
Pacific salmon nei	2.50	2.07	1.28	1.18	1.75	1.91	1.78
Smelts nei	2.64	2.12	1.35	1.17	1.52	1.88	1.78
Tanner crabs	2.29	1.88	1.31	1.31	1.48	1.81	1.68

4.2 Summary of Recommendations

These recommendations are targeted at the Japanese industry i.e. companies involved in the supply of fish and fish products into Japan (capture, import, processing and sale), the Japanese Government and fisheries authorities and NGOs such as WWF Japan who may be in a position to influence

4.2.1.1 *Fishing vessels, legal personalities and companies*²

- Information is required on the fishing vessels, legal personalities and companies involved in all stages throughout the supply chain to provide a more accurate assessment of individual supply chains entering the Japanese market. This information should accompany any shipment of fish or fisheries products to ensure full traceability similar to the EU catch certificate or US Seafood Import Monitoring Program (SIMP).
- Work with other traders/retailers to develop management decisions and traceability systems, with a particular focus on ensuring legality of sourced products.
- Wherever possible, short simple supply chains direct from the fishery or cooperative should be sought to increase transparency and control of the supply chain.
- It is recommended to purchase MSC / ASC products (if available), and follow the progress of alternative eco-label practices e.g. Marine Eco-Label Japan. It is noted that Marine Eco-Label products do not come with full-chain traceability certificates however, therefore follow industry advancements for full-chain certification as this dramatically reduces the risk of IUU products entering chains.
- (Eels nei) To reduce the risk of purchasing IUU products seek farms that have quality inspectors that regularly monitor and inspect them and examine any discrepancies between reported / estimated eel fry farm input and production.

4.2.1.2 *Fisheries*

- Clarification of the species name (e.g. smelt is often used as a common name for different species e.g. great silver smelt which is actually an argentine). Many species are imported as a family of species e.g. "Flatfish nei", which masks imports of potentially overfished or IUU fish into the Japanese market.
- Information is required on the specific fisheries (i.e. species and stock) that are used to source the Japanese market.
- Further data on fisheries should be collected in order to gain a better understanding of the fish stocks, (i.e. status, distribution and management).
- More information should be sought on the licensing / permit systems of supplying fisheries to ensure they are not overcapacity and overexploiting stocks.
- Engage actively in efforts occurring on an international scale to coordinate management and conservation of species if no RFMO exists.
- High seas fisheries that do not have a clear RFMO management structure in place, for example squid, should be avoided due to the lack of a clear and complete regulatory framework and management regime at the current time. Where this does not occur engagement to create an RFMO would be a preferred option.
- Develop and engage with the various components of the fishery on the possibility of developing a FIP, where fisheries are not MSC certified.
- Engage in working towards MSC certification for fisheries that supply Japan.
- Wherever possible, MSC certified product should be sourced through MSC CoC certified supply chains.

² NB: For "Eels nei" this also includes farms where elvers are farmed until they are large enough to be harvested.

- It is not advised to purchase products that are reliant on catching species listed on the IUCN Red List as “Critically Endangered” e.g. *A.anguilla*, “Endangered” e.g. *A.japonica* and *A.rostrata* and “Near Threatened” e.g. *A.bicolor*.
- Within Japanese fisheries stock assessments and stock management systems are only implemented for species deemed to be commercially important, this includes some flatfish species (e.g. Flathead flounder). However, as not all species are regulated different levels of risk across species exist. Choose species from Japanese fisheries that are subject to TAC control systems in order to increase the likelihood that products have originated from well-managed stocks, or require any commercially traded species to have a stock assessment performed and quotas established at least every two years.
- Currently, there is a paucity of certified fisheries with fully supply chain traceability, therefore encourage industry advancements for certification
- There is high potential for gear interaction with delicate ecosystems and for incidental catches of ETP species including sharks, rays and skates with many gear types, trawl, longline, purse seine, drift net etc. Therefore, ensure that products originate from fisheries that take measures to identify and reduce bycatch of ETP species and mitigate against wider ecosystem impacts.

4.2.1.3 Flag State

- Where flag States are unknown, our recommendation is that the flag States involved in the supply chain should be clearly defined.
- Complete vessel and fisher identification, including licence and registration should be required for all imports, (including any unique vessel identifiers) should be obtained for all fish or fisheries products sourced.
- Flag States supplying the Japanese market should all have the capability to produce a catch certificate style record, this should be required in all cases, and accompany the product.
- Regular random forensic audits of the supply chain should be carried out and include administrative checks of the catching vessels. The case where any product is sourced from another coastal State, detailed information on the nature of the agreement should be obtained.
- Full traceback assessments and of the supply chain across all fisheries sourced, should be carried out on a regular basis. This should include information on the vessel registration and permit to fish.
- Further information is required on the level and extent of flag State control. It should be noted that flag State requirements outside the European Union are often voluntary and weakly enforced.
- In the case where any product is sourced from another coastal State, detailed information on the nature of the agreement should be obtained.
- Lists of authorized vessels should be made public to allow a more detailed risk assessment.
- Choose flag State(s) that utilise a wide range of scientific data to manage fisheries through both input and output controls, e.g. EU MS, as for example it was found that Japan’s domestic flatfish fisheries are not always managed by strict output controls.
- Choose flag State(s) that do not permit transshipping by their vessels unless a permit has been sought and verification of the original catch has been performed, this includes both Japan and EU MS.

4.2.1.4 Coastal State

- Where coastal States involved in the supply chain at this time is unknown our recommendation is that the coastal States involved in the supply chain should be clearly defined.
- In the case where any product is sourced from flag State different to the coastal State, detailed information on the nature of the agreement should be obtained (whether private or State to State). In addition, full details of those vessels fishing in other coastal State waters should be obtained.
- Forensic audits of the supply chain should be tiered to ensure higher risk coastal States, i.e., Japan and Russia, are examined in more detail. Furthermore, these audits should provide reassurances that catch was not obtained from the high seas.
- Further information should be collected on the implementation of coastal State controls as the level of publically available information is limited.
- Information on transshipment controls within in their coastal waters is required.
- Where possible coastal States should progress to become contracting / cooperative non- members of the various multi-lateral agreements and at the very least should sign the PSMA to ensure cooperation between flag, coastal and port States.

4.2.1.5 Port State

- Where the port States involved in the supply chain is unknown our recommendation is that the port States involved in the supply chain should be clearly defined.
- Transshipment within the supply chain should be avoided. In cases where this is unavoidable, accompanying documentation, including details of any independent verification needs to be obtained.
- Choose products that originate from a port State that has strict measures in place to reduce the chance that IUU fish could be landed. This could include requiring any vessels landing to be able to produce logbook information on catches that is verified by VMS data. Japan was found to have strict measures in place to reduce the likelihood that foreign vessels could land any IUU fish into their ports, including prior notification of landing and documentation from the corresponding flag State(s) for where the fish was caught verified by VMS data.
- Where possible, buying products from countries that have ratified the PSMA guarantees that the country has introduced set measures to reduce the likelihood that IUU fish products can be landed into their ports.
- Engage with the Japanese Government to ratify the PSMA, and where possible with other port States that are involved in the supply of fish and fisheries products to Japan.

4.2.1.6 Market State

- Where States involved in the supply chain is unknown our recommendation is that the supply chain should be clearly defined to allow a more detailed risk assessment to be conducted.
- Ensure all product is accompanied by a catch certificate, as well as any accompanying documentation, notably transportation (including transshipment) and transformation (processing).
- Obtain a list of all possible intermediary companies and States involved in the supply of product.
- Carry out regular forensic audits of the supply chain, examining any links in custody, and the associated companies and States.
- Ensure requirements for a clear and transparent supply chain are communicated throughout the chain of custody.

- Wherever possible, source direct from the supplier, or with limited supply chain complexity and where possible from MSC certified sources.

NB: It should be noted that the IUU risk assessment carried out is limited in scope, analysing the risk that IUU fish may enter the supply chain from a particular fishery. It does not analyse the individual supply chains present and this would require a traceability assessment to be carried out which has not been done in this case.

5 Risk Assessments

5.1 Eels nei

5.1.1 Executive Summary

The IUU risk assessment is designed to provide an estimate of the potential for IUU catch to enter a particular supply chain, identify potential risks in the supply chain from the fishery through to the market place and to then identify where interventions are possible to reduce and minimise this risk. It will not be able to indicate the level of risk that occurs once a fishery has entered the supply chain and it is recommended that a traceability benchmarking assessment or similar review of the supply chain is conducted to evaluate this risk.

Owing to a lack of supply chain traceability this risk assessment covers all Anguillidae species, which are all wild-caught and then grown to maturity in farms, most likely in E. Asia, prior to export to Japan. The IUU risk is perceived to be high across all eel products with a lack of traceability ubiquitous across all supply chains globally, therefore recommending sustainable product sources associated with lower risk wasn't possible. The risk of IUU activity is motivated by high prices related to strong market demand, a lack of coordination between national/international regulation and dramatic reductions in the supply of wild-caught glass eels through dwindling populations and related conservation measures.

High market prices and the ability of the Asian market to absorb large quantities of IUU products through a lack of traceability has led to the emergence of highly-organised criminal activity exporting wild-caught European Union (EU) eels to the Asian market. Crime in the eel trade is not restricted to particular areas/species and is reported to be widespread across the world. Evidence of IUU activity is given by enforcement activities (e.g. customs seizures), large quantities of un-explained catch and trade discrepancies observed through trade analysis and anecdotal reports. Mitigating efforts are in place to restrict trade, including a total ban on all exports of European eel (*Anguilla Anguilla*) to/from EU Member States (MS) to non-EU countries³ and export restrictions on all eel fry from Indonesia and the Philippines. In addition, exports of glass eels are also restricted under the listing of the *A.anguilla* on the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Appendix II. These factors lead us to recommend avoiding purchasing all products of *A.anguilla*, as it is unlikely that these would have been wild-caught legally, and continuing trade threatens population recovery of this Critically Endangered species.

Globally, ascertaining the sustainability of eel fisheries is constrained by a lack of available data and knowledge of population structures/the relationship between life-history stages, however population declines and conservation concerns are widespread across all freshwater species commonly eaten⁴. Asian farms, the most likely source of Japanese imports, traditionally relied upon large quantities of EU exports of *A.anguilla*, but trade restrictions enacted as a response to dramatic population declines (recruitment across Europe has fallen to below 5% of historic levels) means this source is no longer legally viable. As a result of these conservation measures there has been a shift in glass eel imports from *A.anguilla* to other species, resulting in increased pressure on these populations, price increases and a transfer of the risk of IUU to new countries and species.

Detecting and reducing IUU trade is currently constrained by a number of factors including limited DNA analysis availability for species identification, difficulties in establishing source of

³ Under EC Council Regulation No. 1100/2007.

⁴ *A.anguilla* is listed as critically endangered and *A.japonica* and *A.rostrata* are rated as Endangered by the International Union for the Conservation of Nature (IUCN) (www.iucnredlist.org).

origin due to a lack of traceability and a lack of awareness of international / national regulations in place. There is also a lack of harmonisation in national/international management tools, meaning that supply chain actors are often unaware of what constitutes illegal trade and due to minimal enforcement it is allowed to continue unchecked.

Moving forwards, advancements in supply chain traceability are imperative in order to reduce the ability to conceal IUU products within Asian markets through increased utilisation of DNA analysis, enforcement of regulations designed to stop illegal trade and increased demand for legal and sustainable wild-caught eels. There is also a requirement for holistic management across distribution areas due to population connectivity and an accompanying increased awareness of national and international legislation. Increasing the understanding and knowledge of population structure/biology through research, widespread data collection and use of output controls is also vital if a commercial trade in eels is to continue. Currently, there are no products with full chain traceability as assessed under international certification schemes available to the Japanese market. Therefore, purchasing all products carries a high perceived risk of IUU and all supply chain actors should be following and engaging with advancements in increased traceability and certification processes moving forwards.

Table 4 Average score (Eels nei) for the six key areas in the risk assessment.

Key risk areas:	Score
Fishing vessels, legal personalities and companies	3.00
Fisheries – all Anguilla species worldwide (cultured in Asian farms)	2.90
Flag State – Various	2.83
Coastal State – Various	2.91
Port State – Various	2.90
Market State – Japan	1.88
Average	2.74

Key:

Colour	Min	Max	Risk	Description
	>0.0	<=0.6	No or minimal risk	Little or no action required
	>0.6	<=1.1	Very low risk	Some minor actions may be required, but risk level is very low
	>1.2	<=1.8	Low	Risk level is low, but some particular elements may require mitigating measures to be put in place.
	>1.8	<=2.4	Medium	Medium level of risk. Particular scoring elements may need to be addressed and mitigated against.
	>2.4	<=3.0	High risk	High level of risk. One or more elements have substantial risks associated with them. Scores of this level may suggest sourcing from a different fishery.

5.1.2 Identification

This risk assessment addresses the following scope:

Table 5 Identification of scope of the IUU risk assessment.

Species	Eels nei (<i>Anguilla spp.</i>)
Area	FAO Areas 01 (Africa Inland) and 05 (Europe Inland) No domestic Japanese catches all imports (100%) Likely to include cultured from mainland Asia
Gear	Various (and limited cultured)
Fleet	n/a
Coastal States / RFMO:	n/a
Port State:	n/a
Market State:	Japan

The scope of this assessment is as detailed above, however some introductory texts on the assumptions have been made in order to increase the accuracy of the risk assessment is as written here.

Japan is traditionally considered to be the dominant market for eels, and trade data indicates that the majority of products currently originate in mainland China and Taiwan R.o.C., along with domestic catches (although these have been omitted for this report as no domestic catches have been reported recently according to official FAO statistics) (Shiraishi and Crook, 2015). The report covers all *Anguilla* species, however the dominant food species are *A.anguilla* (European eel), *A.japonica* (Japanese eel) and *A.rostrata* (American eel). Obtaining trade information to the species level is not possible, however trade analysis suggested that 40% of all prepared/preserved eel imported in Japan from Mainland China between 2009 and 2013 was *A.anguilla* (Shiraishi and Crook, 2015). That said, this report observes the shifting dynamic in species used in Asian farms as a result of global declines and changes to conservation and management measures; particularly relevant for *A.anguilla*. Therefore, as it suggested that products predominantly originate from mainland Asian “fattening farms”, the main species used for aquaculture is said to be *A.japonica* and it is therefore presumed that this species will also be prevalent within Japanese imports, alongside tropical species such as *A.bicolor* and the *A.rostrata* which are both of increasing importance as a source of glass eels used to stock Asian eel farms (Shiraishi and Crook, 2015).

5.1.2.1 *Fishing vessels, legal personalities and companies*

Eel farming is responsible for over 90% of all *Anguilla* production and for the purposes of this risk assessment it is assumed that the products entering the Japanese market are predominantly farmed. Eel farms are found in many countries with the most significant producers being the EU, Scandinavian countries, China, Taiwan, Australia and Morocco; farms in China and Taiwan are of predominant importance to Japan's market.

Due to the inability to breed eels within farming conditions these farms all rely on wild-caught glass eels/elvers. Eels commonly breed only once during their lifetime, in spawning grounds found in the ocean, the fertilised eggs are then carried by the ocean currents, during which process they transform into larvae and then into glass eels after 18 months. When they are approximately 2-3 years old they are carried towards the shores and are deemed elvers as they transform into darker, larger eels, which resemble adult eels more closely. Upon their arrival in estuarine and freshwater water environments glass eels/elvers are caught mostly using nets, after which they are grown in specialised tanks/ponds where conditions are tightly controlled, or using valliculture methods (by making use of natural coast areas/lagoons) (www.thefishsite.com). Due to this life cycle this risk assessment deviates from the normal process, which is used to assess wild-caught fisheries, and therefore differing importance is attributed to each section.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
1.1 Vessel/Fisher Identification	Vessel identification e.g. vessel name, call sign, country registration number and national and RFMO authorisations to fish (either inside national waters or outside on the high seas or in other zones) is complete to enable identification.	Not applicable to this study/traceability of the original fishing location and method unknown.	N/A	3.0
	Are vessels required to have unique IDs?			
	Are each vessel, captain(s), owner and beneficial owner and agent identified as far as possible, this should ideally be transparent?	Not applicable to this study/traceability of the original fishing location and method unknown.	N/A	3.0
1.2 Vessels on IUU lists.	Are any of the vessels listed in the RA scope on the IUU Lists of RFMOs, (NGOs to be considered but not as clear evidence as evidential value to include is not of the required standard)?	Not applicable to this study/traceability of the original fishing location and method unknown.	N/A	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are any of the legal personalities listed in the RA scope listed on the IUU lists of nationals and companies involved in IUU? Is there any evidence of unlicensed fishing occurring?	Not applicable as insufficient information on traceability.	N/A	3.0
	Are all of the vessels listed on the RA scope listed on authorised (white) lists for RFMOs and/or national authorised lists?	Not applicable as freshwater.	N/A	3.0
1.3 IUU fishing carried out by vessels flying its flag, by its nationals or by companies based in that country.	Are the history, nature, circumstances, extent and gravity of the manifestations of IUU fishing as listed in EU carding process by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	Not applicable as freshwater.	N/A	3.0
	Are the history, nature, circumstances, extent and gravity of the manifestations of IUU fishing as listed in the NOASS biennial reports by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	Not applicable as freshwater.	N/A	3.0
	Are there scientific and market analyses defining the level of IUU (e.g. RFMO reports) conducted by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	Not applicable as freshwater.	N/A	3.0
	Are there NGO and Press reports of IUU incidents (specific to vessels/companies) conducted by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	Unable to determine as unable to identify source.	N/A	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
Average				3

5.1.2.2 Fisheries – River eels *nei* (*Anguilla* spp.) (sustainability, impacts)

The scope of this risk assessment is all freshwater eels imported to Japan, and doesn't incorporate any domestic catches, therefore in order to ascertain the IUU risk it is important to establish the likely species composition of imports. Research suggests traceability of wild caught glass eels/elvers to farms within Asia and N. African countries is negligible; consequently it is highly likely that some intermixing of the common food species occurs. Common farmed *Anguilla* species and their origin sources are (www.thefishsite.com).

- Longfin eel (*Anguilla reinhardtii*) and the Shortfin eel (*Anguilla australis*); only found in Australia and New Zealand.
- European eel (*Anguilla Anguilla*) found in UK, Ireland, Mediterranean, Northern Africa, Baltic Sea and Iceland
- American eel (*Anguilla rostrata*) found in US, S.E of Canada and the Gulf of Mexico
- Japanese eel (*Anguilla japonica*) found in Japan, Korea, China and Taiwan

Traditionally, eel farming in East Asia focused on the native species *A.japonica*, however as a result of fluctuations in annual recruitment in the 1990s there was a shift towards utilising alternate sources of wild-caught glass eels, and a subsequent increase in imports of *A.anguilla* from across its' range. However, the establishment of zero export quotas by EU MS in 2010 meant demand shifted again from *A.anguilla* to *A.japonicus* / *A.rostrata*, and other tropical species. East Asian Customs import data for 2004-2010 demonstrated that approximately 60% of all eel fry imports (total annual imports averaging 130 tonnes) were imported from other East Asian countries / territories and 30% from Europe, with the remaining 10% originating from America and other countries within the Southern range of *A.anguilla* (Shiraishi and Crook, 2015). Following the imposition of the ban, trade shifted so that >30% of all live eel fry originated from America and 65% from Southeast Asia. Within Southeast Asian countries such as the Philippines, Indonesia, Viet Nam and Malaysia are of increasing importance in supplying juvenile *A.bicolor* and other tropical species (Shiraishi and Crook, 2015).

Therefore, this risk assessment assesses the overall sustainability and fishery impacts of all the aforementioned species, with a greater proportional importance placed on the species *A.anguilla* / *A.japonicus* as dictated by the scope of this study and also due to the increased likelihood of these species being found in East Asian farms.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
2.1 Status of fisheries and sustainability	Are fisheries operated with control on removals e.g. quota and / or effort limits?	<p>Within the Northern part of <i>A.anguillas</i>' range all EU MS are subject to both input and output controls as set-out by Council Regulation (CR) No 1100/2007⁵. The CR dictates that MS set, and annually report on, fishing effort and the proportions of catch utilised for different purposes. Fisheries are mostly restricted by input controls across EU MS, including gear restrictions, seasonal closures as well as commercial quotas/annual Total Allowable Catch (TACs). These controls are laid out in Eel Management Plans (EMPs), which all MS had to develop as of 2007. EMPs also include management measures, e.g. reduction in fisheries, improving river continuity and reducing pollution, and are designed to coordinate management across the whole of <i>A.anguillas</i>' distribution area.</p> <p>MS are also limited by zero export and import quotas from/to EU MS (excluding trade between MS) since December 2010. In addition, MS that allow fishing for eels of <12cm in total length are required to reserve a minimum of 35-60% (according to year) of their catches for EU restocking. Within its' Southern range there is little evidence of management by input or output based controls, and no other country aside from Tunisia reported any quota to CITES in 2016.</p> <p>Globally, few details exist concerning effort controls and quotas within other countries likely to supply Asian farms, and it is reported that these novel countries have little or no national regulations in place concerning glass eel catch/farming aside from export restrictions. In Indonesia, there is an export ban for juvenile eels not exceeding 150g, however live eel fry are routinely exported. It is likely that this is done illegally at least to some extent, although penalties for illegally exporting under-sized eels can total up to \$8130 and include imprisonment. Within the Philippines there is also an export ban in place for juvenile eels not exceeding 15cm, however regular illegal trade is said to occur since the ban was put in place in May 2012.</p> <p>There is seemingly increased recognition of the need for a more holistic/coordinated conservation approach and setting of effort limits. The relevant fisheries agencies in mainland China, Japan, South Korea and Taiwan published a joint statement on "International Cooperation for Conservation and Management of Japanese Eel Stock and Other Relevant Eel Species" in 2014. This cited the need to restrict "initial input" into farms of glass eels/eel fry of wild-caught <i>A.japonica</i> however no specific legislation regarding output controls was set out.</p> <p>For stocks of the American eel (<i>A.rostrata</i>), which is increasingly used to supply E. Asian farms, several measures have been implemented by the US; glass eel harvests are now restricted to only one fishery within Maine, and the state of S.Carolina. Within Maine there is a shift to output controls (quota management through TACs), rather than the traditional input controls (e.g. gear and licensing restrictions).</p>	<p>European Commission (2017) National eel management plans</p> <p>Atlantic States Marine Fisheries Commission (2016) Meeting Report 2016.</p> <p>Shiraishi and Crook, (2015) TRAFFIC Report.</p> <p>Jacoby and Gollock, (2014) Anguilla Anguilla. The IUCN Red List of Threatened Species.</p> <p>Nijman (2015)</p> <p>ICES (2016a). Report of the Working Group on Eels (WGEEL).</p> <p>EU CoP working document (2017)</p> <p>Crook (2014)</p> <p>Nomura (2015)</p>	3.0

⁵ COUNCIL REGULATION (EC) No. 1100/2007 of 18 September 2007 establishing measures for the recovery of the stock of the European eel.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		Research suggests that for the wide majority of countries targeting wild glass eels/elvers there is a lack of output controls enshrined into national regulations, with export restrictions constituting the majority of conservation efforts. This especially applies to E. Asian countries, such as Indonesia and the Philippines. Within the majority of countries that do appear to have effort controls, e.g. EU MS, there are restrictions on the sale of wild-caught eels to Asian farms/markets. Restrictions are in place for populations of American eel, however with no chain traceability we cannot ascertain the source of products and therefore due to this uncertainty and the high likelihood of products originating from countries with poor controls/management this is scored 3.0.		
	Are stock assessments available for species that use data on total removals (i.e. catch, by catch, IUU and discards)?	<p>Stock assessments for eel populations are limited in their accuracy due to a lack of available data, and therefore ICES utilise recruitment indices, as these represent the longest and most reliable time-series that indicate population abundance. With regards to <i>A. anguilla</i> ICES assessments are said to be incomplete as even landing statistics are inconsistent and data on IUU levels isn't available. Although the presence of IUU activities is evident throughout supply chains, as evidenced by enforcement activities and various reports, evaluating the extent to which it impacts on stocks is not possible. This is mostly as data on levels of IUU is not collected by authorities, and therefore cannot be incorporated into assessments.</p> <p>Differing engagement amongst countries within the eels' distribution area also means that data on recruitment levels is not widely available, e.g. data-reporting on escapement levels from EU MS is varied and non-EU countries are not required to collect and report data. Currently, there is also no legislative requirement regarding data collection for the entire stock data, and non-EU countries have mostly only recently joined in data collection processes. The collection of scientific data is increasing globally and research into recruitment indices, abundance estimation, maturity rates, mortality rates and catch rates is occurring (e.g. the ICES Study Group on International Post-Evaluation of Eel).</p> <p>Measuring fisheries sustainability accurately appears to be constrained by a lack of available data to improve the scientific basis of the stock assessment and therefore there is a higher risk of fisheries operating at an unsustainable level. Estimating IUU levels is not possible due to lack of traceability within chains and no legislation requiring countries to collect this data. Non-EU countries have only recently started to collect/share data and the quality of this appears to vary greatly, consequently this is scored 3.0 as the assessments use limited data sources of varying quality.</p>	<p>ICES (2016b) European eel. In Report of the ICES Advisory Committee, 2016.</p> <p>ICES. 2016. Report of the Working Group on Eels (WGEELa).</p> <p>ICES (2011) Report of the Study Group on International Post-Evaluation on Eels (SGIPEE).</p>	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are target and limit reference points defined for the fishery?	<p>Overall, defining target and limit reference points is constrained by the paucity of available data on the location/quantity of mature eels at their spawning grounds and a lack of understanding of the relationship between life-stages e.g. recruitment, yellow eel populations, silver eel escapement and Spawning Stock Biomass (SSB). Mostly, fisheries management applies at the stage when silver eels start their spawning migration, which is then used to provide an estimate of SSB.</p> <p>ICES utilise glass eel recruitment indices as target reference points for European eel populations, as these represent the longest and most reliable time-series that indicate population abundance. ICES advise a threshold of 15% of the “baseline”, defined as the average eel recruitment of the period 1960-79, as the target point for fisheries recovery. ICES further advise a precautionary framework approach for population stocks, which means targeting silver eel escapement at levels of 40% of the pristine biomass. Within its’ Northern range this ICES advice is consistent with national policy; EU MS EMPs have set targets of silver eel escapement to spawning populations equal to/exceeding 40% of the potential biomass that would be produced under conditions absent from anthropogenic disturbances (due to fishing, water quality or barriers to migration).</p> <p>The wide distribution areas of eel populations and a lack of co-ordinated management often complicate defining target and limit reference points. Currently, for <i>A.anguilla</i> there are no reference points, assessment procedures or feedback mechanisms agreed for the whole population although some non-EU countries are starting to join efforts by EU MS to make a distribution control system with harmonised management. Worldwide, other countries are increasingly appreciating the need for coordinated management efforts in setting extraction levels and collecting data e.g. the Joint Statement on International Cooperation for Conservation and Management of <i>A.japonicus</i> and other relevant <i>Anguilla</i> spp. from China, Japan and Korea.</p> <p>There are concerted efforts on a global basis to set and adhere to target and limit reference points, however the population biology of eels and the requirement for widespread coordination across countries constrains efforts. In addition, we have no chain traceability and therefore products could be originating from any of the wild-caught stocks detailed, many of which appear to have no annual review of reference points. Therefore, there is no evidence that any populations are subject to strict restrictions and the risk of fisheries operating at an unsustainable level is deemed to be high (3.0),</p>	<p>ICES (2016b) European eel. In Report of the ICES Advisory Committee, 2016.</p> <p>ICES (2015) EU request on criteria for CITES non-detriment finding for European eel (<i>Anguilla anguilla</i>).</p> <p>European Commission (2017) National eel management plans.</p> <p>JFA (2017). Joint statement on International Cooperation for Conservation and Management of <i>A.japonicus</i> and other relevant <i>Anguilla</i> spp.</p>	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are fisheries operating at a level at or under Maximum Sustainable Yield (MSY)?	<p>For all freshwater eel populations we have no estimates of MSY, $B_{Current}$ or $F_{Current}$ and therefore there is no clear data with which to understand this risk. In addition, for all eel populations understanding MSY is constrained by a number of factors, including incomplete catch data at different life-history stages, a lack of understanding of relationships between life stages and the correlation between recruitment and future escapement.</p> <p>For <i>A.anguilla</i> we have no understanding of the importance of populations to overall stock sustainability, and fisheries and conservation management attributes equal importance to each of the continental populations regardless of the differential importance of escapement from different regions. There are suggestions that certain regions are of greater importance in recruitment to populations, e.g. that males primarily escape from North Africa, however little scientific data exists. As aforementioned catch data is limited and is non-existent for some populations e.g. in the Mediterranean and North Africa. As a result of these difficulties there exists no defined MSY for <i>A.anguilla</i>, and in order to understand population health other reference points are used e.g. biomass escapement targets and recruitment indices. Two widely used recruitment analyses are used to judge fisheries health, by the WGEEL and IUCN, however these are both based on incomplete data. These both indicate recruitment increases during the last few years; however still suggest that levels are at their lowest historical levels (representing 1-10% of the recruitment in the 1980s).</p> <p>All <i>A.anguilla</i> fisheries are operating at a level over MSY in accordance with ICES advice, as 2017 advice is that all anthropogenic impacts, including commercial fishing on all stages, are reduced to as close to zero as possible. EMP progress reports also indicate that more than 50% of the European countries are failing to meet their target silver eel biomass escapement of 40% in accordance with EU regulations⁶.</p> <p>Globally, MSY levels are not available for any freshwater species but indications are that all fisheries are reaching MSY levels due to widely reported population declines and conservation concerns for all of the commonly used species; <i>A.anguilla</i> is listed as critically endangered and <i>A.japonica</i> and <i>A.rostrata</i> are rated as Endangered. Fewer data exists for tropical species, however <i>A.bicolor</i> (which is similar in texture and taste to <i>A.japonica</i>) is rated as Near Threatened. With regards to recent changes in eel fry supply, in Indonesia there is already concern over over-fishing of tropical eel species in Indonesia. This is a similar story worldwide, as a lack of reliable data on sustainable fishing rates and life-history relationships constrains understanding of MSY. This is scored 3 due to lack of knowledge of MSY and widespread indications of unsustainable fisheries.</p>	<p>ICES (2016b) European eel. In Report of the ICES Advisory Committee, 2016</p> <p>Kettle et al (2011)</p> <p>IUCN Red List (2017). Available at; www.iucnredlist.org</p> <p>Council of the European Union (2014)</p> <p>Shiraishi and Crook (2015) TRAFFIC report</p> <p>Jacoby and Gollock, (2014) Anguilla Anguilla. The IUCN Red List of Threatened Species.</p>	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are by catch and ecosystem impacts known (and if different for IUU fishing)?	By catch is negligible within the wild catch fisheries as eels are caught within nets at estuarine, freshwater sources with little chance of other species being caught. This type of fisheries also has a low ecosystem impact. Therefore, by catch and ecosystem impacts are most likely to be minimal during catching of wild eels. However, due to uncertainties concerning product chain traceability this is scored 1.5.	ICES (2016a). Report of the Working Group on Eels (WGEEL)	1.5
	Is the fishery at or below capacity?	The population status of <i>A.anguilla</i> is such that there is no perceived capacity for additional fisheries and ICES advice across its' natural range is that anthropogenic impacts, including commercial fishing on all stages, are reduced to as close to zero as possible. In order to achieve targets set by MS for recovery within EMPs no additional fisheries are planned. These declines are observed across its' range, which is monitored closely by the WGEEL, therefore there is also no perceived capacity for increasing fisheries within the eels' Southern range also. With regards to fisheries capacity of the remaining 16 freshwater eels, the population status of 10 of the 16 freshwater eels is classified as unknown by IUCN. Indications of population health are suggestive that fisheries are operating above capacity, most likely due to increases in demand for alternative species following conservation and management measures applied to <i>A.anguilla</i> . As aforementioned, the common food eels are all listed as Critically Endangered, Endangered and Near Threatened. Population declines and increases in trade prices due to high market demands indicate that a vast majority of fisheries likely to supply E. Asian farms are likely to be operating at overcapacity. In addition, in many source countries management efforts appear to be minimal and uncoordinated/not-enforced. Therefore, this is scored 3.	ICES (2016b) European eel. In Report of the ICES Advisory Committee, 2016 IUCN (2017). Available at www.iucnredlist.org	3.0
2.2 History of IUU	Do previous incidences of IUU exist within the fishery?	Overall, there is global concern over sourcing levels and illegal trade for all of the species commonly "fattened" in E. Asian farms and there is a wealth of evidence to support this concern. A TRAFFIC report identified IUU as a prevalent concern for the sustainability of eel fisheries worldwide and cited a wide range of evidence for its existence, namely; <ul style="list-style-type: none"> • A large quantity of live eel fry imports into E. Asia over the past decade with no corresponding export data • Customs seizures indicate that large quantities of eel fry have been exported illegally from Europe, the Philippines, Indonesia and also within E. Asia • Doubts over the source origin of continuing large quantities of <i>A.anguilla</i> in Asian farms since the EU ban in 2010 	ICES (2016b) European eel. In Report of the ICES Advisory Committee, 2016. Shiraishi and Crook (2015) TRAFFIC report EU CoP working document (2017)	3.0

⁶ Council Regulation No 1100/2007 relating to the recovery of the European eel.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<ul style="list-style-type: none"> Inconsistencies in export/import data and between production data from Asian farms. <p>In addition, an EU report, prepared for the CITES Conference of the Parties (CoP) in 2017, stated that there is evidence on on-going illegal eel trade from Europe (as well as E. and S.E Asia) from regular analyses of CITES, customs and E. Asian eel farming data, seizures and information from traders from 2012-2017.</p> <p>Between 2010-2015 CITES authorities reported glass eel seizures at a rate of one-seven per annum (at international airports in the EU and Hong Kong). Commonly, they had gone through Romania or Bulgaria but the EC identified additional countries they believe are used as 'transit countries' as Greece, Hungary, Albania, Republic of Macedonia, Morocco and Russia. In addition, 13 seizures were reported between 1 January and 8 March of cargo destined for Hong Kong (12) and Shanghai (1). During these raids large quantities of <i>A.anguilla</i> glass eels were hidden in shipments of other fishery products or were mislabelled as different species. Due to morphological similarities between adult <i>Anguilla</i> species proving the species and origin has been difficult in the past, however DNA analysis is increasingly used. In January 2016, 109 kg of glass eels were seized at the Hong Kong International Airport and genetically identified as <i>A. Anguilla</i>, representing the first documented case of illegal trade from Europe into Hong Kong using genetic evidence. In addition, there are indications of IUU activity in European eel's southern range in North Africa. Although there are not impacted by the European eel trade ban, some countries are committed to the CITES (therefore are impacted by the species listing in Appendix II) and also have national eel fishing bans in place. Despite this there is evidence of imports of <i>A.anguilla</i> from these countries, and evidence of these countries being used as "transit countries" for IUU fish.</p> <p>The price of eels and high market demand has stimulated highly organised and wide-scale crime in the trade of glass eels. In 2015/16 the international police operation "Black Glass" uncovered a network of 20 people (of Spanish and Chinese origin) operating from Madrid that were smuggling eels to Hong Kong and China. Within the EU high amounts of unaccounted for catch can be observed in 2015 and 2016 (32.2 and 37.3% respectively). Stocking is considered to be responsible for a proportion of this (stocking activity was thought to represent approximately 20% of the total harvest rate in 2016), however, the fate of the remaining harvest is subject to uncertainty and the aforementioned operating could provide evidence that a considerable amount was smuggled to the East. Estimates were that this network handled approximately 2.5 tons and therefore we can estimate that approximately 2.3% of the total EU harvest for 2015/2016 was smuggled this way (using 2015/16 harvest rates for the EU (110.9t) and estimates for total haul of the Black Glass operation (2.5t for 2015 and 2016)). IUU activities may help to explain discrepancies in catch and export data not just in the EU, but on a global basis also. It is not just <i>A.anguilla</i> that is thought to be subject to IUU activity as high prices and low traceability motivate international illegal trade in glass eels/elvers. Trade in juvenile eels from Asian countries, such as Indonesia and the Philippines, is widely reported despite export bans restricting the sale of</p>	<p>ICES (2016a). Report of the Working Group on Eels (WGEEL).</p> <p>Stein et al (2016)</p> <p>Crook (2014)</p> <p>Nijman (2015)</p>	

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>juveniles. Within the Philippines Illegal trade in juvenile eels is indicated by customs data, seizures and even publically available online advertisements.</p> <p>A wide variety of evidence suggests that IUU activity motivated by high prices and poor supply chain traceability is widespread and is currently occurring. Due to poor traceability avoiding certain wild-caught stocks/species is difficult and therefore this is scored 3.0</p>		
2.3 Access to fishery	Are fisheries authorised through a fishing licence / permit system?	<p>The requirement for fisheries licenses differs across distribution areas and the relevant Flag States (FS). In the EU licenses are required to fish for eel, as dictated by MS EMPs, and which are sold by the respective national authorities e.g. the Environment Agency in the UK.</p> <p>Within other Asian countries, e.g. Indonesia and the Philippines, national regulations pertaining to eel fisheries are minimal and no evidence of a licensing system that is enforced by authorities was found. Suggestions are that non-licenced fishing for eels also occurs in Japan, with 50% of all glass eels catches thought to be made by non-licenced fishermen; as data on glass eel input into eel ponds across E. Asia is unavailable IUU products are increasingly likely to be within supply chains.</p> <p>Across <i>A.rostratas</i>' distribution area licenses are required through National Management Plans (NMPs) in both America and Canada. These licenses are subject to catch caps.</p> <p>Due to high variation in licensing systems this is scored 3.0, as we cannot be certain where products originate and research suggests that for some wild-catch eel fisheries no licensing system is in place.</p>	<p>ICES (2015) EU request on criteria for CITES non-detriment finding for European eel (<i>Anguilla anguilla</i>).</p> <p>Shiraishi and Crook (2015) TRAFFIC report</p> <p>European Commission (2017) National eel management plans.</p>	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
2.4 Price	Data on species market prices (domestic/international) Low price fish (<US\$1000/t) are generally lower risk (e.g. small pelagics), higher priced (>US\$5000/t) demersals (e.g. cod and haddock) will be higher risk, high value species are generally higher risk.	<p>Different life-history stages fetch a different price, which is relevant when considering the IUU risk, as the prices for glass eels far exceed those for adults per kg therefore providing the motivation for IUU. Market analysis suggests that at the glass eel stage the species fetch about 1,200-1,500 EU/per kg in Asia, and when they sold as larger adults (after fattening) traders can make a profit of several thousand euros on each kilogram of glass eels.</p> <p>Press reports from the UK indicate that juvenile <i>A. Anguilla</i> are illegally traded from Europe to Asia for up to 1500 €/kg.</p> <p>The risk here has been scored slightly higher than the normal due to concerns over what product is sold at which stage and modifications to the price from farming / fattening.</p>	<p>The Guardian (2016)</p> <p>Shiraishi and Crook (2015) TRAFFIC report</p>	2.5
	Are any mitigation procedures that may be in place for high value species (e.g. catch documentation schemes, EU catch certificate requirements) in place (e.g. bêche de mer, bluefin tuna)?	<p>There is no specific, internationally agreed mitigation procedures in place, however most of the countries that export <i>A.anguilla</i> are subject to trade restrictions due to CITES regulations, which list it on Appendix II (effective as of 13th March, 2009). This listing means that any international trade in this species needs to be accompanied by an export permit, which can only be issued if the specimen was legally obtained and if the export isn't detrimental to the survival of the species.</p> <p>Specific to the EU, exports and imports of <i>A.anguilla</i> are banned since December 2010 due to concern over the decline in recruitment of stocks, however trade within the EU is permitted. This ban was made as the EU felt that they were unable to determine that trade would not be detrimental to the conservation of the species (which is required for the issuance of permits for CITES Appendix II-listed species).</p> <p>Outside of EU MS and countries that are subject to CITES restrictions (the majority of FS within the <i>A.anguillas</i>' distribution range) there is no evidence of mitigation procedures. Globally, a six-digit Harmonised Systems (HS) Customs code designated for live <i>Anguilla</i> eels (HS 030192) exists. E. Asian countries/territories have a more detailed Customs code, which enables the differentiation between live eel fry (used for farming) and others for consumption. Customs data (aside from in China and Taiwan) only reports to the genus level and tends to assume farmed species are those locally found (e.g. <i>A.japonica</i> in Japan).</p> <p>Due to lack of product chain traceability there is no assurance that any of the wild-caught glass eels are subject to mitigating procedures designed to reduce IUU risk. Therefore, this is scored 3.</p>	<p>Jacoby and Gollock, (2014) <i>Anguilla Anguilla</i>. The IUCN Red List of Threatened Species.</p> <p>ICES (2016b) European eel. In Report of the ICES Advisory Committee, 2016.</p> <p>CITES (2017)</p>	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
2.5 MSC certification/ /FIP processes	Is there MSC certification for the fishery or is there a FIP in process? MSC certification requires IUU to be low or negligible and has checks to ensure this is the case. If the fishery is going through a FIP process as well/that may indicate improvement within the fishery e.g. Sri Lanka.	<p>There are no MSC certified eel fisheries, owing to the fact that it doesn't represent a wild-catch fisheries throughout its' life and certification would also be problematic due to their life cycle complexity. As the MSC assessment applies to the state and management of fisheries across the entirety of a stock it is not proven currently that sustainable management of freshwater eels is possible. Therefore, as fisheries are unable to fulfil the MSC demands for effective recovery and management plans for the entire population certification is unlikely.</p> <p>Worth noting is the presence of the Sustainable Eel Group (SEG). The SEG was founded by British conservation organisations and awards "SES" certifications for fishermen and eel farmers who contribute to the recovery of the eel population. This programme awards a chain of custody certification, which is only allowed if the traceability of the certified fish throughout the whole chain. The world's largest onshore aquaculture facility for raising eels, located in Denmark, has been certified by the group (which consists of environmental organisations, scientists, politicians and industry from a total of 13 countries). Unfortunately, the SEG-SES certification is only currently being operated within the EU member states (who cannot export to Japan).</p> <p>In the case of eels (which are predominantly farmed at one stage throughout their life history) the absence of MSC certifications doesn't suggest there is a complete absence of sustainable fisheries due to the complex life history. However, as there is currently no alternative certification process for eels that is relevant for this risk assessment, and due to the critical status of freshwater eels worldwide that makes certification unlikely this sub-section is scored high in terms of risk.</p>	<p>MSC (2017). Track a fishery. Available at; www.msc.org</p> <p>SEG (2017) Available at; http://www.sustainableeelgroup.org</p> <p>FIP (2017) View FIPs. Available at; https://fisheryimprovementprojects.org/view-fips/</p>	3.0
Average				2.90

5.1.2.3 Flag State – Asian countries and America (activities, corruption, control systems in place)

As the scope of this risk assessment is freshwater eels supply chains are different in that they consist of a flag state that catches wild-caught elvers/glass eels in freshwater/brackish environments, however these differ from marine capture fisheries as they are subject to different regulations and controls. In order to ascertain an IUU risk for each wild-capture flag state a general overview of the regulatory and management frameworks where they could be sourced is included below. It is, however, a very generalist overview due to the paucity of information regarding supply chain traceability and therefore the countries discussed below have been chosen based upon a literature review and using non in-depth trade data analysis reports.

Trade data suggests that the majority of eel products imported to Japan currently originate in Mainland China and Taiwan, along with domestic catches (although these have been omitted for this report) (Shiraishi and Crook, 2015). Obtaining trade information to the species level is not

possible, however trade analysis suggested that 40% of all prepared/preserved eel imported in Japan from mainland China between 2009 and 2013 was *A.anguilla* (Shiraishi and Crook, 2015). The remaining 60% of imports are most likely *A.japonica* (Japanese eel), *A.bicolor* (and other tropical species) and *A.rostrata* (American eel). However, it is anticipated that the prevalence of *A.anguilla* products has greatly diminished in the last five years and that farms are now sourcing glass eels/elvers from America and other East Asian countries owing to the conservation and regulation measures that *A.anguilla* is subject to across its entire distribution area. These measures, including a complete export ban covering all EU MS and CITES trade restrictions, means that imports of *A.anguilla* are most likely illegal and should be avoided, as explained in the recommendation section. As detailed above it is highly likely that some illegal trade perpetuates due to strong driving factors, worldwide confusion concerning legislation/trade restrictions and diminishing stocks of wild-caught eels.

Trade data suggests that countries such as Indonesia and the Philippines are increasingly important as sources of wild caught elvers; with 30% of all East Asian live eel fry imports originating in Philippines in 2012-2013 and Indonesian reported exports doubling over five years (unreported exports are thought to have grown at a much higher rate) (Nijman, 2015; Shiraishi and Crook, 2015). Trade data is difficult to interpret due to mixing, which occurs during farming and in order to conceal illegal trade. In addition to the Philippines and Indonesia, other countries that have become increasingly important includes Canada, USA, the Dominican Republic, Madagascar, Vietnam, Malaysia and Thailand. Of these countries there are a variety of trade restrictions and management structures in-place, including export bans in EU MS, the Philippines, Indonesia, and the Dominican Republic (dependent upon size) (Crook, 2014) and these are detailed in the table below. The government of countries such as Indonesia have encouraged substantial increases in the export of wild-caught elvers in response to ever-strong market demand following EU and CITES posed restrictions for *A.anguilla*. However, these increases haven't been accompanied by a review of the existing measures in place to conserve the species and enforcement of these regulations isn't thought to be commonplace. Therefore, estimates are that unreported exports are at least equivalent, if not more, than reported exports and that exports are often in violation of size regulations. It is recommended that supply chain traceability be improved so that risks can be assessed across the whole supply chain in future.

As the table below shows the risk of IUU is high as a wide number of these measures are limited in how much they would mitigate against the risk of illegal activities in eel fisheries, and there is such wide variation in their application across the countries that could be the origin source for eels.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
3.1 Is IUU associated with the flag State?	Has the flag State been identified as a non-compliant State by the EU (yellow / red card)?	Of the countries likely to export wild-caught eels and elvers only the Philippines and Thailand has been pre-identified by the EU card system. No other likely countries appear to have been identified at any stage.	European Commission (2017). Illegal Fishing	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Has the flag State been identified as a “country of interest” within NOAA biennial reports?	Not reported except Philippines for a tuna related issue in 2013.	NOAA (2012-2017) Fisheries biennial reports.	2.0
	Has the flag State been identified as a flag of non-compliance by any other State(s) or by an RFMO?	Some of the flag States in question have been identified as being non-compliant by RFMO reports and also some have been accused of being non-compliant by other flag States e.g. neighbouring countries. Within national state reports the East Asian countries included in this scope have been identified as being non-compliant with neighbouring countries regulations.	Shiraishi and Crook (2015) TRAFFIC report ICES (2016a). Report of the Working Group on Eels (WGEEL).	3.0
	Has the flag State been identified as a flag of non-compliance or flag of convenience by an NGO or in scientific or press reports?	None of the countries have been listed as a flag of convenience, however as we are uncertain as to the country of origin this is scored 2 due to the uncertainties.	ITF (2017). List of Flags of Convenience	2.0
3.2 Corruption	What is the WB corruption index for the flag State? (see WB Governance Indicators). Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.	Due to the wide range of countries supplying eels to Japan, this has been scored at 2.5.	World Bank (2017)	2.5
3.3 Vessel Registration and Licensing	Are all fishing vessels required to be registered and flagged in the flag State required to have a licence?	No knowledge of which flag States are involved in the fisheries exist and therefore it is anticipated that there is high variance in terms of whether licenses are required. For countries such as Canada and the USA all vessels are required to have a licence and to fish for eels a licence is required. All commercial fisheries are required to have a license to fish in the Philippines, however there is reportedly widespread non-compliance. This is scored as a high risk due to the wide variance that exists within the target countries and the low likelihood that eels are captured using a license, particularly for East Asian countries.	Shiraishi, H. and Crook, V. (2015)	2.5
	Is there a licensing and quota allocation system in place? Is this system clear and transparent?	For the countries within our scope there are some restrictions in place in terms of quotas, however this is highly variable. With relevance to eels it is anticipated that there is little to no regulations in terms of quotas and licenses. For example, there	Shiraishi and Crook (2015) TRAFFIC report Crook (2014)	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		are no output controls (quotas) in place in most East Asian countries, as extraction is predominantly controlled by export restrictions. Regulations in place to control exports include the Regulation on the Export of Glass Eels (<i>Anguilla</i> spp.) from the Republic of Indonesia, which stipulates that all eels exported out of Indonesia are required to have an individual mass equal or larger than 150g. Sanctions against this activity aren't stipulated in the corresponding regulations, however the penalties for exporting a protected species have been up to 5 years/ or \$8130 per shipment. In the Philippines the dramatic increase in exploitation and rising prices led to the introduction of a government measure that banned the export of juvenile eels $\leq 15\text{cm}$ in length. Despite this, there have been concerns that large quantities of glass eels continue to be exported from the Philippines (Crook, 2014). Countries such as the USA and Canada have licensing systems in place, as well as restrictions on fishing areas and seasons. Overall, it is anticipated that fisheries are most likely controlled by outputs controls only with widespread non-compliance, therefore this is scored 3.	Nijman (2015)	
	Is this broken down by domestic waters and ABNJ?	It is anticipated that a wide variety of licensing exists in the countries listed above and with no certainty over what the source country is this is scored high due to the uncertainty.		3.0
	Is there a public list of licensed / authorised vessels?	A public list of licensed vessels isn't in place for all of the countries listed above, some East Asian countries including the Philippines and Indonesia do not have a public list of authorised vessels, and it has been noted that there is widespread non-compliance with licensing regulations including in the Philippines where non-registration to avoid tax payment exists.	Shiraishi and Crook (2015) TRAFFIC report Crook (2014)	3.0
3.4 Fair transparent fisheries agreements	Are fair transparent fisheries agreements in place with coastal States?	Due to the wide variety of origin sources there is a wide variance in the fisheries agreements in place, therefore this is scored high due to these uncertainties.		3.0
3.5 RFMO	Membership: Is the flag State a Member of the relevant RFMOs?	Overall, this is scored high due to uncertainties as it is difficult to ascertain the relevant RFMOs for so many countries. For eel fisheries there is not a relevant RFMO, however there is the existence of working groups (WGEEL) and coordinated management objectives. Due to the high variance in origin source this is scored high.	ICES (2016a). Report of the Working Group on Eels (WGEEL).	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Compliance: Is the flag State compliant with all RFMO requirements and data submissions?	A wide variance in compliance with RFMO exists therefore this is scored high due to the uncertainties. Some of the countries within the scope have been flagged as non-compliant.	Various RFMO websites	2.5
	Engagement: Does the flag State submit additional information / papers to RFMO and actively participate in scientific and compliance committee meetings?	As above, scored high due to uncertainties.		3.0
3.6 Multi-lateral agreements e.g. FAO Guidelines or UNCLOS	Is the flag State a contracting/cooperative non-member party to multi-lateral agreements e.g. UNCLOS, UNFSA, FAO Agreements? Implementation of the provisions of the Convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks	Almost all of the countries are party to UNCLOS, UNFSA and FAO agreements, however as we are uncertain as to the origin source country this is scored high due to the uncertainty.	United Nations (2017) Chronological lists of ratifications of, accessions and successions to the Convention and the related agreements	3.0
3.7 NPOAs (IUU + others)	Is there a specific National Plan of Action (NPOA) in place to combat IUU?	Due to the wide variance of countries it is likely that there is a large variation in terms of NPOA-IUUs, and whether or not these have been adopted and are publically available. For example, the Philippines have adopted a NPOA-IUU which is publically available and has a committee against IUU fishing. However, details of the Indonesian NPOA-IUU were not found to be widely available. For relevance to eel fisheries it was also found that within the NPOA-IUUs there was a concerted focus on marine capture fisheries. Therefore, due to this wide disparity this is scored and the limited inclusion of freshwater fisheries/eel fisheries this is scored as 3.	Philippines NPOA (2013) Shiraishi and Crook (2015) TRAFFIC report Crook (2014)	3.0
3.8 Flag State Control	How and to what level is flag State control exercised in terms of administrative controls and checks? (e.g. logbook check against VMS and administrative checks, catch certificate verification includes physical inspection)	A high variance in terms of origin country means that this is scored 3, it is known that countries such as Canada and the USA have a wide range of administrative controls and checks, however within East Asian countries implementation and enforcement of such checks is considered to be lower. Therefore, this is scored high due to the uncertainties.		3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	How and to what level is flag State control exercised in terms of inspections on flag State vessels (at sea and in port)?	As above, the high score takes into account the high variability and also the fact that it is anticipated that inspections of wild-capture eel fisheries are negligible due to resources and small-scale nature of these fisheries.		3.0
	How and to what level is flag State control exercised in terms of remote surveillance (e.g. aerial surveillance, VMS and AIS)?	This is scored highly as it is considered highly unlikely that eel fisheries are covered by any form of aerial surveillance.		3.0
	How and to what level is flag State control exercised in terms of observer programmes?	As above, this is scored high due to the unlikelihood that eel fisheries are covered by observer programmes.		3.0
3.9 Flag State Cooperation	Does the flag State work with neighbouring or regional States to enhance MCS in their own waters and fleets?	It is anticipated that MCS cooperation occurs within the listed source countries, however the relevance for eel fisheries is considered to be low.		3.0
	VMS sharing is implemented?	As above, scored high due to the limited relevance and therefore inability to mitigate against the risk of IUU within eel fisheries.		3.0
Average				2.83

5.1.2.4 Coastal State – Asian countries and America (corruption, control systems in place)

As the scope of this risk assessment is freshwater eels there is no coastal state involved in the capture as elvers and glass eels are caught within freshwater/brackish environments and therefore the score associated with each section reflects the relevance that each measure has in mitigating against IUU risk for eel fisheries. For the vast majority of points it is considered that these points would not mitigate against the risk of IUU and there is also a wide degree of uncertainty in which source country has been used and therefore scores are high to reflect this lack of traceability.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
4.1 Is IUU fishing carried out / supported by fishing vessels operating in its maritime waters?	Has the coastal State been identified as a non-compliant State by the EU (yellow / red card)?	Of the countries likely to export wild-caught eels and elvers only the Philippines and Thailand has been pre-identified by the EU card system. No other likely countries appear to have been identified at any stage.	European Commission (2017). Illegal Fishing	2.0
	Has the coastal State been identified as a "country of interest" within NOAA biennial reports?	Not reported except Philippines for a tuna related issue in 2013.	NOAA (2012-2017) Fisheries biennial reports.	2.0
	Has the coastal State been identified as having IUU fishing	The various coastal states have been identified as having IUU fishing carried out in their waters to various extents. IUU fishing	European Commission (2017). Illegal Fishing	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	carried out in its waters? (NB: This may be identified by the coastal State itself, another State or by an RFMO).	in the Philippines is outlined in their NPOA-IUU as being a widespread activity with numerous different violations detailed including unauthorised fishing, incorrect gear use and fishing of endangered species. There are acknowledged issues identified with Philippine flagged vessels fishing in Indonesian waters without the correct license. Also included within the scope of this RA are countries that have been identified as conducted IUU fishing by the EU. Therefore, although no specific state or RFMO reports exist pertaining to eel fisheries a wide variety of sources indicate that IUU is a widespread problem for some of the countries' marine-capture fisheries. Therefore, it is likely that some of this risk transfers to freshwater fisheries and due to this and uncertainties regarding the origin source this is scored 3.	Philippines NPOA-IUU (2013)	3.0
	Has the coastal State been identified as having IUU fishing carried out in its waters by fishing vessel of any State by an NGO or in scientific or press reports?	There are numerous reports of illegal fishing taking place in the countries that target wild-caught eels in the press and NGO reports. Press reports indicate that the relevant East Asian countries, e.g. Indonesia, suffer from regular incidences of illegal fishing and detail deterrent measures including sinking of vessels in violation of the country's laws. This is also relevant for the eel trade, as there are numerous reports of illegal fishing for almost all countries supplying wild-caught elvers, with particular attention paid to East Asian countries in reports of illegal trade by press articles and NGO-commissioned reports that aim to highlight the on-going problems with illegal trade in eels. Therefore, this is scored 3 due to uncertainties concerning origin of products and press reports indicating that IUU is commonplace in some of these countries.	Crook (2014) CEA (2016)	
4.2 Corruption	What is the WB corruption index for the Coastal State? (see WB Governance Indicators). Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.	Based on Canada, USA, the Dominican Republic, Madagascar, Vietnam, Malaysia, Thailand, The Philippines and Indonesia.	WBGI (2016)	2.5
4.3 Vessel Registration and Licensing	Are all fishing vessels fishing in the coastal State required to have a licence? (NB: Are there reports of	There are a wide variety of countries involved in the wild-capture of elvers/glass eels and different types of license requirements exist. Some countries are expected to have much more strict	Shiraishi and Crook (2015) TRAFFIC report	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	proportion of vessels unlicensed (both national and international)?	requirements for licenses. With regards to eels, only some countries are required to have licenses to fish for them including America. Wild-capture of eels is unlicensed in some East Asian countries, and it is thought that regulating and enforcing licensing requirements is constrained by the lack of vessels and small-scale nature of eel fishing. Therefore, this is scored 3.	Crook (2014) Nijman (2015)	
	Is there a licensing and quota allocation system in place? Is this system clear and transparent?	A wide variety of licensing and quota requirements exist for the countries that target wild-glass eels/elvers. American fisheries are all regulated by input and output controls including quotas for all fisheries. However, a number of East Asian countries do not have any output controls for small-scale coastal fisheries and freshwater/brackish fisheries (e.g. for eels). In particular, Indonesia's lack of quota for eels has been highlighted as a driving factor for illegal activity, as no permit to fish for eels is required and trade cannot be monitored. Therefore, this is scored 3 due to the uncertainties surrounding the origin source and variable systems in place.		3.0
	Is there a public list of licensed / authorised vessels?	As above, this is scored 3 due to the uncertainties surrounding the origin source and variable systems in place. For example, in the Philippines NPOA-IUU the problem of unregulated fishing through non-registration of vessels is highlighted as a key problem.		3.0
4.4 Fair transparent fisheries agreements	Are fair transparent fisheries agreements in place with DWFNs?	Such a variable range of countries exist within the scope of this risk assessment, including countries which have been highlighted as having poor transparent fisheries agreements, therefore this is scored 3 due to uncertainties.		3.0
	Are the details of these agreements public?	As above, such wide variance exists and with the inclusion of some countries that are known to not make public fisheries agreements, therefore this is scored 3.		3.0
4.5 Sanctions	Are sanctions enforced?	Details could be found on relative sanctions for eel fishery violations, however no details of enforcement rates were found for the target countries. Therefore, this is scored 3.		3.0
	Relative level of sanctions vs. level of IUU fishing.	As above, no details could be found regarding sanctions and whether they were enforced relative to the levels of IUU fishing. Within East Asian countries sanctions appeared to be high with regards to violations, however no details could be found of whether or not they were applied relative to the fishing levels and therefore this is scored high due to this lack of information.		3.0
4.6 RFMO	Membership: Are they a Member of the relevant RFMOs?	Overall, this is scored high due to uncertainties as it is difficult to ascertain the relevant RFMOs for so many countries. For eel		3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		fisheries there is not a relevant RFMO, however there is the existence of working groups (WGEEL) and coordinated management objectives. Due to the high variance in origin source this is scored high.		
	Compliance: is the coastal State compliant with all RFMO requirements and data submissions?	A wide variance in compliance with RFMO exists therefore this is scored high due to the uncertainties. Some of the countries within the scope have been flagged as non-compliant.		3.0
	Engagement: Does the coastal State submit additional information / papers to RFMO and actively participate in scientific and compliance committee meetings?	As above, scored high due to uncertainties.		3.0
4.7 Multi-lateral agreements e.g. FAO Guidelines or UNCLOS	Is the coastal State a contracting/cooperative non-member party to multi-lateral agreements e.g. UNCLOS, UNFSA, FAO Agreements? Implementation of the provisions of the Convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks	Almost all of the countries are party to UNCLOS, UNFSA and FAO agreements, however as we are uncertain as to the origin source country this is scored high due to the uncertainty.	United Nations (2017) Chronological lists of ratifications of, accessions and successions to the Convention and the related agreements	3.0
4.8 NPOAs (IUU + others)	Is there a specific National Plan of Action (NPOA) in place to combat IUU in the coastal State?	Due to the wide variance of countries it is likely that there is a large variation in terms of NPOA-IUUs, and whether or not these have been adopted and are publically available. For example, the Philippines has adopted a NPOA-IUU which is publically available and has a committee against IUU fishing. However, details of the Indonesian NPOA-IUU was not found to be widely available. For relevance to eel fisheries it was also found that within the NPOA-IUUs there was a concerted focus on marine capture fisheries. Therefore, due to this wide disparity this is scored and the limited inclusion of freshwater fisheries/eel fisheries this is scored as 3.	Philippines NPOA (2013)	3.0
4.9 Coastal State Control	How and to what level is control exercised in the coastal State in terms of administrative controls and checks? (e.g. logbook check against VMS and administrative	As above, the high score takes into account the high variability and also the fact that it is anticipated that inspections of wild-capture eel fisheries are negligible due to resources and small-scale nature of these fisheries.		3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	checks including validation of catch certificates)			
	How and to what level is control exercised in the coastal State in terms of inspections on vessels at sea and in port?	This is scored highly as it is considered highly unlikely that eel captures are subject to inspections.		3.0
	How and to what level is control exercised in the coastal State in terms of remote surveillance (e.g. aerial surveillance, VMS and AIS)?	This is scored highly as it is considered highly unlikely that eel fisheries are covered by any form of aerial surveillance.		3.0
	How and to what level is control exercised in the coastal State in terms of observer programmes?	As above, this is scored high due to the unlikelihood that eel fisheries are covered by observer programmes.		3.0
4.10 Coastal State Cooperation	Does the coastal State work with neighbouring or regional States to enhance MCS in their own waters and fleets?	It is anticipated that MCS cooperation occurs within the listed source countries, however the relevance for eel fisheries is considered to be low.		3.0
4.11 Transshipment	Is transshipment allowed in coastal State or RFMO waters and is observation required through an RFMO programme or by coastal States for their own waters?	A wide variance of transshipment requirements exists in the source countries. For example, transshipment is permitted in Indonesian waters only if an observer is on board to monitor for illegal transshipment practices; all other transshipments are banned. The relevance for eel fisheries is deemed to be relatively low therefore this is scored low.		3.0
Average				2.91

5.1.2.5 Port State - Asian countries and America (control systems in place, PSMA provisions in place)

As the scope of this risk assessment is freshwater eels there is no flag state involved in the capture and then subsequently within the farming industry. Elvers/glass eels are wild-caught from freshwater/brackish environments and therefore they are not landed into ports, but caught in the wild and then exported to farms.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
5.1 Are the products of IUU fishing landed in the port State?	Has the port State been identified as a non-compliant State by the EU (yellow / red card)?	Of the countries likely to export wild-caught eels and elvers only the Philippines has been pre-identified by the EU card system. No other likely countries appear to have been identified at any stage.	European Commission (2017). Illegal Fishing	2.0
	Has the port State been identified as a "country of interest" within NOAA biennial reports?	Not reported except Philippines for a tuna related issue in 2013.	NOAA (2012-2017) Fisheries biennial reports.	2.0
	Has the port State been identified as having IUU fish landed in its ports? (NB: This may be identified by the port State itself, another State or by an RFMO).	With reference to the scope countries there has been numerous reports of fish being landed illegally, particularly into East Asian countries. However, due to the scope of this assessment we are unable to ascertain which target countries are engaged in the supply chains.		3.0
	Has the port State been identified as having IUU fish landed in its ports by fishing vessel of any State by an NGO or in scientific or press reports?	As above, there are various reports of the port state having had illegal fish landed into their ports. With reference to eel landings, there are numerous reports of illegal eel products having been landed into ports such as Hong Kong.	Nijman (2015) Shiraishi and Crook (2015) TRAFFIC report	3.0
5.2 Corruption	What is the WB corruption index for the port State? (see WB Governance Indicators). Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.	Based on Canada, USA, the Dominican Republic, Madagascar, Vietnam, Malaysia, Thailand, The Philippines and Indonesia.	WBGI 2016	2.5
5.3 Sanctions	Are sanctions enforced for port related activities?	Details could be found on relative sanctions for eel fishery violations, however no details of enforcement rates were found for the target countries. Therefore, this is scored 3.		3.0
	Are the sanctions enforced relative to the level of IUU fishing?	As above, no details could be found regarding sanctions and whether they were enforced relative to the levels of IUU fishing. Within East Asian countries sanctions appeared to be high with regards to violations, however no details could be found of whether or not they were applied relative to the fishing levels and therefore this is scored high due to this lack of information.	Shiraishi and Crook (2015) TRAFFIC report Crook (2014)	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
5.4 RFMO	Membership: Is the port State a Member of the relevant RFMOs?	Overall, this is scored high due to uncertainties as it is difficult to ascertain the relevant RFMOs for so many countries. For eel fisheries there is not a relevant RFMO, however there is the existence of working groups (WGEEL) and coordinated management objectives. Due to the high variance in origin source this is scored high.		3.0
	Compliance: is the port State compliant with all RFMO requirements and data submissions?	A wide variance in compliance with RFMO exists therefore this is scored high due to the uncertainties. Some of the countries within the scope have been flagged as non-compliant.		3.0
	Engagement: Does the port State submit additional information / papers to RFMO and actively participate in scientific and compliance committee meetings?	As above, scored high due to uncertainties.		3.0
5.5 Multi-lateral agreements e.g. FAO Guidelines or UNCLOS	<p>Is the port State a contracting/cooperative non-member party to multi-lateral agreements e.g. PSMA, UNCLOS, UNFSA, FAO Agreements?</p> <p>Has the FAO Port State Measures Agreement been signed, acceded or implemented?</p> <p>Implementation of the provisions of the Convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks</p>	Almost all of the countries are party to UNCLOS, UNFSA and FAO agreements, however as we are uncertain as to the origin source country this is scored high due to the uncertainty.		3.0
5.6 NPOAs (IUU + others)	Is there a specific National Plan of Action (NPOA) in place to combat IUU in the port State?	Due to the wide variance of countries it is likely that there is a large variation in terms of NPOA-IUUs, and whether or not these have been adopted and are publically available. For example, the Philippines has adopted a NPOA-IUU which is publically available and has a committee against IUU fishing. However, details of the Indonesian NPOA-IUU was not found to be widely available. For relevance to eel fisheries it was also found that within the NPOA-IUUs there was a	<p>The Philippines NPOA-IUU</p> <p>Shiraishi and Crook (2015) TRAFFIC report</p> <p>Crook (2014)</p>	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		concerted focus on marine capture fisheries. Therefore, due to this wide disparity this is scored and the limited inclusion of freshwater fisheries/eel fisheries this is scored as 3.		
5.7 Port State Control	How and to what level is control exercised in the port State in terms of administrative controls and checks? (e.g. logbook check against VMS and administrative checks including validation of catch certificates)	As above, the high score takes into account the high variability and also the fact that it is anticipated that inspections of wild-capture eel fisheries are negligible due to resources and small-scale nature of these fisheries.	Personal Experience	3.0
	How and to what level is control exercised in the port State in terms of inspections on vessels in port?	This is scored highly as it is considered highly unlikely that eel captures are subject to inspections.		3.0
	How and to what level is control exercised in the port State in terms of vessel monitoring (e.g. notification of port entry, VMS and AIS)?	This is scored highly as it is considered highly unlikely that eel fisheries are covered by any form of aerial surveillance.		3.0
5.8 Port State Cooperation	Does the port State work with neighbouring or regional States to enhance MCS on vessels landing in their ports?	As above, this is scored high due to the unlikelihood that eel fisheries are covered by observer programmes.		3.0
5.9 Designated ports	Are the ports used appropriate in terms of location and size for particular fleets or species? NB: The ideal is for designated ports assigned to fleets and species to be used. <i>(A map of fishing locations and ports should be included where appropriate)</i>	It is anticipated that MCS cooperation occurs within the listed source countries, however the relevance for eel fisheries is considered to be low.		3.0
5.10 Transhipment	Is transhipment allowed in port and is observation required through an RFMO programme or by port States for their own ports?	A wide variance of transhipment requirements exists in the source countries. For example, transhipment is permitted in Indonesian waters only if an observer is on board to monitor for illegal transhipment practices; all other transhipments are banned. The relevance for eel		3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		fisheries is deemed to be relatively low therefore this is scored low.		
Average				2.9

5.1.2.6 Market State – Japan - Traceability and national requirements

Japan is the sole market State in this risk assessment. IUU products have been reported to have been imported into Japan and the sheer volume of imports that it receives could potentially increase the risk of IUU. As the source and routes for the supply chain of eels from all sources entering the Japanese market are unknown, it cannot be determined what the exact risk of IUU activities is. However, Japan has a high governance score which suggests that once the product is in the supply chain, illegal actions are unlikely though possible.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
6.1 Products of IUU fishing found in the final market State or within the States of the supply chain?	Has the market State or any of the States in the supply chain been identified as a non-compliant State by the EU (yellow / red card)?	Japan has not been identified by the EU IUU regulation yellow/red card system. The source countries for eels and countries in the supply are unknown however. This is serious enough an issue to require a score of 3.0 due to the severe lack of information.	https://ec.europa.eu/fisheries/sites/fisheries/files/illegal-fishing-overview-of-existing-procedures-third-countries_en.pdf	3.0
	Has the market State or any of the States in the supply chain been identified as a “country of interest” within NOAA biennial reports?	Japan has not been identified by NOAA in any of its reports to congress. The source countries for eels and countries in the supply are unknown however. This is serious enough an issue to require a score of 3.0 due to the severe lack of information.	NOAA, 2013; 2015; 2017 http://www.nmfs.noaa.gov/ia/iuu/iuu_overview.html	3.0
	Has the market State or any of the States in the supply chain been identified as having IUU fish landed in its ports? (NB: This may be identified by the port State itself, another State or by an RFMO).	In Japan there are no reports of illegal fish being landed in its ports by RFMO or State sources. The source countries for eels and countries in the supply are unknown however. This is serious enough an issue to require a score of 3.0 due to the severe lack of information.	Personal experience	3.0
	Has the market State or any of the States in the supply chain been	Some limited illegal fishing is known to occur in Japanese waters that may be landed but as a	Personal experience	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	identified as having IUU fish landed in its ports by fishing vessel of any State by an NGO or in scientific or press reports?	percentage of the overall Japanese market this will be low in terms of volume and value.		
6.2 Supply chain length, complexity and transparency	How many States and companies are in the supply chain?	The supply chain in this RA is unknown.		3.0
	How many different companies and transfers of ownership, amount of processing?	The supply chain in this RA is unknown.		3.0
	Is the chain publically known and transparent?	The supply chain in this RA is unknown.		3.0
6.3 High risk points in the supply chain	Are the ports in the supply chain (after the port of first landing) known or suspected PONCS and do the ports used have well documented and effective port control and inspection?	The ports in the supply chain are not specifically known. However, Japan is not recognised as a PONC or port.	Petrossian <i>et al.</i> , 2014	0.0
	Does processing occur in locations that seem out of context (e.g. locations with no history of processing, high costs incurred for transport, high cost of processing) or with history of laundering IUU catches?	The location of eel processing is unknown but it is likely that this is done at the farms..	http://www.agr.gc.ca/resources/prod/Inter-net-Internet/MISB-DGSIM/ATS-SEA/PDF/6770-eng.pdf	2.0
6.4 Corruption	What is the WB corruption index for the port State? (see WB Governance Indicators). Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.	Japan- 91%. This high governance score suggests that illegal actions once in the supply chain would be unlikely in Japan.	WBGI 20126	0.0
6.5 Post landing inspections	Performance of spot audits at key transport hubs and border inspection points?	There is no information on spot audits being carried out at key transport hubs and BIPs. However, there are clear indicators this does occur, at least in the tuna industry, with a consignment if tuna being refused entry.	DGIPOL, 2013 Fisheries Agency of Japan, 2004 http://www.oecd.org/agriculture/ http://www.jfa.maff.go.jp/e/index.html	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are inspections carried out on the fish after landings e.g. by customs, BIPs and in transit?	When a consignment arrives at a Japanese port a 'Notice of Customs Clearance' is sent to the addressee from a customs office and a customs clearance procedure is initiated. In some cases a health and sanitary certificate must also accompany the import notification form. Food is then quarantined and inspected to ensure it complies with Food Sanitation Law. Consignments with a past record of non-compliance will often require further examination. Some fish require approval for import prior to customs clearance procedures (e.g. those governed by import quotas or by international conventions or agreements).	http://www.fao.org/docrep/008/y5924e/y5924e06.htm	1.5
6.6 Independent Verifications	Is supply chain MSC CoC certified?	As the supply chain is not known this is undetermined.		3.0
	Non-MSC Supply chain and traceability audits (due diligence) conducted?	Marine Eco-Label (MEL) Japan is a seafood certification scheme. Distributing organisations wishing to handle products from MEL-Japan certified fisheries can voluntarily apply for chain of custody certification. It is unknown if this covers smelt.	ftp://ftp.fao.org/fi/DOCUMENT/COFI/cofift13/5e.pdf	3.0
6.7 CDS / CC certification	Do catch documentation schemes exist for the species?	In compliance with international fishery organisations, Japan has implemented documentation schemes but these only cover several tuna and tooth fish species.	https://www.oecd.org/tad/fisheries/34429748.pdf	3.0
6.8 Processing or transshipment vessels involved in market chain.	If transshipment or processing onboard a Klondiker or mother vessels is allowed (licensed) in the fishery, are the Klondiker and transshipment (reefer) vessels on the relevant whitelists (authorised) or blacklists (IUU)?	There was no information on whether processing vessels are used in the supply chain. The farming issue complicates this issue.	No known use of support vessels in this supply chain.	3.0
	Are there independent observer programmes on non-fishing vessels?	There are no independent observer programmes on non-fishing vessels, although there are no support vessels in the fishery and transshipment at sea is illegal.	No known use of observers in this fishery.	3.0
Average				2.16

5.1.3 Recommendations

Overall, this report advises that eel products are associated with a high risk of IUU occurring at some stage in the supply chain, most commonly during export processes. This risk is increased by high market prices, low supply-chain traceability and a high variance in national and international management frameworks. The risk is also vastly increased by widespread global reductions in populations for all common food species. Establishing supply-chain traceability is seen as imperative to reducing the IUU risk in both the short and long-term and the client should seek to engage with actors engaged at all stages in the supply chains to increase demand for certification and sustainability processes.

5.1.3.1 *Fishing vessels, legal personalities and companies*

- Establish what supply chain actors are involved in the supply of products and request more details of the supply chain
- To reduce the risk of purchasing IUU products seek farms that have quality inspectors that regularly monitor and inspect them and examine any discrepancies between reported/estimated eel fry farm input and production
- Establish working relationships with farms that have transparency within their eel trade chain and that are interested in developing potential traceability schemes
- Follow studies and advancements to in-depth trade analysis, covering both yellow and silver eels, to ascertain the reasoning behind discrepancies in catch rates and export rates/stocking rates in harvest countries
- Encourage advancements in establishing enforcement priorities within eel fishing / trade in East Asia; this report suggests that illegal fishing within East Asia of *A.japonica* and other tropical species and illegal trade of *A.anguilla* eel fry from the EU are of a priority
- In order to increase awareness provide information, such as that contained in this report, to importers and producers within supply chains, concerning the various international / national regulations in place e.g. export bans for eel fry from the Philippines and Indonesia of a particular size/total ban of *A.anguilla* from the EU.
- Work with other traders/retailers to develop management decisions and traceability systems for the East Asian eel industry, with a particular focus on ensuring legality of sourced eel products

5.1.3.2 *Fisheries*

- Follow advancements in artificial reproduction of anguillids with the hope of sustainable aquaculture processes being made possible in the future (thus reducing the pressure on wild populations)
- Endeavour to purchase eel products from farms that have known origin source for their wild-caught glass eels/elvers as some stocks are more sustainable and subject to improving, coordinated management processes e.g. *A.rostrata*
- Follow improvements in defining target limit and reference points for all stocks of eels, and improvements in management harmonization and coordination across distribution areas
- Ascertain what species are used in purchased products and follow advancements that would allow us to further ascertain the area of origin of farmed eels. Novel methods being developed include attempts to assign different otolith zero band chemical signatures to eels from different donor systems (Evans *et al.*, 2014). This method links the glass eels' otolith, through a unique combination of different elements in the structure of its zero band matrix, to the estuary where they are caught. The difference in these elements is most likely driven by local geology, water chemistry and industrial activity (Campana *et al.*, 2000).

- Avoid purchases of *A.anguilla* as this report has found that there is a high risk of IUU associated with the wild capture of these glass eels/elvers. This predominantly owing to the fact that almost all countries within its distribution area are subject to trade restriction bans e.g. EU exports are illegal and North African countries are also subject to both national and CITES restrictions. Re-export permits of *A.anguilla* (grown out from glass eels imported prior to December 2010 from the EU) reportedly expired in June 2015 from mainland China, which is a large supplier of Japanese imports (Shiraishi and Crook, 2015).
- It is not advised to purchase products that are reliant on catching species listed on the IUCN Red List as Critically Endangered (*A.anguilla*), Endangered (*A.japonica* and *A.rostrata*) and Near Threatened (*A.bicolor*).
- Follow efforts occurring on an international scale to coordinate management and conservation of eel species.

5.1.3.3 Flag State

- Due to the problems in identifying the flag States involved in the supply chain at this time our only recommendation is that the flag States involved in the supply chain should be clearly defined.

5.1.3.4 Coastal State

- Due to the problems in identifying the coastal States involved in the supply chain at this time our only recommendation is that the coastal States involved in the supply chain should be clearly defined.

5.1.3.5 Port State

- Due to the problems in identifying the port States involved in the supply chain at this time our only recommendation is that the port States involved in the supply chain should be clearly defined.

5.1.3.6 Market State

- Due to the problems in identifying the States involved in the supply chain our only recommendation is that the supply chain should be clearly defined to allow a more detailed risk assessment to be conducted.

NB: It should be noted that the IUU risk assessment carried out is limited in scope, analysing the risk that IUU fish may enter the supply chain from a particular fishery. It does not analyse the individual supply chains present and this would require a traceability assessment to be carried out which has not been done in this case.

5.2 Flatfish nei

5.2.1 Executive Summary

An illegal, unreported and unregulated (IUU) risk assessment has been carried out for flatfish nei entering the Japanese market.

The IUU risk assessment is designed to provide an estimate of the potential for IUU catch to enter a particular supply chain, identify potential risks in the supply chain from the fishery through to the market place and to then identify where interventions are possible to reduce and minimise this risk. It will not be able to indicate the level of risk that occurs once a fishery has entered the supply chain and it is recommended that a traceability benchmarking assessment or similar review of the supply chain be conducted to evaluate this risk.

The scope of this risk assessment is extremely broad due to a lack of supply chain traceability and therefore scoring each section accurately was constrained by a lack of information. The risk attributed to Japans' domestic fisheries for flatfish was moderate which reflects a lack of information regarding incidences of illegal activity within domestic fisheries (as these are not published), a lack of widespread certification and a paucity of information regarding supply chain traceability. Japanese coastal fisheries are managed by both national regulations and community based tenure management, and this dual management is perceived to lower the risk of IUU. It is the existence of strong central governance accompanied by high vigilance and reporting of illegal activities amongst communities, through tenure management systems, that decreases the anticipated IUU risk.

Marine Stewardship Council (MSC) certification of a flatfish fishery (targeting a variety of flounder species) in Kyoto demonstrates that illegal activity can be almost non-existent due to the existence of strong governance and community-focused management. The corresponding final assessment reports that the likelihood of IUU within community (prefectural) offshore and coastal waters is low due to the limited allocation of vessel licenses, enforcement control, continuous compliance and community-based vigilance.

Japan is compliant in reporting and data-collection requirements and is a member of a number of relevant Regional Fisheries Management Organisations (RFMOs) and was found to have a high governance score. In addition, Japanese Fisheries Law is relatively advanced and stipulates that catch and effort is suitably regulated and appropriate research is conducted for stock management (SCS Global Services, 2014). However, stock assessments and stock management systems are only implemented for species deemed to be commercially important, therefore only some flatfish species (e.g. Flathead Flounder) are subject to government control and these differing levels of management impact on the sustainability of fisheries (SCS Global Services, 2014).

On a global basis flatfish fisheries are widespread and we are therefore unable to ascertain the management and legislative frameworks within which they all operate. That said, some general issues with regards to these fisheries were found including gear interaction with fragile ecosystems, high rates of by-catch, including of endangered, threatened and protected (ETP) species, and catches of juveniles. In addition, stock assessments and output controls were found to be highly variable for flatfish species with a lack of regional assessment and management strategies. Management is often constrained by the mixed-species nature of these fisheries, relatively low national catches (negating strong demand for regional assessments) and a lack of data. It was found that fisheries are most likely managed using input controls with stock reference and target points lacking and that management is often not based upon a wide range of fisheries independent and dependent data.

The global use of a mixed-species harmonised system (HS) code for all flatfish products means that outside of certified products tracing the origin of products is difficult and mixing

can often occur. However, there are a number of MSC certified fisheries in existence on a global basis covering a number of species and therefore the recommendation is to seek to purchase these products in order to ensure supply chain traceability and minimise the risk of IUU.

Table 6 Average score (flatfish nei) for the six key areas in the risk assessment.

Key risk areas:	Score
Fishing vessels, legal personalities and companies	2.33
Fisheries – Various	2.08
Flag State – Various	2.28
Coastal State – Various	2.04
Port State – Various	2.11
Market State – Various	1.84
Average	2.11

Key:

Colour	Min	Max	Risk	Description
	>0.0	<=0.6	No or minimal risk	Little or no action required.
	>0.6	<=1.1	Very low risk	Some minor actions may be required, but risk level is very low.
	>1.2	<=1.8	Low	Risk level is low, but some particular elements may require mitigating measures to be put in place.
	>1.8	<=2.4	Medium	Medium level of risk. Particular scoring elements may need to be addressed and mitigated against.
	>2.4	<=3.0	High risk	High level of risk. One or more elements have substantial risks associated with them. Scores of this level may suggest sourcing from a different fishery.

5.2.2 Identification

This risk assessment addresses the following scope:

Table 7 Identification of scope of the IUU risk assessment.

Species	Flatfish nei (<i>Pleuronectiformes</i>)
Area	Various
Gear	Trawl and longline (potential for aquaculture)
Fleet	Various
Coastal States / RFMO:	Various
Port State:	Various
Market State:	Japan

The broad scope of this IUU RA encompasses all flatfish that are imported to Japan and those caught within the Japanese Exclusive Economic Zone (EEZ) by domestic fleets. Trade data only reports all flatfish to one Harmonised System (HS) code, which encompasses all species belonging to the *Pleuronectidae*, *Bothidae*, *Cynoglossidae*, *Soleidae*, *Scophthalmidae* and *Citharidae* families. This includes species commonly referred to as flounders, tonguefish, common soles and left eye flounders (including European plaice, halibuts, lemon sole, common dab, pacific Dover sole and flukes). Common flatfish species caught in Japanese waters are flounders, halibuts and soles, which constitute approximately 1.4% of Japan's marine fisheries production volume (three year average for 2005-2009) (European Parliament, 2013). It is also worth noting that in terms of imports flounder is reported as a major type of fishery product, constituting 2% of the total volume of fishery products and that no other flatfish species are detailed within the import data (European Parliament, 2013). The IUU risk score for each section has been scored on the basis of trade data, which indicates that 60% of flatfish products originate from domestic fisheries and 40% from imports; with some potential for cultured fish entering the supply chains also. With regards to cultured products, data from the fisheries agency covering marine aquaculture production doesn't show any flatfish species within the top eight species produced in Japan, therefore this is considered to be only a minor source of products.

5.2.2.1 Fishing vessels, legal personalities and companies

As detailed above low supply chain traceability means that ascertaining the exact vessels, legal personalities and companies involved in fisheries isn't possible, neither is it possible to know which flag State the fish products are originating from. Therefore, details are given for the type of Japanese vessels that are most likely used to target flatfish, accompanied by additional information regarding other fisheries likely to target these species also. Overall, vessels used to target flatfish are predominantly operated using demersal trawl and nets (e.g. Danish seine). For Japanese vessels flatfish species commonly targeted includes different types of flounder (e.g. Flathead and Korean flounders) found at depths of up to 350

metres (SCS Global Services Report, 2014). It is anticipated that fisheries are a mix of small-scale vessels (no larger than 15 gross tonnes) operating within Japan's domestic waters and larger offshore bottom trawlers.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
1.1 Vessel/Fisher Identification	Vessel identification e.g. vessel name, call-sign, country registration number and national and RFMO authorisations to fish (either inside national waters or outside on the high seas or in other zones) is complete to enable identification. Are vessels required to have unique IDs?	Vessels targeting flatfish within this broad scope are most likely highly varied. Within Japan's domestic EEZ it is anticipated that small-scale bottom-trawling vessels commonly target flatfish, accompanied by larger offshore vessels. These two types of vessels have different licensing requirements, however are both required to be registered on the fleet register as detailed in Japan's NPOA-IUU. No evidence of unique IDs could be found for Japanese vessels. Flatfish are not commonly subject to regional management frameworks and therefore vessels are not widely listed with RFMOs. A medium to high risk is scored as there is no evidence of mitigating factors such as RFMO listing and unique IDs on a global basis and as we are uncertain of the scope of the assessment a precautionary approach is taken.	Shih-Ming Kao (2015) SCS Global Services (2014) European Parliament (2013) Acoura (2016)	2.5
	Are each vessel, captain(s), owner and beneficial owner and agent identified as far as possible, this should ideally be transparent?	Licenses are mandatory for Japanese fisheries as administered by the prefectural or ministerial authorities and are all recorded under the national fleet register. Under Japanese law only Japanese vessels, owned by Japanese nationals/entities should be operated and registered with the fishing vessel registration. The fleet register is not readily available for flatfish vessels, possibly owing to the fact that licenses are distributed by both community and government authorities. Due to broad scope of this assessment it is likely that highly variable requirements are in place for flatfish fisheries. In addition, vessels targeting flatfish are often small-scale and licenses are administered by community-based organisations. As we have limited data on vessels and owners and no vessel list this is scored as high risk due to low traceability.		3.0
1.2 Vessels on IUU lists.	Are any of the vessels listed in the RA scope on the IUU Lists of RFMOs, (NGOs to be considered but not as clear evidence as evidential value to include is not of the required standard)?	As aforementioned we have no information regarding the vessels used within the supply chains. Due to the lack of regional management frameworks pertaining to flatfish fisheries on a global basis it is unlikely that vessels would be on RFMO IUU lists. No record of Japan could be found on the IUU lists of RFMOs to which they are party. We have no information with which to score this accurately, however it seems unlikely that any vessels involved in these supply chains would be listed on RFMO lists as no Japanese	Various RFMO websites	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		vessels are and vessels targeting flatfish are not subject to extensive regional management but due to the absence of information a high risk score has been given.		
	Are any of the legal personalities listed in the RA scope listed on the IUU lists of nationals and companies involved in IUU?	Due to the breadth of scope for this risk assessment it is difficult to ascertain what legal personalities are involved. There wasn't any evidence of systemic unlicensed fishing occurring within Japanese fleets/waters however this is still scored as an associated IUU risk due to the uncertainties involving the supply chains.		3.0
	Is there any evidence of unlicensed fishing occurring?			3.0
	Are all of the vessels listed on the RA scope listed on authorised (white) lists for RFMOs and/or national authorised lists?	Due to the lack of regional management frameworks in place for flatfish species no requirements exist for listing on RFMO lists. It is not clear what national lists vessels should be listed on as no information on vessels has been supplied and therefore a low risk is given.		3.0
1.3 IUU fishing carried out by vessels flying its flag, by its nationals or by companies based in that country.	Are the history, nature, circumstances, extent and gravity of the manifestations of IUU fishing as listed in EU carding process by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	There is no information regarding the relevant countries engaged in the fisheries. Japan, which provides 60% of the products, has not been subject to an EU yellow flag within the last 5 years. However, as there is uncertainty there is likelihood that the flag State(s) could have received a yellow / red flag within the last 5 years. Therefore, a low risk score has been given.	European Commission (2017a) The EU Rules to Combat Illegal Fishing	1.0
	Are the history, nature, circumstances, extent and gravity of the manifestations of IUU fishing as listed in the NOASS biennial reports by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	There were no links found between the RA scope and the NOAA biennial reports, Japan is not listed in NOAA biennial reports within the last five years. A low risk is still scored; as we cannot be certain that there are no links due to low supply chain traceability.	NOAA biennial reports (2012-2017)	1.0
	Are there scientific and market analyses defining the level of IUU (e.g. RFMO reports) conducted by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	There are no proven links to the RA scope as details of widespread illegal activity within Japanese flatfish fisheries have been found. That said, widespread illegal activity is reported within the flatfish fisheries of some parts of Europe with incidences reported as recently as the last 5 years. As there are no clear links found this is only scored as low risk due to uncertainties.	Bayram (2013)	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are there NGO and Press reports of IUU incidents (specific to vessels/companies) conducted by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	As above, press reports detail widespread illegal activity in flatfish fisheries of Europe. Therefore, due to uncertainties associated with the scope this is scored as a low risk.		1.0
Average				1.67

5.2.2.2 Fisheries – Flatfish nei (sustainability, impacts)

Due to the broad scope of this assessment information pertaining to the sustainability of all Japanese flatfish fisheries has been included, which includes one domestic flatfish fishery that is certified by MSC. In order to provide a general overview of the management conditions within the fisheries exists general information concerning Japanese domestic fisheries regulation and management has also been included. For this risk assessment 40% of products originate from other global fisheries targeting fisheries with no information concerning their location, species or gear type. Therefore, for all questions the IUU risk is subject to uncertainty due to this fact and all scores have been increased correspondingly as a paucity of supply chain traceability increases the risk that IUU activity could be occurring.

Overall, Japanese fisheries law is relatively advanced and stipulates that catch and effort is suitably regulated and appropriate research is conducted for stock management (SCS Global Services, 2014). Within Japanese fisheries stock assessments and stock management systems are only implemented for species deemed to be commercially important, therefore some flatfish species (e.g. Flathead flounder) are subject to government control however not all species are regulated and therefore different levels of risk to their sustainability exists (SCS Global Services, 2014).

Specific Risk	Specific Questions to Address	Description	Evidence	Score
2.1 Status of fisheries and sustainability	Are fisheries operated with control on removals e.g. quota and / or effort limits?	<p>Fisheries are controlled via a combination of input and output controls within Japanese fisheries dependent upon fishery type. Within Japan's domestic Exclusive Economic Zone (EEZ) nine species are subject to the Total Allowable Effort (TAE) system, this includes several flatfish species; namely flathead flounder, yellow striped flounder, rough scale sole, willow flounder and marbled flounder. The TAE system limits the total fishing capacity by regulating the number of fishing days and the total vessel numbers entering certain waters within the EEZ. This is an example of an input control. In addition to the TAE system other controls exist including the control of fisheries seasons, areas and gear types. Aside from the aforementioned "commercially important" species other flatfish fisheries are not subject to the TAE system and are controlled using a variety of effort-based controls.</p> <p>Output controls, e.g. quotas, are used for some flatfish fisheries including those within EU waters, however we cannot be certain as to the product origins. Therefore, this is scored as a moderate to high risk as it appears that Japanese domestic fisheries are subject to input controls only, and we have insufficient information regarding the other sources of flatfish imports and therefore cannot ascertain what controls they are under.</p>	<p>SCS Global Services (2014)</p> <p>TCS International Pty Ltd (2008)</p>	2.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are stock assessments available for species that use data on total removals (i.e. catch, bycatch, IUU and discards)?	<p>Species caught by Japanese fisheries are subject to stock assessments, by the Japan Fisheries Agency (JFA), only if they are deemed to be “commercially important”. Therefore, some species will be covered. The aim of these stock assessments is to ensure that catches are of an appropriate age/size classes and to secure future reproductive capacity. Stock assessments utilise both fisheries-dependent and fisheries-independent data including survey results from seine surveys, data on total removals, expected recruitment levels, and discard levels. MSC reports for the flathead flounder fisheries in Kyoto (Japan) indicate there is data 35 years of time-series data.</p> <p>With regards to other flatfish fisheries globally there is a paucity of annual stock assessments based on a wide variety of data (e.g. recruitment indices, fisheries data, egg surveys). This is owing to problems reported with mislabelling/misreporting of catch data, the presence of numerous mixed-species fisheries and a lack of species deemed to be singularly economically important. However, for most stocks data collection is increasing with scientific assessments becoming more commonplace. ICES assessments are now available for lemon sole, flounders and dabs; these are conducted using fisheries data (total international landings) and research vessel survey data (International Bottom Trawl Survey (IBTS)).</p> <p>This is scored as medium risk due to the lack of widespread stock assessments for all flatfish food species that incorporate a wide range of chronological data.</p>	<p>ICES (2013)</p> <p>Japanese Fisheries Agency (2016)</p> <p>TCS) International Pty Ltd (2008)</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are target and limit reference points defined for the fishery?	<p>As aforementioned, some flatfish species targeted by the Japanese fleet are managed by allocation of fishing effort (TAE) and Total Allowable catch (TAC) and are managed under the national Resources Recovery Plan (RRP). Under this plan if stock status falls below target levels TAE/TAC is adjusted e.g. the number of boat days permitted is reduced, as a precautionary approach. The plan also estimates the annual Allowable Biological Catch (ABC) by multiplying the previous years' limits by a coefficient that considers the security of the stock, based upon biomass reference points as indicated by fisheries independent data. Stock is then classified as "optimum", "sub-optimum" or "low". There is no clear evidence as how this relates to B_{MSY} and whether target and limit reference points are in place for other flatfish species targeted by <i>flag State(s)</i> vessels. In addition, TACs are also reportedly set higher than ABC for fisheries when there is a perceived need to lessen the socio-economic impact.</p> <p>Within other flatfish global fisheries even those that are entering MSC assessment processes are said to operate without clearly defined target reference points due to the absence of analytical stock assessments. Therefore, there is perceived to be a widespread lack of reference points defined through annual stock assessments, which increases the risk score given to medium.</p>	<p>TCS International Pty Ltd (2008)</p> <p>European Parliament (2013)</p> <p>Acoura (2016)</p>	2.5
	Are fisheries operating at a level at or under MSY?	<p>Flatfish fisheries appear to be operated on a global basis without clearly defined target reference points or defined MSY levels and therefore ascertaining whether a stock is consistent with MSY is difficult. For Japans' domestic catches as aforementioned stock assessments are conducted annually, no specific details were found for flatfish fisheries however the FY2015 stock assessment (covering 84 stocks of 52 species) show stocks as high for 19%, moderate for 31% and low in 50% of groups.</p> <p>Due to the lack of estimates of MSY, $F_{Current}/F_{Optimal}$ it is not possible to ascertain whether fisheries are operating at MSY and the risk of fisheries operating at unsustainable levels and encouraging IUU is high.</p>	ICES (2015)	2.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are bycatch and ecosystem impacts known (and if different for IUU fishing)?	<p>A variety of gears are used to catch flatfish species including seine nets and demersal trawls, both of which tend to be less selective than other gears, e.g. hand-lines, and are potentially destructive to the seabed. Ecosystem impacts are routinely assessed through certification programmes (e.g. MSC) and these reports indicate that by-catch of endangered species occurs including skate, ray and shark species. The MSC report on Japanese flathead flounder fisheries indicates bycatch is typically macro-benthos species such as sea stars, sea urchins and eelpouts which are all discarded at fishing spots. In addition, catches of undersize juveniles is common for trawling fisheries, even though selective fishing nets are employed. For MSC fisheries impacts and ecosystem impacts are well monitored and quantified with mitigation efforts in-place, however external to these processes it is anticipated that ecosystem impacts are only partially quantified and identified.</p> <p>Research is conducted by the Fisheries Research Agency into fisheries impact and there is reportedly a good management framework in place to reduce fisheries impact on ETP species. Restrictions in-place with regards to flatfish fisheries to reduce by-catch include fishery seasonal closure and new net designs, however it is not clear to what extent these are adhered to and whether there is IUU activity concerning these factors. Overall, ecosystem impacts are associated with flatfish fisheries, however data wasn't available for widespread monitoring and mitigation efforts; therefore a high risk is scored.</p>	<p>TCS International Pty Ltd (2008)</p> <p>Daume <i>et al.</i> (2014)</p> <p>Acoura (2016)</p>	3.0
	Is the fishery at or below capacity?	<p>No overview for the capacity of flatfish fisheries was found, however the national Fishery Licensing System is reported to strictly limit fisher numbers. There are also reports of overcapacity within Japanese fisheries as a whole, with 87.9% of fishermen reporting that fish resources were decreasing during a survey by MAFF in 2011. In addition, Mora <i>et al.</i> (2009) concluded overall management effectiveness in Japan's Exclusive Economic Zone (EEZ) to be very low, due to limited transparency, high reliance on subsidies as well as overcapacity. The existence of subsidies is also often seen as a driver for overcapacity. That said, if a fishery is subject to strict effort controls the likelihood of overcapacity is dramatically decreased.</p> <p>Due to the wide scope of the assessment is difficult to ascertain whether fisheries are operating at or below capacity, therefore a moderate risk is given.</p>	<p>TCS International Pty Ltd (2008)</p> <p>Mora <i>et al.</i> (2009)</p> <p>JFA (2016)</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
2.2 History of IUU	Do previous incidences of IUU exist within the fishery?	<p>There was no widespread evidence of IUU with regards to flatfish fisheries in Japan found as issues with illegal activity were found to be commonplace for different species.</p> <p>That said, there are global reports of IUU activity concerning flatfish species, with research suggesting it is widespread in some flatfish fisheries, notably turbot fisheries within the Black Sea area e.g. Ukraine, Romania and Bulgaria. A roadmap and other measures are in place to combat such activities, however the risk of IUU remains higher from these fisheries it is suggested. Other flatfish fisheries subject to violations include the Atlantic halibut fishery in Canada, where over \$1 million in fines were given from 2012-2017.</p> <p>There is no indication that IUU is widespread within Japanese fisheries, however as it is commonplace for other flatfish fisheries a moderate risk is scored.</p>	<p>FAO (2015)</p> <p>Bayram (2013)</p>	2.0
2.3 Access to fishery	Are fisheries authorised through a fishing licence / permit system?	<p>For domestic Japanese flatfish fisheries these are licensed by either the prefectural governor (for smaller vessels e.g. less than 15 gross tons) or the government (for larger vessels larger than 15 gross tons). This licensing system is reportedly tightly controlled, however no publically available list was found. For other fisheries, e.g. those within the EU, national lists of fishing licenses are publically available. As we cannot ascertain whether there is a transparent licensing system available this is scored as a moderate risk.</p>	<p>European Commission (2017b). Management of fishing capacity-fishing fleet.</p> <p>Japanese Fisheries Agency (2016)</p>	2.0
2.4 Price	Data on species market prices (domestic/international) Low price fish (<US\$1000/t) are generally lower risk (e.g. small pelagics), higher priced (>US\$5000/t) demersals (e.g. cod and haddock) will be higher risk, high value species are generally higher risk.	<p>Flatfish have a large price <i>range from between</i> US\$ 2000 – 27000 / mt depending on species and size. This price reflects a medium to very high price and the risk attributed is a reflection of the average.</p>	<p>European Price Report, (January 2017)</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are any mitigation procedures that may be in place for high value species (e.g. catch documentation schemes, EU catch certificate requirements) in place (e.g. bêche de mer, bluefin tuna)?	With regards to Japanese fisheries the government attempted to improve the control of imported products through a catch documentation scheme introduced in 2007 through the MAFF Fisheries Management Directive. Therefore, there are systems in place to identify fish sourced from a particular fishery or boat for imported products however it is not clear to what extent these measures are applied for domestic fisheries. As no clear details could be found, even for MSC certified fisheries it is anticipated that not all products are fully traceable to each fishery/boat and therefore a medium risk is scored.	TCS International Pty Ltd (2008)	2.0
2.5 MSC certification/ /FIP processes	Is there MSC certification for the fishery or is there a FIP in process? MSC certification requires IUU to be low or negligible and has checks to ensure this is the case. If the fishery is going through a FIP process as well/that may indicate improvement within the fishery e.g. Sri Lanka.	<p>The Japanese Kyoto Danish Seine Fishery Federation was MSC certified in 2008, this company uses small-scale and off-shore trawlers to target flathead flounder, all of which is sold domestically.</p> <p>Outside of Japan it is also possible to purchase a number of flatfish species globally that are certified to MSC standard. MSC-certified fisheries include flounder within the Northwest Atlantic, 10% of which is currently sold to Japan. There are also multi-species fisheries within areas such as the Bering Sea and the Pacific Ocean which target a variety of species including yellowfin, flathead / northern rock sole, Alaska plaice and Kamchatka flounder some of which is currently sold to Japanese markets.</p> <p>The certification of fisheries within Japanese waters that encompasses both small-scale and offshore fisheries indicates that IUU risk is minimal enough to pass MSC certification processes. Within the MSC report it is also notes that due to both the government enforcement and community-processes in place IUU fishing is highly unlikely.</p>	MSC (2017) www.msc.org/trackafishery	2.0
Average				2.08

5.2.2.3 Flag State – Japan (60%) and unknown (40%)

The scope of the risk assessment is such that we can only be certain of the flag state of origin for approximately 60% of the products and the remaining 40% is subject to uncertainty. Tracing the origin of flatfish species is difficult owing to low supply chain traceability and also due to the wide range of species included in the Flatfishes nei category. Therefore, the table is completed using information regarding Japanese

management and governance, however has also incorporated information regarding other substantial flatfish fisheries that are likely to supply Japanese markets (e.g. EU fisheries) and has paid due attention to the uncertainty surrounding the fisheries and scored the IUU risk accordingly.

Fisheries within Japan are managed through the framework of the “Fisheries Law” and the “Fishery Cooperative Law”, which encompasses management at both a community and a government level with licensing and regulation responsibilities split between the two depending mainly on vessel type and size. A local Fishery Cooperative (FC) is founded in every fishing village within Japan, and a group of local FCs within each prefecture constitutes the prefectural fishery association which are then responsible to a larger district unit called the Japanese Fishery Associations (2008 MSC). These are operated under the guidance of the Fisheries Agency (FA) within the Ministry of Agriculture, Forestry and Fisheries (MAFF). Japan has taken a number of measures to increase its control as a flag state for vessels, as laid out within the IPOA-IUU including compulsory registration and recording of vessels and regulation on transshipment and landing of flag state vessels into foreign ports. For example, the owner of Japanese fishing vessels who intend to land or tranship fish and fish products at foreign ports are required to obtain in advance a permit from MAFF. Additional conditions exist if flag State(s) vessels wish to land internationally managed species such as tunas e.g. the volume, time and venue of landing/transshipment, which is to be verified by VMS data (Hayashi, 2008).

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
3.1 Is IUU associated with the flag State?	Has the flag State been identified as a non-compliant State by the EU (yellow / red card)?	Japan hasn't been identified as a non-complaint state by the EU or given a yellow or red card by the EU within the last 5 years, therefore for 60% of the products there are no issues identified. For the remaining 40% of products we are unable to ascertain the flag state in question, therefore this is afforded a moderate risk due to uncertainties and the proportional risk from product origin.	European Commission (2017a) The EU Rules to Combat Illegal Fishing	1.5
	Has the flag State been identified as a “country of interest” within NOAA biennial reports?	Japan wasn't identified as a country of interest within NOAA biennial reports, however as we are unable to ascertain the relevant state we cannot be assured that there is no risk and a moderate score is given.	NOAA Fisheries biennial reports (2012-2017)	1.5
	Has the flag State been identified as a flag of non-compliance by any other State(s) or by an RFMO?	No issues were identified with Japan being non-compliant noted in RFMO reports or within reports from other flag states and no widespread incidences of IUU fishing were found. However, as we are uncertain of the flag State(s) this is still given a moderate risk.	RFMO Compliance reports	2.0
	Has the flag State been identified as a flag of non-compliance or flag of convenience by an NGO or in scientific or press reports?	Japan is not identified as a Flag of Convenience (FoC) by ITF, previous issues existed with vessels purchased and operated by Taiwanese residents however this not perceived to be a current day threat. There was no widespread press or scientific report coverage of IUU conducted by Japan as a flag state.	ITF (2017). http://www.itfglobal.org/en/transport-seafarers/in-focus/flags-of-convenience-campaign/	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		With regards to other <i>flag State(s)</i> there is no traceability within supply chains and no predominant <i>flag State(s)</i> indicated by trade data we couldn't ascertain a risk accurately. Therefore, even though Japan is not identified as a FoC we have to score this as a moderate risk.		
3.2 Corruption	What is the WB corruption index for the flag State? (see WB Governance Indicators). Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.	The high governance score of Japan means that domestic catches represent a lower level of risk with a higher level presented by imports (totalling 40%), but the remainder of countries involved as flag States is unknown therefore a medium risk is scored.	WBGI (2016)	1.5
3.3 Vessel Registration and Licensing	Are all fishing vessels required to be registered and flagged in the flag State required to have a licence?	Under Japan's fishing licensing system, any fisherman intending to participate in specific domestic fisheries subject to regulation, or harvest fish species under international management (e.g. tuna) must obtain a fishing license issued by the MAFF/prefectural government. Fishing vessels such as large-scale purse seiners, large-scale trawlers and tuna long-liners are licensed by the MAFF, because their operations straddle multiple prefectural waters and/or their fishing pressure significantly impacts fishery resources. Prefectural fishing vessels are managed according to characteristics of each region in relation to total national fishing capacity and are licensed by prefectural governments supervised by the MAFF. Under Japanese law only Japanese vessels, owned by Japanese nationals/entities should be operated and registered with the fishing vessel registration. As flatfish are often targeted by smaller, artisanal fisheries operating within coastal waters it could be likely that exceptions to compulsory licenses exist for some <i>flag State(s)</i> that sell products to Japan. Therefore, a moderate score is given.	Japanese International Management (2008) Japan: https://www.oecd.org/tad/fisheries/34429748.pdf	2.0
	Is there a licensing and quota allocation system in place? Is this system clear and transparent?	Japan's domestic fisheries are primarily controlled by input controls including fishing effort in days, technical control measures (e.g. special management zones for juvenile fish protection) and Total Allowable Catch (TAC). That said, TACs (set from 1996 onwards) only apply to some species, namely Pacific saury, Alaska pollock, Japanese sardine,	TCS International Pty Ltd (2008) Acoura (2016)	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>mackerel (jack, chub mackerel and southern mackerel), Japanese common squid and snow crabs.</p> <p>Japanese' domestic fisheries are controlled by ministerial and prefectural regulations which impose limits on fishing period, fish lengths and fishing areas via a licensing system. Therefore, it appears that all Japanese vessels targeting flatfish hold either a ministerial or a prefectural license depending upon fishing area/species.</p> <p>With regards to quota and licensing systems for other flatfish fisheries on a global scale these will be highly variable dependent upon <i>flag State(s)</i>. For example, EU fisheries are all regulated by a licensing system that stipulates the quota available to each vessel.</p> <p>A moderate risk is anticipated as a significant proportion of products originate from Japanese vessels that all hold licenses and are subject to input controls. However, input controls are variable amongst Japanese fisheries, and as we are uncertain as to the origin of the remaining 40% of products there is an increased chance of IUU.</p>	<p>Japan: https://www.oecd.org/tad/fisheries/34429748.pdf http://www.fao.org/fishery/facp/JPN/en</p>	
	Is this broken down by domestic waters and ABNJ?	<p>It is anticipated that for some fisheries, e.g. those operated by European <i>flag State(s)</i> and Japan, licensing and quota frameworks are separated by domestic waters and ABNJ. Japanese fisheries are regulated by community (prefectural) or ministerial (government) dependent upon fishing area therefore this distinction is integrated within their licensing system.</p> <p>Correspondingly, it is anticipated that for a high proportion of the fleet targeting flatfish destined for the Japanese market licenses are broken down by domestic waters/ABNJ. However, the broad scope of the risk assessment increases uncertainty and the possibility that vessels could be targeting fish indiscriminately regardless of fishing area.</p>	<p>TCS International Pty Ltd (2008)</p> <p>Acoura (2016)</p>	2.0
	Is there a public list of licensed / authorised vessels?	<p>For Japanese vessels a national fleet register is kept and regularly monitored by the JFA, however this was not found to be publically available. It is highly likely that some EU MS are selling products to the Japanese markets and these vessels are on registered on national fleet registers that are publically available. A high risk is scored due to the uncertainties surrounding the <i>flag State(s)</i>.</p>	<p>European Parliament (2013)</p>	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
3.4 Fair transparent fisheries agreements	Are fair transparent fisheries agreements in place with coastal States?	Japan has a number of bilateral agreements in place with other coastal states, mostly neighbouring countries that target similar straddling/migratory stocks. However, the exact details of these could not be found. As we are unable to trace supply chains to flag State(s) we cannot ascertain whether transparent agreements are in place and therefore a higher risk is scored.	Japanese Fisheries Agency (2016)	2.5
3.5 RFMO	Membership: Is the flag State a Member of the relevant RFMOs?	An EU report on IUU fishing in Japan found that efforts to tackle IUU from Japan are high through their membership to RFMOs. They are members of the relevant RFMOs to manage straddling stocks such as tunas (e.g. WCPFC). As flatfish fisheries are not commonly classed as economically important straddling stocks/highly migratory species membership of RFMOs is not seen as especially relevant. No further details regarding <i>flag State(s)</i> were received and therefore it is impossible to judge whether the relevant <i>flag State(s)</i> are Members, Cooperating Non-Contracting Parties, Observers or Invited Expert status to the relevant RFMOs. Therefore, a moderate risk is given, as no issues are perceived from Japan, but could potentially be higher based on the flag State(s).	RFMO Membership lists.	2.0
	Compliance: Is the flag State compliant with all RFMO requirements and data submissions?	As aforementioned Japan appears to be compliant with all RFMO requirements and data submissions according to compliance reports. In addition, it is often reported to be innovative and proactive in its engagement with RFMO issues including VMS and wider MCS) issues. Therefore as few minor non-compliance issues are identified this is given a low risk, but as we are unable to ascertain what flag State(s) likely operate within supply chains/there is a lack of RFMO coverage for flatfish fisheries this is scored as medium risk.	RFMO compliance reports	2.0
	Engagement: Does the flag State submit additional information / papers to RFMO and actively participate in scientific and compliance committee meetings?	No issues exist for Japan and they are seen to be proactive with engagement in RFMO, particularly on IUU issues. However, as the flag State(s) is unclear we are uncertain as to the risk of IUU for the remaining 40% of the products and therefore a moderate risk is given.		2.0
3.6 Multi-lateral agreements e.g. FAO Guidelines or UNCLOS	Is the flag State a contracting/cooperative non-member party to multi-lateral agreements e.g. UNCLOS, UNFSA, FAO Agreements? Implementation of the provisions of the Convention relating to the	Japan is party to all major global and relevant regional treaties relating to the law of the sea/fisheries, including UNCLOS, 1993 FAO Compliance Agreement and the UN Fish Stocks Agreement. Japan is party to UNCLOS and UNFSA and is also Party to the 1993 FAO Compliance Agreement. Therefore, Japan is party to most multi-lateral agreements and fisheries products are at a lower risk of IUU however the remaining 40% is unclear and a moderate risk is scored.	UN (2017)	2.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	conservation and management of straddling fish stocks and highly migratory fish stocks.			
3.7 NPOAs (IUU + others)	Is there a specific National Plan of Action (NPOA) in place to combat IUU?	Japan's NPOA-IUU was adopted by the Fisheries Agency (FA) and approved by the Ministry of Agriculture, Forest and Fisheries (MAFF) in March 2004. It is titled the "Implementation of the IPOA-IUU: National Actions" rather than the NPOA-IUU. In this they detail the actions taken to combat IUU, however details of these actions and measures are not revealed. A review in 2015 also concluded that the plan was missing details of existing actions to combat IUU fishing. Therefore a NPOA (IUU) is in place and RFMO reports indicate that domestic regulation and laws are advanced and aimed at reducing IUU. It is not clear what actions are implemented, and whether they are implemented and reviewed on a regular basis. Regional POAs appear to be in-place, particularly with regards to specific fisheries that were operating with high levels of illegal activity e.g. Japanese and Korean long-line vessels targeting tuna. A moderate-high risk is scored due to the remaining 40% of products are subject to uncertainty and the lack of publically available details of Japans' NPOA-IUU. The general lack of NPOAs within countries (as registered with the FAO and the lack of publicity of some also raises the risk.	Shih-Ming Kao (2015) http://www.fao.org/fishery/i/poa-iuu/npoa/en	2.5
3.8 Flag State Control	How and to what level is flag State control exercised in terms of administrative controls and checks? (e.g. logbook check against VMS and administrative checks, catch certificate verification includes physical inspection)	Japan is said to have some of the longest fisheries data time series of any country, and the value placed on logbooks is said to be high. Logbooks are mandatory for all fisheries, and this data is utilised within stock assessments for some flatfish fisheries (e.g. Flathead flounder). Logbook data is verified against market statistics on a national and community basis. Catch is often landed into ports that are specific to each prefecture where there is a tight-knit community and high compliance with <i>flag State(s)</i> controls. VMS is required for a large proportion of national fisheries, and there is Chain of Custody (CoC) certificates in place for some species subject to special regulations e.g. Flathead flounders. Although CoC certificates are not universal community vigilance is said to be high amongst fisheries, so that prefectural governments check vessels location using shared-VMS systems on a regular. As a <i>flag State(s)</i> Japan is thought to exercise strict controls, however the administrative controls/checks are not used within all fisheries and therefore a different risk would be relevant dependent upon fishery. As we are uncertain as to what fishery is utilised within these supply chains and for the remaining 40% we	Clarke (2007) SCS Global Services (2014)	2.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		do not have any information regarding <i>flag State(s)</i> a moderate-high score is given again.		
	How and to what level is flag State control exercised in terms of inspections on flag State vessels (at sea and in port)?	<p>The Japanese national coastguard regularly monitors compliance against prohibited areas, fishing license requirements and other illegal fishing activities through inspection at sea and in ports. The FA has 7 branches around the country, and several aircrafts for deployment, which regularly conduct inspection at sea. In addition, prefecture government boats also monitor fisheries activity in coastal waters and also conduct regular and surprise inspections at landing markets every year. Japans' fisheries authorities also promote port inspection measures for offshore fisheries through their engagement and compliance with RFMO requirements.</p> <p>It appears that regular control is exercised through administrative controls in Japan, however a moderate-high risk is scored due to supply chain traceability issues.</p>	SCS Global Services (2014)	2.5
	How and to what level is flag State control exercised in terms of remote surveillance (e.g. aerial surveillance, VMS and AIS)?	<p>Since 2012, Japan's <i>flag State(s)</i> vessels operating in offshore and distant waters are required to use VMS, and Japan makes efforts to tackle IUU fishing through RFMOs by promoting VMS. However, VMS is only required for some fisheries conducted in specific areas in domestic waters. Therefore it is anticipated that some flatfish fisheries are covered by VMS and overall Japan is seen as a global leader in promoting VMS as well as AIS systems on-board their vessels. In terms of aerial surveillance Japan has a very large coastline, which is difficult to control, the FA currently has several aircraft at its disposal, which it uses to conduct inspections.</p> <p>Despite Japans' large coastline it appears that it has relatively advanced control in terms of remote surveillance, however this has been scored as moderate-high risk due to supply chain traceability issues.</p>	<p>Japanese Fisheries Agency (2016)</p> <p>WCPFC (2012)</p>	2.5
	How and to what level is flag State control exercised in terms of observer programmes?	<p>Through its' membership to various RFMOs Japan has various on-board observer programmes for its offshore and distant fisheries. Japan has reportedly made efforts to tackle IUU fishing by promoting on-board observer programmes on a global basis. In addition, through its' bilateral agreement with countries <i>flag State(s)</i> vessels are required to have a minimum percentage of observer coverage on-board. In terms of small-scale fisheries, managed by prefecture governments, it is anticipated that observer coverage is minimal due to vessel size and numbers and no details could be found regarding specific observer</p>	<p>www.wcpfc.org</p> <p>Japanese Fisheries Agency (2016)</p> <p>European Parliament (2013)</p>	2.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		numbers required for flatfish fisheries. As observers are mostly likely not widespread this increases the risk of IUU and as we are uncertain as to the <i>flag State(s)</i> a moderate-high risk is scored.		
3.9 Flag State Cooperation	Does the flag State work with neighbouring or regional States to enhance MCS in their own waters and fleets?	Japan has a large coastline and a number of disputed boundaries and it has a number of bilateral agreements in place with other neighbouring/regional states to enhance MCS to reduce incidences of IUU. This includes the sharing of data from foreign vessels, e.g. from China, Russia and South Korea, fishing in their coastal waters. It also shares VMS data with EU <i>flag State(s)</i> regarding vessels operating in distant waters. It is anticipated that data sharing with regional states isn't as advanced as other <i>flag State(s)</i> including Northern European <i>flag State(s)</i> , which have data-sharing systems, enshrined in national regulations. That said, some cooperation at sea and in ports exists in order to negate the likelihood of IUU. As we are unsure of the <i>flag State(s)</i> a moderate-high score is given.		2.5
	VMS sharing is implemented?	As detailed above Japanese authorities shares VMS data regarding offshore and distant water fleets with a number of other <i>flag State(s)</i> . VMS data-sharing is also commonplace for a number of <i>flag State(s)</i> that are thought to export flatfish products to Japan, e.g. EU MS, however as cannot be certain of the relevant <i>flag State(s)</i> this is scored as moderate-high risk.		2.5
	Average			2.28

5.2.2.4 Coastal State – Japan (60%) and unknown (40%)

The scope of the risk assessment is such that we can only be certain of the coastal state of origin for approximately 60% of the products, which are caught within Japan's EEZ, and the remaining 40% is subject to uncertainty. Tracing the origin of flatfish species is difficult owing to low supply chain traceability and also due to the wide range of species included in the Flatfishes nei category. Within Japan's EEZ flatfish fisheries include those targeting flounders, halibuts and soles, which constitute approximately 1.4% of Japan's marine fisheries production volume (three year average for 2005-2009 (European Parliament, 2013)). Therefore, the table is completed using information regarding Japanese management and governance, however has also incorporated information regarding other substantial flatfish fisheries that are likely to supply Japanese markets (e.g. EU fisheries) and has paid due attention to the uncertainty surrounding the fisheries and scored the IUU risk accordingly.

Japan's coastal fisheries are managed by both prefectural and ministerial governments and compliance is reportedly high amongst fishing communities through tenure management with voluntary regulations in-place to increase fisheries sustainability (Clarke, 2008). Compliance is

also reportedly high due to constant monitoring of fisheries within coastal waters between communities and the limited number of prefectural licenses issued. Overall, Japan also has a high governance score and traditionally low levels of compliance. That said, there were some issues reported concerning overcapacity, reliance on subsidies and there is limited transparency especially concerning the number of publically available documents and reports.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
4.1 Is IUU fishing carried out / supported by fishing vessels operating in its maritime waters?	Has the coastal State been identified as a non-compliant State by the EU (yellow / red card)?	Japan hasn't been identified as a non-complaint state by the EU or given a yellow or red card by the EU within the last 5 years, therefore for 60% of the products there are no issues identified. For the remaining 40% of products we are unable to ascertain the flag state in question, therefore this is afforded a moderate risk due to uncertainties and the proportional risk from product origin.	European Commission (2017a) The EU Rules to Combat Illegal Fishing https://ec.europa.eu/fishe/ries/cfp/illegal_fishing/info_en	1.5
	Has the coastal State been identified as a "country of interest" within NOAA biennial reports?	Japan wasn't identified as a country of interest within NOAA biennial reports, however as we are unable to ascertain the relevant state we cannot be assured that there is no risk and a moderate score is given.	NOAA Fisheries biennial reports (2012-2017) http://www.nmfs.noaa.gov/ia/slider_stories/2017/01/2017biennialreport.pdf	1.5
	Has the coastal State been identified as having IUU fishing carried out in its waters? (NB: This may be identified by the coastal State itself, another State or by an RFMO).	The JFA issues an annual summary of enforcement activities, which contains exact details of IUU activity by foreign-flagged fishing vessels and the numbers of violations concerning domestic vessels. Within this report the JFA doesn't publicize detailed information about domestic illegal fishing incidents, as it believes this information may assist individuals engaging in illegal fishing activities in evading detection. The number of arrests for violation of fisheries laws and regulations stood at 1,767 in 2015. Of this number only 12 were concerning foreign fishing boats. The major issues appear to be regarding border disputes with China, Korea and Russia, as identified in the annual fisheries reports. In addition, these reports indicate issues concerning illegal coral fishing and advanced purse seine fishing operations illegally targeting pelagic species including tuna near the EEZ boundary. Based on these statistics it would appear that 98% of all illegal fishing incidents involve domestic fishing, however these are not clearly reported by the FA. In terms of the total marine production of Japans' coastal waters it is found that only a small proportion is identified as being subject to illegal activity by both state and RFMO reports. National publications are not transparent and it is not clear whether there are systemic problems within certain fisheries/areas. There were no non-compliance	Clarke (2007) Japanese Fisheries Agency (2016) Japan: http://www.imcsnet.org/imcs/docs/illegal_fishing_exclusive_economic_zone_japan.pdf https://www3.nhk.or.jp/nhkworld/newsroomtokyo/ai/red/20170315.html http://thediplomat.com/2014/11/illegal-fishermen-the-newest-threat-to-china-japan-relations/	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		issues identified through RFMO publications and therefore a low risk is scored. Due to uncertainties concerning coastal State(s) this is still scored as a moderate risk overall.		
	Has the coastal State been identified as having IUU fishing carried out in its waters by fishing vessel of any State by an NGO or in scientific or press reports?	<p>Press reports suggest that issues surrounding IUU by foreign vessels mostly involve Chinese, Korean and Russian vessels. In particular, press reports indicate that Chinese and Korean vessels routinely enter Japanese domestic water to fish, and often sell this fish back to Japan. Chinese boats operating in the East China Sea, particularly those fishing for coral appear to be the most commonly engaged in illegal activities from press reports. There are also reports of North Korean and Chinese vessels conducting IUU fishing within the Sea of Japan targeting mostly flying squid, but using indiscriminate fishing techniques. This was reported as recently as March 2017 with the matter seemingly on-going, the article cited Japan's large coastline as a key driving issue for illegal activity due to the difficulties with patrolling such a large area.</p> <p>Incidences concerning sea boundary disputes are also routinely reported despite the presence of bilateral agreements with Korea and Russia. It is thought that the complexity of these agreements causes uncertainty amongst foreign vessels leading to increased violations. For example, complicated zoning areas in-place, e.g. between Japan and Korea, are a key driving factor behind the high number of arrests from these countries; for the last 6 years arrests have been highest amongst South Korean vessels.</p> <p>Frequent press reports indicate significant on-going levels of IUU within Japan's EEZ, however MCS State(s) reports indicate low levels of IUU were Japanese coastal fisheries due to enforcement controls of the ministerial and community-based governments. It is therefore anticipated that although IUU is regularly reported this is restricted to certain species/areas. Due to low supply chain traceability this is scored as moderate risk.</p>	<p>Dailycaller.com (2016) Japan Gears Up For Battle With Illegal Chinese Fishermen</p> <p>Japanese Fisheries Agency (2016)</p> <p>Clarke (2007)</p> <p>www.nhk.or.jp (2016) NRT Focus: Illegal Fishing in Sea of Japan.</p> <p>Japan: http://www.imcsnet.org/jmcs/docs/illegal_fishing_exclusive_economic_zone_japan.pdf</p> <p>https://www3.nhk.or.jp/nhkworld/newsroomtokyo/ai/red/20170315.html</p> <p>http://thediplomat.com/2014/11/illegal-fishermen-the-newest-threat-to-china-japan-relations/</p>	2.0
4.2 Corruption	<p>What is the WB corruption index for the Coastal State? (see WB Governance Indicators).</p> <p>Governance score - Low scores of governance are particularly vulnerable to incursions and illegal</p>	The high governance score of Japan means that domestic catches represent a lower level of risk with a higher level presented by imports (totalling 40%).	<p>WBGi (2016) http://info.worldbank.org/governance/wgi/#home</p>	1.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.			
4.3 Vessel Registration and Licensing	Are all fishing vessels fishing in the coastal State required to have a licence? (NB: Are there reports of proportion of vessels unlicensed (both national and international)?)	<p>Under Japanese law foreign vessels can only operate within its EEZ if there is a surplus of TAC and a licence is required for this purpose from MAFF with fees levied. These are operated under bilateral fishery agreements (e.g. with China, Korea and Russia) and through TAC systems. As aforementioned all domestic vessels are required to have a licence as issued by the ministerial or prefectural governments.</p> <p>There is a low risk associated with Japanese fisheries as all vessels are required to have a license as distributed by either prefectural or ministerial governments, However, as we are uncertain as to what coastal states are used within the supply chains this is scored as a moderate risk.</p>	<p>Japanese Fisheries Agency (2016)</p> <p>Japan: https://www.oecd.org/tad/fisheries/34429748.pdf</p> <p>http://www.fao.org/docrep/005/AC750E/AC750E09.htm</p>	2.0
	Is there a licensing and quota allocation system in place? Is this system clear and transparent?	Domestic fisheries are only partially covered by output controls and a quota system isn't universal for all fisheries, with some fisheries covered by input controls only. Due to the breadth of the RA scope it is not known whether the relevant vessels would be subject to a quota system. Owing to this uncertainty concerning both Japanese products and the remaining 40% a moderate to high risk is scored.	<p>European Parliament (2013)</p> <p>Japanese Fisheries Agency (2016) https://www.oecd.org/tad/fisheries/34429748.pdf</p> <p>http://www.fao.org/fishery/facp/JPN/en</p>	2.5
	Is there a public list of licensed / authorised vessels?	There was no public list of authorised vessels located for Japanese vessels, although all vessels are recorded under the national fleet register. We therefore cannot be sure if the vessels involved in the RA supply chains are listed on the national fleet register. We are also uncertain as to the remaining vessels coastal State origin therefore a moderate to high risk is scored.	<p>Japanese Fisheries Agency (2016)</p>	2.5
4.4 Fair transparent fisheries agreements	Are fair transparent fisheries agreements in place with DWFNs?	We cannot be certain as to what coastal States are engaged in the supply chains and transparency regarding all of Japan's DWFNs agreements was found to be low. Therefore, a moderate to high risk is scored.	Japanese Fisheries Agency (2016)	2.5
	Are the details of these agreements public?	As mentioned details regarding Japan's DWFNs agreements were not found to be readily available and we are uncertain as to the remaining		2.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		coastal State(s) engaged in supply chains. Therefore, a moderate to high risk is scored.		
4.5 Sanctions	Are sanctions enforced?	Details of the sanctions applied to domestic vessels engaging in IUU activity were not readily available, however the annual fisheries reports for Japan would indicate that a high level of enforcement exists for a wide variety of violations (including gear and prohibited area restrictions). We are uncertain as to the remaining 40% of products. A moderate risk is therefore scored.		2.0
	Relative level of sanctions vs. level of IUU fishing.	No clear details were found regarding the nature of sanctions relative to violations for Japanese coastal fisheries, although national reports indicate that increased fines and regulations were being applied for illegal activity of foreign vessels. A moderate to high risk is applied due the lack of details regarding sanctions and the uncertainty concerning the remaining 40%.		2.5
4.6 RFMO	Membership: Are they a Member of the relevant RFMOs?	An EU report on IUU fishing in Japan found that efforts to tackle IUU from Japan are high through their membership to RFMOs. They are members of the relevant RFMOs to manage straddling stocks such as tunas (e.g. WCPFC). As flatfish fisheries are not commonly classed as economically important straddling stocks/highly migratory species membership of RFMOs is not seen as especially relevant. No further details regarding flag State(s) were received and therefore it is impossible to judge whether the relevant flag State(s) are Members, Cooperating Non-Contracting Parties, Observers or Invited Expert status to the relevant RFMOs. Therefore, a moderate risk is given, as no issues are perceived, however we cannot be certain as to what coastal States exist within the supply chain.	European Parliament (2013) RFMO Membership via RMFO websites	2.0
	Compliance: is the coastal State compliant with all RFMO requirements and data submissions?	As aforementioned Japan appears to be compliant with all RFMO requirements and data submissions according to compliance reports. In addition, it is often reported to be innovative and proactive in its engagement with RFMO issues including VMS and wider MCS issues. Therefore as few minor non-compliance issues are identified this is given a low risk, but as we are unable to ascertain what flag State(s) likely operate within supply chains/there is a lack of RFMO coverage for flatfish fisheries this is scored as medium risk.	Various RFMO websites	2.0
	Engagement: Does the coastal State submit additional information / papers to RFMO and actively participate in scientific and compliance committee meetings?	No issues exist for Japan and they are seen to be proactive with engagement in RFMO, particularly on IUU issues. However, as the flag State(s) is unclear we are uncertain as to the risk of IUU for the remaining 40% of the products and therefore a moderate risk is given.		2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
4.7 Multi-lateral agreements e.g. FAO Guidelines or UNCLOS	<p>Is the coastal State a contracting/cooperative non-member party to multi-lateral agreements e.g. UNCLOS, UNFSA, FAO Agreements?</p> <p>Implementation of the provisions of the Convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks</p>	<p>Japan is party to all major global and relevant regional treaties relating to the law of the sea/fisheries, including UNCLOS, 1993 FAO Compliance Agreement and the UN Fish Stocks Agreement. Japan is party to UNCLOS and UNFSA and is also Party to the 1993 FAO Compliance Agreement. Therefore, Japan is party to most multi-lateral agreements and fisheries products are at a lower risk of IUU however the remaining 40% is unclear and a moderate risk is scored.</p>	UN (2017)	2.0
4.8 NPOAs (IUU + others)	<p>Is there a specific National Plan of Action (NPOA) in place to combat IUU in the coastal State?</p>	<p>Japan's NPOA-IUU was adopted by the Fisheries Agency (FA) and approved by the Ministry of Agriculture, Forest and Fisheries (MAFF) in March 2004. It is titled the "Implementation of the IPOA-IUU: National Actions" rather than the NPOA-IUU. In this they detail the actions taken to combat IUU, however details of these actions and measures are not revealed. A review in 2015 also concluded that the plan was missing details of existing actions to combat IUU fishing. Therefore a NPOA (IUU) is in place and RFMO reports indicate that domestic regulation and laws are advanced and aimed at reducing IUU. It is not clear what actions are implemented, and whether they are reviewed on a regular basis. Regional POAs appear to be in-place, particularly with regards to specific fisheries that were operating with high levels of illegal activity e.g. Japanese and Korean long-line vessels targeting tuna. A moderate risk is scored due to the remaining 40% of products are subject to uncertainty and the lack of publically available details of Japan's NPOA-IUU.</p>	<p>Shih-Ming Kao (2015)</p> <p>http://www.fao.org/fishery/ipoa-iuu/npoa/en</p>	2.0
4.9 Coastal State Control	<p>How and to what level is control exercised in the coastal State in terms of administrative controls and checks? (e.g. logbook check against VMS and administrative checks including validation of catch certificates)</p>	<p>Under Japanese law foreign vessels can only operate within its EEZ if there is a surplus of TAC and a license is required for this purpose from MAFF with fees levied. These vessels are required to have accurate logbooks. VMS is required for a large proportion of national fisheries, and there is Chain of Custody (CoC) certificates in place for some species subject to special regulations e.g. Flathead flounders. Although CoC certificates are not universal community vigilance is said to be high amongst fisheries, so that prefectural governments check vessels location using shared-VMS systems on a regular basis.</p>	<p>Japanese Fisheries Agency (2016)</p> <p>SCS Global Services (2014)</p> <p>ftp://ftp.fao.org/FI/DOCUMENT/IPOAS/national/japan/NPOA-iuu.pdf</p>	2.0
	<p>How and to what level is control exercised in the coastal State in</p>	<p>Overall, Japan is said to devote a lot of time and resources to fisheries enforcement. Authorised fisheries supervisors are engaged in regulatory activities in cooperation with coast guard/police officers. The FA has</p>		2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	terms of inspections on vessels at sea and in port?	<p>seven branches around the country, and several aircrafts for deployment. In addition to government enforcement fisheries cooperatives are also important as a form of customary management, these traditional community systems guard resources from others and reporting of illegal fishing is high. These prefecture governments carry out monitoring and control patrols, and for small coastal fisheries compliance is said to be high. Illegal catch by licensed fishers is not regarded as an issue within the MSC certified flathead flounder fishery due to peer-to-peer monitoring systems in-place through fisheries cooperatives. A limited number of vessels have an operational license for Japanese prefectural offshore fishing areas, therefore detecting illegally operating vessels is reportedly easy and IUU fishing was said to rarely occur from Danish seine vessels (trawlers targeting flatfish).</p> <p>The Fisheries Agency conducts on-board inspections of foreign fishing boats operating in Japan's EEZ based on bilateral agreements to make sure they are compliance with license terms.</p> <p>In 2015, the FA captured 12 foreign fishing boats and conducted 111 on-board inspections. The government increased regulations/fines on foreign fishing boats in the light of the problem of Chinese vessels.</p> <p>Overall, coastal state control is found to be high within Japan and the fisheries targeting flatfish are anticipated to be associated with an even lower risk of IUU due to both government and community-based monitoring. However, as the scope of this risk assessment is so broad we cannot ascertain the risk accurately and a moderate risk is scored.</p>		
	How and to what level is control exercised in the coastal State in terms of remote surveillance (e.g. aerial surveillance, VMS and AIS)?	<p>Since 2012, Japan's flag State(s) vessels, which operate in offshore and distant waters, are required to use VMS, and Japan makes efforts to tackle IUU fishing through RFMOs by promoting VMS. VMS is only required for some fisheries conducted in specific areas in domestic waters, dependent upon fisheries. Therefore it is anticipated that some flatfish fisheries are covered by VMS and overall Japan is seen as a global leader in promoting VMS as well as AIS systems on-board their vessels. In terms of aerial surveillance Japan has a very large coastline, which is difficult to control, the FA currently has several aircraft at its disposal, which it uses to conduct inspections.</p>	Japanese Fisheries Agency (2016)	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		Despite Japan's large coastline it appears that it has relatively advanced control in terms of remote surveillance, however this has been scored as moderate risk due to supply chain traceability issues.		
	How and to what level is control exercised in the coastal State in terms of observer programmes?	Through its membership to various RFMOs Japan has various on-board observer programmes for its offshore and distant fisheries. Japan has reportedly made efforts to tackle IUU fishing by promoting on-board observer programmes on a global basis. In addition, through its bilateral agreement with countries <i>flag State(s)</i> vessels are required to have a minimum percentage of observer coverage on-board. In terms of small-scale fisheries, managed by prefecture governments, it is anticipated that observer coverage is minimal due to vessel size and numbers and no details could be found regarding specific observer numbers required for flatfish fisheries. As observers are mostly likely not widespread this increases the risk of IUU and as we are uncertain as to the <i>flag State(s)</i> a moderate risk is scored.	Various RFMO websites	2.5
4.10 Coastal State Cooperation	Does the coastal State work with neighbouring or regional States to enhance MCS in their own waters and fleets?	Japan has a large coastline and a number of disputed boundaries and it has a number of bilateral agreements in place with other neighbouring/regional states to enhance MCS to reduce incidences of IUU. This includes the sharing of data from foreign vessels, e.g. from China, Russia and South Korea, fishing in their coastal waters. It also shares VMS data with EU <i>flag State(s)</i> regarding vessels operating in distant waters. It is anticipated that data sharing with regional states isn't as advanced as other <i>flag State(s)</i> including Northern European <i>flag State(s)</i> , which have data-sharing systems, enshrined in national regulations. That said, some cooperation at sea and in ports exists in order to negate the likelihood of IUU. As we are unsure of the <i>flag State(s)</i> a moderate score is given.	European Parliament (2013) Shih-Ming Kao (2015)	2.0
4.11 Transshipment	Is transshipment allowed in coastal State or RFMO waters and is observation required through an RFMO programme or by coastal States for their own waters?	In order to transship within Japanese waters the vessel is required to apply for a permit. With regards to transshipment in RFMO waters all Japanese vessels fishing for species subject to RFMO regulations are required to be listed on the relevant transshipment list. Without this they are not permitted to land their catches into either Japanese or foreign ports, and the observer coverage required varies between RFMOs.	Japanese Fisheries Agency (2016)	2.0
Average				2.04

5.2.2.5 Port State – Japan & unknown (control systems in place, PSMA provisions in place)

As in the preceding sections we are unable to trace the product origins to specific port states, however it is known that 60% of products originate from domestic landings and therefore that Japan is the port state. Therefore, attention has been paid to Japan as a Port State (PS) and any risks identified with a lack of supply chain traceability to the relevant PS have been detailed. Japan has not ratified the Port State Measures Agreement, although it has commenced the process, however it has implemented a number of measures designed at reducing the likelihood of IUU fishing vessels being able to land in their ports.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
5.1 Are the products of IUU fishing landed in the port State?	Has the port State been identified as a non-compliant State by the EU (yellow / red card)?	The EU has not identified Japan as a non-compliant state nor has it been given a yellow/red card by the EU within the last five years, therefore for 60% of the products there are no issues identified. For the remaining 40% of products we are unable to ascertain the port States in question, therefore this is afforded a moderate risk due to uncertainties and the proportional risk from product origin.	European Commission (2017) Illegal Fishing	1.5
	Has the port State been identified as a “country of interest” within NOAA biennial reports?	Japan has not been identified as a country of interest within NOAA biennial reports, however as we are unable to ascertain the other relevant port States we cannot be assured that there is no risk and a moderate score is given.	NOAA Fisheries biennial reports (2012-2017)	1.5
	Has the port State been identified as having IUU fish landed in its ports? (NB: This may be identified by the port State itself, another State or by an RFMO).	The JFA issues an annual summary of enforcement activities, which contains exact details of IUU activity by foreign-flagged fishing vessels and the numbers of violations concerning domestic vessels. Within this report the JFA doesn't publicize detailed information about whether or not the violations occurred at sea or when vessels tried to land their illegal catches at sea. Based on these statistics it would appear that 98% of all illegal fishing incidents involve domestic fishing, however these are not clearly reported by the FA. In terms of the total marine production of Japans' coastal waters it is found that only a small proportion is identified as being subject to illegal activity by both state and RFMO reports. National publications are not transparent and it is not clear whether there are systemic problems within certain fisheries/areas. There were no non-compliance issues identified through RFMO publications and therefore a low risk is scored. Due to uncertainties concerning		2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		other port State(s) this is still scored as a moderate risk overall.		
	Has the port State been identified as having IUU fish landed in its ports by fishing vessel of any State by an NGO or in scientific or press reports?	Historic reports of IUU fish being landed by Russian and Chinese vessels was found. However within the last five years there has not been any widespread landing of IUU products reported by the press/NGO. Overall, Japan appears to be associated a low risk of IUU products being landed with the only incidences appearing to be over two years ago. However, due to uncertainties regarding the other unknown port States where flatfish may be landed this is scored as a moderate risk overall.		2.0
5.2 Corruption	What is the WB corruption index for the port State? (see WB Governance Indicators). Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.	The high governance score of Japan means that domestic catches represent a lower level of risk with a higher level presented by imports (totalling 40%).	WBG http://info.worldbank.org/governance/wgi/#home	1.5
5.3 Sanctions	Are sanctions enforced for port related activities?	Japan appears to enforce its PSM and appears to regularly decline permission to land for any vessels suspected of IUU fishing. Through this permit system any landing or transshipment of fish at Japanese port is totally prohibited. Due to uncertainties relating to the PS this is scored as a moderate risk.	Japanese Fisheries Agency (2016) Japan- Act on the Protection of Fishery Resources 1951 http://extwprlegs1.fao.org/docs/pdf/jap1715.pdf	2.0
	Are the sanctions enforced relative to the level of IUU fishing?	No details were found regarding the exact nature of sanctions applicable for attempting to land IUU products into Japanese ports, and a general lack of transparency appears to universal regarding sanctions for IUU activity in Japan. The sanctions for illegal fishing in Japan are a fine up to ¥2,000,000 and 3 years imprisonment, which are high and those related to illegal importation and other similar offences are assumed to be of a similar level. The governance in Japan is high so prosecution efficiency and rates are likely to be high. Other countries may vary extremely though where flatfish are landed. Therefore, this is scored as moderate to high risk due to this and also as we are uncertain of the port States in question.		2.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
5.4 RFMO	Membership: Is the port State a Member of the relevant RFMOs?	An EU report on IUU fishing in Japan found that efforts to tackle IUU from Japan are high through their membership to RFMOs. They are members of the relevant RFMOs to manage straddling stocks such as tunas (e.g. WCPFC). As flatfish fisheries are not commonly classed as economically important straddling stocks/highly migratory species membership of RFMOs is not seen as especially relevant. No further details regarding PS were received and therefore it is impossible to judge whether the relevant PS are Members, Cooperating Non-Contracting Parties, Observers or Invited Expert status to the relevant RFMOs. Therefore, a moderate risk is given, as no issues are perceived.	European Parliament (2013)	2.0
	Compliance: is the port State compliant with all RFMO requirements and data submissions?	As aforementioned Japan appears to be compliant with all RFMO requirements and data submissions according to compliance reports. In addition, it is often reported to be innovative and proactive in its engagement with RFMO issues including VMS and wider MCS issues. Therefore as few minor non-compliance issues are identified this is given a low risk, but as we are unable to ascertain what PS likely operate within supply chains/there is a lack of RFMO coverage for flatfish fisheries this is scored as medium risk.	Various RFMO websites (IOTC & WCPFC)	2.0
	Engagement: Does the port State submit additional information / papers to RFMO and actively participate in scientific and compliance committee meetings?	No issues exist for Japan and they are seen to be proactive with engagement in RFMO, particularly on IUU issues. However, as the PS is unclear we are uncertain as to the risk of IUU for the remaining 40% of the products and therefore a moderate risk is given.		2.0
5.5 Multi-lateral agreements e.g. FAO Guidelines or UNCLOS	Is the port State a contracting/cooperative non-member party to multi-lateral agreements e.g. PSMA, UNCLOS, UNFSA, FAO Agreements? Has the FAO Port State Measures Agreement (PSMA) been signed, acceded or implemented? Implementation of the provisions of the Convention relating to the conservation and management of	Japan is party to all major global and relevant regional treaties relating to the law of the sea/fisheries, including UNCLOS, 1993 FAO Compliance Agreement and the UN Fish Stocks Agreement. Japan has yet to fully ratify the PSMA, however as part of the IPOA-IUU has implemented a number of measures regarding landing, transshipping, re-supplying etc., designed at combating IUU fishing. It has initiated the ratification process as of 2016; therefore a moderate to high risk has been scored as it has yet to fully implement PSMA measures and as we are uncertain as to which port States operate within the supply chains.	UN (2017) Shih-Ming Kao (2015) www.pewtrusts.org http://www.un.org/depts/los/reference_files/chronological_lists_of_ratifications.htm http://www.fao.org/fileadmin/user_upload/legal/docs/012s-e.pdf	2.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	straddling fish stocks and highly migratory fish stocks			
5.6 NPOAs (IUU + others)	Is there a specific National Plan of Action (NPOA) in place to combat IUU in the port State?	Japan's NPOA-IUU was adopted by the Fisheries Agency of Japan (FA) and approved by the Ministry of Agriculture, Forest and Fisheries (MAFF) in March 2004. It is titled the "Implementation of the IPOA-IUU: National Actions" rather than the NPOA-IUU. In this they detail the actions taken to combat IUU, however details of these actions and measures are not revealed. A review in 2015 also concluded that the plan was missing details of existing actions to combat IUU fishing. Port state measures instrumented by Japan include rigorous control of non-Japanese vessels landing into their ports, including prior notification and verification of catching details from the relevant <i>flag State(s)</i> . Therefore, it is anticipated that Japan is relatively advanced in taking measures as a PS to reduce the chance that IUU catch could be landed. However, there is a lack of transparency regarding the exact details taken and whether these are reviewed regularly and modified. As we are uncertain of the port States and due to the aforementioned concerns regarding Japans' NPOA this is scored as a moderate risk.	Shih-Ming Kao (2015) http://www.fao.org/fishery/ipoa-iuu/npoa/en	2.0
5.7 Port State Control	How and to what level is control exercised in the port State in terms of administrative controls and checks? (e.g. logbook check against VMS and administrative checks including validation of catch certificates)	Any non-Japanese fishing vessel intending to make a port call to land or tranship fisheries products has to obtain a permit from MAFF, together with the port call permit. Non-Japanese vessels may only land their catch accompanied by an official document issued by their flag state authorities certifying that the fish is landed/exported from that <i>flag State(s)</i> and that VMS data has been used to verify catch locations. An EU report into Japanese fisheries found that efforts to combat IUU fishing based on strict catch documentation checks were in place. Port State administrative controls were found to be tight for Japan however due to uncertainty regarding the relevant PS this is scored as a moderate risk.	Japanese Fisheries Agency (2016) https://www.oecd.org/tad/fisheries/34429748.pdf TQCSI (2008) FAO Port State Measures Agreement: http://www.fao.org/fishery/psm/agreement/parties/en	2.0
	How and to what level is control exercised in the port State in terms of inspections on vessels in port?	Details were found within national fisheries reports that detailed regular surprise inspections of landing vessels, however no details of the frequency of these inspections was found. In addition to inspections by the FA, prefecture government boats also monitor fisheries activities and also conduct regular and surprise inspections at landing markets every year. For small-scale coastal fisheries catches are often		2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		landed into cooperative markets and this system, alongside peer-to-peer scrutiny ensures that catch regulations are met. This is anticipated to be particularly relevant for flatfish fisheries as these are mostly smaller-scale coastal and offshore fisheries that land into these “cooperative markets”. Therefore, this would be scored as a relatively low risk for Japan as a PS however due to the uncertainty regarding PS this is perceived as a moderate risk.		
	How and to what level is control exercised in the port State in terms of vessel monitoring (e.g. notification of port entry, VMS and AIS)?	Japan utilises permit systems for landing and port-call. Non-Japanese vessels may only land in ports through bilateral agreements in place with their home country, and a certificate of origin for shipments. The pertaining <i>flag State(s)</i> verifies this using VMS data. As above, this would be scored as a relatively low risk for Japan as a PS however due to the uncertainty regarding PS this is perceived as a moderate risk.		2.0
5.8 Port State Cooperation	Does the port State work with neighbouring or regional States to enhance MCS on vessels landing in their ports?	Japan has a number of bilateral agreements in place with other neighbouring/regional states to enhance their MCS on vessels landing in ports, with increased measures in place following incidences of IUU by vessels flagged to China and South Korea in particular. In addition, Japan has instigated a number of controls including requiring MCS data from <i>flag State(s)</i> of foreign vessels that intend to land catches in their port to verify origin. Alongside regional cooperation in 2012, the Japanese government and the EU issued a joint statement recognising that voluntary cooperation and sharing of information are essential in the global fight against IUU fishing. For the remaining 40% of PS regional cooperation is variable; within the MCS data-sharing is legislated within each NPOA-IUU and is required when EU vessels are landing in foreign ports. Therefore, for Japanese fisheries it is suspected that MCS and data sharing on a regional basis is relatively advanced, and that vessels landing in ports are closely monitored by	TQCSI (2008) Acoura (2016) European Parliament (2013) http://www.fao.org/docrep/006/Y4698B/y4698b0g.htm	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		both community and ministerial forces. This is reflected by only a moderate score given for IUU risk despite the lack of knowledge concerning port state.		
5.9 Designated ports	Are the ports used appropriate in terms of location and size for particular fleets or species? NB: The ideal is for designated ports assigned to fleets and species to be used.	<p>Due to the expansive scope of the risk assessments with regards to both species and fishing vessels there is no widespread existence of designated ports that would reduce the chance of IUU activity.</p> <p>It is worth noting that for a proportion of Japanese fisheries they land into specific sales sheds and are only permitted to sell their catches in specific community markets which reportedly reduces the chance of mixing of catches (and “hiding” illegally fished products). For other large flatfish fisheries, including those in EU waters, designated landing ports are used to a certain extent across fisheries.</p> <p>Accordingly this is scored as high risk of IUU as we are unable to ascertain what species is being purchased and therefore cannot ascertain whether a list of designated ports exists.</p>	<p>TQCSI (2008)</p> <p>Acoura (2016)</p>	3.0
5.10 Transshipment	Is transshipment allowed in port and is observation required through an RFMO programme or by port States for their own ports?	<p>Landing catch that was transhipped at sea for non-Japanese vessels isn't permitted. If foreign vessels wish to tranship within Japanese ports they must obtain a separate permit, alongside the port call permit, from MAFF. These actions are then subject to surprise inspections, however inspection coverage is not known outside of the requirements of the various RFMOs that Japan is party to. It is not considered that this would be relevant for the flatfish fisheries as they are most likely landed fresh and extensive transshipment isn't likely.</p> <p>As we are uncertain as to the PS this is scored as a moderate risk.</p>	Japanese 2008	2.0
Average				2.11

5.2.2.6 Market State – Japan - Traceability and national requirements

Japan is the sole market State in this risk assessment. IUU products have been reported to have been imported into Japan and the sheer volume of imports that it receives could potentially increase the risk of IUU. As the supply chain of flatfish nei entering the Japanese market is unknown and there is a wide variety of potential source countries, it cannot be determined what the exact risk of IUU activities is however, Japan has a high governance score which suggests that once the product is in the supply chain, illegal actions are unlikely.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
6.1 Products of IUU fishing found in the final market State or within the States of the supply chain?	Has the market State or any of the States in the supply chain been identified as a non-compliant State by the EU (yellow / red card)?	Japan has not been identified by the EU IUU regulation yellow/red card system.	https://ec.europa.eu/fisheries/sites/fisheries/files/illegal-fishing-overview-of-existing-procedures-third-countries_en.pdf	0
	Has the market State or any of the States in the supply chain been identified as a “country of interest” within NOAA biennial reports?	Japan has not been identified by NOAA in any of its reports to congress.	NOAA, 2013; 2015; 2017 http://www.nmfs.noaa.gov/ia/iuu/iuu_overview.html	0
	Has the market State or any of the States in the supply chain been identified as having IUU fish landed in its ports? (NB: This may be identified by the port State itself, another State or by an RFMO).	In Japan there are no reports of illegal fish being landed in its ports by RFMO or State sources.	Personal experience	0
	Has the market State or any of the States in the supply chain been identified as having IUU fish landed in its ports by fishing vessel of any State by an NGO or in scientific or press reports?	Some limited IUU fishing is known to occur in Japanese waters that may be landed but as a percentage of the overall Japanese market this will be low in terms of volume and value.	Personal experience	1
6.2 Supply chain length, complexity and transparency	How many States and companies are in the supply chain?	The supply chain in this RA is unknown.		3
	How many different companies and transfers of ownership, amount of processing?	The supply chain in this RA is unknown.		3
	Is the chain publically known and transparent?	The supply chain in this RA is unknown.		3
6.3 High risk points in the supply chain	Are the ports in the supply chain (after the port of first landing) known or suspected PONCS and do the	The ports in the supply chain are not specifically known. However, Japan is not recognised as a PONC or port.	Petrossian <i>et al.</i> , 2014	0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	ports used have well documented and effective port control and inspection?			
	Does processing occur in locations that seem out of context (e.g. locations with no history of processing, high costs incurred for transport, high cost of processing) or with history of laundering IUU catches?	The location of flatfish processing is unknown but seafood processing in Japan itself has decreased as it has moved to other Asian countries including China, Vietnam and Thailand. With no confirmation of the source of Japanese flatfish imports it is not possible to identify where processing may occurs		2.5
6.4 Corruption	What is the WB corruption index for the port State? (see WB Governance Indicators). Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.	Japan- 91%. This high governance score suggests that illegal actions once in the supply chain would be unlikely in Japan.	WBGi 2016	0
	Performance of spot audits at key transport hubs and border inspection points?	There is no information on spot audits being carried out at key transport hubs and BIPs. However, there are clear indicators this does occur, at least in the tuna industry, with a consignment if tuna being refused entry.	DGIPOL, 2013 Fisheries Agency of Japan, 2004 http://www.oecd.org/agriculture/ http://www.jfa.maff.go.jp/e/index.html	2
6.6 Post landing inspections	Are inspections carried out on the fish after landings e.g. by customs, BIPs and in transit?	When a consignment arrives at a Japanese port a 'Notice of Customs Clearance' is sent to the addressee from a customs office and a customs clearance procedure is initiated. In some cases a health and sanitary certificate must also accompany the import notification form. Food is then quarantined and inspected to ensure it complies with Food Sanitation Law. Consignments with a past record of non-compliance will often require further examination. Some fish require approval for import prior to customs clearance procedures (e.g. those governed by import quotas or by international conventions or agreements).	http://www.fao.org/docrep/008/y5924e/y5924e06.htm	1.5
6.6 Independent Verifications	Is supply chain MSC CoC certified?	As the supply chain is not known this is undetermined. However, there are some herring fisheries which are	https://fisheries.msc.org/en/fisheries/@@search?q=herring&start=0&stop=10&_st	2.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		MCS certified although it is unknown whether these fisheries are sourced and if so, are sourced through MSC CoC supply chains.	art =fishery name%3Asequence& end =fishery name%3Asequence& start =species%3Asequence& end =species%3Asequence& start =gear type%3Asequence& end =gear type%3Asequence& start =status%3Asequence& end =status%3Asequence&search =search	
	Non-MSC Supply chain and traceability audits (due diligence) conducted?	Marine Eco-Label (MEL) Japan is a seafood certification scheme. Distributing organisations wishing to handle products from MEL-Japan certified fisheries can voluntarily apply for chain of custody certification. It is unknown if this covers herring.	ftp://ftp.fao.org/fi/DOCUMENT/COFI/cofift_13/5e.pdf	2.5
6.7 CDS / CC certification	Do catch documentation schemes exist for the species?	In compliance with international fishery organisations, Japan has implemented documentation schemes but these only cover several tuna and tooth fish species.	https://www.oecd.org/tad/fisheries/34429748.pdf	3
6.8 Processing or transshipment vessels involved in market chain.	If transshipment or processing onboard a Klondiker or mother vessels is allowed (licensed) in the fishery, are the Klondiker and transshipment (reefer) vessels on the relevant whitelists (authorised) or blacklists (IUU)?	There was no information on whether processing vessels are used in the supply chain for flatfish though the likelihood is low.	Absence of evidence	3
	Are there independent observer programmes on non-fishing vessels?	There are no independent observer programmes on non-fishing vessels or in the supply chain as far as can be ascertained.	Absence of evidence	3
Average				1.84

5.2.3 Recommendations

5.2.3.1 *Fishing vessels, legal personalities and companies*

- It is recommended to purchase MSC products, and follow the progress of alternative eco-label practices e.g. Marine Eco-Label Japan. It is noted that Marine Eco-Label products do not come with full-chain traceability certificates however, therefore follow industry advancements for full-chain certification as this dramatically reduces the risk of IUU products entering chains.
- As there is a paucity of regional management frameworks for flatfish fisheries it is not anticipated that there would be vessels on RFMO lists, however transparent national fleet registers exists for fisheries e.g. for EU MS. Purchasing products from *flag State(s)* that have publically-available fleet registers negates the likelihood that they have acted illegally.

5.2.3.2 *Fisheries*

- As recommended above, endeavour to purchase products with full supply chain traceability, to ensure that they are fully traceable to the species and stocks from which they have come. This is especially pertinent for flatfish species, as they are universally recorded using a HS code and therefore it is difficult to ascertain the movement of species and mixing is also likely to occur. This makes it difficult to ascertain catch levels and conduct stock assessments, which reduces the likelihood of fisheries being managed at sustainable levels.
- Reports of overcapacity within Japan's fisheries are common, with a significant proportion of fisheries said to be at, or close to, capacity. Therefore, trace products to individual fisheries in Japan's domestic EEZ to reduce the likelihood of selling products from over-exploited fisheries.
- Within Japanese fisheries stock assessments and stock management systems are only implemented for species deemed to be commercially important, this includes some flatfish species (e.g. Flathead flounder). However, as not all species are regulated different levels of risk across species exist. Choose species from Japanese fisheries that are subject to TAC control systems in order to increase the likelihood that products have originated from well-managed stocks
- Japanese co-management fisheries system, which are commonplace amongst domestic fisheries, are said to have good management with fishers voluntarily complying with and promoting regulation implementation. Therefore, look to purchase products sourced from such management frameworks to reduce the risk of IUU.
- Currently, there is a paucity of certified fisheries with fully supply chain traceability, therefore encourage industry advancements for certification
- There is high potential for gear interaction with delicate ecosystems and for incidental catches of ETP species including sharks, rays and skates with trawl and seine fisheries. Therefore, ensure that products originate from fisheries that take measures to identify and reduce bycatch of ETP species and mitigate against wider ecosystem impacts.

5.2.3.3 *Flag State*

- Choose *flag State(s)* that utilise a wide range of scientific data to manage fisheries through both input and output controls, e.g. EU MS, as it was found that Japan's domestic flatfish fisheries are not always managed by strict output controls.
- Choose *flag State(s)* that do not permit transshipping by their vessels unless a permit has been sought and verification of the original catch has been performed, this includes both Japan and EU MS.

5.2.3.4 Coastal State

- Trace products to fisheries away from disputed boundary areas to increase the chance that the fisheries are operated with good MCS.
- We were able to ascertain a low risk of IUU for Japanese coastal state fisheries due to tight controls on licensing and effective monitoring activities that are conducted by both the government and communities. Therefore, buying Japanese products from a known source is recommended due to a lower risk of IUU

5.2.3.5 Port State

- Choose products that originate from a Port State that has strict measures in place to reduce the chance that IUU fish could be landed. This could include requiring any vessels landing to be able to produce logbook information on catches that is verified by VMS data. Japan was found to have strict measures in place to reduce the likelihood that foreign vessels could land any IUU fish into their ports, including prior notification of landing and documentation from the corresponding *flag State(s)* for where the fish was caught verified by VMS data.
- As flatfish are often caught by smaller vessels in Japan that are not routinely inspected at the port choose fisheries managed at the prefectural level that land into specific community markets, where compliance with regulations and community vigilance is reportedly high.
- Buying products from countries that have ratified the PSMA guarantees that the country has introduced set measures to reduce the likelihood that IUU fish products can be landed into their ports

5.2.3.6 Market State

- Due to the problems in identifying the States involved in the supply chain our only recommendation is that the supply chain should be clearly defined to allow a more detailed risk assessment to be conducted.

NB: It should be noted that the IUU risk assessment carried out is limited in scope, analysing the risk that IUU fish may enter the supply chain from a particular fishery. It does not analyse the individual supply chains present and this would require a traceability assessment to be carried out which has not been done in this case.

5.3 Herring nei

5.3.1 Executive Summary

An IUU risk assessment has been carried out for herring entering the Japanese market.

The IUU risk assessment is designed to provide an estimate of the potential for IUU catch to enter a particular supply chain, identify potential risks in the supply chain from the fishery through to the market place and to then identify where interventions are possible to reduce and minimise this risk. It will not be able to indicate the level of risk that occurs once a fishery has entered the supply chain and it is recommended that a traceability benchmarking assessment or similar review of the supply chain is conducted to evaluate this risk.

FAO reports indicate that approximately 50% of the herring supplied to Japanese markets is from foreign sources with the other 50% coming from domestic Japanese fisheries. It is unknown the exact States which provide the foreign supply to Japan but reports suggest that it could be imported from USA, Canada and / or Russia. Norway is also the largest producer of herring and so has been included in this risk assessment as a potential source of IUU products. Vessel identification is not possible in this risk assessment and therefore the risk of potential IUU has been scored higher.

The fisheries that are used to source herring for Japan is unknown but stock assessments have been undertaken in the Atlantic and Pacific ocean for this species with results indicating that some fisheries are overfished while others are not. Although permit and licensing systems exist to some degree for Atlantic and Pacific fisheries incidences of IUU have been reported and there is little information available for Japanese and Russian stocks which increases the risk of potential IUU as 50% of the supply is from Japan.

Russia is the only flag state known to be non-complaint but there are other incidences of illegal activity by Russian, Japanese and Norwegian vessels however, it is unknown if this concerned herring. All flag States have a licensing and quota system in place for herring but a lack of public lists of vessels increases the risk factor. While control measures are in place in all flag States there is limited information of specific herring measures and the extent to which control is exercised is not fully defined again resulting in an increased score of potential IUU.

Illegal fishing has been reported in the waters of all coastal States under assessment apart from Norway but a high governance score (with the exception of Russia) suggests that these States should have relatively strict controls in relation to illegal activity. As with flag States licensing systems and quotas exist for herring and the States have fisheries agreements in place, reducing the risk of IUU activity. High sanction are in place for illegal fishing in all States and although coastal control measures are in place, the extent to which they are exercised is relatively unknown.

There is limited information about landings of illegal products however, all port States have strict measures in place to prevent IUU landings but there is a lack of information on the extent to which these are exercised. Some ports are designated by the relevant RFMO but the location of all herring landings is unknown for the RA, increasing the potential of IUU activity.

Japan is the sole market State in this risk assessment. IUU products have been reported to have been imported into Japan and the sheer volume of imports that it receives could potentially increase the risk of IUU. As the supply chain of herring entering the Japanese market is unknown, it cannot be determined what the exact risk of IUU activities is however, Japan has a high governance score which suggests that once the product is in the supply chain, illegal actions are unlikely.

Table 8 Average score (Herring nei) for the six key areas in the risk assessment.

Key risk areas:	Score
Fishing vessels, legal personalities and companies	2.63
Fisheries – Various	1.67
Flag State – Various	1.05
Coastal State – Various	1.10
Port State – Various	0.99
Market State – Various	1.81
Average	1.54

Key:

Colour	Min	Max	Risk	Description
	>0.0	<=0.6	No or minimal risk	Little or no action required
	>0.6	<=1.1	Very low risk	Some minor actions may be required, but risk level is very low
	>1.2	<=1.8	Low	Risk level is low, but some particular elements may require mitigating measures to be put in place.
	>1.8	<=2.4	Medium	Medium level of risk. Particular scoring elements may need to be addressed and mitigated against.
	>2.4	<=3.0	High risk	High level of risk. One or more elements have substantial risks associated with them. Scores of this level may suggest sourcing from a different fishery.

5.3.2 Identification

This risk assessment addresses the following scope:

Table 9 Identification of scope of the IUU risk assessment.

Species	Herrings nei (<i>Clupeidae</i>)	ASFIS Code: CLP
Area	Various	
Gear	Pelagic trawls, purse seine	
Fleet	Wide ranging	
Coastal States / RFMO:	Wide ranging coastal States (NEAFC)	
Port State:	Wide range	
Market State:	Japan	

5.3.2.1 Fishing vessels, legal personalities and companies

As the exact source of herring which supplies the Japanese market is unknown vessel and legal personality identification is difficult. FAO reported production and import data suggest that approximately 50% of the supply comes from domestic Japanese fisheries sources and the other 50% is imported, potentially from the USA, Canada and/or Russia. Norway is also the largest producer of herring and so could also be a potential source for the Japanese market. Russia has previous incidences of non-compliance and illegal catches of herring in Russia have been reported. As specific fleet identification is not possible the relative risks relating to this aspect of the risk assessment are considered high.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
1.1 Vessel/Fisher Identification	<p>Vessel identification e.g. vessel name, callsign, country registration number and national and RFMO authorisations to fish (either inside national waters or outside on the high seas or in other zones) is complete to enable identification.</p> <p>Are vessels required to have unique IDs?</p>	<p>In the Japanese market around 50% of herring are sourced from domestic landings and 50% are from other sources.</p> <p>No vessel identification possible as herring could be supplied to Japanese markets from a wide range of sources. The main sources of herring and herring roe to the Japanese market are from USA and Canada but pacific herring may also be supplied by Russia. Herring may also be imported from Norway as it is the largest producer of herring so there is a potential that it enters the Japanese market.</p>	<p>FishStat</p> <p>http://www.thefishsite.com/reports/?id=5492</p> <p>http://www.oceantrawlers.com/species/pacific-herring/</p> <p>https://www.greateratlantic.fisheries.noaa.gov/aps/permits/data/index.html</p>	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		There is a vessel list for those with permits to catch herring in the Greater Atlantic Region.		
	Are each vessel, captain(s), owner and beneficial owner and agent identified as far as possible, this should ideally be transparent?	Unknown due to wide variety of potential sources of herring.	No data on the vessels in the fishery are available.	3.0
1.2 Vessels on IUU lists.	Are any of the vessels listed in the RA scope on the IUU Lists of RFMOs, (NGOs to be considered but not as clear evidence as evidential value to include is not of the required standard)?	Russian vessels are listed on the combined IUU vessel list in 2015 and 2016 by the SPRFMO but not for herring fisheries. USA, Canada and Norway are not listed on the combined IUU vessel list.	http://iuu-vessels.org/iuu/iuu/search	1.5
	Are any of the legal personalities listed in the RA scope listed on the IUU lists of nationals and companies involved in IUU?	Unknown as there is no information on the fleet in this RA. Though limited evidence of IUU listing for herring or small pelagic fisheries on IUU lists of RFMOs.	No data on the vessels in the fishery are available.	3.0
	Is there any evidence of unlicensed fishing occurring?	Unknown as there is no information on the fleet in this RA. Though limited evidence of IUU listing for herring or small pelagic fisheries on IUU lists of RFMOs.	No data on the vessels in the fishery are available.	3.0
	Are all of the vessels listed on the RA scope listed on authorised (white) lists for RFMOs and/or national authorised lists?	Unknown as there is no information on the fleet in this RA. Though limited evidence of IUU listing for herring or small pelagic fisheries on IUU lists of RFMOs.	No data on the vessels in the fishery are available.	3.0
1.3 IUU fishing carried out by vessels flying its flag, by its nationals or by companies	Are the history, nature, circumstances, extent and gravity of the manifestations of IUU fishing as listed in EU carding process by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	Unknown as there is no information on the fleet in this RA.	No data on the vessels in the fishery are available.	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
based in that country.	Are the history, nature, circumstances, extent and gravity of the manifestations of IUU fishing as listed in the NOAA's biennial reports by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	CCAMLR identified Russian Federation as having been engaged in IUU fishing during 2014, 2015, 2016 and for fishing without authorisation in waters of the US but not for herring fisheries.	http://www.nmfs.noaa.gov/ia/slider_stories/2017/01/2017biennialreport.pdf	1.5
	Are there scientific and market analyses defining the level of IUU (e.g. RFMO reports) conducted by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	IUU levels in the Baltic Sea are reported to be 35% (Pew, 2008) however, there no information was found for the vessels under assessment as they are unknown. In the Northwest Pacific IUU fishing accounts for 34% of the total catch and is mainly practised by Russian and Chinese vessels.	Pew(2008) The cost of IUU fishing to the EU. http://www.pewtrusts.org/~media/legacy/uploadedfiles/peg/publications/report/iuu20briefing20englishpdf.pdf http://worldoceanreview.com/en/work-2/fisheries/illegal-fishing/	2.5
	Are there NGO and Press reports of IUU incidents (specific to vessels/companies) conducted by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	Illegal imports of herring are reported in Canada (2-5%). In Russia, herring accounted for 18% of total IUU catches per year.	Canada: Pramod <i>et al.</i> (2014) http://www.sciencedirect.com/science/article/pii/S0308597X14000918 Russia: http://www.balticsea2020.org/english/images/Bilagor/total%20marine%20fisheries.pdf	2.0
Average				2.63

5.3.2.2 Fisheries – Various (Pacific and Atlantic fisheries) The USA, Russia, Canada, Norway and Japan (sustainability, impacts)

The exact fisheries that supply the Japanese markets are unknown but various assessments have been undertaken of stocks in both the Atlantic and Pacific Oceans with a mixture of fisheries being in decline and others reported as currently not overfished. Although permit and licensing systems exist to some degree for Atlantic and Pacific fisheries incidences of IUU have been reported and there is little information available for Japanese and Russian stocks.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
2.1 Status of fisheries and sustainability	Are fisheries operated with control on removals e.g. quota and / or effort limits?	<p>There are quotas for Atlantic and Pacific herring. In the Atlantic herring fishery in the North-eastern U.S. vessels must comply with closed areas for other fisheries unless using gear that is not capable of catching North-eastern multispecies.</p> <p>The Atlantic States Marine Fisheries Commission manages Atlantic herring in collaboration with the New England Fishery Management Council which set annual quotas. Management measures also include probation of mid-water trawling during certain periods, spawning closures and a 'days out' provision. In Alaska, exploitation rates are set for herring. Canada's herring fisheries are managed through an Integrated Management Plan which sets quotas, identifies fishing seasons and areas, and uses licenses and regulation to control fishing activities.</p> <p>The fishing for pacific herring in the East Sakhalin subzone with deep, pelagic bottom trawls and "dolures" is closed until 31st December 2017 according to Russian law.</p> <p>Annual quotas are set for Norwegian spring spawning herring and also North Sea herring. Control on removals for the Japanese domestic fishery are unknown.</p>	<p>https://www.greateratlantic.fisheries.noaa.gov/sustainable/species/atlherring/</p> <p>https://herring.fromnorway.com/sustainability/quotas/</p> <p>http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyfisheryherring.main#management</p> <p>http://www.asmfc.org/species/atlantic-herring</p> <p>http://www.dfo-mpo.gc.ca/fm-gp/sustainable-durable/fisheries-peches/herring-hareng-eng.htm</p> <p>https://nrm.dfg.ca.gov/Search.aspx?q=pacific+herring</p> <p>http://www.dalryba.vladivostok.ru/content/ob-ustanovlenii-ogranicheniya-rybolovstva-seldi-tihookeanskoy-v-vostochno-sahalinskoy</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are stock assessments available for species that use data on total removals (i.e. catch, bycatch, IUU and discards)?	<p>Stock assessment for British Colombia stocks but it is not clear if this uses data on total removals.</p> <p>In 2016 a stock assessment was undertaken on Southeast Alaska herring but it is not clear if this uses data on total removals.</p> <p>The Atlantic herring fishery (from The Gulf of Maine to Chesapeake Bay) undergoes Stock Assessments every 1-3 years. An Atlantic herring operational assessment was undertaken by NOAA in 2015 and included discards. Another stock assessment was conducted by the Northeast Regional Stock Assessment Workshop in 2015.</p> <p>For the USA North eastern fishery the most recent stock assessment was undertaken in 2012 for herring. The terms of reference indicate that catch was estimated from all sources including landings and discards.</p> <p>Stock assessments have also been undertaken for herring in the North Sea.</p> <p>Stock assessments for the Japanese domestic fishery and the Russian fishery is unknown.</p>	<p>Pacific Herring: https://nrm.dfg.ca.gov/Search.aspx?q=pacific+herring Southeast Alaska: http://www.adfg.alaska.gov/index.cfm?adfg=commercialbyareasoutheast.herring#research Atlantic Herring Operational Assessment Report: NOAA: http://www.asmfc.org/uploads/file/56ec5d93AtlHerringStockAssessmentUpdate2015.pdf Northeast Regional Stock Assessment Workshop: http://www.asmfc.org/species/atlantic-herring http://safinacenter.org/documents/2015/04/atlantic-herring-u-s-full-seafood-watch-species-report.pdf British Colombia: http://www.pac.dfo-mpo.gc.ca/science/species-especies/pelagic-pelagique/herring-hareng/herspaw/pages/stockreg-eng.html Northeast Fishery: https://www.greateratlantic.fisheries.noaa.gov/sustainable/species/atlherring/ Northeast Fishery: http://www.nefsc.noaa.gov/saw/saw54/Klaer%20SARC%2054%20Reviewer%20Report.pdf North Sea: http://www.ices.dk/sites/pub/Publication%20Reports/Expert%20Group%20Report/acom/2016/HAWG/04%20HAWG%20Report%202016%20-%20Sec%2002%20North%20Sea%20Herring.pdf </p>	2.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are target and limit reference points defined for the fishery?	<p>MSY estimated for stocks of herring in the North Atlantic and Atlantic. Herring in the Pacific are managed using a biomass limit reference point in combination with a harvest rate and reference point are provided in e 2010 Stock Assessment for the British Colombia Herring Fishery.</p> <p>In Southeast Alaska Guideline Harvest Levels were defined for certain areas in 2016.</p> <p>In the USA Northeast Regional Stock assessment Biological reference points are defined.</p> <p>MSY is stated for the North Sea stock.</p> <p>The status of the Japanese domestic stock is unknown as is the status of the Russian stock.</p>	<p>Atlantic: http://www.seafish.org/media/Publications/SeafishResponsibleSourcingGuide_herring_201309.pdf</p> <p>http://www.asmfc.org/uploads/file/56ec5d93AtlHerringStockAssessmentUpdate2015.pdf</p> <p>Pacific: Schweigert <i>et al.</i> (2010) https://academic.oup.com/icesjms/article/67/9/1903/623650/A-review-of-factors-limiting-recovery-of-Pacific</p> <p>Southeast Alaska: http://www.adfg.alaska.gov/FedAidpdfs/FD_S17-01.pdf</p> <p>British Columbia: http://waves-vagues.dfo-mpo.gc.ca/Library/346686.pdf</p> <p>USA Northeast: http://www.nefsc.noaa.gov/saw/saw54/Klaer%20SARC%2054%20Reviewer%20Report.pdf</p> <p>North Sea: http://www.ices.dk/sites/pub/Publication%20Reports/Expert%20Group%20Report/acom/2016/HAWG/04%20HAWG%20Report%202016%20-%20Sec%2002%20North%20Sea%20Herring.pdf</p>	2.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are fisheries operating at a level at or under MSY?	<p>According to the North Sea herring stock assessment this fishery is being harvested sustainably and fishing mortality is below the estimated F_{MSY}.</p> <p>For the stock assessment undertaken for the Northeast regional fishery in the USA, the status of herring was deemed to be not overfished in 2012.</p> <p>Pacific herring have experienced a decline in the last 10 years with some populations dropping below the biomass limit reference point.</p> <p>According to the 2015 Atlantic Herring Operational Assessment Report the stock is not overfished. The Northeast Regional Stock Assessment Workshop also confirmed that Atlantic herring were not overfished.</p> <p>In Canada, four southwest stocks have declined since 2001. In the Gulf of St Lawrence herring stock of spring spawners has declined since 1997 but the population of fall spawners is moderate. Off Newfoundland the population was higher in 2011 than in 2002 and fall spawners have improved. Herring found in Quebec Lower North Shore though are declining.</p> <p>It is unknown if the Japanese and Russian fisheries are operating at or under MSY.</p>	<p>North Sea: http://www.ices.dk/sites/pub/Publication%20Reports/Expert%20Group%20Report/acom/2016/HAWG/04%20HAWG%20Report%202016%20-%20Sec%2002%20North%20Sea%20Herring.pdf</p> <p>Northeast Fishery in USA: http://www.nefsc.noaa.gov/saw/saw54/Klaer%20SARC%2054%20Reviewer%20Report.pdf</p> <p>Pacific herring: Schweigert <i>et al.</i> (2010) https://academic.oup.com/icesjms/article/67/9/1903/623650/A-review-of-factors-limiting-recovery-of-Pacific</p> <p>Atlantic Herring Operational Assessment Report: NOAA: http://www.asmfc.org/uploads/file/56ec5d93AtlHerringStockAssessmentUpdate2015.pdf</p> <p>Northeast Regional Stock Assessment Workshop: http://www.asmfc.org/species/atlantic-herring</p> <p>Canada: http://www.dfo-mpo.gc.ca/fm-gp/sustainable-durable/fisheries-peches/herring-hareng-eng.htm</p>	2.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are bycatch and ecosystem impacts known (and if different for IUU fishing)?	<p>Herring are often caught as bycatch in ground fish fisheries however, the mortality incident is low and is not expected to have an impact on genetic structure.</p> <p>Herring in the Atlantic are often targeted by midwater trawlers which can result in the bycatch of other fish and marine mammals, but levels are comparatively low compared to other fisheries.</p>	<p>NOAA (2007)</p> <p>http://safinacenter.org/documents/2015/04/atlantic-herring-u-s-full-seafood-watch-species-report.pdf</p> <p>http://www.pewtrusts.org/~media/assets/2010/09/10/bycatch_monitoring.pdf</p>	2.0
	Is the fishery at or below capacity?	This is unknown as the exact fisheries targeted to supply the Japanese market is unknown. From information sourced above different stocks in the Atlantic and Pacific are fished at different capacities.	No information on exact fishery.	2.5
2.2 History of IUU	Do previous incidences of IUU exist within the fishery?	<p>In the Russian Far East, Pacific herring is one the main species caught however, IUU fishing is known to be an issue in this area which may indicate that herring are targeted. Under reporting of herring catches has also occurred for Pacific herring in the Russian Far East.</p> <p>In Japanese waters illegal fishing of herring has been known to occur.</p>	<p>Russian Far East:</p> <p>http://www.oceanoutcomes.org/initiatives/russian-fisheries/</p> <p>http://www.seaaroundus.org/doc/publications/wp/2015/Sobolevskaya-and-Divovich-Russia-Far-East.pdf</p> <p>Japan:</p> <p>http://www.imcsnet.org/imcs/docs/illegal_fishing_exclusive_economic_zone_japan.pdf</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
2.3 Access to fishery	Are fisheries authorised through a fishing licence / permit system?	<p>In California commercial fishing vessels which use gill nets to take herring for commercial purposes require a licence. Other states in the USA also require a licence to be obtained for commercial fishing.</p> <p>Vessels which fish or possess fish from federal waters that are regulated by the Greater Atlantic Region (includes Atlantic herring) must have a permit from the Greater Atlantic Permit Office.</p> <p>In Canada a fishing licence is required for commercial fishing and Atlantic herring are covered by strict controls including licensing.</p> <p>Licensing exists for spawning herring in Norwegian fisheries and all commercial fishing by purse seiners longer than 90 feet catching herring require a licence in Norway.</p> <p>Licence systems are in place in Japan however, it is unknown whether a licence is required for herring specifically.</p> <p>Licensing for Russia is unknown.</p>	<p>California: https://www.wildlife.ca.gov/Licensing/Commercial/Descriptions</p> <p>Other USA States e.g. http://www.maine.gov/dmr/commercial-fishing/ http://wdfw.wa.gov/licensing/commercial/limited_herring.html https://www.greateratlantic.fisheries.noaa.gov/aps/permits/fishing/index.html</p> <p>Canada: http://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/licence-commercial-eng.html http://www.dfo-mpo.gc.ca/fm-gp/sustainable-durable/fisheries-peches/herring-hareng-eng.htm</p> <p>Norway: https://www.oecd.org/norway/34430920.pdf https://www.oecd.org/norway/34430920.pdf</p> <p>Japan: http://www.oecd.org/japan/2507622.pdf http://www.fao.org/docrep/003/X6858E/X6858E03.htm</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
2.4 Price	Data on species market prices (domestic/international) Low price fish (<US\$1000/t) are generally lower risk (e.g. small pelagics), higher priced (>US\$5000/t) demersals (e.g. cod and haddock) will be higher risk, high value species are generally higher risk.	Price US\$ 390 – 770 / mt, Low priced small pelagic.	EPR January 2017	0.0
	Are any mitigation procedures that may be in place for high value species (e.g. catch documentation schemes, EU catch certificate requirements) in place (e.g. bêche de mer, bluefin tuna)?	Low value species therefore this is not applicable.	No evidence required.	0.0
2.5 MSC certification/ /FIP processes	Is there MSC certification for the fishery or is there a FIP in process? MSC certification requires IUU to be low or negligible and has checks to ensure this is the case. If the fishery is going through a FIP process as well/that may indicate improvement within the fishery e.g. Sri Lanka.	<p>The following herring fisheries are MSC certified:</p> <ul style="list-style-type: none"> - Gulf of St Lawrence fall herring gillnet fishery – roe from this fishery is important in Japan. - Canadian 4VWX Purse Seine herring fishery roe from this fishery is important in Japan. - NAFO Division 4R Atlantic herring purse seine – products from this fishery are sent to Japan. <p>Other herring fisheries are MSC certified but it is unknown whether the product of these fisheries are sent to Japanese markets.</p>	https://fisheries.msc.org/en/fisheries/@_@search?q=herring&start=0&stop=10&start_fishery_name%3Asequence&end_fishery_name%3Asequence&start_species%3Asequence&end_species%3Asequence&start_gear_type%3Asequence&end_gear_type%3Asequence&start_status%3Asequence&end_status%3Asequence&search=search	2.0
Average				1.67

5.3.2.3 Flag State – USA, Russia, Canada, Norway and Japan (activities, corruption, control systems in place)

None of the flag States that could potentially be supplying Japan with herring are known to be non-compliant apart from Russia and there are also reports of illegal fishing by Russian, Japanese and Norwegian vessels although it is unknown if these incidences involve herring fishing. All flag States have a licensing and quota system in place for herring but a lack of public lists of vessels increases the risk factor. While control measures are in place in all flag States there is limited information of specific herring measures and the extent to which control is exercised is not fully defined again resulting in an increased score of potential IUU.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
3.1 Is IUU associated with the flag State?	Has the flag State been identified as a non-compliant State by the EU (yellow / red card)?	None of the flag States involved in the fishery have been identified by the EU IUU regulation yellow/red card system.	https://ec.europa.eu/fisheries/cfp/illegal_fishing/info_en https://ec.europa.eu/fisheries/sites/fisheries/files/illegal-fishing-overview-of-existing-procedures-third-countries_en.pdf	0.0
	Has the flag State been identified as a “country of interest” within NOAA biennial reports?	Russia was identified under Section 609 (IUU) in the NOAA 2017 report for violating conservation measures and fishing without authorisation in 2014, 2015 and 2016 by CCAMLR. This was however, not for herring fishing.	http://www.nmfs.noaa.gov/ia/slider_stories/2017/01/2017biennialreport.pdf	1.0
	Has the flag State been identified as a flag of non-compliance by any other State(s) or by an RFMO?	There are no incidences of non-compliance for Japan the USA or Norway, Canada however, Russian flagged vessels have been identified as having non-compliances in CCAMLR	https://www.ccamlr.org/en/system/files/e-cc-xxv_2.pdf	2.0
	Has the flag State been identified as a flag of non-compliance or flag of convenience by an NGO or in scientific or press reports?	Norwegian and Russian vessels have been reported to have caught IUU fish in the the Bering Sea however it is unknown if this includes herring. Japan is mentioned in a range of fisheries and reports.	http://www.itfglobal.org/en/transport-seafarers/in-focus/flags-of-convenience-campaign/ WWF (2008) Illegal Fishing in Arctic Waters. http://www.wwf.se/source.php/1173651/illegal%20fishing%20in%20Arctic%20waters.pdf Clarke, 2007a; 2007b https://www.ukpandi.com/knowledge-publications/knowledge-base/	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
			https://qz.com/95583/how-spain-russia-and-other-countries-cheat-the-world-out-of-billions-of-dollars-in-fish/	
3.2 Corruption	<p>What is the WB corruption index for the flag State? (see WB Governance Indicators).</p> <p>Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.</p>	<p>Canada, Japan, Norway and the USA all have very high governance indicators in the top 10%. Alternatively, Russia is in the bottom 20% with a control of corruption score of 19%.</p>	<p>http://info.worldbank.org/governance/wgi/#home</p>	0.5
3.3 Vessel Registration and Licensing	<p>Are all fishing vessels required to be registered and flagged in the flag State required to have a licence?</p>	<p>In the USA vessels over five net tonnes used for fishing activities in U.S. waters or in the EEZ must be federally documented. Fishing vessels under 5 tonnes do not need to be federally documented but should be registered by individual States.</p> <p>Russia: A licence/permit is required to be carried on board fishing vessels. Vessels flying the Russian Federation flag must be registered with the State Register of Ships.</p> <p>Japan: Registration and licensing of industrial fleets is required in Japan. The Government of Japan maintains the fishery vessel registration system, and the total number and the total gross tonnage of fishing vessels are closely monitored.</p> <p>Norway: Fishing vessels must be registered with the Norwegian Ordinary Ship Register and fishing licence system exists.</p> <p>Canada: Canadian vessels over 15 gross tonnes which are used for commercial purposes must be registered. Those less than 15 tonnes must register if meet certain requirements. Atlantic fisheries and Pacific region</p>	<p>USA: http://www.nmfs.noaa.gov/ia/permits/highseas.html</p> <p>https://www.uscg.mil/nvdc/nvdcfaq.asp</p> <p>http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf</p> <p>Russia: http://www.fao.org/docrep/v9982e/v9982e3h.htm</p> <p>http://www.maritimeadvocate.com/ship_registration/on_the_register_ship_registration_in_russia.htm</p>	0.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		licensing systems are in place via the Government of Canada website.	<p>Japan: https://www.oecd.org/tad/fisheries/34429748.pdf</p> <p>Norway: https://www.sjofartsdir.no/en/shipping/registration-of-commercial-vessels-in-nisnor/new-registration-in-nor/</p> <p>https://www.oecd.org/norway/34430920.pdf</p> <p>Canada: http://www.tc.gc.ca/eng/marinesafety/oep-vesselreg-menu-728.htm# Register a commercial</p> <p>http://www.dfo-mpo.gc.ca/reports-rapports/regs/licences-permis/ch3-eng.htm</p> <p>http://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/licence-commercial-eng.html</p>	
	Is there a licensing and quota allocation system in place? Is this system clear and transparent?	Canada: A clear Atlantic fisheries and Pacific region licensing systems are in place via the Government of Canada website. All Canadian vessels must obtain a licence to fish in waters other than Canada fishery waters. The Atlantic herring fishery in Canada is	Canada: http://www.dfo-mpo.gc.ca/reports-rapports/regs/licences-permis/ch3-eng.htm	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>managed through Integrated Fisheries Management Plans which identifies quota allocations.</p> <p>In Japan, there are two types of licensing systems in place which are at a National and Prefectural (regional) Government scale. A Total Allowable Catch system is in place in Japan for seven species but this does not include herring.</p> <p>In the USA the Magnuson-Stevens Act requires the use of annual catch limits on federal fisheries. Vessels which fish or possess fish from federal waters that are regulated by the Greater Atlantic Region (includes Atlantic herring) must have a permit from the Greater Atlantic Permit Office. Commercial fishing licences are required by different states in the USA. A clear quota system is in place for Atlantic herring in the North-eastern U.S.</p> <p>In Russia, annual fishing quotas and licences issues at federal or local levels are used to manage certain fisheries, including herring (although not specifically in the fisheries under assessment).</p> <p>In Norway annual quotas are set for Norwegian spring spawning herring and North Sea herring. Licences are given to Norwegian coastal fleets for herring (using purse seine in the North Sea). Fishing licences are granted to registered vessels on a yearly basis within an Individual Vessel Quota system.</p>	<p>http://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/licence-commercial-eng.html</p> <p>http://www.dfo-mpo.gc.ca/fm-gp/sustainable-durable/fisheries-peches/herring-hareng-eng.htm</p> <p>http://www.dfo-mpo.gc.ca/npoa-pan/npoa-iuu/npoa-iuu_e.pdf</p> <p>Japan: https://www.oecd.org/tad/fisheries/34429748.pdf</p> <p>http://www.fao.org/fishery/facp/JPN/en</p> <p>USA: http://www.nmfs.noaa.gov/sfa/management/acls_ams/index.html e.g. http://www.adfg.alaska.gov/index.cfm?adfg=fishlicense.main</p> <p>https://www.wildlife.ca.gov/Licensing/Commercial</p> <p>https://www.greateratlantic.fisheries.noaa.gov/sustainable/species/atlherring/</p>	1.0
	Is this broken down by domestic waters and ABNJ?	<p>Catches will mostly be in coastal waters. Atlantic catches all broken down by domestic / ABNJ, unclear for Pacific.</p>	<p>Russia: http://www.fao.org/3/a-aj279e.pdf https://www.undercurrentnews.com/2016/10/28/nss-herring-blue-whiting-quotas-for-2017-in-line-with-ices-advice/</p> <p>https://www.undercurrentnews.com/2015/09/21/russia-ups-pacific-herring-alaska-pollock-quotas/</p>	

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
			<p>Norway:</p> <p>https://herring.fromnorway.com/sustainability/quotas/</p> <p>http://www.coastalfisheries.net/wp-content/uploads/2013/06/Norwegian-coastal-fisheries.pdf</p>	
	Is there a public list of licensed / authorised vessels?	<p>In Canada there is a public list of commercial fishing licence holders however, it cannot be determined which vessels catch herring.</p> <p>Norway: There is a Ship register where you can search for vessels on the Norwegian International Ship Register (NIS) and domestic register, the Norwegian Ordinary Ship Register (NOR) on the Norwegian Maritime Authority website that have been registered but this is unknown for herring specifically.</p> <p>This is unknown for USA, Japan and Russian fleets.</p>	<p>Canada:</p> <p>http://www-ops2.pac.dfo-mpo.gc.ca/vrnd-neb/index-eng.cfm?pg=DldCommLic</p> <p>Norway:</p> <p>https://www.sjofartsdir.no/en/shipping/registration-of-commercial-vessels-in-nisnor/</p>	3.0
3.4 Fair transparent fisheries agreements	Are fair transparent fisheries agreements in place with coastal States?	<p>The USA has fisheries agreements with Canada and Russia, have signed a Memorandum of Understanding (MOU) for cooperation on Fisheries with Norway and have signed a joint statement with Japan to promote mutual cooperation in matters involving marine resources (including IUU).</p> <p>Japan and Russia have signed an agreement on cooperation in fishing operations for marine living resources.</p> <p>Russia and Norway have joint fisheries commission however, this does not cover herring.</p> <p>Russia and Canada signed an MOU to facilitate sharing of information on fish landings and on fisheries cooperation in 2012 and 2007 respectively.</p>	<p>http://www.fisheries.noaa.gov/ia/agreements/international_agreements.html</p> <p>http://www.nmfs.noaa.gov/ia/agreements/bilateral_arrangements/russia/us_russia.html</p> <p>http://www.nmfs.noaa.gov/ia/Misc_pgs/29_usjapan_statement2015.html</p> <p>http://www.mofa.go.jp/region/europe/russia/territory/edition01/agreement.html</p> <p>http://www.fao.org/fishery/rfb/jointfish/en</p> <p>http://www.dfo-mpo.gc.ca/international/dip-mou-eng.htm</p>	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		Canada and Norway signed an MOU on fisheries cooperation in 2008. Status of fair fisheries agreements unclear. But given the States involved and their relative scores for WBGI and their histories in fishing agreements a lower score of 1 has been scored.		
3.5 RFMO	Membership: Is the flag State a Member of the relevant RFMOs?	Russia and Norway are contracting parties to NEAFC and Canada is a cooperating non-contracting party, and other States are Members where required to various other RFMOs	https://www.neafc.org/	0.5
	Compliance: Is the flag State compliant with all RFMO requirements and data submissions?	Russia and Norway have not been reported to be non-compliant by NEAFC. All States are normally at the better end of the range of compliance with RFMO requirements	https://www.neafc.org/past_meetings?category_value%5B%5D=PECMAS+1&field_date_value%5Bvalue%5D%5Byear%5D=	1.0
	Engagement: Does the flag State submit additional information / papers to RFMO and actively participate in scientific and compliance committee meetings?	Russia and Norway have attended the last 3 NEAFC Annual meetings. Other States normally amongst the most engaged at RFMO meetings (e.g. USA, Russia and Canada)	https://www.neafc.org/past_meetings	0.5
3.6 Multi-lateral agreements e.g. FAO Guidelines or UNCLOS	Is the flag State a contracting/cooperative non-member party to multi-lateral agreements e.g. UNCLOS, UNFSA, FAO Agreements? Implementation of the provisions of the Convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks	Canada has ratified both UNCLOS and UNFSA, as well as accepting the FAO Compliance Agreement. Japan has ratified both UNCLOS and UNFSA, as well as accepting the FAO Compliance Agreement. Russia has ratified both UNCLOS and UNFSA. The USA has only ratified the UNFSA, but not UNCLOS. It has also accepted the FAO Compliance Agreement. Norway has accepted the FAO Compliance Agreement, ratified UNCLOS and also UNFSA.	http://www.un.org/depts/los/reference_files/chronological_lists_of_ratifications.htm http://www.fao.org/fileadmin/user_upload/legal/docs/012s-e.pdf	1.0
3.7 NPOAs (IUU + others)	Is there a specific National Plan of Action (NPOA) in place to combat IUU?	Canada, the USA, Japan and Russia have NPOA IUU however, the details of Russia's plan is not publically available.	http://www.fao.org/fishery/ipoa-iuu/npoa/en	0.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		There is no NPOA IUU for Norway.	Russia : Russian Far East Crab, Fishery Improvement Project(November 2016) - Document has been archived	
3.8 Flag State Control	How and to what level is flag State control exercised in terms of administrative controls and checks? (e.g. logbook check against VMS and administrative checks, catch certificate verification includes physical inspection)	<p>Canada: Licenced fishing vessels harvesting herring are required to provide logbook records of catch and fishing activity. Inspection at sea and in port are also made to ensure that information in logbooks matches catch on board. The level to which this is undertaken however, is unknown.</p> <p>USA: Under the Magnuson-Stevenson Act, the USA is entitled to board and inspect all vessels fishing in its water and U.S. vessels on the high seas. Vessels in the Great Atlantic Regional Fishery with a permit for herring must submit weekly trip reports. The level to which this is undertaken however, is unknown.</p> <p>Russia: In Russia, The Federal Agency for Fishery (FAF) cooperates with the Federal Security Service (FSB) through the Centre of Fishery Monitoring and Communications (CFMC) to meet MCS responsibilities, with the FSB conducting enforcement and inspections at sea and in port. All Russian and foreign fishing boats that fish in the inland sea waters, territorial sea, continental shelf and the EEZ of the Russian Federation are monitored by VMS and fishers are obliged to register catch and landings and report on fishing activities through daily catch reports and log books. Official bodies of control are allowed to request catch documents for verification, detain citizen for violation of mandatory requirements, inspect vessels, or tools for fishing and seize them if necessary. The level to which this is undertaken however, is unknown.</p> <p>Japan: VMS is carried out in some fishing grounds but no further information is available. The level to which this is undertaken however, is unknown.</p>	<p>Canada: http://www.dfo-mpo.gc.ca/fm-gp/sustainable-durable/fisheries-peches/herring-hareng-eng.htm http://www.dfo-mpo.gc.ca/international/mcs-activities-eng.htm USA : http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf https://www.greateratlantic.fisheries.noaa.gov/aps/evtr/vtr_inst.pdf Russia: http://www.fao.org/fishery/topic/18090/en http://www.fish.gov.ru/files/documents/documenty/federalnye_zakony/Federalnyj-zakon_166-FZ_ot_20-12-2004.pdf WWF (2008) Illegal fishing in arctic waters http://d2ouvy59p0dg6k.cloudfront.net/downloads/iuu_report_version_1_3_30apr08.pdf Japan: https://www.oecd.org/tad/fisheries/34429748.pdf </p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		Norway: The coast guard is responsible for inspecting Norwegian vessels and performs more than 1800 annually (in combination with inspection of foreign vessels in Norwegian waters). All Norwegian vessels over 15 meters have to report catch and activity data electronically. Norway has an agreement with the EU that a catch certificate will accompany all Norwegian landings and exports to the EU however it does not appear to be a requirement with any other State. The level to which this is undertaken however, is unknown.	Norway: http://www.fiskeridir.no/English/Fisheries/Control-and-enforcement http://www.fisheries.no/resource_management/control_monitoring_surveillance/Catch-Certificate-/#.WPeSBqLTWM8 http://www.catchcertificate.no/om-catch-certificate-sa.aspx	
	How and to what level is flag State control exercised in terms of inspections on flag State vessels (at sea and in port)?	<p>In Canada, as part of the Dockside Monitoring Programme commercial landings of Atlantic herring are verified at port. At sea and in port inspection ensure that vessels have appropriate licences to fish and monitor fish found on vessels. Inspectors also ensure that gear conforms to regulations. Both large and small fishing vessels and its equipment are required to undergo mandatory inspections.</p> <p>Under the Magnuson-Stevenson Act, the USA is entitled to board and inspect all vessels fishing in its water and U.S. vessels on the high seas.</p> <p>Russia: Inspection of vessels occurs but how and to what level is unknown. Fisheries inspectors are permanently based on foreign vessels but not on Russian vessels. State fisheries inspectors use patrol ships to also board vessels to inspect them. For commercial fishing that occurs in the inland seawaters, in the territorial sea, continental shelf and the EEZ of the Russian Federation, fish (and fish products) are to be delivered to seaports in the Russian Federation or in other places determined by the Russian Federation Government. Official bodies of control are allowed to inspect vessels, or tools for fishing and seize them if necessary. The level to which these measures are employed however, is unknown.</p>	<p>Canada: http://www.dfo-mpo.gc.ca/fm-gp/sustainable-durable/fisheries-peches/herring-hareng-eng.htm</p> <p>https://www.canada.ca/en/services/transport/marine/vessel-inspection-certification/mandatory-inspection-fishing-vessels-equipment.html</p> <p>http://www.dfo-mpo.gc.ca/international/mcs-activities-eng.htm</p> <p>USA: http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf</p> <p>Russia: http://www.fao.org/3/a-aj279e.pdf http://www.fish.gov.ru/files/documents/documenty/federalnye_zakony/Federalnyj-zakon_166-FZ_ot_20-12-2004.pdf https://portals.iucn.org/library/sites/library/files/documents/Traf-065.pdf</p> <p>Japan: http://www.europarl.europa.eu/RegData/et</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>Japan: Employs standard port inspection measures but how and to what level is unknown.</p> <p>Norway: The coast guard is responsible for inspecting Norwegian vessel but no further information is available.</p>	<p>udes/note/join/2014/529044/IPOL-PECH_NT(2014)529044_EN.pdf</p> <p>Norway: http://www.fiskeridir.no/English/Fisheries/Control-and-enforcement</p>	
	How and to what level is flag State control exercised in terms of remote surveillance (e.g. aerial surveillance, VMS and AIS)?	<p>Canadian vessels fishing in the Northwest Atlantic Fisheries Organisation Regulatory Area are required to carry VMS and in Newfoundland and Labrador it is mandatory to carry VMS for domestic fisheries. Canada also has an air surveillance system which allows real time monitoring of Canada's EEZ and outside. The level to which this is exercised however, is unknown.</p> <p>USA: The USA VMS system is comprised of five sub-programmes in different administrative divisions within NOAA's Fisheries Service. All programmes are connected via a central data base and to the U.S. Coast Guard. According to NOAA the VMS program currently monitors more than 4,000 vessels. In the Greater Atlantic (USA) vessels with a limited access herring permit or an open access herring Areas 2 and 3 permit must have VMS installed. The type of fishing vessels which are monitored though is unknown. From March 2016 owners and operators of most U.S flag and foreign commercial vessels operating in US waters were required to install and use AIS. The level to which this is exercised however, is unknown</p> <p>Russia: All Russian and foreign fishing boats that fish in the inland sea waters, territorial sea, continental shelf and the EEZ of the Russian Federation are monitored by VMS. Aerial patrolling of the Russian EEZ is also undertaken to monitor IUU. For vessels that are allowed to fly under the Russian Federation flag they are equipped with the technology to allow transmit information in relation to vessel location. Technical means of control is mandatory for fishing</p>	<p>Canada: http://www.dfo-mpo.gc.ca/npoa-pan/npoa-iuu/npoa-iuu_e.pdf</p> <p>https://www.nafo.int/Fisheries/ReportingRequirements/VMS</p> <p>USA: https://www.greateratlantic.fisheries.noaa.gov/vms/regs/index.html http://www.fao.org/fishery/topic/18093/en http://www.aismandate.com/ais-mandates/ http://www.nmfs.noaa.gov/ole/about/our_programs/vessel_monitoring.html</p> <p>Russia: http://www.fao.org/fishery/topic/18090/en https://portals.iucn.org/library/sites/library/files/documents/Traf-065.pdf http://www.fish.gov.ru/files/documents/documenty/federalnye_zakony/Federalnyj-zakon_166-FZ_ot_20-12-2004.pdf (in Russian)</p> <p>Pramod et al. (2014) http://www.sciencedirect.com/science/article/pii/S0308597X14000918</p>	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>vessels with an engine with a capacity of more than 55 kilowatts and a gross tonnages of more than 80 tonnes. Approximately 3,800 (3000 domestic and 800 foreign) vessels are monitored by Russian VMS but it is reported that Russian vessels sometimes switch off their VMS before entering neighbouring nations.</p> <p>Japan: Japan conduct aerial surveillance of their own EEZ and VMS is used in some fishing grounds. Vessels over 300- ton are obliged to install AIS. The level to which this is exercised however, is unknown.</p> <p>Norway: Vessels over 15 meters are required to carry satellite transporters so that they can be tracked which means that in 2013 700 Norwegian vessels had VMS installed. The level to which this is exercised however, is unknown</p>	<p>Japan: https://www.oecd.org/tad/fisheries/34429748.pdf http://annx.asianews.network/content/satellites-monitor-suspicious-ships-japanese-waters-42460</p> <p>Norway: http://www.fisheries.no/resource_management/control_monitoring_surveillance/Reporting-systems-for-fishing-vessels/#.WPpPyKLTWM8</p>	
	How and to what level is flag State control exercised in terms of observer programmes?	<p>Canada has independent at-sea and dockside observer programmes and conducts regular patrols at sea. Purse Seine licence holders are required to carry an at-sea observer intermittently throughout the fishery at the request of the Department. Independent and impartial observers are required on all vessels in the NAFO regulatory Area. They monitor catch, practices, gear type and conduct biological sampling and experiments.</p> <p>USA: Observer coverage can range from 0%-200% in the USA and NOAA fisheries use fishery observers and at-sea monitors to collect data from US commercial fishing and processing vessels.</p> <p>Japan: Japan is known to have observer programmes in specific fisheries where a requirement has been defined by an RFMO but it is unknown whether this includes herring fisheries.</p>	<p>Canada: http://www.dfo-mpo.gc.ca/npoa-pan/npoa-iuu/npoa-iuu_e.pdf http://www.dfo-mpo.gc.ca/decisions/fm-2015-gp/atl-006-eng.htm http://www.dfo-mpo.gc.ca/international/mcs-activities-eng.htm</p> <p>USA: http://www.nmfs.noaa.gov/sfa/reg_svcs/Councils/ccc_2013/K_NMFS_EM_WhitePapers.pdf http://www.st.nmfs.noaa.gov/observer-home/</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>Russian vessels do have observers but the level and extent of this for the scope of this RA is unknown.</p> <p>Norway: Although inspectors and observers may be on board harvesting vessels the extent of a Norway observer programme is unknown however, in its cod fishery observers are not required. There is no information available on herring but observers may be required through certain RFMO requirements (e.g. ICCAT).</p>	<p>Japan: http://www.capfish.co.za/observer_programmes.php</p> <p>Russia: http://www.wwf.ru/resources/news/article/eng/12478</p> <p>Norway: http://assets.wwf.org.uk/downloads/wwfreport_measures_of_success_in_norwegian_cod_fishery_nov2008.pdf</p> <p>https://www.regjeringen.no/globalassets/upload/FKD/Vedlegg/Diverse/2010/MarineResourcesAct.pdf</p>	
3.9 Flag State Cooperation	Does the flag State work with neighbouring or regional States to enhance MCS in their own waters and fleets?	<p>Russia, the EU and Norway have signed an agreement for the management of Norwegian spring-spawning herring fish stock.</p> <p>Norway has an agreement with Russia to share catch and activity data and has formed a tracking agreement.</p> <p>Norway also has agreements with Denmark, Faroe Islands, France, Iceland, Ireland, Netherlands, Sweden and the UK in regards to sharing MCS data.</p> <p>USA: The U.S is a member of many bilateral and multilateral agreements for fisheries enforcement including agreements with nine Pacific Island and Five West African nations to help enforcement activities in those countries' EEZs. Under the Agreement on Mutual Fisheries Relations (1988), they cooperate with Russia on enforcement in the Bering Sea. The US also has several bilateral cooperative enforcement agreements to tackle the global IUU issue.</p> <p>Japan has agreements in place which allow one party to notify another if a vessels has committed a violation</p>	<p>Norway: https://www.regjeringen.no/globalassets/upload/fkd/brosjyrer-og-veiledninger/folder.pdf</p> <p>http://www.fisheries.no/resource_management/control_monitoring_surveillance/Reporting-systems-for-fishing-vessels/#.WPePyKLTWM8</p> <p>http://www.fao.org/docrep/005/Y3274E/y3274e0h.htm#fnB345</p> <p>USA : http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf</p> <p>http://www.nmfs.noaa.gov/ia/slider_stories/2017/01/2017biennialreport.pdf</p> <p>Japan: http://www.fao.org/docrep/006/Y4698B/y4698b0g.htm</p>	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>of joint conservation and management measures [Japan/China Agreement; Japan/Korea Agreement] and a corresponding duty on the other party to take actions and notify these [Japan/China Agreement; Japan/Korea Agreement]. Japan will also provide notification in the event of seizure or enforcement action by one party against the other party's vessels [Japan/China Agreement; Japan/Korea Agreement].</p> <p>Russia: Russia have signed a bi-lateral agreement with the USA to combat illegal fishing and have agreement to share VMS data.</p> <p>Canada: Canada enforces MCS as members of various RFMO's to combat illegal fishing in these regions.</p>	<p>Russia : http://www.nmfs.noaa.gov/ia/iuu/level_play_field.pdf http://www.nmfs.noaa.gov/ole/slider_stories/2015/us_rus_sign_iuu_agreement.html http://www.fao.org/fishery/topic/18090/en</p> <p>Canada: http://www.dfo-mpo.gc.ca/international/mcs-activities-eng.htm</p>	
	VMS sharing is implemented?	<p>It is unknown if the USA, Canada or Japan shares its VMS data.</p> <p>Norway: Norway share software of remote monitoring of fishing vessel and catch reporting with Ukraine. It also has mutual tracking agreements with the EU, Russia, Iceland, the Faeroe Islands and Greenland.</p> <p>Russia: Russia shares its VMS data with ministries and agencies at the national and international level.</p>	<p>Russia: http://www.fao.org/fishery/topic/18090/en</p> <p>Norway: http://minagro.gov.ua/node/22469 http://www.fisheries.no/resource_management/control_monitoring_surveillance/Reporting-systems-for-fishing-vessels/#.WPiBxqLTWM8</p>	2.0
Average				1.05

5.3.2.4 Coastal State – Canada, Russia, Norway, the USA and Japan (corruption, control systems in place)

The coastal States included in this risk assessment have reports of illegal fishing occurring in their waters, with the exception of Norway. Although IUU activities have occurred it is unknown whether this included herring and also the high governance score of all countries except Russia should indicate relatively strict controls in relation to illegal activity. As with flag States licensing systems and quotas exist for herring and the States have fisheries agreements in place, reducing the risk of IUU activity. High sanction are in place for illegal fishing in all States and although coastal control measures are in place, the extent to which they are exercised is relatively unknown.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
4.1 Is IUU fishing carried out / supported by fishing vessels operating in its maritime waters?	Has the coastal State been identified as a non-compliant State by the EU (yellow / red card)?	None of the coastal States involved in the fishery have been identified by the EU IUU regulation yellow/red card system.	https://ec.europa.eu/fisheries/cfp/illegal_fishing/info_en	0.0
	Has the coastal State been identified as a "country of interest" within NOAA biennial reports?	Russia was identified under Section 609 (IUU) in the NOAA 2017 report for violating conservation measures and fishing without authorisation in 2014, 2015 and 2016 by CCAMLR. This was however, not for herring fishing. No others have been identified.	http://www.nmfs.noaa.gov/ia/slider_stories/2017/01/2017biennialreport.pdf	1.0
	Has the coastal State been identified as having IUU fishing carried out in its waters? (NB: This may be identified by the coastal State itself, another State or by an RFMO).	<p>USA: IUU fishing activities have occurred within the US EEZ but this is not in relation to herring fishing.</p> <p>Russia: Crab and other species have been known to be caught illegally in Russian waters. There is no evidence from State or RFMO sources of illegal herring fishing.</p> <p>There is no evidence from State or RFMO sources of illegal fishing in Japanese, Canadian or Norwegian waters.</p>	<p>USA: http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf</p> <p>Russia: http://www.nmfs.noaa.gov/ole/slider_stories/2013/enforcement-month-iuu.html</p> <p>http://www.europarl.europa.eu/sides/getAllAnswers.do?reference=P-2006-0377&language=IT</p>	1.0
	Has the coastal State been identified as having IUU fishing carried out in its waters by fishing vessel of any State by an NGO or in scientific or press reports?	<p>Russia: In the Russian Far East Basin Pacific herring constitute one of the main catches and IUU activities are known in this area suggesting that herring could be included. There is also evidence of under reporting of Pacific herring catches in the Russia Far East. Illegal fishing is known to be an issue in the western Bering Sea and the Sea of Okhotsk in the Russian Far East. Illegal crab fishing has also been reported in Russian waters and next to the Russian EEZ. There are also reports of illegal transshipments directly to foreign ports of catches taken from Russian fishing grounds and transhipment of catches to Flags of Convenience within the Russia EEZ.</p> <p>USA: There are reports of Mexican vessels entering US waters to poach fish as well as other incidences of illegal fishing in US domestic waters but nothing specifically in relation to herring.</p>	<p>Russia: http://www.oceanoutcomes.org/initiatives/russian-fisheries/</p> <p>http://www.searoundus.org/doc/publications/wp/2015/Sobolevskaya-and-Divovich-Russia-Far-East.pdf</p> <p>http://awsassets.panda.org/downloads/iuu_fs_web.pdf</p> <p>http://frequentz.com/wp-content/uploads/2015/08/White_Paper_IUU_Crab.pdf</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>Canada: There are incidences of illegal fishing in Canadian waters but nothing specifically in relation to herring.</p> <p>In Japan, there are issues with gang-related illegal fishing, illegal fishing of abalone and sea urchin by recreational activities and also salmon eggs and hair crab. Illegal fishing in Japan has been reported in the Sea of Japan and also around Japan's Ogasawara islands but nothing specifically in relation to herring.</p> <p>There is no evidence of illegal fishing in Norway.</p>	<p>http://d2ouvy59p0dq6k.cloudfront.net/downloads/wwf_illegal_crab_report.pdf</p> <p>Pramod <i>et al.</i> (2014)</p> <p>USA: http://www.prnewswire.com/news-releases/us-gulf-fishermen-call-for-federal-action-against-foreign-illegal-fishing-300063629.html</p> <p>http://www.washingtonpost.com/wp-dyn/content/article/2011/02/01/AR2011020105531.html</p> <p>Pramod <i>et al.</i> (2014)</p> <p>Canada: http://www.cbc.ca/news/canada/newfoundland-and-labrador/perfect-storm-captain-convicted-of-illegally-fishing-in-canadian-waters-1.819495</p> <p>http://www.cbc.ca/news/canada/newfoundland-and-labrador/nafo-cites-foreign-vessels-with-illegally-caught-fish-1.1912758</p> <p>Japan: http://www.imcsnet.org/imcs/docs/illegal_fishing_exclusive_economic_zone_japan.pdf</p> <p>https://www3.nhk.or.jp/nhkworld/newsroom/tokyo/aired/20170315.html</p>	

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
			http://thediplomat.com/2014/11/illegal-fishermen-the-newest-threat-to-china-japan-relations/	
4.2 Corruption	<p>What is the WB corruption index for the Coastal State? (see WB Governance Indicators).</p> <p>Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.</p>	<p>Canada, Japan, Norway and the USA all have very high governance indicators in the top 10%. Alternatively, Russia is in the bottom 20% with a control of corruption score of 19%.</p>	http://info.worldbank.org/governance/wgi/#home	0.5
4.3 Vessel Registration and Licensing	<p>Are all fishing vessels fishing in the coastal State required to have a licence? (NB: Are there reports of proportion of vessels unlicensed (both national and international)?)</p>	<p>In the USA vessels over five net tonnes used for fishing activities in U.S. waters or in the EEZ must be federally documented. Fishing vessels under 5 tonnes do not need to be federally documented but should be registered by individual States.</p> <p>Russia: A licence/permit is required to be carried on board fishing vessels. Vessels flying the Russian Federation flag must be registered with the State Register of Ships.</p> <p>Japan: Registration and licensing of industrial fleets is required in Japan. The Government of Japan maintains the fishery vessel registration system, and the total number and the total gross tonnage of fishing vessels are closely monitored. Fishing licences are granted either by the Minister of Agriculture and Forestry or by Prefectural Governors.</p> <p>Norway: A fishing licence system exists and licences are granted to Norwegian coastal fleets on a yearly basis for certain herring stocks and nearly all stocks with commercial value are regulated through licensing.</p>	<p>USA: http://www.nmfs.noaa.gov/ia/permits/highseas.html https://www.uscg.mil/nvdc/nvdcfaq.asp http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf</p> <p>Russia: http://www.fao.org/docrep/v9982e/v9982e3h.htm</p> <p>http://www.maritimeadvocate.com/ship_registration/on_the_register_ship_registration_in_russia.htm</p> <p>Japan: https://www.oecd.org/tad/fisheries/34429748.pdf http://www.fao.org/docrep/005/AC750E/AC750E09.htm</p>	0.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>Canada: Atlantic fisheries and Pacific region licensing systems are in place via the Government of Canada website.</p> <p>There are no reports found on the proportion of unlicensed vessels.</p>	<p>Norway: http://www.coastalfisheries.net/wp-content/uploads/2013/06/Norwegian-coastal-fisheries.pdf https://www.oecd.org/norway/34430920.pdf https://www.regjeringen.no/globalassets/upload/fkd/brosjyrer-og-veiledninger/folder.pdf</p> <p>Canada: http://www.dfo-mpo.gc.ca/reports-rapports/regs/licences-permis/ch3-eng.htm http://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/licence-commercial-eng.html</p>	
	<p>Is there a licensing and quota allocation system in place? Is this system clear and transparent?</p>	<p>Canada: A clear Atlantic fisheries and Pacific region licensing systems are in place via the Government of Canada website. All Canadian vessels must obtain a licence to fish in waters other than Canada fishery waters. The Atlantic herring fishery in Canada is managed through Integrated Fisheries Management Plans which identifies quota allocations.</p> <p>In Japan, there are two types of licensing systems in place which are at a National and Prefectural (regional) Government scale. A Total Allowable Catch system is in place in Japan for seven species but this does not include herring.</p> <p>In the USA the Magnuson-Stevens Act requires the use of annual catch limits on federal fisheries. Vessels which fish or possess fish from federal waters that are regulated by the Greater Atlantic Region (includes Atlantic herring) must have a permit from the Greater</p>	<p>Canada: http://www.dfo-mpo.gc.ca/reports-rapports/regs/licences-permis/ch3-eng.htm http://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/licence-commercial-eng.html http://www.dfo-mpo.gc.ca/fm-gp/sustainable-durable/fisheries-peches/herring-hareng-eng.htm http://www.dfo-mpo.gc.ca/npoa-pan/npoa-iuu/npoa-iuu_e.pdf</p> <p>Japan: https://www.oecd.org/tad/fisheries/34429748.pdf http://www.fao.org/fishery/facp/JPN/en</p>	2

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>Atlantic Permit Office. Commercial fishing licences are required by different states in the USA. A clear quota system is in place for Atlantic herring in the North-eastern U.S.</p> <p>In Russia, annual fishing quotas and licences issues at federal or local levels are used to manage certain fisheries, including herring (although not specifically in the fisheries under assessment).</p> <p>In Norway annual quotas are set for Norwegian spring spawning herring and North Sea herring. Licences are given to Norwegian coastal fleets for herring (using purse seine in the North Sea). Fishing licences are granted to registered vessels on a yearly basis within an Individual Vessel Quota system. There are three types of quotas in Norway. The National quota is allocated to different groups of vessels, which are then allocated to each vessel by individual vessel quota or maximum quotas.</p>	<p>USA: http://www.nmfs.noaa.gov/sfa/management/acls_ams/index.html e.g. http://www.adfg.alaska.gov/index.cfm?adfg=fishlicense.main</p> <p>https://www.wildlife.ca.gov/Licensing/Commercial</p> <p>https://www.greateratlantic.fisheries.noaa.gov/sustainable/species/atlherring/</p> <p>Russia: http://www.fao.org/3/a-aj279e.pdf https://www.undercurrentnews.com/2016/10/28/nss-herring-blue-whiting-quotas-for-2017-in-line-with-ices-advice/ https://www.undercurrentnews.com/2015/09/21/russia-ups-pacific-herring-alaska-pollock-quotas/</p> <p>Norway: https://herring.fromnorway.com/sustainability/quotas/ http://www.coastalfisheries.net/wp-content/uploads/2013/06/Norwegian-coastal-fisheries.pdf https://www.regjeringen.no/globalassets/upload/fkd/brosjyrer-og-veiledninger/fact_sheet_discard.pdf</p>	

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Is there a public list of licensed / authorised vessels?	<p>In Canada there is a public list of commercial fishing licence holders however, it cannot be determined which vessels catch herring.</p> <p>Norway: There is a Ship register where you can search for vessels on the Norwegian International Ship Register (NIS) and domestic register, the Norwegian Ordinary Ship Register (NOR) on the Norwegian Maritime Authority website that have been registered but this is unknown for herring specifically.</p> <p>This is unknown for USA, Japan and Russian fleets.</p>	<p>Canada: http://www-ops2.pac.dfo-mpo.gc.ca/vrnd-neb/index-eng.cfm?pg=DldCommLic</p> <p>Norway: https://www.sjofartsdir.no/en/shipping/registration-of-commercial-vessels-in-nisnor/</p>	2.5
4.4 Fair transparent fisheries agreements	Are fair transparent fisheries agreements in place with DWFNs?	<p>The USA has fisheries agreements with Canada and Russia, have signed a Memorandum of Understanding (MOU) for cooperation on Fisheries with Norway and have signed a joint statement with Japan to promote mutual cooperation in matters involving marine resources (including IUU).</p> <p>Japan and Russia have signed an agreement on cooperation in fishing operations for marine living resources.</p> <p>Russia and Norway have joint fisheries commission however, this does not cover herring.</p> <p>Russia and Canada signed an MOU to facilitate sharing of information on fish landings and on fisheries cooperation in 2012 and 2007 respectively.</p> <p>Canada and Norway signed an MOU on fisheries cooperation in 2008.</p> <p>Status of fair fisheries agreements unclear. But given the States involved and their relative scores for WBG and their histories in fishing agreements a lower score of 1 has been scored.</p>	<p>http://www.fisheries.noaa.gov/ia/agreements/international_agreements.html</p> <p>http://www.nmfs.noaa.gov/ia/agreements/bilateral_arrangements/russia/us_russia.html</p> <p>http://www.nmfs.noaa.gov/ia/Misc_pgs/29_usjapan_statement2015.html</p> <p>http://www.mofa.go.jp/region/europe/russia/territory/edition01/agreement.html</p> <p>http://www.fao.org/fishery/rfb/jointfish/en</p> <p>http://www.dfo-mpo.gc.ca/international/dip-mou-eng.htm</p>	1.0
	Are the details of these agreements public?	The USA has fisheries agreements with Canada and Russia, have signed a Memorandum of Understanding (MOU) for cooperation on Fisheries with Norway and	http://www.fisheries.noaa.gov/ia/agreements/international_agreements.html	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>have signed a joint statement with Japan to promote mutual cooperation in matters involving marine resources (including IUU).</p> <p>Japan and Russia have signed an agreement on cooperation in fishing operations for marine living resources.</p> <p>Russia and Norway have joint fisheries commission however, this does not cover herring.</p> <p>Russia and Canada signed an MOU to facilitate sharing of information on fish landings and on fisheries cooperation in 2012 and 2007 respectively.</p> <p>Canada and Norway signed an MOU on fisheries cooperation in 2008.</p> <p>Status of fair fisheries agreements unclear. But given the States involved and their relative scores for WBGI and their histories in fishing agreements a lower score of 1 has been scored.</p>	<p>http://www.nmfs.noaa.gov/ia/agreements/bilateral_arrangements/russia/us_russia.html</p> <p>http://www.nmfs.noaa.gov/ia/Misc_pgs/29_usjapan_statement2015.html</p> <p>http://www.mofa.go.jp/region/europe/russia/territory/edition01/agreement.html</p> <p>http://www.fao.org/fishery/rfb/jointfish/en</p> <p>http://www.dfo-mpo.gc.ca/international/dip-mou-eng.htm</p>	
4.5 Sanctions	Are sanctions enforced?	<p>Norway: Norway has rules for sanctions against both individuals and vessels for overfishing or illegal fishing however, limited information on the rules be found publically. The Ministry may prohibit landings, transshipments and processing of catches of foreign vessels or confiscate catches. Coercive and infringement fines may be placed on vessels or individuals that violate the Marine Resources Act (to be determined by type of violation) and they may face imprisonment. For serious negligence the prison sentence can be up to three years. The level of enforcement though is unknown.</p> <p>Russia: For illegal fishing a fine of 300 thousand to 500 thousand Roubles or the salary or other income for a period of two to three years, or correctional labour for up to two years or imprisonment for the same period.</p>	<p>Norway: https://www.regjeringen.no/globalassets/upload/fkd/brosjyrer-og-veiledninger/fact_sheet_discard.pdf https://www.regjeringen.no/globalassets/upload/FKD/Vedlegg/Diverse/2010/MarineResourcesAct.pdf</p> <p>Russia: http://fishnews.ru/news/28885</p> <p>Canada: http://laws-lois.justice.gc.ca/eng/acts/F-14/page-11.html#h-22</p> <p>http://www.dfo-mpo.gc.ca/media/charges-inculpations/nl-tnl-eng.htm</p>	1.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>Canada: Violations of the Fishery Act are punishable by a fine of CAN\$100,000-\$500,000 and imprisonment of 1-2 years depending on the violations. A lease or licence to fish may also be revoked. Sanctions appear to be enforced in regions (e.g. Newfoundland and Labrador).</p> <p>The USA apprehends and prosecutes foreign flag vessels that undertake IUU activities in its waters. Those who conduct prohibited acts are liable for a civil penalty which can be up to USD\$100,000 for each violation. Permit sanctions and civil forfeitures can also be imposed and a criminal offence can be punishable by a fine of up to USD\$200,000 and/or up to 10 years imprisonment.</p> <p>Japan: The sanction for illegal fishing in Japan are a fine up to ¥2,000,000 and 3 years imprisonment. The governance in Japan is high.</p>	<p>USA: http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf http://www.nmfs.noaa.gov/sfa/laws_policies/msa/documents/msa_amended_2007.pdf</p> <p>Japan- Act on the Protection of Fishery Resources 1951 http://extwprlegs1.fao.org/docs/pdf/jap1715.pdf</p>	
	Relative level of sanctions vs level of IUU fishing.	Sanctions high relative to level of illegal fishing.		1.0
4.6 RFMO	Membership: Is the flag State a Member of the relevant RFMOs?	Russia and Norway are contracting parties to NEAFC and Canada is a cooperating non-contracting party, and other States are Members where required to various other RFMOs	https://www.neafc.org/	0.5
	Compliance: Is the flag State compliant with all RFMO requirements and data submissions?	<p>Russia and Norway have not been reported to be non-compliant by NEAFC.</p> <p>All States are normally at the better end of the range of compliance with RFMO requirements</p>	https://www.neafc.org/past_meetings?category_value%5B%5D=PECMAS+1&field_date_value%5Bvalue%5D%5Byear%5D=	1.0
	Engagement: Does the flag State submit additional information / papers to RFMO and actively participate in scientific and compliance committee meetings?	<p>Russia and Norway have attended the last 3 NEAFC Annual meetings.</p> <p>Other States normally amongst the most engaged at RFMO meetings (e.g. USA, Russia and Canada)</p>	https://www.neafc.org/past_meetings	0.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
4.7 Multi-lateral agreements e.g. FAO Guidelines or UNCLOS	<p>Is the coastal State a contracting/cooperative non-member party to multi-lateral agreements e.g. UNCLOS, UNFSA, FAO Agreements?</p> <p>Implementation of the provisions of the Convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks</p>	<p>Canada has ratified both UNCLOS and UNFSA, as well as accepting the FAO Compliance Agreement.</p> <p>Japan has ratified both UNCLOS and UNFSA, as well as accepting the FAO Compliance Agreement.</p> <p>Russia has ratified both UNCLOS and UNFSA.</p> <p>The USA has only ratified the UNFSA, but not UNCLOS. It has also accepted the FAO Compliance Agreement.</p> <p>Norway has accepted the FAO Compliance Agreement, ratified UNCLOS and also UNFSA.</p>	<p>http://www.un.org/depts/los/reference_files/chronological_lists_of_ratifications.htm</p> <p>http://www.fao.org/fileadmin/user_upload/legals/docs/012s-e.pdf</p>	1.0
4.8 NPOAs (IUU + others)	Is there a specific National Plan of Action (NPOA) in place to combat IUU in the coastal State?	<p>Canada, the USA, Japan and Russia have NPOA IUU however, the details of Russia's plan is not publically available.</p> <p>There is no NPOA IUU for Norway.</p>	<p>http://www.fao.org/fishery/ipoa-iuu/npoa/en</p> <p>Russia : Russian Far East Crab, Fishery Improvement Project(November 2016) - Document has been archived</p>	1.0
4.9 Coastal State Control	How and to what level is control exercised in the coastal State in terms of administrative controls and checks? (e.g. logbook check against VMS and administrative checks including validation of catch certificates)	<p>Canada employs mandatory logbooks for recording catch and fishing activity and regular vessel position reporting is required. Licenced fishing vessels harvesting herring are required to provide logbook records of catch and fishing activity. Inspection at sea and in port are also made to ensure that information in logbooks matches catch on board.</p> <p>Norway: Vessels within the Norwegian fishing zone must report what catches they have on board as well as report weekly on catches that are made. When leaving the Norwegian zone vessels must also report catches since last report and report to a checkpoint before they leave the Norwegian EEZ for a foreign port.</p>	<p>Canada: http://www.dfo-mpo.gc.ca/fm-gp/sustainable-durable/fisheries-peches/herring-hareng-eng.htm http://www.dfo-mpo.gc.ca/npoa-pan/npoa-iuu/npoa-iuu_e.pdf http://www.dfo-mpo.gc.ca/international/mcs-activities-eng.htm</p> <p>Norway: http://www.fisheries.no/resource_management/control_monitoring_surveillance/The_responsibility_of_foreign_vessels_in_Norwegian_waters/#.WPeSzKLTWM8</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>The coast guard is responsible for inspecting Norwegian and foreign vessels and performs more than 1800 annually in Norwegian water.</p> <p>USA: The USA VMS system is comprised of five sub-programmes in different administrative divisions within NOAA's Fisheries Service. All programmes are connected via a central data base and to the U.S. Coast Guard. From March 2016 owners and operators of most U.S flag and foreign commercial vessels operating in US waters were required to install and use AIS.</p> <p>Russia: All Russian and foreign fishing boats that fish in the inland sea waters, territorial sea, continental shelf and the EEZ of the Russian Federation are monitored by VMS but the extent to which this is carried out is unknown. Fishers are obliged to register catch and landings and report on fishing activities through daily catch reports and log books. Official bodies of control are allowed to request catch documents for verification, detain citizen for violation of mandatory requirements, inspect vessels, or tools for fishing and seize them if necessary. All catch from within the Russian Federation's EEZ will be subject to custom procedures. The level to which this is exercised is unknown.</p> <p>Japan: Control measures are outlined in brief in the National Plan of Action but the extent to which this is carried out is unknown.</p>	<p>http://www.fao.org/docrep/005/y3427e/y3427e0a.htm</p> <p>http://www.fiskeridir.no/English/Fisheries/Control-and-enforcement</p> <p>USA: http://www.fao.org/fishery/topic/18093/en http://www.aismandate.com/ais-mandates/</p> <p>Russia: http://www.fao.org/fishery/topic/18090/en</p> <p>WWF (2008) Illegal fishing in arctic waters http://d2ouvy59p0dg6k.cloudfront.net/downloads/iuu_report_version_1_3_30apr08.pdf</p> <p>http://www.fish.gov.ru/files/documents/documenty/federalnye_zakony/Federalnyj-zakon_166-FZ_ot_20-12-2004.pdf</p> <p>http://awsassets.panda.org/downloads/iuufs_web.pdf</p> <p>http://www.noaanews.noaa.gov/stories2010/20101013_fishing.html</p> <p>Japan ftp://ftp.fao.org/FI/DOCUMENT/IPOAS/national/japan/NPOA-iuu.pdf</p>	
	How and to what level is control exercised in the coastal State in	Canada: Independent at-sea and dockside monitoring is undertaken as well as patrols of known fishing areas. As part of the Dockside Monitoring Programme	Canada: http://www.dfo-mpo.gc.ca/fm-gp/sustainable-durable/fisheries-peches/herring-hareng-eng.htm	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	terms of inspections on vessels at sea and in port?	<p>commercial landings of Atlantic herring are verified at port. At sea and in port inspection ensure that vessels have appropriate licences to fish and monitor fish found on vessels. Inspectors also ensure that gear conforms to regulations. Both large and small fishing vessels and its equipment are required to undergo mandatory inspections.</p> <p>Norway: Both Norwegian and foreign vessels are inspected by the Coast Guards that are located in Norwegian waters.</p> <p>Under the Magnuson-Stevenson Act, the USA is entitled to board and inspect all vessels fishing in its water and U.S. vessels on the high seas.</p> <p>Russia: Inspection of vessels occurs but how and to what level is unknown. Fisheries inspectors are permanently based on foreign vessels but not on Russian vessels. State fisheries inspectors use patrol ships to also board vessels to inspect them. For commercial fishing that occurs in the inland seawaters, in the territorial sea, continental shelf and the EEZ of the Russian Federation, fish (and fish products) are to be delivered to seaports in the Russian Federation or in other places determined by the Russian Federation Government. Official bodies of control are allowed to inspect vessels, or tools for fishing and seize them if necessary. The level to which these measures are employed however, is unknown.</p> <p>Japan: Employs standard port inspection measures but how and to what level is unknown.</p>	<p>https://www.canada.ca/en/services/transpo rt/marine/vessel-inspection-certification/mandatory-inspection-fishing-vessels-equipment.html</p> <p>http://www.dfo-mpo.gc.ca/international/mcs-activities-eng.htm</p> <p>http://www.dfo-mpo.gc.ca/npoa-pan/npoa-iuu/npoa-iuu_e.pdf</p> <p>Norway: http://www.fiskeridir.no/English/Fisheries/Control-and-enforcement</p> <p>USA: http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf</p> <p>Russia: http://www.fao.org/3/a-aj279e.pdf</p> <p>http://www.fish.gov.ru/files/documents/documenty/federalnye_zakony/Federalnyj-zakon_166-FZ_ot_20-12-2004.pdf</p> <p>https://portals.iucn.org/library/sites/library/files/documents/Traf-065.pdf</p> <p>Japan: http://www.europarl.europa.eu/RegData/etudes/note/join/2014/529044/IPOL-PECH_NT(2014)529044_EN.pdf</p>	

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	How and to what level is control exercised in the coastal State in terms of remote surveillance (e.g. aerial surveillance, VMS and AIS)?	<p>Norway: Vessels over 15 metres are required to carry satellite transporters so that their location can be tracked. Foreign vessels over 24 metres fishing in Norwegian waters are also subject to position reporting.</p> <p>Canada: A variety of methods are used to monitor fishing activity on the high seas, including aerial surveillance, satellite (RADARSAT II) and vessel monitoring systems. Some of the vessels within Canada's EEZ use VMS while others are monitored through hail reports and regular radio contact. Canadian vessels fishing in the Northwest Atlantic Fisheries Organisation Regulatory Area are required to carry VMS and in Newfoundland and Labrador it is mandatory to carry VMS for domestic fisheries. Canada also has an air surveillance system which allows real time monitoring of Canada's EEZ and outside. In the NAFO Regulatory Area, all vessels are required to have VMS.</p> <p>USA: The USA VMS system is comprised of five sub-programmes in different administrative divisions within NOAA's Fisheries Service. All programmes are connected via a central data base and to the U.S. Coast Guard. According to NOAA the VMS program currently monitors more than 4,000 vessels. From March 2016 owners and operators of most U.S flag and foreign commercial vessels operating in US waters were required to install and use AIS. The level to which this is exercised is unknown.</p> <p>Russia: All Russian and foreign fishing boats that fish in the inland sea waters, territorial sea, continental shelf and the EEZ of the Russian Federation are monitored by VMS. Aerial patrolling of the Russian EEZ is also undertaken to monitor IUU. The level to which this is exercised is unknown. Approximately 3,800 (3000 domestic and 800 foreign) vessels are monitored by Russian VMS but it is reported that</p>	<p>Norway: http://www.fisheries.no/resource_management/control_monitoring_surveillance/Reporting-systems-for-fishing-vessels/#.WPePyKLTWM8</p> <p>Canada: http://www.dfo-mpo.gc.ca/npoa-pan/npoa-iuu/npoa-iuu_e.pdf https://www.nafo.int/Fisheries/ReportingRequirements/VMS</p> <p>USA: http://www.fao.org/fishery/topic/18093/en http://www.aismandate.com/ais-mandates/ http://www.nmfs.noaa.gov/ole/about/our_programs/vessel_monitoring.html</p> <p>Russia: http://www.fao.org/fishery/topic/18090/en https://portals.iucn.org/library/sites/library/files/documents/Traf-065.pdf</p> <p>Japan: https://www.oecd.org/tad/fisheries/34429748.pdf http://annx.asianews.network/content/satellites-monitor-suspicious-ships-japanese-waters-42460</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>Russian vessels sometimes switch off their VMS before entering neighbouring nations.</p> <p>Japan: Japan conduct aerial surveillance of their own EEZ and VMS is used in some fishing grounds. Vessels over 300- tonnes are obliged to install AIS.</p>		
	How and to what level is control exercised in the coastal State in terms of observer programmes?	<p>Canada has independent at-sea and dockside observer programmes and conducts regular patrols at sea. Purse Seine licence holders are required to carry an at-sea observer intermittently throughout the fishery at the request of the Department. Independent and impartial observers are required on all vessels in the NAFO regulatory Area. They monitor catch, practices, gear type and conduct biological sampling and experiments. Foreign fishing vessels issued a licence must permit observers on board under the Coastal Fisheries Protection Regulations.</p> <p>USA: Observer coverage can range from 0%-200% in the USA and NOAA fisheries use fishery observers and at-sea monitors to collect data from US commercial fishing and processing vessels.</p> <p>Japan: Japan is known to have observer programmes in specific fisheries where a requirement has been defined by an RFMO but it is unknown whether this includes herring fisheries.</p> <p>Russian vessels do have observers but the level and extent of this for the scope of this RA is unknown.</p> <p>Norway: Although inspectors and observers may be on board harvesting vessels the extent of a Norway observer programme is unknown however, in its cod fishery observers are not required. There is no information available on herring but observers may be required through certain RFMO requirements (e.g. ICCAT).</p>	<p>Canada: http://www.dfo-mpo.gc.ca/npoa-pan/npoa-iuu/npoa-iuu_e.pdf</p> <p>http://www.dfo-mpo.gc.ca/decisions/fm-2015-gp/atl-006-eng.htm</p> <p>http://www.dfo-mpo.gc.ca/international/mcs-activities-eng.htm</p> <p>http://extwprlegs1.fao.org/docs/pdf/can1080.pdf</p> <p>USA: http://www.nmfs.noaa.gov/sfa/reg_svcs/Councils/ccc_2013/K_NMFS_EM_WhitePapers.pdf</p> <p>http://www.st.nmfs.noaa.gov/observer-home/</p> <p>http://www.nmfs.noaa.gov/ole/about/our_programs/vessel_monitoring.html</p> <p>Japan: http://www.capfish.co.za/observer_programmes.php</p> <p>Russia: http://www.wwf.ru/resources/news/article/eng/12478</p> <p>Norway:</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
			http://assets.wwf.org.uk/downloads/wwfreport_measures_of_success_in_norwegian_cod_fishery_nov2008.pdf https://www.regjeringen.no/globalassets/upload/FKD/Vedlegg/Diverse/2010/MarineResourcesAct.pdf	
4.10 Coastal State Cooperation	Does the coastal State work with neighbouring or regional States to enhance MCS in their own waters and fleets?	<p>Russia, the EU and Norway have signed an agreement for the management of Norwegian spring-spawning herring fish stock.</p> <p>Norway has an agreement with Russia to share catch and activity data and has formed a tracking agreement.</p> <p>Norway also has agreements with Denmark, Faroe Islands, France, Iceland, Ireland, Netherlands, Sweden and the UK in regards to sharing MCS data.</p> <p>USA: The U.S is a member of many bilateral and multilateral agreements for fisheries enforcement including agreements with nine Pacific Island and Five West African nations to help enforcement activities in those countries' EEZs. Under the Agreement on Mutual Fisheries Relations (1988), they cooperate with Russia on enforcement in the Bering Sea. The US also has several bilateral cooperative enforcement agreements to tackle the global IUU issue.</p> <p>Japan has agreements in place which allow one party to notify another if a vessels has committed a violation of joint conservation and management measures [Japan/China Agreement; Japan/Korea Agreement] and a corresponding duty on the other party to take actions and notify these [Japan/China Agreement; Japan/Korea Agreement]. Japan will also provide notification in the event of seizure or enforcement action by one party against the other party's vessels [Japan/China Agreement; Japan/Korea Agreement].</p>	<p>Norway:</p> https://www.regjeringen.no/globalassets/upload/fkd/brosjyrer-og-veiledninger/folder.pdf http://www.fisheries.no/resource_management/control_monitoring_surveillance/Reporting-systems-for-fishing-vessels/#.WPePyKLTWM8 http://www.fao.org/docrep/005/Y3274E/y3274e0h.htm#fnB345 <p>USA :</p> http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf http://www.nmfs.noaa.gov/ia/slider_stories/2017/01/2017biennialreport.pdf <p>Japan:</p> http://www.fao.org/docrep/006/Y4698B/y4698b0g.htm <p>Russia :</p> http://www.nmfs.noaa.gov/ia/iuu/level_play_field.pdf http://www.nmfs.noaa.gov/ole/slider_stories/2015/us_rus_sign_iuu_agreement.html http://www.fao.org/fishery/topic/18090/en	0.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>Russia: Russia have signed a bi-lateral agreement with the USA to combat illegal fishing and have agreement to share VMS data.</p> <p>Canada: Canada enforces MCS as members of various RFMO's to combat illegal fishing in these regions.</p>	<p>Canada: http://www.dfo-mpo.gc.ca/international/mcs-activities-eng.htm </p>	
4.11 Transhipment	Is transhipment allowed in coastal State or RFMO waters and is observation required through an RFMO programme or by coastal States for their own waters?	<p>USA: At-sea transhipments in coastal State waters are allowed if authorised by that coastal State, or undertaken in conformity with appropriate management regulations. However, transhipment between U.S fisheries largely goes unchecked, and is only prohibited in certain fisheries. It is unlawful for vessels of the U.S. to transfer at sea directly or indirectly to any U.S harvested fish to a foreign vessel, while it is in the EEZ or within the boundary of any State unless it has been permitted.</p> <p>Russia: Transhipment of coastal catches is prohibited.</p> <p>Japan: There is no system in place for the authorisation of transhipment in Japan.</p> <p>Canada: There is little information available for transhipment in Canada but in certain areas herring caught by commercial fishers must be landed at a fish landing station, a registered vessel or a vehicle licenced as a fish buying station under the Fisheries Act of British Colombia. Under the Coastal Fisheries Protection Regulations licences obtained from the Minister may authorise the transhipment of fish at sea by foreign vessels in Canadian waters.</p> <p>Norway: The Ministry may control or prohibit transhipment by for example only authorising it in specific ports or areas.</p>	<p>USA: http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf http://www.nmfs.noaa.gov/sfa/laws_policies/msa/documents/msa_amended_2007.pdf </p> <p>Russia: https://www.sustainablefish.org/Programs/Improving-Wild-Fisheries/Seafood-Sectors-Supply-Chain-Roundtables/Crab/Russian-Far-East-Crab-SR </p> <p>Japan: http://www.fao.org/docrep/v9982e/v9982e28.htm#japan </p> <p>Canada: http://www.fao.org/fishery/psm/CAN_10/en http://extwprlegs1.fao.org/docs/pdf/can1080.pdf </p> <p>Norway: https://www.regjeringen.no/globalassets/upload/FKD/Vedlegg/Diverse/2010/MarineResourcesAct.pdf </p>	1.0
Average				1.10

5.3.2.5 Port State - Canada, Russia, Norway, the USA and Japan (control systems in place, PSMA provisions in place)

There is limited information about landings of illegal products but all port States have strict measures in place to prevent IUU landings but there is a lack of information on the extent to which these are exercised in practice. Some ports are designated by the relevant RFMO but the location of all herring landings is unknown for the RA, increasing the potential of IUU activity.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
5.1 Are the products of IUU fishing landed in the port State?	Has the port State been identified as a non-compliant State by the EU (yellow / red card)?	None of the coastal States involved in the fishery have been identified by the EU IUU regulation yellow/red card system.	https://ec.europa.eu/fisheries/cfp/illegal_fishing/info_en	0.0
	Has the port State been identified as a "country of interest" within NOAA biennial reports?	Russia was identified under Section 609 (IUU) in the NOAA 2017 report for violating conservation measures and fishing without authorisation in 2014, 2015 and 2016 by CCAMLR. This was however, not for herring fishing.	http://www.nmfs.noaa.gov/ia/slider_stories/2017/01/2017biennialreport.pdf	1.0
	Has the port State been identified as having IUU fish landed in its ports? (NB: This may be identified by the port State itself, another State or by an RFMO).	USA: Not by the State or an RFMO and is unlikely. Japan: Not by the State or an RFMO and is unlikely. Russia: Not by the State or an RFMO but the remoteness of some Russian ports may make it more likely for IUU to be landed. Canada: No information is available for illegal landings in Canadian ports but Canada has very strict port entry policies in place to stop IUU. Norway: No information is available for illegal landings in Norwegian ports	Personal experience http://www.dfo-mpo.gc.ca/international/isu-iuu-09a-eng.htm	0.5
	Has the port State been identified as having IUU fish landed in its ports by fishing vessel of any State by an NGO or in scientific or press reports?	USA: There are incidences of illegal and unreported catches being imported into the USA. Japan has put in place a strong legal framework to combat IUU and to prevent, deter and eliminate IUU fishing and uncontrolled importation and landing of IUU catches e.g. the Law of Special Measures for Strengthening Conservation and Management of Tuna Resources (1996) to control the import of tuna caught	USA: Pramod et al. (2014) http://www.noaanews.noaa.gov/stories2010/20101013_fishing.html Personal experience	0.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>by IUU and reflagged fishing vessels. Some limited illegal fishing is known to occur in Japanese waters that may be landed but as a percentage of the overall Japanese market this will be low in terms of volume and value.</p> <p>Russia: No information can be found but a regulation states that fish caught outside the 12 nautical mile of the Russian shore is not allowed to be landed in Russian ports, reducing the likelihood of illegal landings.</p> <p>Canada: No information is available for illegal landings in Canadian ports but Canada has very strict port entry policies in place to stop IUU.</p> <p>Norway: No information is available for illegal landings in Norwegian ports.</p>	<p>http://www.imcsnet.org/imcs/docs/illegal_fishing_exclusive_economic_zone_japan.pdf</p> <p>http://www.seaaroundus.org/doc/publications/wp/2015/Sobolevskaya-and-Divovich-Russia-Far-East.pdf</p> <p>http://www.dfo-mpo.gc.ca/international/isu-iuu-09a-eng.htm</p>	
5.2 Corruption	<p>What is the WB corruption index for the port State? (see WB Governance Indicators).</p> <p>Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.</p>	<p>Canada, Japan, Norway and the USA all have very high governance indicators in the top 10%. Alternatively, Russia is in the bottom 20% with a control of corruption score of 19%.</p>	<p>http://info.worldbank.org/governance/wgi/#home</p>	0.5
5.3 Sanctions	Are sanctions enforced?	<p>Norway: Norway has rules for sanctions against both individuals and vessels for overfishing or illegal fishing however, limited information on the rules be found publically. The Ministry may prohibit landings, transshipments and processing of catches of foreign vessels or confiscate catches. Coercive and infringement fines may be placed on vessels or individuals that violate the Marine Resources Act (to be determined by type of violation) and they may face imprisonment. For serious negligence the prison</p>	<p>Norway: https://www.regjeringen.no/globalassets/upload/fkd/brosjyrer-og-veiledninger/fact_sheet_discard.pdf</p> <p>https://www.regjeringen.no/globalassets/upload/FKD/Vedlegg/Diverse/2010/MarineResourcesAct.pdf</p> <p>Russia: http://fishnews.ru/news/28885</p>	1.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>sentence can be up to three years. The level of enforcement though is unknown.</p> <p>Russia: For illegal fishing a fine of 300 thousand to 500 thousand Roubles or the salary or other income for a period of two to three years, or correctional labour for up to two years or imprisonment for the same period.</p> <p>Canada: Violations of the Fishery Act are punishable by a fine of CAN\$100,000-\$500,000 and imprisonment of 1-2 years depending on the violations. A lease or licence to fish may also be revoked. Sanctions appear to be enforced in regions (e.g. Newfoundland and Labrador).</p> <p>The USA apprehends and prosecutes foreign flag vessels that undertake IUU activities in its waters. Those who conduct prohibited acts are liable for a civil penalty which can be up to USD\$100,000 for each violation. Permit sanctions and civil forfeitures can also be imposed and a criminal offence can be punishable by a fine of up to USD\$200,000 and/or up to 10 years imprisonment.</p> <p>Japan: The sanction for illegal fishing in Japan are a fine up to ¥2,000,000 and 3 years imprisonment. The governance in Japan is high.</p>	<p>Canada: http://laws-lois.justice.gc.ca/eng/acts/F-14/page-11.html#h-22</p> <p>http://www.dfo-mpo.gc.ca/media/charges-inculpations/nl-tnl-eng.htm</p> <p>USA: http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf</p> <p>http://www.nmfs.noaa.gov/sfa/laws_policies/msa/documents/msa_amended_2007.pdf</p> <p>Japan- Act on the Protection of Fishery Resources 1951 http://extwprlegs1.fao.org/docs/pdf/jap1715.pdf</p>	
	Relative level of sanctions vs level of IUU fishing.	Sanctions high relative to level of illegal fishing.		1.0
5.4 RFMO	Membership: Is the flag State a Member of the relevant RFMOs?	Russia and Norway are contracting parties to NEAFC and Canada is a cooperating non-contracting party, and other States are Members where required to various other RFMOs	https://www.neafc.org/	0.5
	Compliance: Is the flag State compliant with all RFMO requirements and data submissions?	Russia and Norway have not been reported to be non-compliant by NEAFC.	https://www.neafc.org/past_meetings?category_value%5B%5D=PECMAS+1&field_date_value%5Bvalue%5D%5Byear%5D=	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		All States are normally at the better end of the range of compliance with RFMO requirements		
	Engagement: Does the flag State submit additional information / papers to RFMO and actively participate in scientific and compliance committee meetings?	Russia and Norway have attended the last 3 NEAFC Annual meetings. Other States normally amongst the most engaged at RFMO meetings (e.g. USA, Russia and Canada)	https://www.neafc.org/past_meetings	0.5
5.5 Multi-lateral agreements e.g. FAO Guidelines or UNCLOS	Is the coastal State a contracting/cooperative non-member party to multi-lateral agreements e.g. UNCLOS, UNFSA, FAO Agreements? Implementation of the provisions of the Convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks	Canada has ratified both UNCLOS and UNFSA, as well as accepting the FAO Compliance Agreement. Japan has ratified both UNCLOS and UNFSA, as well as accepting the FAO Compliance Agreement. Russia has ratified both UNCLOS and UNFSA. The USA has only ratified the UNFSA, but not UNCLOS. It has also accepted the FAO Compliance Agreement. Norway has accepted the FAO Compliance Agreement, ratified UNCLOS and also UNFSA.	http://www.un.org/depts/los/reference_files/chronological_lists_of_ratifications.htm http://www.fao.org/fileadmin/user_upload/legal/docs/012s-e.pdf	1.0
5.6 NPOAs (IUU + others)	Is there a specific National Plan of Action (NPOA) in place to combat IUU in the coastal State?	Canada, the USA, Japan and Russia have NPOA IUU however, the details of Russia's plan is not publically available. There is no NPOA IUU for Norway.	http://www.fao.org/fishery/ipoa-iuu/npoa/en Russia : Russian Far East Crab, Fishery Improvement Project(November 2016) - Document has been archived	1.0
5.7 Port State Control	How and to what level is control exercised in the port State in terms of administrative controls and checks? (e.g. logbook check against VMS and administrative checks including validation of catch certificates)	Canada: Foreign vessel seeking to land in Canadian ports must provide advance notice, a copy of authorisation to fish, details of the fishing trip and quantities of the catch amongst other information such as flag state, qualification of master, gear type used etc. Japan: VMS is in operation but the extent to which this is carried out is unknown. In compliance with international fishery organisations, Japan has	Canada: http://www.dfo-mpo.gc.ca/npoa-pan/npoa-iuu/npoa-iuu_e.pdf Japan: https://www.oecd.org/tad/fisheries/34429748.pdf	1.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>implemented documentation schemes but these only cover several tuna and tooth fish species.</p> <p>USA: Foreign vessel seeking to enter a U.S. port must first provide notice to the Coast Guard. If the vessel is listed on an IUU list, it will be determined whether entry will be denied or whether certain restrictions should be imposed. Foreign vessels seeking to enter a U.S port are not required to have logbooks. The USA promotes the use of catch documentation and certification schemes in cooperation with relevant RFMOs. The extent to which these procedures are carried out is unknown.</p> <p>Russia: All Russian and foreign fishing boats that fish in the inland sea waters, territorial sea, continental shelf and the EEZ of the Russian Federation are monitored by VMS but the extent to which this is carried out is unknown. Fishers are obliged to register catch and landings and report on fishing activities through daily catch reports and log books. The extent to which these procedures are carried out is unknown. Official bodies of control are allowed to request catch documents for verification, detain citizen for violation of mandatory requirements, inspect vessels, or tools for fishing and seize them if necessary. In 2008 Russia mandated that all catch on board a vessel, must be checked in a Russian port for customs clearance and documentation.</p> <p>Norway: There is a Decree which prohibits landings of fish caught by foreign vessels outside of Norwegian fisheries jurisdiction or catch from stocks that are of common interest with other States but are not subject to agreed stock regulations.</p> <p>Through NEAFC members are to implement Port State Measures.</p>	<p>USA: http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf http://www.noaanews.noaa.gov/stories2010/20101013_fishing.html</p> <p>Russia: http://www.fao.org/fishery/topic/18090/en</p> <p>WWF (2008) Illegal fishing in arctic waters http://d2ouvy59p0dg6k.cloudfront.net/downloads/iuu_report_version_1_3_30apr08.pdf http://www.fish.gov.ru/files/documents/documenty/federalnye_zakony/Federalnyi-zakon_166-FZ_ot_20-12-2004.pdf</p> <p>WWF (undated) Illegal Russian Crab. An investigation of Trade Flow. https://c402277.ssl.cf1.rackcdn.com/publications/733/files/original/WWF_Illegal_crab_report_final_15_Oct_2014.pdf?1413407573</p> <p>Norway: https://www.ecolex.org/details/legislation/decre-no-802-of-1993-relating-to-prohibitions-against-landings-of-fish-outside-norwegian-jurisdiction-fisheries-waters-and-other-special-measures-to-combat-illegal-unreported-and-unregulated-fishing-lex-faoc013555/</p>	

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		The USA and Norway are members of the FAO Port State Measures Agreement.	NEAFC: https://www.neafc.org/mcs/psc FAO Port State Measures Agreement: http://www.fao.org/fishery/psm/agreement/parties/en	
	How and to what level is control exercised in the port State in terms of inspections on vessels in port?	<p>Canada: If a fishing vessels wishes to land or tranship fish in Canadian ports it must undergo a port inspection subject to international agreements and laws. If IUU is suspected the landing or transhipment can be prohibited or the matter reported to the relevant authority. For Atlantic herring specifically, commercial landings are verified at the port under the Dockside Monitoring Programme</p> <p>Norway: Both Norwegian and foreign vessels are inspected by the Coast Guards that are located in Norwegian waters. If a vessel has be suspected of engaging in IUU activities the landing of catch can be refused and dockside transhipments can be prohibited.</p> <p>USA: Foreign vessels are normally prohibited to land or tranship fish in U.S. ports, except for a few ports located in insular territories, or when special agreements are in place. The NOAA's Office of Law Enforcement boards approximately 60% of foreign flagged fishing vessels and fishing support vessels that land in U.S ports.</p> <p>Russia: According to Russian legislation, all catches have to be delivered to a Russian port where the Federal Customs Agency may inspect landings both for domestic or export purposes. However, transparent information on the percentage of inspections is not readily available. Official bodies of control are allowed to inspect vessels, or tools for fishing and seize them if necessary but the level to which this is carried out is unknown.</p>	<p>Canada: http://www.dfo-mpo.gc.ca/npoa-pan/npoa-iuu/npoa-iuu_e.pdf http://www.dfo-mpo.gc.ca/fm-gp/sustainable-durable/fisheries-peches/herring-hareng-eng.htm</p> <p>Norway: http://www.fiskeridir.no/English/Fisheries/Control-and-enforcement http://www.fisheries.no/resource_management/control_monitoring_surveillance/efforts_to_deter_illegal_fishing/#.WPeTUaLTWM8</p> <p>USA: http://www.fao.org/3/a-y3536e/y3536e09.htm#fnB76 http://www.nmfs.noaa.gov/ole/about/implementing_psma_faq.html</p> <p>Russia: http://www.fish.gov.ru/files/documents/documenty/federalnye_zakony/Federalnyj-zakon_166-FZ_ot_20-12-2004.pdf Japan: http://www.europarl.europa.eu/RegData/etudes/note/join/2014/529044/IPOL-PECH_NT(2014)529044_EN.pdf</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		Japan: Employs standard port inspection measures but how and to what level is unknown.		
	How and to what level is control exercised in the port State in terms of vessel monitoring (e.g. notification of port entry, VMS and AIS)?	<p>Norway: According to NEAFC, all foreign fishing vessels with catch from the NEAFC Convention Area which have not been previously landed or transhipped at port must send a prior notification of entry into port. Contracting and compliant non-contracting parties intending to call in a Norwegian port shall send prior notice at least 24 hours before arrival if the catch is frozen. If the catch is fresh, the period of notice is 4 hours. Non-Contracting parties must send prior notice 3 days before arrival. Fish caught in the NAFO Convention Area intending to call into a Norwegian port must give 3 days prior notice of entry. Vessels with catch from the ICCAT Convention Area must submit forms for port entry at least 3 days before entry.</p> <p>USA: Foreign vessels must provide prior notice to the U.S. Coast Guard if they wish to enter a U.S port. The information received will also be passed on to the NOAA's Office of Law Enforcement so that the vessel can be screened to determine whether it should be granted or denied access. Vessel entry into a U.S. port can be denied if it is listed for engaging in IUU by one of the world's international fishery management organisations. The Fisheries Management Plan mandates that all vessels in the Tanner crab fisheries must have electronic logbooks and VMS. From March 2016 owners and operators of most U.S flag and foreign commercial vessels operating in US waters were required to install and use AIS.</p> <p>In Japan VMS has been introduced to some fisheries conducted in specific areas but the level to which it is exercised is not publically available. Vessels intending to tranship or land their catch at Japanese ports need to obtain a landing permit and a port-call permit.</p> <p>Russia: Unknown</p>	<p>Norway: http://www.fiskeridir.no/English/Fisheries/Port-State-Measures</p> <p>USA: http://www.noaanews.noaa.gov/stories2010/20101013_fishing.html http://www.nmfs.noaa.gov/ole/about/implementing_psma_faq.html https://www.seafoodwatch.org/-/m/sfw/pdf/reports/c/mba_seafoodwatch_crab_tanner_snow_alaska_report.pdf http://www.aismandate.com/ais-mandates/</p> <p>Japan: ftp://ftp.fao.org/FI/DOCUMENT/IPOAS/national/japan/NPOA-iuu.pdf</p> <p>Canada: http://www.dfo-mpo.gc.ca/npoa-pan/npoa-iuu/npoa-iuu_e.pdf https://www.nafo.int/Fisheries/ReportingRequirements/VMS http://extwprlegs1.fao.org/docs/pdf/can1080.pdf</p>	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>Canada: In Canada, certain licence conditions in fisheries require vessels to carry VMS units. Canadian vessels fishing in the Northwest Atlantic Fisheries Organisation Regulatory Area are required to carry VMS and in Newfoundland and Labrador it is mandatory to carry VMS for domestic fisheries. Canada also has an air surveillance system which allows real time monitoring of Canada's EEZ and outside. In the NAFO Regulatory Area, all vessels are required to have VMS. Under the Coastal Fisheries Protection Regulation any foreign vessel authorised by a licence to enter a Canadian port must notify their arrival not less than 24 hours prior to entry.</p>		
5.8 Port State Cooperation	Does the port State work with neighbouring or regional States to enhance MCS on vessels landing in their ports?	<p>Russia, the EU and Norway have signed an agreement for the management of Norwegian spring-spawning herring fish stock.</p> <p>Norway has an agreement with Russia to share catch and activity data and has formed a tracking agreement.</p> <p>Norway also has agreements with Denmark, Faroe Islands, France, Iceland, Ireland, Netherlands, Sweden and the UK in regards to sharing MCS data.</p> <p>USA: The U.S is a member of many bilateral and multilateral agreements for fisheries enforcement including agreements with nine Pacific Island and Five West African nations to help enforcement activities in those countries' EEZs. Under the Agreement on Mutual Fisheries Relations (1988), they cooperate with Russia on enforcement in the Bering Sea. The US also has several bilateral cooperative enforcement agreements to tackle the global IUU issue.</p> <p>Japan has agreements in place which allow one party to notify another if a vessels has committed a violation of joint conservation and management measures</p>	<p>Norway: https://www.regjeringen.no/globalassets/up load/fkd/brosjyre-og- veiledninger/folder.pdf</p> <p>http://www.fisheries.no/resource_management/control_monitoring_surveillance/Reporting-systems-for-fishing-vessels/#.WPePyKLTWM8</p> <p>http://www.fao.org/docrep/005/Y3274E/y3274e0h.htm#fnB345</p> <p>USA : http://www.nmfs.noaa.gov/ia/iuu/iuu_nation alplan.pdf</p> <p>http://www.nmfs.noaa.gov/ia/slider_stories/ 2017/01/2017biennialreport.pdf</p> <p>Japan: http://www.fao.org/docrep/006/Y4698B/y4698b0g.htm</p> <p>Russia :</p>	0.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>[Japan/China Agreement; Japan/Korea Agreement] and a corresponding duty on the other party to take actions and notify these [Japan/China Agreement; Japan/Korea Agreement]. Japan will also provide notification in the event of seizure or enforcement action by one party against the other party's vessels [Japan/China Agreement; Japan/Korea Agreement].</p> <p>Russia: Russia have signed a bi-lateral agreement with the USA to combat illegal fishing and have agreement to share VMS data.</p> <p>Canada: Canada enforces MCS as members of various RFMO's to combat illegal fishing in these regions.</p>	<p>http://www.nmfs.noaa.gov/ia/iuu/level_play_field.pdf</p> <p>http://www.nmfs.noaa.gov/ole/slider_stories/2015/us_rus_sign_iuu_agreement.html</p> <p>http://www.fao.org/fishery/topic/18090/en</p> <p>Canada: http://www.dfo-mpo.gc.ca/international/mcs-activities-eng.htm</p>	
5.9 Designated ports	Are the ports used appropriate in terms of location and size for particular fleets or species? NB: The ideal is for designated ports assigned to fleets and species to be used.	Some designated ports in NEAFC, but not others.		2.0
5.10 Transshipment	Is transshipment allowed in coastal State or RFMO waters and is observation required through an RFMO programme or by coastal States for their own waters?	<p>USA: At sea transshipments in coastal State waters are allowed if authorised by that coastal State, or undertaken in conformity with appropriate management regulations. However, transshipment between U.S fisheries largely goes unchecked, and is only prohibited in certain fisheries. It is unlawful for vessels of the U.S. to transfer at sea directly or indirectly to any U.S harvested fish to a foreign vessel, while it is in the EEZ or within the boundary of any State unless it has been permitted.</p> <p>Russia: Transshipment of coastal catches is prohibited.</p> <p>Japan: There is no system in place for the authorisation of transshipment in Japan.</p> <p>Canada: There is little information available for transshipment in Canada but in certain areas herring caught by commercial fishers must be landed at a fish</p>	<p>USA: http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf</p> <p>http://www.nmfs.noaa.gov/sfa/laws_policies/msa/documents/msa_amended_2007.pdf</p> <p>Russia: https://www.sustainablefish.org/Programs/Improving-Wild-Fisheries/Seafood-Sectors-Supply-Chain-Roundtables/Crab/Russian-Far-East-Crab-SR</p> <p>Japan: http://www.fao.org/docrep/v9982e/v9982e28.htm#japan</p> <p>Canada: http://www.fao.org/fishery/psm/CAN_10/en</p>	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>landing station, a registered vessel or a vehicle licenced as a fish buying station under the Fisheries Act of British Colombia. Under the Coastal Fisheries Protection Regulations licences obtained from the Minister may authorise the transshipment of fish at sea by foreign vessels in Canadian waters.</p> <p>Norway: The Ministry may control or prohibit transshipment by for example only authorising it in specific ports or areas.</p>	<p>http://extwprlegs1.fao.org/docs/pdf/can1080.pdf</p> <p>Norway: https://www.regjeringen.no/globalassets/upload/FKD/Vedlegg/Diverse/2010/MarineResourcesAct.pdf</p>	
Average				0.99

5.3.2.6 Market State – Japan - Traceability and national requirements

Japan is the sole market State in this risk assessment. IUU products have been reported to have been imported into Japan and the sheer volume of imports that it receives could potentially increase the risk of IUU. As the supply chain of herring entering the Japanese market is unknown, it cannot be determined what the exact risk of IUU activities is however, Japan has a high governance score which suggests that once the product is in the supply chain, illegal actions are unlikely.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
6.1 Products of IUU fishing found in the final market State or within the States of the supply chain?	Has the market State or any of the States in the supply chain been identified as a non-compliant State by the EU (yellow / red card)?	Japan has not been identified by the EU IUU regulation yellow/red card system.	https://ec.europa.eu/fisheries/sites/fisheries/files/illegal-fishing-overview-of-existing-procedures-third-countries_en.pdf	0.0
	Has the market State or any of the States in the supply chain been identified as a “country of interest” within NOAA biennial reports?	Japan has not been identified by NOAA in any of its reports to congress.	NOAA, 2013; 2015; 2017 http://www.nmfs.noaa.gov/ia/iuu/iuu_overview.html	0.0
	Has the market State or any of the States in the supply chain been identified as having IUU fish landed	In Japan there are no reports of illegal fish being landed in its ports by RFMO or State sources.	Personal experience	0.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	in its ports? (NB: This may be identified by the port State itself, another State or by an RFMO).			
	Has the market State or any of the States in the supply chain been identified as having IUU fish landed in its ports by fishing vessel of any State by an NGO or in scientific or press reports?	Some limited illegal fishing is known to occur in Japanese waters that may be landed but as a percentage of the overall Japanese market this will be low in terms of volume and value.	Personal experience	1.0
6.2 Supply chain length, complexity and transparency	How many States and companies are in the supply chain?	The supply chain in this RA is unknown.	No information on the supply chain.	3.0
	How many different companies and transfers of ownership, amount of processing?	The supply chain in this RA is unknown.	No information on the supply chain.	3.0
	Is the chain publically known and transparent?	The supply chain in this RA is unknown.	No information on the supply chain.	3.0
6.3 High risk points in the supply chain	Are the ports in the supply chain (after the port of first landing) known or suspected PONCS and do the ports used have well documented and effective port control and inspection?	The ports in the supply chain are not specifically known. However, Japan is not recognised as a PONC or port.	Petrossian <i>et al.</i> , 2014	0.0
	Does processing occur in locations that seem out of context (e.g. locations with no history of processing, high costs incurred for transport, high cost of processing) or with history of laundering IUU catches?	The location of herring processing is unknown but seafood processing in Japan has decreased as it has moved to other Asian countries including China, Vietnam and Thailand. Canadian seafood products are also often processed to some degree before export.	http://www.agr.gc.ca/resources/prod/Internet-Internet/MISB-DGSIM/ATS-SEA/PDF/6770-eng.pdf	2.0
6.4 Corruption	What is the WB corruption index for the port State? (see WB Governance Indicators). Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.	Japan- 91%. This high governance score suggests that illegal actions once in the supply chain would be unlikely in Japan.	WBGi 2012	0.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
6.6 Post landing inspections	Performance of spot audits at key transport hubs and border inspection points?	There is no information on spot audits being carried out at key transport hubs and BIPs. However, there are clear indicators this does occur, at least in the tuna industry, with a consignment if tuna being refused entry.	DGIPOL, 2013 Fisheries Agency of Japan, 2004 http://www.oecd.org/agriculture/ http://www.jfa.maff.go.jp/e/index.html	2.0
	Are inspections carried out on the fish after landings e.g. by customs, BIPs and in transit?	When a consignment arrives at a Japanese port a 'Notice of Customs Clearance' is sent to the addressee from a customs office and a customs clearance procedure is initiated. In some cases a health and sanitary certificate must also accompany the import notification form. Food is then quarantined and inspected to ensure it complies with Food Sanitation Law. Consignments with a past record of non-compliance will often require further examination. Some fish require approval for import prior to customs clearance procedures (e.g. those governed by import quotas or by international conventions or agreements).	http://www.fao.org/docrep/008/y5924e/y5924e06.htm	1.5
6.6 Independent Verifications	Is supply chain MSC CoC certified?	As the supply chain is not known this is undetermined. However, there are some herring fisheries which are MCS certified although it is unknown whether these fisheries are sourced and if so, are sourced through MSC CoC supply chains.	https://fisheries.msc.org/en/fisheries/@@search?q=herring&start=0&stop=10&_start=fishery_name%3Asequence&end=fishery_name%3Asequence&start=species%3Asequence&end=species%3Asequence&start=gear_type%3Asequence&end=gear_type%3Asequence&start=status%3Asequence&end=status%3Asequence&search=search	2.5
	Non-MSC Supply chain and traceability audits (due diligence) conducted?	Marine Eco-Label (MEL) Japan is a seafood certification scheme. Distributing organisations wishing to handle products from MEL-Japan certified fisheries can voluntarily apply for chain of custody certification. It is unknown if this covers herring.	ftp://ftp.fao.org/fi/DOCUMENT/COFI/cofift13/5e.pdf	2.5
6.7 CDS / CC certification	Do catch documentation schemes exist for the species?	In compliance with international fishery organisations, Japan has implemented documentation schemes but these only cover several tuna and tooth fish species.	https://www.oecd.org/tad/fisheries/34429748.pdf	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
6.8 Processing or transshipment vessels involved in market chain.	If transshipment or processing onboard a Klondiker or mother vessels is allowed (licensed) in the fishery, are the Klondiker and transshipment (reefer) vessels on the relevant whitelists (authorised) or blacklists (IUU)?	There was no information on whether processing vessels are used in the supply chain.		3.0
	Are there independent observer programmes on non-fishing vessels?	There are no independent observer programmes on non-fishing vessels, although there are no support vessels in the fishery and transshipment at sea is illegal.	NPAFC, 2015 Information from the client.	3.0
Average				1.81

5.3.3 Recommendations

5.3.3.1 *Fishing vessels, legal personalities and companies*

- Information is required on the fishing vessels, legal personalities and companies involved in all stages throughout the supply chain to provide a more accurate assessment of individual supply chains entering the Japanese market.

5.3.3.2 *Fisheries*

- Information is required on the specific fisheries sourced that supply Japan.
- Stock assessments are undertaken for various fisheries but it is unknown which supply Japan and therefore limited knowledge on status of specific stocks. Wherever possible, MSC certified products should be sourced through MSC CoC certified supply chains.
- Engage in working towards MSC certification for fisheries that supply Japan.

5.3.3.3 *Flag State*

- Complete vessel and fisher identification, including license and registration, as well as any unique vessel identifiers should be obtained for all product sourced. As all of the flag States involved have the capability to produce a catch certificate, a catch certificate should be obtained in all cases, and accompany the product.
- Regular forensic audits of the supply chain should be carried out and include administrative checks of the catching vessels. The case where any product is sourced from another coastal State, detailed information on the nature of the agreement should be obtained.
- Limited public information on flag State vessels reduces the level of detail that can be provided for this risk assessment and therefore improvements should be made on data availability.
- Further information on the enforcement of control requirements is required.

5.3.3.4 *Coastal State*

- In the case where any product is sourced from flag State different to the coastal State, detailed information on the nature of the agreement should be obtained (whether private or State to State). In addition, full details of those vessels fishing in other coastal State waters should be obtained.
- Forensic audits of the supply chain should be tiered to ensure higher risk coastal States, i.e., Japan and Russia, are examined in more detail. Furthermore, these audits should provide reassurances that catch was not obtained from the high seas.
- Further information should be collected on the implementation of coastal State controls as the level of publically available information is limited.
- Information on transshipment controls within in their coastal waters is required.
- Coastal States should progress to become contracting/ cooperative non- members of the various multi-lateral agreements.

5.3.3.5 *Port State*

- Transshipment within the supply chain should be avoided. In cases where this is unavoidable, accompanying documentation, including details of any independent verification needs to be obtained.

- Where possible, engage both Japan and Russia to ratify the PSMA.

5.3.3.6 Market State

- Ensure all product is accompanied by a catch certificate, as well as any accompanying documentation, notably transportation (including transshipment) and transformation (processing).
- Obtain a list of all possible intermediary companies and States involved in the supply of product.
- Carry out regular forensic audits of the supply chain, examining any links in custody, and the associated companies and States.
- Ensure requirements for a clear and transparent supply chain are communicated throughout the chain of custody.
- Wherever possible, source herring direct from the supplier, or with limited supply chain complexity and where possible from MSC certified sources.

NB: It should be noted that the IUU risk assessment carried out is limited in scope, analysing the risk that IUU fish may enter the supply chain from a particular fishery. It does not analyse the individual supply chains present and this would require a traceability assessment to be carried out which has not been done in this case.

5.4 Jumbo flying squid

5.4.1 Executive Summary

An IUU risk assessment has been carried out for jumbo flying squid (*Dosidicus gigas*), caught predominantly by the Peruvian, and to a lesser extent Chilean jigging fleets, with some catches also made by the Ecuadorian and Mexican jigging fleets (FAO, 2017; <http://www.seaaroundus.org/data/#/fishing-entity>). These fisheries occur predominantly in the coastal waters of Peru, but also to a lesser extent in Ecuador, and the Pacific waters of Chile and Mexico (FAO77 and 87).

The IUU risk assessment is designed to provide an estimate of the potential for IUU catch to enter a particular supply chain, identify potential risks in the supply chain from the fishery through to the market place and to then identify where interventions are possible to reduce and minimise this risk. It will not be able to indicate the level of risk that occurs once a fishery has entered the supply chain and it is recommended that a traceability benchmarking assessment or similar review of the supply chain is conducted to evaluate this risk.

The market State for this risk assessment is purely Japan. The main risk pertaining to Japan as a market State is the potential for complicated supply chains that may be taken before the product reaches the final consumer, including between various 3rd countries and legal entities. This is compounded overall by the lack of information available on the specific supply chains.

Table 10 Average score (Jumbo flying squid) for the six key areas in the risk assessment.

Key risk areas:	Score
Fishing vessels, legal personalities and companies	2.33
Fisheries – Jumbo flying squid (<i>Dosidicus gigas</i>) – Jigging	1.37
Flag State – Peru (most likely source), also Chile, Ecuador, Mexico and Japan	1.66
Coastal State – Peru (most likely source), also Chile, Ecuador and Mexico	1.70
Port State – Peru (most likely source), also Chile, Ecuador and Mexico	1.46
Market State – Japan	1.87
Average	1.73

Key:

Colour	Min	Max	Risk	Description
	>0.0	<=0.6	No or minimal risk	Little or no action required
	>0.6	<=1.1	Very low risk	Some minor actions may be required, but risk level is very low
	>1.2	<=1.8	Low	Risk level is low, but some particular elements may require mitigating measures to be put in place.
	>1.8	<=2.4	Medium	Medium level of risk. Particular scoring elements may need to be addressed and mitigated against.
	>2.4	<=3.0	High risk	High level of risk. One or more elements have substantial risks associated with them. Scores of this level may suggest sourcing from a different fishery.

5.4.2 Identification

This risk assessment addresses the following scope:

Table 11 Identification of scope of the IUU risk assessment.

Species	Jumbo flying squid (<i>Dosidicus gigas</i>)
Area	FAO 67, 77 and 87 (NE, central eastern and SE Pacific) Japan has reported no catches within the last 5 years, with the majority being caught by, and landed in, Peru (FAO, 2017)
Gear	Jigging
Fleet	Peru (most likely source), also Chile, Ecuador and Mexico.
Coastal States / RFMO:	Peru (most likely source), also Chile, Ecuador and Mexico
Port State:	Peru (most likely source), also Chile, Ecuador and Mexico.
Market State:	Japan

5.4.2.1 Fishing vessels, legal personalities and companies.

No details were provided on the fishing vessels, legal personalities or companies involved in the supply chain, and the supply chain may involve any and all of the fisheries in Chile, Peru, Ecuador and Mexico. As no information on the vessel lists was provided, no corroboration with authorised vessel lists or alternatively, with vessel IUU lists, could be made. This is also compounded by the lack of a clear IUU list within the squid fishery and the large amount of fisheries able to access it, including artisanal fisheries operating close from shore. While incidences of IUU do not appear overly high in the fishery, the lack of specific information on the fishery and the large geographical range of the fishery and comparatively easy access mean that the residual risk of IUU in the fishery has to be considered high.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
1.1 Vessel/Fisher Identification	Vessel identification e.g. vessel name, callsign, country registration number and national and RFMO authorisations to fish (either inside national waters or outside on the high seas or in other zones) is complete to enable identification.	No information or list of the vessels in the fishery under assessment was available. The jumbo flying squid fishery, is a relatively newly exploited fishery, with significant catches only starting from 2000 onwards. However, jumbo squid, particularly in the SE Pacific is seen at high risk of IUU. In addition, large periods appear to have occurred where no catches were reported.	SPRFMO-SC, 2016 ^a WWF, 2015	3.0
	Are vessels required to have unique IDs?	Therefore, as no information on the fleet was available, a precautionary approach must be taken.		3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are each vessel, captain(s), owner and beneficial owner and agent identified as far as possible, this should ideally be transparent?	There are no data on the vessels, owners and masters available in the public domain.	Information from the client	3.0
1.2 Vessels on IUU lists.	Are any of the vessels listed in the RA scope on the IUU Lists of RFMOs, (NGOs to be considered but not as clear evidence as evidential value to include is not of the required standard)?	There is no information on the fleet under assessment aside from the flag of the vessels. While there is no indication that any Japanese flagged vessels are IUU listed, several vessels on the combined IUU list were previously flagged to Japan. There are two instances of IUU listings associated with Peru, including a current listing for a horse mackerel transshipment vessel, which is not associated with the squid fishery. There is one instance of an IUU flagged vessel linked with Mexico, but this is associated with the tuna longline fishery. There are several instances of current IUU listings for Ecuadorian flags, but again these are associated with the tuna fishery.	Information from the client. http://iuu-vessels.org/iuu/iuu/search https://www.undercurrentnews.com/2017/04/10/peru-fishing-body-denounces-chinese-boats-illegally-fishing-giant-squid/ http://iuriskintelligence.com/chinese-squid-jiggers-south-african-waters-illegal-fishing-innocent-passage/	2.0
	Are any of the legal personalities listed in the RA scope listed on the IUU lists of nationals and companies involved in IUU?	As the legal entities and beneficial owners of the fishery under assessment could not be corroborated, it is not clear if these are in any way linked to the IUU listings in the combined IUU list.	Information from the client. http://iuu-vessels.org/iuu/iuu/search	3.0
	Is there any evidence of unlicensed fishing occurring?	As the legal entities and beneficial owners of the fishery under assessment could not be corroborated, it is not clear if these are in any way linked to the IUU listings in the combined IUU list.	Information from the client. http://iuu-vessels.org/iuu/iuu/search	3.0
	Are all of the vessels listed on the RA scope listed on authorised (white) lists for RFMOs and/or national authorised lists?	There is no information on the vessels in the fishery under assessment, and as such this could not be corroborated against any white list. In any case, the only relevant SPRFMO only lists those vessels fishing on the high seas, not those authorised to fish within a coastal State's EEZ. This list includes squid jiggers but only Chinese flagged.	Information from the client http://www.sprfmo.int/data/record-of-vessels/	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
1.3 IUU fishing carried out by vessels flying its flag, by its nationals or by companies based in that country.	Are the history, nature, circumstances, extent and gravity of the manifestations of IUU fishing as listed in EU carding process by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	No vessels flagged to either Chile, Ecuador, Japan, Mexico or Peru, associated with the squid fishing industry, have been identified by the EU carding process under the IUU Regulation.	https://ec.europa.eu/fisheries/cfp/illegal_fishing/info_en	0.0
	Are the history, nature, circumstances, extent and gravity of the manifestations of IUU fishing as listed in the NOAA's biennial reports by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	Chile, Japan and Peru have not been identified or considered a country of interest in NOAA's biennial reports. Ecuador has been identified in a number of occasions in NOAA's biennial reports, although this has been associated with the tuna fishery. Mexico has been identified several times by NOAA's biennial reports, again for tuna related fishing activities, and was eventually negatively certified for bycatch related activities in its tuna fishery in 2015 and 2017.	NOAA; 2011; 2013; 2015; 2017	1.0
	Are there scientific and market analyses defining the level of IUU (e.g. RFMO reports) conducted by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	There are indications that aspects of the jumbo squid fishery, in particular, transshipment, may not be adequately reported, and that reporting of squid data may be problematic in cases where vessels stay at sea for extended periods. Furthermore, the SPRFMO specifically identified a Peruvian flagged transshipment vessel, the Damanzaihao, for illegal activities, albeit related to the horse mackerel fishery. Because there was no information obtained on the fishery under assessment, details on legal and beneficial ownership could not be corroborated.	SPRFMO CTC, 2016; 2017	2.0
	Are there NGO and Press reports of IUU incidents (specific to vessels/companies) conducted by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	The jumbo squid fishery is considered to be at high risk of IUU in both the Southeast and Eastern Central Pacific. However, there is no specific mention of vessels or legal entities involved in this report. A number of other press reports also cite illegal fishing in the squid fishery, including the jumbo squid, but these are typically related to Chinese vessels.	WWF, 2015 https://www.undercurrentnews.com/2016/10/04/peru-argentina-seek-crackdown-on-illegal-squid-fishing-amid-supply-shortage/ http://www.iuuwatch.eu/2017/03/spain-claims-chinese-squid-imported-illegally/	2.0
Average				2.33

5.4.2.2 Fisheries – Jumbo flying squid (*Dosidicus gigas*) – Jigging (sustainability, impacts)

The Jumbo flying squid in the Southeast Pacific is mainly fished by artisanal fleets of Chile and Peru, as well as commercial jiggers in the Peruvian EEZ. Off Mexico, fisheries are a mixture of both artisanal and semi industrial fisheries. Landings of this fishery in the Southeast Pacific have increased dramatically over the last 20 years, from relatively insignificant catches, to becoming one of the most important squid fisheries in the world. Conversely in Mexico, landings have plummeted.

The fishery is predominantly conducted through jigging, which has minimal impact on the environment and is highly selective. The fishery itself, while being relatively new and lacking an established management regime, is still generally managed through a mixture of catch limitations and access restricted to licensed vessels. Furthermore, squid is generally thought to be in a healthy state throughout its range although it must also be noted that there is a lack of historical data by which conclusive benchmarks may be established, while the species itself is susceptible to environmental changes.

Specific Risk	Specific Questions to Address	Description	Evidence	Score
2.1 Status of fisheries and sustainability	Are fisheries operated with control on removals e.g. quota and / or effort limits?	<p>Currently no quotas or effort restrictions are in place for the fishery on the high seas, although recent SPRFMO research has had then intention of establishing guidelines for the establishment of these.</p> <p>Within the main EEZs where the fishery occurs (Peru and Chile), TACs may be set, usually based on historical CPUE, often complemented by acoustic surveys, and ensuring that a specific percentage of stock is permitted to spawn.</p> <p>As such, TACs are usually flexible from year to year as well as within the year, and based on both real time, and historical records.</p> <p>In Mexico, controls on removals are in place, including both a requirement for licenses, and setting a target “proportional escapement value” although it is unclear how this is enforced.</p> <p>In Ecuador, management of the fishery is developing as it was only declared a spate fishery in 2014. Management is passive and no controls on removals are in place although vessels have to be licensed.</p> <p>Effort controls in terms limiting the fishery to permit holders only also are in place although these often will not include artisanal fisheries.</p>	<p>Arkhipkin, 2014</p> <p>MBA, 2014; 2015</p> <p>Morales-Bojórquez and Pacheco-Bedoya, 2016</p> <p>Rodhouse <i>et al.</i>, 2014</p> <p>SPRFMO-SC, 2016^a; 2016^b; 2016^c</p>	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are stock assessments available for species that use data on total removals (i.e. catch, bycatch, IUU and discards)?	Studies to identify different stocks with the Eastern Pacific have not identified any sub populations within the Humboldt current. However, the populations in the NE Pacific appear to be genetically distinct to those in the SE Pacific. Stock assessments are based on relative abundance data (CPUEs) and complemented by acoustic and trawl surveys. It is not clear if the stock assessments specifically consider removals resulting from bycatch and IUU in their analysis.	Arkhipkin, 2014 MBA, 2014; 2015 Morales-Bojórquez and Pacheco-Bedoya, 2016 SPRFMO-SC, 2016 ^a ; 2016 ^b ; 2016 ^c	1.0
	Are target and limit reference points defined for the fishery?	The characteristics of the squid life cycle (short life span, often multiple cohorts within a year), mean that a different approach is needed for fisheries management, as little information is generally available on the potential size of the exploitable stock. Furthermore, the relatively short history of the jumbo flying squid fishery mean that detailed knowledge of the potential impacts of fisheries activities are limited. As such, target and limit reference points are typically based on historical fishing levels, and are often complemented by CPUE returns and acoustic surveys other stock assessment.	Arkhipkin, 2014 MBA, 2014; 2015 Rodhouse <i>et al.</i> , 2014 SPRFMO-SC, 2016 ^a ; 2016 ^b ; 2016 ^c	2.0
	Are fisheries operating at a level at or under MSY?	Despite steadily increasing exploitation rates, provisional stock assessments for the jumbo flying squid in the SE Pacific suggest that the stock is healthy and in good state both within the various EEZs and on the high seas, although reference points for biomass are difficult to establish due to the reasons stated above. In the NE Pacific, stocks are also considered healthy and within acceptable MSY ranges. However, it should be noted that these populations are highly vulnerable to environmental factors (particularly those associated with El Niño) and this status can radically change from year to year. Indeed, some popular press reports suggest annual dips in jumbo flying squid stocks such as off Chile and Peru.	Arkhipkin, 2014 FAO, 2016 MBA, 2014; 2015 Rodhouse <i>et al.</i> , 2014 SPRFMO-SC, 2016 ^a ; 2016 ^b ; 2016 ^c http://www.fao.org/in-action/globefish/market-reports/resource-detail/en/c/522583/ http://fis.com/fis/worldnews/worldnews.asp?monthyear=3-2016&day=8&id=82857&l=s&country=0&special=0&ndb=1&df=0	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are bycatch and ecosystem impacts known (and if different for IUU fishing)?	Jigging gear causes little or no damage to ecosystems, as it does not come into contact with the seabed, and there is virtually no bycatch of fish, seabirds, turtles and mammals, due to the high specificity of the fishing technique which uses no bait and is designed to snag squid by their tentacles. Squid may also be caught in trawl fisheries which are far more damaging and indiscriminate. However, it is understood that the fishing method is by jigging lines only.	Arkhipkin, 2014 MBA, 2014; 2015	0.0
	Is the fishery at or below capacity?	There are no reports or evidence of overcapacity in the fishery.	Arkhipkin, 2014 FAO, 2016 MBA, 2014; 2015 SPRFMO-SC, 2016 ^a ; 2016 ^b ; 2016 ^c	0.0
2.2 History of IUU	Do previous incidences of IUU exist within the fishery?	Spain has recently claimed that Chinese caught jumbo flying squid, was caught illegally, and impounded a shipment, although the motives behind this may have been political. However, while jumbo flying squid in the eastern Pacific is considered to be at high risk of IUU, there is little indication of high levels of IUU.	WWF, 2015 http://www.seafoodsource.com/news/supply-trade/spain-claims-chinese-squid-imported-illegally	1.0
2.3 Access to fishery	Are fisheries authorised through a fishing licence / permit system?	Fisheries in the EEZs of Peru, Chile and Mexico are required to operate under a licensed system, although this does not always extend to the artisanal fishery which can be considerable. There is no information on the licensing requirements for the squid fishery in Ecuador, which is thought to be largely artisanal. On the high seas, all vessels operating have to be registered under the SPRFMO, which manages jumbo flying squid stocks.	Arkhipkin, 2014 SPRFMO-SC, 2016 ^a	1.0
2.4 Price	Data on species market prices (domestic/international) Low price fish (<US\$1000/t) are generally lower risk (e.g. small pelagics), higher priced (>US\$5000/t) demersals (e.g. cod and haddock) will be higher risk, high value species are generally higher risk.	No specific data on market value of jumbo flying squid was found, but Japanese imports of cuttlefish and squid varied between US\$2,000 and US\$4,000 / mt over the last two years.	Globefish, 2016	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are any mitigation procedures that may be in place for high value species (e.g. catch documentation schemes, EU catch certificate requirements) in place (e.g. bêche de mer, bluefin tuna)?	No catch documentation scheme is in place for squid.	Arkhipkin, 2014 DGIPOL, 2013	3.0
2.5 MSC certification/ /FIP processes	Is there MSC certification for the fishery or is there a FIP in process? MSC certification requires IUU to be low or negligible and has checks to ensure this is the case. If the fishery is going through a FIP process as well/that may indicate improvement within the fishery e.g. Sri Lanka.	There are no MSC certified jumbo flying squid fisheries. However, a FIP, while not yet launched, for the Peruvian squid fishery, has been discussed at round table meetings.	https://fisheries.msc.org/en/fisheries/ https://www.sustainablefish.org/Programs/Improving-Wild-Fisheries/Seafood-Sectors-Supply-Chain-Roundtables/Squid-and-Octopus/South-American-Squid-SR	2.0
Average				1.37

5.4.2.3 Flag State – Peru (most likely source), also Chile, Ecuador and Mexico (activities, corruption, control systems in place)

Peru is by far the largest producer of jumbo flying squid with 77.7% of the global catch in 2015 (FAO, 2017). Chile is the next important with 21.5% while both Ecuador and Mexico catch small amounts, making up the remainder. Both Japan and the US, have had historical fisheries, but no catches have been recorded in the last three years. In any case, these catches were largely insignificant next to Peruvian and Chilean catches (and earlier Mexican catches, which have recently declined massively, but mainly from a move to different fishing techniques (away from drift netting).

All of the flag States in the fishery under assessment appear to have strong management regimes, although several, including Peru, are often impacted by a lack of transparency over control procedures. Furthermore, several of the port States, notably Peru, have not become party to several international fisheries agreements, or produced a NPOA-IUU while both Ecuador and Mexico, while relatively small contributors overall, have been positively identified, and in Mexico's case, given a negative certification, by NOAA:

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
3.1 Is IUU associated with the flag State?	Has the flag State been identified as a non-compliant State by the EU (yellow / red card)?	None of the flag States involved in the fishery under assessment have been identified as a non-compliant State by the EU IUU regulation yellow / red card system.	https://ec.europa.eu/fisheries/cfp/illegal_fishing/info_en	0.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Has the flag State been identified as a “country of interest” within NOAA biennial reports?	Both Ecuador and Mexico have been consistently identified in NOAA’s biennial reports to congress, with Mexico obtaining a negative certification in both 2015 and 2017. Neither Chile nor Peru have been identified.	NOAA, 2011; 2013; 2015; 2017	2.0
	Has the flag State been identified as a flag of non-compliance by any other State(s) or by an RFMO?	Peru, during the 2017 meeting of the South Pacific Regional Fisheries Management Organisation (SPRFMO) Compliance and Technical Committee (CTC) presented an update on the Damanzaihao, which had been detected as engaged in flag hopping before being flagged Peru, after engaging in fishing operations without authorisation in the SPRFMO area under a Russian and eventually Mongolian flag. This issue is currently under investigation and the vessel has been impounded by Peruvian authorities since 2014. It remains on the SPRFMO IUU list. There is no indication that any of the other flag States involved in the fishery under assessment have been identified as non-compliant by other RFMOs, such as the IATTC or CCAMLR.	SPRFMO-CTC, 2014; 2015; 2016 and 2017 https://www.iattc.org/Meetings/Meetings2014-2017ENG.htm https://www.iattc.org/Meetings/Meetings2015/June/PDFs/COR-06-Report.pdf http://www.sprfmo.int/assets/01-Commission-2017/ANNEXES/COMM5-Report-ANNEX-6-Final-IUU-List-2017-p37.pdf	2.0
	Has the flag State been identified as a flag of non-compliance or flag of convenience by an NGO or in scientific or press reports?	There are some NGO reports of illegal fishing, mostly associated with the use of gillnets in Mexico, but there are no widespread reports of illegal fishing with the flag States. Scientific reports indicate some historical incidences of IUU associated with the southern ocean fisheries, of Chile, but nothing has been noted in recent years.	Osterblom <i>et al.</i> , 2010 http://www.greenpeace.org/international/en/news/Blogs/makingwaves/vaquitas-mexico-findings/blog/53631/ https://www.worldwildlife.org/species/vaquita	1.0
3.2 Corruption	What is the WB corruption index for the flag State? (see WB Governance Indicators). Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.	Of the flag States in the fishery under assessment, only Chile occurs in the top 10-40% with Ecuador, and Mexico in the bottom 30% and Peru in the bottom 40-70%.	http://info.worldbank.org/governance/wgi/#home	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
3.3 Vessel Registration and Licensing	Are all fishing vessels required to be registered and flagged in the flag State required to have a licence?	Ecuador, Peru, Mexico and Chile all have a national licensing system. However, this does not always extend to the artisanal fishery. Ecuador manages its fisheries licenses through the Subsecretaria de Recursos Pesqueros.	Arkhipkin <i>et al.</i> , 2015 MBA, 2014; 2015 Chile - http://www.subpesca.cl/institucional/602/w3-channel.html Ecuador - Morales-Bojórquez and Pacheco-Bedoya, 2016 http://www.viceministerioap.gob.ec/wp-content/uploads/downloads/2016/07/Informe-de-Gesti%C3%B3n-VMAP.pdf http://www.viceministerioap.gob.ec/subpesc-a430-registro-nacional-para-embarcaciones-pesqueras.html Peru - http://www.produce.gob.pe/index.php/ministerio/sector-pesca Mexico - http://www.gob.mx/conapesca	1.0
	Is there a licensing and quota allocation system in place? Is this system clear and transparent?	Information on licensing and quota arrangements are provided on the respective fishing authority webpages and are stated within the various national decrees. Furthermore, annual reports available online from Ecuador's Subsecretaria de Pesca provide information on the licensing systems and quota arrangements. However, artisanal and industrial fishers have often clashed over allocation of quotas (for example in both Peru and Chile).	Arkhipkin <i>et al.</i> , 2015 FAO, 2010 Peru and Chile – MBA, 2015 Mexico - MBA, 2014 https://www.oecd.org/mexico/34430128.pdf Ecuador - Personal communications http://www.viceministerioap.gob.ec/wp-content/uploads/downloads/2016/07/Informe-de-Gesti%C3%B3n-VMAP.pdf	1.0
	Is this broken down by domestic waters and ABNJ?	Licences are broken down between different types of fisheries, which nominally will have different types of activities and fisheries to exploit. While this does not necessarily translate to separation between domestic and ABNJ waters, the nature of the fisheries means this is often implicit in the type of licence. In the case of Peru, licence types are broken down between the different types and regions and this information is available online.	MBA, 2014; 2015 Chile - http://www.subpesca.cl/institucional/602/w3-channel.html Ecuador – Personal communications http://www.viceministerioap.gob.ec/subpesc-a430-registro-nacional-para-embarcaciones-pesqueras.html http://www.viceministerioap.gob.ec/wp-content/uploads/downloads/2016/07/Informe-de-Gesti%C3%B3n-VMAP.pdf	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
			Peru - http://www.produce.gob.pe/index.php/ministerio/sector-pesca - http://www.produce.gob.pe/index.php/shortcode/servicios-pesca/embarcaciones-pesqueras Mexico - http://www.gob.mx/conapesca and http://www.oecd.org/agriculture/	
	Is there a public list of licensed / authorised vessels?	Public lists of lists of licensed vessels are available for some fisheries within each of the fisheries under assessment but not all, particularly the smaller scale artisanal fisheries. In the case of Peru, a list of fishing vessel licences is controlled by the Ministerio de la Producción (PRODUCE) and is available online. This provides detail on the status and type of license, type of fishing gear, as well as the owner. With Chile, the next largest producer of jumbo flying squid, the list of vessels is held by Sernapesca, the body responsible for enforcing legislative instruments of the Subsecretaría de Pesca y Acuicultura de Chile.	Chile - http://www.subpesca.cl/institucional/602/w3-channel.html - http://www.subpesca.cl/servicios/603/w3-article-80192.html Ecuador - http://www.viceministerioap.gob.ec/subpesc-a430-registro-nacional-para-embarcaciones-pesqueras.html Peru - http://www.produce.gob.pe/index.php/ministerio/sector-pesca - http://www.produce.gob.pe/index.php/shortcode/servicios-pesca/embarcaciones-pesqueras Mexico - http://www.gob.mx/conapesca - http://www.oecd.org/agriculture/	2.0
3.4 Fair transparent fisheries agreements	Are fair transparent fisheries agreements in place with coastal States?	There is no information available on fisheries agreements with coastal States, and it is not clear if any exist. However, none of the flag States involved are renowned DWFNs.	Chile - http://www.subpesca.cl/institucional/602/w3-channel.html Ecuador - http://www.viceministerioap.gob.ec/subpesc-a430-registro-nacional-para-embarcaciones-pesqueras.html Peru - http://www.produce.gob.pe/index.php/ministerio/sector-pesca Mexico - http://www.gob.mx/conapesca	2.0
3.5 RFMO	Membership: Is the flag State a Member of the relevant RFMOs?	All of the flag States are members of the RFMOs within which their fisheries occur, including when relevant, CCAMLR, SPRFMO and IATTC. Note, that Mexico is	https://www.iattc.org/ https://www.sprfmo.int/ https://www.ccamlr.org/	0.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		not a member of the SPRFMO, with its fishery occurring in the northern hemisphere and therefore not under the remit of the SPRFMO.		
	Compliance: Is the flag State compliant with all RFMO requirements and data submissions?	There is no indication that the flag States in the fishery under assessment are not in compliance with all RFMO requirements and data submissions. However, in the case of IATTC, under which Ecuador a significant portion of Ecuador's fleet operates, flag State compliance is not transparent. Furthermore, there are indications that Ecuador's compliance with IATTC's CMMs has been inadequate in the past, as per NOAA's reports to congress.	NOAA, 2015; 2017 https://www.iattc.org/ https://www.sprfmo.int/ https://www.ccamlr.org/	2.0
	Engagement: Does the flag State submit additional information / papers to RFMO and actively participate in scientific and compliance committee meetings?	There is every indication that the flag States in the fishery under assessment submit additional information and papers to the relevant RFMOs.	https://www.iattc.org/Meetings/Meetings2014-2017ENG.htm https://www.ccamlr.org/en/meetings/meetings https://www.sprfmo.int/meetings/5/	0.0
3.6 Multi-lateral agreements e.g. FAO Guidelines or UNCLOS	Is the flag State a contracting/cooperative non-member party to multi-lateral agreements e.g. UNCLOS, UNFSA, FAO Agreements? Implementation of the provisions of the Convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks	Chile, Mexico and Peru have accepted the UN Compliance Agreement. Ecuador has not accepted the UN Compliance Agreement. Chile, Ecuador is party to UNFSA and UNCLOS. Peru is not party to either UNFSA or UNCLOS. Mexico is party to UNFSA but not to UNCLOS.	http://www.fao.org/fileadmin/user_upload/legals/docs/012t-e.pdf http://www.un.org/depts/los/convention_agreements/convention_overview_fish_stocks.htm	2.0
3.7 NPOAs (IUU + others)	Is there a specific National Plan of Action (NPOA) in place to combat IUU?	Chile has published an NPOA-IUU which is available on the public domain. Ecuador has developed a NPOA-IUU, although this has yet to be formally released. Neither Peru nor Mexico have an NPOA-IUU in place.	Ecuador - Personal communications http://www.fao.org/fishery/ipoa-iuu/npoa/en	2.0
3.8 Flag State Control	How and to what level is flag State control exercised in terms of administrative controls and checks? (e.g. logbook check against VMS and administrative checks, catch certificate verification includes physical inspection)	There is no indication that these controls are not in place and are inadequate, with a report of fisheries governance by Hilborn and Melnychuk (2015) indicating medium control over fisheries for Chile, Peru and Mexico (Ecuador is not included). Personal communications with Ecuadorian fisheries authorities indicate a number of administrative controls	Hilborn and Melnychuk, 2015 Chile – Ministry of Economy and Energy, 2004 http://www.subpesca.cl/institucional/602/w3-channel.html Ecuador - http://www.viceministerioap.gob.ec/subpesc	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>and checks are carried out, including for the verification of catch certificates.</p> <p>Furthermore, reports from both Chilean and Peruvian authorities suggest extensive administrative controls carried out of the fishing fleet.</p> <p>Mexico has a national fish inspection and surveillance programme which amongst other matters, verifies the legal origin of fishing products.</p>	<p>a430-registro-nacional-para-embarcaciones-pesqueras.html http://www.viceministerioap.gob.ec/wp-content/uploads/downloads/2016/07/Informe-de-Gesti%C3%B3n-VMAP.pdf Personal communications Peru http://www.produce.gob.pe/index.php/ministerio/sector-pesca Mexico http://www.gob.mx/conapesca http://www.oecd.org/agriculture/ https://www.oecd.org/mexico/34430128.pdf</p>	
	How and to what level, is flag State control exercised in terms of inspections on flag State vessels (at sea and in port)?	<p>There is no information available on the specific levels of inspections carried out on flag State vessels except for Ecuador which publishes comprehensive annual reports on the number of inspections across the different types of vessels and ports.</p> <p>Chile has a clear regime for inspections on vessels, both at sea and in port, while personal communications with Ecuadorian fishing authorities indicate that inspections are also widely carried out.</p> <p>However, in general information on these inspections are not available and it is not possible to determine if the level is adequate.</p>	<p>http://fisheries.sites.olt.ubc.ca/files/2016/08/14-2.pdf Chile - Ministry of Economy and Energy, 2004 http://www.subpesca.cl/institucional/602/w3-channel.html Ecuador http://www.viceministerioap.gob.ec/wp-content/uploads/downloads/2016/07/Informe-de-Gesti%C3%B3n-VMAP.pdf Personal communications Peru http://www.produce.gob.pe/index.php/ministerio/sector-pesca Mexico http://www.gob.mx/conapesca http://www.oecd.org/agriculture/ http://fisheries.sites.olt.ubc.ca/files/2016/08/14-2.pdf</p>	2.0
	How and to what level is flag State control exercised in terms of remote surveillance (e.g. aerial surveillance, VMS and AIS)?	<p>VMS and aerial surveillance is used throughout the flag States, but it is unclear how widespread this is and whether this is adequate to cover the fishery. However, it is likely that VMS is not used in small artisanal vessels.</p>	<p>http://fisheries.sites.olt.ubc.ca/files/2016/08/14-2.pdf Chile - Ministry of Economy and Energy, 2004 http://www.subpesca.cl/institucional/602/w3-channel.html Ecuador http://www.viceministerioap.gob.ec/subpesca430-registro-nacional-para-embarcaciones-pesqueras.html</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
			Peru - http://www.produce.gob.pe/index.php/ministerio/sector-pesca Mexico - http://www.gob.mx/conapesc http://www.oecd.org/agriculture/	
	How and to what level is flag State control exercised in terms of observer programmes?	Observer programmes are in use throughout the fishery but as per above, the use and application across the different fisheries is not clear.	http://fisheries.sites.olt.ubc.ca/files/2016/08/14-2.pdf Chile - Ministry of Economy and Energy, 2004 http://www.subpesca.cl/institucional/602/w3-channel.html Ecuador - http://www.viceministerioap.gob.ec/subpesca430-registro-nacional-para-embarcaciones-pesqueras.html Personal communications. Peru - http://www.produce.gob.pe/index.php/ministerio/sector-pesca Mexico - http://www.gob.mx/conapesc http://www.oecd.org/agriculture/	2.0
3.9 Flag State Cooperation	Does the flag State work with neighbouring or regional States to enhance MCS in their own waters and fleets?	There is evidence that Peru, Chile and Ecuador are coordinating efforts to enhance MCS. It is not clear to what extent Mexico cooperates with neighbouring States, and indeed recent negative certification by the UNS, suggest low levels of cooperation. However, due to the likely low contribution of Mexican caught jumbo flying squid, the risk is considered less.	NOAA, 2015; 2017 Osterblom, 2013 http://www.fis.com/fis/worldnews/worldnews.asp?monthyear=12-2016&day=22&id=89015&l=e&country=&special=&ndb=1&df=1	1.0
	VMS sharing is implemented?	VMS sharing is not implemented by Ecuador, and there is not information if either of the other flag States carry out VMS sharing either.	http://fisheries.sites.olt.ubc.ca/files/2016/08/14-2.pdf Chile - Ministry of Economy and Energy, 2004 http://www.subpesca.cl/institucional/602/w3-channel.html Ecuador - Personal communications	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
			http://www.viceministerioap.gob.ec/subpesc a430-registro-nacional-para- embarcaciones-pesqueras.html Peru - http://www.produce.gob.pe/index.php/ministerio/sector-pesca Mexico - http://www.gob.mx/conapesc http://www.oecd.org/agriculture/	
Average				1.66

5.4.2.4 Coastal State – Peru (most likely source), also Chile, Ecuador and Mexico (corruption, control systems in place). High Seas – SPRFMO.

Jumbo flying squid fisheries occur throughout the coastal waters of Chile, Peru, Ecuador and Mexico, as well as occurring on the high seas where they fall under the remit of the SPRFMO. As with the indicators of the flag States, all of the States appear to have credible organisation and management structures in place, including inspections and fisheries patrols, good cooperation with other coastal States and participation in the relevant RFMOs. However, as with the features of the flag State there is a lack of transparency over the control activities. Furthermore, issues identified by NOAA, have included activities conducted within both Ecuador's and Mexico's waters. Another reason for concern is the lack of information concerning any DWFNs which may be fishing with the coastal state's waters.

In the case of the SPRFMO, which is a relatively young RFMO, organisation and management of the fishery appears to be in its initial stages and primarily focused on developing scientific knowledge rather than enforcement and control. However, it has proven a useful tool for enforcement and cooperation between flag and coastal States.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
4.1 Is IUU fishing carried out / supported by fishing	Has the coastal State been identified as a non-compliant State by the EU (yellow / red card)?	None of the coastal States involved in the fishery under assessment have been identified as a non-compliant State by the EU IUU regulation yellow / red card system.	https://ec.europa.eu/fisheries/cfp/illegal_fishing/info_en	0.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
vessels operating in its maritime waters?	Has the coastal State been identified as a “country of interest” within NOAA biennial reports?	Both Ecuador and Mexico have been consistently identified in NOAA’s biennial reports to congress, with Mexico obtaining a negative certification in both 2015 and 2017. Neither Chile nor Peru have been identified.	NOAA, 2011; 2013; 2015; 2017	3.0
	Has the coastal State been identified as having IUU fishing carried out in its waters? (NB: This may be identified by the coastal State itself, another State or by an RFMO).	There is no indication by any RFMOs that IUU fishing has been carried out in any of the coastal States in the fishery. However, reports of unreported and illegal high seas within the SPRFMO convention area are prevalent.	SPRFMO-CTC, 2014; 2015; 2016 and 2017 http://www.seafoodsource.com/news/supply-trade/spain-claims-chinese-squid-imported-illegally	2.0
	Has the coastal State been identified as having IUU fishing carried out in its waters by fishing vessel of any State by an NGO or in scientific or press reports?	There are some NGO reports of illegal fishing, mostly associated with the use of gillnets in Mexico, but there are no widespread reports of illegal fishing with the flag States.	http://www.greenpeace.org/international/en/news/Blogs/makingwaves/vaquitas-mexico-findings/blog/53631/ https://www.worldwildlife.org/species/vaquita	1.0
4.2 Corruption	What is the WB corruption index for the Coastal State? (see WB Governance Indicators). Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.	Of the flag States in the fishery under assessment, only Chile occurs in the top 10-40% with Ecuador, and Mexico in the bottom 30% and Peru in the bottom 40-70%.	http://info.worldbank.org/governance/wgi/#home	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
4.3 Vessel Registration and Licensing	Are all fishing vessels fishing in the coastal State required to have a licence? (NB: Are there reports of proportion of vessels unlicensed (both national and international)?)	Licensing is a requirement for all of the coastal States under assessment. However, there is no information available of the proportion of unlicensed vessels operating within the fishery.	Arkhipkin <i>et al.</i> , 2015 MBA, 2014; 2015 Chile - http://www.subpesca.cl/institucional/602/w3-channel.html Ecuador - http://www.viceministerioap.gob.ec/subpesca430-registro-nacional-para-embarcaciones-pesqueras.html Morales-Bojórquez and Pacheco-Bedoya, 2016 Peru - http://www.produce.gob.pe/index.php/ministerio/sector-pesca Mexico - http://www.gob.mx/conapesca	1.0
	Is there a licensing and quota allocation system in place? Is this system clear and transparent?	Information on licensing and quota arrangements are provided on the respective fishing authority webpages and are stated within the various national decrees. Furthermore, artisanal and industrial fishers have often clashed over allocation of quotas (for example in both Peru and Chile).	Arkhipkin <i>et al.</i> , 2015 FAO, 2010 MBA, 2014; 2015 SubPesca, 2013 https://www.oecd.org/mexico/34430128.pdf Personal communications	1.0
	Is there a public list of licensed / authorised vessels?	Public lists of lists of licensed vessels are available for some fisheries within each of the fisheries under assessment but not all, particularly the smaller scale artisanal fisheries. Furthermore, there is no information available on any foreign flagged vessels operating in the coastal States under assessment,	Chile - http://www.subpesca.cl/institucional/602/w3-channel.html Ecuador - http://www.viceministerioap.gob.ec/subpesca430-registro-nacional-para-embarcaciones-pesqueras.html Peru - http://www.produce.gob.pe/index.php/ministerio/sector-pesca Mexico - http://www.gob.mx/conapesca http://www.oecd.org/agriculture/	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
4.4 Fair transparent fisheries agreements	Are fair transparent fisheries agreements in place with DWFNs?	There is no information available on fisheries agreements with DWFNs, and it is not clear if any exist.	Chile - http://www.subpesca.cl/institucional/602/w3-channel.html Ecuador – Personal communications http://www.viceministerioap.gob.ec/subpesca430-registro-nacional-para-embarcaciones-pesqueras.html Peru - http://www.produce.gob.pe/index.php/ministerio/sector-pesca Mexico - http://www.gob.mx/conapesca	3.0
	Are the details of these agreements public?	There is no information available on any agreements with DWFNs.	http://fisheries.sites.olt.ubc.ca/files/2016/08/14-2.pdf Chile - http://www.subpesca.cl/institucional/602/w3-channel.html Ecuador – Personal communications http://www.viceministerioap.gob.ec/subpesca430-registro-nacional-para-embarcaciones-pesqueras.html http://www.viceministerioap.gob.ec/wp-content/uploads/downloads/2016/07/Informe-de-Gesti%C3%B3n-VMAP.pdf Peru - http://www.produce.gob.pe/index.php/ministerio/sector-pesca Mexico - http://www.gob.mx/conapesca	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
4.5 Sanctions	Are sanctions enforced?	<p>Sanctions are enforced, and in the case of Ecuador, annual reports provide detail on the number of sanctions by industry, and these are set by the regulations established by the Viceministerio de Pesca y Acuicultura. These potentially involve criminal prosecutions.</p> <p>In the other coastal States, fisheries legislation may be prosecuted in criminal courts.</p> <p>However, in all cases there are no specific statistics to provide information on the potential likelihood of successful sanctions.</p> <p>Indeed in the case of Ecuador, the short statute of limitations means that prosecutions were not always able to be enforced, particularly in the case of large ocean going vessels which are at sea for a long time. However, this has since been extended, as was recognised by NOAA in 2017.</p>	<p>http://fisheries.sites.olt.ubc.ca/files/2016/08/14-2.pdf</p> <p>Chile – Ministry of Economy and Energy, 2004</p> <p>http://www.subpesca.cl/institucional/602/w3-channel.html</p> <p>Ecuador – Personal communications</p> <p>NOAA, 2015; 2017</p> <p>http://www.viceministerioap.gob.ec/subpesca430-registro-nacional-para-embarcaciones-pesqueras.html</p> <p>http://www.viceministerioap.gob.ec/wp-content/uploads/downloads/2016/07/Informe-de-Gesti%C3%B3n-VMAP.pdf</p> <p>Peru</p> <p>http://www.produce.gob.pe/index.php/ministerio/sector-pesca</p> <p>Mexico - http://www.gob.mx/conapesca</p> <p>https://www.oecd.org/mexico/34430128.pdf</p>	2.0
	Relative level of sanctions vs level of IUU fishing.	<p>A penalty system relating to enforcement within Chilean waters is outlined in Chile's NPOA-IUU, and include potential criminal sanctions.</p> <p>There is no transparent information available on the level of sanctions with respect to Peru and Mexico's sanctions, although criminal prosecutions may result.</p> <p>Ecuador's sanctions are established in the regulation and include criminal sanctions.</p>	<p>http://fisheries.sites.olt.ubc.ca/files/2016/08/14-2.pdf</p> <p>Chile</p> <p>http://www.subpesca.cl/institucional/602/w3-channel.html</p> <p>Ecuador – Personal communications</p> <p>http://www.viceministerioap.gob.ec/subpesca430-registro-nacional-para-embarcaciones-pesqueras.html</p> <p>http://www.viceministerioap.gob.ec/wp-content/uploads/downloads/2016/07/Informe-de-Gesti%C3%B3n-VMAP.pdf</p> <p>Peru</p> <p>http://www.produce.gob.pe/index.php/ministerio/sector-pesca</p> <p>Mexico - http://www.gob.mx/conapesca</p> <p>https://www.oecd.org/mexico/34430128.pdf</p>	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
4.6 RFMO	Membership: Are they a Member of the relevant RFMOs?	All of the coastal States are members of the RFMOs within which their fisheries occur, including when relevant, CCAMLR, SPRFMO and IATTC. Note, that Mexico is not a member of the SPRFMO, with its fishery occurring in the northern hemisphere and therefore not under the remit of the SPRFMO.	https://www.iattc.org/ https://www.sprfmo.int/ https://www.ccamlr.org/	0.0
	Compliance: is the coastal State compliant with all RFMO requirements and data submissions?	There is no indication that the coastal States in the fishery under assessment are not in compliance with all RFMO requirements and data submissions. However, in the case of IATTC, under which Ecuador a significant portion of Ecuador's fleet operates and its coastal waters overlap, compliance is not transparent. Furthermore, there are indications that Ecuador's compliance with IATTC's CMMs has been inadequate in the past, as per NOAA's reports to congress.	NOAA, 2015; 2017 https://www.iattc.org/ https://www.sprfmo.int/ https://www.ccamlr.org/	2.0
	Engagement: Does the coastal State submit additional information / papers to RFMO and actively participate in scientific and compliance committee meetings?	There is every indication that the coastal States in the fishery under assessment submit additional information and papers to the relevant RFMOs.	https://www.iattc.org/Meetings/Meetings2014-2017ENG.htm https://www.ccamlr.org/en/meetings/meetings https://www.sprfmo.int/meetings/5/	0.0
4.7 Multi-lateral agreements e.g. FAO Guidelines or UNCLOS	Is the coastal State a contracting/cooperative non-member party to multi-lateral agreements e.g. UNCLOS, UNFSA, FAO Agreements? Implementation of the provisions of the Convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks	Chile, Mexico and Peru have accepted the UN Compliance Agreement. Ecuador has not accepted the UN Compliance Agreement. Chile, Ecuador is party to UNFSA and UNCLOS. Peru is not party to either UNFSA or UNCLOS. Mexico is party to UNFSA but not to UNCLOS.	http://www.fao.org/fileadmin/user_upload/legal/docs/012t-e.pdf http://www.un.org/depts/los/convention_agreements/convention_overview_fish_stocks.htm	2.0
4.8 NPOAs (IUU + others)	Is there a specific National Plan of Action (NPOA) in place to combat IUU in the coastal State?	Chile has published an NPOA-IUU which is available on the public domain. Ecuador has developed a NPOA-IUU, although this has yet to be formally released. Neither Peru nor Mexico have an NPOA-IUU in place.	Ecuador - Personal communications http://www.fao.org/fishery/ipoa-iuu/npoa/en	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
4.9 Coastal State Control	How and to what level is control exercised in the coastal State in terms of administrative controls and checks? (e.g. logbook check against VMS and administrative checks including validation of catch certificates)	<p>There is no indication that these controls are not in place and are inadequate, with a report of fisheries governance suggesting medium control over fisheries for Chile, Peru and Mexico (Ecuador does not feature). Personal communications with Ecuadorian fisheries authorities indicate a number of administrative controls and checks are carried out, including for the verification of catch certificates.</p> <p>Mexico has a national fish inspection and surveillance programme which amongst other matters, verifies the legal origin of fishing products.</p>	<p>Hilborn and Melnychuk, 2015 http://fisheries.sites.olt.ubc.ca/files/2016/08/14-2.pdf Chile – Ministry of Economy and Energy, 2004 http://www.subpesca.cl/institucional/602/w3-channel.html Ecuador - http://www.viceministerioap.gob.ec/subpesca430-registro-nacional-para-embarcaciones-pesqueras.html Personal communications Peru - http://www.produce.gob.pe/index.php/ministerio/sector-pesca Mexico - http://www.gob.mx/conapesca http://www.oecd.org/agriculture/ https://www.oecd.org/mexico/34430128.pdf</p>	1.0
	How and to what level is control exercised in the coastal State in terms of inspections on vessels at sea and in port?	<p>Chile has a clear regime for inspections on vessels, both at sea and in port, while personal communications with Ecuadorian fishing authorities indicate that inspections are also widely carried out. Furthermore, the annual report indicates a significant increase in the number of inspections as well as inspectors. However, in general information on these inspections are not available across the coastal States and it is not possible to determine if the level is adequate.</p>	<p>Hilborn and Melnychuk, 2015 http://fisheries.sites.olt.ubc.ca/files/2016/08/14-2.pdf Chile - Ministry of Economy and Energy, 2004 http://www.subpesca.cl/institucional/602/w3-channel.html Ecuador - http://www.viceministerioap.gob.ec/subpesca430-registro-nacional-para-embarcaciones-pesqueras.html Personal communications Peru - http://www.produce.gob.pe/index.php/ministerio/sector-pesca Mexico - http://www.gob.mx/conapesca http://www.oecd.org/agriculture/</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	How and to what level is control exercised in the coastal State in terms of remote surveillance (e.g. aerial surveillance, VMS and AIS)?	VMS and aerial surveillance is used throughout the coastal States, but it is unclear how widespread this is and whether this is adequate to cover the entire fishery operating within the various coastal waters.	Hilborn and Melnychuk, 2015 http://fisheries.sites.olt.ubc.ca/files/2016/08/14-2.pdf Chile - Ministry of Economy and Energy, 2004 http://www.subpesca.cl/institucional/602/w3-channel.html Ecuador – Personal communications http://www.viceministerioap.gob.ec/subpesca430-registro-nacional-para-embarcaciones-pesqueras.html Peru http://www.produce.gob.pe/index.php/ministerio/sector-pesca Mexico http://www.gob.mx/conapesca http://www.oea.org/agriculture/	2.0
	How and to what level is control exercised in the coastal State in terms of observer programmes?	Observer programmes are in use throughout the fishery but as per above, the use and application across the different fisheries is not clear. Furthermore, previous studies have found observer programmes to be inconsistent with occasional conflicts of interest or potential bias.	Hilborn and Melnychuk, 2015 http://fisheries.sites.olt.ubc.ca/files/2016/08/14-2.pdf Chile - Ministry of Economy and Energy, 2004 http://www.subpesca.cl/institucional/602/w3-channel.html Ecuador – http://www.viceministerioap.gob.ec/subpesca430-registro-nacional-para-embarcaciones-pesqueras.html Personal communications. Peru http://www.produce.gob.pe/index.php/ministerio/sector-pesca Mexico http://www.gob.mx/conapesca http://www.oea.org/agriculture/	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
4.10 Coastal State Cooperation	Does the coastal State work with neighbouring or regional States to enhance MCS in their own waters and fleets?	There is evidence that Peru, Chile and Ecuador are coordinating efforts to enhance MCS. It is not clear to what extent Mexico cooperates with neighbouring States, and indeed recent negative certification by the UNS, suggest low levels of cooperation.	NOAA, 2015; 2017 Osterblom, 2013 http://www.fis.com/fis/worldnews/worldnews.asp?monthyear=12-2016&day=22&id=89015&l=e&country=&special=&ndb=1&df=1	1.0
4.11 Transhipment	Is transhipment allowed in coastal State or RFMO waters and is observation required through an RFMO programme or by coastal States for their own waters?	It is not clear if transhipment is permitted in the fishery under assessment. The Peruvian flagged vessel has been IUU listed for supporting IUU fishing as well as not being licensed by the SPRFMO, and one of its activities was transhipment. There is no specific high seas observer programme covering transhipment although transhipment is regulated under SPRFM CMM 12-2017.	SPRFMO - https://www.sprfmo.int/assets/Fisheries/Conservation-and-Management-Measures/CMM-12-2017-Transshipment-27Feb17.pdf Chile - Ministry of Economy and Energy, 2004 http://www.subpesca.cl/institucional/602/w3-channel.html Ecuador - http://www.viceministerioap.gob.ec/subpesca430-registro-nacional-para-embarcaciones-pesqueras.html Personal communications. Peru - http://www.produce.gob.pe/index.php/ministerio/sector-pesca Mexico - http://www.gob.mx/conapescahttp://www.oeecd.org/agriculture/	3.0
Average				1.66

5.4.2.5 Port State – Peru (most likely source), also Chile, Ecuador and Mexico (control systems in place, PSMA provisions in place)

All of the coastal and flag States are also involved as a port State. Overall, port State performance was quite strong, although again there is a lack of information available on the levels of in port inspections, although government literature tends to suggest that port State measures are adequate to deter IUU. Furthermore, the port States involved have not been indicated as supporting the IUU fishery and while there are some links to IUU, these are not widespread. The most significant concern in this case relates to the lack of designated ports and the easy access to a range of ports all along the South American Pacific coast. This is compounded by the potential for transhipment within the supply chain which can further confuse traceability and allow increased opportunity for laundering of IUU sourced squid. In addition, only Chile has ratified the PSMA, although this issue is largely mitigated by SPRFMO having a CMM in place which adopts several of the PSMA measures (CMM 2-07).

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
5.1 Are the products of IUU fishing landed in the port State?	Has the port State been identified as a non-compliant State by the EU (yellow / red card)?	None of the coastal States involved in the fishery under assessment have been identified as a non-compliant State by the EU IUU regulation yellow / red card system.	https://ec.europa.eu/fisheries/cfp/illegal_fishing/info_en	0.0
	Has the port State been identified as a "country of interest" within NOAA biennial reports?	Both Ecuador and Mexico have been consistently identified in NOAA's biennial reports to congress, with Mexico obtaining a negative certification in both 2015 and 2017. However, this did not pertain to port State activities. Neither Chile nor Peru have been identified.	NOAA, 2011; 2013; 2015; 2017	2.0
	Has the port State been identified as having IUU fish landed in its ports? (NB: This may be identified by the port State itself, another State or by an RFMO).	There is no indication by any RFMOs that IUU fishing is supported by any of the port States in the fishery.	SPRFMO-CTC, 2014; 2015; 2016 and 2017	0.0
	Has the port State been identified as having IUU fish landed in its ports by fishing vessel of any State by an NGO or in scientific or press reports?	Mexico, Chile and Ecuador have been identified as have a medium risk of IUU catches exported to the US in a white paper study. This included, in the case of Chile, an estimated IUU percentage of catches for squid of between 10-20%, while overall percentage of IUU catches for Mexico and Ecuador were estimated at 10-40%. The study did not examine Ecuador. However, neither of the port States are commonly associated with IUU fishing.	Pramod <i>et al.</i> , 2014	1.0
5.2 Corruption	What is the WB corruption index for the port State? (See WB Governance Indicators). Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.	Of the flag States in the fishery under assessment, only Chile occurs in the top 10-40% with Ecuador, and Mexico in the bottom 30% and Peru in the bottom 40-70%.	http://info.worldbank.org/governance/wgi/#home	2.0
5.3 Sanctions	Are sanctions enforced for port related activities?	Sanctions are enforced, and in the case of Ecuador, annual reports provide detail on the number of sanctions by industry, and these are set by the regulations established by the Viceministerio de Pesca y Acuicultura. These potentially involve criminal prosecutions.	http://fisheries.sites.olt.ubc.ca/files/2016/08/14-2.pdf Chile – Ministry of Economy and Energy, 2004 http://www.subpesca.cl/institucional/602/w3-channel.html Ecuador – Personal communications	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		In the other coastal States, fisheries legislation may be prosecuted in criminal courts. However, in all cases there are no specific statistics to provide information on the potential likelihood of successful sanctions.	http://www.viceministerioap.gob.ec/subpesca430-registro-nacional-para-embarcaciones-pesqueras.html http://www.viceministerioap.gob.ec/wp-content/uploads/downloads/2016/07/Informe-de-Gesti%C3%B3n-VMAP.pdf Peru - http://www.produce.gob.pe/index.php/ministerio/sector-pesca Mexico - http://www.gob.mx/conapesca https://www.oecd.org/mexico/34430128.pdf	
	Are the sanctions enforced relative to the level of IUU fishing?	A penalty system relating to enforcement within Chilean waters is outlined in Chile's NPOA-IUU, and include potential criminal sanctions. There is no transparent information available on the level of sanctions with respect to Peru and Mexico's sanctions, although criminal prosecutions may result. Ecuador's sanctions are established in the regulation and include criminal sanctions.	http://fisheries.sites.olt.ubc.ca/files/2016/08/14-2.pdf Chile - http://www.subpesca.cl/institucional/602/w3-channel.html Ecuador – Personal communications http://www.viceministerioap.gob.ec/subpesca430-registro-nacional-para-embarcaciones-pesqueras.html http://www.viceministerioap.gob.ec/wp-content/uploads/downloads/2016/07/Informe-de-Gesti%C3%B3n-VMAP.pdf Peru - http://www.produce.gob.pe/index.php/ministerio/sector-pesca Mexico - http://www.gob.mx/conapesca https://www.oecd.org/mexico/34430128.pdf	1.0
5.4 RFMO	Membership: Is the port State a Member of the relevant RFMOs?	All of the port States are members of the RFMOs within which their fisheries occur, including when relevant, CCAMLR, SPRFMO and IATTC. Note, that Mexico is not a member of the SPRFMO, with its fishery occurring in the northern hemisphere and therefore not under the remit of the SPRFMO.	https://www.iattc.org/ https://www.sprfmo.int/ https://www.ccamlr.org/	0.0
	Compliance: is the port State compliant with all RFMO requirements and data submissions?	There is no indication that the port States in the fishery under assessment are not in compliance with all RFMO requirements and data submissions.	NOAA, 2015; 2017 https://www.iattc.org/ https://www.sprfmo.int/ https://www.ccamlr.org/	0.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Engagement: Does the port State submit additional information / papers to RFMO and actively participate in scientific and compliance committee meetings?	There is every indication that the port States in the fishery under assessment submit additional information and papers to the relevant RFMOs.	https://www.iattc.org/Meetings/Meetings2014-2017ENG.htm https://www.ccamlr.org/en/meetings/meetings https://www.sprfmo.int/meetings/5/	0.0
5.5 Multi-lateral agreements e.g. FAO Guidelines or UNCLOS	Is the port State a contracting/cooperative non-member party to multi-lateral agreements e.g. PSMA, UNCLOS, UNFSA, FAO Agreements?	Chile has ratified the PSMA. Ecuador has not signed the PSMA and does not apparently have the intention of doing so. Peru has signed, but not yet ratified the PSMA. Mexico has not signed the PSMA. However, the SPRFMO has introduced a CMM which adopts several of the PSMA components, and as such Chile, Ecuador and Peru, being members, are obliged to abide by its regulations.	SPRFMO CMM 2.07 (https://www.sprfmo.int/assets/Fisheries/Conservation-and-Management-Measures/CMM-2-07.pdf) Ecuador – personal communications	2.0
	Has the FAO Port State Measures Agreement been signed, acceded or implemented?	Chile, Mexico and Peru have accepted the UN Compliance Agreement. Ecuador has not accepted the UN Compliance Agreement. Chile, Ecuador is party to UNFSA and UNCLOS. Peru is not party to either UNFSA or UNCLOS. Mexico is party to UNFSA but not to UNCLOS.	http://www.fao.org/fileadmin/user_upload/legals/docs/012t-e.pdf http://www.un.org/depts/los/convention_agreements/convention_overview_fish_stocks.htm http://www.fao.org/fileadmin/user_upload/legals/docs/037s-e.pdf	2.0
	Implementation of the provisions of the Convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks			2.0
5.6 NPOAs (IUU + others)	Is there a specific National Plan of Action (NPOA) in place to combat IUU in the port State?	Chile has published an NPOA-IUU which is available on the public domain. Ecuador has developed a NPOA-IUU, although this has yet to be formally released. Neither Peru nor Mexico have an NPOA-IUU in place.	Ecuador - Personal communications http://www.fao.org/fishery/ipoa-iuu/npoa/en	2.0
5.7 Port State Control	How and to what level is control exercised in the port State in terms of administrative controls and checks? (e.g. logbook check against VMS and administrative checks including validation of catch certificates)	There is no indication that these controls are not in place and are inadequate, with a report of fisheries governance suggesting medium control over fisheries for Chile, Peru and Mexico (Ecuador does not feature). Personal communications with Ecuadorian fisheries authorities indicate a number of administrative controls and checks are carried out, including for the verification of catch certificates and administrative checks for all vessels in port. Mexico has a national fish inspection and surveillance programme which amongst other matters, verifies the legal origin of fishing products, including administrative checks.	Hilborn and Melnychuk, 2015 http://fisheries.sites.olt.ubc.ca/files/2016/08/14-2.pdf Chile – Ministry of Economy and Energy, 2004 http://www.subpesca.cl/institucional/602/w3-channel.html Ecuador – http://www.viceministerioap.gob.ec/subpesca430-registro-nacional-para-embarcaciones-pesqueras.html Personal communications	0.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
			Peru http://www.produce.gob.pe/index.php/ministerio/sector-pesca Mexico http://www.gob.mx/conapescas http://www.oecd.org/agriculture/ https://www.oecd.org/mexico/34430128.pdf	
	How and to what level is control exercised in the port State in terms of inspections on vessels in port?	Chile has a clear regime for inspections on vessels, both at sea and in port, while personal communications with Ecuadorian fishing authorities indicate that inspections are also widely carried out. Furthermore, the annual report indicates a significant increase in the number of inspections as well as inspectors. However, in general information on these inspections are not available across the port States and it is not possible to determine if the level is adequate.	Hilborn and Melnychuk, 2015 http://fisheries.sites.olt.ubc.ca/files/2016/08/14-2.pdf Chile - Ministry of Economy and Energy, 2004 http://www.subpesca.cl/institucional/602/w3-channel.html Ecuador http://www.viceministerioap.gob.ec/subpesca430-registro-nacional-para-embarcaciones-pesqueras.html Personal communications Peru http://www.produce.gob.pe/index.php/ministerio/sector-pesca Mexico http://www.gob.mx/conapescas http://www.oecd.org/agriculture/	2.0
	How and to what level is control exercised in the port State in terms of vessel monitoring (e.g. notification of port entry, VMS and AIS)?	VMS and aerial surveillance is used throughout the coastal States, but it is unclear how widespread this is and whether this is adequate to cover the entire fishery operating within the various coastal waters.	Hilborn and Melnychuk, 2015 http://fisheries.sites.olt.ubc.ca/files/2016/08/14-2.pdf Chile - Ministry of Economy and Energy, 2004 http://www.subpesca.cl/institucional/602/w3-channel.html Ecuador – Personal communications http://www.viceministerioap.gob.ec/subpesca430-registro-nacional-para-embarcaciones-pesqueras.html Peru http://www.produce.gob.pe/index.php/ministerio/sector-pesca	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
			Mexico http://www.gob.mx/conapescahttp://www.oe.cd.org/agriculture/	
5.8 Port State Cooperation	Does the port State work with neighbouring or regional States to enhance MCS on vessels landing in their ports?	There is evidence that Peru, Chile and Ecuador are coordinating efforts to enhance MCS. It is not clear to what extent Mexico cooperates with neighbouring States, and indeed recent negative certification by the US, suggest low levels of cooperation, although this was not associated with its duties as a port State.	NOAA, 2015; 2017 Osterblom, 2013 http://www.fis.com/fis/worldnews/worldnews.asp?monthyear=12-2016&day=22&id=89015&l=e&country=&special=&ndb=1&df=1	0.0
5.9 Designated ports	Are the ports used appropriate in terms of location and size for particular fleets or species? NB: The ideal is for designated ports assigned to fleets and species to be used.	Designated ports are not in use in the fishery, and while particular ports may have a particular association with a type of fishery, this is not legislative. However, Peru does publish port landings by species, which provides potential for analysis of the potential supply chains and whether the ports used are logical and feasible.	http://fisheries.sites.olt.ubc.ca/files/2016/08/14-2.pdf Chile - Ministry of Economy and Energy, 2004 http://www.subpesca.cl/institucional/602/w3-channel.html Ecuador http://www.viceministerioap.gob.ec/subpesca430-registro-nacional-para-embarcaciones-pesqueras.html Personal communications Peru – Huntington <i>et al.</i> , 2015 http://www.produce.gob.pe/images/produce/estadisticas/boletines/2017/1/pesca.pdf http://www.produce.gob.pe/index.php/ministerio/sector-pesca Mexico http://www.gob.mx/conapescahttp://www.oe.cd.org/agriculture/	2.0
5.10 Transhipment	Is transhipment allowed in port and is observation required through an RFMO programme or by port States for their own ports?	Transhipment is permissible in port and does not specifically require the presence of an observer.	SPRFMO-CTC, 2017	3.0
Average				1.46

5.4.2.6 Market State – Japan - Traceability and national requirements

D. gigas has become one of the most economically squid fisheries in the world (Arkhipkin *et al.*, 2015) and is of considerable importance in Japan, which is the sole market State in the fishery under assessment. It is widely used in processed products, including dried squid jerky, salted/fermented squid and frozen mixed seafood, meaning that processing and transformation is likely occur at several points along the supply chain. The sheer scale of fisheries products imported into Japan alone increase the potential risk of IUU, and indeed IUU products are believed to be imported, or have been regularly imported into Japan.

However, Japan has taken several positive steps to combat the importation of IUU, and while these are predominantly focussed on higher value, higher IUU risk fish, such as toothfish and tuna, some of the measures themselves are applicable across all fisheries.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
6.1 Products of IUU fishing found in the final market State or within the States of the supply chain?	Has the market State or any of the States in the supply chain been identified as a non-compliant State by the EU (yellow / red card)?	Japan has not been identified by the EU IUU regulation yellow/red card system.	https://ec.europa.eu/fisheries/cfp/illegal_fishing/info_en	0.0
	Has the market State or any of the States in the supply chain been identified as a “country of interest” within NOAA biennial reports?	Japan has not been identified by NOAA in any of its reports to congress.	NOAA, 2011; 2013; 2015; 2017 http://www.nmfs.noaa.gov/ia/iuu/iuu_overview.html	0.0
	Has the market State or any of the States in the supply chain been identified as having IUU fish landed in its ports? (NB: This may be identified by the port State itself, another State or by an RFMO).	Japan has been identified as having IUU fish landed in their ports by RFMOs or other countries.	DGIPOL, 2013	0.0
	Has the market State or any of the States in the supply chain been identified as having IUU fish landed in its ports by fishing vessel of any State by an NGO or in scientific or press reports?	Japan has been identified by various press reports as being the recipient of IUU sourced fish, usually after being laundered in the supply chain, although trade measures to combat IUU have been noted to have been improved.	DGIPOL, 2013 Petrossian <i>et al.</i> 2014 Pramod <i>et al.</i> 2014	2.0
6.2 Supply chain length, complexity and transparency	How many States and companies are in the supply chain?	There is no information on the supply chain.	No Information on individual supply chains.	3.0
	How many different companies and transfers of ownership, amount of processing?	There is no information on the supply chain.	No Information on individual supply chains.	3.0
	Is the chain publically known and transparent?	There is no information on the supply chain.	No Information on individual supply chains.	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
6.3 High risk points in the supply chain	Are the ports in the supply chain (after the port of first landing) known or suspected PONCS and do the ports used have well documented and effective port control and inspection?	The ports in the supply chain are not specifically known. However, Japan is not recognised as a PONC.	Petrossian <i>et al.</i> , 2014	0.0
	Does processing occur in locations that seem out of context (e.g. locations with no history of processing, high costs incurred for transport, high cost of processing) or with history of laundering IUU catches?	There was no information on the supply chain and any intermediary States that may be involved. However, it is likely that processing occurs in the port States, predominantly Peru before exportation of final, or partially processed product to Japan.	Arkhipkin <i>et al.</i> , 2015	1.0
6.4 Corruption	What is the WB corruption index for the port State? (see WB Governance Indicators). Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.	Japan has a very high governance indicators in the top 10%.	http://info.worldbank.org/governance/wgi/#home	0.0
6.6 Post landing inspections	Performance of spot audits at key transport hubs and border inspection points?	There is no information on spot audits being carried out at key transport hubs and BIPs. However, there are clear indicators this does occur, at least in the tuna industry, with a consignment if tuna being refused entry.	DGIPOL, 2013 Fisheries Agency of Japan, 2004 http://www.oecd.org/agriculture/ http://www.jfa.maff.go.jp/e/index.html	2.0
	Are inspections carried out on the fish after landings e.g. by customs, BIPs and in transit?	When a consignment arrives at a Japanese port a 'Notice of Customs Clearance' is sent to the addressee from a customs office and a customs clearance procedure is initiated. In some cases a health and sanitary certificate must also accompany the import notification form. Food is then quarantined and inspected to ensure it complies with Food Sanitation Law. Consignments with a past record of non-compliance will often require further examination. Some fish require approval for import prior to customs clearance procedures (e.g. those governed by import quotas or by international conventions or agreements).	http://www.fao.org/docrep/008/y5924e/y5924e06.htm DGIPOL, 2013 Fisheries Agency of Japan, 2004 http://www.oecd.org/agriculture/ http://www.jfa.maff.go.jp/e/index.html	1.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
6.6 Independent Verifications	Is supply chain MSC CoC certified?	There are no MSC certified jumbo flying squid fisheries, and subsequently, no CoC certified supply chains.	Information from the client. https://www.msc.org/track-a-fishery	3.0
	Non-MSC Supply chain and traceability audits (due diligence) conducted?	There is no information on whether due diligence audits are carried out.	Information from the client not available on audits.	3.0
6.7 CDS / CC certification	Do catch documentation schemes exist for the species?	As part of Japan's efforts to improve efforts to control imported fish products, various CDS were introduced. However, these do not apply to squid. Furthermore, if not specifically requested, the product will not be accompanied by a catch certificate.	DGIPOL, 2013	3.0
6.8 Processing or transshipment vessels involved in market chain.	If transshipment or processing onboard a Klondiker or mother vessels is allowed (licensed) in the fishery, are the Klondiker and transshipment (reefer) vessels on the relevant whitelists (authorised) or blacklists (IUU)?	There was no information on whether processing vessels are used in the supply chain.	Information from the client not available on individual supply chains.	3.0
	Are there independent observer programmes on non-fishing vessels?	Transshipment are used in the fishery and there is no specific observer programme covering these.	Information from the client. SPRFMO-CTC, 2017	3.0
Average				1.94

5.4.3 Recommendations

5.4.3.1 *Fishing vessels, legal personalities and companies*

- Information is required on the fishing vessels, legal personalities and companies involved in all stages throughout the supply chain to provide a more accurate assessment of risk although it is understood given the scope of the risk assessment this is not available.
- Wherever possible, short simple supply chains direct from the fishery or cooperative should be sought to increase transparency and control of the supply chain.

5.4.3.2 *Fisheries*

- Information on the specific fisheries sourced should be sought, in particular ensure information on the country of origin, and if Mexico is also included as a potential flag State. There is an element of confusion over the exact nature of the flag State, with initial information suggesting Japan (based on historical records of fishing in the region), but later examination of the most recent FAO catch records indicating that Peru, Chile, and to a lesser extent Ecuador and Mexico were the most likely sources.
- High seas fisheries for squid should be avoided due to the lack of a clear and complete regulatory framework and management regime at the current time.
- As the fishery is relatively young, and combined with the nature of squid being highly susceptible to environmental changes, continual monitoring of the stock status, as well as the management regimes need to be assessed regularly.
- Develop and engage with the various components of the fishery on the possibility of developing a FIP.

5.4.3.3 *Flag State*

- Complete vessel and fisher identification, including license and registration, as well as any unique vessel identifiers should be obtained for all product sourced. As all of the flag States involved have the capability to produce a catch certificate, a catch certificate should be obtained in all cases, and accompany the product.
- Full traceback assessments and of the supply chain across all fisheries sourced, should be carried out on a regular basis. This should include information on the vessel registration and permit to fish.
- In the case where any product is sourced from another coastal State, detailed information on the nature of the agreement between the vessels and/or flag State, and the coastal State should be obtained.
- Carry out detailed examination, including remote questionnaires, of the flag State authorities to determine measures in place to ensure control of the fishing fleet.
- Where possible, engage with Peru to become party to the UNFSA and UNCLOS, and Mexico to become party to UNCLOS. Furthermore, encourage the development of an NPOA-IUU for both Peru and Mexico and request that Ecuador's is placed on the public domain.

5.4.3.4 *Coastal State*

- In the case where any product is sourced from flag State different to the coastal, detailed information on the nature of the agreement should be obtained (whether private or State to State). In addition, full details of those vessels fishing in other coastal State's waters should be obtained.
- Forensic audits of the supply chain should be tiered to ensure higher risk coastal States, i.e., Mexico, are examined in more detail.

- Squid caught on the high seas should be avoided until such time as a clear coordinated regulatory framework and management regime is in place.

5.4.3.5 Port State

- Transshipment within the supply chain should be avoided. In cases where this is unavoidable, accompanying documentation, including details of any independent verification needs to be obtained.
- Where possible, engage Peru, Mexico and Ecuador to sign and ratify the PSMA.

5.4.3.6 Market State

- Ensure all product is accompanied by a catch certificate, as well as any accompanying documentation, notably transportation (including transshipment) and transformation (processing).
- Obtain a list of all possible intermediary companies and States involved in the supply of product, as well as detail of any processing that can and does occur.
- Carry out regular forensic audits of the supply chain, examining any links in custody, and the associated companies and States.
- Ensure requirements for a clear and transparent supply chain are communicated throughout the chain of custody.
- Wherever possible, source salmon direct from the supplier, or with limited supply chain complexity.

NB: It should be noted that the IUU risk assessment carried out is limited in scope, analysing the risk that IUU fish may enter the supply chain from a particular fishery. It does not analyse the individual supply chains present and this would require a traceability assessment to be carried out which has not been done in this case.

5.5 King crabs

5.5.1 Executive Summary

The IUU risk assessment is designed to provide an estimate of the potential for IUU catch to enter a particular supply chain, identify potential risks in the supply chain from the fishery through to the market place and to then identify where interventions are possible to reduce and minimise this risk. It will not be able to indicate the level of risk that occurs once a fishery has entered the supply chain and it is recommended that a traceability benchmarking assessment or similar review of the supply chain is conducted to evaluate this risk. This risk assessment was carried out for king crab nei that are sourced from the Pacific Northwest and the Pacific Northeast using mainly of pots. The USA and Russia are the main flag and coastal states involved in the catching of king crabs, primarily in the Bering Sea and Aleutian Islands and the Russian Far East fishery, which are then sold to Japanese markets. King crab is often represents different species, i.e. red king crab, blue king crab, golden king crab etc., which are sold in markets, as king crabs nei, which can reduce traceability and may affect the accuracy of the data compiled. Where possible the evidence presented relates to king crab, but there may be incidences of misrepresentation which can lead to over or under reporting of IUU activity. The USA and Russia have several measures in place to protect stocks of king Crab, including quotas, the use of licences/permits and Mentoring, Control and Surveillance systems in place. Although there is information provided on what measures are in place, the extent to which they are implemented is often unknown.

Table 12 Average score (King crabs) or the six key areas in the risk assessment.

Key risk areas:	Score
Fishing vessels, legal personalities and companies	2.33
Fisheries – USA and Russia	2.32
Flag State – USA and Russia	1.36
Coastal State – USA and Russia	1.24
Port State – USA and Russia	1.65
Market State – Japan	2.02
Average	1.82

Key:

Colour	Min	Max	Risk	Description
	>0.0	<=0.6	No or minimal risk	Little or no action required
	>0.6	<=1.1	Very low risk	Some minor actions may be required, but risk level is very low
	>1.2	<=1.8	Low	Risk level is low, but some particular elements may require mitigating measures to be put in place.
	>1.8	<=2.4	Medium	Medium level of risk. Particular scoring elements may need to be addressed and mitigated against.
	>2.4	<=3.0	High risk	High level of risk. One or more elements have substantial risks associated with them. Scores of this level may suggest sourcing from a different fishery.

5.5.2 Identification

This risk assessment addresses the following scope:

Table 13 Identification of scope of the IUU risk assessment.

Species	King crabs nei (<i>Lithodidea</i>)
Area	FAO 61 and 67 No domestic Japanese catches all imports (100%)
Gear	Pots
Fleet	USA, Russia
Coastal States / RFMO:	USA, Russia
Port State:	USA, Russia
Market State:	Japan

5.5.2.1 Fishing vessels, legal personalities and companies

According to Fishstat (2017) no King crab species are caught by Russian flagged vessels, therefore it was assumed that Japan mainly import King crabs from the USA. However, according the information collected, Russia provide large quantities of King crabs their catch to Japan. Information on American fleets is often well documented and publically available however, there is little public information on Russian and fleets which restricts further identification of potential IUU activity. Russian vessels have a history of IUU fishing and have been listed on the combined IUU list however, this was not for activities relating to tanner crab fishing.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
1.1 Vessel/Fisher Identification	Vessel identification e.g. vessel name, callsign, country registration number and national and RFMO authorisations to fish (either inside national waters or outside on the high seas or in other zones) is complete to enable identification. Are vessels required to have unique IDs?	No information or list of the vessels in the fishery under assessment was provided. Although, Northeast Pacific illegal catch is currently estimated to be low and to have steadily declined over recent years, Angew <i>et al.</i> (2009) study was unable to obtain good estimates from the USA.	Agnew <i>et al.</i> , 2009 Alaska Department of Fish and Game, 2017 NOAA 2014 Fishstat, 2017 Telesetsky, 2015	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>Vessels targeting King crabs most commonly use pots, large 600 to 700 pound steel frames covered with nylon-webbing.</p> <p>Moreover, Fishstat has no records of king crabs being caught by Russia, although many sources i.e. scientific studies, NGO, news, etc. reporting the opposite.</p>	<p>https://www.seafoodwatch.org/-/m/sfw/pdf/reports/c/mba_seafoodwatch_russian_far_east_crab_report.pdf</p> <p>https://www.undercurrentnews.com/2014/01/02/us-king-crab-industry-braces-for-impacts-from-russias-high-quota/</p> <p>https://www.worldwildlife.org/press-releases/new-report-shows-illegal-russian-crab-entering-us-market</p>	
	Are each vessel, captain(s), owner and beneficial owner and agent identified as far as possible, this should ideally be transparent?	There is no data available on the vessels, owners and masters.	No information on vessels.	3.0
1.2 Vessels on IUU lists.	Are any of the vessels listed in the RA scope on the IUU Lists of RFMOs, (NGOs to be considered but not as clear evidence as evidential value to include is not of the required standard)?	<p>There is no information on the fleet under assessment.</p> <p>However, the king crabs are caught in FAO areas 67 and 61, which does not have a direct management mandate for king crabs.</p> <p>Three vessels are listed on the WCPFC IUU list none of which are flagged in the RA scope countries.</p>	<p>RFMO IUU lists</p> <p>http://iuu-vessels.org/iuu/iuu/search</p> <p>NOAA, 2014</p>	2.0
	Are any of the legal personalities listed in the RA scope listed on the IUU lists of nationals and companies involved in IUU? Is there any evidence of unlicensed fishing occurring?	<p>There is no information on the fleet under assessment.</p> <p>As mentioned above there are three vessels listed on the WCPFC IUU list, however none of the vessel is US or Russian flagged.</p> <p>However, unlicensed fishing is occurring by Russian vessels.</p>	<p>RFMO IUU lists</p> <p>http://iuu-vessels.org/iuu/iuu/search</p>	2.0
	Are all of the vessels listed on the RA scope listed on authorised (white) lists for RFMOs and/or national authorised lists?	<p>There is no information on the fleet under assessment.</p> <p>Not possible to show that vessels are on authorised lists.</p>	RFMO authorised lists	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
1.3 IUU fishing carried out by vessels flying its flag, by its nationals or by companies based in that country.	Are the history, nature, circumstances, extent and gravity of the manifestations of IUU fishing as listed in EU carding process by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	Neither Russia or the US are listed through the EU carding process	https://ec.europa.eu/fisheries/cfp/illegal_fishing/info_en http://iuu-vessels.org/iuu/iuu/search	0.0
	Are the history, nature, circumstances, extent and gravity of the manifestations of IUU fishing as listed in the NOAA's biennial reports by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	<p>No vessels flagged to the US have been listed in the NOAA's biennial report as IUU fishing as they do not list their own vessels</p> <p>Russian flagged vessel have been listed in the NOAA's biennial report 2017. The link to the fishery under assessment although is not clear.</p> <p>However, in the NOAA 2014 report, Russia's illegal king crab harvest had been reported. The imports of Russian king crab into the US are high, up 50.5 percent, it cannot be excluded that IUU king crab is imported to the US and then sold to Japan.</p>	NOAA, 2014; 2015; 2017	3.0
	Are there scientific and market analyses defining the level of IUU (e.g. RFMO reports) conducted by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	<p>Historically reports indicate high level of IUU in the fishery, however mainly due to the illegal fishing by Russian flagged vessels. No records were found, where US flagged king crab fishing vessels were identify to conduct IUU fishing.</p> <p>More than 40% of king crab sold worldwide in 2013 came from illegal harvests in Russian waters that contributed to a US\$2.73 per pound decrease in the prices earned by fishermen. Often, "unlicensed pirate fishers poaching in Russian waters" or Russian fishermen exceeding their allowable catch are the cause of the problem.</p> <p>For decades, Alaska crabbers have competed against king crab illegally caught by Russian fleets.</p>	<p>Undercurrent News, 2015</p> <p>The Fish Site, 2017</p>	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are there NGO and Press reports of IUU incidents (specific to vessels/companies) conducted by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	No information were found were US flagged vessel, however Russian flagged vessels were reported to conduct IUU fishing. Moreover, it was reported that high volume of the IUU crabs is entering the US market.	Foxnews, 2015 WWF, 2014	2.0
Average				2.33

5.5.2.2 Fisheries – USA and Russia (sustainability, impacts)

The fisheries under assessment include the Bering Sea and Aleutian Islands fishery and the Russian Far East fishery basin, which covers the waters used by America and Russian fleets. The fisheries are managed by USA and Russia including the use of quotas and other mitigation measures and licences are required to fish both areas. Depending on the species different managements strategies has to be applied, due to vary habitat, growth rate, reproductions rate etc. Although in the US waters every year scientists survey King crab populations, the abundance have measure of uncertainties due to their rocky habitats, which makes it difficult to collect samples. Some of the king crab species e.g. the blue king crab have been reported as overfished.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
2.1 Status of fisheries and sustainability	Are fisheries operated with control on removals e.g. quota and / or effort limits?	Management of blue king crab in the Bering Sea falls under the jurisdiction of the Alaska Department of Fish and Game and the National Marine Fisheries Service (NMFS), through the North Pacific Fisheries Management Council (NPFMC). Annual assessments of biomass of male crab are used to determine the sustainable harvest for the upcoming year. These assessments and determination of harvest levels are conducted by ADF&G and NMFS staff, and then reviewed and approved by the NPFMC. Harvests are managed via a rationalized fishery, where a share of the allowable harvest is allocated to harvesters, processors, and coastal communities.	Alaska Department of Fish and Game, 2017 Iwaki, 2016. https://alaskafisheries.noaa.gov/sites/default/files/wkshopcm/78fr41033.pdf	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>The King crab fishery quota management in Russia, however is unclear. According to Undercurrent News Russian king crab quota will increase by 20 – 30 % in 2017.</p> <p>However it was reported that the North Pacific Pribilof Islands blue king crab, and South Atlantic red porgy were found to be in an overfishing condition.</p>		
	Are stock assessments available for species that use data on total removals (i.e. catch, bycatch, IUU and discards)?	<p>NOAA scientist's surveys king crab populations every year, but because they often live in rocky habitat that's difficult to sample with a net, estimates of their abundance have an extra measure of uncertainty.</p> <p>To protect the reproductive potential of the stock, all crab fisheries in Alaska are male-only fisheries; the females are released, along with undersized crabs, as soon as the crab pots come up on deck. And depending on the crab stock, between thirty and 100 percent of boats have an independent fisheries observer on board to collect data and to verify that the regulations are followed. And catch limits are set conservatively to account for uncertainty in the population estimates</p> <p>There are not much information available about Russian King crab stock assessments, however the Russian Research Institute of Fisheries and Oceanography stated that the king crab population is rising and therefore recommended that the quota can be increased.</p>	<p>http://www.nmfs.noaa.gov/stories/2014/01/01_06_14long_live_the_king.html</p> <p>http://www.seafoodnews.com/Story/969137/Big-Increase-in-Russian-King-Crab-Production-Expected-as-West-Kamchatka-Stock-Rebounds</p> <p>https://www.fishsource.org/fishery_page/2621</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are target and limit reference points defined for the fishery?	<p>The U.S. federal government through the North Pacific Fishery Management Council (NPFMC) and the State of Alaska jointly manage the Bering Sea and Aleutian Islands crab stocks, whereas the State of Alaska solely manages the Gulf of Alaska crab stocks. Harvest strategies vary among areas and species, but all crab fisheries have minimum size limits, male-only restrictions, and specific fishing seasons (i.e., size, sex, and season, or “3-S” management). Minimum size limits have been enforced to provide at least one opportunity for males to mate with females. Single-sex harvest has been in effect to protect mature females for reproduction and specific fishing seasons are set to avoid harvesting crab during mating and moulting (soft-shell) periods. A number of king and Tanner crab fisheries are managed with a guideline harvest level (GHL) determined either from available abundance estimates and appropriate target harvest rates or from historical average catches. The fishery performance within a season is monitored, and if the fishery is expected to exceed the GHL before the declared closure date, then the season is closed by an ADF&G Commissioner’s emergency order. Incidental mortality of crabs in other fisheries (trawl, pot, and dredge) is reduced by enforcing maximum allowable crab bycatch thresholds. Additional management measures include pot limits, permits, onboard observers, registration areas, reporting requirements, vessel tank inspections, legal gear specifications etc.</p> <p>No target and limit reference points for the King Crab fishery in Russia was found.</p>	Alaska Department of Fish and Game, 2017	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are fisheries operating at a level at or under MSY?	<p>EBS Tanner crab and Pribilof Island red king crab are estimated to be above BMSY for 2016/17 while snow crab, Bristol Bay red king crab, Saint Matthew blue king crab and Norton Sound red king crab are estimated below BMSY. Pribilof Islands blue king crab stock remains overfished and estimated to be well below its MSY.</p> <p>Due to the lack of clear stock structure/assessments of king crabs in Russia, they are not operating under MSY.</p>	<p>NPFMC, 2016</p> <p>https://www.fishsource.org/stock_page/1429</p> <p>https://www.fishsource.org/stock_page/1081</p> <p>https://www.fishsource.org/stock_page/1497</p> <p>https://www.fishsource.org/stock_page/797</p>	2.0
	Are bycatch and ecosystem impacts known (and if different for IUU fishing)?	<p>Bycatch control measures have been established in the Bering Sea and Aleutian Islands groundfish trawl fisheries for red king crab, Tanner crab, and snow crab. There are two kinds of measures: area closures and prohibited species catch (PSC) limits. No measures are currently in place for fixed gear groundfish fisheries nor for crab stocks outside of EBS snow crab, Tanner crab and Bristol Bay red king crab. New measures are currently being considered by the Council for establishing bycatch control mechanisms in the groundfish fisheries for all crab stocks and gear types.</p> <p>Although it is unknown what bycatch control measure Russia has in place, the impact of pot fishery on ecosystem is relatively low.</p>	<p>NPFMC, 2017</p> <p>https://www.seafoodwatch.org/-/m/sfw/pdf/reports/c/mba_seafoodwatch_king_crab_alaska_report.pdf</p>	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Is the fishery at or below capacity?	<p>Concern for the continued low abundance of blue king crab in certain areas, no directed commercial harvest since 1999.</p> <p>Golden king crabs are slow-growing and are at risk in certain areas due to damage caused by bottom trawling.</p> <p>The Southeast Alaska commercial red king crab fishery has been below threshold and closed since 2006. The personal use red king crab fishery in Southeast Alaska has been open in limited areas. The red king crab fishery in the Yakutat area remains open, but no harvest has been recorded since the 2000/2001 season due to depressed stocks. The Southeast Alaska commercial red king crab fishery has been below threshold and closed since 2006. The personal use red king crab fisher in Southeast Alaska has been open in limited areas. The red king crab fishery in the Yakutat area remains open, but no harvest has been recorded since the 2000/2001 season due to depressed stocks.</p> <p>Due to the lack of clear stock structure/assessments of king crabs in Russia, it is unclear whether the fisheries are at or below capacity.</p>	Alaska Department of Fish and Game, 2017	2.0
2.2 History of IUU	Do previous incidences of IUU exist within the fishery?	75% of the king crab sold in the U.S. is imported from Russia, where the crabs are caught using unsustainable fishing practices, and much of the meat is mislabelled and brought into the U.S. illegally, according to a recent study by the World Wildlife Fund.	<p>Foxnews, 2015</p> <p>WWF, 2014</p>	3.0
2.3 Access to fishery	Are fisheries authorised through a fishing licence / permit system?	<p>The US vessels are authorised through the North Pacific License Limitation Program to catch King crabs.</p> <p>It is known that Russia has vessel list in place by ports, however a crab specific vessel list was not available.</p>	<p>https://alaskafisheries.noaa.gov/fisheries/lip</p> <p>http://www.maritimeadvocate.com/ship_registration/on_the_register/ship_registration_in_russia.htm</p>	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
2.4 Price	Data on species market prices (domestic/international) Low price fish (<US\$1000/t) are generally lower risk (e.g. small pelagics), higher priced (>US\$5000/t) demersals (e.g. cod and haddock) will be higher risk, high value species are generally higher risk.	Due to tighter supplies the price for King crabs have been higher recently and expect to continue so. Frozen whole crab USD 4,500 – 5,500 / mt.	Globefish, 2017 Alibaba, 2017	2.5
	Are any mitigation procedures that may be in place for high value species (e.g. catch documentation schemes, EU catch certificate requirements) in place (e.g. bêche de mer, bluefin tuna)?	As of December 10, 2014, Canadian processors and exporters of red and blue king crabs to Japan are required to apply for a Canadian catch certificate to accompany their product, through the Fisheries Certificate System. However, in general the requirements for importing seafood into Japan is not very clear, in addition depending on the species different requirements are applicable. NB: Low score given as a product of this price would not normally be required to have such a system in place. It is potentially due to the previous IUU nature of the product that such a system has been	Fisheries and Oceans Canada, 2017 Japan External Trade Organization, 2011	1.0
2.5 MSC certification/ /FIP processes	Is there MSC certification for the fishery or is there a FIP in process? MSC certification requires IUU to be low or negligible and has checks to ensure this is the case. If the fishery is going through a FIP process as well/that may indicate improvement within the fishery e.g. Sri Lanka.	Currently the Russia Barent Sea Red King crab fishery is under MSC Assessment, apart from that there are no certified crab fisheries nor king crab fisheries under assessment.	MSC, 2017	2.0
Average				2.32

5.5.2.3 Flag State – USA and Russia (activities, corruption, control systems in place)

None of the flag States within this risk assessment have been carded according to the EU system however, Russia is identified in the NOAA biennial reports for fishing without authorisation and for violating conservation measures but this was not for crab fishing. In general the two flag

States have a registration and licensing system in place for fishing vessels and work in cooperation with other States and RFMOs, as well as participate in international agreements, to prevent and deter IUU activity. Although the type of flag State control that is exercised has been identified (e.g. VMS, inspections etc.) the level to which this is actually imposed is unknown.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
3.1 Is IUU associated with the flag State?	Has the flag State been identified as a non-compliant State by the EU (yellow / red card)?	None of the flag States involved in the fishery have been identified by the EU IUU regulation yellow/red card system.	https://ec.europa.eu/fisheries/cfp/illegal_fishing/info_en	0.0
	Has the flag State been identified as a "country of interest" within NOAA biennial reports?	The US flag States have not been identified by NOAA (although the US itself would not be identified by its own agency). Russia has recently been identified by NOAA in its 2017 report to congress for violations of CCAMLR CMMs in 2014, 2015, and 2016. However, no violations in relation to the king crab fishery were noted in the 2017 report.	NOAA, 2011; 2013; 2015; 2017 http://www.nmfs.noaa.gov/ia/iuu/iuu_overview.html	2.0
	Has the flag State been identified as a flag of non-compliance by any other State(s) or by an RFMO?	There has been no specific incidences of non-compliance identified the US. However, some minor non compliances have been identified in Russian flagged vessels in CCAMLR.	https://www.ccamlr.org/en/system/files/e-cc-xxxv_2.pdf	1.0
	Has the flag State been identified as a flag of non-compliance or flag of convenience by an NGO or in scientific or press reports?	US has not been specifically identified as a flag on non-compliance or flag of convenience in any scientific or press reports. However, Russia is mentioned in a range of fisheries and reports.	http://www.cbc.ca/news/canada/newfoundland-and-labrador/nafo-cites-foreign-vessels-with-illegally-caught-fish-1.1912758 https://qz.com/95583/how-spain-russia-and-other-countries-cheat-the-world-out-of-billions-of-dollars-in-fish/ https://www.seafoodwatch.org/-/m/sfw/pdf/reports/c/mba_seafoodwatch_russian_far_east_crab_report.pdf https://www.undercurrentnews.com/2014/01/02/us-king-crab-industry-braces-for-impacts-from-russias-high-quota/	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
			https://www.worldwildlife.org/press-releases/new-report-shows-illegal-russian-crab-entering-us-market	
3.2 Corruption	What is the WB corruption index for the flag State? (see WB Governance Indicators). Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.	The USA has very high governance indicators in the top 10%. Russia is in the bottom 20% with a control of corruption score of 19%.	http://info.worldbank.org/governance/wgi/#home	2.0
3.3 Registration and Licensing	Are all fishing vessels required to be registered and flagged in the flag State required to have a licence?	US States and Russia all fisheries, including those operating from shore, are required to be licensed.	United States Coast Guard, 2017 http://www.maritimeadvocate.com/ship_registration/on_the_register_ship_registration_in_russia.htm	0.0
	Is there a licensing and quota allocation system in place? Is this system clear and transparent?	Quotas are established for king crab fisheries, although specific information on how these are allocated is not clear in the Russian fisheries.	http://www.nmfs.noaa.gov/stories/2014/01/01_06_14long_live_the_king.html https://www.fishsource.org/fishery_page/2621	2.0
	Is this broken down by domestic waters and ABNJ?	Fishing vessel licenses are typically divided between the types of fishery and size of fishing vessel.	Department of State, 2004 http://government.ru/en/department/243/	0.0
	Is there a public list of licensed / authorised vessels?	There are public vessel list available by the US, however no vessel list was publically available by the Russian.	http://www.adfg.alaska.gov/static/applications/dcfnewsrelease/622053862.pdf http://www.maritimeadvocate.com/ship_registration/on_the_register_ship_registration_in_russia.htm	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
			https://alaskafisheries.noaa.gov/permits-licenses	
3.4 Fair transparent fisheries agreements	Are fair transparent fisheries agreements in place with coastal States?	<p>In the case of the US, fair and transparent fisheries agreements with Russia, as well as China, Japan, Poland and Korea, are apparent. However, there is no transparent information available on these agreements.</p> <p>Russia passed an anti-poaching agreement for crab with Japan, however neither on this agreement detailed information is not available.</p>	<p>http://www.fisheries.noaa.gov/ia/agreements/international_agreements.html</p> <p>Iwaki, 2015</p>	2.0
3.5 RFMO	Membership: Is the flag State a Member of the relevant RFMOs?	There is no RFMO for crab fisheries. Both USA and Russia are Members of relevant RFMOs when appropriate.	RFMO Membership Lists	0.0
	Compliance: Is the flag State compliant with all RFMO requirements and data submissions?	There is no RFMO for crab fisheries. There is no indication that the USA and Russia are not compliant with RFMO requirements.	RFMO Compliance Scoring and Meeting Reports	0.0
	Engagement: Does the flag State submit additional information / papers to RFMO and actively participate in scientific and compliance committee meetings?	There is no RFMO for crab fisheries. Both the USA and Russia are highly engaged Members of those RFMOs of which they are Members. In 2006, Japan, the Republic of Korea, the Russian Federation, and the United States initiated negotiations to establish a new RFMO in the North Pacific Ocean, However it is unclear whether it is related to the king crab fishery.	https://www.pifsc.noaa.gov/frmd/rfmo_reports.php	0.0
3.6 Multi-lateral agreements e.g. FAO Guidelines or UNCLOS	<p>Is the flag State a contracting/cooperative non-member party to multi-lateral agreements e.g. UNCLOS, UNFSA, FAO Agreements?</p> <p>Implementation of the provisions of the Convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks</p>	<p>Russia has ratified both UNCLOS and UNFSA, as well as accepting the FAO Compliance Agreement.</p> <p>The USA has only ratified the UNFSA, but not UNCLOS. It has also accepted the FAO Compliance Agreement.</p>	<p>NOAA, 2011</p> <p>http://www.un.org/depts/los/convention_agreements/convention_declarations.htm</p> <p>http://www.un.org/depts/los/convention_agreements/convention_overview_fish_stocks.htm</p> <p>http://www.fao.org/legal/treaties/treaties-under-article-xiv/en/</p>	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
3.7 NPOAs (IUU + others)	Is there a specific National Plan of Action (NPOA) in place to combat IUU?	All of the flag States have a NPOA IUU in place although the Russia one does not appear to be publicly available.	FAO, 2017 FIS, 2014	1.0
3.8 Flag State Control	How and to what level is flag State control exercised in terms of administrative controls and checks? (e.g. logbook check against VMS and administrative checks, catch certificate verification includes physical inspection)	<p>Overall, flag State control throughout the US in the fishery under assessment is exercised through a variety of means including vessel registry and licensing, port and at sea inspections, and VMS.</p> <p>Through various RFMOs, the U.S. has introduced catch certification schemes and in 2016 the final rule for the Seafood Import Monitoring Programme was released which establishes record and reporting requirements for a number of species which includes king crab.</p> <p>Russia, with Canada and the US, are seen to have high levels of management.</p> <p>However, a lack of administrative checks of catch related documentation, particularly of catch certificates, has been identified as an issue in the past for king crab fishery.</p>	<p>Hilborn and Melnychuk, 2015</p> <p>Department of State, 2004</p> <p>http://www.iuufishing.noaa.gov/RecommendationsandActions/RECOMMENDATION1415/FinalRuleTraceability.aspx</p> <p>http://government.ru/en/department/243/</p> <p>http://www.seafood.nmfs.noaa.gov/export/export_certification/export_certification.html</p> <p>Pramod <i>et.al.</i>, 2014</p>	2.0
	How and to what level is flag State control exercised in terms of inspections on flag State vessels (at sea and in port)?	<p>Levels of inspections in port and at sea of flag State vessels are published by the US and Canada and in general levels of inspections are considered high.</p> <p>In Russia, The Federal Agency for Fishery (FAF) cooperates with the Federal Security Service (FSB) through the Centre of Fishery Monitoring and Communications (CFMC) to meet MCS responsibilities, with the FSB conducting enforcement and inspections at sea and in port.</p> <p>Russia is considered to have a good level of control over its fleet, although there exist several examples of IUU fishing being carried out by its fleets in independent reports, which is often transhipped at sea and landed in foreign ports to avoid Russia port control.</p>	<p>OLE, 2017</p> <p>Hilborn and Melnychuk, 2015</p> <p>Department of State, 2004</p> <p>https://alaskafisheries.noaa.gov/fisheries/cwm</p> <p>http://government.ru/en/department/243/</p>	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	How and to what level is flag State control exercised in terms of remote surveillance (e.g. aerial surveillance, VMS and AIS)?	VMS and AIS are used through the flag States, although specific information on the type of fishing vessels which require this are rarely available. Furthermore, information on aerial surveillance is not apparently available in the case of the Russia fisheries.	https://alaskafisheries.noaa.gov/fisheries/cwm http://www.fao.org/fishery/topic/18090/en	1.0
	How and to what level is flag State control exercised in terms of observer programmes?	Observer programmes in the US and Russia predominantly cover scientific duties with some monitoring of compliance is also carried out. However, levels of observer coverage are much lower than that seen in the US. There is no specific information on levels of observer coverage and the corresponding duties, although they are known to have been present	Brosnan and Gleeson, 2015 Department of State, 2004 https://alaskafisheries.noaa.gov/fisheries/observer-program http://www.st.nmfs.noaa.gov/observer-home/index http://www.maff.go.jp/e/data/stat/90th/index.html#12	2.0
3.9 Flag State Cooperation	Does the flag State work with neighbouring or regional States to enhance MCS in their own waters and fleets?	NOAA and the USCG work closely with enforcement agencies from Canada, Japan, the Republic of Korea, and the Russian Federation to enforce the NPAFC prohibition on directed fishing for anadromous stocks in the high seas areas of the North Pacific Ocean. However, no work with neighbouring regional States was available. Relating the king crab fishery, a bilateral agreement was signed between the US and Russia to combat IUU fishing.	NOAA, 2015; 2017 The Fish Site, 2015	2.0
	VMS sharing is implemented?	There is no information on US VMS sharing, and it is unlikely to occur between the flag States, even within the auspices of the NPAFC. Russia shares its VMS data with ministries and agencies at the national and international level but not externally.	NPAFC, 2015 http://www.fao.org/fishery/topic/18090/en	3.0
Average				1.36

5.5.2.4 Coastal State – USA and Russia (corruption, control systems in place)

Illegal fishing is known to have occurred in the USA, Russia and Japan's EEZs, including IUU activity concerning crab species. The two Coastal States do have control systems in place, monitor activities within their waters and impose sanctions for violation of fisheries law but the extent and level to which these are actually imposed is unknown. However, none of that States have been issued with a card through the EU carding systems and although Russia was noted in the NOAA Biennial reports this was not for tanner crab. There is also a level of cooperation between the two States, via various bilateral agreements, to deter and eliminate IUU fishing.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
4.1 Is IUU fishing carried out / supported by fishing vessels operating in its maritime waters?	Has the coastal State been identified as a non-compliant State by the EU (yellow / red card)?	None of the coastal States involved in the fishery have been identified by the EU IUU regulation yellow/red card system.	https://ec.europa.eu/fisheries/cfp/illegal_fishing/info_en	0.0
	Has the coastal State been identified as a "country of interest" within NOAA biennial reports?	The US flag States have not been identified by NOAA (although the US itself would not be identified by its own agency). Russia has recently been identified by NOAA in its 2017 report to congress for violations of CCAMLR CMMs in 2014, 2015, and 2016. However, no violations in relation to the king crab fishery were noted in the 2017 report.	NOAA, 2011; 2013; 2015; 2017 http://www.nmfs.noaa.gov/ia/iuu/iuu_overview.html	2.0
	Has the coastal State been identified as having IUU fishing carried out in its waters? (NB: This may be identified by the coastal State itself, another State or by an RFMO).	There have been several specific instances of IUU being reported in Russian waters, in particular with king crab. On the high seas, several instances of illegal fishing have been reported by the NPAFC, typically linked with drift net fishing.	Brosnan and Gleeson, 2015 NOAA, 2014. http://www.npafc.org/new/publications/Annual%20Report/2015/index.html#2 https://www.ccamlr.org/en/system/files/ecc-xxxv_2.pdf	2.0
	Has the coastal State been identified as having IUU fishing carried out in its waters by fishing vessel of any State by an NGO or in scientific or press reports?	There has been no specific incidences of non-compliance identified with the US. However, there have been several reports relating to IUU within Russia, including of crab. Furthermore, while increased enforcement in the Russia EEZ has been successful in combating IUU,	https://qz.com/95583/how-spain-russia-and-other-countries-cheat-the-world-out-of-billions-of-dollars-in-fish/ WWF, 2014	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>still reports are published regarding IUU king crab harvest in Russian waters.</p> <p>Moreover, although US has strong regulatory structure for monitoring and controlling illegal fishing activities, illegal fishing is known to occur in the US domestic waters.</p>	<p>Pramod, et al., 2014</p> <p>https://www.bloomberg.com/news/articles/2014-06-19/illegal-king-crab-fishing-off-russia-valued-at-700-million-a-year</p>	
4.2 Corruption	<p>What is the WB corruption index for the Coastal State? (see WB Governance Indicators).</p> <p>Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.</p>	<p>The USA all have very high governance indicators in the top 10%, while Russia is in the bottom 20% with a control of corruption score of 19%.</p>	<p>http://info.worldbank.org/governance/wgi/#home</p>	1.5
4.3 Vessel Registration and Licensing	Are all fishing vessels fishing in the coastal State required to have a licence? (NB: Are there reports of proportion of vessels unlicensed (both national and international)?)	Licensing is a requirement for all of the flag States under assessment. However, there is no information available of the proportion of unlicensed vessels operating within the fishery.	<p>United States Coast Guard, 2017</p> <p>http://www.maritimeadvocate.com/ship_registration/on_the_register_ship_registration_in_russia.htm</p>	1.0
	Is there a licensing and quota allocation system in place? Is this system clear and transparent?	<p>In the USA, licensing and quota management systems are in place.</p> <p>In Russia, information on licensing agreements are not available.</p>	<p>http://www.nmfs.noaa.gov/stories/2014/01/01_06_14long_live_the_king.html</p>	2.0
	Is there a public list of licensed / authorised vessels?	There are public vessel list available by the US, however no vessel list was publically available by the Russian.	<p>http://www.adfg.alaska.gov/static/applications/dcfnewsrelease/622053862.pdf</p> <p>http://www.maritimeadvocate.com/ship_registration/on_the_register_ship_registration_in_russia.htm</p> <p>https://alaskafisheries.noaa.gov/permits-licenses</p>	2.0
	Are fair transparent fisheries agreements in place with DWFNs?	There is no information available of fisheries agreements with DWFNs. In the case of the US, fishing	<p>http://www.nmfs.noaa.gov/ia/permits/permits.html</p>	0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
4.4 Fair transparent fisheries agreements		<p>permits for foreign fishing vessels are required under the Magnussen-Stevens Act. Aside from transshipping vessels transshipping from US flagged vessels, no such permits have been issued. Therefore it is not applicable for the USA.</p> <p>In Russia, Foreign vessels are allowed to operate in designated areas of Japan's EEZ under bilateral fishery agreements. Information on these arrangements is not available publicly. Vessels do not appear to fish inside Russian waters under agreement.</p>	http://www.japantimes.co.jp/news/2016/05/14/national/japan-oks-sharp-cut-in-salmon-trout-quota-in-russian-eez/#.WOmaHqK1v4Y	
	Are the details of these agreements public?	n/a		0
4.5 Sanctions	Are sanctions enforced?	<p>In Russia, sanctions are enforced and information on these are available in the FAF website, as well as through 3rd party reports (e.g., NOAA, MSC fisheries certification report). For illegal fishing a fine of 300 thousand to 500 thousand Roubles or the salary or other income for a period of two to three years, or correctional labour for up to two years or imprisonment for the same period.</p> <p>In the case of the US, sanctions are enforced and information on this is publicly available as are the scale of offences. The USA apprehends and prosecutes foreign flag vessels that undertake IUU activities in its waters. Those who conduct prohibited acts are liable for a civil penalty which can be up to USD\$100,000 for each violation. Permit sanctions and civil forfeitures can also be imposed and a criminal offence can be punishable by a fine of up to USD\$200,000 and/or up to 10 years imprisonment.</p>	<p>Department of State, 2004</p> <p>OLE, 2016</p> <p>Telesetsky, 2015</p> <p>http://www.gc.noaa.gov/enforce-office3.html</p> <p>http://www.nmfs.noaa.gov/ole/newsroom/enforcement-actions.html</p> <p>http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf</p> <p>http://www.nmfs.noaa.gov/sfa/laws_policies/msa/documents/msa_amended_2007.pdf</p> <p>http://fishnews.ru/news/28885</p>	2.0
	Relative level of sanctions vs level of IUU fishing.	In the US, Offences relating to fisheries non-compliance can result in criminal prosecutions.	<p>Department of State, 2004</p> <p>OLE, 2016</p>	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>Offences relating to fisheries compliance can result in significant criminal offences as well as temporary and permanent loss of license agreements, although there has been some criticism that in some cases, sanctions are not adequate to ensure deterrence.</p> <p>In Russia, levels of enforcement and sanctions have been much improved in recent years and include strengthened sanctions, confiscations and quota cancellations. Fishing licenses may be revoked and quotas confiscated in cases of violations. Repeated offences can also lead to the total termination of the fishing rights.</p>	<p>Teleteskey, 2015</p> <p>http://www.gc.noaa.gov/enforce-office3.html</p>	
4.6 RFMO	Membership: Are they a Member of the relevant RFMOs?	No RFMO covers king crabs. The USA and Russia as coastal States participate in a number of other RFMOs in the waters that their fleets fish.	<p>https://ec.europa.eu/fisheries/cfp/international/rfmo_en</p> <p>https://www.wcpfc.int/about-wcpfc</p> <p>http://www.nmfs.noaa.gov/ia/iuu/iuu_nation_alplan.pdf</p> <p>e.g. http://www.iccat.es/Documents/BienRep/REP_EN_10-11_I_1.pdf</p> <p>e.g. https://www.nafo.int/About-us</p>	0.0
	Compliance: is the coastal State compliant with all RFMO requirements and data submissions?	There is no indication the US and Russia as coastal State do not fulfil their duties in terms of RFMO requirements and data submissions.	RFMO Compliance Reports	0.0
	Engagement: Does the coastal State submit additional information / papers to RFMO and actively participate in scientific and compliance committee meetings?	The USA and Russia as coastal States are active participants in the RFMO management and scientific meetings which they attend.	RFMO Reports	0.0
4.7 Multi-lateral agreements e.g. FAO Guidelines or UNCLOS	Is the coastal State a contracting/cooperative non-member party to multi-lateral	In 2006, Japan, the Republic of Korea, the Russian Federation, and the United States initiated negotiations to establish a new RFMO in the North Pacific Ocean,	<p>NOAA, 2011</p> <p>http://www.un.org/depts/los/convention_agreements/convention_declarations.htm</p>	1.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	agreements e.g. UNCLOS, UNFSA, FAO Agreements?	<p>However it is unclear whether it is related to the King crab fishery.</p> <p>Russia has ratified both UNCLOS and UNFSA, as well as accepting the FAO Compliance Agreement.</p> <p>The USA has only ratified the UNFSA, but not UNCLOS. It has also accepted the FAO Compliance Agreement.</p>	<p>http://www.un.org/depts/los/convention_agreements/convention_overview_fish_stocks.htm</p> <p>http://www.fao.org/legal/treaties/treaties-under-article-xiv/en/</p>	
4.8 NPOAs (IUU + others)	Is there a specific National Plan of Action (NPOA) in place to combat IUU in the coastal State?	All of the flag States have a NPOA IUU in place although the Russian one does not appear to be publicly available.	FAO, 2017 FIS, 2014	1.5
4.9 Coastal State Control	How and to what level is control exercised in the coastal State in terms of administrative controls and checks? (e.g. logbook check against VMS and administrative checks including validation of catch certificates)	<p>There is no information available on any administrative checks being carried out on the fleets operating in Russian waters, other than of their own domestic vessels. All Russian and foreign fishing boats that fish in the inland sea waters, territorial sea, continental shelf and the EEZ of the Russian Federation are monitored by VMS but the extent to which this is carried out is unknown. Fishers are obliged to register catch and landings and report on fishing activities through daily catch reports and log books. Official bodies of control are allowed to request catch documents for verification, detain citizen for violation of mandatory requirements, inspect vessels, or tools for fishing and seize them if necessary. All catch from within the Russian Federation's EEZ will be subject to custom procedures. The level to which this is exercised though is unknown.</p> <p>In the US, no foreign fisheries are permitted and the domestic fleet is monitored under flag State control.</p>	<p>Hilborn and Melnychuk, 2015</p> <p>Department of State, 2004</p> <p>http://government.ru/en/departments/243/</p> <p>https://alaskafisheries.noaa.gov/fisheries/monitoring-and-reporting</p>	2.0
	How and to what level is control exercised in the coastal State in terms of inspections on vessels at sea and in port?	<p>The US has a high level of control through at sea and in port inspections of its fleet.</p> <p>In Russia, the FAF cooperates with the FSB through the CFMC to meet MCS responsibilities, with the FSB conducting enforcement and inspections at sea and in port.</p>	<p>Clarke and Hosch, 2013</p> <p>Hilborn and Melnychuk, 2015</p> <p>Department of State, 2004</p> <p>OLE, 2016</p>	0.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
			http://wwf.ru/about/positions/fisherylaw/eng	
	How and to what level is control exercised in the coastal State in terms of remote surveillance (e.g. aerial surveillance, VMS and AIS)?	<p>In the case of the US, only domestic fisheries are permitted, which are subject to monitoring observer programmes.</p> <p>There is no information available of the Russian control through electronic means.</p>	<p>Clarke and Hosch, 2013</p> <p>Hilborn and Melnychuk, 2015</p> <p>Department of State, 2004</p> <p>OLE, 2016</p> <p>http://www.pac.dfo-mpo.gc.ca/fm-gp/species-especies/salmon-saumon/pol/index-eng.html</p> <p>https://alaskafisheries.noaa.gov/fisheries/monitoring-and-reporting</p>	2.0
	How and to what level is control exercised in the coastal State in terms of observer programmes?	<p>In the case of the US, only domestic fisheries are permitted, which are subject to national observer programmes.</p> <p>There is no information on any observer requirements of foreign vessels fishing in Russian waters.</p>	<p>Clarke and Hosch, 2013</p> <p>Hilborn and Melnychuk, 2015</p> <p>Department of State, 2004</p> <p>OLE, 2016</p> <p>http://www.pac.dfo-mpo.gc.ca/fm-gp/species-especies/salmon-saumon/pol/index-eng.html</p> <p>https://alaskafisheries.noaa.gov/fisheries/monitoring-and-reporting</p>	2.0
4.10 Coastal State Cooperation	Does the coastal State work with neighbouring or regional States to enhance MCS in their own waters and fleets?	<p>NOAA and the USCG work closely with enforcement agencies from Canada, Japan, the Republic of Korea, and the Russian Federation to enforce the NPAFC prohibition on directed fishing for anadromous stocks in the high seas areas of the North Pacific Ocean. However, no work with neighbouring regional States was available.</p> <p>Relating the King crab fishery, a bilateral agreement was signed between the US and Russia to combat IUU fishing.</p>	<p>NOAA, 2015; 2017</p> <p>The Fish Site, 2015</p>	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
4.11 Transhipment	Is transhipment allowed in coastal State or RFMO waters and is observation required through an RFMO programme or by coastal States for their own waters?	Transhipment is not prohibited except in port. However, there is no information on whether independent verifications of in port transhipment are required or carried out with any of the coastal States. Furthermore, illegal high seas transhipment has been known to occur, particularly in the king crab fishery.	NOAA, 2015 Pramod <i>et al.</i> , 2014 McDonald, <i>et.al.</i> , 2015	2.0
Average				1.24

5.5.2.5 Port State – USA and Russia (control systems in place, PSMA provisions in place)

There are incidences of IUU fish being landed in Russia and the USA however, this has not been identified by the State or by an RFMO, however many scientific, NGO and press reports have reported illegal king crab fishery landings. USA has high governance levels and although Russia has a lower level of governance it has controls and checks in place to monitor landings in its ports. Of the two Port States only USA is a participant of the Port State Measures Agreements indicating that there could be further improvement in measures to address IUU landings.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
5.1 Are the products of IUU fishing landed in the port State?	Has the port State been identified as a non-compliant State by the EU (yellow / red card)?	None of the port States involved in the fishery have been identified by the EU IUU regulation yellow/red card system.	https://ec.europa.eu/fisheries/cfp/illegal_fishing/info_en	0.0
	Has the port State been identified as a “country of interest” within NOAA biennial reports?	Of the port States involved in the fishery under assessment, Russia has recently been identified by NOAA in its 2017 report to congress for violations of CCAMLR CMMs in 2014, 2015, and 2016, although this was not specific to port State controls.	NOAA-NMFS, 2011; 2013; 2015; 2017 http://www.nmfs.noaa.gov/ia/iuu/iuu_overview.html	1.0
	Has the port State been identified as having IUU fish landed in its ports? (NB: This may be identified by the port State itself, another State or by an RFMO).	None of the port States involved have been identified as having IUU fish landed in their ports by RFMOs or other countries. However, the NOAA report in 2014 stated illegal king crab entering the US.	NOAA, 2014	2.0
	Has the port State been identified as having IUU fish landed in its ports by fishing vessel of any State by an	There have been several specific instances of IUU being reported in Russian waters, and eventually being transhipped either in Russian ports or at sea, and	Clarke and Hosch, 2013	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	NGO or in scientific or press reports?	landed in Korea, Chinese or Japanese ports for onward processing. There are few if any formal links of IUU linked with fisheries with US ports, although high numbers of IUU sourced fish, which have been subsequently laundered into legitimate supply chains, notably in Korea, China, have been noted in several reports.	http://www.fao.org/in-action/globefish/market-reports/resource-detail/fr/c/522589/ Petrossian <i>et al.</i> , 2014 Pramod <i>et al.</i> , 2014	
5.2 Corruption	What is the WB corruption index for the port State? (see WB Governance Indicators). Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.	The USA all have very high governance indicators in the top 10%. Alternatively, Russia is in the bottom 20% with a control of corruption score of 19%.	http://info.worldbank.org/governance/wgi/#home	1.5
5.3 Sanctions	Are sanctions enforced for port related activities?	In the US, sanctions are enforced and information on this is publicly available. In Russia, sanctions are enforced and information on these are available in the FAF website, as well as through 3 rd party reports (e.g., NOAA, MSC fisheries certification report).	Department of State, 2004 OLE, 2016 Telesetsky, 2015 http://www.gc.noaa.gov/enforce-office3.html http://www.nmfs.noaa.gov/ole/newsroom/enforcement-actions.html	1.0
	Are the sanctions enforced relative to the level of IUU fishing.	In the US, Offences relating to fisheries non-compliance can result in criminal prosecutions. Offences relating to fisheries compliance can result in significant criminal offences as well as temporary and permanent loss of license agreements, although there has been some criticism that in some cases, sanctions are not adequate to ensure deterrence. In Russia, levels of enforcement and sanctions have been much improved in recent years and include strengthened sanctions, confiscations and quota cancellations. Fishing licenses may be revoked and	U.S. Department of State, 2005 OLE, 2016 Telesetsky, 2015 http://www.gc.noaa.gov/enforce-office3.html	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		quotas confiscated in cases of violations. Repeated offences can also lead to the total termination of the fishing rights.		
5.4 RFMO	Membership: Is the port State a Member of the relevant RFMOs?	<p>No other RFMO covers the Bering Sea or tanner crabs.</p> <p>The USA, Russia and Japan participate in a number of other RFMOs in the waters that their fleets fish.</p>	<p>https://ec.europa.eu/fisheries/cfp/international/rfmo_en</p> <p>https://www.wcpfc.int/about-wcpfc</p> <p>http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf</p> <p>e.g. http://www.iccat.es/Documents/BienRep/REP_EN_10-11_I_1.pdf</p> <p>e.g. https://www.nafo.int/About-us</p>	0.0
	Compliance: is the port State compliant with all RFMO requirements and data submissions?	N/A		0.0
	Engagement: Does the port State submit additional information / papers to RFMO and actively participate in scientific and compliance committee meetings?	N/A		0.0
5.5 Multi-lateral agreements e.g. FAO Guidelines or UNCLOS	<p>Is the port State a contracting/cooperative non-member party to multi-lateral agreements e.g. PSMA, UNCLOS, UNFSA, FAO Agreements?</p> <p>Has the FAO Port State Measures Agreement been signed, acceded or implemented?</p> <p>Implementation of the provisions of the Convention relating to the</p>	<p>Russia has signed the PSMA but it has not ratified it. It has ratified both UNCLOS and UNFSA, as well as accepting the FAO Compliance Agreement.</p> <p>The USA has ratified the PSMA, and the UNFSA, but not UNCLOS. It has also accepted the FAO Compliance Agreement.</p>	<p>http://www.fao.org/fishery/psm/agreement/en</p> <p>http://www.un.org/depts/los/convention_agreements/convention_overview_fish_stocks.htm</p> <p>http://www.fao.org/legal/treaties/treaties-under-article-xiv/en/</p>	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	conservation and management of straddling fish stocks and highly migratory fish stocks			
5.6 NPOAs (IUU + others)	Is there a specific National Plan of Action (NPOA) in place to combat IUU in the port State?	Russia and the US have a NPOA IUU in place although the Russia one does not appear to be publicly available.	http://www.fao.org/fishery/ipoa-iuu/npoa/en https://www.undercurrentnews.com/2014/01/10/russia-approves-plan-to-counter-illegal-fishing/	1.0
5.7 Port State Control	How and to what level is control exercised in the port State in terms of administrative controls and checks? (e.g. logbook check against VMS and administrative checks including validation of catch certificates)	There is no information available on any administrative checks being carried out on the fleets operating in Russian waters, other than of their own domestic vessels. In the US, no foreign fisheries are permitted and the domestic fleet is monitored under flag State control. NPAFC is based on the enforcement of no fishing regulations on the high seas rather than monitoring of fishing activity.	Clarke and Hosch, 2013 Hilborn and Melnychuk, 2015 Department of State, 2004 http://government.ru/en/department/243/	2.0
	How and to what level is control exercised in the port State in terms of inspections on vessels in port?	The US has a high level of control through at sea and in port inspections of its fleet. In Russia, the FAF cooperates with the FSB through the CFMC to meet MCS responsibilities, with the FSB conducting enforcement and inspections at sea and in port.	NPAFC, 2015 OLE, 2016 http://government.ru/en/department/243/ http://wwf.ru/about/positions/fisherylaw/eng	2.0
	How and to what level is control exercised in the port State in terms of vessel monitoring (e.g. notification of port entry, VMS and AIS)?	There is no information available of the Russian port State control through electronic means. In the case of the US, only domestic fisheries are permitted, which are subject to monitoring observer programmes.	Clarke and Hosch, 2013 Department of State, 2004 Hilborn and Melnychuk, 2015 http://government.ru/en/department/243/	2.0
5.8 Port State Cooperation	Does the port State work with neighbouring or regional States to enhance MCS on vessels landing in their ports?	USA: The U.S is a member of many bilateral and multilateral agreements for fisheries enforcement. Under the Agreement on Mutual Fisheries Relations (1988), they cooperate with Russia on enforcement in	http://www.nmfs.noaa.gov/ia/iuu/iuu_nation_alplan.pdf	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>the Bering Sea. However, very few U.S. ports allow foreign vessels to land or tranship in its ports.</p> <p>An agreement between the US and Russia was signed on Cooperation for the purpose of preventing, deterring and eliminating IUU fishing.</p>	<p>https://2009-2017.state.gov/documents/organization/250927.pdf</p> <p>http://www.fao.org/fishery/topic/18090/en</p>	
5.9 Designated ports	Are the ports used appropriate in terms of location and size for particular fleets or species? NB: The ideal is for designated ports assigned to fleets and species to be used.	There is no information on designated ports being used for specific species in any of the port States, although both the US publish information on landings across different ports.	https://alaskafisheries.noaa.gov/fisheries-catch-landings	3.0
5.10 Transhipment	Is transhipment allowed in port and is observation required through an RFMO programme or by port States for their own ports?	<p>Transhipment is permitted in the port States, and although must be licensed, in several cases, is not monitored under an RFMO programme.</p> <p>The US generally denies transshipments by foreign vessels in its ports, except for a few ports located in U.S. insular territories. Under the Magnuson –Stevens Act the Secretary of Commerce is allowed to issue a transhipment permit to authorise a vessel other than a U.S vessel to engage in fishing solely consisting of transporting fish or fish products from within in the U.S. EEZ or outside in concurrence of that State.</p> <p>There is no system in place for the authorisation of transhipment in Russia (in Russia certain ports have been authorised to receive transshipments in the Northeast Atlantic under NEAFC).</p> <p>It is not clear if these are appropriate for the fishery and vessel size and transhipment activities are not transparent.</p>	<p>Department of State, 2004</p> <p>http://www.fao.org/docrep/005/Y3536E/y3536e09.htm</p> <p>https://www.federalregister.gov/documents/2017/03/21/2017-05493/permits-foreign-fishing</p> <p>https://www.megafishnet.com/news//2079.html</p>	3.0
Average				1.65

5.5.2.6 Market State – Japan - Traceability and national requirements

Japan is the sole market State in the fishery under assessment. The sheer scale of fisheries products imported into Japan alone increase the potential risk of IUU, and indeed IUU products are believed to be imported, or have been regularly imported into Japan. This notably has included supply chains of king crabs originating from USA and Russia, while in the crab fisheries there are several reports highlighting the perceived import of illegal king crab products into Japan. These issues are all compounded by the lack of information on the fishery under assessment and subsequent chain of custody.

However, Japan has taken several positive steps to combat the importation of IUU, and while these are predominantly focussed on higher value, higher IUU risk fish, such as toothfish and tuna, it is uncertain how the measures are applicable across all fisheries.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
6.1 Products of IUU fishing found in the final market State or within the States of the supply chain?	Has the market State or any of the States in the supply chain been identified as a non-compliant State by the EU (yellow / red card)?	Japan has not been identified by the EU IUU regulation yellow/red card system.	https://ec.europa.eu/fisheries/cfp/illegal_fishing/info_en	0.0
	Has the market State or any of the States in the supply chain been identified as a “country of interest” within NOAA biennial reports?	Japan has not been identified by NOAA in any of its reports to congress.	NOAA, 2011; 2013; 2015; 2017 http://www.nmfs.noaa.gov/ia/iuu/iuu_overview.html	0.0
	Has the market State or any of the States in the supply chain been identified as having IUU fish landed in its ports? (NB: This may be identified by the port State itself, another State or by an RFMO).	Japan has been identified as having IUU fish landed in their ports by RFMOs or other countries. Ports on the north coast of the Hokkaido, have in past years directly received Russian crab vessels. Much of the offloaded crab was IUU, until bilateral agreements taking effect in 2002 and 2014, respectively, banned Russian vessels from directly landing catches in Japan, and required them to present a Russian certificate of origin for crab shipments. Much of the IUU catch is now routed through Busan, South Korea, where is commingled with documented crab and re-exported to the U.S.A.	Pramod <i>et. al.</i> , 2014 Loew, 2016	2.0
	Has the market State or any of the States in the supply chain been identified as having IUU fish landed	Japan has been identified by various press reports as being the recipient of IUU sourced fish, usually after being laundered in the supply chain, although trade	Clark, 2007a; 2007b Pramod <i>et. al.</i> , 2014	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	in its ports by fishing vessel of any State by an NGO or in scientific or press reports?	measures to combat IUU have been noted to have been improved. However, since the anti-poaching agreement for crab between Japan and Russia the crab export from Russia to Japan fell.	Loew, 2016 Marine Conservation Institute, 2014 Clark and Hosch, 2013 DGIPOL, 2013 Iwaki, 2015	
6.2 Supply chain length, complexity and transparency	How many States and companies are in the supply chain?	There is no information on the supply chain. However, king crabs are mainly exported to Japan frozen or alive. Therefore, it can be assumed that the supply chain is short.	Iwaki, 2017	2.0
	How many different companies and transfers of ownership, amount of processing?	There is no information on the supply chain. However, although we stated above that the supply chain can be assumed to be relative short, it does not exclude that several different companies are involved.	WWF, 2014	3.0
	Is the chain publically known and transparent?	There is no information on the supply chain. However, it can be assumed that majority of the king crab is exported from USA or Russia to Japan.	Japan Times, 2016 Iwaki, 2017	3.0
6.3 High risk points in the supply chain	Are the ports in the supply chain (after the port of first landing) known or suspected PONCS and do the ports used have well documented and effective port control and inspection?	The ports in the supply chain are not specifically known. However, Japan is not recognised as a PONC or port. Japan also makes efforts to tackle IUU fishing through Regional Fisheries Management Organizations (RFMO), by promoting the VMS, as well as on-board observer programs and standard port inspection measures (WCPFC 2012) ⁸ .	DGIPOL, 2013	0.0
	Does processing occur in locations that seem out of context (e.g. locations with no history of processing, high costs incurred for transport, high cost of processing) or	It is unknown whether any processing takes place prior the king crabs entering Japan and whether it seems out of the context. However, from what is unknown it can be assumed that processing does not take place out of context.	Japan Times, 2016 Iwaki, 2017	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	with history of laundering IUU catches?			
6.4 Corruption	<p>What is the WB corruption index for the port State? (see WB Governance Indicators).</p> <p>Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.</p>	Japan has a very high governance indicators in the top 10%.	http://info.worldbank.org/governance/wgi/#home	0.0
6.5 Post landing inspections	Performance of spot audits at key transport hubs and border inspection points?	There is no information on spot audits being carried out at key transport hubs and BIPs. However, there are clear indicators this does occur, at least in the tuna industry, with a consignment if tuna being refused entry.	DGIPOL, 2013	2.0
	Are inspections carried out on the fish after landings e.g. by customs, BIPs and in transit?	When a consignment arrives at a Japanese port a 'Notice of Customs Clearance' is sent to the addressee from a customs office and a customs clearance procedure is initiated. In some cases a health and sanitary certificate must also accompany the import notification form. Food is then quarantined and inspected to ensure it complies with Food Sanitation Law. Consignments with a past record of non-compliance will often require further examination. Some fish require approval for import prior to customs clearance procedures (e.g. those governed by import quotas or by international conventions or agreements).	http://www.fao.org/docrep/008/y5924e/y5924e06.htm	1.5
6.6 Independent Verifications	Is supply chain MSC CoC certified?	Currently there is no king crab fishery certified, moreover it is unknown whether the supply chain is MSC CoC certified.	MSC, 2017	3.0
	Non-MSC Supply chain and traceability audits (due diligence) conducted?	There is no information on whether due diligence audits are carried out.	No information could be found.	3.0
6.7 CDS / CC certification	Do catch documentation schemes exist for the species?	As part of Japan's efforts to improve efforts to control imported fish products, various CDS were introduced. However, these do not apply to crab. Furthermore, if	DGIPOL, 2013	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		not specifically requested, the product will not be accompanied by a catch certificate.		
6.8 Processing or transshipment vessels involved in market chain.	If transshipment or processing on board a Klondiker or mother vessels is allowed (licensed) in the fishery, are the Klondiker and transshipment (reefer) vessels on the relevant whitelists (authorised) or blacklists (IUU)?	There was no information on whether processing vessels are used in the supply chain.	No information could be found.	3.0
	Are there independent observer programmes on non-fishing vessels?	There are no independent observer programmes on non-fishing vessels, although there are no support vessels in the fishery and transshipment at sea is illegal.		0.0
Average				2.02

5.5.3 Recommendations

5.5.3.1 *Fishing vessels, legal personalities and companies*

- Information is required on the fishing vessels, legal personalities and companies involved in all stages throughout the supply chain to provide a more accurate assessment of individual supply chains entering the Japanese market.

5.5.3.2 *Fisheries*

- Clarification on the King crab species sourced, (e.g. Red king crab, Blue King Crab etc.).
- Information is required on the specific fisheries sourced, which supplies Japan.
- Further data on King crab fisheries should be collected in order to gain a better understanding of the king crab stocks.
- Populations' status may regularly change, therefore it is important to stay informed on the status on a regular basis.
- Wherever possible, MSC certified product should be sourced through MSC CoC certified supply chains.
- Engage in working towards MSC certification.

5.5.3.3 *Flag State*

- Complete vessel and fisher identification, including licence and registration, as well as any unique vessel identifiers should be obtained for all product sourced. As all of the flag States involved have the capability to produce a catch certificate, a catch certificate should be obtained in all cases, and accompany the product.
- Regular forensic audits of the supply chain should be carried out and include administrative checks of the catching vessels.
- In the case where any product is sourced from another coastal State, detailed information on the nature of the agreement should be obtained.
- Further information on the enforcement of the control requirements specifically for the king crab fishery.

5.5.3.4 *Coastal State*

- In the case where any product is sourced from flag State different to the coastal State, detailed information on the nature of the agreement should be obtained (whether private or State to State). In addition, full details of those vessels fishing in other coastal State waters should be obtained.
- Forensic audits of the supply chain should be tiered to ensure higher risk coastal States, i.e., Russia, are examined in more detail. Furthermore, these audits should provide reassurances that catch was not obtained from the high seas.
- Further information should be collected on the implementation of coastal State controls.
- Information on transshipment controls within their coastal waters is required.

5.5.3.5 *Port State*

- Transshipment within the supply chain should be avoided. In cases where this is unavoidable, accompanying documentation, including details of any independent verification needs to be obtained.
- Where possible, engage Russia to ratify the PSMA.

5.5.3.6 Market State

- Ensure all product is accompanied by a catch certificate, as well as any accompanying documentation, notably transportation (including transshipment) and transformation (processing).
- Obtain a list of all possible intermediary companies and States involved in the supply of product.
- Carry out regular forensic audits of the supply chain, examining any links in custody, and the associated companies and States.
- Ensure requirements for a clear and transparent supply chain are communicated throughout the chain of custody.
- Wherever possible, source king crabs direct from the supplier, or with limited supply chain complexity.

NB: It should be noted that the IUU risk assessment carried out is limited in scope, analysing the risk that IUU fish may enter the supply chain from a particular fishery. It does not analyse the individual supply chains present and this would require a traceability assessment to be carried out which has not been done in this case.

5.6 Mackerel nei

5.6.1 Executive Summary

The IUU risk assessment is designed to provide an estimate of the potential for IUU sourced mackerel to enter a particular supply chain, identify potential risks in the supply chain from the fishery through to the market place and to then identify where interventions are possible to reduce and minimise this risk. It will not be able to indicate the level of risk that occurs once a fishery has entered the supply chain and it is recommended that a traceability benchmarking assessment or similar review of the supply chain is conducted to evaluate this risk if the risks are considered high enough to require it.

The broad scope of this assessment constrained the ability to estimate an accurate risk of IUU due to paucity of knowledge of which flag, coastal and port States (FS, CS, PS) operated within the supply chains. However, the risk assessment (RA) was guided by trade data that indicated imports were most likely originating from vessels fishing within the North East (NE) Atlantic for *Scomber scombrus* and therefore information pertaining to these fisheries has been included in detail. This has allowed for recommendations regarding minimising IUU risk to be made, and it is suggested that products should be purchased from fisheries operating within the NEAFC regulatory area and caught by Contracting Parties (CPs) e.g. Denmark (in respect of the Faroe Islands and Greenland), European Union (EU) Member States (MS), Iceland, Norway and the Russian Federation. Further to this, it is suggested to purchase products from CS that have ratified the Coastal States Agreement (CSA) e.g. Faroe Islands, EU and Norway. This excludes catches from Iceland, Russia and Greenland, which are responsible for substantial landings, however operate outside the auspices of the CSA and international TACs and could therefore be perceived as a threat to future stock sustainability. It is the introduction of the aforementioned novel countries targeting mackerel within the NE Atlantic Area that led to the breakdown of internationally agreed management and resulted in the suspension of 7 MSC certificates that covered a substantial proportion of this stock. The suspension has now been lifted as of May 2016 for some certificates e.g. the Mackerel Industry Northern Sustainability Alliance (MINSA) group. It is worth noting that although the presence of novel countries targeting mackerel stocks endangers sustainability through the breakdown of traditional management it doesn't actually represent IUU as they are not breaking any internationally binding legal agreements. In addition, there is widespread agreement amongst industry and scientific actors that NE Atlantic mackerel populations are currently healthy.

Overall sustainability of the NE Atlantic stock is only viewed as a moderate risk as management decisions are informed by an annual, age-based analytical stock assessment that suggests that the stock is at full reproductive capacity (as indicated by the level of spawning stock biomass (SSB) of the stock). However, fishing mortality (F) is currently operating above scientifically advised levels given by International Council for the Exploration of the Sea (ICES), and has been so for the last five years. Therefore, the absence of an internationally agreed TAC allows for the perpetuation of high F and increases the risk of fisheries becoming unsustainable. In addition, we are unable to ascertain the origin of products meaning that Japanese imports could originate from a wide variety of stocks therefore increasing IUU risk through uncertainty.

Ascertaining IUU risk by flag, coastal and port States is constrained by the absence of full-chain traceability, which may exist for individual shipments, therefore descriptions within these sections mostly detail countries targeting stocks within the NEAFC regulatory area. Within this scope IUU risk was found to be relatively low, as all catches taken within the NEAFC regulatory area are subject to management and conservation measures that mean the fleets are highly regulated with widespread data collection, sharing and public scrutiny of fishing activities. Regular inspections at sea by trained NEAFC inspectors and coastal State inspectors are

stipulated within both NEAFC and EU regulations, as well as the implementation of widespread sharing of Vessel Monitoring System (VMS) data. Port inspections within the NEAFC regulatory area are based upon a risk-based monitoring system and no significant reports of non-compliance with RFMO regulations or IUU activity was found for the NE Atlantic mackerel fleet within the last five years. There was found to be a paucity of publically available knowledge pertaining to National Plans of Action (NPOA) for combating IUU in countries outside of the EU and there was also uncertainty concerning the regularity with which sanctions were applied and to what extent these were proportional to IUU activities. Incidences of historical IUU were found within press reports and scientific analyses, including organised crime operating at a significant level. This demonstrates the motivations for IUU within NE Atlantic fleets, however is not perceived to increase the current IUU risk as owing to these activities the fleet came under intense scrutiny, tighter controls and there was an overall drive in working towards sustainability processes afterwards e.g. MSC certification. Since 2010 there are only reports of sporadic incidences of illegal activity and press reports detailing industry opinions demonstrate increased appreciation of the importance of the stocks and maintaining their sustainability.

Recommendations for decreased IUU risk throughout supply chains are provided, however the overall recommendations are to purchase MSC products originating in the NE Atlantic, which are available again as of May 2016 following a period of re-suspension.

Table 14 Average score (Mackerel nei) for the six key areas in the risk assessment.

Key risk areas:	Score
Fishing vessels, legal personalities and companies	1.54
Fisheries – NE Atlantic	1.17
Flag State – Various	1.45
Coastal State – Wide ranging coastal states (NEAFC)	1.67
Port State – Various	1.61
Market State – Various	1.81
Average	1.54

Key:

Colour	Min	Max	Risk	Description
	>0.0	<=0.6	No or minimal risk	Little or no action required
	>0.6	<=1.1	Very low risk	Some minor actions may be required, but risk level is very low
	>1.2	<=1.8	Low	Risk level is low, but some particular elements may require mitigating measures to be put in place.
	>1.8	<=2.4	Medium	Medium level of risk. Particular scoring elements may need to be addressed and mitigated against.
	>2.4	<=3.0	High risk	High level of risk. One or more elements have substantial risks associated with them. Scores of this level may suggest sourcing from a different fishery.

5.6.2 Identification

This risk assessment addresses the following scope:

Table 15 Identification of scope of the IUU risk assessment.

Species	Mackerels nei (<i>Scombridae</i>)
Area	Various
Gear	Pelagic trawls, purse seine, hook and line
Fleet	Wide ranging
Coastal States / RFMO:	Wide ranging coastal states (NEAFC)
Port State:	Wide ranging
Market State:	Japan

5.6.2.1 Fishing vessels, legal personalities and companies

Trade data indicate that the majority of mackerel on the Japanese market come from Northeast Atlantic fisheries. The majority of mackerel caught within the Northeast Atlantic is targeted by EU fleets and a handful of other non-EU nations, namely Norway, Iceland and Denmark (with respect to Greenland and the Faroe Islands). Therefore this risk assessment will outline details pertaining to this fleet mostly in order to ascribe a proportional IUU risk to Japanese imports. Mackerel is also targeted by fisheries in the Northwest (NW) Atlantic from North Carolina to Labrador by US fishing fleets mostly, however it is less likely that these fisheries supply Japanese markets. In this case as there are no specific details of the vessels and companies, the risk is assessed across the whole entire fleet e.g. by assessing whether there are any vessels listed on the Regional Fisheries Management Organisation (RFMO) list from any of the fleets targeting Northeast Atlantic mackerel, although for the flag States listed (and in particular the EU MS) it is highly likely that all vessel registrations and authorisations are completed due to the control regime in place within the EU..

In terms of vessels, most mackerel fisheries selectively target large shoals offshore in single species fisheries using mid-water trawls, pair trawls or purse seines. Vessels tend to be highly selective within the Atlantic distribution area as they employ dual and triple sonar technology to differentiate between pelagic species; some hand-line / gillnet fisheries exist e.g. within Spain and the UK. Vessels can be extremely large and include freezer vessels that process and catch their catch at sea and others that store catch in Refrigerated Sea Water (RSW) for onshore processing. It is recommended to increase traceability within supply chains in order so that IUU risk can be more accurately described.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
1.1 Vessel/Fisher Identification	<p>Vessel identification e.g. vessel name, callsign, country registration number and national and RFMO authorisations to fish (either inside national waters or outside on the high seas or in other zones) is complete to enable identification.</p> <p>Are vessels required to have unique IDs?</p>	<p>All NEAFC CPs are found to maintain national vessel lists including details on callsigns, RFMO authorisations to fish, vessel names and homeports. All EU MS are required to submit these details, along with historical catching behaviour and fishing gear, to the European Commission at least every 3 months; failures to do so may lead to proportionate suspension penalties. National vessel lists are annually provided to the NEAFC Secretariat and all NEAFC CPs are required to ensure fishing vessels are marked so that they can readily identified in accordance with generally accepted standards e.g. the Food and Agriculture Organisation (FAO) Standard Specifications for the Marking and Identification of Fishing Vessels.</p> <p>Research suggests that vessel identification details are maintained by all NEAFC CPs, along with substantial details regarding the vessels therefore IUU risk would appear to be low. However, we do not have any information regarding the exact fleet that supplies the Japanese market. Therefore, this is scored 1.5.</p>	<p>NEAFC (2017a) Scheme of Control and Enforcement</p> <p>European Commission (2017a). Management of fishing capacity-fishing fleet.</p> <p>DNV.GL (2016)</p> <p>Hegland & Hopkins (2014)</p>	1.5
	<p>Are each vessel, captain(s), owner and beneficial owner and agent identified as far as possible, this should ideally be transparent?</p>	<p>For those targeting NE Atlantic mackerel all EU MS are required to submit personal data including agent and owners name and address to the community fishing fleet list. For other CPs, Iceland maintains a list of crews on each vessel, along with details concerning owner/agents. No specific data was found for Faroese vessels, however under national law all Faroese vessels are required to be two thirds owned and therefore it is presumed that details on ownership are submitted. All CPs are required to submit vessel details to NEAFC including vessel owner and master.</p> <p>Therefore, for the NE Atlantic fisheries it is highly likely that both vessels and captain and owners will be identified, and present within a national and/or fleet register and publically available. However, we do not have any information regarding the exact fleet that supplies the Japanese market. Therefore, this is also scored 1.5.</p>	<p>Faroe Islands Fisheries & Aquaculture (2013)</p> <p>The Icelandic Directorate of Fisheries (2016)</p>	1.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
1.2 Vessels on IUU lists.	Are any of the vessels listed in the RA scope on the IUU Lists of RFMOS, (NGOs to be considered but not as clear evidence as evidential value to include is not of the required standard)?	This RA has a wide scope and there is no data on specific vessels or distribution area. However, with regards to CPs and common non-CPs operating within the NE Atlantic mackerel fisheries there are no FS vessels listed on IUU A or B list. Therefore, this is scored 1.	NEAFC (2017b) NEAFC A and B IUU lists.	1.0
	Are any of the legal personalities listed in the RA scope listed on the IUU lists of nationals and companies involved in IUU? Is there any evidence of unlicensed fishing occurring?	Insufficient data on specific vessels within the supply chain to ascertain the likelihood of personalities being listed on IUU lists. There are no widespread indications of unlicensed fishing occurring across the NE Atlantic distribution area, however we have no analysis of whether or not it occurs across the distribution area and therefore this is scored as slightly higher in terms of IUU risk. Therefore, due to uncertainties this is scored 2.		2.0
	Are all of the vessels listed on the RA scope listed on authorised (white) lists for RFMOs and/or national authorised lists?	All CS participating in the fishery (the EU Member States, Norway, Iceland, Greenland as well as Russia) are signatories of NEAFC. Every CS is required to send a list of authorized vessels to NEAFC on an annual basis, therefore it is highly likely that vessels are listed on the relevant RFMO authorized list. However, the broad scope of this risk assessment prevents us from tracing the vessels used within the fisheries. Therefore, this is scored 1.5.	NEAFC (2017a). Scheme of Control and Enforcement.	1.5
1.3 IUU fishing carried out by vessels flying its flag, by its nationals or by companies based in that country.	Are the history, nature, circumstances, extent and gravity of the manifestations of IUU fishing as listed in EU carding process by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	No EU yellow flag, current or previous, was found for activities within the NE Atlantic fisheries, and it is unlikely that any vessels catching mackerel for supply to the Japanese market would have received an EU card due to the distribution of FS vessels that have previously received cards. However, there is still a lack of full chain traceability therefore some IUU risk is perceived and this is scored 1.	European Commission (2017c) The EU Rules to Combat Illegal Fishing	1.0
	Are the history, nature, circumstances, extent and gravity of the manifestations of IUU fishing as listed in the NOAA biennial reports by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	Without any details as to the vessels engaged in the supply chain we cannot ascertain an accurate IUU risk. Some flag States that target NE Atlantic mackerel have been identified in the reports, e.g. Russia, as a country of interest, therefore a medium risk is estimated.	NOAA Fisheries biennial reports (2012-2017)	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are there scientific and market analyses defining the level of IUU (e.g. RFMO reports) conducted by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	Without any details as to the vessels engaged in the supply chain we cannot ascertain an accurate IUU risk. No reports were found that specifically provided an analysis of IUU activity in the NEAFC area, ICES reports express uncertainty over the levels of slippage, which would be regarded as unreported. This is only quantified for part of the fisheries (0.8% in weight in 2015); the proportion of the landings covered cannot be calculated. Partial discard estimates are included in the assessment and overall discarding is considered negligible. MSC reports assess the level of IUU for the relevant companies/producers as low due to MCS activities and full-chain traceability. Without further details a general IUU risk across the fishery is estimated at 1.5, due to presence of MSC certification processes.	ICES (2016 & 2017) Acoura Marine Ltd (2016) MINSA Public Certification Report.	1.5
	Are there NGO and Press reports of IUU incidents (specific to vessels/companies) conducted by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	There are historic incidences of substantial levels of IUU occurring by CS fleets including Irish fleets. From 2000-2005 highly organised illegal activity amongst UK fleets occurred, which meant large catches went undeclared. More recently, there has also been recent incidences of vessels not adhering to the reporting regulations and failing to declare catch on-board prior to entering so-called "mackerel boxes". Therefore, press/NGO reports suggest high levels of historical IUU activity, however as a result all fleets were subject to increased scrutiny and tougher regulations. In addition, IUU appears to have mostly occurred over 5 years previous, and it doesn't appear to be widespread and prolific in the current day. Therefore, 1.5 is awarded.	The Irish Times (2006) The Guardian (2012a & 2012b)	1.5
Average				1.54

5.6.2.2 Fisheries – Mackerels *nei Scombridae* (sustainability, impacts)

As mentioned in the section above the scope of this RA is such that products most likely originate from the NE Atlantic, and therefore attention is focused on these fisheries. Mackerel are fast-growing (reaching 22cm in one year only), short-lived fish that are quick to mature and highly fecund (producing 250,000 eggs per spawning) and therefore are inherently resilient to the long-term impacts that over fishing may cause (Seafish, 2017). In terms of fisheries stocks within the NE Atlantic mackerel catches are almost entirely composed of Atlantic mackerel (*S.scombrus*), however within the southern part of the distribution area it can be caught together with Spanish mackerel (*Scomber colias*) ICES, 2017). Stocks tend to cover expansive migrations areas, with intermixing between separate spawning components common e.g. within the Northeast Atlantic stock (NE Atlantic) (Seafish, 2017). As a result biomass, recruitment and distribution is highly variable and can vary from year to year. The culmination of these factors means that biomass, understanding fisheries' sustainability and impacts can be subject to unpredictability (Seafish, 2017) and the movement of mackerel stocks within the NE Atlantic has, within recent years, constrained the sustainability and management of stocks.

Catch and survey data from recent years indicates that the stocks has expanded north-westwards during spawning and summer feeding migrations, leading to a breakdown of international management agreements and, until recently, suspending MSC certification for all fisheries. Despite the suspensions scientific analyses do not suggest that the fisheries are unsustainable as a result of the emergence of novel fishing opportunities, and fisheries officials reportedly encounter large shoals of mackerel over the whole of its distribution area (ICES, 2017). The risk is mostly described in relation to NE Atlantic stocks, however due to the broad scope of the risk assessment the risk is increased at every stage owing to the lack of traceability meaning that IUU risk cannot be accurately described or scored.

Specific Risk	Specific Risk Questions to Address	Description	Evidence	Score
2.1 Status of fisheries and sustainability	Are fisheries operated with control on removals e.g. quota and / or effort limits?	<p>As a straddling stock mackerel is managed by an RFMO consisting of both CS and relevant Distant Water fishing nations (that have a genuine interest in the fishing rights); as dictated by the 1995 United Nations Fish Stocks Agreement (UNFSA). For mackerel the relevant RFMO is the NEAFC. For NE Atlantic mackerel Total Allowable Catch (TAC) was traditionally agreed on by all CS engaged in the fisheries through the Coastal States Agreement (CSA) in accordance with ICES advice. This allocation is not based on any legally binding long-term agreement, however has traditionally been adhered to by all the CS, until the emergence of novel fishing opportunities in Iceland and Greenland. Both countries unilaterally set their own quotas external to the existing CSA and control of fishing levels on an international level ceased.</p> <p>Since 2009, Iceland officially became a CS for mackerel in 2009, however it is still external to the CSA. However, as part of a 5-year agreement (2014-2018) between the EU, Norway and the Faroe Islands there is a CS and NEAFC reserve equivalent set aside, which</p>	<p>European Commission (2016). Commission Negotiates Mackerel Quota Increase</p> <p>Acoura Marine Ltd (2016) MINSA Public Certification Report.</p> <p>The Icelandic Directorate of Fisheries (2016)</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>is approximately 15.6% of the total TAC and allows for catches from Iceland, Greenland and now Russia also (as adherents to the agreement). This management plan has yet to be evaluated by ICES and it is worth noting that although control over removals is increasing there remains no internationally agreed TAC. However, non-CPs set their own annual TACs based upon advice from their research institutes (e.g. Iceland's Marine Research Institute) or ICES advice.</p> <p>Therefore, this is scored 2 for Northeast Atlantic mackerel as output controls are in place but as there is still a lack of internationally agreed management plans.</p>		
	Are stock assessments available for species that use data on total removals (i.e. catch, by-catch, IUU and discards)?	<p>ICES annually provide stock assessments for NE Atlantic mackerel; which is assessed as one stock, although the stock is divided into three spawning components, the western, southern and North Sea. This is an age-based analytical model that is conducted using a wide variety of input data including catch and tagging data and three survey indices (SSB index from the triennial egg survey (1992-2016).</p> <p>Estimating the impact of discards and slipped proportions of catch has been a key source of uncertainty in the past due to the existence of widespread differences in discard practices amongst the targeting fleets. Discarding is known to take place, but is only quantified for part of the fisheries (0.8% in weight in 2015) and the proportion of the landings covered cannot be calculated. Partial discard estimates are included in the assessment and overall discarding is considered negligible. There is some uncertainty as to the product species, therefore a higher IUU risk is scored.</p> <p>This has been scored 1 due to the availability of annually conducted assessments that utilise a wide variety of data, however some uncertainty surrounds discards/by-catch as noted by ICES.</p>	<p>ICES (2015 & 2017)</p> <p>Acoura Marine Ltd (2016) MINSA Public Certification Report.</p>	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are target and limit reference points defined for the fishery?	<p>The long-term management strategy for Northeast Atlantic mackerel (the CSA) is based on annual analytical stock assessments done by ICES and uses recruitment indicators e.g. SSB. This plan has been declared by ICES to be consistent with a precautionary approach, and is intended to constrain harvesting within safe biological limits and provide for sustainable fisheries. The 2007 NEAFC Convention also requires the precautionary principle to be used. However, no international agreement on TACs and reference points has been in place since 2009; therefore target reference points are currently compromised.</p> <p>Management of the NE Atlantic stock and reference points are defined through stock assessments conducted by ICES and updated annually. However, there is no international agreement on NE Atlantic stocks and there is a degree of uncertainty of product origin. Therefore this has been scored 1.5.</p>	<p>ICES (2015 & 2017)</p> <p>Seafish (2017)</p> <p>Acoura Marine Ltd (2016) MINSA Public Certification Report.</p>	1.5
	Are fisheries operating at a level at or under MSY?	<p>The NE Atlantic stock has had an increasing SSB since the early 2000s, and is currently at a level above MSY $B_{trigger}$ and has been for the last five years. The stock is also said to be above full reproductive capacity and precautionary levels (B_{pa}) and ICES advises that the stock is healthy.</p> <p>That said, ICES advises that despite decreasing fishing mortality (F) levels it remains at a level above F_{MSY}/precautionary levels (F_{pa}) and has been for the last 5 years. In addition, fisheries independent data (in the form of egg surveys) offer contradictory information and suggest that there has been a decrease in SSB since 2013. ICES has advised the CS on a range of harvest control rules following the CSA, however it was decided to wait until the ICES benchmarking of the stock which is due to place in early 2017. Currently, there is nothing to suggest that the fisheries are unsustainable as a result of the emergence of novel fishing opportunities, and fisheries officials reportedly encounter large shoals of mackerel over the whole of its distribution area (ICES, 2014a). However, as a result of high levels of F_{MSY} within the last 5 years for the NE Atlantic mackerel, and the uncertainty of product origin this has been scored 2.</p>	<p>ICES (2017)</p> <p>Seafish (2017)</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are bycatch and ecosystem impacts known (and if different for IUU fishing)?	<p>Mackerel fisheries and related bycatch / ecosystem impacts are highly scrutinised throughout the NE Atlantic area due to MSC certification processes and EU MS regulations. MSC assessments report that mackerel fisheries are highly selective and that bycatch of non-target species in single-species mackerel fisheries is extremely low. The status of non-targeted commercial by-catch species is also subject to scrutiny during MSC assessment processes; multi-species fisheries exist within the Faroese, EU, Iceland and Ireland for horse mackerel, blue whiting, hake and cod. Incidences of “slipping” along with unwanted mackerel catches is also considered to be low due to scrutiny of the fisheries and presence of observers. Anecdotal information suggests that discarding can occur for a number of reasons including high grading (to attract a better price).</p> <p>Due to the selective gear types used the fishery is not said to cause serious or irreversible harm to habitat or ecosystem structure. Due to the expansive distribution of mackerel overlaps with a number of marine mammals classified as endangered by IUCN exist. There is limited information available on the by-catch of mammals however there have been some anecdotal reports of entanglement and catching of non-endangered mammals and long-finned pilot whales off southwest Ireland.</p> <p>Mackerel fisheries are highly selective with minimal ecosystem impacts, which are widely identified and quantified throughout the distribution area due to MSC certification processes. Uncertainties exist for the extent of slippage and we cannot be assured that products are coming from the NE Atlantic. Therefore, this is scored 1.</p>	<p>Acoura Marine Ltd (2016) MINSA Public Certification Report.</p> <p>DNV.GL (2016)</p> <p>Seafish (2017)</p> <p>ICES (2017)</p>	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Is the fishery at or below capacity?	<p>Until 2010 internationally agreed TACs covered the whole NE Atlantic distribution area and fisheries weren't deemed to be overcapacity. However, since the shift in distribution and increase in catches by Greenland and Iceland fisheries have been operating at up to 35% higher than recommended by ICES. However, there are strong indications of increasing SSB and that the stock is at full reproductive capacity, indicating that current catch levels do not pose a threat to the stock. MSC certificates have been re-issued due to these indications, as well as the 5-year CSA (2014-2018). This CSA looks to ensure that fisheries are operating at levels below capacity, by setting aside reserves for novel CS.</p> <p>This is scored 2, as there is substantial evidence of overcapacity in the fisheries through the inclusion of new coastal states and the breakdown of international management frameworks. We are also uncertain of the relevant fisheries. That said there are measures in place to reduce overcapacity.</p>	<p>ICES (2017)</p> <p>Acoura Marine Ltd (2016) MINSA Public Certification Report.</p>	2.0
2.2 History of IUU	Do previous incidences of IUU exist within the fishery?	<p>As aforementioned a substantial proportion of the catches within the NE Atlantic stock were made by new CS, during the so-called "mackerel wars". However, this cannot be considered to be unregulated owing to the fact that coastal State arrangements are not legally binding under international law and the mackerel fisheries are conducted within EEZs that are only subject to national coastal State law. Incidences of MS overfishing their quotas have occurred, with Spain admitting that they had exceeded their quota in 2009 by a substantial amount. From 2000-2005 there was substantial illegal activity carried out by UK fleets, which did not declare up to 70% of their catches through evasive behaviours in processing / landing facilities. There has also been recent incidences of vessels not adhering to the reporting regulations and failing to declare catch on-board prior to entering so-called "mackerel boxes". In 2015 a Dutch super-trawler was charged by the UK organisation Marine Management Organisation (MMO) for illegally retaining mackerel that was deemed to have been caught in a protected area called the "mackerel box". This was attributed to the failure to notify the MMO of any existing mackerel on-board.</p> <p>This is scored 2 due to uncertainties over fisheries, indications of substantial IUU over 5 years ago, and some continued evidence of unsubstantial IUU.</p>	<p>European Commission (2016)</p> <p>MMO (2015)</p> <p>Seafish (2013)</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
2.3 Access to fishery	Are fisheries authorised through a fishing licence / permit system?	<p>For all flag states targeting NE Atlantic mackerel fisheries licences are compulsory, enshrined within national regulations and subject to rules.</p> <p>However, we are uncertain as to which fisheries products originate from and therefore this is scored 10</p>	<p>European Commission (2017). Management of fishing capacity-fishing fleet.</p> <p>NEAFC (2017a). Scheme of Control and Enforcement.</p> <p>The Icelandic Directorate of Fisheries (2016)</p> <p>Hegland & Hopkins (2014)</p>	1.0
2.4 Price	Data on species market prices (domestic/international) Low price fish (<US\$1000/t) are generally lower risk (e.g. small pelagics), higher priced (>US\$5000/t) demersals (e.g. cod and haddock) will be higher risk, high value species are generally higher risk.	Mackerel (whole) from EU States fetches a price of between US\$1,000 and US\$1,200 per mt at landing. This puts it just above the lowest price band and therefore would be of low risk and a score of 0.5 has been given.	Globefish European Price Reports (2015 – 2017)	0.5
	Are any mitigation procedures that may be in place for high value species (e.g. catch documentation schemes, EU catch certificate requirements) in place (e.g. bêche de mer, bluefin tuna)?	<p>Mackerel is a low-medium value species; therefore even though there are no mitigating schemes in place this would not represent a high risk. That said, there are systems in place to identify fish sourced from a particular fishery through EU catch certificates and wider requirements from flag States under their engagement with NEAFC. For example, all frozen fish caught in the NEAFC should be identifiable with a clearly legible label/stamp. On this stamp should be the 3-alpha FAO species code, production date in numerals, ICES sub-area and division where it was caught and the catching vessel name.</p> <p>Due to the low value this is scored 0 as additional checks are not required. It is also highly likely that catches are from within the EU and therefore highly controlled or there are requirements for catch certificate schemes in place entering the EU in transit to Japan.</p>	NEAFC Scheme of Control and Enforcement (2017a)	0.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
2.5 MSC certification/ /FIP processes	Is there MSC certification for the fishery or is there a FIP in process? MSC certification requires IUU to be low or negligible and has checks to ensure this is the case. If the fishery is going through a FIP process as well/that may indicate improvement within the fishery e.g. Sri Lanka.	Prior to 2012, seven MSC certifications covered a substantial proportion of the NE Atlantic mackerel, however these were suspended owing to the breakdown of internationally agreed management frameworks. This suspension did not represent a certificate withdrawal, and therefore on completion of the harmonised condition there is no need for a full reassessment. The first certificate was won back by the MINSA group, in May 2016, upon the basis that international cooperation and management frameworks meet the requirements of the MSC framework. Additional MSC certifications exist covering the Faroese Pelagic Organisation and other combined fisheries. There are also additional fisheries in the assessment process including from Icelandic vessels. The presence of a number of MSC certificates covering different fleets across the NEAFC regulatory area subjects the fisheries to scrutiny and indicates that the risk of IUU fishing is deemed to be sufficiently low to not threaten the sustainability of the fisheries. Therefore, even though we can't be certain as to the products origin this is scored 1.	MSC (2017) Tracking a fishery; mackerel. Available at; www.msc.org . FIP (2017) View FIPs. Available at; https://fisheryimprovementprojects.org/view-fips/ Acoura Marine Ltd (2016) MINSA Public Certification Report. DNV.GL (2016) Faroese Pelagic Organization Full Assessment Report	1.0
Average				1.17

5.6.2.3 Flag State – all flag states targeting mackerel; but with particular attention on NEAFC coastal states (activities, corruption, control systems in place)

As mentioned in the section above the scope of this risk assessment is such that products are most likely originating from coastal states that are party to the Coastal States Agreement (CSA); namely, EU MS, Denmark (in respect of the Faroe Islands & Greenland), Iceland, Norway and Russia.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
3.1 Is IUU associated with the flag State?	Has the flag State been identified as a non-compliant State by the EU (yellow / red .5)?	<p>None of the countries that are likely to supply mackerel to Japan have been listed or identified as a non-compliant state with regards to a EU Yellow Flag.</p> <p>However, this is scored 1, as we are uncertain of the flag state due to mackerels' distribution area.</p>	European Commission (2017). Illegal Fishing	1.0
	Has the flag State been identified as a "country of interest" within NOAA biennial reports?	<p>Within the last five years Spain has been reported as a country of interest (2015), and Portugal is listed as in violation of international conservation and management measures (2015). Russia, a country newly targeting mackerel due to sanctions on European products, is listed as a country of interest (2017).</p> <p>Therefore, due to some known concerns regarding countries targeting mackerel across the NE Atlantic distribution area and uncertainties as to FS origin state this is scored 2.</p>	NOAA (2012-2017) Fisheries biennial reports.	2.0
	Has the flag State been identified as a flag of non-compliance by any other State(s) or by an RFMO?	<p>No issues were identified with non-compliance of the NEAFC flag states with RFMO requirements, however we have insufficient chain traceability to ascertain which FS this RA pertains to.</p> <p>Due to uncertainties as to origin FS and the presence of one common targeting nation for NE Atlantic mackerel this is scored 2.</p>	NEAFC (2017) www.neafc.org	1.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Has the flag State been identified as a flag of non-compliance or flag of convenience by an NGO or in scientific or press reports?	None of the flag states targeting NE Atlantic mackerel have been identified as a flag of non-compliance or flag of convenience within NGO or press reports, aside from the Faroe Islands. Owing to the catches taken by this FS and uncertainty as to the relevant FS to this IUU RA this is scored 2.0.	ITF (2017). List of Flags of Convenience	2.0
3.2 Corruption	What is the WB corruption index for the flag State? (see WB Governance Indicators). Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water-fishing nations in addition to internal weaknesses and corruption.	Majority of flag States have relatively high governance scores for Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption. Denmark, Norway, Iceland and the UK are all in the top 20%, Greenland in the top 50% and only Russia sits in the lower 50% of scores. Corruption is therefore likely to be low with a score of 1.0 given, only due to the score of Russia pulling the average down.	World Bank (2017)	1.0
3.3 Vessel Registration and Licensing	Are all fishing vessels required to be registered and flagged in the flag State required to have a licence?	All CS involved in fishing for NE Atlantic mackerel have legal requirements for all fishing vessels to be licensed with the relevant national authorities. In addition, all NEAFC CPs are required to provide a list of fishing vessels authorised to fish and whether the vessel is authorised to fish one or more regulated resource. No fishing vessel is permitted to conduct fishing activities in the Regulatory Area unless it is listed as a notified vessel. The score would therefore be 1.0 as the flag States are all deemed to exercise control over allocation of quotas and licenses. However, as the scope of the risk assessment is so broad and we are uncertain to ascertain source flag States it is difficult to fully assess the risk.	European Commission (2017). Management of fishing capacity-fishing fleet. NEAFC (2017a). Scheme of Control and Enforcement. The Icelandic Directorate of Fisheries (2016) Hegland & Hopkins (2014)	1.0
	Is there a licensing and quota allocation system in place? Is this system clear and transparent?	All flag states that are CPs to NEAFC are required to undertake management of the number of authorised fishing vessels and their fishing efforts commensurate to the fishing opportunities available to the contracting party. In the case of the CS fishing for NE Atlantic mackerel quotas are agreed via the CSA annually, which is made public and is in accordance with ICES advice. This now also includes a reserve quota for non-contracting members, whom also publish their annual TACs publically annually.		1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		The score would therefore be 1.0 as the NEAFC CPs are all deemed to exercise good control over allocation of quotas and licenses. However, as the scope of the risk assessment is so broad and we are uncertain to ascertain source flag states it is difficult to fully assess risk so some risk will still exist.		
	Is this broken down by domestic waters and ABNJ?	All EU vessels fishing outside of EU waters are required to have authorisation or an agreement with the third party; these are regulated by Sustainable Fisheries Partnership Agreements (SFPAs). EU fishing quotas are broken down by domestic waters and ABNJ, however there is uncertainty regarding other flag states across mackerels' distribution area. Owing to the scope of the risk assessment we are unable to ascertain IUU risk accurately and therefore this is scored 1.5.	European Commission (2017d) The Common Fisheries Policy	1.5
	Is there a public list of licensed / authorised vessels?	Under the auspices of their engagement with various NEAFC all coastal states are required to submit vessel lists, which are publically available. In addition, all EU MS are required to submit details of all licensed vessels to the EU community fishing fleet list, this is publically available. Owing to the scope of the risk assessment we are unable to ascertain IUU risk accurately and therefore this is scored 1.5.	European Commission (2017a). Management of fishing capacity-fishing fleet. NEAFC (2017a). Scheme of Control and Enforcement.	1.5
3.4 Fair transparent fisheries agreements	Are fair transparent fisheries agreements in place with coastal States?	Fisheries within the NE Atlantic are mostly conducted through the CSA, disregarding the engagement of other relevant parties e.g. Iceland and Greenland, who currently set quotas unilaterally. This CSA is considered to be an effective, harmonised agreement that is made publically available and based upon ICES advice. As the scope of the risk assessment potentially encompasses all flag States targeting mackerel it is difficult to accurately ascertain the risk however for the EU MS and other relevant parties e.g. Iceland, Norway and the Faroe Island, there was no clear found concerns with transparency.	European Commission (2017e) Bilateral agreements with countries outside the EU. The Icelandic Directorate of Fisheries (2016)	1.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		Owing to the scope of the risk assessment we are unable to ascertain IUU risk accurately and therefore this is scored 2.		
3.5 RFMO	Membership: Is the flag State a Member of the relevant RFMOs?	<p>In this case NEAFC is the relevant RFMO and the contracting parties are as described before in this RA and therefore it is highly likely that mackerel comes from FS that are contracting party members, therefore the risk for this section is perceived to be slightly lower.</p> <p>In terms of bycatch and other regulatory areas EU MS are members of NAFO (North Atlantic Fisheries Organisation), NAMMCO (North Atlantic Marine Mammal Commission) and OSPAR (Oslo and Paris Commissions for the Convention for the Protection of the Marine Environment of the North-East Atlantic). Similar memberships are also found for Norway, Iceland and Russia where required, Denmark represents Greenland and the Faroes Islands.</p> <p>However, owing to the scope of the risk assessment we are unable to ascertain IUU risk accurately and therefore this is scored 1.0.</p>	<p>Various RFMO websites</p> <p>UN (2017) www.un.org</p> <p>http://www.nmfs.noaa.gov/sfa/CMS_DEV/Councils/Training2013/P1_Organizations_InternationalFisheries.pdf</p>	1.0
	Compliance: Is the flag State compliant with all RFMO requirements and data submissions?	<p>For the NE Atlantic mackerel stocks each CP provides monthly statistics of catches of regulated resources. There were issues were identified with non-compliance of the flag states with RFMO requirements.</p> <p>However, owing to the scope of the risk assessment we are unable to ascertain IUU risk accurately and therefore this is scored 1.5.</p>	NEAFC (2017) www.neafc.org	1.5
	Engagement: Does the flag State submit additional information / papers to RFMO and actively participate in scientific and compliance committee meetings?	<p>For the NEAFC CPs they all actively participate in committees and working groups and in developing stock management plans.</p> <p>However, owing to the scope of the risk assessment we are unable to ascertain IUU risk accurately and therefore this is scored 1.5.</p>	NEAFC (2017) www.neafc.org	1.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
3.6 Multi-lateral agreements e.g. FAO Guidelines or UNCLOS	<p>Is the flag State a contracting/cooperative non-member party to multi-lateral agreements e.g. UNCLOS, UNFSA, FAO Agreements?</p> <p>Implementation of the provisions of the Convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks</p>	<p>All EU MS have transferred their competence to the European Community, which have ratified the United Nations Convention on the Law of the Sea (UNCLOS), are contracting parties to UNFSA and participate in FAO agreements. They have also all ratified the convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks. Iceland ratified UNCLOS on 21 June 1985 and has also signed the FAO Code of Conduct. The Faroe Islands are also an associated member of the FAO and as a member they are required to pursue initiatives designed at the implementation of the Code of Conduct of Responsible Fisheries. Overall, it is highly likely that the FS targeting NE Atlantic mackerel are contracting members.</p> <p>However as we are unsure as to the FS this is scored 1.5.</p>	<p>The Icelandic Directorate of Fisheries (2016)</p> <p>United Nations (2017) Chronological lists of ratifications of, accessions and successions to the Convention and the related agreements</p>	1.5
3.7 NPOAs (IUU + others)	<p>Is there a specific National Plan of Action (NPOA) in place to combat IUU?</p>	<p>Details of NPOAs to deal with IUU are widely publically available for some of FS targeting NE Atlantic mackerel. As of January 2010 all EU MS are required to adopt within national legislative measures the Council Regulation (CR) No 1005/2008 "to prevent, deter and eliminate illegal, unreported and unregulated fishing (the IUU Regulation)".</p> <p>Other relevant FS, e.g. the Faroe Islands and Iceland, were found to have a wide variety of measures incorporated into their national regulations pertaining to stopping IUU.</p> <p>Therefore, particular FS are considered to have well-implemented NPOAs, enshrined legally with national regulations. However, there is uncertainty regarding flag state, and whether other NEAFC CPs have adopted NPOAs within their national legislature, so this is scored 1.5.</p>	<p>European Commission (2017) The EU rules to combat illegal fishing (IUU)</p> <p>The Icelandic Directorate of Fisheries (2016)</p> <p>FAO (2017a). International Plan of Action to Prevent, Deter, and Eliminate Illegal, Unreported and Unregulated Fishing</p>	1.5
3.8 Flag State Control	<p>How and to what level is flag State control exercised in terms of administrative controls and checks? (e.g. logbook check against VMS and administrative checks, catch certificate verification includes physical inspection)</p>	<p>For EU MS there is found to be regular control exercised through regular administrative controls. All vessels above 12m, from 1 January 2012, are required to have an Electronic Reporting System (ERS) onboard, this is used to record fishing activities data (e.g. catches, landing and sales). In addition, all such vessels that fit the above criteria are required to have a VMS system installed also. Data transmission is required every 2 hours through the VMS system of MS</p>	<p>NEAFC (2017) www.neafc.org</p> <p>European Commission (2017) Control Technologies</p>	1.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>vessels; and this can be more frequently requested by the flag state. ICES do not evaluate accuracy of logbooks from outside the EU for these stocks. However, other NEAFC CPs are subject to administrative controls e.g. all vessels landing are required to confirm the presence of the vessel in the catch area when catches were made by VMS data and various inspection protocols are laid out under NEAFC regulations.</p> <p>Regular control is exercised in terms of administrative controls within the NEAFC area, however uncertainty over FS exists and therefore this is scored 1.5.</p>		
	How and to what level is flag State control exercised in terms of inspections on flag State vessels (at sea and in port)?	<p>Regular inspection of vessels is enshrined in EU law, commonplace and based on a risk-based management system that is developed by each MS and is instrumented in the national framework. NPOAs for each MS set out requirements for routine inspections and increased rates for landings deemed to carry a higher IUU risk. For other relevant non-EU parties inspections are also found to be commonplace e.g. details of regular inspections of Icelandic and Faroese vessels were found within national regulations and reports.</p> <p>All NEAFC CPs are required to employ NEAFC inspectors, alongside the requirements for inspections, which are enshrined in national regulations for all of the CPs. There are also requirements for inspections proportional to the amount of vessels in regulatory areas and also requirements to accommodate other FS inspectors on-board.</p> <p>Therefore, a good level of control is exercised for the majority of FS however uncertainty still exists as to which FS apply to this RA therefore this is scored 1.50.</p>	<p>NEAFC (2017)</p> <p>European Commission (2017) Control Technologies</p> <p>Faroe Islands Fisheries & Aquaculture (2013)</p> <p>Hegland & Hopkins (2014)</p>	1.5
	How and to what level is flag State control exercised in terms of remote surveillance (e.g. aerial surveillance, VMS and AIS)?	<p>All NEAFC CPs are required to install VMS on vessels over 24 metres and all fishing vessels are required to be equipped with an autonomous system that allow a continuous tracking of the position of a fishing vessel. The location of all fishing vessels should then be automatically transmitted to a land-based fisheries monitoring centre (FMC).</p>	<p>European Commission (2017) Control Technologies.</p> <p>DNV.GL (2016) Faroese Pelagic Organization Full Assessment Report</p>	1.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>EU regulations stipulate that all fishing vessels that are subject to VMS are required to also have a fully operational satellite-tracking device on-board. This cannot be turned off unless prior notification is given to the flag and coastal MS. Non-EU vessels of above 15 m (as from 1 January 2012 – vessels above 12 m) are obliged to have an operational satellite tracking device installed on board whenever they are in Community waters. EU MS are also required to have a technical capacity to use Vessel Detection Systems (VDS) and their use is being widely encouraged. This is a satellite-based technology (satellite imaging of sea areas), which is used to help locate and identify fishing vessels. EU MS have also increasingly got access to AIS data, on ships above 15m, this is more designed to ensure safety and security of ships, however MS can also utilise this data for monitoring and control purposes. Enforcement and patrolling agencies also utilise spotters planes and conduct regular at-sea inspections</p> <p>Other FS are also found to have integrated, effective monitoring within their coastal waters e.g. Iceland and the Faroese. Surveillance and control activities are carried out by a fleet of offshore patrol vessels (OPVs), harbour inspectors, helicopters, surveillance aircraft, satellites and a network of land-based surface scanning radars. They also have satellite-based systems that monitor activity, an AIS system and satellite radar technologies. Emphasis is also based on data analysis and using a risk-based approach. VMS is required on all foreign vessels operating in its waters and the CG have an automatic warning system that will warn them if foreign vessels move from their designated harbour areas.</p> <p>Within the Faroese Islands all vessels operating in their waters over 12m have VMS. The Faroese fisheries inspection is responsible for monitoring and inspecting catches and landings of individuals and catches. This includes on-board inspection, transshipment monitoring as well as having a constant patrol presence in Faroese waters, in collaboration with Danish naval patrol vessels.</p>	<p>Faroe Islands Fisheries & Aquaculture (2013)</p> <p>Hegland & Hopkins (2014)</p> <p>The Icelandic Directorate of Fisheries (2016)</p>	

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		The surveillance activities for NE Atlantic mackerel in EU MS waters is considered to be effective, however there is some uncertainty concerning fisheries in non-EU waters (Seafish, 2017). Taking this into account and the broad scope of the risk assessment this is scored 1.5.		
	How and to what level is flag State control exercised in terms of observer programmes?	<p>Across the NE Atlantic most fleets targeting mackerel have observer programmes, with proportional presence dependent upon fisheries and vessel size. Observer programmes are implemented within all EU MS fleets and vessels are required to permit observers on-board under EU regulations. EU regulations require a minimum level of coverage, however the specific observer programme is highly dependent on the fishery. Similarly, both the Faroese and Iceland have observer programmes that are dependent upon the fishery that the vessel is engaged in.</p> <p>Observer presence is required flag States through national regulations for the majority of the FS, however coverage is uncertain and therefore this is scored 2.</p>	<p>Faroe Islands Fisheries & Aquaculture (2013)</p> <p>Hegland & Hopkins (2014)</p> <p>The Icelandic Directorate of Fisheries (2016)</p>	2.0
3.9 Flag State Cooperation	Does the flag State work with neighbouring or regional States to enhance MCS in their own waters and fleets?	<p>In the NEAFC regulatory area, fishing vessels must abide by both national regulations and the NEAFC Scheme of Control and Enforcement. The NEAFC Scheme describes the procedures for monitoring, control and surveillance and stipulates that contracting parties should make MCS data available to the secretary. Under the Coastal State Agreement, a working group was established in 2014 with the aim of establishing best practice in monitoring, control and surveillance and cooperation. Data sharing is commonplace between some FS e.g. EU MS. EU MS regularly share data, have installed alert systems and cooperate through straddled stock management plans. The EU also have a number of bilateral agreements in-place within other third countries e.g. observers are required on-board all fishing vessels in Icelandic waters.</p> <p>Norway has agreements in place with the EU, Russia and Iceland about exchange of ERS data, and is working actively to reach agreement on similar arrangements with the Faroe Islands and Greenland. Iceland has a number of bilateral agreements in place other states e.g. Iceland and EU, and as</p>	<p>Acoura Marine Ltd (2016) MINSA Public Certification Report.</p> <p>The Icelandic Directorate of Fisheries (2016)</p> <p>European Commission (2017) Control Technologies.</p>	1.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>a flag state they cooperate with a number of other countries in terms of data-sharing networks, MCS activities and management plans. In addition, under the auspices of its various RFMO agreements it participates in a number of cooperative activities. The Faroese also share data through NEAFC. However, they have been accused of being non-cooperative with regards to the mackerel stocks, which led to trade measures being applied against them by the EU.</p> <p>There appears to be evidence of data sharing amongst the relevant FS, however advancements are required with reference to the mackerel stocks it is found. Therefore, this is scored 1.5.</p>		
	VMS sharing is implemented?	<p>Sharing of VMS data is set out within EU regulations, which requires CAs of each MS to set up a system for sharing VMS data. A study in 2008 concluded the operational data sharing of VMS sharing between countries is relatively advanced. Both Icelandic and Faroese vessels also cooperate and share their VMS data, with regards to catch certificate verification as well as assisting in MCS activities.</p> <p>As detailed above VMS sharing is commonplace amongst some FS, however there is some requirements for further advancements in data-sharing and therefore this is scored 2.</p>	<p>The Icelandic Directorate of Fisheries (2016)</p> <p>European Commission (2017) Control Technologies.</p>	2.0
Average				1.45

5.6.2.4 Coastal State – various (corruption, control systems in place)

As mentioned in the section above the scope of this risk assessment is such that products are most likely originating from coastal states that are party to the Coastal States Agreement (CSA); namely, EU MS, Denmark (in respect of the Faroe Islands & Greenland, Iceland, Norway and Russia.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
4.1 Is IUU fishing carried out / supported by fishing vessels operating in its maritime waters?	Has the coastal State been identified as a non-compliant State by the EU (yellow / red card)?	None of the countries that are likely to supply mackerel to Japan have been listed or identified as a non-compliant state with regards to a EU Yellow Flag. Despite this, this is scored 1 as we are uncertain of the flag state due to mackerels' distribution area.	European Commission (2017) Illegal Fishing	1.0
	Has the coastal State been identified as a "country of interest" within NOAA biennial reports?	Within the last 5 years Spain has been reported as a country of interest (2015), and Portugal is listed as in violation of international conservation and management measures (2015). Russia, a country newly targeting mackerel due to sanctions on European products, is listed as a country of interest (2017). Therefore, due to uncertainties as to origin flag states this is scored 2.0.	NOAA Fisheries biennial reports (2012-2017).	2.0
	Has the coastal State been identified as having IUU fishing carried out in its waters? (NB: This may be identified by the coastal State itself, another State or by an RFMO).	There are historic incidences of substantial levels of IUU occurring by CS fleets including Irish fleets. From 2000-2005 illegal activities by evasion of quotas occurred. There has also been recent incidences of vessels not adhering to the reporting regulations and failing to declare catch on-board prior to entering so-called "mackerel boxes". With specific reference to all of those fleets that are party to the CSA the prevalence of substantial history of IUU within the fleets, e.g. Ireland means that compliance is high. In addition, scrutiny is high and there are increased enforcement and control activities. Recently, incidences of IUU within the NE Atlantic are rare and no reports were found as identified by NEAFC. Therefore, some IUU activity has previously occurred on a widespread basis targeting mackerel stocks, however this is thought to decrease IUU risk current day. As we do not know the relevant coastal states this is scored 2.	The Irish Times (2006) The Guardian (2012a & b)	2.0
	Has the coastal State been identified as having IUU fishing carried out in its waters by fishing	As above. Historical incidences of IUU are discoverable in NGO/scientific and press reports, and a degree of slipping is thought to occur current day by ICES reports. However, this is scored 2 due to uncertainties surrounding coastal states.		2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	vessel of any State by an NGO or in scientific or press reports?			
4.2 Corruption	<p>What is the WB corruption index for the Coastal State? (see WB Governance Indicators).</p> <p>Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.</p>	<p>Coastal States assumed to be the same as flag States within NE Atlantic and therefore have relatively high governance scores for Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption. Denmark, Norway, Iceland and the UK are all in the top 20%, Greenland in the top 50% and only Russia sits in the lower 50% of scores.</p> <p>Corruption is therefore likely to be low with a score of 1.0 given, only due to the score of Russia pulling the average down.</p>	World Bank (2017)	1.0
4.3 Vessel Registration and Licensing	<p>Are all fishing vessels fishing in the coastal State required to have a licence? (NB: Are there reports of proportion of vessels unlicensed (both national and international)?)</p>	<p>All CS involved in fishing for NE Atlantic mackerel have legal requirements for all fishing vessels to be licensed with the relevant national authorities. In addition, all NEAFC CPs are required to provide a list of fishing vessels authorised to fish and whether the vessel is authorised to fish one or more regulated resource. No fishing vessel is permitted to conduct fishing activities in the Regulatory Area unless it is listed as a notified vessel.</p> <p>The score would therefore be 1.5 as the flag states are all deemed to exercise control over allocation of quotas and licenses. However, as the scope of the risk assessment is so broad and we are uncertain to ascertain source flag states it is difficult to assess risk.</p>	<p>Faroe Islands Fisheries & Aquaculture (2013)</p> <p>Hegland & Hopkins (2014)</p> <p>European Commission (2017). Management of fishing capacity-fishing fleet.</p>	1.5
	<p>Is there a licensing and quota allocation system in place?</p> <p>Is this system clear and transparent?</p>	<p>All flag states that are CPs to NEAFC are required to undertake management of the number of authorised fishing vessels and their fishing efforts commensurate to the fishing opportunities available to the contracting party.</p> <p>In the case of the CS fishing for NE Atlantic mackerel quotas are agreed via the CSA annually, which is made public and is in accordance with ICES advice. This now also includes a reserve quota for non-contracting members, whom also publish their annual TACs publicly annually.</p> <p>The score would therefore be 1.5 as the NEAFC CPs are all deemed to exercise control over allocation of quotas and licenses. However, as the scope of the risk assessment is so</p>	<p>European Commission (2017a). Management of fishing capacity-fishing fleet.</p> <p>The Icelandic Directorate of Fisheries (2016)</p> <p>DNV.GL (2016)</p>	1.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		broad and we are uncertain to ascertain source flag states it is difficult to assess risk.		
	Is there a public list of licensed / authorised vessels?	Under the auspices of their engagement with various NEAFC all coastal states are required to submit vessel lists, which are publically available. In addition, all EU MS are required to submit details of all licensed vessels to the EU community fishing fleet list, this is publically available. Owing to the scope of the risk assessment we are unable to ascertain IUU risk accurately and therefore this is scored 2.0.		2.0
4.4 Fair transparent fisheries agreements	Are fair transparent fisheries agreements in place with DWFNs?	EU vessels fishing outside of EU waters are required to have authorisation/an agreement with the third party; these are regulated by Sustainable Fisheries Partnership Agreements (SFPAs). EU fishing quotas are broken down by domestic waters and ABNJ, however there is uncertainty regarding CS across mackerels' distribution area. Owing to the scope of the risk assessment we are unable to ascertain IUU risk accurately and therefore this is scored 2.0.	The Icelandic Directorate of Fisheries (2016) European Commission (2017e) Bilateral agreements with countries outside the EU.	2.0
	Are the details of these agreements public?	As above. All EU fisheries agreements are made public, however due to RA scope this is scored 2.0		2.0
4.5 Sanctions	Are sanctions enforced?	A moderate risk, 2.0, has been scored for this and the next point as there is evidence of sanctions enshrined in national regulation and reports of these being applied regularly e.g. EU MS, Iceland and the Faroe Islands. However, across the fleets targeting mackerel it is acknowledged that applying sanctions will vary greatly.	European Parliament (2014) Illegal, Unreported and Unregulated Fishing: Sanctions in the EU.	2.0
	Relative level of sanctions vs. level of IUU fishing.	As above, there is evidence of proportionate sanctions designed to deprive operations of any profit relative to the size of the IUU catch observed across NE Atlantic fishing nations. In EU MS and Iceland the relevant national authority imposes financial penalties relating to the catch size for IUU activity. Sanctions of up to six years were found in some CS, e.g. Iceland. However, this will vary greatly across mackerel fleets.	European Commission (2017c) The EU rules to combat illegal fishing (IUU). The Icelandic Directorate of Fisheries (2016) The Icelandic Directorate of Fisheries (2016)	2.0
4.6 RFMO	Membership: Are they a Member of the relevant RFMOs?	Coastal states do not deviate from relevant FS for the NE Atlantic stocks. All coastal states participating in the fishery (the EU Member States, Norway, Iceland, Greenland as well as Russia) are signatories of NEAFC. Therefore, across this distribution area	NEAFC (2017) www.neafc.org Various RFMO websites	1.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		low IUU risk is reduced by membership to RFMOs and it's regulations, however product traceability is absent so risk is estimated as 1.0..	UN (2017) www.un.org	
	Compliance: is the coastal State compliant with all RFMO requirements and data submissions?	Across the NE Atlantic distribution area IUU risk is reduced by membership to RFMOs and active participation of CS with RFMO processes. As above, basic very low risk with a lack of product traceability dictates that we award this a low risk of 2.0.	NEAFC Scheme of Control and Enforcement (2017)	1.5
	Engagement: Does the coastal State submit additional information / papers to RFMO and actively participate in scientific and compliance committee meetings?	Across the NE Atlantic distribution area IUU risk is reduced by active engagement of CS with RFMOs. No issues were found with contracting parties of the NEAFC website. As above, lack of product traceability dictates that we award this a moderate risk of 1.0.		1.5
4.7 Multi-lateral agreements e.g. FAO Guidelines or UNCLOS	Is the coastal State a contracting/cooperative non-member party to multi-lateral agreements e.g. UNCLOS, UNFSA, FAO Agreements? Implementation of the provisions of the Convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks	All EU MS have transferred their competence to the European Community, which have ratified the UNCLOS, are contracting parties to UNFSA and participate in FAO agreements. They have also all ratified the convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks. Iceland ratified UNCLOS on 21 June 1985. They have also signed the FAO Code of Conduct. The Faroe Islands are also an associated member of the FAO and as a member they are required to pursue initiatives designed at the implementation of the Code of Conduct of Responsible Fisheries. There are few concerns regarding the FS targeting mackerel in the NE Atlantic, however as we are unsure as to the FS this is scored 2.0	United Nations (2017) Chronological lists of ratifications of, accessions and successions to the Convention and the related agreements	2.0
4.8 NPOAs (IUU + others)	Is there a specific National Plan of Action (NPOA) in place to combat IUU in the coastal State?	Details of NPOA to deal with IUU are widely publically available for some of the FS targeting NE Atlantic mackerel. As of January 2010 all EU MS are required to adopt within national legislative measures The Council Regulation (EC) No 1005/2008 "to prevent, deter and eliminate illegal, unreported and unregulated fishing (the IUU Regulation)". Other relevant FS, e.g. Faroese and Iceland, were found to have a wide variety of measures incorporated into their national regulations pertaining to stopping IUU. However, no NPOA IUU was listed on the FAO website. Russia is reported to have an NPOA IUU but this is not listed on the FAO Website and cannot be found in the public domain.	The Icelandic Directorate of Fisheries (2016) FAO (2017a) International Plan of Action to Prevent, Deter, and Eliminate Illegal, Unreported and Unregulated Fishing	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		Therefore, particular FS are considered to have well-implemented NPOAs, enshrined legally with national regulations. However, there is uncertainty regarding the flag states and whether other NEAFC CPs has adopted NPOAs within their national legislature and this is scored 2.		
4.9 Coastal State Control	How and to what level is control exercised in the coastal State in terms of administrative controls and checks? (e.g. logbook check against VMS and administrative checks including validation of catch certificates)	For EU MS there is found to be regular control exercised through regular administrative controls e.g. regular data transmission of VMS data, and regular checking of catch certificates against this data (data-sharing also occurs between EU MS). Within the NEAFC area Regular control is exercised in terms of administrative controls within the NEAFC area, however uncertainty over FS exists and therefore this is scored 2.	The Icelandic Directorate of Fisheries (2016) European Commission (2017) Control Technologies.	2.0
	How and to what level is control exercised in the coastal State in terms of inspections on vessels at sea and in port?	Within the NEAFC regulatory area CPs are required to conduct control and surveillance using trained NEAFC inspectors and should also ensure inspectors from other CPs can carry out inspections on-board. These inspections are based upon fleet size, and proportionate to the amount of time spent in the Regulatory Area. If more than 10 fishing vessels of any one CP are engaged in fishing activities on regulated resource in the regulated resources in the Regulatory Area they are required to have an inspection vessel in the area. Therefore control is exercised in both coastal State EEZs and in the RFMO regulatory area. In addition, in order to prevent IUU activities CPs are required to perform inspections on non-CPs, should no CP vessels refuse boarding they are presumed to be engaged in IUU activities.	European Commission (2017) Control Technologies.	2.0
	How and to what level is control exercised in the coastal State in terms of remote surveillance (e.g. aerial surveillance, VMS and AIS)?	As described on page 215, CPs of NEAFC utilise aerial surveillance, alongside sea surveillance to inspect vessels fishing within the regulatory area. VMS is also required All NEAFC CPs are required to install VMS on vessels over 24 metres and all fishing vessels are required to be equipped with an autonomous system that allow a continuous tracking of the position of a fishing vessel. The location of all fishing vessels should then be automatically transmitted to a land-based fisheries monitoring centre (FMC). EU regulations stipulate that all non-EU vessels of above 15 m (as from 1 January 2012 – vessels above 12 m) are obliged to have an operational satellite-tracking device installed on board whenever		2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>they are in Community waters. EU MS are also required to have a technical capacity to use Vessel Detection Systems (VDS) and their use is being widely encouraged. This is a satellite-based technology (satellite imaging of sea areas), which is used to help locate and identify fishing vessels. EU MS have also increasingly got access to AIS data for all vessels within their waters, on ships above 15m, this is more designed to ensure safety and security of ships, however MS can also utilise this data for monitoring and control purposes. Enforcement and patrolling agencies also utilise spotters planes and conduct regular at-sea inspections</p> <p>Other CS including Iceland and the Faroese were found to conduct regular surveillance and control activities using satellite-based systems that monitor activity, an AIS system and satellite radar technologies. Remote surveillance of CS within the NE Atlantic are likely to greatly reduce IUU risk, however there is some uncertainties concerning fisheries in non-EU waters (Seafish, 2017). Taking this into account and the broad scope of the risk assessment this is scored 2.</p>		
	How and to what level is control exercised in the coastal State in terms of observer programmes?	<p>All NEAFC CPs have observer programmes, and all permitted to board any vessels operating within their waters with prior notice. EU regulations require a minimum level of coverage, however the specific observer programme is highly dependent on the fishery. Similarly, both the Faroese and Iceland have observer programmes that are dependent upon the fishery that the vessel is engaged in. Observers are required on-board all foreign vessels fishing in Icelandic waters.</p> <p>Observer presence is required through national regulations for the majority of the CS, however coverage is uncertain and therefore this is scored 2.</p>		2.0
4.10 Coastal State Cooperation	Does the coastal State work with neighbouring or regional States to enhance MCS in their own waters and fleets?	<p>A comprehensive MCS system is applied across EU fleets. The various Member State control agencies involved (with international co-ordination by the European Fisheries Control Agency, EFCA) are reported to demonstrate a consistent ability to coordinate regularly with other CS (e.g. Iceland). Within the NEAFC regulatory are fishing vessels abide by both the current management measures and the NEAFC Scheme of Control and Enforcement. These measures dictate that contracting parties consult, co-operate and exchange information between each other and with NEAFC.</p>	<p>NEAFC Scheme of Control and Enforcement (2017).</p> <p>European Commission (2017) Control Technologies.</p>	1.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		Data is transmitted by NEAFC CPs to their own FMC and then to the NEAFC Secretariat control centre, which has permanent links with 19 national FMCs. Therefore, there is perceived to be a high level of enhanced MCS activity through CS coordination within the NEAFC area which greatly increases transparency and reduces IUU risk. A 1.5 score is applied due to unknown CS however; risk can be reduced by purchasing fish caught in the NEAFC regulatory area.		
4.11 Transhipment	Is transhipment allowed in coastal State or RFMO waters and is observation required through an RFMO programme or by coastal States for their own waters?	<p>Transhipment is permitted within the NEAFC area, however it is subject to high scrutiny and specific restriction upon landing of fisheries products therefore IUU risk is perceived as low. NEAFC fishing vessels should only engage in transhipment or joint fishing operations with vessels of non-Contracting Parties in accordance with article 34 of the NEAFC Scheme of Control and Enforcement. If transhipment occurs, the boats should not engage in any other fishing activity on the same trip.</p> <p>IUU risk is increased as transhipment is permitted within the NEAFC area, and between non-CPs and CPs, with not all transhipments monitored. However, tight controls are in-place, which dramatically reduces risk. We cannot be assured as to what regulations are in place as we do not know which CS are utilised therefore this represents a risk of 2.0.</p>	NEAFC Scheme of Control and Enforcement (2017).	1.0
Average				1.67

5.6.2.5 Port State – various (control systems in place, PSMA provisions in place)

As mentioned in the section above the scope of this risk assessment is such that products are most likely landed into port states that are contracting parties of NEAFC. However, due to uncertainties within the supply chains there is a great deal of uncertainty and therefore the risk of IUU is increased as a result.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
5.1 Are the products of IUU fishing landed in the port State?	Has the port State been identified as a non-compliant State by the EU (yellow / red card)?	<p>None of the port States that are likely to be engaged in supply mackerel to Japan from the NE Atlantic mackerel have been listed or identified as a non-compliant state with regards to a EU Yellow Flag.</p> <p>Therefore, this is scored 1 as we are uncertain of the flag state due to mackerels' distribution area, however it is unlikely that the port State has been awarded a EU card.</p>	European Commission (2017) Illegal Fishing.	1.0
	Has the port State been identified as a "country of interest" within NOAA biennial reports?	<p>Within the last five years Spain has been reported as a country of interest (2015), and Portugal is listed as in violation of international conservation and management measures (2015). Russia, a country newly targeting mackerel due to sanctions on European products, is listed as a country of interest (2017). However, ascertaining risk is constrained by absence of traceability within these chains.</p> <p>Therefore, although most of the port States landing mackerel have not been notified some risk may exist and due to this uncertainty as to port States this is scored 1.50</p>	NOAA (2012-2017) Fisheries biennial reports.	1.5
	Has the port State been identified as having IUU fish landed in its ports? (NB: This may be identified by the port State itself, another State or by an RFMO).	<p>With specific reference to NE Atlantic mackerel stocks IUU catches have been identified at ports within the NEAFC regulatory area over five years ago. Substantial evidence of illegal activity was uncovered at Scottish ports, with some vessels only declaring 30% of catches landed. So-called black landings were thought to have been worth at least £37 million between 2002 and 2005. Dramatic improvements in controls at ports, widespread MSC certification processes and severe sanctions for the relevant vessels is thought to have decreased the likelihood of IUU occurring going forwards. New controls include This increased scrutiny after such events decreases the likelihood of IUU risk at the present day for CS party to the CSA.</p> <p>Therefore, press / NGO reports do suggest that prolific IUU activity occurred historically (over five</p>	<p>The Irish Times (2006)</p> <p>The Guardian (2010)</p> <p>The Guardian (2012a & b)</p>	1.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		years), however it doesn't appear to be widespread and prolific in the current day. Although it is known that the majority off mackerel will be landed through flag State ports, we do not know explicitly which port States products are landed into this is scored 1.5		
	Has the port State been identified as having IUU fish landed in its ports by fishing vessel of any State by an NGO or in scientific or press reports?	With specific reference to NE Atlantic mackerel stocks there is historical incidences of IUU mackerel products landed into ports as reported by press as mentioned above. These incidences were noted within the press and by the port states themselves. Therefore, press/NGO reports do suggest that some IUU activity occurs, and that it has occurred within the last five years it doesn't appear to be widespread and prolific in the current day. Therefore, 1.5 is awarded.	The Guardian (2012a & b) The Guardian (2010) The Irish Times (2006)	1.5
5.2 Corruption	What is the WB corruption index for the port State? (see WB Governance Indicators). Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.	Port States assumed to be the same as flag States within NE Atlantic and therefore have relatively high governance scores for Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption. Denmark, Norway, Iceland and the UK are all in the top 20%, Greenland in the top 50% and only Russia sits in the lower 50% of scores. Corruption is therefore likely to be low with a score of 1.0 given, only due to the score of Russia pulling the average down.	World Bank (2017)	1.0
5.3 Sanctions	Are sanctions enforced for port related activities?	IUU fishing detected at ports is sanctioned by the relevant FS e.g. EU MS have relative sanctions enshrined within NPOA IUUs which are proportional to the catch size. Corresponding proportional sanctions are detailed for other nations targeting mackerel in the NE Atlantic e.g. Iceland and Greenland. Overall, performance reviews of NEAFC CPs found that they were all enacting the provisions laid down in the PSM well including sanctioning IUU vessels. Overall sanctions utilised by all NEAFC CPs include the use of A and B listings.	European Commission (2017c) The EU rules to combat illegal fishing (IUU) The Icelandic Directorate of Fisheries (2016)	1.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		Parties to NEAFC are found to have a reduced risk of IUU through the successful and innovative application of PSM and sanctions. However, a moderate risk is relevant for the scope of this assessment as there are still wide variations in sanctions applied and details of these are difficult to establish.		
	Are the sanctions enforced relative to the level of IUU fishing?	As detailed above details of proportionate sanctions for incidences of IUU fishing were found for some port States targeting NE Atlantic mackerel e.g. EU MS. However, sanctions are found to vary greatly through the distribution area and uncertainty of the PS means this represents a moderate risk of 2.0.	The Icelandic Directorate of Fisheries (2016)	2.0
5.4 RFMO	Membership: Is the port State a Member of the relevant RFMOs?	Port States do not tend to deviate from relevant flag States for the NE Atlantic stocks. All port states participating in the NE Atlantic fishery (the EU Member States, Norway, Iceland, Greenland as well as Russia) are signatories of NEAFC. Therefore, across this distribution area IUU risk is reduced by membership to RFMOs and its regulations, however product traceability is absent so risk is moderate; 1.5.	Acoura Marine Ltd (2016) MINSA Public Certification Report NEAFC (2017) www.neafc.org UN (2017) www.un.org	1.5
	Compliance: is the port State compliant with all RFMO requirements and data submissions?	Across the NE Atlantic distribution area IUU risk is reduced by membership to RFMOs and active participation of PS with RFMO processes. High compliance from the majority of States and in particular those where landings are high but as above, lack of product traceability dictates that we award this a moderate risk of 1.5.	NEAFC (2017) www.neafc.org NEAFC (2017b) NEAFC A and B IUU lists.	1.5
	Engagement: Does the port State submit additional information / papers to RFMO and actively participate in scientific and compliance committee meetings?	Across the NE Atlantic distribution area IUU risk is reduced by active engagement of PS with RFMOs. No issues were found with contracting parties of the NEAFC website. High engagement from the majority of States and in particular those where landings are high but as above, lack of product traceability dictates that we award this a moderate risk of 1.5.		1.5
5.5 Multi-lateral agreements e.g.	Is the port State a contracting/cooperative non-	NEAFC was the first authority to bring in port state measures. Through this all vessels, whether or not they	NEAFC (2017a) Scheme of Control and Enforcement	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
FAO Guidelines or UNCLOS	<p>member party to multi-lateral agreements e.g. PSMA, UNCLOS, UNFSA, FAO Agreements?</p> <p>Has the FAO Port State Measures Agreement been signed, acceded or implemented?</p> <p>Implementation of the provisions of the Convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks</p>	<p>are CPs or not, are expected to adhere to the provisions of the FAO PSMA as a minimum standard. However, some of the countries commonly targeting NE Atlantic mackerel haven't ratified the PSMA yet including the Faroes Island and Russia. Therefore, there is a higher risk of IUU</p> <p>As a result IUU risk is variable across the NEAFC regulatory area and due to the scope of the RA we cannot be certain of product origin and a moderate risk of 2.0 is given.</p>	<p>Food and Agriculture Organisation (FAO) (2017b)</p> <p>United Nations (2017) Chronological lists of ratifications of, accessions and successions to the Convention and the related agreements</p>	
5.6 NPOAs (IUU + others)	<p>Is there a specific National Plan of Action (NPOA) in place to combat IUU in the port State?</p>	<p>Details of NPOA targeting IUU are widely publically available for some of the port States targeting NE Atlantic mackerel. As of January 2010 all EU MS are required to adopt them within national legislation due to EC regulations⁷. Russia is reported to have an NPOA IUU but this is not listed on the FAO Website and cannot be found in the public domain.</p> <p>However, a wide variety of port States exist within the NEAFC area and details of each port State NPOAs were not found to be publically available. Therefore, owing to this and uncertainties surrounding PS used within these chains a moderate risk of 2 is given.</p>	<p>The Icelandic Directorate of Fisheries (2016)</p> <p>European Commission (2017) The EU rules to combat illegal fishing</p> <p>FAO (2017a). International Plan of Action to Prevent, Deter, and Eliminate Illegal, Unreported and Unregulated Fishing</p>	2.0
5.7 Port State Control	<p>How and to what level is control exercised in the port State in terms of administrative controls and checks? (e.g. logbook check against VMS and administrative checks including validation of catch certificates)</p>	<p>Overall, administrative controls and checks e.g. the use of VMS and other administrative controls was found to be satisfactory in port States that were party to the NEAFC. NEAFC Port States use VMS technologies innovatively and sharing amongst CPs was high. Some States were found to have increased their port-based controls e.g. within the UK at some ports where mackerel catches are regularly landed lorries are weighed coming in and out of ports during</p>	<p>NEAFC Scheme of Control and Enforcement (2017a).</p> <p>European Commission (2017) The EU rules to combat illegal fishing</p>	1.5

⁷ The Council Regulation (EC) No 1005/2008 “to prevent, deter and eliminate illegal, unreported and unregulated fishing (the IUU Regulation)”

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		loading processes and direct pumping to plants is monitored using a tamper-proof weighing bridge. Therefore, owing to this and uncertainties surrounding PS used within these chains a moderate risk of 1.5 is given.		
	How and to what level is control exercised in the port State in terms of inspections on vessels in port?	NEAFC CPs are required to inspect all non-CP vessels portside; details of these inspections are then made public on the NEAFC website. Inspections for all vessels, regardless of FS, should be carried out at a rate of 5% of all fresh fish landings/transshipments and 7.5% of all frozen fish landings. Similarly, EU MS are required to inspect 5% of all third country vessel landings (whether NEAFC CPs or not) are inspected. This must be done according to objective criteria except in case of suspicion of non-compliance. For PS party to NEAFC there are specific regulations in place that reduce the chance of IUU fisheries products being processed through ports. However, the scope of this risk assessment increases IUU risk score to 2.	NEAFC Scheme of Control and Enforcement (2017a). European Commission (2017b) Control Technologies European Parliament (2014) Illegal, Unreported and Unregulated Fishing: Sanctions in the EU	1.5
	How and to what level is control exercised in the port State in terms of vessel monitoring (e.g. notification of port entry, VMS and AIS)?	CPs to NEAFC have implemented measures designed to reduce IUU risk. Should non-CPs want to call into a port they are required to notify the CAs, this information is then relayed to relevant CPs, FS and is published on the NEAFC website. VMS data is also required to verify landings of catches. Similar to above; NEAFC PS are deemed to have a greatly reduced risk of IUU due to tight controls on landings and transparency. Therefore, IUU risk would be greatly reduce for this PS, however the scope of this risk assessment increases IUU risk score to 2.	NEAFC (2017a) Scheme of Control and Enforcement	1.5
5.8 Port State Cooperation	Does the port State work with neighbouring or regional States to enhance MCS on vessels landing in their ports?	As detailed in section 3.9 The NEAFC Scheme describes the procedures for monitoring, control and surveillance and stipulates that contracting parties should make MCS data available to the secretary. Under the CSA a working group was established in	Acoura Marine Ltd (2016) MINSA Public Certification Report. NEAFC (2017a) Scheme of Control and Enforcement	

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		2014 with the aim of establishing best practice in monitoring, control and surveillance and cooperation. Data sharing is commonplace. Therefore, for NEAFC Member States information appears to be widely accessible through a variety of schemes, helping to reduce IUU risk through increased traceability. However, outside of NEAFC this would be limited. A score of 1.5 is therefore awarded.		1.5
5.9 Designated ports	Are the ports used appropriate in terms of location and size for particular fleets or species? NB: The ideal is for designated ports assigned to fleets and species to be used. <i>(A map of fishing locations and ports should be included where appropriate)</i>	Within the EU there is a list of certified ports where landing/transshipping of frozen fish by third-country fishing vessels in the NEAFC is permitted; the use of designated ports reduces the risk of IUU as ensures that tight controls and regular inspections exist. Therefore, choosing EU fisheries products reduces the risk of IUU. As described earlier, this is awarded 1.5, with some risk existing for the potential for non-NEAFC ports being used.	European Union (2009). List of ports.	1.5
5.10 Transhipment	Is transhipment allowed in port and is observation required through an RFMO programme or by port States for their own ports?	Within the NEAFC regulatory area transshipments are permitted for both CPs and non-CPs, subject to conditions. Should a vessel wish to tranship products within contracting NEAFC PS they are required to prove that they had sufficient quota in-place, location of catch has been verified by VMS. 5% of all transshipments of fresh fish and 7.5% of frozen fish are inspected, and if the vessels' FS isn't a CP of NEAFC or NAFO 100% of all landings are inspected IUU risk is increased as transhipment is permitted and 100% inspection of these processes is not required. However, tight controls are in-place, which dramatically reduces risk. We cannot be assured as to what regulations are in place as we do not know which CS are utilised therefore this represents a risk of 2.0.	NEAFC Scheme of Control and Enforcement (2017a). European Union (2009). List of ports.	2.0
Average				1.61

5.6.2.6 Market State – Japan - Traceability and national requirements

As mentioned in the section above the scope of this risk assessment is such that products are most likely landed into port states that are contracting parties of NEAFC. However, due to uncertainties within the supply chains there is a great deal of uncertainty and therefore the risk of IUU is increased as a result.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
6.1 Products of IUU fishing found in the final market State or within the States of the supply chain?	Has the market State or any of the States in the supply chain been identified as a non-compliant State by the EU (yellow / red card)?	Japan has not been identified by the EU IUU regulation yellow/red card system.	https://ec.europa.eu/fisheries/sites/fisheries/files/illegal-fishing-overview-of-existing-procedures-third-countries_en.pdf	0.0
	Has the market State or any of the States in the supply chain been identified as a “country of interest” within NOAA biennial reports?	Japan has not been identified by NOAA in any of its reports to congress.	NOAA, 2013; 2015; 2017 http://www.nmfs.noaa.gov/ia/iuu/iuu_overview.html	0.0
	Has the market State or any of the States in the supply chain been identified as having IUU fish landed in its ports? (NB: This may be identified by the port State itself, another State or by an RFMO).	In Japan there are no reports of illegal fish being landed in its ports by RFMO or State sources.	Personal experience	0.0
	Has the market State or any of the States in the supply chain been identified as having IUU fish landed in its ports by fishing vessel of any State by an NGO or in scientific or press reports?	Some limited illegal fishing is known to occur in Japanese waters that may be landed but as a percentage of the overall Japanese market this will be low in terms of volume and value.	Personal experience	1.0
6.2 Supply chain length, complexity and transparency	How many States and companies are in the supply chain?	The supply chain in this RA is unknown.	As the supply chain is unknown no evidence can be provided.	3.0
	How many different companies and transfers of ownership, amount of processing?	The supply chain in this RA is unknown.	As the supply chain is unknown no evidence can be provided.	3.0
	Is the chain publically known and transparent?	The supply chain in this RA is unknown.	As the supply chain is unknown no evidence can be provided.	3.0
6.3 High risk points in the supply chain	Are the ports in the supply chain (after the port of first landing) known or suspected PONCS and do the ports used have well documented	The ports in the supply chain are not specifically known. However, Japan is not recognised as a PONC or port.	Petrossian <i>et al.</i> , 2014	0.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	and effective port control and inspection?			
	Does processing occur in locations that seem out of context (e.g. locations with no history of processing, high costs incurred for transport, high cost of processing) or with history of laundering IUU catches?	The location of mackerel processing is unknown but likely to be outside Japan.	http://www.agr.gc.ca/resources/prod/Internet-Internet/MISB-DGSIM/ATS-SEA/PDF/6770-eng.pdf	2.0
6.4 Corruption	What is the WB corruption index for the port State? (see WB Governance Indicators). Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.	Japan- 91%. This high governance score suggests that illegal actions once in the supply chain would be unlikely in Japan.	WBGi 2016	0.0
6.6 Post landing inspections	Performance of spot audits at key transport hubs and border inspection points?	There is no information on spot audits being carried out at key transport hubs and BIPs. However, there are clear indicators this does occur, at least in the tuna industry, with a consignment if tuna being refused entry.	DGIPOL, 2013 Fisheries Agency of Japan, 2004 http://www.oecd.org/agriculture/ http://www.jfa.maff.go.jp/e/index.html	2.0
	Are inspections carried out on the fish after landings e.g. by customs, BIPs and in transit?	When a consignment arrives at a Japanese port a 'Notice of Customs Clearance' is sent to the addressee from a customs office and a customs clearance procedure is initiated. In some cases a health and sanitary certificate must also accompany the import notification form. Food is then quarantined and inspected to ensure it complies with Food Sanitation Law. Consignments with a past record of non-compliance will often require further examination. Some fish require approval for import prior to customs clearance procedures (e.g. those governed by import quotas or by international conventions or agreements).	http://www.fao.org/docrep/008/y5924e/y5924e06.htm	1.5
6.6 Independent Verifications	Is supply chain MSC CoC certified?	As the supply chain is not known this is undetermined. However, there are some herring fisheries which are MCS certified although it is unknown whether these	https://fisheries.msc.org/en/fisheries/@_@search?q=herring&start=0&stop=10&start_fishery_name%3Asequence&end_fishery_name%3Asequence&start	2.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		fisheries are sourced and if so, are sourced through MSC CoC supply chains.	=species%3Asequence&_end_=species%3Asequence&_start_=gear_type%3Asequence&_end_=gear_type%3Asequence&_start_=status%3Asequence&_end_=status%3Asequence&search_=search	
	Non-MSC Supply chain and traceability audits (due diligence) conducted?	Marine Eco-Label (MEL) Japan is a seafood certification scheme. Distributing organisations wishing to handle products from MEL-Japan certified fisheries can voluntarily apply for chain of custody certification. It is unknown if this covers herring.	ftp://ftp.fao.org/fi/DOCUMENT/COFI/cofift_13/5e.pdf	2.5
6.7 CDS / CC certification	Do catch documentation schemes exist for the species?	In compliance with international fishery organisations, Japan has implemented documentation schemes but these only cover several tuna and toothfish species.	https://www.oecd.org/tad/fisheries/34429748.pdf	3.0
6.8 Processing or transshipment vessels involved in market chain.	If transshipment or processing onboard a Klondiker or mother vessels is allowed (licensed) in the fishery, are the Klondiker and transshipment (reefer) vessels on the relevant whitelists (authorised) or blacklists (IUU)?	There was no information on whether processing vessels are used in the supply chain.	No evidence of current processing vessel operation in this fishery exists.	3.0
	Are there independent observer programmes on non-fishing vessels?	There are no independent observer programmes on non-fishing vessels, although there are no support vessels in the fishery and transshipment at sea is illegal.	No evidence of an independent observer scheme on no-fishing vessels in this fishery exists.	3.0
Average				1.81

5.6.3 Recommendations

5.6.3.1 *Fishing vessels, legal personalities and companies*

- There is a lower known risk of IUU from CP vessels operating within the NEAFC regulatory, as they are subject to tighter restrictions e.g. detailed logbooks, national fleet registers. These are submitted to NEAFC on an annual basis and therefore are subject to higher scrutiny.
- Purchasing fish caught by larger vessels increases the likelihood of VMS having been implemented onboard; all NEAFC CPs are required to install VMS on vessels over 24 metres.
- Increase knowledge of supply chain actors, as currently there is a paucity of supply chain traceability, meaning that it is not possible to ascertain whether any actors have been involved in IUU activity
- Choose companies that are party to MSC certification processes as they are subject to increased scrutiny and the risk of IUU has been evaluated as part of the assessment process

5.6.3.2 *Fisheries*

- Mackerel are a widely distributed fish, and they inhabit vast areas with differing spawning and management stocks. Increase supply chain traceability to ensure products originate from well-managed stocks that are subject to ICES assessments on an annual basis e.g. within the NEAFC area.
- Currently, there is still no internationally agreed management limit on TACs throughout the NE Atlantic stocks, even though there is a reserve quota set through the CSA. Increased product traceability would ensure that products originate from CS that have ratified the CSA and agree to TACs within the remit of annually agreed quotas. Therefore, potentially avoid purchasing Icelandic, Russian and Greenlandic catches as the setting of unilateral quotas perpetuates the likelihood of fisheries becoming unsustainable.
- Purchase MSC certified products as full chain traceability is assured and IUU risk is evaluated. For mackerel there are certified NE Atlantic mackerel producers e.g. the MINSA group.
- By purchasing MSC certified products there is also a decreased risk of selective discarding practices occurring e.g. where smaller fish are thrown back due to their lower value
- Follow progress of ongoing talks aimed at incorporating all NEAFC contracting parties to the CSA. Coordination of management efforts will increase the likelihood that fisheries extraction will be at a sustainable level

5.6.3.3 *Flag State*

- Increased product traceability would ensure that products originate from CS that are party to international agreements on quota management
- Buy products from FS that have regulations pertaining to observer coverage across their fleets, by buying from EU MS there is an increased assurance that observers are present therefore reducing the likelihood of illegal activities such as slipping occur

5.6.3.4 *Coastal State*

- Mackerel caught within the NEAFC regulatory area is highly likely to carry a decreased risk of IUU through the measures within the NEAFC Scheme of Control and Enforcement and have a higher traceability as described in the table above, therefore aim to purchase fish from these areas.

- Factors that help to decrease IUU risk from CS that are party to NEAFC include regular inspections by CPs inspectors at sea, if inspections are refused it is presumed that vessels are conducting IUU activity.

5.6.3.5 Port State

- Mackerel caught within the NEAFC regulatory area is highly likely to carry a decreased risk of IUU as the RFMO implements a number of tighter controls including risk-based inspections and prior notice of landing
- Choose PS that have ratified the PSMA, e.g. exclude fishing nations such as the Faroe Islands and Russia, as this demonstrates a dedication to port states controls
- Within the EU there is a list of certified ports where landing/transshipping of frozen fish by third-country fishing vessels in the NEAFC is permitted; the use of designated ports reduces the risk of IUU as ensures that tight controls and regular inspections exist. Therefore, choosing EU fisheries products reduces the risk of IUU.

5.6.3.6 Market State

- Ensure all mackerel product is accompanied by a catch certificate or equivalent, as well as any accompanying documentation, notably transportation (including transshipment) and transformation (processing).
- Obtain a list of all possible intermediary companies and States involved in the supply of product.
- Carry out regular forensic audits of the supply chain, examining any links in custody, and the associated companies and States.
- Ensure requirements for a clear and transparent supply chain are communicated throughout the chain of custody.
- Wherever possible, source mackerel direct from the supplier, or with limited supply chain complexity and where possible from MSC certified sources.

NB: It should be noted that the IUU risk assessment carried out is limited in scope, analysing the risk that IUU fish may enter the supply chain from a particular fishery. It does not analyse the individual supply chains present and this would require a traceability assessment to be carried out which has not been done in this case.

5.7 Octopus nei

5.7.1 Executive Summary

An IUU risk assessment has been carried out for *Octopus nei* that is found within the Japanese market.

The IUU risk assessment is designed to provide an estimate of the potential for IUU catch to enter a particular supply chain, identify potential risks in the supply chain from the fishery through to the market place and to then identify where interventions are possible to reduce and minimise this risk. It will not be able to indicate the level of risk that occurs once a fishery has entered the supply chain and it is recommended that a traceability benchmarking assessment or similar review of the supply chain is conducted to evaluate this risk.

Over 50% of the octopus found in Japanese markets is imported which could come from a variety of sources. Due to the unknown sources of octopus from foreign States, fleet identification was not possible but it is suggested that Morocco and Mauritania are Japan's main sources for octopus, with the major fleets flying EU flags. However, there is also a domestic Japanese fleet which accounts for 47% of market. Due to the wide scope of this risk assessment little is known about specific vessels which increases the risk of IUU activity.

There is limited information available for the Japanese and West African stocks of octopus in regards to IUU fishing however, the West African stock is overfished and is currently above capacity by 50%. Despite a licence system in place in both fisheries there is evidence that octopus are fished illegally in West Africa however, no information (positive or negative) can be found for Japan which increases the risk of potential IUU activity.

The main flag States that will be sourcing octopus to supply to the Japanese market are the Japanese domestic fishery and potential imports from Morocco, Mauritania and vessels from the EU specifically Spain and Portugal. While none of these countries have been identified as non-compliant by the EU, Portugal and Spain (which cannot be listed by the EU) have been listed in NOAA biennial reports as being of 'interest'. Mauritania has previously been identified as non-compliant by an RFMO and Morocco was listed as flag of convenience indicating that there may be some risk of IUU activity by the relevant flag States. However, all the flag States have licencing and registration systems in place and, with the exception of Mauritania all have high governance scores. Monitoring and control systems exist to an extent in most of the Flag States but the level to which these are exercised is not always known and therefore could result in IUU activity.

The waters around West Africa are known to have large levels of IUU activity and illegal fishing is also known to occur in Japanese waters. However, all coastal states have a licensing system and fisheries agreements in place. Sanctions are enforced for illegal fishing in each coastal state and all states are members of relevant RFMOs. Various levels of control have been introduced in each coastal state however, the extent to which these are enforced is mainly unknown and there is very limited information available for Japan.

Catches from West Africa are mainly landed in Las Palmas (Spain) which historically has seen large volumes of IUU fish landings however, recently stricter measures have been enforced through increased cooperation leading to a reduction in IUU landings. In Japan there are also strong enforcement frameworks in place to prevent and deter illegal fish from being landed and although some may be landed it will be a small proportion in terms of value and volume in the Japanese market.

Japan is the sole market State in this risk assessment. IUU products have been reported to have been imported into Japan and the sheer volume of imports that it receives could potentially increase the risk of IUU. As the supply chain of octopus entering the Japanese market is unknown, it cannot be determined what the exact risk of IUU activities are but based on the potential sources of octopus (West Africa) the risk of IUU is higher. However, Japan has a high governance score which suggests that once the product is in the supply chain, illegal actions are unlikely

Table 16 Average score (Octopus nei) for the six key areas in the risk assessment.

Key risk areas:	Score
Fishing vessels, legal personalities and companies	1.67
Fisheries – Various	2.27
Flag State – Various	1.01
Coastal State – Various	1.26
Port State – Various	1.40
Market State – Japan	1.86
Average	1.51

Key:

Colour	Min	Max	Risk	Description
	>0.0	<=0.6	No or minimal risk	Little or no action required
	>0.6	<=1.1	Very low risk	Some minor actions may be required, but risk level is very low
	>1.2	<=1.8	Low	Risk level is low, but some particular elements may require mitigating measures to be put in place.
	>1.8	<=2.4	Medium	Medium level of risk. Particular scoring elements may need to be addressed and mitigated against.
	>2.4	<=3.0	High risk	High level of risk. One or more elements have substantial risks associated with them. Scores of this level may suggest sourcing from a different fishery.

5.7.2 Identification

This risk assessment addresses the following scope:

Table 17 Identification of scope of the IUU risk assessment.

Species	Octopus nei (Octopodidae)	ASFIS Code: OCT
Area	Japanese domestic catch (43%) / Imports (57%)	
Gear	Various	
Fleet	Various	
Coastal States / RFMO:	Various	
Port State:	Various	
Market State:	Japan	

5.7.2.1 Fishing vessels, legal personalities and companies

No specific fleet identification was possible but it is thought that Morocco and Mauritania are Japan's main sources for octopus, with the major fleets flying EU flags. However, there is also a domestic Japanese fleet as well which accounts for 47% of market. Due to the wide scope of this risk assessment little is known about specific vessels which increases the risk of IUU activity.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
1.1 Vessel/Fisher Identification	Vessel identification e.g. vessel name, callsign, country registration number and national and RFMO authorisations to fish (either inside national waters or outside on the high seas or in other zones) is complete to enable identification.	No fleet identification possible for Japanese domestic fisheries (43%) or from foreign imports (57%). Imports likely to come from (in descending order of catch): China, Morocco, Korea, Republic of Thailand, Mauritania, Spain, Senegal, Portugal and Philippines. Mauritania and Morocco are Japan's main sources for octopus. The major fleets in this region will be from the European Union but these vessels cannot be identified.	Catches from FISHSTAT (FAO catch data) http://www.europarl.europa.eu/RegData/etudes/note/join/2014/529044/IPOL-PECH_NT(2014)529044_EN.pdf Asada (1985) http://www.fao.org/docrep/005/AC750E/AC750E09.htm	3.0
	Are vessels required to have unique IDs?	The EU and domestic vessels. EU vessels will all have unique IDs and will be listed in the Fisheries Partnership Agreement. But vessels not listed so cannot confirm. For Japanese domestic fisheries for octopus a licensing regime exists at the prefecture level and it is	EU FPAs	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		assumed therefore, that vessel identification including unique IDs is present as part of the licensing process		
	Are each vessel, captain(s), owner and beneficial owner and agent identified as far as possible, this should ideally be transparent?	Unknown fleets both domestic and foreign, though some information should be available through the licensing process.	Do not have vessel lists with owner, captain or other details for octopus fisheries.	3.0
1.2 Vessels on IUU lists.	Are any of the vessels listed in the RA scope on the IUU Lists of RFMOS, (NGOs to be considered but not as clear evidence as evidential value to include is not of the required standard)?	Unknown as there is no information on the fleet in this RA. No vessels listed on RFMO IUU lists for octopus fishing.	RFMO IUU Lists	3.0
	Are any of the legal personalities listed in the RA scope listed on the IUU lists of nationals and companies involved in IUU?	Unknown as there is no information on the fleet in this RA. No legal personalities listed though no IUU vessels (fishing for octopus) have been identified.	No evidence found after literature search.	3.0
	Is there any evidence of unlicensed fishing occurring?	Unknown as there is no information on the fleet in this RA. Though no evidence of unlicensed fishing.	No evidence found after literature search.	3.0
	Are all of the vessels listed on the RA scope listed on authorised (white) lists for RFMOs and/or national authorised lists?	Unknown as there is no information on the fleet in this RA. No whitelists for octopus exist at RFMO level. GFCM has an authorised vessel list for vessels over 15m but there is no indication of the target species of these vessels.	http://www.fao.org/gfcm/data/fleet-avl/en/	2.0
1.3 IUU fishing carried out by vessels flying its flag, by its nationals or by companies	Are the history, nature, circumstances, extent and gravity of the manifestations of IUU fishing as listed in EU carding process by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	No	Reports of EU inspections of third party countries. Thailand yellow card COMMISSION DECISION (2015/C 142/06)	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
based in that country.	Are the history, nature, circumstances, extent and gravity of the manifestations of IUU fishing as listed in the NOAA biennial reports by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	Spain and Portugal have been identified in recent years, but not for this fishery.	NOAA biennial reports (2013,2015,2017)	2.0
	Are there scientific and market analyses defining the level of IUU (e.g. RFMO reports) conducted by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	Difficult as RA scope very wide, global estimate of IUU for octopus gave a range of 12-37%.	Agnew <i>et al.</i> (2009)	1.5
	Are there NGO and Press reports of IUU incidents (specific to vessels/companies) conducted by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	There are no NGO or Press reports that name an individual vessel or legal personality. Some IUU reported related to flag States in the scope.	No press reports found, but as no detailed vessel scoping defined this cannot be discounted.	1.5
Average				1.67

5.7.2.2 Fisheries – Japan and West Africa (sustainability, impacts)

There is limited information available for the Japanese and West African stocks of octopus in regards to IUU fishing however, the West African stock is overfished and is currently above capacity by 50%. Despite a licence system in place in both fisheries there is evidence that octopus are fished illegally in West Africa but no information (positive or negative) can be found for Japan.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
2.1 Status of fisheries and sustainability	Are fisheries operated with control on removals e.g. quota and / or effort limits?	Japan: Local licensing at the prefecture level but no evidence of effort control. West Africa: Simple effort control only that fishing effort should not exceed the current level (2012).	http://www.fao.org/docrep/005/AC750E/AC750E09.htm FAO Fisheries and Aquaculture Report R1166 http://www.fao.org/3/a-i6402b.pdf	2.5
	Are stock assessments available for species that use data on total removals (i.e. catch, bycatch, IUU and discards)?	Japan: There are several independent species of octopus within Japanese waters, and numbers are limited. There have been calls for more focus on local fisheries management policies, in order to make sure that each species can be fished sustainably, but at this time no specific stock assessment for any single species is carried out in Japan. West Africa: Unclear if IUU catch is included in the stock assessment.	https://www.sciencedaily.com/releases/2016/11/161102090510.htm	2.5
	Are target and limit reference points defined for the fishery?	Japan: No target or limit reference points identified. West Africa: Only guideline indicators are calculated but target and limit reference points are not defined and enforced as part of the management strategy.	Report of the Twenty-first session of the Fishery Committee for the Eastern Central Atlantic (CECAF), Dakar, Senegal, 20-22 April 2016 FAO Fisheries and Aquaculture Report R1166 http://www.fao.org/3/a-i6402b.pdf Report of the Seventh Session of the Scientific Sub-Committee Tenerife, Spain 14-16 October 2015 http://www.fao.org/3/a-i5301b.pdf	3.0
	Are fisheries operating at a level at or under MSY?	Japan: No current biomass estimate or MSY estimates have been defined. West Africa: Overexploited (approximately 50% of B_{MSY} . CECAF (2015) indicated a downward trend in biomass since 1999.	http://firms.fao.org/firms/resource/10131/en http://firms.fao.org/firms/resource/10132/en Report of the Seventh Session of the Scientific Sub-Committee Tenerife, Spain 14-16 October 2015 http://www.fao.org/3/a-i5301b.pdf	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are bycatch and ecosystem impacts known (and if different for IUU fishing)?	<p>Japan: No knowledge of bycatch or ecosystem impacts as no stock available.</p> <p>West Africa: No knowledge of bycatch or ecosystem impacts as no stock available.</p> <p>Lack of confirmation of impacts leads to higher risk score.</p>	No knowledge of impacts found.	3.0
	Is the fishery at or below capacity?	<p>Japan: Unknown</p> <p>West Africa: Above capacity (approximately 50% over)</p>	http://firms.fao.org/firms/resource/10131/en http://firms.fao.org/firms/resource/10132/en	3.0
2.2 History of IUU	Do previous incidences of IUU exist within the fishery?	<p>Japan: No evidence available (positive or negative)</p> <p>West Africa: Yes there is evidence of previous IUU incidences but this has reduced in recent years.</p>	http://ejfoundation.org/sites/default/files/public/Pirate%20Fishing%20Exposed.pdf https://www.odi.org/publications/10459-western-africas-missing-fish-impacts-illegal-unreported-and-unregulated-fishing-and-under-reporting	2.5
2.3 Access to fishery	Are fisheries authorised through a fishing licence / permit system?	<p>Japan: Yes this is the prefecture licence.</p> <p>West Africa: Local are licensed and foreign vessels licensed through agreements.</p>	<p>Japan: http://www.fao.org/docrep/005/AC750E/AC750E09.htm</p> <p>West Africa: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:22013A1207(01)&from=EN http://eur-lex.europa.eu/resource.html?uri=cellar:2366ed9d-4b10-4d83-8406-4e51476f7e27.0005.02/DOC_1&format=PDF http://www.fao.org/3/a-i3917e.pdf</p>	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
2.4 Price	Data on species market prices (domestic/international) Low price fish (<US\$1000/t) are generally lower risk (e.g. small pelagics), higher priced (>US\$5000/t) demersals (e.g. cod and haddock) will be higher risk, high value species are generally higher risk.	Average price of between 3000 and 7000 USD per metric tonne	Infofish	2.0
	Are any mitigation procedures that may be in place for high value species (e.g. catch documentation schemes, EU catch certificate requirements) in place (e.g. bêche de mer, bluefin tuna)?	No mitigation measures exist. This however, does not contribute to the score as octopus is not of 'high value'.		N/A
2.5 MSC certification/ /FIP processes	Is there MSC certification for the fishery or is there a FIP in process? MSC certification requires IUU to be low or negligible and has checks to ensure this is the case. If the fishery is going through a FIP process as well/that may indicate improvement within the fishery e.g. Sri Lanka.	Only one octopus fishery is MSC certified and does not appear to supply the Japanese market. Only one FIP references octopus and then only as a small part of a multispecies trawl fishery which is unlikely to supply the Japanese market.	https://fisheries.msc.org/en/fisheries/western-asturias-octopus-traps-fishery-of-artisanal-cofradias/market-information/ https://fisheryimprovementprojects.org/fip/lo-wer-mekong-ben-tre-trawl/	3.0
Average				2.27

5.7.2.3 Flag State – Japan, Morocco, Mauritania and the EU (Spain and Portugal) (activities, corruption, control systems in place)

The main flag States that will be sourcing octopus to supply to the Japanese market are the Japanese domestic fishery and imports from Morocco, Mauritania and vessels from the EU specifically Spain and Portugal. While none of these countries have been identified as non-complaint by the EU, Portugal and Spain (which cannot be listed by the EU) have been listed in NOAA biennial reports as being of 'interest'. Mauritania was identified by CCAMLR as being non-compliant while Morocco was identified as flag of convenience indicating that there may be some risk of IUU activity by the relevant flag States. However, all the flag States have licencing and registration systems in place and, with the exception of Mauritania all have high governance scores. Monitoring and control systems exist to an extent in most of the Flag States but the level to which these are exercised is not always known and therefore could result in IUU activity.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
3.1 Is IUU associated with the flag State?	Has the flag State been identified as a non-compliant State by the EU (yellow / red card)?	None	https://ec.europa.eu/fisheries/sites/fisheries/files/illegal-fishing-overview-of-existing-procedures-third-countries_en.pdf	0.0
	Has the flag State been identified as a "country of interest" within NOAA biennial reports?	Portugal is listed in 2013, 2015 and 2017. Spain is a 'country of interest' in 2015 (NAFO and IATTC) Other countries not listed in any report.	NOAA biennial reports 2013, 2015, 2017	1.0
	Has the flag State been identified as a flag of non-compliance by any other State(s) or by an RFMO?	Mauritania identified as non-compliant in CCAMLR (2 vessels). No others have been identified as flag of non-compliance but some limited IUU fishing has been noted, but not in the fishery under assessment.	https://www.ccamlr.org/en/compliance/non-contracting-party-iuu-vessel-list Other RFMO reports	1.0
	Has the flag State been identified as a flag of non-compliance or flag of convenience by an NGO or in scientific or press reports?	None identified as flag of non-compliance but some limited IUU fishing has been noted, but not in the fishery under assessment. Morocco has been identified as a flag of convenience.	NGO reports, scientific literature and press http://ejfoundation.org/sites/default/files/public/Lowering%20the%20flag.pdf	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
3.2 Corruption	<p>What is the WB corruption index for the flag State? (see WB Governance Indicators).</p> <p>Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.</p>	<p>Japan- 91% Mauritania- 16% Morocco- 54% Portugal-83% Spain 78%</p> <p>Relative high ranking for the majority of the fishing nations.</p>	WBI 2016	1.0
3.3 Vessel Registration and Licensing	<p>Are all fishing vessels required to be registered and flagged in the flag State required to have a licence?</p>	<p>Japan, the EU, Morocco and Mauritania- All require registration and licensing of industrial fleets. The Government of Japan maintains the fishery vessel registration system, and the total number and the total gross tonnage of fishing vessels are closely monitored. Permission from national or regional government is required for construction, modification, and conversion of fishing boats of 10 metres.</p> <p>Some small scale artisanal sector vessels in Morocco and Mauritania may not be licensed but would contribute only a small amount to the Japanese export market.</p>	<p>CFR- https://data.europa.eu/euodp/en/data/datas-et/the-community-fishing-fleet-register</p> <p>Japan- https://www.oecd.org/tad/fisheries/34429748.pdf</p> <p>Morocco- http://www.fao.org/docrep/v9982e/v9982e2u.htm</p> <p>Mauritania- http://www.fao.org/docrep/v9982e/v9982e2p.htm</p>	1.0
	<p>Is there a licensing and quota allocation system in place? Is this system clear and transparent?</p>	<p>Japan, Morocco and Mauritania have licensing systems in place but do not have a quota system in place. The EU vessels are licensed under an agreement to fish in other coastal state waters.</p> <p>NB: Under the current EU agreement with Mauritania "Category – Cephalopods" is not applicable and no fishing opportunities are available.</p>	<p>https://www.oecd.org/tad/fisheries/34429748.pdf</p> <p>https://ec.europa.eu/fisheries/cfp/international/agreements/morocco_en</p> <p>https://ec.europa.eu/fisheries/cfp/international/agreements/mauritania_en#</p> <p>ftp://ftp.fao.org/FI/DOCUMENT/fcp/fr/FI_CP_MR.pdf</p> <p>http://www.whofishesfar.org/</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Is this broken down by domestic waters and ABNJ?	Fishery only in domestic water, therefore assumed increased level of control.	Knowledge of octopus fisheries.	0.0
	Is there a public list of licensed / authorised vessels?	There are no public lists of licensed or authorised vessels except those that are made public by the EU for its vessels fishing under agreements.	http://www.whofishesfar.org/	2.0
3.4 Fair transparent fisheries agreements	Are fair transparent fisheries agreements in place with coastal States?	Yes.	https://ec.europa.eu/fisheries/cfp/international/agreements/morocco_en https://ec.europa.eu/fisheries/cfp/international/agreements/mauritania_en# Japan and Morocco Fishing Agreement 1985 http://www.whofishesfar.org/	0.0
3.5 RFMO	Membership: Is the flag State a Member of the relevant RFMOs?	Yes. The EU, Mauritania, Morocco and Japan are all members of CECAF and other relevant RFMOs. There is no RFMO that covers the domestic octopus fishery of Japan.	http://www.fao.org/fishery/rfb/cecaf/en	0.0
	Compliance: Is the flag State compliant with all RFMO requirements and data submissions?	Yes but CECAF is weak compared to other RFMOs in terms of data requirements.	Personal experience of the evaluation team.	0.0
	Engagement: Does the flag State submit additional information / papers to RFMO and actively participate in scientific and compliance committee meetings?	For CECAF the EU, Mauritania and Morocco regularly attend both scientific and Commission meetings. Although Japan is a member of CECAF they have not attended the most recent meetings. Morocco and Japan are active within ICCAT and Morocco is also active within GFCM.	http://www.fao.org/fishery/rfb/cecaf/en e.g Report of the Seventh Session of the Scientific Sub-Committee Tenerife, Spain http://www.fao.org/3/a-i5301b.pdf Report of the Twenty-first session of the Fishery Committee for the Eastern Central Atlantic (CECAF), Dakar, Senegal, 20-22 April 2016 http://www.fao.org/3/a-i6402b.pdf RFMO reports	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
3.6 Multi-lateral agreements e.g. FAO Guidelines or UNCLOS	<p>Is the flag State a contracting/cooperative non-member party to multi-lateral agreements e.g. UNCLOS, UNFSA, Compliance Agreement, FAO Agreements?</p> <p>Implementation of the provisions of the Convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks</p>	<p>UNCLOS: The EU, Japan, Morocco and Mauritania</p> <p>UNFSA: The EU and Japan</p> <p>Compliance Agreement: The EU, Japan and Morocco.</p>	<p>http://www.un.org/depts/los/reference_files/chronological_lists_of_ratifications.htm</p> <p>http://www.un.org/depts/los/convention_agreements/reviewconf/FishStocks_EN_C.pdf</p> <p>http://www.fao.org/fileadmin/user_upload/legal/docs/012s-e.pdf</p>	1.0
3.7 NPOAs (IUU + others)	Is there a specific National Plan of Action (NPOA) in place to combat IUU?	<p>The EU as a multi-national plan of action but has the equivalent requirements built into its regulations.</p> <p>Japan has a NPOA IUU.</p> <p>Morocco indicated that it has a partially completed NPOA IUU.</p> <p>A Mauritania NPOA IUU was developed in 2007⁸ but the document cannot be located.</p>	<p>EU - http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32008R1005&from=EN</p> <p>Japan - ftp://ftp.fao.org/FI/DOCUMENT/IPOAS/national/japan/NPOA-iuu.pdf</p> <p>Morocco- http://www.fao.org/docrep/008/a0098e/a0098e04.htm</p>	1.0
3.8 Flag State Control	How and to what level is flag State control exercised in terms of administrative controls and checks? (e.g. logbook check against VMS and administrative checks, catch certificate verification includes physical inspection)	VMS are in operation in each country but the levels of inspection and cross checking implemented are not publically available.	Morocco- http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A22013A1207(01)	2.0
	How and to what level is flag State control exercised in terms of inspections on flag State vessels (at sea and in port)?	Japan: VMS is carried out in some fishing grounds but no further information is available. The level to which this is undertaken however, is unknown.	Japan: https://www.oecd.org/tad/fisheries/34429748.pdf	3.0

⁸ http://www.comhafat.org/fr/files/actualites/Philippe%20Cacaud%20Linkages%20btw%20policy%20and:%20MCS_Cacaud.pdf

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	How and to what level is flag State control exercised in terms of remote surveillance (e.g. aerial surveillance, VMS and AIS)?	<p>VMS and AIS are installed on all EU fishing vessels above 12m for VMS and 15m for AIS.</p> <p>Japan: VMs is carried out in some fishing grounds by the extent of this is unknown. Japan conduct aerial surveillance of their own EEZ. Vessels over 300- ton are obliged to install AIS.</p> <p>Morocco: According to Law No 1-73-255, Morocco is to establish VMS but no evidence is found on to what level this is exercised.</p> <p>Mauritania: A unit of the Ministry of Fisheries employs aircraft for tracking the operation of vessels but the level to which this is exercised in unknown. In Mauritania it appears they have combined VMS and AIS system. VMS is operational for the industrial fleet and covers the coastline however some stations are affected by low budgets.</p> <p>EU vessels operating in Moroccan and Mauritania waters will have AIS as this an EU requirement.</p>	<p>Council Regulation (EC) No 1224/2009 of 20 November 2009 establishing a Community control system for ensuring compliance with the rules of the common fisheries policy, http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32009R1224</p> <p>Japan: https://www.oecd.org/tad/fisheries/34429748.pdf</p> <p>http://annx.asianews.network/content/satellites-monitor-suspicious-ships-japanese-waters-42460</p> <p>Morocco: http://www.fao.org/docrep/008/y5880e/y5880e07.htm</p> <p>Mauritania: ftp://ftp.fao.org/fi/document/cecaf/cecaf17/4e.pdf</p> <p>https://www.kfw-entwicklungsbank.de/PDF/Evaluierung/Erggebnisse-und-Publikationen/PDF-Dokumente-L-P_EN/Mauretanien_Fischerei_2016_E.pdf</p> <p>Personal Experience (John Pearce)</p>	3.0
	How and to what level is flag State control exercised in terms of observer programmes?	<p>The EU, Japan and Morocco are known to have observer programmes in specific fisheries where a requirement has been defined by an RFMO. At the moment there are no such requirements for octopus fisheries and no observer programmes have been identified. No information is available for Mauritania.</p>	RFMO reports	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
3.9 Flag State Cooperation	Does the flag State work with neighbouring or regional States to enhance MCS in their own waters and fleets?	<p>The EU, Morocco and Mauritania have worked with regional bodies to coordinate MCS operations within and outside their waters. For example EU operations in ICCAT, NAFO and NEAFC and Mauritanian involvement in the Sub-regional Fisheries Commission (SRFC).</p> <p>Japan has agreements in place for the provision for one party to call other party's attention to breaches by its vessel of joint conservation and management measures [Japan/China Agreement; Japan/Korea Agreement] and a corresponding duty on the other party to take actions and notify these [Japan/China Agreement; Japan/Korea Agreement]. Japan will also provide notification in the event of seizure or enforcement action by one party against the other party's vessels [Japan/China Agreement; Japan/Korea Agreement].</p>	<p>http://www.spcsrp.org/en/monitoring-control-and-surveillance-fisheries-development-mcsd#Presentation</p> <p>http://www.efca.europa.eu/en/content/neafc</p> <p>Japan: http://www.fao.org/docrep/006/Y4698B/y4698b0g.htm</p>	1.0
	VMS sharing is implemented?	<p>Morocco and the EU share VMS data where appropriate. Defined in the protocol between the European Union and the Kingdom of Morocco setting out the fishing opportunities and financial contribution provided for in the Fisheries Partnership Agreement between the European Union and the Kingdom of Morocco.</p> <p>The Fisheries Partnership between Mauritania and the EU states that are to promote simultaneous transmission of data by European vessels to the FMC of the flag Member State and to the surveillance authority.</p>	<p>Morocco: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A22013A1207(01)</p> <p>Mauritania: http://eur-lex.europa.eu/resource.html?uri=cellar:2366ed9d-4b10-4d83-8406-4e51476f7e27.0005.02/DOC_2&format=PDF</p>	1.5
Average				1.0

5.7.2.4 Coastal State – Japan, Mauritania and Morocco (corruption, control systems in place)

The waters around West Africa are known to have large levels of IUU activity and illegal fishing is also known to occur in Japanese waters. However, all three coastal states have a licensing system and fisheries agreements in place. Sanctions are enforced for illegal fishing in each coastal state and all states are members of relevant RFMOs. Various levels of control have been introduced in each coastal state however, the extent to which these are enforced is mainly unknown and there is very limited information available for Japan.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
4.1 Is IUU fishing carried out / supported by fishing vessels operating in its maritime waters?	Has the coastal State been identified as a non-compliant State by the EU (yellow / red card)?	None	https://ec.europa.eu/fisheries/sites/fisheries/files/illegal-fishing-overview-of-existing-procedures-third-countries_en.pdf	0.0
	Has the coastal State been identified as a “country of interest” within NOAA biennial reports?	None	NOAA biennial reports 2013, 2015, 2017	0.0
	Has the coastal State been identified as having IUU fishing carried out in its waters? (NB: This may be identified by the coastal State itself, another State or by an RFMO).	West Africa is thought to have some of the highest levels of IUU fishing in the world however this does not specifically highlight Morocco or Mauritania. VMS was introduced into Morocco to combat IUU fishing indicating that it occurs in its waters.	ftp://ftp.fao.org/FI/DOCUMENT/cecaf/cecaf21/5e.pdf http://www.fao.org/3/a-ax805e.pdf	2.0
	Has the coastal State been identified as having IUU fishing carried out in its waters by fishing vessel of any State by an NGO or in scientific or press reports?	IUU fishing had been reported in the waters of Mauritania. IUU fishing in Morocco exemplified by the illegal driftnet fishery in Morocco. In Japan, most of the trends relevant to foreign fishing vessels relate either to activities in the waters between Japan and Korea and the East China Sea, or to the waters surrounding Hokkaido. There are also issues with gang-related illegal fishing, illegal fishing of abalone and sea urchin by recreational activities and also salmon eggs and hair crab. Illegal fishing in Japan has been reported in the Sea of Japan and also around Japan’s Ogasawara islands.	http://www.worldbank.org/en/news/press-release/2015/03/16/world-bank-boosts-fisheries-in-mauritania-and-guinea-contributing-to-the-ebola-recovery http://wwf.panda.org/?172881/Illegal-fishery-in-Morocco-to-feed-European-consumers-allows-ocean-destruction-to-go-on http://www.worldfishing.net/news101/industry-news/illegal-driftnet-fishing-returns-to-morocco http://www.imcsnet.org/imcs/docs/illegal_fishing_exclusive_economic_zone_japan.pdf http://journal.frontiersin.org/article/10.3389/fmars.2017.00050/full	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
			https://www3.nhk.or.jp/nhkworld/newsroomtokyo/aired/20170315.html http://thediplomat.com/2014/11/illegal-fishermen-the-newest-threat-to-china-japan-relations/	
4.2 Corruption	<p>What is the WB corruption index for the Coastal State? (see WB Governance Indicators).</p> <p>Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.</p>	<p>Japan- 91%</p> <p>Mauritania- 16%</p> <p>Morocco- 54%</p>	WBGI 2012	1.5
4.3 Vessel Registration and Licensing	<p>Are all fishing vessels fishing in the coastal State required to have a licence? (NB: Are there reports of proportion of vessels unlicensed (both national and international)?)</p>	<p>Japan, Morocco and Mauritania have licensing systems that require vessels to have licences.</p> <p>No evidence of unlicensed vessels.</p>	https://www.oecd.org/tad/fisheries/34429748.pdf https://ec.europa.eu/fisheries/cfp/international/agreements/morocco_en https://ec.europa.eu/fisheries/cfp/international/agreements/mauritania_en# ftp://ftp.fao.org/FI/DOCUMENT/fcp/fr/FI_CP_MR.pdf	0.0
	<p>Is there a licensing and quota allocation system in place?</p> <p>Is this system clear and transparent?</p>	<p>Japan, Morocco and Mauritania have licensing systems in place but do not have a quota system in place that is clear and transparent.</p>	https://www.oecd.org/tad/fisheries/34429748.pdf https://ec.europa.eu/fisheries/cfp/international/agreements/morocco_en	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
			https://ec.europa.eu/fisheries/cfp/international/agreements/mauritania_en# ftp://ftp.fao.org/FI/DOCUMENT/fcp/fr/FI_CP_MR.pdf	
	Is there a public list of licensed / authorised vessels?	There are no public lists of licensed or authorised vessels except those that are made public by the EU for its vessels fishing under agreements. This however is flag state requirement and not a coastal state requirement.	http://www.whofishesfar.org/	3.0
4.4 Fair transparent fisheries agreements	Are fair transparent fisheries agreements in place with DWFNs?	Japan and Morocco have fisheries agreement that was signed in 1985 however, full details of the agreement cannot be found. Japan and Mauritania signed a fishing agreement in 1991 but full details of the agreement cannot be found. The EU has/has had fishing agreements with Morocco and Mauritania	http://ias.asia/the-newsletter/article/green-march-brings-forth-desert-treasures-japanese-cooperation-moroccos-south http://www.fcwc-fish.org/publications/news-from-the-region/120-mauritania-reviews-tuna-fishing-agreement-with-japan http://www.whofishesfar.org/	0.0
	Are the details of these agreements public?	The details of these agreements are not public apart from the EU agreements which are required to be public.	http://www.whofishesfar.org/	1.5
4.5 Sanctions	Are sanctions enforced?	The sanction for illegal fishing in Japan are a fine up to ¥2,000,000 and 3 years imprisonment. The governance in Japan is high. Governance – Japan (High) As levels of IUU fishing in Morocco have decreased it has been assumed that a strong control system has had a positive effect on reducing IUU activities.	Japan- Act on the Protection of Fishery Resources 1951 Report of the Working group in IUU fishing in the GFCM area of application 2016. Loi 1-73-255 (Morocco) http://extwprlegs1.fao.org/docs/pdf/mor1493.pdf Law No.2015-017 of 29 July 2015 on the code of Marine Fisheries (Mauritania) http://extwprlegs1.fao.org/docs/pdf/Mau164733.pdf	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>Morocco: the penalties include imprisonment from 3 months to a year or a fine of 5,000-1,000,000 Dirhams.</p> <p>Mauritania: There are varying penalties for different size vessel from 1,000,000-12,000,000 d'ouguiya for minor offenses. For serious offences the fine goes up to a maximum of 150,000,000 d'ouguiya. Also the tribunal can confiscate catch and gear. For repeat infractions the boat can be seized.</p>		
	Relative level of sanctions vs level of IUU fishing.	For Japan, Mauritania and Morocco the level of sanction is appropriate.	<p>Japan- Act on the Protection of Fishery Resources 1951</p> <p>Report of the Working group in IUU fishing in the GFCM area of application 2016.</p> <p>Loi 1-73-255 (Morocco) http://extwprlegs1.fao.org/docs/pdf/mor1493.pdf</p> <p>Law No.2015-017 of 29 July 2015 on the code of Marine Fisheries (Mauritania) http://extwprlegs1.fao.org/docs/pdf/Mau164733.pdf</p>	0.0
4.6 RFMO	Membership: Are they a Member of the relevant RFMOs?	Yes. Mauritania, Morocco and Japan are all members of CECAF and other relevant RFMOs. There is no RFMO that covers the domestic octopus fishery of Japan.	http://www.fao.org/fishery/rfb/cecaf/en	0.0
	Compliance: is the coastal State compliant with all RFMO requirements and data submissions?	Yes but CECAF is weak compared to other RFMOs in terms of data requirements.	Personal experience of the evaluation team.	1.0
	Engagement: Does the coastal State submit additional information / papers to RFMO and actively	For CECAF Mauritania and Morocco regularly attend both scientific and Commission meetings. Although Japan is a member of CECAF they have not attended the most recent meetings. Morocco and Japan are	http://www.fao.org/fishery/rfb/cecaf/en	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	participate in scientific and compliance committee meetings?	active within ICCAT and Morocco is also active within GFCM.	Report of the Seventh Session of the Scientific Sub-Committee Tenerife, Spain http://www.fao.org/3/a-i5301b.pdf Report of the Twenty-first session of the Fishery Committee for the Eastern Central Atlantic (CECAF), Dakar, Senegal, 20-22 April 2016 http://www.fao.org/3/a-i6402b.pdf RFMO Reports	
4.7 Multi-lateral agreements e.g. FAO Guidelines or UNCLOS	Is the coastal State a contracting/cooperative non-member party to multi-lateral agreements e.g. UNCLOS, UNFSA, FAO Agreements? Implementation of the provisions of the Convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks	UNCLOS: Japan, Morocco and Mauritania UNFSA: Japan Compliance Agreement: Japan and Morocco.	http://www.un.org/depts/los/reference_files/chronological_lists_of_ratifications.htm http://www.un.org/depts/los/convention_agreements/reviewconf/FishStocks_EN_C.pdf http://www.fao.org/fileadmin/user_upload/legal/docs/012s-e.pdf	1.0
4.8 NPOAs (IUU + others)	Is there a specific National Plan of Action (NPOA) in place to combat IUU in the coastal State?	Japan has a NPOA IUU Morocco indicated that it has a partially completed NPOA IUU. A Mauritania NPOA IUU was developed in 2007 ⁹ but the document cannot be located.	Japan ftp://ftp.fao.org/FI/DOCUMENT/IPOAS/national/japan/NPOA-iuu.pdf Morocco- http://www.fao.org/docrep/008/a0098e/a0098e04.htm	1.0
4.9 Coastal State Control	How and to what level is control exercised in the coastal State in terms of administrative controls and checks? (e.g. logbook check against VMS and administrative	Morocco has introduced through its legislation measures to enforce control on vessels in its waters. Japan: control measures are outlined in brief in the National Plan of Action.	Morocco: http://www.fao.org/docrep/008/y5880e/y5880e07.htm	2.5

⁹ http://www.comhafat.org/fr/files/actualites/Philippe%20Cacaud%20Linkages%20btw%20policy%20and%20MCS_Cacaud.pdf

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	checks including validation of catch certificates)	In a recent research article (2017) Mauritania was noted to not have provided information related to their MCS function i.e. staff, means and measures. A unit of the Ministry of Fisheries employs aircraft for tracking the operation of vessels but the level to which this is exercised is unknown. In Mauritania it appears they have combined VMS and AIS system. VMS is operational for the industrial fleet and covers the coastline however some stations are affected by low budgets.	Loi 1-73-255 (Morocco) http://extwprlegs1.fao.org/docs/pdf/mor1493.pdf Japan ftp://ftp.fao.org/FI/DOCUMENT/IPOAS/national/japan/NPOA-iuu.pdf Mauritania: http://journal.frontiersin.org/article/10.3389/fmars.2017.00050/full https://www.kfw-entwicklungsbank.de/PDF/Evaluierung/Ergebnisse-und-Publikationen/PDF-Dokumente-L-P_EN/Mauretanien_Fischerei_2016_E.pdf	
	How and to what level is control exercised in the coastal State in terms of inspections on vessels at sea and in port?	Japan: No information is available on what level of control systems are exercised. Morocco: The provisions are laid out in Loi 1-73-255 however, the only mention of rate of inspection is within the EU FPA. Mauritania: The provisions are laid out in Annex of the EU FPA but there is no mention of the actual rates of inspection conducted.	Morocco: http://www.wsrw.org/a105x2661 Mauritania: https://ec.europa.eu/transparency/regdoc/rep/1/2015/EN/1-2015-477-EN-F1-1-ANNEX-1.PDF	2.5
	How and to what level is control exercised in the coastal State in terms of remote surveillance (e.g. aerial surveillance, VMS and AIS)?	All three States have VMS. EU vessels operating in Moroccan and Mauritania waters will have AIS as this an EU requirement. Japan conduct aerial surveillance of their own EEZ.	Personal Experience (John Pearce) https://www.oecd.org/tad/fisheries/34429748.pdf	2.5
	How and to what level is control exercised in the coastal State in terms of observer programmes?	Japan and Morocco are known to have observer programmes in specific fisheries where a requirement has been defined by an RFMO. At the moment there	RFMO reports	2.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		are no such requirements for octopus fisheries and no observer programmes have been identified. No information is available for Mauritania.		
4.10 Coastal State Cooperation	Does the coastal State work with neighbouring or regional States to enhance MCS in their own waters and fleets?	<p>Mauritania and Morocco have worked with regional bodies to coordinate MCS operations within and outside their waters. For example operations in ICCAT and Mauritanian involvement in the Sub-regional Fisheries Commission (SRFC).</p> <p>Japan has agreements in place for the provision for one party to call other party's attention to breaches by its vessel of joint conservation and management measures [Japan/China Agreement; Japan/Korea Agreement] and a corresponding duty on the other party to take actions and notify these [Japan/China Agreement; Japan/Korea Agreement]. Japan will also provide notification in the event of seizure or enforcement action by one party against the other party's vessels [Japan/China Agreement; Japan/Korea Agreement].</p>	<p>http://www.spcsrp.org/en/monitoring-control-and-surveillance-fisheries-development-mcsd#Presentation</p> <p>http://www.efca.europa.eu/en/content/neaefc</p> <p>Japan: http://www.fao.org/docrep/006/Y4698B/y4698b0g.htm</p>	1.0
4.11 Transhipment	Is transhipment allowed in coastal State or RFMO waters and is observation required through an RFMO programme or by coastal States for their own waters?	<p>There is no system in place for the authorisation of transhipment in Japan, Mauritania or Morocco.</p> <p>According to the EU and Morocco Fisheries Partnership Agreement no transhipment is allowed in the Moroccan fishing zone.</p> <p>According to the EU and Mauritanian Fisheries Partnership Agreement transhipment is allowed in Mauritanian ports and in authorised zones.</p> <p>A report on fisheries in West Africa states that many regions still authorise fish transhipments within their EEZ, only noting Senegal and Côte d'Ivoire as two countries which have prohibited it by law.</p> <p>No authorisation for transhipment, but low-level of flag State control at sea leaves a residual mid-level of risk.</p>	<p>Morocco- http://www.fao.org/docrep/008/y5880e/y5880e07.htm</p> <p>http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:22006A0529(01)&from=EN</p> <p>https://www.odi.org/sites/odi.org.uk/files/resource-documents/10665.pdf</p> <p>Mauritania: http://www.fao.org/docrep/v9982e/v9982e2p.htm</p> <p>http://eur-lex.europa.eu/resource.html?uri=cellar:2366ed9d-4b10-4d83-8406-</p>	1.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
			4e51476f7e27.0005.02/DOC_2&format=PDF Japan: http://www.fao.org/docrep/v9982e/v9982e28.htm#japan	
Average				1.26

5.7.2.5 Port State – Japan, Morocco, Mauritania and Spain (Las Palmas) (control systems in place, PSMA provisions in place)

Catches from West Africa are mainly landed in Las Palmas (Spain) which historically has seen large volumes of IUU fish landings however, recently stricter measures have been enforced through increased cooperation leading to a reduction in IUU landings. In Japan there are also strong enforcement frameworks in place to prevent and deter illegal fish from being landed and although some may be landed it will be a small proportion in terms of value and volume in the Japanese market. Port control measures are in place and the EU and Mauritania are participants of the Port State Measures Agreement however, there is limited information on how and to what extent measures such as port notification, VMS and other vessel monitoring is employed.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
5.1 Are the products of IUU fishing landed in the port State?	Has the port State been identified as a non-compliant State by the EU (yellow / red card)?	None	https://ec.europa.eu/fisheries/sites/fisheries/files/illegal-fishing-overview-of-existing-procedures-third-countries_en.pdf	0.0
	Has the port State been identified as a “country of interest” within NOAA biennial reports?	None	NOAA biennial reports 2013, 2015, 2017	0.0
	Has the port State been identified as having IUU fish landed in its ports? (NB: This may be identified by the port State itself, another State or by an RFMO).	In Mauritania there are no large industrial ports, it is mainly local catches. Catches from Mauritania and Morocco tend to be landed in Las Palmas as identified in ODI (2016). Las Palmas historically had seen large amounts of IUU landings primarily from West Africa however, in the Canary Islands (Spain), close cooperation between the EU and local authorities has improved their procedures on control for all third party landings at Las Palmas. This has led to a reduction in	Personal experience (John Pearce) https://ec.europa.eu/dgs/maritimeaffairs_fisheries/magazine/en/policy/illegal-fish-no-thanks-four-years-new-control-system-yielding-tangible-results	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>IUU landings at this port and certain flag state vessels have stopped landing their fish or exporting products to the EU.</p> <p>Japan has put in place a strong legal framework to combat IUU and to prevent, deter and eliminate IUU fishing and uncontrolled importation and landing of IUU catches e.g. the Law of Special Measures for Strengthening Conservation and Management of Tuna Resources (1996) to control the import of tuna caught by IUU and reflagged fishing vessels. Some illegal fish have been landed in Japanese ports but as a percentage of the overall Japanese market this will be low in terms of volume and value.</p>	<p>ODI (2016) https://www.odi.org/sites/odi.org.uk/files/resource-documents/10665.pdf</p> <p>http://www.imcsnet.org/imcs/docs/illegal_fishing_exclusive_economic_zone_japan.pdf</p> <p>http://www.europarl.europa.eu/RegData/etudes/note/join/2014/529044/IPOL-PECH_NT(2014)529044_EN.pdf</p>	
	Has the port State been identified as having IUU fish landed in its ports by fishing vessel of any State by an NGO or in scientific or press reports?	<p>The illegal driftnet fishery has reappeared in the last few years which lands direct into Morocco.</p> <p>Some history of illegal landings in Japan.</p>	<p>http://wwf.panda.org/?172881/Illegal-fishery-in-Morocco-to-feed-European-consumers-allows-ocean-destruction-to-go-on</p> <p>https://houseofocean.org/2014/10/19/illegal-fishing-of-swordfish-highlights-weaknesses-in-iuu-control-mechanisms/</p> <p>Petrossian, G.A., N. Marteache and J. Violaz, 2014: Where do “Undocumented” Fish Land? An Empirical Assessment of Port Characteristics for IUU Fishing. Eur J Crim Policy Res. DOI 10.1007/s10610-014-9267-1.</p>	1.5
5.2 Corruption	<p>What is the WB corruption index for the port State? (see WB Governance Indicators).</p> <p>Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant</p>	<p>Japan- 91%</p> <p>Mauritania- 16%</p> <p>Morocco- 54%</p> <p>Spain 78%</p>	WBGI 2016	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	water fishing nations in addition to internal weaknesses and corruption.			
5.3 Sanctions	Are sanctions enforced for port related activities?	<p>Japan: In Japan's NPOAs-IUU, any non-Japanese vessel which wants to land or tranship its catch at a Japanese port must obtain a landing permit and a port-call permit from the Japanese Minister of Agriculture, Forestry and Fisheries. IUU vessels are denied permits and their landings are prohibited. The maximum penalty for violations are three years imprisonment and/or a fine of 4,000,000 Yen. Non-Japanese vessels transporting fish can land its freight if it carries an official document to certifying that the fish has been landed and exported from the flag state. Landings are not allowed if the fish were transhipped at sea.</p> <p>Spain: Maximum penalty for fisheries offence (€600,000)</p> <p>Morocco: For transportation violations is punishable by imprisonment from three months to a year and a fine of 5,000-1,000,000 Dirhams depending on severity.</p> <p>Mauritania: The buying, selling and transport of species is classed as a serious infringement. It is punishable by a fine 100,000 to 150,000,000 d'ouguiya depending on the size of the boat.</p>	<p>Japan: ftp://ftp.fao.org/fi/document/tc-psm/Reg_Workshop_2006/Doulman_Role_Port_State1.pdf</p> <p>Spain: Ley 3/2001, de 26 de marzo, de Pesca Marítima del Estado</p> <p>Morocco: Article 34 http://extwprlegs1.fao.org/docs/pdf/mor1493.pdf</p> <p>Mauritania: Article 84 http://extwprlegs1.fao.org/docs/pdf/Mau164733.pdf</p>	1.5
	Are the sanctions enforced relative to the level of IUU fishing.	Yes the sanctions are of a reasonable level relative to the offences detailed.		1.0
	Membership: Is the port State a Member of the relevant RFMOs?	Yes. Mauritania, Morocco and Japan are all members of CECAF and other relevant RFMOs. Spain is a member of CECAF through the EU and other relevant RFMOs. There is no RFMO that covers the domestic octopus fishery of Japan.	http://www.fao.org/fishery/rfb/cecaf/en	0.0
5.4 RFMO	Compliance: is the port State compliant with all RFMO	Yes but CECAF is weak compared to other RFMOs in terms of data requirements.	Personal experience of the evaluation team.	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	requirements and data submissions?			
	Engagement: Does the port State submit additional information / papers to RFMO and actively participate in scientific and compliance committee meetings?	For CECAF the EU, Mauritania and Morocco regularly attend both scientific and Commission meetings. Although Japan is a member of CECAF they have not attended the most recent meetings. Morocco, the EU and Japan are active within ICCAT and Morocco and the EU are also active within GFCM.	http://www.fao.org/fishery/rfb/cecaf/en e.g Report of the Seventh Session of the Scientific Sub-Committee Tenerife, Spain http://www.fao.org/3/a-i5301b.pdf Report of the Twenty-first session of the Fishery Committee for the Eastern Central Atlantic (CECAF), Dakar, Senegal, 20-22 April 2016 http://www.fao.org/3/a-i6402b.pdf Various RFMO reports showing attendance and engagement by States.	1.0
5.5 Multi-lateral agreements e.g. FAO Guidelines or UNCLOS	Is the port State a contracting/cooperative non-member party to multi-lateral agreements e.g. PSMA, UNCLOS, UNFSA, FAO Agreements?	UNCLOS: The EU, Japan, Morocco and Mauritania Compliance Agreement: The EU, Japan and Morocco.	http://www.un.org/depts/los/reference_files/chronological_lists_of_ratifications.htm http://www.fao.org/fileadmin/user_upload/legals/docs/012s-e.pdf	1.0
	Has the FAO Port State Measures Agreement been signed, acceded or implemented?	The EU and Mauritania have signed the FAO Port State Measures Agreement.	http://www.fao.org/fileadmin/user_upload/legals/docs/037s-e.pdf	1.5
	Implementation of the provisions of the Convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks	UNFSA: Japan and the EU States only. Not Morocco or Mauritania	http://www.un.org/depts/los/convention_agreements/reviewconf/FishStocks_EN_C.pdf	1.5
5.6 NPOAs (IUU + others)	Is there a specific National Plan of Action (NPOA) in place to combat IUU in the port State?	The EU as a multi-national plan of action but has the equivalent requirements built into its regulations. Japan has a NPOA IUU Morocco indicated that it has a partially completed NPOA IUU.	EU - http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32008R1005&from=EN Japan - ftp://ftp.fao.org/FI/DOCUMENT/IPOAS/national/japan/NPOA-iuu.pdf	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		A Mauritania NPOA IUU was developed in 2007 ¹⁰ but the document cannot be located.	Morocco- http://www.fao.org/docrep/008/a0098e/a0098e04.htm	
5.7 Port State Control	How and to what level is control exercised in the port State in terms of administrative controls and checks? (e.g. logbook check against VMS and administrative checks including validation of catch certificates)	VMS are in operation in each country but the levels of inspection and cross checking implemented are not publically available.	Morocco- http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A22013A1207(01)	2.0
	How and to what level is control exercised in the port State in terms of inspections on vessels in port?	Unknown		3.0
	How and to what level is control exercised in the port State in terms of vessel monitoring (e.g. notification of port entry, VMS and AIS)?	<p>VMS and AIS are installed on all EU fishing vessels above 12m for VMS and 15m for AIS.</p> <p>In Japan VMS has been introduced to some fisheries conducted in specific areas but the level to which it is exercised is not publically available. Vessels intending to tranship or land their catch at Japanese ports need to obtain a landing permit and a port-call permit.</p> <p>In Mauritania, EU vessels must notify the port authorities of Nouadhibou and the Mauritanian coast guard at least 24 hours prior to landing.</p> <p>In Morocco in addition to in-port inspections, the licensing of any vessels is subject to a technical inspection by a designated authority.</p>	<p>Council Regulation (EC) No 1224/2009 of 20 November 2009 establishing a Community control system for ensuring compliance with the rules of the common fisheries policy, http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32009R1224</p> <p>Japan: ftp://ftp.fao.org/FI/DOCUMENT/IPOAS/national/japan/NPOA-iuu.pdf</p> <p>Mauritania: https://ec.europa.eu/transparency/regdoc/rep/1/2015/EN/1-2015-477-EN-F1-1-ANNEX-1.PDF</p> <p>Morocco: http://www.fao.org/docrep/008/y5880e/y5880e07.htm</p>	1.5

¹⁰ http://www.comhakat.org/fr/files/actualites/Philippe%20Cacaud%20Linkages%20btw%20policy%20and:%20MCS_Cacaud.pdf

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
5.8 Port State Cooperation	Does the port State work with neighbouring or regional States to enhance MCS on vessels landing in their ports?	<p>The Polestar was listed on NEAFC's IUU list for its transshipment activities with IUU fishing vessels in the NEAFC regulatory area. The detention of the Polestar in Morocco with its cargo in 2007, demonstrates the effectiveness of IUU listing and cooperation with RFMOs and coastal States, even those outside of the RFMO regulatory areas. The Polestar had previously been refused entry into ports in East Asia, Europe, North Africa and North America in 2006.</p> <p>For Spain, as an EU Member State, the IUU Regulation facilitates cooperation between Member States to address IUU fishing activities. The system of Mutual Assistance allows Member States to alert each other of suspected transactions of IUU fishery products, and can be used by the Commission to send alerts and information to all Member States.</p>	<p>http://www.pewtrusts.org/~media/post-launch-images/2015/04/2015_april_pew_port-state-performance--putting-iuu-on-radar(1).pdf</p> <p>Council Regulation (EC) No 1005/2008</p> <p>http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:286:0001:0032:EN:PDF</p>	1.0
5.9 Designated ports	Are the ports used appropriate in terms of location and size for particular fleets or species? NB: The ideal is for designated ports assigned to fleets and species to be used.	All port appear to be appropriate. Las Palmas used by fleets operating off West Africa as this is a key hub for transport outside the region. As the octopus fishery can be conducted by relatively small artisanal vessels it is appropriate that all sizes of port could be used.		3.0
5.10 Transshipment	Is transshipment allowed in port and is observation required through an RFMO programme or by port States for their own ports?	<p>There is no system in place for the authorisation of transshipment in Japan, Mauritania or Morocco.</p> <p>Consignments from one non-EU country (e.g. Morocco or Mauritania) with a destination in another non-EU country (e.g. Japan) which tranship in the EU must undergo veterinary checks / inspection if they are present in port for more than seven days.</p> <p>Spain: Advance notice for national vessels and authorization for foreign vessels (Art.34 and 35 of Law No. 3 of 2001).</p>	<p>Morocco- http://www.fao.org/docrep/008/y5880e/y5880e07.htm</p> <p>Mauritania: http://www.fao.org/docrep/v9982e/v9982e2p.htm</p> <p>http://eur-lex.europa.eu/resource.html?uri=cellar:2366ed9d-4b10-4d83-8406-4e51476f7e27.0005.02/DOC_2&format=PDF</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>According to the EU and Mauritanian Fisheries Partnership Agreement transshipment is allowed in Mauritanian ports.</p> <p>Although not allowed the lack of effective port State control may allow some transshipment to occur in port unregulated.</p>	<p>Japan: http://www.fao.org/docrep/v9982e/v9982e28.htm#japan</p> <p>Morocco: http://www.porthealth.eu/announcements/transshipment-of-poao-from-non-eu-countries</p>	
Average				1.40

5.7.2.6 Market State – Japan - Traceability and national requirements

Japan is the sole market State in this risk assessment. IUU products have been reported to have been imported into Japan and the sheer volume of imports that it receives could potentially increase the risk of IUU. As the supply chain of octopus entering the Japanese market is unknown, it cannot be determined what the exact risk of IUU activities are but based on the potential sources of octopus (West Africa) the risk of IUU is higher. However, Japan has a high governance score which suggests that once the product is in the supply chain, illegal actions are unlikely.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
6.1 Products of IUU fishing found in the final market State or within the States of the supply chain?	Has the market State or any of the States in the supply chain been identified as a non-compliant State by the EU (yellow / red card)?	Japan has not been identified as a non-compliant State by the EU.	https://ec.europa.eu/fisheries/sites/fisheries/files/illegal-fishing-overview-of-existing-procedures-third-countries_en.pdf	0.0
	Has the market State or any of the States in the supply chain been identified as a “country of interest” within NOAA biennial reports?	Japan has not been identified by NOAA in any of its reports to congress	NOAA, 2011; 2013; 2015; 2017 http://www.nmfs.noaa.gov/ia/iuu/iuu_overview.html	1.0
	Has the market State or any of the States in the supply chain been identified as having IUU fish landed in its ports? (NB: This may be identified by the port State itself, another State or by an RFMO).	Japan has put in place a strong legal framework to combat IUU and to prevent, deter and eliminate IUU fishing and uncontrolled importation and landing of IUU catches e.g. the Law of Special Measures for Strengthening Conservation and Management of Tuna	Personal experience (John Pearce) http://www.europarl.europa.eu/RegData/etudes/note/join/2014/529044/IPOL-PECH_NT(2014)529044_EN.pdf	0.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		Resources (1996) to control the import of tuna caught by IUU and reflagged fishing vessels. Some illegal fish have been imported into Japan but as a percentage of the overall Japanese market this will be low in terms of volume and value.		
	Has the market State or any of the States in the supply chain been identified as having IUU fish landed in its ports by fishing vessel of any State by an NGO or in scientific or press reports?	Japan.	Petrossian <i>et al.</i> , 2014 Pramod <i>et al.</i> , 2014	1.0
6.2 Supply chain length, complexity and transparency	How many States and companies are in the supply chain?	The length of the supply chain for octopus is unknown.	Information from the client not available on individual supply chains.	3.0
	How many different companies and transfers of ownership, amount of processing?	The number of companies and transfer and amount of processing is unknown.	Information from the client not available on individual supply chains.	3.0
	Is the chain publically known and transparent?	The chain is not publically known.	Information from the client not available on individual supply chains.	3.0
6.3 High risk points in the supply chain	Are the ports in the supply chain (after the port of first landing) known or suspected PONCS and do the ports used have well documented and effective port control and inspection?	The ports in the supply chain are not specifically known. However, Japan is not recognised as a PONC or port.	Petrossian <i>et al.</i> , 2014	0.0
	Does processing occur in locations that seem out of context (e.g. locations with no history of processing, high costs incurred for transport, high cost of processing) or with history of laundering IUU catches?	Most of the imported octopus into Japan arrives frozen with very little imported live, fresh, chilled or processed. The exact location of processing plants are unknown, although it is likely to occur in port States for octopus.	https://www.jetro.go.jp/ext_images/costarica/mercadeo/9Eseafood.pdf	1.0
6.4 Corruption	What is the WB corruption index for the port State? (see WB Governance Indicators).	Japan- 91% . This high governance score suggests that illegal actions once in the supply chain would be unlikely in Japan.	WBGI 2016	0.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.			
6.6 Post landing inspections	Performance of spot audits at key transport hubs and border inspection points?	There is no information on spot audits being carried out at key transport hubs and BIPs. However, there are clear indicators this does occur, at least in the tuna industry, with a consignment if tuna being refused entry.	DGIPOL, 2013 Fisheries Agency of Japan, 2004 http://www.oecd.org/agriculture/ http://www.jfa.maff.go.jp/e/index.html	2.0
	Are inspections carried out on the fish after landings e.g. by customs, BIPs and in transit?	When a consignment arrives at a Japanese port a 'Notice of Customs Clearance' is sent to the addressee from a customs office and a customs clearance procedure is initiated. In some cases a health and sanitary certificate must also accompany the import notification form. Food is then quarantined and inspected to ensure it complies with Food Sanitation Law. Consignments with a past record of non-compliance will often require further examination. Some fish require approval for import prior to customs clearance procedures (e.g. those governed by import quotas or by international conventions or agreements).	http://www.fao.org/docrep/008/y5924e/y5924e06.htm	1.5
6.6 Independent Verifications	Is supply chain MSC CoC certified?	No fishery in this RA is MSC certified.	No MSC certification.	3.0
	Non-MSC Supply chain and traceability audits (due diligence) conducted?	Marine Eco-Label (MEL) Japan is a seafood certification scheme. Distributing organisations wishing to handle products from MEL-Japan certified fisheries can voluntarily apply for chain of custody certification. It is unknown if this covers octopus.	ftp://ftp.fao.org/fi/DOCUMENT/COFI/cofif13/5e.pdf	3.0
6.7 CDS / CC certification	Do catch documentation schemes exist for the species?	No evidence is available for catch documentation schemes for octopus.	No schemes exist.	3.0
6.8 Processing or transshipment vessels involved in market chain.	If transshipment or processing onboard a Klondiker or mother vessels is allowed (licensed) in the fishery, are the Klondiker and transshipment (reefer) vessels on the relevant whitelists (authorised) or blacklists (IUU)?	No information on Japanese klondiker or mother vessels is available.	No evidence of Klondiker activity in the fishery.	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are there independent observer programmes on non-fishing vessels?	There are no independent observer programmes on non-fishing vessels, although there are no support vessels in the fishery and transshipment at sea is illegal.	NPAFC, 2015 Information from the client.	3.0
Average				1.86

5.7.3 Recommendations

5.7.3.1 *Fishing vessels, legal personalities and companies*

- Information is required on the fishing vessels, legal personalities and companies involved in all stages throughout the supply chain to provide a more accurate assessment of individual supply chains entering the Japanese market.

5.7.3.2 *Fisheries*

- Information is required on the specific fisheries sourced that supply Japan.
- Further data on octopus nei fisheries should be collected in order to gain a better understanding of stock status and subsequently target and reference points can be set.
- Local management policies for fisheries in Japan are required.
- Wherever possible, MSC certified products should be sourced through MSC CoC certified supply chains.
- Engage in working towards MSC certification.
- Improved control measures for removal are required for octopus fisheries.

5.7.3.3 *Flag State*

- Complete vessel and fisher identification, including license and registration, as well as any unique vessel identifiers should be obtained for all product sourced. As all of the flag States involved have the capability to produce a catch certificate, a catch certificate should be obtained in all cases, and accompany the product.
- Regular forensic audits of the supply chain should be carried out and include administrative checks of the catching vessels. The case where any product is sourced from another coastal State, detailed information on the nature of the agreement should be obtained.
- More publically available information on flag States is required to conduct a more detailed risk assessment.
- Further information is required on the level and extent of flag State control.

5.7.3.4 *Coastal State*

- In the case where any product is sourced from flag State different to the coastal State, detailed information on the nature of the agreement should be obtained (whether private or State to State). In addition, full details of those vessels fishing in other coastal State waters should be obtained.
- Forensic audits of the supply chain should be tiered to ensure higher risk coastal States, i.e., Japan, are examined in more detail. Furthermore, these audits should provide reassurances that catch was not obtained from the high seas.
- Further information should be collected on the implementation of coastal State controls as there is limited publically available information.
- Information on transshipment controls within in their coastal waters is required.

5.7.3.5 *Port State*

- Transshipment within the supply chain should be avoided. In cases where this is unavoidable, accompanying documentation, including details of any independent verification needs to be obtained.
- Where possible, engage Japan to ratify the PSMA.

- Further information should be collected on the implementation of port State controls.

5.7.3.6 Market State

- Ensure all product is accompanied by a catch certificate, as well as any accompanying documentation, notably transportation (including transshipment) and transformation (processing).
- Obtain a list of all possible intermediary companies and States involved in the supply of product.
- Carry out regular forensic audits of the supply chain, examining any links in custody, and the associated companies and States.
- Ensure requirements for a clear and transparent supply chain are communicated throughout the chain of custody.
- Wherever possible, source octopus nei direct from the supplier, or with limited supply chain complexity.

NB: It should be noted that the IUU risk assessment carried out is limited in scope, analysing the risk that IUU fish may enter the supply chain from a particular fishery. It does not analyse the individual supply chains present and this would require a traceability assessment to be carried out which has not been done in this case.

5.8 Pacific salmon nei

5.8.1 Executive Summary

An IUU risk assessment has been carried out for Pacific salmon, caught by the Canadian, Japanese, Russian and US fleets using a range of methods.

The IUU risk assessment is designed to provide an estimate of the potential for IUU catch to enter a particular supply chain, identify potential risks in the supply chain from the fishery through to the market place and to then identify where interventions are possible to reduce and minimise this risk. It will not be able to indicate the level of risk that occurs once a fishery has entered the supply chain and it is recommended that a traceability benchmarking assessment or similar review of the supply chain is conducted to evaluate this risk.

The fishery examined was the Pacific salmon fishery occurring throughout the North Pacific, including all of the main species of the genus *Oncorhynchus*. There was no information provided and as such the fishery had to be assumed to include all and every fishery and associated companies occurring in the EEZs of Canada, Japan, Russia and the US. Because of this lack of detail, combined with the historically relatively high levels of IUU occurring in the fishery, particular in Russia and to a lesser extent on the high seas, a conservative approach had to be taken, leading to the high score given. Clearly more detail on the supply chain is required to provide a more accurate scoring for individual suppliers.

The fishery itself also scored relatively high, mainly due to the difficulties in managing the species due to the high number genetically distinct units, and high levels of associated IUU. While several salmon fisheries are MSC certified, it was unclear if this was the case for the fishery under assessment.

The dominant fishing nations for these species are Japan, Russia and the US and to a lesser extent Canada. All of these are seen to have relatively good control over their fleets, with Russia having made notable improvements in controlling their fleet. However, key risks relate to a lack of transparency of the fleets, and the transparency of agreements with coastal States for fishing access. Furthermore, despite recent improvements, IUU fishing continues to be associated with the Russian flagged fleet, notably in the NOAA biennial report to Congress in 2017, although it should be noted that this refers to Russian flagged vessels operating illegally in CCAMLR and one event relating to a Russian flagged vessel operating 0.5 nautical miles inside the US EEZ..

The coastal States involved are the same as the flag States, with both Russia and Japan fishing in each other waters under bilateral agreements. While control of waters is seen to be high, with recent improvements in Russia decreasing levels of IUU, IUU is still known to occur, including in the salmon fishery. Furthermore the lack of transparency regarding access agreements is a concern. In addition to the coastal States involved, salmon fishing is controlled on the high seas by the North Pacific Anadromous Fisheries Commission (NPAFC) and involved the effective MCS coordination of eliminating all forms of high seas fishing for Pacific salmon.

The port States involved include China, in addition to the flag States mentioned above. In the case of both China and Russia, several notable examples exist of the landing of illegally caught fish in Chinese ports, often via transshipment in Russia. Furthermore, China and Japan have not signed the PSMA while Canada and Russia are yet to ratify it, although several elements of port State measures are included in the NPOAs of Canada, Japan and the US. There is also a lack of information pertaining to port State measures, such as inspections and administrative checks.

The market State is purely Japan. The main risk pertaining to Japan as a market State is the potential complicated supply chains that may be taken before the product reaches the final consumer, including between various 3rd countries and legal entities. Indeed the complicated supply chain involved in the salmon fishery from Russia to Japan, via China, has been highlighted in several texts as an issue. This is compounded overall by the lack of information available on the specific supply chains.

Table 18 Average score (Pacific salmon nei) for the six key areas in the risk assessment.

Key risk areas:	Score
Fishing vessels, legal personalities and companies	2.50
Fisheries – Pacific salmon (<i>Oncorhynchus</i> spp.) – Various fishing gear	2.07
Flag State – Canada, Japan, Russia and USA	1.28
Coastal State – Canada, Japan, Russia and USA	1.18
Port State – Canada, China, Japan, Russia and USA	1.75
Market State – Japan	1.91
Average	1.78

Key:

Colour	Min	Max	Risk	Description
	>0.0	<=0.6	No or minimal risk	Little or no action required
	>0.6	<=1.1	Very low risk	Some minor actions may be required, but risk level is very low
	>1.2	<=1.8	Low	Risk level is low, but some particular elements may require mitigating measures to be put in place.
	>1.8	<=2.4	Medium	Medium level of risk. Particular scoring elements may need to be addressed and mitigated against.
	>2.4	<=3.0	High risk	High level of risk. One or more elements have substantial risks associated with them. Scores of this level may suggest sourcing from a different fishery.

5.8.2 Identification

This risk assessment addresses the following scope:

Table 19 Identification of scope of the IUU risk assessment.

Species	Pacific salmon (<i>Oncorhynchus</i> spp.)
Area	FAO 61 and 67 (NW and NE Pacific) Significant domestic catches made (24%) with the rest from foreign imports.
Gear	Various
Fleet	Japan, Russia, United States and Canada
Coastal States / RFMO:	Japan, Russia, United States and Canada. Also managed on high seas under NPAFC
Port State:	China, Japan, Russia, United States and Canada
Market State:	Japan

5.8.2.1 Fishing vessels, legal personalities and companies.

No details were provided on the fishing vessels, legal personalities or companies involved in the supply chain, and the supply chain may involve any and all of the fisheries in Japan, Russia, United States and Canada. As no information on the vessel lists was provided, no corroboration with authorised vessel lists or alternatively, with vessel IUU lists, could be made. This is also compounded by the lack of a clear IUU list within the salmon fishery and the large number of fishers and fishing vessels able to access Pacific salmon stocks, including from shore. Several historical records indicate high levels of IUU in Pacific salmon fisheries that potentially could be associated with the fishery under assessment. While incidences of IUU appear to have decreased with the fishery appearing to have become under increased control under recent years, the lack of specific information on the fishery and the large geographical range of the fishery and comparatively easy access mean that the residual risk of IUU in the fishery has to be considered high.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
1.1 Vessel/Fisher Identification	Vessel identification e.g. vessel name, callsign, country registration number and national and RFMO authorisations to fish (either inside national waters or outside on the high seas or in other zones) is complete to enable identification. Are vessels required to have unique IDs?	No information or list of the vessels in the fishery under assessment was provided. The North Pacific salmon fishery has a history of IUU association. Vessels targeting salmon may be small and even shore based traps and nets may be used compounding the issue.	Agnew <i>et al.</i> , 2009 Clarke, 2007a; 2007b Clarke and Hosch, 2013 Marine Conservation Institute, 2014 Pramod <i>et al.</i> 2014 Wild Salmon Center, 2009 WWF, 2008	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are each vessel, captain(s), owner and beneficial owner and agent identified as far as possible, this should ideally be transparent?	There is no data on the vessels, owners and masters.	No information on vessels.	3.0
1.2 Vessels on IUU lists.	Are any of the vessels listed in the RA scope on the IUU Lists of RFMOS, (NGOs to be considered but not as clear evidence as evidential value to include is not of the required standard)?	There is no information on the fleet under assessment. A number of vessels particularly on the high seas, have been implicated in illegal fishing. There is no IUU vessel list with the NPAFC.	http://www.npafc.org/new/enforcement_activities.html No information on vessels.	3.0
	Are any of the legal personalities listed in the RA scope listed on the IUU lists of nationals and companies involved in IUU? Is there any evidence of unlicensed fishing occurring?	There is no information on the fleet under assessment. A number of vessels particularly on the high seas, have been implicated in illegal fishing. There is no IUU vessel list with the NPAFC.	http://www.npafc.org/new/enforcement_activities.html No information on vessels.	3.0
	Are all of the vessels listed on the RA scope listed on authorised (white) lists for RFMOs and/or national authorised lists?	There is no information on the fleet under assessment. While larger vessels are likely to be registered by their flag State, artisanal and obviously shore based fishing may not. The NPAFC does not have a white list of vessels as this RFMO deals with enforcing the moratorium on salmon fishing on the high seas.	http://www.npafc.org/new/enforcement_activities.html No information on vessels.	3.0
1.3 IUU fishing carried out by vessels flying its flag, by its nationals or by companies based in that country.	Are the history, nature, circumstances, extent and gravity of the manifestations of IUU fishing as listed in EU carding process by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	No vessels flagged to either Canada, Japan, Russia or the US have been identified by the EU carding process under the IUU Regulation.	https://ec.europa.eu/fisheries/cfp/illegal_fishing/info_en	0.0
	Are the history, nature, circumstances, extent and gravity of the manifestations of IUU fishing as listed in the NOAA's biennial reports by vessels listed in the RA scope, by the	There has been a report of a suspected IUU transshipment vessel, the Sovereign, which was Russian flagged. It is not clear if this is linked to fishery under assessment, but the involvement of the NPAFC enforcement suggest a linkage to the fishery itself.	NOAA, 2015; 2017	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	same legal personalities or the same flag State(s)?			
	Are there scientific and market analyses defining the level of IUU (e.g. RFMO reports) conducted by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	<p>CCAMLR identified Russian Federation as having been engaged in IUU fishing during 2014, 2015, 2016 and for fishing without authorisation in waters of the US but not for salmon fishing.</p> <p>Historical reports indicate high levels of IUU in the fishery, it would appear that these have come under control, largely due to increased control in Russia and cooperation in the NPAFC convention area.</p> <p>However, IUU still remains, particularly in Russia, despite increased control, as no information on the supplier fleet is provided, it cannot be established that the fishery under assessment is not involved.</p>	<p>Clarke and Hosch, 2013 NOAA, 2015 Portley <i>et al.</i>, 2014 Wild Salmon Center, 2009 WWF, 2008 http://www.oceanoutcomes.org/what-we-do/success-stories/sakhalin-anti-iuu/ http://www.goodfishguide.org/fish/728/Salmon,%20Pink,%20Spring%20,%20humpback</p>	2.0
	Are there NGO and Press reports of IUU incidents (specific to vessels/companies) conducted by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	<p>Historically, high levels of IUU in the Russian salmon fishery have been reported in a range of NGO and press reports.</p> <p>However, improvements in fisheries control have been made leading to perceived decrease in IUU.</p> <p>As no specific information on the fleet under assessment was provided, it is not clear if any of the vessels or associated companies and/or individuals were involved. However, these reports relate to incidences prior to 2010.</p>	<p>NOAA, 2015; 2017 Wild Salmon Center, 2009 WWF, 2008 http://www.oceanoutcomes.org/what-we-do/success-stories/sakhalin-anti-iuu/</p>	1.0
Average				2.5

5.8.2.2 Fisheries – Pacific salmon (*Oncorhynchus spp.*) – Various fishing gear (sustainability, impacts)

There are 5 species of Pacific salmon targeted in the fishery under assessment, chinook, spring or king salmon (*O. tshawytscha*), pink or humpback salmon (*O. gorbuscha*), chum, keta or dog salmon (*O. keta*), coho or silver salmon (*O. kisutch*) and sockeye or red salmon (*O. nerka*). Some of these are reported individually as imports and catches by Japan, but the presence of a missed category for all Pacific salmon means that all species may be included here, increasing the individual risk for other species. By far the most important species in terms of volume is the pink salmon, although the other species are also caught in significant quantities, notably the chum salmon, by the Russian and Japanese fleets (FAO, 2017). While salmon fisheries overall are considered to be well managed, the unique characteristics of the species leads to genetically distinct sub populations which, when considered separately, may be overfished. Furthermore, the extent of the range of the fishery means that it is difficult to provide an accurate picture of the fishery overall, although it is clear that specific units should be avoided. In addition, a number of salmon fisheries across Russia, the US and Canada are MSC certified, implying that overall, fisheries management is strong. However, it is not clear if salmon on the Japanese market are sourced from MSC certified fisheries. Furthermore, wild salmon, being a relatively high value fish and easily accessible, is prone to IUU, as evidenced by documented studies, particularly in the Russian Far East.

Specific Risk	Specific Questions to Address	Description	Evidence	Score
2.1 Status of fisheries and sustainability	Are fisheries operated with control on removals e.g. quota and / or effort limits?	<p>The life history characteristics of salmon mean that conventional target and limit reference points are not necessarily appropriate.</p> <p>Instead, in the case of inshore fisheries, “escapement goals” are typically established whereby a target reference number of salmon reaching the spawning grounds are established, and based on ensuring these objectives a meet, quotas are established.</p> <p>These controls are continually monitored and adjusted in real-time while the fishery is underway. However, TACs are used to establish overall catch limits in some regions, such as the boundary stocks in North America.</p> <p>In the case of the offshore fishery which cannot be managed by real time, preseason regulations are established, which include controls on removals.</p> <p>Alternatively, the Japanese chum salmon fishery does not utilise escapement goals, instead is focussed on achieving hatchery sourced objectives.</p>	<p>Pacific Salmon Commission, 2016 Portley and Geiger, 2014 Portley <i>et al.</i>, 2014 http://www.goodfishguide.org/fishfinder?fish=Salmon#results http://www.pac.dfo-mpo.gc.ca/fm-gp/ifmp-eng.html#salmon https://alaskafisheries.noaa.gov/fisheries/salmon</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are stock assessments available for species that use data on total removals (i.e. catch, bycatch, IUU and discards)?	<p>Stock assessments are largely based on levels of escapement and subsequent recruitment as determined by arrivals to the spawning areas. Several salmon species may be caught within the same fishery with often poor, or lack of identification, of spate species meaning that stock assessment data and fishery impacts may be inaccurate, particularly in the offshore Russian driftnet fishery.</p> <p>Generally there are few estimates available on levels of IUU in the Russian fisheries, and as such it is unclear if these impacts are adequately factored into the management.</p> <p>Another difficulty with the management of stocks in the salmon fishery relates to the number of small distinct units that, depending on definition, may compose separate stocks. Indeed, often the delineation of stocks for management purposes is more related to the resources available to monitor the separate fisheries.</p>	<p>Portley and Geiger, 2014 Portley <i>et al.</i>, 2014 http://www.goodfishguide.org/fishfinder?fish=Salmon#results</p>	1.0
	Are target and limit reference points defined for the fishery?	<p>The specific life history characteristics mean that target and limit reference points, particularly in the coastal fishery, are not relevant. As such a number of other reference points, in particular escapement goals are established, by which the fishery is managed. Crucially these, and limits on fishing are typically managed in real time and continually adjusted depending on feedback from the fishery.</p> <p>However, the large number of distinct stock and sub stock units, mean there is a large degree of variability and also varying control, and as such it is difficult to state with certainty that the fishery under assessment is adequately controlled.</p> <p>Furthermore, the Japanese chum salmon fishery does not utilise escapement goals, instead is focussed on achieving hatchery sourced objectives.</p> <p>In the case of the offshore fishery, control measures on catches are established, which including limiting effort and catches, but these are set pre-season. However, the impacts of these fisheries are relatively minimal with the offshore fishery having little or no contribution to the fishery overall, particularly with the closure of the Russian EEZ to offshore drift net fishing.</p>	<p>Portley <i>et al.</i>, 2014 Portley and Giegier, 2014 http://www.goodfishguide.org/fishfinder?fish=Salmon#results</p>	1.0

Specific Risk	Specific Questions to Address	Description	Evidence	Score
	Are fisheries operating at a level at or under MSY?	<p>The fishery under assessment includes a large geographical range, from Japan through to the USA, including Russia, and Canada.</p> <p>Within this range there are a large number of distinct populations resulting from salmon's life history characteristics (SFP's Pacific salmon sector currently comprises of 82 distinct fisheries), with perhaps up to 10,000 distinct breeding populations.</p> <p>Due to this, conventional stock assessments are difficult and, while the overall stock of a particular species may be healthy, sub populations within a fishery may be experiencing overfished and be depleted.</p> <p>Furthermore, the fishery under assessment includes all 5 of the major Pacific salmon species, within which large variability exists. This is also compounded by the large amount of natural variability observed in salmon fisheries due to environmental factors.</p> <p>As no information could be provided on the specific fishery or fisheries sourced, this assessment has to assume that salmon may be sourced from the worst performing fisheries. These could include as an example, but not limited to, the Fraser River sockeye salmon in the western US, which was declared a fishery disaster by NOAA in 2014, and the poor catches experienced in the East Kamchatka pink salmon fishery.</p> <p>Some of the better performing fisheries include much of the British Colombia fisheries, and the Alaskan fisheries.</p>	<p>Portely <i>et al.</i>, 2014 Seafish, 2011 SFP, 2013 http://www.goodfishguide.org/fishfinder?fish=Salmon.%20Sockeye%20.%20Red%20Salmon,%20Bluebacks,%20Redfish&min=0&max=2 http://www.noaanews.noaa.gov/stories2014/20140127_fraserriver.html</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are bycatch and ecosystem impacts known (and if different for IUU fishing)?	A wide range of fishing methods are employed in Pacific salmon fisheries and while several of these, i.e., traps and trolling, are selective and have minimal impact, others such as drift nets, such as is used in the Russian EEZ by the Japanese and Russian fleets, are largely non-selective and catch a range of bycatch, including PET species, and undesired catches other Pacific salmon species which may be depleted. However, potential alterations to net configuration may reduce bycatch. Furthermore, in 2015, Russia banned drift net fishing in its EEZ, while under the conventions of the NPAFC, driftnet fishing for salmon on the high seas is illegal. Subsequently, impacts of large scale drift net will be limited to IUU fisheries.	Acoura Marine, 2016 MRAG Americas, 2016 Portley <i>et al.</i> , 2014 http://www.goodfishguide.org/fishfinder?fish=Salmon,%20Sockeye%20,%20Red%20Salmon,%20Bluebacks,%20Redfish&min=0&max=2 http://www.fao.org/docrep/003/T0502E/T0502E02.htm http://www.wwf.ru/about/positions/drifter/en http://www.wwf.panda.org/wwf_news/?254220/Driftnet-fishing-banned-in-Russias-EEZ	2.0
	Is the fishery at or below capacity?	There is no information on potential levels of overcapacity in the salmon. However, the relative ease by which the fishery may be assessed, both inshore and offshore, mean that the fishery is vulnerable to overcapacity if not well managed.	Portley <i>et al.</i> , 2014	3.0
2.2 History of IUU	Do previous incidences of IUU exist within the fishery?	There are a number of incidences of IUU occurring in the fishery, most notably within the Russian salmon fishery. Indeed, WWF reports that salmon in NW Pacific is at high risk of IUU. Furthermore, while large scale driftnet fishing on the high seas, and indeed within the various EEZs has been made illegal, it still is known to occur.	Clarke, 2007a; 2007b Clarke and Hosch, 2013 NPAFC, 2015 Portley <i>et al.</i> , 2014 WWF, 2015 http://www.wwf.panda.org/wwf_news/?254220/Driftnet-fishing-banned-in-Russias-EEZ http://www.wwf.ru/about/positions/drifter/en http://www.oecd.org/agriculture/	3.0
2.3 Access to fishery	Are fisheries authorised through a fishing licence / permit system?	Throughout the range of Pacific salmon, fisheries are restricted through licenses, while high seas fishing for salmon is prohibited under the NPAFC.	Acoura Marine, 2016 Intertek Moody Marine, 2013 Portley <i>et al.</i> , 2014 SCS Global, 2015	0.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
2.4 Price	Data on species market prices (domestic/international) Low price fish (<US\$1000/t) are generally lower risk (e.g. small pelagics), higher priced (>US\$5000/t) demersals (e.g. cod and haddock) will be higher risk, high value species are generally higher risk.	Salmon is, and has historically always been a high end priced fish, with large demand for salmon products meaning this is higher risk. Prices between 2014 and 2016 ranged between US\$4,000 and US\$7,000 / mt for coho salmon imported into Japan and ex-vessel prices for sockeye, chum and pink salmon at US\$ 2,650, US\$1,650 and US\$1,000 / mt respectively in 2011.	Globefish, 2016 Knapp, 2012	2.0
	Are any mitigation procedures that may be in place for high value species (e.g. catch documentation schemes, EU catch certificate requirements) in place (e.g. bêche de mer, bluefin tuna)?	There is no requirement for a catch certificate documenting the origin of the fish in place. All of the flag States have the capacity to provide a catch certificate as required by the EU, although this is not required by Japan unless specifically requested by the client. Japan does require a catch or statistical documentation for some fisheries, but not salmon. Furthermore, this would be open to fraud as currently there doesn't exist a system which would recognise duplication of catch certificates, particularly between EU and non EU markets (for example upon client request)	Clarke and Hosch, 2013 DGIPOL, 2013 Portley <i>et al.</i> , 2014	3.0
2.5 MSC certification/ /FIP processes	Is there MSC certification for the fishery or is there a FIP in process? MSC certification requires IUU to be low or negligible and has checks to ensure this is the case. If the fishery is going through a FIP process as well/that may indicate improvement within the fishery e.g. Sri Lanka.	Over half of the global wild salmon supply is engaged in the MSC programme. There are currently 4 Pacific salmon fisheries certified by MSC, the Iturup Island pink and chum salmon fishery, the Ozernaya River sockeye salmon fishery, the VA-Delta Kanchatka salmon (pink, chum, coho-silver and sockeye) and the Alaska salmon fishery (pink, chum, coho-silver, sockeye and chinook), although both the VA-Delta Kamchatka and Alaska salmon fisheries have components still under assessment. In addition, the British Colombia salmon is in assessment (after combining 3 species previously certified separately), while a further 5 have been withdrawn and one has been suspended (Northeast Sakhalin Island pink salmon trap net). However, no information on the specific fishery sourced in the supply chain was provided and it is unclear if MSC certified fisheries are sourced.	https://fisheries.msc.org/en/fisheries/	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
Average				2.1

5.8.2.3 Flag State – Canada, Japan, Russia and USA (activities, corruption, control systems in place)

The vast majority of Pacific salmon is caught by Canada, Japan, Russia and USA with the Republic of Korea catching negligible amounts. The type of salmon caught varies between the flag States. While the US catches the most overall (482,891T of a total 884,578T in 2015, FAO, 2017), the most important chum salmon fishing nation is Japan, while Russia is the 2nd most important salmon catching nation overall (FAO, 2017). Canada catches relatively small amounts in comparison with only 16,784T reported in 2015 (FAO, 2017).

All of the flag States involved in the fishery are seen to have strong management regimes, and while historically there have been some notable issues with the Russian fleet, these have been apparently addressed, with a significant perceived reduction in IUU. However, IUU is still present amongst the Russian fleet. In particular, as highlighted by official NOAA reports, and Russia's extremely low control of corruption exacerbates the issue. Furthermore, of the flag States, only Canada has a publicly available list of registered vessels in the salmon fishery meaning a low level of transparency of the fleet.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
3.1 Is IUU associated with the flag State?	Has the flag State been identified as a non-compliant State by the EU (yellow / red card)?	None of the flag States involved in the fishery have been identified by the EU IUU regulation yellow/red card system.	https://ec.europa.eu/fisheries/cfp/illegal_fishing/info_en	0.0
	Has the flag State been identified as a "country of interest" within NOAA biennial reports?	All of the flag States involved in the fishery under assessment, Russia has recently been identified by NOAA in its 2017 report to congress for violations of CCAMLR CMMs in 2014, 2015, and 2016. However, no violations in relation to the salmon fishery or against NPAFC CMMs were noted in the 2017 report. The other flag States have not been identified by NOAA (although the US itself would not be identified by its own agency).	NOAA, 2011; 2013; 2015; 2017 http://www.nmfs.noaa.gov/ia/iuu/iuu_overview.html	2.0
	Has the flag State been identified as a flag of non-compliance by any other State(s) or by an RFMO?	There has been no specific incidences of non-compliance identified with Canada, Japan and the US. However, some minor non compliances have been identified in Russian flagged vessels in CCAMLR.	http://www.npafc.org/new/publications/Annual%20Report/2015/index.html#2 https://www.ccamlr.org/en/system/files/e-cc-xxxv_2.pdf	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Has the flag State been identified as a flag of non-compliance or flag of convenience by an NGO or in scientific or press reports?	Canada and the US have not been specifically identified as a flag on non-compliance or flag of convenience in any scientific or press reports. However, Russia, and to a lesser extent Japan, is mentioned in a range of fisheries and reports.	Clarke, 2007a; 2007b https://www.ukpandi.com/knowledge-publications/knowledge-base/ http://www.cbc.ca/news/canada/newfoundland-labrador/nafo-cites-foreign-vessels-with-illegally-caught-fish-1.1912758 https://qz.com/95583/how-spain-russia-and-other-countries-cheat-the-world-out-of-billions-of-dollars-in-fish/	2.0
3.2 Corruption	What is the WB corruption index for the flag State? (see WB Governance Indicators). Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.	Canada, Japan and the USA all have very high governance indicators in the top 10%. Alternatively, Russia is in the bottom 20% with a control of corruption score of 19%.	http://info.worldbank.org/governance/wgi/#home	2.0
3.3 Vessel Registration and Licensing	Are all fishing vessels required to be registered and flagged in the flag State required to have a licence?	Across Alaska, British Columbia the other western US States, and Russia all fisheries, including those operating from shore, are required to be licensed.	Department of State, 2004 Fisheries Agency of Japan, 2004 Government of Canada, 2005 http://www.oecd.org/agriculture/ http://www.pac.dfo-mpo.gc.ca/fm-gp/ifmp-eng.html#salmon https://alaskafisheries.noaa.gov/fisheries/salmon http://government.ru/en/department/243/ http://www.dfo-mpo.gc.ca/reports-rapports/regs/licences-permis/ch3-eng.htm	0.0
	Is there a licensing and quota allocation system in place? Is this system clear and transparent?	Ostensibly, quotas and limits are established throughout the fishery although specific information on how these are allocated is not clear in the Russian or Japanese fisheries. However a range of information on quota allocation, is available in both the US and Canadian salmon fisheries.	http://www.oecd.org/agriculture/ http://www.pac.dfo-mpo.gc.ca/fm-gp/ifmp-eng.html#salmon https://alaskafisheries.noaa.gov/fisheries/salmon http://government.ru/en/department/243/ http://www.dfo-mpo.gc.ca/reports-rapports/regs/licences-permis/ch3-eng.htm	2.0
	Is this broken down by domestic waters and ABNJ?	Fishing vessel licenses are typically divided between the types of fishery and size of fishing vessel.	Department of State, 2004 Fisheries Agency of Japan, 2004	0.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
			Government of Canada, 2005 http://www.oecd.org/agriculture/ http://www.pac.dfo-mpo.gc.ca/fm-gp/ifmp-eng.html#salmon https://alaskafisheries.noaa.gov/fisheries/salmon http://government.ru/en/department/243/ http://www.dfo-mpo.gc.ca/reports-rapports/regs/licences-permis/ch3-eng.htm	
	Is there a public list of licensed / authorised vessels?	There is no public list of licensed vessels available except for in the Canadian fishery, and this does not include the shore based fishery. Furthermore, this is compounded by the small amount of small operators, including non-vessel based, in the fishery.	http://www.oecd.org/agriculture/ http://www.ops2.pac.dfo-mpo.gc.ca/vrnrnd-neb/index-eng.cfm http://www.pac.dfo-mpo.gc.ca/fm-gp/ifmp-eng.html#salmon http://government.ru/en/department/243/ https://alaskafisheries.noaa.gov/fisheries/salmon https://alaskafisheries.noaa.gov/permits-licenses http://www.dfo-mpo.gc.ca/reports-rapports/regs/licences-permis/ch3-eng.htm	3.0
3.4 Fair transparent fisheries agreements	Are fair transparent fisheries agreements in place with coastal States?	In the case of the US, fair and transparent fisheries agreements with Russia, as well as China, Japan, Poland and Korea, are apparent. Canada does not have an overly active distant water fishing fleet, being mostly concentrated in its own waters. Following the ban of driftnet fishing in Russia's EEZ, Japan, now has permission for trolling within the Russian EEZ. There is no transparent information available on these agreements, while Japan is a renowned DWFNs, particularly in East Africa for tuna fisheries, and little information is available on these agreements.	DGIPOL, 2013 Sobolevskaya and Divovich, 2015 http://www.fisheries.noaa.gov/ia/agreements/international_agreements.html https://www.minato-tsukiji.com/news_detail_19937.html http://www.dfo-mpo.gc.ca/international/index-eng.htm	2.0
3.5 RFMO	Membership: Is the flag State a Member of the relevant RFMOs?	All of the flag States involved in the fishery under assessment are active members of the NPAFC.	http://www.npafc.org/new/about_npafc.html	0.0
	Compliance: Is the flag State compliant with all RFMO requirements and data submissions?	There is no indication that any of the flag States do not fulfil their duties in terms of RFMO requirements and data submissions.	NPAFC, 2015	0.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Engagement: Does the flag State submit additional information / papers to RFMO and actively participate in scientific and compliance committee meetings?	All of the flag States appear to be active participants in the RFMO management and scientific meetings.	NPAFC, 2015	0.0
3.6 Multi-lateral agreements e.g. FAO Guidelines or UNCLOS	Is the flag State a contracting/cooperative non-member party to multi-lateral agreements e.g. UNCLOS, UNFSA, FAO Agreements? Implementation of the provisions of the Convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks	Canada has ratified both UNCLOS and UNFSA, as well as accepting the FAO Compliance Agreement. Japan has ratified both UNCLOS and UNFSA, as well as accepting the FAO Compliance Agreement. Russia has ratified both UNCLOS and UNFSA, as well as accepting the FAO Compliance Agreement. The USA has only ratified the UNFSA, but not UNCLOS. It has also accepted the FAO Compliance Agreement.	http://www.un.org/depts/los/convention_agreements/convention_overview_fish_stocks.htm http://www.fao.org/legal/treaties/treaties-under-article-xiv/en/	1.0
3.7 NPOAs (IUU + others)	Is there a specific National Plan of Action (NPOA) in place to combat IUU?	All of the flag States have a NPOA IUU in place although the Russia one does not appear to be publicly available.	http://www.fao.org/fishery/ipoa-iuu/npoa/en https://www.undercurrentnews.com/2014/01/10/russia-approves-plan-to-counter-illegal-fishing/	1.0
3.8 Flag State Control	How and to what level is flag State control exercised in terms of administrative controls and checks? (e.g. logbook check against VMS and administrative checks, catch certificate verification includes physical inspection)	Overall, flag State control throughout all countries in the fishery under assessment is exercised through a variety of means including vessel registry and licensing, port and at sea inspections, and VMS. However, a lack of administrative checks of catch related documentation, particularly of catch certificates, has been identified as an issue in the past for salmon exported through China. However, Russia, with Canada and the US, are seen to have high levels of management. Japan, while not seen to have poor fisheries management, has been noted to have been able to improve its management.	Clarke and Hosch, 2013 Fisheries Agency of Japan, 2004 Government of Canada, 2005 Hilborn and Melnychuk, 2015 Department of State, 2004 http://government.ru/en/department/243/ http://www.pac.dfo-mpo.gc.ca/fm-gp/species-especes/salmon-saumon/pol/index-eng.html https://alaskafisheries.noaa.gov/fisheries/monitoring-and-reporting	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	How and to what level, is flag State control exercised in terms of inspections on flag State vessels (at sea and in port)?	Levels of inspections in port and at sea of flag State vessels are published by the US and Canada and in general levels of inspections are considered high. In Russia, The Federal Agency for Fishery (FAF) cooperates with the Federal Security Service (FSB) through the Centre of Fishery Monitoring and Communications (CFMC) to meet MCS responsibilities, with the FSB conducting enforcement and inspections at sea and in port. Russia is considered to have a good level of control over its fleet, although there exist several examples of IUU fishing being carried out by its fleets in independent reports, which is often transhipped at sea and landed in foreign ports to avoid Russia port control. Japan, while having a good level of fisheries management, has also been noted, that more could be done with control.	OLE, 2017 Fisheries Agency of Japan, 2004 Government of Canada, 2005 Hilborn and Melnychuk, 2015 Department of State, 2004 https://alaskafisheries.noaa.gov/fisheries/cwm http://www.fishsource.com/fishery/summary?fishery=Alaska+pollock+-+Sea+of+Okhotsk http://government.ru/en/departments/243/ http://wwf.ru/about/positions/fisherylaw/eng	1.0
	How and to what level is flag State control exercised in terms of remote surveillance (e.g. aerial surveillance, VMS and AIS)?	VMS and AIS are used through the flag States, although specific information on the type of fishing vessels which require this are rarely available. Furthermore, information on aerial surveillance is not apparently available in the case of the Russia and Japanese fisheries.	https://alaskafisheries.noaa.gov/fisheries/cwm http://www.maff.go.jp/e/data/stat/90th/index.html#12	1.0
	How and to what level is flag State control exercised in terms of observer programmes?	Observer programmes in the US and Russia predominantly cover scientific duties with some monitoring of compliance is also carried out. However, levels of observer coverage are much lower than that seen in the US. Alternatively, Canadian observer programmes cover mainly compliance with scientific secondary. There is no specific information on levels of observer coverage and the corresponding duties.	Brosnan and Gleeson, 2015 Fisheries Agency of Japan, 2004 Government of Canada, 2005 Department of State, 2004 https://alaskafisheries.noaa.gov/fisheries/observer-program http://www.st.nmfs.noaa.gov/observer-home/index http://www.maff.go.jp/e/data/stat/90th/index.html#12	2.0
3.9 Flag State Cooperation	Does the flag State work with neighbouring or regional States to enhance MCS in their own waters and fleets?	NOAA and the USCG work closely with enforcement agencies from Canada, Japan, the Republic of Korea, and the Russian Federation to enforce the NPAFC prohibition on directed fishing for anadromous stocks in the high seas areas of the North Pacific Ocean. NPAFC members coordinate multilateral air and surface patrols to utilize enforcement resources more	NOAA, 2015; 2017 NPAFC, 2015 Pacific Salmon Commission, 2016	0.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		efficiently. Each spring the parties discuss current enforcement efforts, coordination of enforcement plans, and resource sharing for the remainder of the calendar year. In addition, Canada and the US collaborate in the management of stocks within their EEZs through the “Pacific Salmon Treaty” which established the bilateral FMO, the Pacific Salmon Commission.		
	VMS sharing is implemented?	There is no information on VMS sharing, and it is unlikely to occur between the flag States, even within the auspices of the NPAFC.	NPAFC, 2015	3.0
Average				1.28

5.8.2.4 Coastal State – Japan, Russia, Canada the US and NPAFC (corruption, control systems in place)

Pacific salmon fisheries occur throughout Japan, Russia, Canada and the US, and indeed on the high seas where they no fisheries are permitted under the NPAFC. As with the flag States, all of the coastal States have strong measures in place to reduce the possibilities of IUU fisheries. However, incidences of IUU have been historically reported and continue to be prevalent in the media and official State reports, particularly in Russia and Japan, and including salmon, although most recently highlighted has been the illegal catch of crab. Ironically, the increase in Russian control of its EEZ has led to a perceived relocation of the IUU fishery to Japanese waters and the high seas. Furthermore, while NPAFC appears to coordinate MCS well on the high seas with a high levels of cooperation from all of the member States, detected incidences continue to occur, and while this implies effective enforcement, it also means that the IUU risk on the high seas has not been eliminated.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
4.1 Is IUU fishing carried out / supported by fishing vessels operating in its maritime waters?	Has the coastal State been identified as a non-compliant State by the EU (yellow / red card)?	None of the coastal States involved in the fishery have been identified by the EU IUU regulation yellow/red card system.	https://ec.europa.eu/fisheries/cfp/illegal_fishing/info_en	0.0
	Has the coastal State been identified as a “country of interest” within NOAA biennial reports?	Of the coastal States involved in the fishery under assessment, Russia has recently been identified by NOAA in its 2017 report to congress for violations of CCAMLR CMMs in 2014, 2015, and 2016. However, no violations in relation to the salmon fishery or against NPAFC CMMs were noted in the 2017 report. The other coastal States have not been identified by NOAA (although the US itself would not be identified by its own agency).	NOAA, 2011; 2013; 2015; 2017 http://www.nmfs.noaa.gov/ia/iuu/iuu_overview.html	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Has the coastal State been identified as having IUU fishing carried out in its waters? (NB: This may be identified by the coastal State itself, another State or by an RFMO).	There have been several specific instances of IUU being reported in Russian waters, in particular with salmon and also with crab. On the high seas, several instances of illegal fishing have been reported by the NPAFC, typically linked with drift net fishing. There are few if any formal links of IUU linked with fisheries within Canadian and US waters. There are some records of IUU in the Japanese levels but these were over 10 years ago.	Brosnan and Gleeson, 2015 Clarke, 2007a; 2007b. DGIPOL, 2013 http://www.npafc.org/new/publications/Annual%20Report/2015/index.html#2 https://www.ccamlr.org/en/system/files/e-cc-xxxv_2.pdf	2.0
	Has the coastal State been identified as having IUU fishing carried out in its waters by fishing vessel of any State by an NGO or in scientific or press reports?	There has been no specific incidences of non-compliance identified with Canada and the US. However, there have been several reports relating to IUU within Russia, including of salmon, and also other high value species such as crab. Furthermore, while increased enforcement in the Russia EEZ has been successful in combating IUU, this has led to a perceived increase in IUU in Japanese waters.	Clarke, 2007a; 2007b Wild Salmon Center, 2009 https://www.ukpandi.com/knowledge-publications/knowledge-base/ https://qz.com/95583/how-spain-russia-and-other-countries-cheat-the-world-out-of-billions-of-dollars-in-fish/ http://www.savingseafood.org/news/international-trade/crab-poaching-by-russians-in-japanese-eez-rises-rapidly-reflecting-more-enforcement-in-russia/	2
4.2 Corruption	What is the WB corruption index for the Coastal State? (see WB Governance Indicators). Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.	Canada, Japan and the USA all have very high governance indicators in the top 10%. Alternatively, Russia is in the bottom 20% with a control of corruption score of 19%.	http://info.worldbank.org/governance/wgi/#home	1.5
4.3 Vessel Registration and Licensing	Are all fishing vessels fishing in the coastal State required to have a licence? (NB: Are there reports of proportion of vessels unlicensed (both national and international)?)	Licensing is a requirement for all of the flag States under assessment. However, there is no information available of the proportion of unlicensed vessels operating within the fishery.	http://www.oecd.org/agriculture/	1.0
	Is there a licensing and quota allocation system in place?	In Russia, information on licensing agreements are published, albeit in Russian only, although information	http://www.oecd.org/agriculture/ http://www.fish.gov.ru/otkrytoe-agentstvo/opendata	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Is this system clear and transparent?	on licensing agreements are available through 3 rd part sources. In both the US and Canada, licensing and quota management systems are in place. In Japan, licensing systems are in place but no quota management rules.	http://www.dfo-mpo.gc.ca/stats/commercial/licences-permis-eng.htm http://www.jfa.maff.go.jp/e/index.html	
	Is there a public list of licensed / authorised vessels?	In the US, there is a public list of licensed vessels. Furthermore, information on ports used and landings is also available. There is a list of licensed vessels, in Russian available on the Federal Agency for Fishing. In Canada, a list of vessels with commercial licenses is available. There is no public listing of vessels in Japan.	https://alaskafisheries.noaa.gov/permits-licenses http://www.fish.gov.ru/otkrytoe-agentstvo/opendata http://www.dfo-mpo.gc.ca/stats/commercial-eng.htm http://www.ops2.pac.dfo-mpo.gc.ca/vrnd-rneb/index-eng.cfm?pg=DldCommLic http://www.jfa.maff.go.jp/e/index.html	1.0
4.4 Fair transparent fisheries agreements	Are fair transparent fisheries agreements in place with DWFNs?	There is no information available of fisheries agreements with DWFNs. In the case of the US, fishing permits for foreign fishing vessels are required under the Magnussen-Stevens Act. Aside from transshipping vessels transshipping from US flagged vessels, no such permits have been issued. In Canada, the Coastal Fisheries Protection Regulations, made under the Coastal Fisheries Protection Act, govern the licensing of foreign vessels to fish in Canadian fisheries waters. However, there is no specific list on the foreign vessels permitted to fish in Canadian waters or information on the arrangements. In both Japan and Russia, Foreign vessels are allowed to operate in designated areas of Japan's EEZ under bilateral fishery agreements. Information on these arrangements is not available publicly.	DGIPOL, 2013 http://www.nmfs.noaa.gov/ia/permits/permits.html http://laws-lois.justice.gc.ca/eng/regulations/C.R.C.,_c_413/index.html http://www.japantimes.co.jp/news/2016/05/14/national/japan-oks-sharp-cut-in-salmon-trout-quota-in-russian-eez/#.WOmaHqK1v4Y	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are the details of these agreements public?	Information on any agreements with DWFNs is not made public, although in the case of the US, these are limited to transshipment vessels transshipping from US vessels. In the case of Canada, Japan and Russia, information on these agreements, several of which may be between the coastal State and private institutions, are not available.	http://www.nmfs.noaa.gov/ia/permits/permits.html http://laws-lois.justice.gc.ca/eng/regulations/C.R.C.,_c_413/index.html http://www-ops2.pac.dfo-mpo.gc.ca/vrmd-meb/index-eng.cfm?pg=DldCommLic	3.0
4.5 Sanctions	Are sanctions enforced?	In Russia, sanctions are enforced and information on these are available in the FAF website, as well as through 3 rd party reports (e.g., NOAA, MSC fisheries certification report). In the case of both Canada and the US, sanctions are enforced and information on this is publicly available as are the scale of offences. In Japan, illegal fishing is punishable, but there is no specific information on whether these are enforced.	Fisheries Agency of Japan, 2004 Government of Canada, 2005 Department of State, 2004 OLE, 2016 Telesetsky, 2015 http://www.fish.gov.ru/otkrytoe-agentstvo/opendata http://www.gc.noaa.gov/enforce-office3.html http://www.nmfs.noaa.gov/ole/newsroom/enforcement-actions.html http://www.dfo-mpo.gc.ca/fm-gp/enf-loi/index-eng.htm http://www.dfo-mpo.gc.ca/media/charges-inculpations/nl-tnl-eng.htm	1.0
	Relative level of sanctions vs level of IUU fishing.	In the US and Canada, Offences relating to fisheries non-compliance can result in criminal prosecutions. Offences relating to fisheries compliance can result in significant criminal offences as well as temporary and permanent loss of license agreements, although there has been some criticism that in some cases, sanctions are not adequate to ensure deterrence. In Japan, while illegal fishing is prosecuted as such, it is not recognised as a serious crime, and it may be that sanctions do not fit the level of the crime, although these can still include prison sentences and revocation of the fishing license. However, it is not clear how this is applied to foreign fishing vessels. In Russia, levels of enforcement and sanctions have been much improved in recent years and include strengthened sanctions, confiscations and quota cancellations. Fishing licenses may be revoked and	Fisheries Agency of Japan, 2004 Government of Canada, 2005 Department of State, 2004 OECD, 2010 OLE, 2016 Teleteskey, 2015 http://www.gc.noaa.gov/enforce-office3.html http://www.dfo-mpo.gc.ca/fm-gp/enf-loi/index-eng.htm http://www.dfo-mpo.gc.ca/media/charges-inculpations/nl-tnl-eng.htm	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		quotas confiscated in cases of violations. Repeated offences can also lead to the total termination of the fishing rights.		
4.6 RFMO	Membership: Are they a Member of the relevant RFMOs?	All of the coastal States in the fishery under assessment are members of the relevant RFMOs.	http://www.npafc.org/new/about_npafc.html	0.0
	Compliance: is the coastal State compliant with all RFMO requirements and data submissions?	There is no indication that the coastal States are not compliant with the relevant RFMOs.	NPAFC, 2015	0.0
	Engagement: Does the coastal State submit additional information / papers to RFMO and actively participate in scientific and compliance committee meetings?	All of the coastal States appear to be active participants in the RFMO management and scientific meetings.	NPAFC, 2015	0.0
4.7 Multi-lateral agreements e.g. FAO Guidelines or UNCLOS	Is the coastal State a contracting/cooperative non-member party to multi-lateral agreements e.g. UNCLOS, UNFSA, FAO Agreements? Implementation of the provisions of the Convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks	Canada has ratified both UNCLOS and UNFSA, as well as accepting the FAO Compliance Agreement. Japan has ratified both UNCLOS and UNFSA, as well as accepting the FAO Compliance Agreement. Russia has ratified both UNCLOS and UNFSA, as well as accepting the FAO Compliance Agreement. The USA has only ratified the UNFSA, but not UNCLOS. It has also accepted the FAO Compliance Agreement.	http://www.un.org/depts/los/convention_agreements/convention_overview_fish_stocks.htm http://www.fao.org/legal/treaties/treaties-under-article-xiv/en/	1.0
4.8 NPOAs (IUU + others)	Is there a specific National Plan of Action (NPOA) in place to combat IUU in the coastal State?	All of the coastal States have a NPOA IUU in place although the Russia one does not appear to be publicly available.	http://www.fao.org/fishery/ipoa-iuu/npoa/en https://www.undercurrentnews.com/2014/01/10/russia-approves-plan-to-counter-illegal-fishing/	1.0
4.9 Coastal State Control	How and to what level is control exercised in the coastal State in terms of administrative controls and checks? (e.g. logbook check against VMS and administrative checks including validation of catch certificates)	In Canada, A variety of methods are used to monitor fishing activity on the high seas, including aerial surveillance, at-sea and port inspections, international observers, satellite (RADARSAT II) and vessel monitoring systems. There is no information available on any administrative checks being carried out on the fleets operating in Japanese or Russian waters, other than of their own domestic vessels.	Clarke and Hosch, 2013 Fisheries Agency of Japan, 2004 Government of Canada, 2005 Hilborn and Melnychuk, 2015 Department of State, 2004 http://government.ru/en/departments/243/ http://www.pac.dfo-mpo.gc.ca/fm-gp/species-especes/salmon-saumon/pol/index-eng.html	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		In the US, no foreign fisheries are permitted and the domestic fleet is monitored under flag State control. NPAFC is based on the enforcement of no fishing regulations on the high seas rather than monitoring of fishing activity.	https://alaskafisheries.noaa.gov/fisheries/monitoring-and-reporting	
	How and to what level is control exercised in the coastal State in terms of inspections on vessels at sea and in port?	Japan conducts inspections at sea on both domestic and foreign vessels operating in its EEZ. In Canada, A variety of methods are used to monitor fishing activity on the high seas, including at-sea and port inspections. The US has a high level of control through at sea and in port inspections of its fleet. In Russia, the FAF cooperates with the FSB through the CFMC to meet MCS responsibilities, with the FSB conducting enforcement and inspections at sea and in port. NPAFC has a range of inspection and control procedures at sea, which are documented.	Clarke and Hosch, 2013 DGIPO, 2013 Fisheries Agency of Japan, 2004 Government of Canada, 2005 Hilborn and Melnychuk, 2015 Department of State, 2004 NPAFC, 2015 OLE, 2016 http://www.dfo-mpo.gc.ca/international/mcs-activities-eng.htm http://www.dfo-mpo.gc.ca/fm-gp/enf-loi/reports-rapports/cc25_2016-eng.htm http://government.ru/en/departement/243/ http://wwf.ru/about/positions/fisherylaw/eng	0.0
	How and to what level is control exercised in the coastal State in terms of remote surveillance (e.g. aerial surveillance, VMS and AIS)?	There is no information available of the Japanese and Russian control through electronic means. In Canada, A variety of methods are used to monitor fishing activity on the high seas, including aerial surveillance, satellite (RADARSAT II) and vessel monitoring systems. In the case of the US, only domestic fisheries are permitted, which are subject to monitoring observer programmes.	Clarke and Hosch, 2013 DGIPO, 2013 Fisheries Agency of Japan, 2004 Government of Canada, 2005 Hilborn and Melnychuk, 2015 Department of State, 2004 NPAFC, 2015 OLE, 2016 http://government.ru/en/departement/243/ http://www.pac.dfo-mpo.gc.ca/fm-gp/species-especes/salmon-saumon/pol/index-eng.html https://alaskafisheries.noaa.gov/fisheries/monitoring-and-reporting	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	How and to what level is control exercised in the coastal State in terms of observer programmes?	<p>There is no information on any observer requirements of foreign vessels fishing in the Japanese, Russia and Canadian waters.</p> <p>In the case of the US, only domestic fisheries are permitted, which are subject to national observer programmes.</p> <p>Observer programmes are not relevant in the NPAFC as this is concerned with the elimination of fishing for salmon on the high seas, not monitoring fishing activity.</p>	<p>Clarke and Hosch, 2013 Fisheries Agency of Japan, 2004 Government of Canada, 2005 Hilborn and Melnychuk, 2015 Department of State, 2004 NPAFC, 2015 OLE, 2016 http://government.ru/en/department/243/ http://www.pac.dfo-mpo.gc.ca/fm-gp/species-especies/salmon-saumon/pol/index-eng.html https://alaskafisheries.noaa.gov/fisheries/monitoring-and-reporting</p>	2.0
4.10 Coastal State Cooperation	Does the coastal State work with neighbouring or regional States to enhance MCS in their own waters and fleets?	<p>NOAA and the USCG work closely with enforcement agencies from Canada, Japan, the Republic of Korea, and the Russian Federation to enforce the NPAFC prohibition on directed fishing for anadromous stocks in the high seas areas of the North Pacific Ocean.</p> <p>NPAFC members coordinate multilateral air and surface patrols to utilize enforcement resources more efficiently. Each spring the parties discuss current enforcement efforts, coordination of enforcement plans, and resource sharing for the remainder of the calendar year.</p> <p>In addition, Canada and the US collaborate in the management of stocks within their EEZs through the "Pacific Salmon Treaty" which established the bilateral FMO, the Pacific Salmon Commission.</p> <p>However, it should also be noted the current territorial disputes that Japan is engaged in over its EEZ with China which may impact its enforcement ability.</p>	<p>DGIPOL, 2013 NOAA, 2015 NPAFC, 2015 Pacific Salmon Commission, 2016</p>	1.0
4.11 Transshipment	Is transshipment allowed in coastal State or RFMO waters and is observation required through an RFMO programme or by coastal States for their own waters?	<p>Transshipment is not prohibited except in port. However, there is no information on whether independent verifications of in port transshipment are required or carried out with any of the coastal States. Furthermore, illegal high seas transshipment has been known to occur, particularly in the salmon fishery.</p>	<p>NOAA, 2015 Pramod <i>et al.</i>, 2014</p>	1.0
Average				1.18

5.8.2.5 Port State – Canada, China, Japan, Russia and the USA (control systems in place, PSMA provisions in place)

All of the flag / coastal States are involved also as a port State, in addition to China. Some of the key issues relating to the port States' performance in combatting IUU is the well documented transportation and processing routes involving China, hereby illegally caught fish, including salmon is laundered amongst legitimate supply chains. This has included in the past, examinations of the supply chains from salmon caught in Russia and landed in China, either after being transhipped (either legally in port or illegally at sea). The potential prevalence of transshipment in the supply chain exacerbate the issue as these do not appear to have the same level of regulation or transparency as other fisheries, for example the tuna fishery. These issues are compounded by the wide range of ports available to the fishery,

Furthermore, of all the States, only the US has ratified the PSMA, and while both Canada and Russia have signed the PSMA, they have not yet ratified it. This means that port State enforcement tools are not currently being employed at the desired level. However, it does appear that all States, with the possible exception of China, employ basic PSMA directives, such as requiring prior notification and administrative checks of foreign vessels. In addition, information on port State measures taken to combat IUU, such as inspections and administrative checks are not provided.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
5.1 Are the products of IUU fishing landed in the port State?	Has the port State been identified as a non-compliant State by the EU (yellow / red card)?	None of the port States involved in the fishery have been identified by the EU IUU regulation yellow/red card system.	https://ec.europa.eu/fisheries/cfp/illegal_fishing/info_en	0.0
	Has the port State been identified as a "country of interest" within NOAA biennial reports?	Of the port States involved in the fishery under assessment, Russia has recently been identified by NOAA in its 2017 report to congress for violations of CCAMLR CMMs in 2014, 2015, and 2016, although this was not specific to port State controls. The other port States have not been identified by NOAA (although the US itself would not be identified by its own agency).	NOAA-NMFS, 2011; 2013; 2015; 2017 http://www.nmfs.noaa.gov/ia/iuu/iuu_overview.html	1.0
	Has the port State been identified as having IUU fish landed in its ports? (NB: This may be identified by the port State itself, another State or by an RFMO).	None of the port States involved have been identified as having IUU fish landed in their ports by RFMOs or other countries.	DGIPOL, 2012; 2013 NPAFC, 2015	0.0
	Has the port State been identified as having IUU fish landed in its ports by fishing vessel of any State by an NGO or in scientific or press reports?	There have been several specific instances of IUU being reported in Russian waters, and eventually being transhipped either in Russian ports or at sea, and landed in Chinese ports for onward processing. There are few if any formal links of IUU linked with fisheries with Canadian and US ports, although high numbers of IUU sourced fish, which have been	Clarke; 2007a; 2007b Clarke and Hosch, 2013 Marine Conservation Institute, 2014 Petrosian <i>et al.</i> , 2014 Pramod <i>et al.</i> , 2014	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		subsequently laundered into legitimate supply chains, notably in China, have been noted in several reports.		
5.2 Corruption	What is the WB corruption index for the port State? (see WB Governance Indicators). Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.	Canada, Japan and the USA all have very high governance indicators in the top 10%. Alternatively, Russia is in the bottom 20% with a control of corruption score of 19%. China is in the top 50%.	http://info.worldbank.org/governance/wgi/#home	1.5
5.3 Sanctions	Are sanctions enforced for port related activities?	In Russia, sanctions are enforced and information on these are available in the FAF website, as well as through 3 rd party reports (e.g., NOAA, MSC fisheries certification report). In the case of both Canada and the US, sanctions are enforced and information on this is publicly available. In Japan, illegal fishing is punishable, but there is no specific information on whether these are enforced. In China, criminal activities related to fisheries are prosecuted, but as with Japan there is a lack of transparency over these actions.	Fisheries Agency of Japan, 2004 Government of Canada, 2005 Department of State, 2004 OLE, 2016 Telesetsky, 2015 http://www.fish.gov.ru/otkrytoe-agentstvo/opendata http://www.gc.noaa.gov/enforce-office3.html http://www.nmfs.noaa.gov/ole/newsroom/enforcement-actions.html http://www.dfo-mpo.gc.ca/fm-gp/enf-loi/index-eng.htm http://www.dfo-mpo.gc.ca/media/charges-inculpations/nl-tnl-eng.htm	1.0
	Are the sanctions enforced relative to the level of IUU fishing?	In the US and Canada, offences relating to fisheries con compliance can result in criminal prosecutions. Offences relating to fisheries compliance can result in significant criminal offences as well as temporary and permanent loss of license agreements, although there has been some criticism that in some cases, sanctions are not adequate to ensure deterrence. In Japan, while illegal fishing is prosecuted as such, it is not recognised as a serious crime, and it may be that sanctions do not fit the level of the crime, although these can still include prison sentences and revocation of the fishing licence. In Russia, levels of enforcement and sanctions have been much improved in recent years and include	Fisheries Agency of Japan, 2004 Government of Canada, 2005 Department of State, 2004 OECD, 2010 OLE, 2016 Teleteskey, 2015 http://www.gc.noaa.gov/enforce-office3.html http://www.dfo-mpo.gc.ca/fm-gp/enf-loi/index-eng.htm http://www.dfo-mpo.gc.ca/media/charges-inculpations/nl-tnl-eng.htm	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		strengthened sanctions, confiscations and quota cancellations. Fishing licenses may be revoked and quotas confiscated in cases of violations. Repeated offences can also lead to the total termination of the fishing rights. In China, there is no specific information on the criminal liabilities imposed and it is unclear if these are adequate to ensure deterrence.		
5.4 RFMO	Membership: Is the port State a Member of the relevant RFMOs?	All of the port States in the fishery under assessment, except China, are members of the relevant RFMOs. However, China regularly cooperates with the NPAFC and is a member of all the major RFMOs.	DGIPOL, 2012 http://www.npafc.org/new/about_npafc.html	1.0
	Compliance: is the port State compliant with all RFMO requirements and data submissions?	There is no indication that the port States are not compliant with the relevant RFMOs, although China is not a member of NPAFC.	NPAFC, 2015	1.0
	Engagement: Does the port State submit additional information / papers to RFMO and actively participate in scientific and compliance committee meetings?	All of the port States appear to be active participants in the RFMO management and scientific meetings, although China is not a member of NPAFC.	NPAFC, 2015	1.0
5.5 Multi-lateral agreements e.g. FAO Guidelines or UNCLOS	Is the port State a contracting/cooperative non-member party to multi-lateral agreements e.g. PSMA, UNCLOS, UNFSA, FAO Agreements? Has the FAO Port State Measures Agreement been signed, acceded or implemented? Implementation of the provisions of the Convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks	Canada has signed the PSMA but is yet to ratify it. It has ratified both UNCLOS and UNFSA, as well as accepting the FAO Compliance Agreement. Japan has not signed or ratified the PSMA. It has ratified both UNCLOS and UNFSA, as well as accepting the FAO Compliance Agreement. Russia has signed the PSMA but it has not ratified it. It has ratified both UNCLOS and UNFSA, as well as accepting the FAO Compliance Agreement. The USA has ratified the PSMA, and the UNFSA, but not UNCLOS. It has also accepted the FAO Compliance Agreement. China has only ratified the UNCLOS, not UNFSA nor the PSMA. Furthermore, China has not accepted the FAO Compliance Agreement. In addition, China frequently opposes any changes to IUU rules at an RFMO level.	DGIPOL, 2012; 2013 http://www.fao.org/fishery/psm/agreement/en http://www.un.org/depts/los/convention_agreements/convention_overview_fish_stocks.htm http://www.fao.org/legal/treaties/treaties-under-article-xiv/en/	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
5.6 NPOAs (IUU + others)	Is there a specific National Plan of Action (NPOA) in place to combat IUU in the port State?	Canada, Japan, Russia and the US have a NPOA IUU in place although the Russia one does not appear to be publicly available. China does not appear to have an NPOA-IUU in place.	http://www.fao.org/fishery/ipoa-iuu/npoa/en https://www.undercurrentnews.com/2014/01/10/russia-approves-plan-to-counter-illegal-fishing/	2.0
5.7 Port State Control	How and to what level is control exercised in the port State in terms of administrative controls and checks? (e.g. logbook check against VMS and administrative checks including validation of catch certificates)	In Canada, A variety of methods are used to monitor fishing activity on the high seas, including aerial surveillance, at-sea and port inspections, international observers, satellite (RADARSAT II) and vessel monitoring systems. There is no information available on any administrative checks being carried out on the fleets operating in Japanese or Russian waters, other than of their own domestic vessels. In the US, no foreign fisheries are permitted and the domestic fleet is monitored under flag State control. NPAFC is based on the enforcement of no fishing regulations on the high seas rather than monitoring of fishing activity. There is little information on the port State controls used by China.	Clarke and Hosch, 2013 DGIPOL, 2012 Government of Canada, 2005 Hilborn and Melnychuk, 2015 Department of State, 2004 http://government.ru/en/department/243/ http://www.pac.dfo-mpo.gc.ca/fm-gp/species-especies/salmon-saumon/pol/index-eng.html https://alaskafisheries.noaa.gov/fisheries/monitoring-and-reporting	2.0
	How and to what level is control exercised in the port State in terms of inspections on vessels in port?	Japan conducts inspections at sea on both domestic and foreign vessels operating in its EEZ. In Canada, A variety of methods are used to monitor fishing activity on the high seas, including at-sea and port inspections. The US has a high level of control through at sea and in port inspections of its fleet. In Russia, the FAF cooperates with the FSB through the CFMC to meet MCS responsibilities, with the FSB conducting enforcement and inspections at sea and in port. NPAFC has a range of inspection and control procedures at sea, which are documented. There is no information on the extent to which in port inspections are carried out in China, and there is considerable doubts over the efficacy of these methods.	DGIPOL, 2012 DGIPOL, 2013 NPAFC, 2015 OLE, 2016 http://www.dfo-mpo.gc.ca/international/mcs-activities-eng.htm http://www.dfo-mpo.gc.ca/fm-gp/enf-loi/reports-rapports/cc25_2016-eng.htm http://government.ru/en/department/243/ http://wwf.ru/about/positions/fisherylaw/eng http://www.franciscoblaha.info/blog/2016/4/14/china-in-iuu-fishing	2.0
	How and to what level is control exercised in the port State in terms of vessel monitoring (e.g.	There is no information available of the Japanese, Chinese and Russian port State control through electronic means.	Clarke and Hosch, 2013 Fisheries Agency of Japan, 2004 Government of Canada, 2005	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	notification of port entry, VMS and AIS)?	In Canada, A variety of methods are used to monitor fishing activity on the high seas, including aerial surveillance, satellite (RADARSAT II) and vessel monitoring systems. In the case of the US, only domestic fisheries are permitted, which are subject to monitoring observer programmes.	Department of State, 2004 Hilborn and Melnychuk, 2015 http://government.ru/en/department/243/ http://www.pac.dfo-mpo.gc.ca/fm-gp/species-especes/salmon-saumon/pol/index-eng.html https://alaskafisheries.noaa.gov/fisheries/monitoring-and-reporting	
5.8 Port State Cooperation	Does the port State work with neighbouring or regional States to enhance MCS on vessels landing in their ports?	There are a number of bilateral and multi-lateral agreements in existence between port States and neighbouring coastal States, most notably through the coordination of the NPAFC. NPAFC encourages its members to become parties to the PSMA.	DGIPOL, 2012; 2013 NPAFC, 2015 http://www.npafc.org/new/about_npafc.html	0.0
5.9 Designated ports	Are the ports used appropriate in terms of location and size for particular fleets or species? NB: The ideal is for designated ports assigned to fleets and species to be used.	There is no information on designated ports being used for specific species in any of the port States, although both Canada and the US publish information on landings across different ports.	Huntington <i>et al.</i> , 2015 http://www.fish.gov.ru/otkrytoe-agentstvo/opendata http://www.dfo-mpo.gc.ca/stats/commercial/sea-maritimes-eng.htm https://alaskafisheries.noaa.gov/fisheries-catch-landings	3.0
5.10 Transhipment	Is transhipment allowed in port and is observation required through an RFMO programme or by port States for their own ports?	USA: The US generally denies transhipments by foreign vessels in its ports, except for a few ports located in U.S. insular territories. Under the Magnuson–Stevens Act the Secretary of Commerce is allowed to issue a transhipment permit to authorise a vessel other than a U.S vessel to engage in fishing solely consisting of transporting fish or fish products from within in the U.S. EEZ or outside in concurrence of that State. There is no system in place for the authorisation of transhipment in Japan or Russia (in Russia certain ports have been authorised to receive transhipments in the Northeast Atlantic under NEAFC). It is not clear if these are appropriate for the fishery and vessel size and transhipment activities are not transparent.	Fisheries Agency of Japan, 2004 Government of Canada, 2005 Department of State, 2004 NPAFC, 2015 http://www.nmfs.noaa.gov/ia/permits/permits.html http://www.fao.org/fishery/psm/CAN_25/en	2.5
Average				1.75

5.8.2.6 Market State – Japan - Traceability and national requirements

Japan is the sole market State in the fishery under assessment. The sheer scale of fisheries products imported into Japan alone increase the potential risk of IUU, and indeed IUU products are believed to be imported, or have been regularly imported into Japan. This notably has included supply chains of salmon originating from Russia, with subsequent processing in China, while in other fisheries there are several reports highlighting the perceived import of illegal tuna products into Japan. These issues are all compounded by the frequently complicated nature of the supply chain, and the lack of information on the fishery under assessment and subsequent chain of custody.

However, Japan has taken several positive steps to combat the importation of IUU, and while these are predominantly focussed on higher value, higher IUU risk fish, such as toothfish and tuna, some of the measures themselves are applicable across all fisheries.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
6.1 Products of IUU fishing found in the final market State or within the States of the supply chain?	Has the market State or any of the States in the supply chain been identified as a non-compliant State by the EU (yellow / red card)?	Japan has not been identified by the EU IUU regulation yellow/red card system.	https://ec.europa.eu/fisheries/cfp/illegal_fishing/info_en	0.0
	Has the market State or any of the States in the supply chain been identified as a “country of interest” within NOAA biennial reports?	Japan has not been identified by NOAA in any of its reports to congress.	NOAA, 2011; 2013; 2015; 2017 http://www.nmfs.noaa.gov/ia/iuu/iuu_overview.html	0.0
	Has the market State or any of the States in the supply chain been identified as having IUU fish landed in its ports? (NB: This may be identified by the port State itself, another State or by an RFMO).	Japan has been identified as having IUU fish landed in their ports by RFMOs or other countries.	DGIPOL, 2013 NPAFC, 2015	0.0
	Has the market State or any of the States in the supply chain been identified as having IUU fish landed in its ports by fishing vessel of any State by an NGO or in scientific or press reports?	Japan has been identified by various press reports as being the recipient of IUU sourced fish, usually after being laundered in the supply chain, although trade measures to combat IUU have been noted to have been improved.	Clark, 2007a; 2007b Clark and Hosch, 2013 DGIPOL, 2013 Marine Conservation Institute, 2014 Petrossian <i>et al.</i> , 2014 Pramod <i>et al.</i> , 2014	2.0
6.2 Supply chain length, complexity and transparency	How many States and companies are in the supply chain?	There is no information on the supply chain. However, salmon often undergoes transport and transformation in a range of different States, including China, Russia and the US. Subsequently, it can be expected that the supply chain is diverse.	Clark and Hosch, 2013 Pramod <i>et al.</i> , 2014 Sobolevskaya and Divovich, 2015	3.0
	How many different companies and transfers of ownership, amount of processing?	There is no information on the supply chain. However, salmon often undergoes transport and transformation in a range of different States, including China, Russia	Clark and Hosch, 2013 Sobolevskaya and Divovich, 2015 Information from the client	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		and the US. Subsequently, in can be expected that the supply chain is diverse.		
	Is the chain publically known and transparent?	There is no information on the supply chain. However, salmon often undergoes transport and transformation in a range of different States, including China, Russia and the US. Subsequently, in can be expected that the supply chain is diverse.	Clark and Hosch, 2013 Sobolevskaya and Divovich, 2015 Information from the client	3.0
6.3 High risk points in the supply chain	Are the ports in the supply chain (after the port of first landing) known or suspected PONCS and do the ports used have well documented and effective port control and inspection?	The ports in the supply chain are not specifically known. However, Japan is not recognised as a PONC or port.	Petrossian <i>et al.</i> , 2014	0.0
	Does processing occur in locations that seem out of context (e.g. locations with no history of processing, high costs incurred for transport, high cost of processing) or with history of laundering IUU catches?	Processing of salmon, and indeed other raw fish products often occurs in a 3 rd State, notably China. While China is an important importer of fish products, processor and subsequent exporter of finished product, the additional levels of handling across States and companies adds to the complexity.	Clark and Hosch, 2013	2.0
6.4 Corruption	What is the WB corruption index for the port State? (see WB Governance Indicators). Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.	Japan has a very high governance indicators in the top 10%.	http://info.worldbank.org/governance/wgi/#home	0.0
6.5 Post landing inspections	Performance of spot audits at key transport hubs and border inspection points?	There is no information on spot audits being carried out at key transport hubs and BIPs. However, there are clear indicators this does occur, at least in the tuna industry, with a consignment if tuna being refused entry.	DGIPOL, 2013 Fisheries Agency of Japan, 2004 http://www.oecd.org/agriculture/ http://www.jfa.maff.go.jp/e/index.html	2.0
	Are inspections carried out on the fish after landings e.g. by customs, BIPs and in transit?	When a consignment arrives at a Japanese port a 'Notice of Customs Clearance' is sent to the addressee from a customs office and a customs clearance procedure is initiated. In some cases a health and sanitary certificate must also accompany the import	http://www.fao.org/docrep/008/y5924e/y5924e06.htm DGIPOL, 2013 Fisheries Agency of Japan, 2004 http://www.oecd.org/agriculture/	1.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		notification form. Food is then quarantined and inspected to ensure it complies with Food Sanitation Law. Consignments with a past record of non-compliance will often require further examination. Some fish require approval for import prior to customs clearance procedures (e.g. those governed by import quotas or by international conventions or agreements).	http://www.jfa.maff.go.jp/e/index.html	
6.6 Independent Verifications	Is supply chain MSC CoC certified?	Various fisheries within the fishery under assessment are MSC certified, but it is not clear if these are sourced, and if so through MSC CoC supply chains.	No MSC certifications.	3.0
	Non-MSC Supply chain and traceability audits (due diligence) conducted?	There is no information on whether due diligence audits are carried out.	As the supply chain is unknown no evidence can be provided.	3.0
6.7 CDS / CC certification	Do catch documentation schemes exist for the species?	As part of Japan's efforts to improve efforts to control imported fish products, various CDS were introduced. However, these do not apply to salmon. Furthermore, if not specifically requested, the product will not be accompanied by a catch certificate.	DGIPOL, 2013	3.0
6.8 Processing or transshipment vessels involved in market chain.	If transshipment or processing onboard a Klondiker or mother vessels is allowed (licensed) in the fishery, are the Klondiker and transshipment (reefer) vessels on the relevant whitelists (authorised) or blacklists (IUU)?	There was no information on whether processing vessels are used in the supply chain. No transshipment allowed.	No information on processing vessels.	3.0
	Are there independent observer programmes on non-fishing vessels?	There are no independent observer programmes on non-fishing vessels, although there are no support vessels in the fishery and transshipment at sea is illegal.	No information on processing vessels	3.0
Average				1.80

5.8.3 Recommendations

5.8.3.1 *Fishing vessels, legal personalities and companies*

- Information is required on the fishing vessels, legal personalities and companies involved in all stages throughout the supply chain to provide a more accurate assessment of individual supply chains entering the Japanese market.
- Wherever possible, short simple supply chains direct from the fishery or cooperative should be sought to increase transparency and control of the supply chain.

5.8.3.2 *Fisheries*

- Information on the specific fisheries sourced should be sought and where those sub populations deemed to be higher risk should be avoided. As these populations' status may regularly change it is important to keep informed on the status on a regular basis.
- The high amount of MSC certified fisheries means that a significant amount of salmon deemed to be well managed and sustainable is available. Wherever possible, MSC certified product sourced through MSC CoC certified supply chains should be sourced.
- Open seas fisheries, which are not managed in real time, but instead rely on pre-season limitations based on last season estimations, should be avoided.
- Full traceback assessments of the supply chain across all fisheries sourced, should be carried out on a regular basis.

5.8.3.3 *Flag State*

- Complete vessel and fisher identification, including license and registration, as well as any unique vessel identifiers should be obtained for all product sourced. As all of the flag States involved have the capability to produce a catch certificate, a catch certificate should be obtained in all cases, and accompany the product.
- Full traceback assessments and of the supply chain across all fisheries sourced, should be carried out on a regular basis.
- Regular forensic audits of the supply chain should be carried out include administrative checks of the catching vessels.
- In the case where any product is sourced from another coastal State, detailed information on the nature of the agreement should be obtained.

5.8.3.4 *Coastal State*

- In the case where any product is sourced from flag State different to the coastal, detailed information on the nature of the agreement should be obtained (whether private or State to State). In addition, full details of those vessels fishing in other coastal State's waters should be obtained.
- Forensic audits of the supply chain should be tiered to ensure higher risk coastal States, i.e., Japan and Russia, are examined in more detail. Furthermore, these audits should provide reassurances that catch was not obtained from the high seas.

5.8.3.5 *Port State*

- Transshipment within the supply chain should be avoided. In cases where this is unavoidable, accompanying documentation, including details of any independent verification needs to be obtained.
- Where possible, engage both Canada, China Japan and Russia to (in China's case sign and then) ratify the PSMA.

5.8.3.6 Market State

- Ensure all product is accompanied by a catch certificate, as well as any accompanying documentation, notably transportation (including transshipment) and transformation (processing).
- Obtain a list of all possible intermediary companies and States involved in the supply of product.
- Carry out regular forensic audits of the supply chain, examining any links in custody, and the associated companies and States.
- Ensure requirements for a clear and transparent supply chain are communicated throughout the chain of custody.
- Wherever possible, source salmon direct from the supplier, or with limited supply chain complexity.
- Obtain MSC certified salmon from MSC CoC certified supply chains.

NB: It should be noted that the IUU risk assessment carried out is limited in scope, analysing the risk that IUU fish may enter the supply chain from a particular fishery. It does not analyse the individual supply chains present and this would require a traceability assessment to be carried out which has not been done in this case.

5.9 Smelts nei

5.9.1 Executive Summary

The IUU risk assessment is designed to provide an estimate of the potential for IUU catch to enter a particular supply chain, identify potential risks in the supply chain from the fishery through to the market place and to then identify where interventions are possible to reduce and minimise this risk. It will not be able to indicate the level of risk that occurs once a fishery has entered the supply chain and it is recommended that a traceability benchmarking assessment or similar review of the supply chain is conducted to evaluate this risk.

This risk assessment was carried out for smelts nei that are sourced from the Atlantic northwest, the Pacific Northwest and the Pacific Northeast using a variety of gear. There are no domestic catches of smelt made by Japanese vessels and so it is all imported into the market. The USA and Russia are highlighted as potential sources of smelt which is supplied to Japan and therefore these are the Flag, Coastal and Port States covered in this risk assessment.

There is no information available on the specific fleets that source smelt for the Japanese market but there are no reports of either State being involved in illegally fishing for smelt specifically. However as Russia does have a history of previous IUU activity and in the absence of data a precautionary approach was taken and a high score was given.

There is little information on the fisheries targeted by American and Russian fleets for smelt but fisheries in the Atlantic and Pacific were cited as possible locations for smelt fishing. While there are no reports from either State concerning illegal fishing of this species, Canada has reported illegal fishing of smelt and the USA has listed it under its Endangered Species Act by NOAA. As no stock assessments could be identified and there is a general lack of information available for smelt fisheries that supply the Japanese market a higher risk of IUU activity is reported.

For flag State, the vessels involved in smelt fishing are unknown and there are no lists of vessels targeting smelt fisheries. Due to this absence of information a higher risk of potential IUU is assumed. Both States do have general quota and licensing systems in place as well as Monitoring, Control and Surveillance systems however, the extent to which they are exercised is unknown although the transshipment of this species is unlikely.

For coastal and port State although there are no incidences of illegal smelt fishing or landing in either country's ports, there are incidences of IUU activities both in their waters and IUU products landed in their ports. The specific ports used to land smelt are unknown which increases the risk of potential IUU however, both States have Monitoring, Control and Surveillance systems in place to monitor both vessels in their waters and landings in their ports.

Japan is the sole market State in the fishery under assessment. The supply chain for smelt is unknown and therefore as a precautionary approach a higher risk of IUU activity has been scored. The large number of products imported in Japan also increases the potential risk of IUU. However due to Japan's high governance score the risk of IUU once it is within the supply chain is unlikely but more information would be needed to specifically determine the market State risk for smelt.

Table 20 Average score (Smelt nei) for the six key areas in the risk assessment.

Key risk areas:	Score
Fishing vessels, legal personalities and companies	2.64
Fisheries – Trawls, Gillnets, entangling nets, Traps	2.12
Flag State – Russia and USA (defined by catches, but Norway and Canada also reported but these may refer to Argentines / capelin and not true smelts) ¹¹ – Russia and USA therefore used throughout this risk assessment.	1.35
Coastal State – Russia and USA	1.17
Port State - Russia and USA	1.52
Market State - Japan	1.88
Average	1.78

Key:

Colour	Min	Max	Risk	Description
	>0.0	<=0.6	No or minimal risk	Little or no action required
	>0.6	<=1.1	Very low risk	Some minor actions may be required, but risk level is very low
	>1.2	<=1.8	Low	Risk level is low, but some particular elements may require mitigating measures to be put in place.
	>1.8	<=2.4	Medium	Medium level of risk. Particular scoring elements may need to be addressed and mitigated against.
	>2.4	<=3.0	High risk	High level of risk. One or more elements have substantial risks associated with them. Scores of this level may suggest sourcing from a different fishery.

¹¹ <http://www.agr.gc.ca/resources/prod/Internet-Internet/MISB-DGSIM/ATS-SEA/PDF/6770-eng.pdf>

5.9.2 Identification

This risk assessment addresses the following scope:

Table 21 Identification of scope of the IUU risk assessment.

Species	Smelts nei (<i>Osmeridae</i>)	ASFIS Code: SMX
Area	FAO 61, 67, 21 No domestic Japanese catches imports (100%)	
Gear	Trawls, Gillnets, entangling nets, Traps	
Fleet	Russia and USA (defined by catches, but Norway and Canada also reported but these may refer to Argentines / capelin and not true smelts) ¹² – Russia and USA therefore used throughout this risk assessment.	
Coastal States / RFMO:	Russia and USA	
Port State:	Russia and USA	
Market State:	Japan	

5.9.2.1 Fishing vessels, legal personalities and companies

Due to limited data available on the fleets that fish for smelt there is little known about the vessels, legal personalities and companies involved. Russia and the USA have been reported as potentially being a source of smelt for the Japanese market but there are no reports of illegal smelt fishing by either State. However, in the absence of any information a precautionary approach was taken and the risk of IUU activity has been scored high.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
1.1 Vessel/Fisher Identification	Vessel identification e.g. vessel name, callsign, country registration number and national and RFMO authorisations to fish (either inside national waters or outside on the high seas or in other zones) is complete to enable identification.	There is no vessel identification for vessels fishing for smelt in USA or Russia. According to NOAA's list of commercial fisheries in the Pacific Ocean the Oregon and Washington smelt fishery comprises of 130 vessels/persons.	USA: http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf http://www.nmfs.noaa.gov/pr/interactions/fisheries/2017_list_of_fisheries_lof.html	3.0

¹² <http://www.agr.gc.ca/resources/prod/Internet-Internet/MISB-DGSIM/ATS-SEA/PDF/6770-eng.pdf>

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		In USA all vessels and fixed gear that are being used for commercial fishing must be marked for identification purposes.	Russia: http://www.seafish.org/media/publications/RussiaEthicsProfile_201509.pdf	
	Are vessels required to have unique IDs?	In Russia, as part of a newly adopted plan to deter and eliminate IUU, fishing vessels are required to be marked. It is unknown whether vessels are required to have a unique ID but vessels are normally required to be registered in USA and Russia.		2.0
	Are each vessel, captain(s), owner and beneficial owner and agent identified as far as possible, this should ideally be transparent?	Vessel, captain, owner and beneficial owner are unknown for this RA scope.	No evidence available.	3.0
1.2 Vessels on IUU lists.	Are any of the vessels listed in the RA scope on the IUU Lists of RFMOs, (NGOs to be considered but not as clear evidence as evidential value to include is not of the required standard)?	Russia is listed on the combined IUU vessel list in 2015 and 2016 by the SPRFMO but not for smelt fishing. USA is not currently on the combined IUU list.	http://iuu-vessels.org/iuu/iuu/search	2.0
	Are any of the legal personalities listed in the RA scope listed on the IUU lists of nationals and companies involved in IUU? Is there any evidence of unlicensed fishing occurring?	There is no evidence of unlicensed fishing occurring but due to the nature of the fishery and size of the vessels used, underreporting may be occurring.	No evidence available.	2.0
	Are all of the vessels listed on the RA scope listed on authorised (white) lists for RFMOs and/or national authorised lists?	There is no apparent whitelist for smelt as vessels cannot be identified due to nature of the fishery.	No evidence available.	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
1.3 IUU fishing carried out by vessels flying its flag, by its nationals or by companies based in that country.	Are the history, nature, circumstances, extent and gravity of the manifestations of IUU fishing as listed in EU carding process by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	Unknown due to lack of data available.	No evidence available.	3.0
	Are the history, nature, circumstances, extent and gravity of the manifestations of IUU fishing as listed in the NOAAs biennial reports by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	Unknown due to lack of data available.	No evidence available.	3.0
	Are there scientific and market analyses defining the level of IUU (e.g. RFMO reports) conducted by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	Unknown due to lack of data available.	No evidence available.	3.0
	Are there NGO and Press reports of IUU incidents (specific to vessels/companies) conducted by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	Unknown due to lack of data available.	No evidence available.	3.0
Average				2.64

5.9.2.2 Fisheries – Russia and the USA (Atlantic and Pacific Ocean) (sustainability, impacts)

There is limited data available on smelt fisheries targeted by Russia and American fleets as the large proportion of publically available information focuses on recreational fishing in inland waters. The two main areas where smelt are commercially fished are in the Pacific and the Atlantic and therefore the information provided below covers fisheries in these areas where information was available. There are no reports of IUU activities concerning smelt however there are cases reported by Canada regarding illegal fishing of smelt and Pacific smelt is listed under the Endangered Species Act by NOAA. No stock assessments could be identified and as it is a low value species mitigation measures were not further explored. Due to a lack of data however, a higher score was given as the risk of IUU activity could not be determined.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
2.1 Status of fisheries and sustainability	Are fisheries operated with control on removals e.g. quota and / or effort limits?	<p>The Puget Sound Commercial Smelt Fishery has an annual quota of 60,000 pounds and time restrictions apply daily.</p> <p>Smelt fishing in the Chukchi Peninsula is closed during the breeding season and has catch and slot length limits.</p> <p>There is a quota on smelt for the East Sakhalin subzone, which is set at 590 tonnes.</p> <p>In Oregon, smelt are a prohibited species and can only be landed if caught accidentally in the Pacific Ocean and it does not exceed 1% of landing by weight.</p> <p>Under NOAA's Fisheries' West Coast Region smelt have been included in a new federal fishery management plan and commercial fishing of this species in the U.S. EEZ off the West Coast is prohibited.</p> <p>There is no other information available on control of smelt removal from fisheries.</p>	<p>http://wdfw.wa.gov/fishing/commercial/smel t/</p> <p>http://arctic.ru/topic/20160216/299217.html</p> <p>http://www.seaaroundus.org/doc/publications/wp/2015/Sobolevskaya-and-Divovich-Russia-Far-East.pdf</p> <p>http://www.dfw.state.or.us/fish/commercial/docs/2016_Commercial_Synopsis.pdf</p> <p>http://www.nmfs.noaa.gov/aboutus/docs/2016-noaa-fisheries-accomplishments-web.pdf</p>	2.0
	Are stock assessments available for species that use data on total removals (i.e. catch, bycatch, IUU and discards)?	No stock assessments were found for smelt.	No stock assessment evidence available.	3.0
	Are target and limit reference points defined for the fishery?	Unknown due to lack of data available.	As above.	3.0
	Are fisheries operating at a level at or under MSY?	This is unknown but the Pacific smelt have been listed under the Endangered Species Act by NOAA. Surf smelt are listed as 'Species of Greatest Conservation Need' in the Washington State Comprehensive Wildlife Conservation Plan.	<p>https://tracs.fws.gov/public/report/60293962/</p> <p>http://www.noaanews.noaa.gov/stories2010/20100316_smelt.html</p>	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are bycatch and ecosystem impacts known (and if different for IUU fishing)?	Unknown.	As above,	3.0
	Is the fishery at or below capacity?	Unknown due to limited data available.	As above.	3.0
2.2 History of IUU	Do previous incidences of IUU exist within the fishery?	<p>There is no evidence of IUU fishing but due to the vessels used and the nature of the fishery there may be incidences of unreported fishing.</p> <p>While no incidences are reported in USA or Russia, there is evidence from Canada that illegal fishing for surf smelt occurs and that enforcement is inadequate. However, surf smelt is mainly caught for recreational purposes and hardly any is sold commercially.</p> <p>In the East Sakhalin subzone hundreds of tonnes of smelt were caught when the quota is set at 590 tonnes according to a report on the Russian Far East in 2015, which could suggest that illegal fishing is occurring.</p>	<p>http://publications.gc.ca/collections/collection_2015/mpo-dfo/Fs70-5-2002-115-eng.pdf</p> <p>Northwest Pacific Ocean - fao.org</p> <p>ftp://ftp.fao.org/docrep/fao/010/a1465e/a1465e06.pdf</p> <p>http://www.seaaroundus.org/doc/publications/wp/2015/Sobolevskaya-and-Divovich-Russia-Far-East.pdf</p>	1.5
2.3 Access to fishery	Are fisheries authorised through a fishing licence / permit system?	<p>Unknown for smelt. In the USA, a permit for most major commercial fisheries is required but not for all. In the domestic federal fisheries where permits are required there is not one approach to permitting or authorising vessels.</p> <p>In Russia most commercial fishing operations are required to obtain a permit. However the application of this in terms of smelt fishing is unknown.</p>	<p>USA:</p> <p>http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf</p> <p>Russia:</p> <p>http://www.fao.org/3/a-aj279e.pdf</p>	3.0
2.4 Price	Data on species market prices (domestic/international) Low price fish (<US\$1000/t) are generally lower risk (e.g. small pelagics), higher priced (>US\$5000/t) demersals (e.g. cod and haddock) will be higher risk, high value species are generally higher risk.	Price USD 1,900-2,300/mt	https://www.alibaba.com/showroom/smelt-fish.html	0.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are any mitigation procedures that may be in place for high value species (e.g. catch documentation schemes, EU catch certificate requirements) in place (e.g. bêche de mer, bluefin tuna)?	Not a high value species therefore not applicable.	n/a	0.0
2.5 MSC certification/ /FIP processes	Is there MSC certification for the fishery or is there a FIP in process? MSC certification requires IUU to be low or negligible and has checks to ensure this is the case. If the fishery is going through a FIP process as well/that may indicate improvement within the fishery e.g. Sri Lanka.	There is no evidence that any fishery has become MSC certified or that there are no FIPs in place for smelt.	No evidence available	3.0
Average				2.12

5.9.2.3 Flag State – Russia and USA (activities, corruption, control systems in place)

There is no information on the specific American and Russian vessels that fish for smelt to provide products to the Japanese market. While some fisheries are known to have quotas for smelt it is unknown if these are used to source fish for Japan and therefore the risk of IUU activity has been scored higher. In general Russian and American fleets do have control systems in place for flagged vessels but the extent to which this is carried out is not always known. Both flag States however, do cooperate on measures to deter and eliminate IUU fishing.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
3.1 Is IUU associated with the flag State?	Has the flag State been identified as a non-compliant State by the EU (yellow / red card)?	Russia and USA have not been identified as a non-complaint state by the EU.	https://ec.europa.eu/fisheries/sites/fisheries/files/illegal-fishing-overview-of-existing-procedures-third-countries_en.pdf	0.0
	Has the flag State been identified as a “country of interest” within NOAA biennial reports?	Russia was identified under Section 609 (IUU) in the NOAA 2017 report for violating conservation measures and fishing without authorisation in 2014, 2015 and 2016 by CCAMLR. This however, was not for tanner crab.	NOAA, 2011; 2013; 2015; 2017 http://www.nmfs.noaa.gov/ia/slider_stories/2017/01/2017biennialreport.pdf	1.0
	Has the flag State been identified as a flag of non-compliance by any other State(s) or by an RFMO?	There are no incidences of non-compliance for Japan or the USA however, Russian flagged vessels have been identified as having non-compliances in CCAMLR	https://www.ccamlr.org/en/system/files/e-cc-xxxv_2.pdf	0.5
	Has the flag State been identified as a flag of non-compliance or flag of convenience by an NGO or in scientific or press reports?	No, there are no reports flag of convenience or flags of non-compliance for the flag States in this RA. Russian vessels though have been reported to have landed IUU fish caught from the Bering Sea.	http://www.itfglobal.org/en/transport-seafarers/in-focus/flags-of-convenience-campaign/ WWF (2008) Illegal Fishing in Arctic Waters. http://www.wwf.se/source.php/1173651/illegal%20fishing%20in%20Arctic%20waters.pdf Clarke, 2007a; 2007b https://www.ukpandi.com/knowledge-publications/knowledge-base/ https://qz.com/95583/how-spain-russia-and-other-countries-cheat-the-world-out-of-billions-of-dollars-in-fish/	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
3.2 Corruption	<p>What is the WB corruption index for the flag State? (see WB Governance Indicators).</p> <p>Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.</p>	<p>The USA has a very high governance indicator in the top 10%. Alternatively, Russia is in the bottom 20% with a control of corruption score of 19%.</p>	<p>http://info.worldbank.org/governance/wgi/#home</p>	1.5
3.3 Vessel Registration and Licensing	<p>Are all fishing vessels required to be registered and flagged in the flag State required to have a licence?</p>	<p>This is unknown specifically for smelt but for vessels in the U.S. those over five net tonnes used for fishing activities in U.S. waters or in the EEZ must be documented. Fishing vessels under 5 tonnes do not need to be federally documented but should be registered by individual States.</p> <p>For Russia a licence/permit is required to be carried on board. Vessels flying the Russian Federation flag must be registered with the State Register of Ships.</p>	<p>USA: https://www.uscg.mil/nvdc/nvdcfaq.asp http://www.nmfs.noaa.gov/ia/iuu/iuu_nation_alplan.pdf</p> <p>Russia: http://www.fao.org/docrep/v9982e/v9982e3h.htm</p> <p>http://www.maritimeadvocate.com/ship_registration/on_the_register_ship_registration_in_russia.htm</p>	2.0
	<p>Is there a licensing and quota allocation system in place? Is this system clear and transparent?</p>	<p>In the USA the Magnuson-Stevens Act requires the use of annual catch limits on federal fisheries.</p> <p>In Russia, annual fishing quotas and licences issues at federal or local levels are used to manage fisheries. There is no more publically available information on Russia's licensing or quota allocation system.</p>	<p>http://www.nmfs.noaa.gov/sfa/management/acls_ams/index.html</p> <p>http://www.fao.org/3/a-aj279e.pdf</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>The Puget Sound Commercial Fishery has an annual quota of 60,000 pounds and time restrictions apply daily for smelt.</p> <p>Smelt fishing in the Chukchi Peninsula is closed during the breeding season and has catch and slot length limits.</p> <p>There is a quota on smelt for the East Sakhalin subzone, which is set at 590 tonnes.</p> <p>In Oregon, smelt are a prohibited species and can only be landed if caught accidentally in the Pacific Ocean and it does not exceed 1% of landing by weight.</p> <p>Under NOAA's Fisheries' West Coast Region smelt have been included in a new federal fishery management plan and commercial fishing of this species in the U.S. EEZ off the West Coast is prohibited.</p> <p>No other information is available for smelt fisheries for the scope of this RA.</p>	http://wdfw.wa.gov/fishing/commercial/smel t/ http://www.searoundus.org/doc/publications/wp/2015/Sobolevskaya-and-Divovich-Russia-Far-East.pdf	
	Is this broken down by domestic waters and ABNJ?	Not applicable as in coastal State waters only.	n/a	0.0
	Is there a public list of licensed / authorised vessels?	Due to limited data this is not available for the scope of this RA.	No evidence available.	3.0
3.4 Fair transparent fisheries agreements	Are fair transparent fisheries agreements in place with coastal States?	There are no agreements in place specifically for smelt but the USA and Russia have signed a bilateral agreement to tackle IUU fishing.	http://www.nmfs.noaa.gov/ole/slider_stories/2015/us_rus_sign_iuu_agreement.html	1.0
3.5 RFMO	Membership: Is the flag State a Member of the relevant RFMOs?	<p>Russia and USA are both members of the North Pacific Anadromous Fish Commission (NPAFC). There is no RFMO specifically for smelt.</p> <p>The USA and Russia do participate in a number of other RFMOs in which their fleets are known to fish.</p>	http://www.nmfs.noaa.gov/ia/agreements/regional_agreements/pacific/npafc.pdf	0.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Compliance: Is the flag State compliant with all RFMO requirements and data submissions?	Unknown. No record of compliance provided by NPAFC, although the US and Russia are known to comply on a regular basis with all RFMO requirements. A Russian flagged vessel was apprehended in 1999 for illegally fishing for salmon in the NPAFC Convention Area.	http://www.npafc.org/new/about/Apprehended%20(Web2014).pdf	0.0
	Engagement: Does the flag State submit additional information / papers to RFMO and actively participate in scientific and compliance committee meetings?	Russia and USA appear to provide reports to NPAFC and all other RFMOs to which they are Members.	http://www.npafc.org/new/pub_annualreport.html	0.0
3.6 Multi-lateral agreements e.g. FAO Guidelines or UNCLOS	Is the flag State a contracting/cooperative non-member party to multi-lateral agreements e.g. UNCLOS, UNFSA, FAO Agreements? Implementation of the provisions of the Convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks	UNCLOS: Russia UNFSA: USA and Russia Compliance Agreement: USA. FAO Agreement: USA.	http://www.un.org/depts/los/reference_files/chronological_lists_of_ratifications.htm http://www.fao.org/fileadmin/user_upload/legal/docs/012s-e.pdf	2.0
3.7 NPOAs (IUU + others)	Is there a specific National Plan of Action (NPOA) in place to combat IUU?	USA has a NPOA IUU which is publically available. Russia adopted an NPOA IUU in 2013 but there is no other information available on it.	USA : http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf Russia : Russian Far East Crab, Fishery Improvement Project – Archived (November 2016)	1.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
3.8 Flag State Control	How and to what level is flag State control exercised in terms of administrative controls and checks? (e.g. logbook check against VMS and administrative checks, catch certificate verification includes physical inspection)	<p>USA: Under the Magnuson-Stevenson Act, the USA is entitled to board and inspect all vessels fishing in its water and U.S. vessels on the high seas. The Convention for the Conservation of Anadromous Stocks in the North Pacific Ocean also allows for boarding and inspection of vessels on the high seas. Through various RFMOs, the U.S. has introduced catch certification schemes and in 2016 the final rule for the Seafood Import Monitoring Programme was released which establishes record and reporting requirements for a number of species. However, this does not include smelt.</p> <p>Russia: In Russia, The Federal Agency for Fishery (FAF) cooperates with the Federal Security Service (FSB) through the Centre of Fishery Monitoring and Communications (CFMC) to meet MCS responsibilities, with the FSB conducting enforcement and inspections at sea and in port. All Russian and foreign fishing boats that fish in the inland sea waters, territorial sea, continental shelf and the EEZ of the Russian Federation are monitored by VMS and fishers are obliged to register catch and landings and report on fishing activities through daily catch reports and log books. Official bodies of control are allowed to request catch documents for verification, detain citizen for violation of mandatory requirements, inspect vessels, or tools for fishing and seize them if necessary.</p>	<p>USA : http://www.nmfs.noaa.gov/ia/iuu/iuu_nation_alplan.pdf http://www.iuufishing.noaa.gov/RecommendationsandActions/RECOMMENDATION1415/FinalRuleTraceability.aspx</p> <p>Russia: http://www.fao.org/fishery/topic/18090/en http://www.fish.gov.ru/files/documents/documenty/federalnye_zakony/Federalnyj-zakon_166-FZ_ot_20-12-2004.pdf</p> <p>WWF (2008) Illegal fishing in arctic waters http://d2ouvy59p0dg6k.cloudfront.net/downloads/iuu_report_version_1_3_30apr08.pdf</p>	2.0
	How and to what level is flag State control exercised in terms of inspections on flag State vessels (at sea and in port)?	<p>The Magnuson-Stevens Act allows the US to board and inspect any vessel fishing in its waters as well as US vessels on the high sea.</p> <p>Russia: In Russia, The Federal Agency for Fishery (FAF) cooperates with the Federal Security Service (FSB) through the Centre of Fishery Monitoring and Communications (CFMC) to meet MCS responsibilities, with the FSB conducting enforcement and inspections at sea and in port. Fisheries inspectors are permanently based on foreign vessels but not on</p>	<p>USA: http://www.nmfs.noaa.gov/ia/iuu/iuu_nation_alplan.pdf</p> <p>Russia: http://www.fao.org/3/a-aj279e.pdf http://www.fish.gov.ru/files/documents/documenty/federalnye_zakony/Federalnyj-zakon_166-FZ_ot_20-12-2004.pdf</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		Russian vessels. State fisheries inspectors use patrol ships to also board vessels to inspect them. For commercial fishing that occurs in the inland seawaters, in the territorial sea, continental shelf and the EEZ of the Russian Federation, fish (and fish products) are to be delivered to seaports in the Russian Federation or in other places determined by the Russian Federation Government. Official bodies of control are allowed to inspect vessels, or tools for fishing and seize them if necessary. The level to which these measures are employed however, is unknown.	https://portals.iucn.org/library/sites/library/files/documents/Traf-065.pdf	
	How and to what level is flag State control exercised in terms of remote surveillance (e.g. aerial surveillance, VMS and AIS)?	<p>USA: The USA VMS system is comprised of five sub-programmes in different administrative divisions within NOAA's Fisheries Service. All programmes are connected via a central data base and to the U.S. Coast Guard. According to NOAA the VMS program currently monitors more than 4,000 vessels. The type of fishing vessels which are monitored though is unknown. From March 2016 owners and operators of most U.S flag and foreign commercial vessels operating in US waters were required to install and use AIS.</p> <p>Russia: All Russian and foreign fishing boats that fish in the inland sea waters, territorial sea, continental shelf and the EEZ of the Russian Federation are monitored by VMS. Aerial patrolling of the Russian EEZ is also undertaken to monitor IUU. For vessels that are allowed to fly under the Russian Federation flag they are equipped with the technology to allow transmit information in relation to vessel location. Technical means of control is mandatory for fishing vessels with an engine with a capacity of more than 55 kilowatts and a gross tonnages of more than 80 tonnes. Approximately 3,800 (3000 domestic and 800 foreign) vessels are monitored by Russian VMS but it is reported that Russian vessels sometimes switch off their VMS before entering neighbouring nations.</p>	<p>USA: http://www.fao.org/fishery/topic/18093/en http://www.aismandate.com/ais-mandates/ http://www.nmfs.noaa.gov/ole/about/our_programs/vessel_monitoring.html</p> <p>Russia: http://www.fao.org/fishery/topic/18090/en https://portals.iucn.org/library/sites/library/files/documents/Traf-065.pdf http://www.fish.gov.ru/files/documents/documenty/federalnye_zakony/Federalnyj-zakon_166-FZ_ot_20-12-2004.pdf</p> <p>Pramod <i>et al.</i> (2014) http://www.sciencedirect.com/science/article/pii/S0308597X14000918 http://www.sciencedirect.com/science/article/pii/S0308597X14000918</p>	0.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	How and to what level is flag State control exercised in terms of observer programmes?	<p>USA: USA: Observer coverage can range from 0%-200% in the USA and NOAA fisheries use fishery observers and at-sea monitors to collect data from US commercial fishing and processing vessels. Nothing is specified for smelt.</p> <p>Russian vessels do have observers but the level and extent of this for the scope of this RA is unknown. Nothing is specified for smelt.</p>	<p>USA: http://www.st.nmfs.noaa.gov/observer-home/ http://www.nmfs.noaa.gov/sfa/reg_svcs/Councils/ccc_2013/K_NMFS_EM_WhitePapers.pdf</p> <p>Russia: http://www.wwf.ru/resources/news/article/eng/12478</p>	2.0
3.9 Flag State Cooperation	Does the flag State work with neighbouring or regional States to enhance MCS in their own waters and fleets?	<p>USA: The U.S is a member of many bilateral and multilateral agreements for fisheries enforcement including agreements with nine Pacific Island and Five West African nations to help enforcement activities in those countries' EEZs. Under the Agreement on Mutual Fisheries Relations (1988), they cooperate with Russia on enforcement in the Bering Sea. The US also has several bilateral cooperative enforcement agreements to tackle the global IUU issue.</p> <p>Russia: Russia have signed a bi-lateral agreement with the USA to combat illegal fishing and shares its VMS data with ministries and agencies at the national and international level. NOAA and the U.S. Coast Guard work closely with enforcement agencies from Russia to enforce the North Pacific Anadromous Fisheries Commission.</p>	<p>USA: http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf http://www.nmfs.noaa.gov/ia/slider_stories/2017/01/2017biennialreport.pdf</p> <p>Russia: http://www.nmfs.noaa.gov/ia/agreements/bilateral_arrangements/russia/us_russia.html http://www.fao.org/fishery/topic/18090/en http://www.nmfs.noaa.gov/ia/slider_stories/2017/01/2017biennialreport.pdf</p>	1.0
	VMS sharing is implemented?	<p>USA: It is unknown if USA shares VMS data.</p> <p>Russia: Russia shares its VMS data with ministries and agencies at the national and international level.</p>	<p>Russia: http://www.fao.org/fishery/topic/18090/en</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
Average				1.35

5.9.2.4 Coastal State – USA and Russia (corruption, control systems in place)

There is no evidence of illegal smelt fishing in American or Russian waters but there are cases of IUU activity in relation to other species in these areas. While quota and licensing systems are in place in both coastal States, there are no measures that cover smelt and there is no information on the vessels that fish for them, increasing the risk of IUU activity. There is general information available on their MCS activities but the level to which this is exercised is often unknown and there are no measures specifically for smelt although transshipment of this species is unlikely.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
4.1 Is IUU fishing carried out / supported by fishing vessels operating in its maritime waters?	Has the coastal State been identified as a non-compliant State by the EU (yellow / red card)?	Russia and the USA have not been identified as a non-complaint state by the EU.		0.0
	Has the coastal State been identified as a “country of interest” within NOAA biennial reports?	Yes Russia was identified under Section 609 (IUU) for violating conservation measures and fishing without authorisation in 2014, 2015 and 2016.	http://www.nmfs.noaa.gov/ia/slider_stories/2017/01/2017biennialreport.pdf	1.0
	Has the coastal State been identified as having IUU fishing carried out in its waters? (NB: This may be identified by the coastal State itself, another State or by an RFMO).	USA: IUU fishing activities have occurred within the US EEZ but this is not in relation to smelt fishing. Russia: Crab and other species have been known to be caught illegally in Russian waters. There is no evidence of illegal smelt fishing.	USA: http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf Russia: http://www.nmfs.noaa.gov/ole/slider_stories/2013/enforcement-month-iuu.html http://www.europarl.europa.eu/sides/getAllAnswers.do?reference=P-2006-0377&language=IT	2.0
	Has the coastal State been identified as having IUU fishing carried out in its waters by fishing vessel of any State by an NGO or in scientific or press reports?	USA: Illegal fishing is known to have occurred in US domestic waters but not for smelt. Russia: Illegal fishing is known to be an issue in the Barents Sea, the western Bering Sea and the Sea of	USA: http://www.washingtonpost.com/wp-dyn/content/article/2011/02/01/AR2011020105531.html	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		Okhotsk in the Russian Far East but it is unknown whether this includes smelt. There are also reports of illegal transshipments directly to foreign ports of catches taken from Russian fishing grounds.	http://www.prnewswire.com/news-releases/us-gulf-fishermen-call-for-federal-action-against-foreign-illegal-fishing-300063629.html Pramod <i>et al.</i> (2014) Russia: http://d2ouvy59p0dg6k.cloudfront.net/downloads/iuu_report_version_1_3_30apr08.pdf Pramod <i>et al.</i> (2014)	
4.2 Corruption	What is the WB corruption index for the Coastal State? (see WB Governance Indicators). Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.	The USA has a very high governance indicator in the top 10%. Alternatively, Russia is in the bottom 20% with a control of corruption score of 19%.	http://info.worldbank.org/governance/wgi/#home	1.5
4.3 Vessel Registration and Licensing	Are all fishing vessels fishing in the coastal State required to have a licence? (NB: Are there reports of proportion of vessels unlicensed (both national and international)?)	USA: US vessels fishing on the high sea must have a permit. All vessels over 5 tonnes that are owned by a U.S citizen or corporation must be registered federally. Those less than 5 tonnes must be registered by individual States of the U.S. Russia: A licence/permit is required to be carried on board fishing vessels. Vessels flying the Russian Federation flag must be registered with the State Register of Ships.	USA: http://www.nmfs.noaa.gov/ia/permits/highseas.html Russia: http://www.fao.org/docrep/v9982e/v9982e3h.htm	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
			http://www.maritimeadvocate.com/ship_registration/on_the_register/ship_registration_in_russia.htm	
	Is there a licensing and quota allocation system in place? Is this system clear and transparent?	USA: The US has several catch share programmes which allocate a share of quotas to individuals or groups to harvest a fixed amount of fish. There is no quota allocation of licensing system for smelt. Russia: Total permissible catches in inland waters, in the territorial sea, the continental shelf and the EEZ of the Russian Federation are allocated on an annual basis approved by the federal executive body in the region. There is no quota allocation of licensing system for smelt.	USA: https://www.st.nmfs.noaa.gov/Assets/economics/catch-shares/documents/Catch_Shares_Report_ExecSumm.pdf Russia: http://www.fish.gov.ru/files/documents/documenty/federalnye_zakony/Federalnyj-zakon_166-FZ_ot_20-12-2004.pdf	1.0
	Is there a public list of licensed / authorised vessels?	Due to limited data this is not available for the scope of this RA.	No data available.	3.0
4.4 Fair transparent fisheries agreements	Are fair transparent fisheries agreements in place with DWFNs?	No agreements for smelt have been defined	No information available.	0.0
	Are the details of these agreements public?	n/a	No information available.	0.0
4.5 Sanctions	Are sanctions enforced?	The USA apprehends and prosecutes foreign flag vessels that undertake IUU activities in its waters. Those who conduct prohibited acts are liable for a civil penalty which can be up to USD\$100,000 for each violation. Permit sanctions and civil forfeitures can also be imposed and a criminal offence can be punishable by a fine of up to USD\$200,000 and/or up to 10 years imprisonment. Russia: For illegal fishing a fine of 300 thousand to 500 thousand Roubles or the salary or other income for a period of two to three years, or correctional labour for up to two years or imprisonment for the same period.	USA: http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf http://www.nmfs.noaa.gov/sfa/laws_policies/msa/documents/msa_amended_2007.pdf Russia: http://fishnews.ru/news/28885	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Relative level of sanctions vs level of IUU fishing.	<p>In the US offences relating to fisheries non-compliance can result in criminal prosecutions. Offences relating to fisheries compliance can result in significant criminal offences as well as temporary and permanent loss of license agreements, although there has been some criticism that in some cases, sanctions are not adequate to ensure deterrence.</p> <p>In Russia, levels of enforcement and sanctions have been much improved in recent years and include strengthened sanctions, confiscations and quota cancellations. Fishing licenses may be revoked and quotas confiscated in cases of violations. Repeated offences can also lead to the total termination of the fishing rights.</p>	<p>Department of State, 2004 OECD, 2010 OLE, 2016 Teleteskey, 2015</p>	1.0
4.6 RFMO	Membership: Are they a Member of the relevant RFMOs?	<p>Russia and USA are both members of the North Pacific Anadromous Fish Commission (NPAFC).</p> <p>There is no RFMO specifically for smelt.</p> <p>The USA and Russia participate in a number of other RFMOs in the waters that their fleets fish.</p>	<p>http://www.nmfs.noaa.gov/ia/agreements/regional_agreements/pacific/npafc.pdf</p>	0.0
	Compliance: is the coastal State compliant with all RFMO requirements and data submissions?	<p>Unknown. No record of compliance provided by NPAFC.</p> <p>A Russian flagged vessel was apprehended in 1999 for illegally fishing for salmon in the NPAFC Convention Area.</p> <p>There is no indication that the coastal States are not compliant with the requirements of RFMOs.</p>	<p>http://www.npafc.org/new/about/Apprehended%20(Web2014).pdf</p>	0.0
	Engagement: Does the coastal State submit additional information / papers to RFMO and actively	<p>Russia and USA appear to provide reports to NPAFC and to other RFMOs of which they are Members.</p>	<p>http://www.npafc.org/new/pub_annualreport.html</p>	0.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	participate in scientific and compliance committee meetings?			
4.7 Multi-lateral agreements e.g. FAO Guidelines or UNCLOS	<p>Is the coastal State a contracting/cooperative non-member party to multi-lateral agreements e.g. UNCLOS, UNFSA, FAO Agreements?</p> <p>Implementation of the provisions of the Convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks</p>	<p>UNCLOS: Russia</p> <p>UNFSA: USA and Russia</p> <p>Compliance Agreement: USA.</p> <p>FAO Agreement: USA.</p>	<p>http://www.un.org/depts/los/reference_files/chronological_lists_of_ratifications.htm</p> <p>http://www.fao.org/fileadmin/user_upload/legal/docs/012s-e.pdf</p>	1.5
4.8 NPOAs (IUU + others)	Is there a specific National Plan of Action (NPOA) in place to combat IUU in the coastal State?	<p>USA has a NPOA IUU which is publically available.</p> <p>Russia adopted an NPOA IUU in 2013 but there is no other information available on it.</p>	<p>USA : http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf</p> <p>Russia : Russian Far East Crab, Fishery Improvement Project – Archived (November 2016)</p>	1.5
4.9 Coastal State Control	How and to what level is control exercised in the coastal State in terms of administrative controls and checks? (e.g. logbook check against VMS and administrative checks including validation of catch certificates)	<p>USA: The USA VMS system is comprised of five sub-programmes in different administrative divisions within NOAA's Fisheries Service. All programmes are connected via a central data base and to the U.S. Coast Guard. From March 2016 owners and operators of most U.S flag and foreign commercial vessels operating in US waters were required to install and use AIS. Through various RFMOs, the U.S. has introduced catch certification schemes and in 2016 the final rule for the Seafood Import Monitoring Programme was released which establishes record and reporting requirements for a number of species however, smelt is not included in this.</p> <p>Russia: All Russian and foreign fishing boats that fish in the inland sea waters, territorial sea, continental</p>	<p>USA:</p> <p>http://www.fao.org/fishery/topic/18093/en</p> <p>http://www.aismandate.com/ais-mandates/</p> <p>http://www.iuufishing.noaa.gov/RecommendationsandActions/RECOMMENDATION1415/FinalRuleTraceability.aspx</p> <p>Russia:</p> <p>http://www.fao.org/fishery/topic/18090/en</p>	1.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>shelf and the EEZ of the Russian Federation are monitored by VMS but the extent to which this is carried out is unknown. Fishers are obliged to register catch and landings and report on fishing activities through daily catch reports and log books. Official bodies of control are allowed to request catch documents for verification, detain citizen for violation of mandatory requirements, inspect vessels, or tools for fishing and seize them if necessary. All catch from within the Russian Federation's EEZ will be subject to custom procedures. The level to which this is exercised is unknown.</p> <p>Through various RFMO's to which Russia and USA are members (e.g. ICCAT) there are certain binding measures that enforce the identification of and action against IUU vessels.</p>	<p>WWF (2008) Illegal fishing in arctic waters http://d2ouvy59p0dg6k.cloudfront.net/downloads/iuu_report_version_1_3_30apr08.pdf</p> <p>http://www.fish.gov.ru/files/documents/documenty/federalnye_zakony/Federalnyi-zakon_166-FZ_ot_20-12-2004.pdf</p> <p>http://awsassets.panda.org/downloads/iuu_fs_web.pdf</p> <p>http://www.noaanews.noaa.gov/stories2010/20101013_fishing.html</p>	
	How and to what level is control exercised in the coastal State in terms of inspections on vessels at sea and in port?	<p>USA: The Magnuson-Stevens Act allows the US to board and inspect any vessel fishing in its waters as well as US vessels on the high sea. To what level this control is exercised is unknown.</p> <p>Russia: Official bodies of control are allowed inspect vessels, or tools for fishing and seize them if necessary but how and to what level is unknown.</p>	<p>USA: http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf</p> <p>Russia: http://www.fish.gov.ru/files/documents/documenty/federalnye_zakony/Federalnyi-zakon_166-FZ_ot_20-12-2004.pdf</p>	2.0
	How and to what level is control exercised in the coastal State in terms of remote surveillance (e.g. aerial surveillance, VMS and AIS)?	<p>USA: The USA VMS system is comprised of five sub-programmes in different administrative divisions within NOAA's Fisheries Service. All programmes are connected via a central data base and to the U.S. Coast Guard. According to NOAA the VMS program currently monitors more than 4,000 vessels. From March 2016 owners and operators of most U.S flag and foreign commercial vessels operating in US waters were required to install and use AIS. The level to which this is exercised is unknown.</p>	<p>USA: http://www.fao.org/fishery/topic/18093/en http://www.aismandate.com/ais-mandates/ http://www.nmfs.noaa.gov/ole/about/our_programs/vessel_monitoring.html</p> <p>Russia: http://www.fao.org/fishery/topic/18090/en</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		Russia: All Russian and foreign fishing boats that fish in the inland sea waters, territorial sea, continental shelf and the EEZ of the Russian Federation are monitored by VMS. Aerial patrolling of the Russian EEZ is also undertaken to monitor IUU. Approximately 3,800 (3000 domestic and 800 foreign) vessels are monitored by Russian VMS but it is reported that Russian vessels sometimes switch off their VMS before entering neighbouring nations.	https://portals.iucn.org/library/sites/library/files/documents/Traf-065.pdf	
	How and to what level is control exercised in the coastal State in terms of observer programmes?	USA: NOAA fisheries use fishery observers and observer coverage can range from 0%-200%. Coverage in smelt fisheries is unknown but likely to be zero as no mention of direct observation has been found. Russian vessels do have observers but the level and extent of this for the scope of this RA is unknown. Fisheries inspectors are permanently placed on foreign vessels as observers but not on Russian vessels. No mention of direct observation has been found in Russian smelt fisheries.	USA: http://www.nmfs.noaa.gov/sfa/reg_svcs/Councils/ccc_2013/K_NMFS_EM_WhitePapers.pdf http://www.st.nmfs.noaa.gov/observer-home/ Russia: http://www.wwf.ru/resources/news/article/eng/12478 https://portals.iucn.org/library/sites/library/files/documents/Traf-065.pdf	2.5
4.10 Coastal State Cooperation	Does the coastal State work with neighbouring or regional States to enhance MCS in their own waters and fleets?	USA: The U.S is a member of many bilateral and multilateral agreements for fisheries enforcement including agreements with nine Pacific Island and Five West African nations to help enforcement activities in those countries' EEZs. Under the Agreement on Mutual Fisheries Relations (1988), they cooperate with Russia on enforcement in the Bering Sea. Russia: Russia have signed a bi-lateral agreement with the USA to combat illegal fishing and shares its VMS data with ministries and agencies at the national and international level. NOAA and the U.S. Coast Guard work closely with enforcement agencies from Russia to	USA: http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf http://www.nmfs.noaa.gov/ia/slider_stories/2017/01/2017biennialreport.pdf Russia: http://www.nmfs.noaa.gov/ia/agreements/bilateral_arrangements/russia/us_russia.html http://www.fao.org/fishery/topic/18090/en http://www.nmfs.noaa.gov/ia/slider_stories/2017/01/2017biennialreport.pdf	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		enforce the North Pacific Anadromous Fisheries Commission.		
4.11 Transhipment	Is transhipment allowed in coastal State or RFMO waters and is observation required through an RFMO programme or by coastal States for their own waters?	<p>USA: At-sea transhipments in coastal State waters are allowed if authorised by that coastal State, or undertaken in conformity with appropriate management regulations. However, transhipment between U.S fisheries largely goes unchecked, and is only prohibited in certain fisheries. It is unlawful for vessels of the U.S. to transfer at sea directly or indirectly to any U.S harvested fish to a foreign vessel, while it is in the EEZ or within the boundary of any State unless it has been permitted.</p> <p>Russia: Transhipment of coastal catches is prohibited as mandated by the changes made to the 2004 Fisheries Act.</p> <p>Transhipment of smelt very unlikely.</p>	<p>USA: http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf http://www.nmfs.noaa.gov/sfa/laws_policies/msa/documents/msa_amended_2007.pdf</p> <p>Russia: https://www.sustainablefish.org/Programs/Improving-Wild-Fisheries/Seafood-Sectors-Supply-Chain-Roundtables/Crab/Russian-Far-East-Crab-SR</p>	1.0
Average				1.17

5.9.2.5 Port State – USA and Russia (control systems in place, PSMA provisions in place)

The port States under assessment are the same flag and coastal States assessed above. There are reports of illegal fish being imported or landed in both States however, both countries have port control measures in place to control IUU activities. As the specific ports used to land smelt are unknown, the risk score has been increased and although transhipment of this species is unlikely there is no information available to determine risk.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
5.1 Are the products of IUU fishing	Has the port State been identified as a non-compliant State by the EU (yellow / red card)?	Russia and the USA have not been identified as a non-complaint state by the EU.		0.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
landed in the port State?	Has the port State been identified as a “country of interest” within NOAA biennial reports?	Of the port States involved in the fishery under assessment, Russia has recently been identified by NOAA in its 2017 report to congress for violations of CCAMLR CMMs in 2014, 2015, and 2016, although this was not specific to port State controls.	http://www.nmfs.noaa.gov/ia/slider_stories/2017/01/2017biennialreport.pdf	1.0
	Has the port State been identified as having IUU fish landed in its ports? (NB: This may be identified by the port State itself, another State or by an RFMO).	USA: Not by the State or an RFMO and is unlikely. Russia: Not by the State of an RFMO but the remoteness of some Russian ports may make it more likely for IUU to be landed.	Personal experience of assessment team and NPAFC, 2015	0.0
	Has the port State been identified as having IUU fish landed in its ports by fishing vessel of any State by an NGO or in scientific or press reports?	USA: There are incidences of illegal and unreported catches being imported into the USA but it is unknown whether smelt is included within this. Russia: No information can be found but a regulation states that fish caught outside the 12 nautical mile of the Russian shore is not allowed to be landed in Russian ports, reducing the likelihood of illegal landings.	Clarke; 2007a; 2007b Clarke and Hosch, 2013 Marine Conservation Institute, 2014 Petrosian <i>et al.</i> 2014 Pramod <i>et al.</i> (2014) http://www.noaanews.noaa.gov/stories2010/20101013_fishing.html http://www.seaaroundus.org/doc/publications/wp/2015/Sobolevskaya-and-Divovich-Russia-Far-East.pdf	3.0
5.2 Corruption	What is the WB corruption index for the port State? (see WB Governance Indicators). Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.	The USA has a very high governance indicator in the top 10%. Alternatively, Russia is in the bottom 20% with a control of corruption score of 19%.	http://info.worldbank.org/governance/wgi/#home	1.5
5.3 Sanctions	Are sanctions enforced for port related activities?	In Russia, sanctions are enforced and information on these are available in the FAF website, as well as through 3 rd party reports (e.g., NOAA, MSC fisheries certification report).	USA: http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		In the case of the US, sanctions are enforced and information on this is publicly available.		
	Are the sanctions enforced relative to the level of IUU fishing?	<p>In the US offences relating to fisheries non-compliance can result in criminal prosecutions. Offences relating to fisheries compliance can result in significant criminal prosecutions as well as temporary and permanent loss of license agreements, although there has been some criticism that in some cases, sanctions are not adequate to ensure deterrence.</p> <p>In Russia, levels of enforcement and sanctions have been much improved in recent years and include strengthened sanctions, confiscations and quota cancellations. Fishing licenses may be revoked and quotas confiscated in cases of violations. Repeated offences can also lead to the total termination of the fishing rights.</p>	Department of State, 2004 OECD, 2010	1.0
5.4 RFMO	Membership: Is the port State a Member of the relevant RFMOs?	Russia and USA are both members of the North Pacific Anadromous Fish Commission (NPAFC). There is no RFMO specifically for smelt but Russia and the USA are members of several other RFMOs.	http://www.nmfs.noaa.gov/ia/agreements/regional_agreements/pacific/npafc.pdf	1.0
	Compliance: is the port State compliant with all RFMO requirements and data submissions?	<p>Unknown. No record of compliance provided by NPAFC.</p> <p>A Russian flagged vessel was apprehended in 1999 for illegally fishing for salmon in the NPAFC Convention Area.</p>	http://www.npafc.org/new/about/Apprehended%20(Web2014).pdf	1.0
	Engagement: Does the port State submit additional information / papers to RFMO and actively participate in scientific and compliance committee meetings?	Russia and USA appear to provide reports to NPAFC.	http://www.npafc.org/new/pub_annualreport.html	0.0
5.5 Multi-lateral agreements e.g.	Is the port State a contracting/cooperative non-member party to multi-lateral	<p>UNCLOS: Russia</p> <p>UNFSA: USA and Russia</p>	http://www.un.org/depts/los/reference_files/chronological_lists_of_ratifications.htm	1.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
FAO Guidelines or UNCLOS	<p>agreements e.g. PSMA, UNCLOS, UNFSA, FAO Agreements?</p> <p>Has the FAO Port State Measures Agreement been signed, acceded or implemented?</p> <p>Implementation of the provisions of the Convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks</p>	<p>Compliance Agreement: USA.</p> <p>FAO Agreement: USA.</p>	<p>http://www.fao.org/fileadmin/user_upload/legals/docs/012s-e.pdf</p>	
5.6 NPOAs (IUU + others)	Is there a specific National Plan of Action (NPOA) in place to combat IUU in the port State?	<p>USA has a NPOA IUU which is publically available.</p> <p>Russia adopted an NPOA IUU in 2013 but there is no other information available on it.</p>	<p>USA : http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf</p> <p>Russia : Russian Far East Crab, Fishery Improvement Project – Archived (November 2016)</p>	1.5
5.7 Port State Control	How and to what level is control exercised in the port State in terms of administrative controls and checks? (e.g. logbook check against VMS and administrative checks including validation of catch certificates)	<p>USA: Foreign vessel seeking to enter a U.S. port must first provide notice to the Coast Guard. If the vessel is listed on an IUU list, it will be determined whether entry will be denied or whether certain restrictions should be imposed. Foreign vessels seeking to enter a U.S port are not required to have logbooks. The USA promotes the use of catch documentation and certification schemes in cooperation with relevant RFMOs. The extent to which these procedures are carried out is unknown.</p> <p>Russia: All Russian and foreign fishing boats that fish in the inland sea waters, territorial sea, continental shelf and the EEZ of the Russian Federation are monitored by VMS but the extent to which this is carried out is unknown. Fishers are obliged to register catch and landings and report on fishing activities through daily catch reports and log books. Official bodies of control are allowed to request catch documents for</p>	<p>USA: http://www.noaanews.noaa.gov/stories2010/20101013_fishing.html</p> <p>http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf</p> <p>Russia: http://www.fao.org/fishery/topic/18090/en</p> <p>WWF (2008) Illegal fishing in arctic waters http://d2ouvy59p0dg6k.cloudfront.net/downloads/iuu_report_version_1_3_30apr08.pdf</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		verification, detain citizen for violation of mandatory requirements, inspect vessels, or tools for fishing and seize them if necessary. The extent to which these procedures are carried out is unknown. In 2008 Russia mandated that all catch on board a vessel, must be checked in a Russian port for customs clearance and documentation.	http://www.fish.gov.ru/files/documents/documenty/federalnye_zakony/Federalnyj-zakon_166-FZ_ot_20-12-2004.pdf WWF (undated) Illegal Russian Crab. An investigation of Trade Flow. https://c402277.ssl.cf1.rackcdn.com/publications/733/files/original/WWF_Illegal_crab_report_final_15_Oct_2014.pdf?1413407573	
	How and to what level is control exercised in the port State in terms of inspections on vessels in port?	USA: Foreign vessels are normally prohibited to land or tranship fish in U.S. ports, except for a few ports located in insular territories, or when special agreements are in place. The NOAA's Office of Law Enforcement boards approximately 60% of foreign flagged fishing vessels and fishing support vessels that land in U.S ports. Russia: According to Russian legislation, all catches have to be delivered to a Russian port where the Federal Customs Agency may inspect landings both for domestic or export purposes. However, transparent information on the percentage of inspections is not readily available. Official bodies of control are allowed to inspect vessels, or tools for fishing and seize them if necessary but the level to which this is carried out is unknown.	USA: http://www.fao.org/3/a-y3536e/y3536e09.htm#fnB76 http://www.nmfs.noaa.gov/ole/about/implementing_psma_faq.html Russia: http://www.fish.gov.ru/files/documents/documenty/federalnye_zakony/Federalnyj-zakon_166-FZ_ot_20-12-2004.pdf	1.5
	How and to what level is control exercised in the port State in terms of vessel monitoring (e.g. notification of port entry, VMS and AIS)?	USA: Foreign vessels must provide prior notice to the U.S. Coast Guard if they wish to enter a U.S port. According to NOAA the VMS program currently monitors more than 4,000 vessels. The information received will also be passed on to the NOAA's Office of Law Enforcement so that the vessel can be screened to determine whether it should be granted or	USA: http://www.noaanews.noaa.gov/stories2010/20101013_fishing.html http://www.nmfs.noaa.gov/ole/about/implementing_psma_faq.html	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>denied access. Vessel entry into a U.S. port can be denied if it is listed for engaging in IUU by one of the world's international fishery management organisations. From March 2016 owners and operators of most U.S flag and foreign commercial vessels operating in US waters were required to install and use AIS.</p> <p>Russia: It is mandatory for all catches to go through Russian Customs before export but the extent to which this occurs is unknown. Approximately 3,800 (3000 domestic and 800 foreign) vessels are monitored by Russian VMS but it is reported that Russian vessels sometimes switch off their VMS before entering neighbouring nations.</p>	<p>http://www.aismandate.com/ais-mandates/</p> <p>http://www.nmfs.noaa.gov/ole/about/our_programs/vessel_monitoring.html</p> <p>Russia: Pramod <i>et al.</i> (2014)</p>	
5.8 Port State Cooperation	Does the port State work with neighbouring or regional States to enhance MCS on vessels landing in their ports?	<p>USA: The U.S is a member of many bilateral and multilateral agreements for fisheries enforcement including agreements with nine Pacific Island and Five West African nations to help enforcement activities in those countries' EEZs. Under the Agreement on Mutual Fisheries Relations (1988), they cooperate with Russia on enforcement in the Bering Sea.</p> <p>Russia: Russia have signed a bi-lateral agreement with the USA to combat illegal fishing and shares its VMS data with ministries and agencies at the national and international level. NOAA and the U.S. Coast Guard work closely with enforcement agencies from Russia to enforce the North Pacific Anadromous Fisheries Commission.</p>	<p>USA: http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf</p> <p>http://www.nmfs.noaa.gov/ia/slider_stories/2017/01/2017biennialreport.pdf</p> <p>Russia: http://www.nmfs.noaa.gov/ia/agreements/bilateral_arrangements/russia/us_russia.html</p> <p>http://www.fao.org/fishery/topic/18090/en</p> <p>http://www.nmfs.noaa.gov/ia/slider_stories/2017/01/2017biennialreport.pdf</p>	1.0
5.9 Designated ports	Are the ports used appropriate in terms of location and size for particular fleets or species? NB: The ideal is for designated ports	There is no information on designated ports being used for specific species in Russia or the US.		3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	assigned to fleets and species to be used.			
5.10 Transhipment	Is transhipment allowed in port and is observation required through an RFMO programme or by port States for their own ports?	<p>USA: The US generally denies transhipments by foreign vessels in its ports, except for a few ports located in U.S. insular territories. Under the Magnuson –Stevens Act the Secretary of Commerce is allowed to issue a transhipment permit to authorise a vessel other than a U.S vessel to engage in fishing solely consisting of transporting fish or fish products from within in the U.S. EEZ or outside in concurrence of that State.</p> <p>There is no system in place for the authorisation of transhipment in Russia although certain ports have been authorised to receive transhipments in the Northeast Atlantic under NEAFC.</p>	<p>USA: http://www.fao.org/docrep/005/Y3536E/y3536e09.htm https://www.federalregister.gov/documents/2017/03/21/2017-05493/permits-foreign-fishing</p> <p>Japan: http://www.fao.org/docrep/v9982e/v9982e28.htm#japan</p> <p>Russia: http://www.fao.org/docrep/v9982e/v9982e3h.htm#russian%20federation https://www.megafishnet.com/news//2079.html</p>	2.5
Average				1.52

5.9.2.6 Market State – Japan - Traceability and national requirements

Japan is the sole market State in the fishery under assessment. The supply chain for smelt is unknown and therefore as a precautionary approach a higher risk of IUU activity has been scored. The large number of products imported in Japan also increases the potential risk of IUU. However due to Japan's high governance score the risk of IUU once it is within the supply chain is unlikely but more information would be needed to specifically determine the market State risk for smelt.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
6.1 Products of IUU fishing found in the final market State or within the States of the supply chain?	Has the market State or any of the States in the supply chain been identified as a non-compliant State by the EU (yellow / red card)?	Japan has not been identified by the EU IUU regulation yellow/red card system.	https://ec.europa.eu/fisheries/sites/fisheries/files/illegal-fishing-overview-of-existing-procedures-third-countries_en.pdf	0.0
	Has the market State or any of the States in the supply chain been identified as a “country of interest” within NOAA biennial reports?	Japan has not been identified by NOAA in any of its reports to congress.	NOAA, 2013; 2015; 2017 http://www.nmfs.noaa.gov/ia/iuu/iuu_overview.html	0.0
	Has the market State or any of the States in the supply chain been identified as having IUU fish landed in its ports? (NB: This may be identified by the port State itself, another State or by an RFMO).	In Japan there are no reports of illegal fish being landed in its ports by RFMO or State sources.	Personal experience	0.0
	Has the market State or any of the States in the supply chain been identified as having IUU fish landed in its ports by fishing vessel of any State by an NGO or in scientific or press reports?	Some limited illegal fishing is known to occur in Japanese waters that may be landed but as a percentage of the overall Japanese market this will be low in terms of volume and value.	Personal experience	1.0
6.2 Supply chain length, complexity and transparency	How many States and companies are in the supply chain?	The supply chain in this RA is unknown.	No data available.	3.0
	How many different companies and transfers of ownership, amount of processing?	The supply chain in this RA is unknown.	No data available.	3.0
	Is the chain publically known and transparent?	The supply chain in this RA is unknown.	No data available.	3.0
6.3 High risk points in the supply chain	Are the ports in the supply chain (after the port of first landing) known or suspected PONCS and do the ports used have well documented and effective port control and inspection?	The ports in the supply chain are not specifically known. However, Japan is not recognised as a PONC or port.	Petrossian <i>et al.</i> , 2014	0.0
	Does processing occur in locations that seem out of context (e.g. locations with no history of processing, high costs incurred for transport, high cost of processing) or	The location of smelt processing is unknown but seafood processing in Japan has decreased as it has moved to other Asian countries including China, Vietnam and Thailand. Canadian seafood products are also often processed to some degree before export.	http://www.agr.gc.ca/resources/prod/Internet-Internet/MISB-DGSIM/ATS-SEA/PDF/6770-eng.pdf	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	with history of laundering IUU catches?			
6.4 Corruption	<p>What is the WB corruption index for the port State? (see WB Governance Indicators).</p> <p>Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.</p>	Japan- 91%. This high governance score suggests that illegal actions once in the supply chain would be unlikely in Japan.	WBGi 2016	0.0
6.6 Post landing inspections	Performance of spot audits at key transport hubs and border inspection points?	There is no information on spot audits being carried out at key transport hubs and BIPs. However, there are clear indicators this does occur, at least in the tuna industry, with a consignment if tuna being refused entry.	DGIPOL, 2013 Fisheries Agency of Japan, 2004 http://www.oecd.org/agriculture/ http://www.jfa.maff.go.jp/e/index.html	2.0
	Are inspections carried out on the fish after landings e.g. by customs, BIPs and in transit?	When a consignment arrives at a Japanese port a 'Notice of Customs Clearance' is sent to the addressee from a customs office and a customs clearance procedure is initiated. In some cases a health and sanitary certificate must also accompany the import notification form. Food is then quarantined and inspected to ensure it complies with Food Sanitation Law. Consignments with a past record of non-compliance will often require further examination. Some fish require approval for import prior to customs clearance procedures (e.g. those governed by import quotas or by international conventions or agreements).	http://www.fao.org/docrep/008/y5924e/y5924e06.htm	1.5
6.6 Independent Verifications	Is supply chain MSC CoC certified?	As the supply chain is not known this is undetermined.	No MSC CoC in the supply chain.	3.0
	Non-MSC Supply chain and traceability audits (due diligence) conducted?	Marine Eco-Label (MEL) Japan is a seafood certification scheme. Distributing organisations wishing to handle products from MEL-Japan certified fisheries can voluntarily apply for chain of custody certification. It is unknown if this covers smelt.	ftp://ftp.fao.org/fi/DOCUMENT/COFI/cofift13/5e.pdf	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
6.7 CDS / CC certification	Do catch documentation schemes exist for the species?	In compliance with international fishery organisations, Japan has implemented documentation schemes but these only cover several tuna and toothfish species.	https://www.oecd.org/tad/fisheries/34429748.pdf	3.0
6.8 Processing or transshipment vessels involved in market chain.	If transshipment or processing onboard a Klondiker or mother vessels is allowed (licensed) in the fishery, are the Klondiker and transshipment (reefer) vessels on the relevant whitelists (authorised) or blacklists (IUU)?	There was no information on whether processing vessels are used in the supply chain.	No evidence of Klondikers in the fishery.	3.0
	Are there independent observer programmes on non-fishing vessels?	There are no independent observer programmes on non-fishing vessels, although there are no support vessels in the fishery and transshipment at sea is illegal.	NPAFC, 2015 Information from the client.	3.0
Average				1.88

5.9.3 Recommendations

5.9.3.1 *Fishing vessels, legal personalities and companies*

- Information is required on the fishing vessels, legal personalities and companies involved in all stages throughout the supply chain to provide a more accurate assessment of individual supply chains entering the Japanese market.

5.9.3.2 *Fisheries*

- Clarification of the species name (smelt is often used as a common name for different species e.g. great silver smelt which is actually an argentine).
- Information is required on the specific fisheries sourced that supply Japan.
- Stock assessments should be undertaken to determine status of fisheries.
- Wherever possible, MSC certified products should be sourced through MSC CoC certified supply chains.
- Engage in working towards MSC certification.
- More information is required on licensing/permit systems for smelt.

5.9.3.3 *Flag State*

- Complete vessel and fisher identification, including license and registration, as well as any unique vessel identifiers should be obtained for all product sourced. As all of the flag States involved have the capability to produce a catch certificate, a catch certificate should be obtained in all cases, and accompany the product.
- Regular forensic audits of the supply chain should be carried out and include administrative checks of the catching vessels. The case where any product is sourced from another coastal State, detailed information on the nature of the agreement should be obtained.
- Level and extent of flag State control is largely unknown and therefore more information is required.
- Lists of authorized vessels should be made public to allow a more detailed risk assessment.

5.9.3.4 *Coastal State*

- Forensic audits of the supply chain should be tiered to ensure higher risk coastal States, i.e. Russia, are examined in more detail. Furthermore, these audits should provide reassurances that catch was not obtained from the high seas.
- Further information should be collected on the implementation of coastal State controls, for example the level of observers.
- Lists of authorized vessels should be made public to allow a more detailed risk assessment.

5.9.3.5 *Port State*

- Where possible, engage Russia to ratify the PSMA.
- Further information should be collected on the implementation of port State controls.
- Designated ports for smelt should be known to conduct more detailed risk assessment.

5.9.3.6 Market State

- Ensure all product is accompanied by a catch certificate, as well as any accompanying documentation, notably transportation and transformation (processing).
- Obtain a list of all possible intermediary companies and States involved in the supply of product.
- Carry out regular forensic audits of the supply chain, examining any links in custody, and the associated companies and States.
- Ensure requirements for a clear and transparent supply chain are communicated throughout the chain of custody.
- Wherever possible, source smelt direct from the supplier, or with limited supply chain complexity.

NB: It should be noted that the IUU risk assessment carried out is limited in scope, analysing the risk that IUU fish may enter the supply chain from a particular fishery. It does not analyse the individual supply chains present and this would require a traceability assessment to be carried out which has not been done in this case.

5.10 Tanner crabs

5.10.1 Executive Summary

The IUU risk assessment is designed to provide an estimate of the potential for IUU catch to enter a particular supply chain, identify potential risks in the supply chain from the fishery through to the market place and to then identify where interventions are possible to reduce and minimise this risk. It will not be able to indicate the level of risk that occurs once a fishery has entered the supply chain and it is recommended that a traceability benchmarking assessment or similar review of the supply chain is conducted to evaluate this risk.

This risk assessment was carried out for tanner crab nei that are sourced from the Atlantic northwest, the Pacific Northwest and the Pacific Northeast using a mixture of pots, traps and trawls (bycatch). The USA, Russia and Japan are thought to be the main flag and coastal states involved in the catching of tanner crabs, primarily in the Bering Sea and the Russian Far East fishery. Tanner crab is often misrepresented as snow crab in markets which can reduce traceability and may affect the accuracy of the data compiled. Where possible the evidence presented relates to tanner crab, but there may be incidences of misrepresentation which can lead to over or under reporting of IUU activity.

As the vessels involved in sourcing tanner crab for the Japanese markets is unknown there is little information that can be obtained in relation to vessel or company identification. There is general information available for American fleets tanner, however this is not specifically in relation to those who catch crab and there is little information on Russia or Japan. Due to a lack of information and as Russian vessels have a history of IUU fishing and have been listed on the combined IUU list, a conservative approach was taken and the risk was scored higher.

While the exact fisheries that supply Japan are not known, they could come from the Bering Sea and Aleutian Islands fishery and the Russian Far East fishery basin, which covers the waters used by America, Russian and Japanese fleets and therefore were used in this assessment. The fisheries are well managed by USA and Russia including the use of quotas and licences are required to fish in both areas. The stock in the east Bering Sea is also not currently overfished according to a recent stock assessment (2016). Information in relation to Japan however, is sparse and therefore little is known about the impact of Japanese fleets on tanner crab fisheries although there are size restrictions imposed on landing tanner crabs in Japan. However, due to a lack of specific information the score was marked higher.

None of the flag States within this risk assessment have been carded according to the EU system however, Russia is identified in the NOAA biennial reports for fishing without authorisation and for violating conservation measures but this was not for crab fishing. In general all three Flag States have a registration and licensing system in place for fishing vessels and work in cooperation with other States and RFMOs, as well as participate in international agreements, to prevent and deter IUU activity. Although the type of Flag State control that is exercised has been identified (e.g. VMS, inspections etc.) the level to which this is actually imposed is unknown and therefore the score was increased to account for unknown risk.

Illegal fishing is known to have occurred in the USA, Russia and Japan's EEZs, including IUU activity concerning crab species. All three Coastal States do have control systems in place, monitor activities within their waters and impose sanctions for violation of fisheries law but the extent and level to which these are actually imposed is unknown. There is also a high level of cooperation between all three States, via various bilateral agreements, to deter and eliminate IUU fishing which suggests that IUU activity is restricted although there is still a lack of information available.

There are incidences of IUU fish being landed in Japan and the USA however, this has not been identified by the State or by an RFMO and no information can be found on illegal landings in Russian ports. Japan and the USA has high governance levels and although Russia has a lower level of governance it has controls and checks in place to monitor landings in its ports. Of these three port States only USA is a participant of the Port State Measures Agreements indicating that there could be further improvement in measures to address IUU landings.

Japan is the sole market State in this risk assessment. IUU products have been reported to have been imported into Japan and the sheer volume of imports that it receives could potentially increase the risk of IUU. As the supply chain of tanner crab entering the Japanese market is unknown, it cannot be determined what the exact risk of IUU activities are but based on previous incidences of IUU activity involving crab species by the States under assessment (mainly Russia) the risk is higher. However, Japan has a high governance score which suggests that once the product is in the supply chain, illegal actions are unlikely.

Table 22 Average score (Tanner crabs) for the six key areas in the risk assessment.

Key risk areas:	Score
Fishing vessels, legal personalities and companies	2.29
Fisheries – Russia, USA, Japan	1.88
Flag State – Russia, USA, Japan	1.31
Coastal State – Russia, USA, Japan	1.22
Port State – Russia, USA, Japan	1.58
Market State – Japan	1.81
Average	1.68

Key:

Colour	Min	Max	Risk	Description
	>0.0	<=0.6	No or minimal risk	Little or no action required
	>0.6	<=1.1	Very low risk	Some minor actions may be required, but risk level is very low
	>1.2	<=1.8	Low	Risk level is low, but some particular elements may require mitigating measures to be put in place.
	>1.8	<=2.4	Medium	Medium level of risk. Particular scoring elements may need to be addressed and mitigated against.
	>2.4	<=3.0	High risk	High level of risk. One or more elements have substantial risks associated with them. Scores of this level may suggest sourcing from a different fishery.

5.10.2 Identification

This risk assessment addresses the following scope:

Table 23 Identification of scope of the IUU risk assessment.

Species	Tanner Crabs nei (<i>Chionoectes</i> spp.)	ASFIS Code: PCR
Area	FAO 21, 61 AND 67	
Gear	Pots, traps (directed) and trawls (bycatch)	
Fleet	Russian, Japanese, America	
Coastal States / RFMO:	Russia, USA, Japan	
Port State:	Russia, USA, Japan	
Market State:	Japan	

NB: There is common misidentification of tanner crab, and it is often reported as snow crab. As far as possible the evidence provided relates to tanner crab but there may be circumstances where misrepresentation has led to either over or under reporting of issues.

5.10.2.1 Fishing vessels, legal personalities and companies

A proportion of the tanner crab which enters the Japanese market is sourced by domestic vessels however, the USA (namely Alaska) and Russia provide large quantities of their catch to Japan as well. Information on American fleets is often well documented and publically available however, there is little public information on Russian and Japanese fleets which restricts further identification of potential IUU activity. Russian vessels have a history of IUU fishing and have been listed on the combined IUU list however, this was not for activities relating to tanner crab fishing.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
1.1 Vessel/Fisher Identification	Vessel identification e.g. vessel name, callsign, country registration number and national and RFMO authorisations to fish (either inside national waters or outside on the high seas or in other zones) is complete to enable identification.	USA: The State of Alaska imposes vessel registration, licenses and permits as part of tanner crab management system. For certain species and fisheries of tanner Crab (Aleutian Islands tanner crab fishery, triangle tanner crab and grooved tanner crab) fishing vessels are required to participate in the License Limitation Programme, which is listed on the NOAA website. Other fisheries of tanner crab are covered by the Crab Regionalisation Programme which applies quotas so information may be available	USA: https://www.afsc.noaa.gov/Education/factsheets/10_bairdi_Fs.pdf https://alaskafisheries.noaa.gov/sites/default/files/finalrules/70fr10174.pdf	2.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>via this. All American vessels and fixed gear that are being used for commercial fishing must be marked for identification purposes.</p> <p>No fleet identification is available for Russian or Japanese fleets. According to a newly adopted plan to deter and eliminate IUU, fishing vessels are required to be marked.</p>	<p>https://www.adfg.alaska.gov/static/regulations/fishregulations/pdfs/commercial/2015-2017_king_tanner_crab.pdf</p> <p>https://alaskafisheries.noaa.gov/permits-licenses?field_fishery_pm_value=License+Limitation+Program+%28LLP%29</p> <p>http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf</p> <p>Russia: http://www.seafish.org/media/publications/RussiaEthicsProfile_201509.pdf</p>	
	Are vessels required to have unique IDs?	As above	As above	2.5
	Are each vessel, captain(s), owner and beneficial owner and agent identified as far as possible, this should ideally be transparent?	<p>Unknown fleets for Russia and Japan, therefore this information is not available.</p> <p>Some information is available through the USA License Limitation Programme but only interested party is referenced. Through the Crab Regionalisation Programme Individual Fishing Quotas are allocated and so information may be available through this however, public information on this was not found.</p>	<p>USA: https://www.afsc.noaa.gov/Education/factsheets/10_bairdi_Fs.pdf</p> <p>https://www.afsc.noaa.gov/REFM/Socioeconomics/PDFs/5YearRev1210.pdf</p> <p>https://alaskafisheries.noaa.gov/permits-licenses?field_fishery_pm_value=License+Limitation+Program+%28LLP%29</p>	2.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
1.2 Vessels on IUU lists.	Are any of the vessels listed in the RA scope on the IUU Lists of RFMOS, (NGOs to be considered but not as clear evidence as evidential value to include is not of the required standard)?	Russia is listed on the combined IUU vessel list in 2015 and 2016 by the SPRFMO but not for tanner crabs. Japan and USA are not currently listed on the combined IUU vessel list.	http://iuu-vessels.org/iuu/iuu/search	1.5
	Are any of the legal personalities listed in the RA scope listed on the IUU lists of nationals and companies involved in IUU?	No legal personalities identified due to insufficient data on specific vessels in the supply chain.	http://www.eurocbc.org/page708.html	2.5
	Is there any evidence of unlicensed fishing occurring?	In 2003 five USA fishing vessels were under investigation for illegally harvesting tanner crabs in Russian EEZ. There is also evidence of Russian and other foreign-flagged vessels illegally fishing for crab species.	https://www.seafoodwatch.org/-/m/sfw/pdf/reports/c/mba_seafoodwatch_russian_far_east_crab_report.pdf http://d2ouvy59p0dg6k.cloudfront.net/downloads/wwf_illegal_crab_report.pdf	2.5
	Are all of the vessels listed on the RA scope listed on authorised (white) lists for RFMOs and/or national authorised lists?	No whitelist exists for tanner Crab. The USA has a Crab Regionalisation Programme which covers the main eight crab fisheries (including tanner crabs) which allocates Individual Fishing Quotas to harvesters so information may be available via this. For other fisheries excluded from the programme there is the Federal Crab License Limitation Program which limits the number of vessels allowed to fish certain fisheries of tanner crab. This list states which vessels currently hold a licence to fish for tanner crab. (Bearing sea tanner crab fishery west of 166° W long is closed 2016/2017). Russian and Japanese vessels for tanner crab are unknown.	USA: https://alaskafisheries.noaa.gov/sites/default/files/analyses/crabbio071800.pdf https://alaskafisheries.noaa.gov/sites/default/files/finalrules/70fr10174.pdf http://www.adfg.alaska.gov/static/applications/dcfnewsrelease/749876051.pdf https://www.afsc.noaa.gov/REFM/Socioeconomics/PDFs/5YearRev1210.pdf	2.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
1.3 IUU fishing carried out by vessels flying its flag, by its nationals or by companies based in that country.	Are the history, nature, circumstances, extent and gravity of the manifestations of IUU fishing as listed in EU carding process by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	No vessels listed for tanner crab.		0.0
	Are the history, nature, circumstances, extent and gravity of the manifestations of IUU fishing as listed in the NOAA biennial reports by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	CCAMLR identified Russian Federation as having been engaged in IUU fishing during 2014, 2015, 2016 and for fishing without authorisation in waters of the US but not for crab fishing.	http://www.nmfs.noaa.gov/ia/slider_stories/2017/01/2017biennialreport.pdf	1.0
	Are there scientific and market analyses defining the level of IUU (e.g. RFMO reports) conducted by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	A WWF report on potential Russian IUU crab provides an analysis on crab species however, it aggregates all species and therefore it cannot be determine the level of IUU for tanner crab.	http://assets.worldwildlife.org/publications/733/files/original/WWF_Illegal_crab_report_final_15_Oct_2014.pdf?1413407573&ga=1.99922334.1092490572.1481102588	1.5
	Are there NGO and Press reports of IUU incidents (specific to vessels/companies) conducted by vessels listed in the RA scope, by the same legal personalities or the same flag State(s)?	There are no NGO or Press reports that name an individual vessel or legal personality though some IUU is reported from flag states in the scope.	none	3.0
Average				2.29

5.10.2.2 Fisheries – Russia, USA and Japan (sustainability, impacts)

The fisheries under assessment include the Bering Sea and Aleutian Islands fishery and the Russian Far East fishery basin, which covers the waters used by America, Russian and Japanese fleets. The fisheries are well managed by USA and Russia including the use of quotas and licences are required to fish in both areas. The stock in the east Bering Sea is also not currently overfished according to a recent stock assessment (2016). Information in relation to Japan however, is sparse and therefore little is known about the impact of Japanese fleets on tanner crab fisheries although there are size restrictions imposed on landing tanner crabs in Japan. In 2016/2017 the Alaska Department of Fish and Game closed the tanner crab season.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
2.1 Status of fisheries and sustainability	Are fisheries operated with control on removals e.g. quota and / or effort limits?	<p>USA: An overfishing limit is set for the whole crab population in the Bering Sea as a whole and a TAC set for individual stocks (eastern Bering Sea, eastern Aleutian Islands and western Aleutian Islands). The State of Alaska also implements minimum size and sex restrictions and limits the number of vessels.</p> <p>Russia: TAC is set in Russia for all crab species at 50-60 thousand tonnes, but there is no specific TAC publically available for tanner crab.</p> <p>Japan: tanner crab is not subject to the current TAC system (although Snow crabs are). Japan have implemented a Total Allowable Effort system which limits the number of fishing days and the number of fishing vessels allowed in a specific areas within their EEZ. It is unknown if this applies to tanner crab fisheries though.</p>	<p>USA: https://www.afsc.noaa.gov/Education/factsheets/10_bairdi_Fs.pdf</p> <p>Russia: https://www.sustainablefish.org/Programs/Improving-Wild-Fisheries/Seafood-Sectors-Supply-Chain-Roundtables/Crab/Russian-Far-East-Crab-SR</p> <p>Japan: http://www.fao.org/fishery/facp/JPN/en https://www.oecd.org/tad/fisheries/34429748.pdf</p>	1.5
	Are stock assessments available for species that use data on total removals (i.e. catch, bycatch, IUU and discards)?	<p>The stock structure of tanner crab is unknown but units are assessed and managed separately (MARF, 2014) for Kamchatka-Kurils, Karaginsky and W Bering Sea.</p> <p>In the stock assessment and fishery evaluation report for the tanner crab fisheries of the Bering Sea and Aleutian Islands Region (2016), bycatch and discards were accounted for but there is no mention of IUU.</p>	<p>https://www.fishsource.org/stock_page/1431</p> <p>https://www.npfmc.org/wp-content/PDFdocuments/resources/SAFE/CrabSAFE/2016CrabSAFE_final.pdf</p>	1.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Are target and limit reference points defined for the fishery?	In the stock assessment and fishery evaluation report for the tanner crab fisheries of the Bering Sea and Aleutian Islands Region (2016) B_{MSY} for this stock is calculated to be 25.65 thousand tonnes for 2016/2017.	Stock Assessment and Fishery Evaluation Report for the tanner Crab Fisheries of the Bering Sea and Aleutian Islands Regions (2016) : https://www.npfmc.org/wp-content/PDFdocuments/resources/SAFE/CrabSAFE/2016CrabSAFE_final.pdf	2.0
	Are fisheries operating at a level at or under MSY?	According to the stock assessment and fishery evaluation report for the tanner crab fisheries of the Bering Sea and Aleutian Islands Region (2016) this stock is not overfished. Target and reference points are not listed for other areas. As many are not evaluated as overfished or not a higher risk score has been allocated.	Stock Assessment and Fishery Evaluation Report for the tanner Crab Fisheries of the Bering Sea and Aleutian Islands Regions (2016) : https://www.npfmc.org/wp-content/PDFdocuments/resources/SAFE/CrabSAFE/2016CrabSAFE_final.pdf	2.5
	Are bycatch and ecosystem impacts known (and if different for IUU fishing)?	Tanner crabs are often caught in bycatch by groundfish fisheries in the eastern Bering Sea however little is known about the ecosystem-level effects. Handling effects could result in mortality which then reduces future recruitment to the fishery. Ghost fishing can be an issue in crab fisheries due to lost pots which continue to catch crabs. The effect of this however, is unknown. Rail dumping has occurred in crab fisheries in the USA, to avoid the risk of exceeding their quotas however, mortality rate is unknown for this as the stock are not taken on board. The east Bering Sea fishery is a pot fishery and as the fisheries are conducted on sandy and muddy sea beds the impact is likely to be limited. Areas of the fishery have also been highlighted as areas of essential fish habitat and are closed to traps, but these do not occur in areas of high fishing pressure.	https://www.afsc.noaa.gov/Publications/AFSC-TM/NOAA-TM-AFSC-58.pdf https://www.afsc.noaa.gov/REFM/Socioeconomics/PDFs/5YearRev1210.pdf https://www.seafoodwatch.org/-/m/sfw/pdf/reports/c/mba_seafoodwatch_crab_tanner_snow_alaska_report.pdf	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Is the fishery at or below capacity?	In the eastern Bering Sea and Aleutian Islands Region the fishery is not overfished. Capacity is unknown for other areas due to data availability.	Stock Assessment and Fishery Evaluation Report for the tanner Crab Fisheries of the Bering Sea and Aleutian Islands Regions (2016) : https://www.npfmc.org/wp-content/PDFdocuments/resources/SAFE/CrabSAFE/2016CrabSAFE_final.pdf	2.0
2.2 History of IUU	Do previous incidences of IUU exist within the fishery?	Yes for Bering Sea tanner crab and in the Russian fishery.	http://www.alaskajournal.com/business-and-finance/2014-10-22/crab-quotas-illegal-fishing-still-issue#.WNvW4KLTWM8 Russian Far East Crab- Sustainable Fisheries Partnership https://www.sustainablefish.org/Programs/Improving-Wild-Fisheries/Seafood-Sectors-Supply-Chain-Roundtables/Crab/Russian-Far-East-Crab-SR	2.0
2.3 Access to fishery	Are fisheries authorised through a fishing licence / permit system?	For the Bering Sea/ Aleutian Island fisheries, vessels must register with the State of Alaska by obtaining licences and permit and register for each fishery and each area. Under the Crab Regionalisation Programme harvesters are only allocated a share of quotas if they hold a permanent, fully transferable Licence Limitation Programme licence, for that fishery. Russia: In the Russian Far East fisheries basin a licence is required to fish for crab. Japan: Licences are required at the prefectural level for pot fisheries (but this does not specify tanner crab). Licences are required for factory-ship crab fisheries which are granted by the Minister of Agriculture and Forestry.	Eastern Bearing Sea: https://alaskafisheries.noaa.gov/sites/default/files/finalrules/70fr10174.pdf https://www.afsc.noaa.gov/Education/factsheets/10_bairdi_Fs.pdf Russia: https://www.sustainablefish.org/Programs/Improving-Wild-Fisheries/Seafood-Sectors-Supply-Chain-Roundtables/Crab/Russian-Far-East-Crab-SR Japan: http://www.fao.org/docrep/005/AC750E/AC750E09.htm	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
2.4 Price	Data on species market prices (domestic/international) Low price fish (<US\$1000/t) are generally lower risk (e.g. small pelagics), higher priced (>US\$5000/t) demersals (e.g. cod and haddock) will be higher risk, high value species are generally higher risk.	Price reported to be approximately US\$ 9,800 / mt	INFOFISH Fish Price Reports GLOBEFISH EFPR	2.0
	Are any mitigation procedures that may be in place for high value species (e.g. catch documentation schemes, EU catch certificate requirements) in place (e.g. bêche de mer, bluefin tuna)?	No specific market measures are in place to track tanner crabs as a high value species.	No data available.	3.0
2.5 MSC certification/ /FIP processes	Is there MSC certification for the fishery or is there a FIP in process? MSC certification requires IUU to be low or negligible and has checks to ensure this is the case. If the fishery is going through a FIP process as well/that may indicate improvement within the fishery e.g. Sri Lanka.	For the Russian fishery there is a FIP in process which is managed by the Crab Catchers Association (CCA). The CCA passed the preliminary MSC assessment which included tanner crab off West Kamchatka. There is no other evidence of FIPs or MSC certification for the other tanner crab fisheries.	Russian fishery: http://crab-dv.ru/en/sovershenstvovanie-promyisla.html	2.0
Average				1.88

5.10.2.3 Flag State – Russia, USA and Japan (activities, corruption, control systems in place)

None of the Flag States within this risk assessment have been carded according to the EU system however, Russia is identified in the NOAA biennial reports for fishing without authorisation and for violating conservation measures but this was not for crab fishing. In general all three Flag States have a registration and licensing system in place for fishing vessels and work in cooperation with other States and RFMOs, as well as participate in international agreements, to prevent and deter IUU activity. Although the type of Flag State control that is exercised has been identified (e.g. VMS, inspections etc.) the level to which this is actually imposed is unknown.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
3.1 Is IUU associated with the flag State?	Has the flag State been identified as a non-compliant State by the EU (yellow / red card)?	Russia, USA and Japan have not been identified as a non-complaint state by the EU.	https://ec.europa.eu/fisheries/sites/fisheries/files/illegal-fishing-overview-of-existing-procedures-third-countries_en.pdf	0.0
	Has the flag State been identified as a "country of interest" within NOAA biennial reports?	Russia was identified under Section 609 (IUU) in the NOAA 2017 report for violating conservation measures and fishing without authorisation in 2014, 2015 and 2016 by CCAMLR. This however, was not for tanner crab.	NOAA, 2011; 2013; 2015; 2017 http://www.nmfs.noaa.gov/ia/slider_stories/2017/01/2017biennialreport.pdf	1.0
	Has the flag State been identified as a flag of non-compliance by any other State(s) or by an RFMO?	There are no incidences of non-compliance for Japan or the USA however, Russian flagged vessels have been identified as having non-compliances in CCAMLR	https://www.ccamlr.org/en/system/files/e-cc-xxxv_2.pdf	0.5
	Has the flag State been identified as a flag of non-compliance or flag of convenience by an NGO or in scientific or press reports?	No, there are no reports flag of convenience or flags of non-compliance for the flag States in this RA. Russian vessels though have been reported to have landed IUU fish caught from the Bering Sea. Japan is mentioned in a range of fisheries and reports.	http://www.itfglobal.org/en/transport-seafarers/in-focus/flags-of-convenience-campaign/ WWF (2008) Illegal Fishing in Arctic Waters. http://www.wwf.se/source.php/1173651/illegal%20fishing%20in%20Arctic%20waters.pdf Clarke, 2007a; 2007b https://www.ukpandi.com/knowledge-publications/knowledge-base/ https://qz.com/95583/how-spain-russia-and-other-countries-cheat-the-world-out-of-billions-of-dollars-in-fish/	2.0
3.2 Corruption	What is the WB corruption index for the flag State? (see WB Governance Indicators).	Japan and the USA all have very high governance indicators in the top 10%. Alternatively, Russia is in the bottom 20% with a control of corruption score of 19%.	http://info.worldbank.org/governance/wgi/#home	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.			
3.3 Vessel Registration and Licensing	Are all fishing vessels required to be registered and flagged in the flag State required to have a licence?	<p>In the USA vessels over five net tonnes used for fishing activities in U.S. waters or in the EEZ must be federally documented. Fishing vessels under 5 tonnes do not need to be federally documented but should be registered by individual States. As noted above vessels in the Bering Sea/Aleutian Islands must register with the State of Alaska by obtaining licences and permit and register for each fishery and each area.</p> <p>Russia: A licence/permit is required to be carried on board fishing vessels. Vessels flying the Russian Federation flag must be registered with the State Register of Ships. Vessels fishing tanner crab in the Russian Far East Basin must be licenced.</p> <p>Japan: Registration and licensing of industrial fleets is required in Japan. The Government of Japan maintains the fishery vessel registration system, and the total number and the total gross tonnage of fishing vessels are closely monitored. It is unknown whether a licence is required specifically for tanner crab by Japanese vessels.</p>	<p>USA: http://www.nmfs.noaa.gov/ia/permits/highseas.html https://www.uscg.mil/nvdc/nvdcfaq.asp http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf https://www.afsc.noaa.gov/Education/factsheets/10_bairdi_Fs.pdf</p> <p>Russia: http://www.fao.org/docrep/v9982e/v9982e3h.htm http://www.maritimeadvocate.com/ship_registration/on_the_register_ship_registration_in_russia.htm https://www.sustainablefish.org/Programs/Improving-Wild-Fisheries/Seafood-Sectors-Supply-Chain-Roundtables/Crab/Russian-Far-East-Crab-SR</p> <p>Japan: https://www.oecd.org/tad/fisheries/34429748.pdf</p>	1.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	Is there a licensing and quota allocation system in place? Is this system clear and transparent?	<p>USA: There is a quota system in place for Eastern Bering Sea tanner crab, which is allocated through the Crab Regionalisation Programme. There is a Community Development Quota which allocates 10% of that TAC to community development quota groups who have a community interest. For fisheries not covered by the Crab Regionalisation Programme, a Licence Limitation Programme licence is required.</p> <p>Russia: There are quotas for tanner crab and the TAC for all crab species is set at 50-60 thousand tonnes. In Russia licences are required for foreign fishing.</p> <p>Japan: Licences are required at the prefectural level for pot fisheries (but this does not specify tanner crab). Licences are required for factory-ship crab fisheries which are granted by the Minister of Agriculture and Forestry. A Total Allowable Catch system is in place in Japan for seven species but this does not include tanner crab.</p>	<p>USA: https://alaskafisheries.noaa.gov/sites/default/files/reports/1516crabpools.pdf. https://www.afsc.noaa.gov/Education/factsheets/10_bairdi_Fs.pdf</p> <p>Russia: http://www.intrafish.com/fisheries/1112810/russia-poised-to-take-a-larger-share-of-the-us-crab-market http://www.intrafish.com/news/751755/russia-recommends-tac-rises-for-pollock-crab https://www.sustainablefish.org/Programs/Improving-Wild-Fisheries/Seafood-Sectors-Supply-Chain-Roundtables/Crab/Russian-Far-East-Crab-SR http://www.fao.org/docrep/v9982e/v9982e3h.htm Japan: http://www.fao.org/docrep/005/AC750E/AC750E09.htm http://www.fao.org/fishery/facp/JPN/en</p>	1.5
	Is this broken down by domestic waters and ABNJ?	Not applicable as in coastal State waters only.	n/a	0.0
	Is there a public list of licensed / authorised vessels?	USA: There is some information available through the Crab Licence Limitation Programme for certain fisheries. There is no public information available for vessels fishing under the Crab Regionalisation Programme.	USA: https://alaskafisheries.noaa.gov/permits-licenses?field_fishery_pm_value=License+Limitation+Program+%28LLP%29	2.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		Russia and Japan: There are no public lists available for licensed vessels for tanner crab.		
3.4 Fair transparent fisheries agreements	Are fair transparent fisheries agreements in place with coastal States?	<p>The USA and Japan have agreed to promote sustainable fishing and establish effective measures against IUU at both global and regional levels.</p> <p>The USA and Russia have signed an agreement to prevent illegal fishing.</p> <p>Russia and Japan have signed an agreement to cooperate on fishing operations for marine living resources.</p>	<p>http://www.nmfs.noaa.gov/ia/Misc_pgs/29_usjapan_statement2015.html</p> <p>http://www.nmfs.noaa.gov/ole/slider_stories/2015/us_rus_sign_iuu_agreement.html</p> <p>http://www.mofa.go.jp/region/europe/russia/territory/edition01/agreement.html</p>	1.0
3.5 RFMO	Membership: Is the flag State a Member of the relevant RFMOs?	<p>No RFMO covers the Bering Sea or tanner crabs, therefore flag States are not required to be Members .</p> <p>The USA, Russia and Japan do participate in a number of other RFMOs in which their fleets are known to fish.</p>	<p>https://ec.europa.eu/fisheries/cfp/international/rfmo_en</p> <p>https://www.wcpfc.int/about-wcpfc</p> <p>http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf</p> <p>e.g. http://www.iccat.es/Documents/BienRep/REP_EN_10-11_I.1.pdf</p> <p>e.g. https://www.nafo.int/About-us</p>	0.0
	Compliance: Is the flag State compliant with all RFMO requirements and data submissions?	There is no indication that any of the flag States do not fulfil their duties in terms of RFMO requirements and data submissions.	NPAFC, 2015	0.0
	Engagement: Does the flag State submit additional information / papers to RFMO and actively participate in scientific and compliance committee meetings?	All of the flag States appear to be active participants in the RFMO management and scientific meetings.	NPAFC, 2015	0.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
3.6 Multi-lateral agreements e.g. FAO Guidelines or UNCLOS	<p>Is the flag State a contracting/cooperative non-member party to multi-lateral agreements e.g. UNCLOS, UNFSA, Compliance Agreement, FAO Agreements?</p> <p>Implementation of the provisions of the Convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks</p>	<p>UNCLOS: Russia and Japan</p> <p>UNFSA: USA, Japan, Russia</p> <p>Compliance Agreement: Japan and USA.</p> <p>FAO Agreement: Japan and USA.</p>	<p>http://www.un.org/depts/los/reference_files/chronological_lists_of_ratifications.htm</p> <p>http://www.fao.org/fileadmin/user_upload/legal/docs/012s-e.pdf</p>	2.0
3.7 NPOAs (IUU + others)	Is there a specific National Plan of Action (NPOA) in place to combat IUU?	<p>Japan has a NPOA IUU which is publically available.</p> <p>USA has a NPOA IUU which is publically available.</p> <p>Russia adopted an NPOA IUU in 2013 but there is no other information publically available on it.</p>	<p>Japan: ftp://ftp.fao.org/FI/DOCUMENT/IPOAS/national/japan/NPOA-iuu.pdf</p> <p>USA : http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf</p> <p>Russia : Russian Far East Crab, Fishery Improvement Project(November 2016) - Document has been archived https://www.undercurrentnews.com/2014/01/10/russia-approves-plan-to-counter-illegal-fishing/</p>	1.0
3.8 Flag State Control	How and to what level is flag State control exercised in terms of administrative controls and checks? (e.g. logbook check against VMS and administrative checks, catch certificate verification includes physical inspection)	USA: The Fisheries Management Plan mandates that all vessels in the tanner crab fisheries must have electronic logbooks and VMS. Under the Magnuson-Stevenson Act, the USA is entitled to board and inspect all vessels fishing in its water and U.S. vessels on the high seas. The level to which this is undertaken however, is unknown. Through various RFMOs, the U.S. has introduced catch certification schemes and in 2016 the final rule for the Seafood Import Monitoring Programme was released which establishes record and reporting requirements for a number of species which includes king Crab.	<p>USA: https://www.seafoodwatch.org/-/m/sfw/pdf/reports/c/mba_seafoodwatch_crab_tanner_snow_alaska_report.pdf</p> <p>http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf</p> <p>http://www.iuufishing.noaa.gov/RecommendationsandActions/RECOMMENDATION1415/FinalRuleTraceability.aspx</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>Russia: In Russia, The Federal Agency for Fishery (FAF) cooperates with the Federal Security Service (FSB) through the Centre of Fishery Monitoring and Communications (CFMC) to meet MCS responsibilities, with the FSB conducting enforcement and inspections at sea and in port. All Russian and foreign fishing boats that fish in the inland sea waters, territorial sea, continental shelf and the EEZ of the Russian Federation are monitored by VMS and fishers are obliged to register catch and landings and report on fishing activities through daily catch reports and log books. Official bodies of control are allowed to request catch documents for verification, detain citizen for violation of mandatory requirements, inspect vessels, or tools for fishing and seize them if necessary.</p> <p>Japan: VMS is carried out in some fishing grounds but no further information is available. The level to which this is undertaken however, is unknown.</p>	<p>Russia: http://www.fao.org/fishery/topic/18090/en http://www.fish.gov.ru/files/documents/documenty/federalnye_zakony/Federalnyi-zakon_166-FZ_ot_20-12-2004.pdf http://d2ouvy59p0dg6k.cloudfront.net/downloads/iuu_report_version_1_3_30apr08.pdf</p> <p>Japan: https://www.oecd.org/tad/fisheries/34429748.pdf</p>	2.0
	How and to what level is flag State control exercised in terms of inspections on flag State vessels (at sea and in port)?	<p>USA: Tank inspections are required in certain areas or districts. Tanner crab vessels can be subject to inspection before or during an open tanner crab fishing seas. The Magnuson-Stevens Act allows the US to board and inspect any vessel fishing in its waters as well as US vessels on the high sea. The level to which this is carried out is unknown.</p> <p>Russia: In Russia, The Federal Agency for Fishery (FAF) cooperates with the Federal Security Service (FSB) through the Centre of Fishery Monitoring and Communications (CFMC) to meet MCS responsibilities, with the FSB conducting enforcement and inspections at sea and in port. Fisheries inspectors are permanently based on foreign vessels but not on Russian vessels. State fisheries inspectors use patrol ships to also board vessels to inspect them. For commercial fishing that occurs in the inland seawaters, in the territorial sea, continental shelf and the EEZ of the Russian Federation, fish (and fish products) are to</p>	<p>USA: https://www.adfg.alaska.gov/static/regulations/fishregulations/pdfs/commercial/2015-2017_king_tanner_crab.pdf http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf</p> <p>Russia: http://www.fao.org/3/a-aj279e.pdf http://www.fish.gov.ru/files/documents/documenty/federalnye_zakony/Federalnyi-zakon_166-FZ_ot_20-12-2004.pdf https://portals.iucn.org/library/sites/library/files/documents/Traf-065.pdf</p> <p>Japan: http://www.europarl.europa.eu/RegData/et</p>	

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>be delivered to seaports in the Russian Federation or in other places determined by the Russian Federation Government. Official bodies of control are allowed to inspect vessels, or tools for fishing and seize them if necessary. The level to which these measures are employed however, is unknown.</p> <p>Japan: Employs standard port inspection measures but how and to what level is unknown.</p>	<p>udes/note/join/2014/529044/IPOL-PECH_NT(2014)529044_EN.pdf</p>	
	How and to what level is flag State control exercised in terms of remote surveillance (e.g. aerial surveillance, VMS and AIS)?	<p>USA: The Fisheries Management Plan for crab mandates that all vessels in the tanner crab fisheries must have electronic logbooks and VMS. Vessels participating in the quota system (IFQ, Community Quotas or Adak community allocation) for crab fisheries must have an active VMS on-board which has been approved by the NMFS. According to NOAA the VMS program currently monitors more than 4,000 vessels. From March 2016 owners and operators of most U.S flag and foreign commercial vessels operating in US waters are required to install and use AIS. The level to which this is exercised however, is unknown.</p> <p>Russia: All Russian and foreign fishing boats that fish in the inland sea waters, territorial sea, continental shelf and the EEZ of the Russian Federation are monitored by VMS. Aerial patrolling of the Russian EEZ is also undertaken to monitor IUU. For vessels that are allowed to fly under the Russian Federation flag they are equipped with the technology to allow transmit information in relation to vessel location. Technical means of control is mandatory for fishing vessels with an engine with a capacity of more than 55 kilowatts and a gross tonnages of more than 80 tonnes. Approximately 3,800 (3000 domestic and 800 foreign) vessels are monitored by Russian VMS but it is reported that Russian vessels sometimes switch off their VMS before entering neighbouring nations.</p>	<p>USA:</p> <p>https://www.seafoodwatch.org/-/m/sfw/pdf/reports/c/mba_seafoodwatch_crab_tanner_snow_alaska_report.pdf</p> <p>http://www.aismandate.com/ais-mandates/</p> <p>https://www.adfg.alaska.gov/static/regulations/fishregulations/pdfs/commercial/2015-2017_king_tanner_crab.pdf</p> <p>http://www.nmfs.noaa.gov/ole/about/our_programs/vessel_monitoring.html</p> <p>Russia:</p> <p>http://www.fao.org/fishery/topic/18090/en</p> <p>https://portals.iucn.org/library/sites/library/files/documents/Traf-065.pdf</p> <p>http://www.fish.gov.ru/files/documents/documenty/federalnye_zakony/Federalnyj-zakon_166-FZ_ot_20-12-2004.pdf</p> <p>Pramod <i>et al.</i> (2014)</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		Japan: Japan conduct aerial surveillance of their own EEZ and VMS is used in some fishing grounds. Vessels over 300- ton are obliged to install AIS. The level to which this is exercised however, is unknown.	Japan: https://www.oecd.org/tad/fisheries/34429748.pdf http://annx.asianews.network/content/satellites-monitor-suspicious-ships-japanese-waters-42460	
	How and to what level is flag State control exercised in terms of observer programmes?	<p>USA: NOAA fisheries use fishery observers and observer coverage is used for the tanner crab stocks in the Bering Sea. Observer coverage can range from 0%-200% in the USA.</p> <p>Russia: The FIP aimed to implement a voluntary observer program to collect data on fisheries impact and by catch. Russian vessels do have observers but the level and extent of this for the scope of this RA is unknown.</p> <p>Japan: Japan is known to have observer programmes in specific fisheries where a requirement has been defined by an RFMO but it is unknown whether this includes tanner crab fisheries.</p>	<p>USA: http://www.st.nmfs.noaa.gov/observer-home/ https://www.afsc.noaa.gov/Education/factsheets/10_bairdi_Fs.pdf https://www.npfmc.org/wp-content/PDFdocuments/fmp/CrabFMPOct11.pdf http://www.nmfs.noaa.gov/sfa/reg_svcs/Councils/ccc_2013/K_NMFS_EM_WhitePapers.pdf</p> <p>Russia: https://www.sustainablefish.org/Programs/Improving-Wild-Fisheries/Seafood-Sectors-Supply-Chain-Roundtables/Crab/Russian-Far-East-Crab-SR http://www.wwf.ru/resources/news/article/eng/12478 https://portals.iucn.org/library/sites/library/files/documents/Traf-065.pdf</p> <p>Japan: http://www.capfish.co.za/observer_programmes.php</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
3.9 Flag State Cooperation	Does the flag State work with neighbouring or regional States to enhance MCS in their own waters and fleets?	<p>USA: The U.S is a member of many bilateral and multilateral agreements for fisheries enforcement including agreements with nine Pacific Island and Five West African nations to help enforcement activities in those countries' EEZs. Under the Agreement on Mutual Fisheries Relations (1988), they cooperate with Russia on enforcement in the Bering Sea. The US also has several bilateral cooperative enforcement agreements to tackle the global IUU issue.</p> <p>Japan has agreements in place which allow one party to notify another if a vessels has committed a violation of joint conservation and management measures [Japan/China Agreement; Japan/Korea Agreement] and a corresponding duty on the other party to take actions and notify these [Japan/China Agreement; Japan/Korea Agreement]. Japan will also provide notification in the event of seizure or enforcement action by one party against the other party's vessels [Japan/China Agreement; Japan/Korea Agreement].</p> <p>Russia: Russian enforcement authorities have previously cooperated with NOAA Office of Law Enforcement to seize illegal harvested King crab in Russian waters. Russia have also signed a bi-lateral agreement with the USA to combat illegal fishing.</p>	<p>USA : http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf http://www.nmfs.noaa.gov/ia/slider_stories/2017/01/2017biennialreport.pdf</p> <p>Japan: http://www.fao.org/docrep/006/Y4698B/y4698b0g.htm</p> <p>Russia : http://www.nmfs.noaa.gov/ia/iuu/level_playfield.pdf http://www.nmfs.noaa.gov/ole/slider_stories/2015/us_rus_sign_iuu_agreement.html http://www.nmfs.noaa.gov/ia/agreements/bilateral_arrangements/russia/us_russia.html</p>	1.0
	VMS sharing is implemented?	<p>USA: It is unknown if USA shares VMS data.</p> <p>Russia: Russia shares its VMS data with ministries and agencies at the national and international level.</p> <p>Japan: It is unknown if Japan share VMS data.</p>	<p>Russia: http://www.fao.org/fishery/topic/18090/en</p>	2.0
	Average			1.31

5.10.2.4 Coastal State – Russia, USA, Japan (corruption, control systems in place)

Illegal fishing is known to have occurred in the USA, Russia and Japan's EEZs, including IUU activity concerning crab species. All three Coastal States do have control systems in place, monitor activities within their waters and impose sanctions for violation of fisheries law but the extent and level to which these are actually imposed is unknown. However, none of that States have been issues with a card through the EU carding systems and although Russia was noted in the NOAA Biennial reports this was not for tanner crab. There is also a high level of cooperation between all three States, via various bilateral agreements, to deter and eliminate IUU fishing.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
4.1 Is IUU fishing carried out / supported by fishing vessels operating in its maritime waters?	Has the coastal State been identified as a non-compliant State by the EU (yellow / red card)?	Russia, USA and Japan have not been identified as a non-complaint state by the EU.		0.0
	Has the coastal State been identified as a "country of interest" within NOAA biennial reports?	Yes Russia was identified under Section 609 (IUU) for violating conservation measures and fishing without authorisation in 2014, 2015 and 2016.	http://www.nmfs.noaa.gov/ia/slider_stories/2017/01/2017biennialreport.pdf	1.0
	Has the coastal State been identified as having IUU fishing carried out in its waters? (NB: This may be identified by the coastal State itself, another State or by an RFMO).	USA: IUU fishing activities have occurred within the US EEZ. Russia: Crab has been known to be caught illegally in Russian waters, as well as other species.	USA: http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf Russia: http://www.nmfs.noaa.gov/ole/slider_stories/2013/enforcement-month-iuu.html http://www.europarl.europa.eu/sides/getAllAnswers.do?reference=P-2006-0377&language=IT	2.0
	Has the coastal State been identified as having IUU fishing carried out in its waters by fishing vessel of any State by an NGO or in scientific or press reports?	USA: Illegal fishing is known to have occurred in US domestic waters. In Japan, there are issues with gang-related illegal fishing, illegal fishing of abalone and sea urchin by recreational activities and also salmon eggs and hair crab. Illegal fishing in Japan has been reported in the Sea of Japan and also around Japan's Ogasawara islands. Russia: Illegal fishing is known to be an issue in the western Bering Sea and the Sea of Okhotsk in the	USA: http://www.washingtonpost.com/wp-dyn/content/article/2011/02/01/AR2011020105531.html http://www.prnewswire.com/news-releases/us-gulf-fishermen-call-for-federal-action-against-foreign-illegal-fishing-300063629.html Pramod <i>et al.</i> (2014)	3.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		Russian Far East. Illegal crab fishing has also been reported in Russian waters and next to the Russian EEZ. There are also reports of illegal transshipments directly to foreign ports of catches taken from Russian fishing grounds and transshipment of catches to Flags of Convenience within the Russia EEZ.	<p>Japan: http://www.imcsnet.org/imcs/docs/illegal_fishing_exclusive_economic_zone_japan.pdf https://www3.nhk.or.jp/nhkworld/newsroom/tokyo/aired/20170315.html</p> <p>http://thediomat.com/2014/11/illegal-fishermen-the-newest-threat-to-china-japan-relations/</p> <p>Russia: http://awsassets.panda.org/downloads/iuu_fs_web.pdf</p> <p>http://frequentz.com/wp-content/uploads/2015/08/White_Paper_IU_U_Crab.pdf</p> <p>http://d2ouvy59p0dg6k.cloudfront.net/downloads/wwf_illegal_crab_report.pdf</p> <p>Pramod <i>et al.</i> (2014)</p>	
4.2 Corruption	<p>What is the WB corruption index for the Coastal State? (see WB Governance Indicators).</p> <p>Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant</p>	Japan and the USA all have very high governance indicators in the top 10%. Alternatively, Russia is in the bottom 20% with a control of corruption score of 19%.	WBG 2012	1.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	water fishing nations in addition to internal weaknesses and corruption.			
4.3 Vessel Registration and Licensing	Are all fishing vessels fishing in the coastal State required to have a licence? (NB: Are there reports of proportion of vessels unlicensed (both national and international)?)	<p>USA: US vessels fishing on the high sea must have a permit. All vessels over 5 tonnes that are owned by a U.S citizen or corporation must be registered federally. Those less than 5 tonnes must be registered by individual States of the U.S.</p> <p>Japan: Require registration and licensing of industrial fleets. The Government of Japan maintains the fishery vessel registration system, and the total number and the total gross tonnage of fishing vessels are closely monitored. Permission from national or regional government is required for construction, modification, and conversion of fishing boats of 10 metres.</p> <p>Russia: A licence/permit is required to be carried on board Russian vessels.</p>	<p>USA: http://www.nmfs.noaa.gov/ia/permits/highseas.html</p> <p>Japan: https://www.oecd.org/tad/fisheries/34429748.pdf</p> <p>Russia: http://www.fao.org/docrep/v9982e/v9982e3h.htm</p>	1.0
	Is there a licensing and quota allocation system in place? Is this system clear and transparent?	<p>USA: There is a quota system in place for Eastern Bering Sea tanner crab, which is allocated through the Crab Regionalisation Programme. There is a Community Development Quota which allocates 10% of that TAC to community development quota groups who have a community interest. For fisheries not covered by the Crab Regionalisation Programme, a Licence Limitation Programme licence is required.</p> <p>Russia: There are quotas for tanner crab. TACs are set at 50 – 60 thousand tonnes for all crab species. Licences are required for foreign fishing. Total permissible catches in inland waters, in the territorial sea, the continental shelf and the EEZ of the Russian Federation are allocated on an annual basis approved by the federal executive body in the region.</p> <p>Japan: Licences are required at the prefectural level for pot fisheries (but this does not specify tanner crab). Licences are required for factory-ship crab fisheries which are granted by the Minister of Agriculture and</p>	<p>USA: https://alaskafisheries.noaa.gov/sites/default/files/reports/1516crabpools.pdf.</p> <p>https://www.afsc.noaa.gov/Education/factsheets/10_bairdi_Fs.pdf</p> <p>https://alaskafisheries.noaa.gov/sites/default/files/finalrules/70fr10174.pdf</p> <p>Russia: http://www.intrafish.com/fisheries/1112810/russia-poised-to-take-a-larger-share-of-the-us-crab-market</p> <p>http://www.intrafish.com/news/751755/russia-recommends-tac-rises-for-pollock-crab</p> <p>https://www.sustainablefish.org/Programs/Improving-Wild-Fisheries/Seafood-Sectors-</p>	1.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		Forestry. A Total Allowable Catch system is in place in Japan for seven species but this does not include tanner crab.	Supply-Chain-Roundtables/Crab/Russian-Far-East-Crab-SR http://www.fao.org/docrep/v9982e/v9982e3h.htm http://www.fish.gov.ru/files/documents/documenty/federalnye_zakony/Federalnyj-zakon_166-FZ_ot_20-12-2004.pdf Japan: http://www.fao.org/docrep/005/AC750E/AC750E09.htm http://www.fao.org/fishery/facp/JPN/en	
	Is there a public list of licensed / authorised vessels?	USA: There is some information available through the Crab Licence Limitation Programme for certain fisheries. Russia and Japan: There are no public lists available for licensed vessels for tanner crab.	USA: https://alaskafisheries.noaa.gov/permits-licenses?field_fishery_pm_value=License+Limitation+Program+%28LLP%29	2.5
4.4 Fair transparent fisheries agreements	Are fair transparent fisheries agreements in place with DWFNs?	No fisheries agreements in place	No evidence of fisheries agreements in place	0.0
	Are the details of these agreements public?	n/a	As above.	0.0
4.5 Sanctions	Are sanctions enforced?	The sanction for illegal fishing in Japan are a fine up to ¥2,000,000 and three years imprisonment. The governance in Japan is high. Governance – Japan (High) The USA apprehends and prosecutes foreign flag vessels that undertake IUU activities in its waters. Those who conduct prohibited acts are liable for a civil penalty which can be up to USD\$100,000 for	Japan- Act on the Protection of Fishery Resources 1951 http://extwprlegs1.fao.org/docs/pdf/jap1715.pdf USA: http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>each violation. Permit sanctions and civil forfeitures can also be imposed and a criminal offence can be punishable by a fine of up to USD\$200,000 and/or up to 10 years imprisonment.</p> <p>Russia: For illegal fishing a fine of 300 thousand to 500 thousand Roubles or the salary or other income for a period of two to three years, or correctional labour for up to two years or imprisonment for the same period.</p>	<p>http://www.nmfs.noaa.gov/sfa/laws_policies/msa/documents/msa_amended_2007.pdf</p> <p>Russia: http://fishnews.ru/news/28885</p>	
	Relative level of sanctions vs level of IUU fishing.	<p>In the US offences relating to fisheries non-compliance can result in criminal prosecutions. Offences relating to fisheries compliance can result in significant criminal offences as well as temporary and permanent loss of licence agreements, although there has been some criticism that in some cases, sanctions are not adequate to ensure deterrence.</p> <p>In Japan, while illegal fishing is prosecuted as such, it is not recognised as a serious crime, and it may be that sanctions do not fit the level of the crime, although these can still include prison sentences and revocation of the fishing license. However, it is not clear how this is applied to foreign fishing vessels.</p> <p>In Russia, levels of enforcement and sanctions have been much improved in recent years and include strengthened sanctions, confiscations and quota cancellations. Fishing licenses may be revoked and quotas confiscated in cases of violations. Repeated offences can also lead to the total termination of the fishing rights.</p>	<p>Fisheries Agency of Japan, 2004 Department of State, 2004 OECD, 2010 OLE, 2016 Teleteskey, 2015</p>	1.0
4.6 RFMO	Membership: Are they a Member of the relevant RFMOs?	<p>No RFMO covers the Bering Sea or tanner crabs.</p> <p>The USA, Russia and Japan also participate in a number of other RFMOs in the waters that their fleets fish. (e.g. WCPFC)</p>	<p>https://ec.europa.eu/fisheries/cfp/international/rfmo_en</p> <p>https://www.wcpfc.int/about-wcpfc</p> <p>http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf</p>	0.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
			e.g. http://www.iccat.es/Documents/BienRep/REP_EN_10-11_I_1.pdf e.g. https://www.nafo.int/About-us	
	Compliance: is the coastal State compliant with all RFMO requirements and data submissions?	There is no indication that the coastal States are not compliant with the relevant RFMOs.	RFMO Compliance Reports	0.0
	Engagement: Does the coastal State submit additional information / papers to RFMO and actively participate in scientific and compliance committee meetings?	All of the coastal States appear to be active participants in the RFMO management and scientific meetings.	RFMO Reports	0.0
4.7 Multi-lateral agreements e.g. FAO Guidelines or UNCLOS	Is the coastal State a contracting/cooperative non-member party to multi-lateral agreements e.g. UNCLOS, UNFSA, FAO Agreements?	UNCLOS: Russia and Japan UNFSA: USA, Japan, Russia Compliance Agreement: Japan and USA. FAO Agreement: Japan and USA.	http://www.un.org/depts/los/reference_files/chronological_lists_of_ratifications.htm http://www.fao.org/fileadmin/user_upload/legal/docs/012s-e.pdf	2.0
4.8 NPOAs (IUU + others)	Is there a specific National Plan of Action (NPOA) in place to combat IUU in the coastal State?	Japan has a NPOA IUU which is publically available. USA has a NPOA IUU which is publically available. Russia adopted an NPOA IUU in 2013 but there is no other information available on it.	Japan: ftp://ftp.fao.org/FI/DOCUMENT/IPOAS/national/japan/NPOA-iuu.pdf USA : http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf Russia: Russian Far East Crab, Fishery Improvement Project (November 2016)- Report archived.	1.5
4.9 Coastal State Control	How and to what level is control exercised in the coastal State in terms of administrative controls and	The USA requires a VMS in a number of fisheries and the EEZ is patrolled by the Coast Guard. The Fisheries Management Plan mandates that all vessels in the	USA: http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf	1.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	checks? (e.g. logbook check against VMS and administrative checks including validation of catch certificates)	<p>tanner crab fisheries must have electronic logbooks and VMS but the extent to which this is carried out is unknown. Through various RFMOs, the U.S. has introduced catch certification schemes and in 2016 the final rule for the Seafood Import Monitoring Programme was released which establishes record and reporting requirements for a number of species which includes king Crab (Tanner crab is often included in this). The level to which this is exercised though is unknown.</p> <p>Japan: Control measures are outlined in brief in the National Plan of Action but the extent to which this is carried out is unknown.</p> <p>Russia: All Russian and foreign fishing boats that fish in the inland sea waters, territorial sea, continental shelf and the EEZ of the Russian Federation are monitored by VMS but the extent to which this is carried out is unknown. Fishers are obliged to register catch and landings and report on fishing activities through daily catch reports and log books. Official bodies of control are allowed to request catch documents for verification, detain citizen for violation of mandatory requirements, inspect vessels, or tools for fishing and seize them if necessary. All catch from within the Russian Federation's EEZ will be subject to custom procedures. The level to which this is exercised though is unknown.</p>	<p>https://www.seafoodwatch.org/-/m/sfw/pdf/reports/c/mba_seafoodwatch_crab_tanner_snow_alaska_report.pdf</p> <p>http://www.iuufishing.noaa.gov/RecommendationsandActions/RECOMMENDATION1415/FinalRuleTraceability.aspx</p> <p>Japan ftp://ftp.fao.org/FI/DOCUMENT/IPOAS/national/japan/NPOA-iuu.pdf</p> <p>Russia: http://www.fao.org/fishery/topic/18090/en</p> <p>WWF (2008) Illegal fishing in arctic waters http://d2ouvy59p0dg6k.cloudfront.net/downloads/iuu_report_version_1_3_30apr08.pdf</p> <p>http://www.fish.gov.ru/files/documents/documenty/federalnye_zakony/Federalnyj-zakon_166-FZ_ot_20-12-2004.pdf</p> <p>http://awsassets.panda.org/downloads/iuufs_web.pdf</p>	
	How and to what level is control exercised in the coastal State in	USA: Tank inspections are required in certain areas or districts. Tanner crab vessels can be subject to inspection before or during an open tanner crab fishing	USA: http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	terms of inspections on vessels at sea and in port?	<p>seas. The Magnuson-Stevens Act allows the US to board and inspect any vessel fishing in its waters as well as US vessels on the high sea. To what level this control is exercised is unknown.</p> <p>Japan: Employs standard port inspection measures but how and to what level is unknown.</p> <p>Russia: Official bodies of control are allowed to inspect vessels, or tools for fishing and seize them if necessary but to what level is unknown. All foreign vessels have an inspector on board and a senior inspector covers a group of vessels on which they conduct daily inspections. State fisheries inspectors also patrol the waters and board fishing vessels for inspection. Special checkpoints are also set up, whereby inspectors check vessels on route to harbours to land fish.</p>	<p>https://www.adfg.alaska.gov/static/regulations/fishregulations/pdfs/commercial/2015-2017_king_tanner_crab.pdf</p> <p>Japan: http://www.europarl.europa.eu/RegData/etudes/note/join/2014/529044/IPOL-PECH_NT(2014)529044_EN.pdf</p> <p>Russia: http://www.fao.org/3/a-aj279e.pdf</p> <p>https://portals.iucn.org/library/sites/library/files/documents/Traf-065.pdf</p> <p>http://www.fish.gov.ru/files/documents/documenty/federalnye_zakony/Federalnyj-zakon_166-FZ_ot_20-12-2004.pdf</p>	
	How and to what level is control exercised in the coastal State in terms of remote surveillance (e.g. aerial surveillance, VMS and AIS)?	<p>USA: The USA VMS system is comprised of five sub-programmes in different administrative divisions within NOAA's Fisheries Service. All programmes are connected via a central data base and to the U.S. Coast Guard. According to NOAA the VMS program currently monitors more than 4,000 vessels .The Fisheries Management Plan mandates that all vessels in the tanner crab fisheries must have electronic logbooks and VMS. From March 2016 owners and operators of most U.S flag and foreign commercial vessels operating in US waters were required to install and use AIS.</p> <p>Russia: All Russian and foreign fishing boats that fish in the inland sea waters, territorial sea, continental shelf and the EEZ of the Russian Federation are monitored by VMS. Aerial patrolling of the Russian EEZ is also undertaken to monitor IUU. Approximately 3,800 (3000 domestic and 800 foreign) vessels are monitored by Russian VMS but it is reported that</p>	<p>USA: http://www.fao.org/fishery/topic/18093/en</p> <p>https://www.seafoodwatch.org/-/m/sfw/pdf/reports/c/mba_seafoodwatch_crab_tanner_snow_alaska_report.pdf</p> <p>http://www.aismandate.com/ais-mandates/</p> <p>http://www.nmfs.noaa.gov/ole/about/our_programs/vessel_monitoring.html</p> <p>Russia: http://www.fao.org/fishery/topic/18090/en</p> <p>https://portals.iucn.org/library/sites/library/files/documents/Traf-065.pdf</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>Russian vessels sometimes switch off their VMS before entering neighbouring nations.</p> <p>Japan: Japan conduct aerial surveillance of their own EEZ and VMS is used in some fishing grounds. Vessels over 300 tonnes are obliged to install AIS.</p>	<p>Japan: https://www.oecd.org/tad/fisheries/34429748.pdf http://annx.asianews.network/content/satellites-monitor-suspicious-ships-japanese-waters-42460 </p>	
	How and to what level is control exercised in the coastal State in terms of observer programmes?	<p>USA: NOAA fisheries use fishery observers and observer coverage is used for the tanner crab stocks in the Bering Sea. Observer coverage can range from 0%-200%.</p> <p>Russia: The FIP aimed to implement a voluntary observer program to collect data on fisheries impact and by catch. Russian vessels do have observers but the level and extent of this for the scope of this RA is unknown. Fisheries inspectors are permanently placed on foreign vessels as observers but not on Russian vessels.</p> <p>Japan: Japan is known to have observer programmes in specific fisheries where a requirement has been defined by an RFMO but the level of this is unknown.</p>	<p>USA: http://www.st.nmfs.noaa.gov/observer-home/ https://www.afsc.noaa.gov/Education/factsheets/10_bairdi_Fs.pdf https://www.npfmc.org/wp-content/PDFdocuments/fmp/CrabFMPOct11.pdf http://www.nmfs.noaa.gov/sfa/reg_svcs/Councils/ccc_2013/K_NMFS_EM_WhitePapers.pdf </p> <p>Russia: https://www.sustainablefish.org/Programs/Improving-Wild-Fisheries/Seafood-Sectors-Supply-Chain-Roundtables/Crab/Russian-Far-East-Crab-SR http://www.wwf.ru/resources/news/article/eng/12478 https://portals.iucn.org/library/sites/library/files/documents/Traf-065.pdf </p> <p>Japan: http://www.capfish.co.za/observer_programmes.php </p>	1.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
4.10 Coastal State Cooperation	Does the coastal State work with neighbouring or regional States to enhance MCS in their own waters and fleets?	<p>USA: The USA is a member of many bilateral and multilateral agreements for fisheries enforcement. Under the Agreement on Mutual Fisheries Relations (1988), they cooperate with Russia on enforcement in the Bering Sea.</p> <p>Japan has agreements in place which allow one party to notify another if a vessels has committed a violation of joint conservation and management measures [Japan/China Agreement; Japan/Korea Agreement] and a corresponding duty on the other party to take actions and notify these [Japan/China Agreement; Japan/Korea Agreement]. Japan will also provide notification in the event of seizure or enforcement action by one party against the other party's vessels [Japan/China Agreement; Japan/Korea Agreement].</p> <p>Russia: Russian enforcement authorities have previously cooperated with NOAA Office of Law Enforcement to seize illegal harvested king crab in Russian waters. Russia have also signed a bi-lateral agreement with the USA to combat illegal fishing. Russia shares its VMS data with ministries and agencies at the national and international level.</p>	<p>USA: http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf</p> <p>Japan: http://www.fao.org/docrep/006/Y4698B/y4698b0g.htm</p> <p>Russia: http://www.nmfs.noaa.gov/ia/iuu/level_playfield.pdf http://www.nmfs.noaa.gov/ia/agreements/bilateral_arrangements/russia/us_russia.html http://www.fao.org/fishery/topic/18090/en</p>	1.0
4.11 Transshipment	Is transshipment allowed in coastal State or RFMO waters and is observation required through an RFMO programme or by coastal States for their own waters?	<p>USA: At sea transshipments in coastal State waters are allowed if authorised by that coastal State, or undertaken in conformity with appropriate management regulations. However, transshipment between U.S fisheries largely goes unchecked, and is only prohibited in certain fisheries. It is unlawful for vessels of the U.S. to transfer at sea directly or indirectly to any U.S harvested fish to a foreign vessel, while it is in the EEZ or within the boundary of any State unless it has been permitted.</p>	<p>USA: http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf http://www.nmfs.noaa.gov/sfa/laws_policies/msa/documents/msa_amended_2007.pdf</p> <p>Russia: https://www.sustainablefish.org/Programs/Improving-Wild-Fisheries/Seafood-Sectors-</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>Russia: Transhipment may occur in the supply chain. Transhipments are regulated under Russian law. All transhipments are conducted under supervision of FSB inspectors who are aboard the transport vessels at all times. Product is transferred and a tally is kept by both vessels.- (Intertek Moody Marine, 2013)</p> <p>Japan: There is no system in place for the authorisation of transhipment for tanner crabs in Japan. Transhipment rules exist for domestic and foreign tuna vessels.</p> <p>Transhipment is not prohibited except in port. However, there is no information on whether independent verifications of in port transhipment are required or carried out with any of the coastal States.</p>	<p>Supply-Chain-Roundtables/Crab/Russian-Far-East-Crab-SR Intertek Moody Marine. 2013. Alaska Salmon Fishery. Public Certification Report. November 2013. Ref: 82540. Available from: https://www.msc.org/track-a-fishery</p> <p>Japan: http://www.fao.org/docrep/v9982e/v9982e28.htm#japan</p> <p>NOAA, 2015</p> <p>Pramod <i>et al.</i>, 2014</p>	
Average				1.31

5.10.2.5 Port State – Russia, USA, Japan (control systems in place, PSMA provisions in place)

There are incidences of IUU fish being landed in Japan and the USA however, this has not been identified by the State or by an RFMO and no information can be found on illegal landings in Russian ports. Japan and the USA has high governance levels and although Russia has a lower level of governance it has controls and checks in place to monitor landings in its ports. Of these three Port States only USA is a participant of the Port State Measures Agreements indicating that there could be further improvement in measures to address IUU landings.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
5.1 Are the products of IUU fishing landed in the port State?	Has the port State been identified as a non-compliant State by the EU (yellow / red card)?	Russia, USA and Japan have not been identified as a non-complaint state by the EU.	https://ec.europa.eu/fisheries/cfp/illegal_fishing/info_en	0.0
	Has the port State been identified as a “country of interest” within NOAA biennial reports?	Yes Russia was identified under Section 609 (IUU) for violating conservation measures and fishing without authorisation in 2014, 2015 and 2016.	NOAA-NMFS, 2011; 2013; 2015; 2017 http://www.nmfs.noaa.gov/ia/iuu/iuu_overview.html	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
			http://www.nmfs.noaa.gov/ia/slider_stories/2017/01/2017biennialreport.pdf	
	Has the port State been identified as having IUU fish landed in its ports? (NB: This may be identified by the port State itself, another State or by an RFMO).	<p>USA: Not by the State or an RFMO and is unlikely for tanner crab although king crab noted in 2014.</p> <p>Japan: Not by the State or an RFMO and is unlikely.</p> <p>Russia: Not by the State or an RFMO but the remoteness of some Russian ports may make it more likely for IUU to be landed.</p>	<p>NOAA, 2014</p> <p>Personal experience and MRAG library of IUU activity.</p>	2.0
	Has the port State been identified as having IUU fish landed in its ports by fishing vessel of any State by an NGO or in scientific or press reports?	<p>USA: There are incidences of illegal and unreported catches being imported into the USA.</p> <p>Japan has put in place a strong legal framework to combat IUU and to prevent, deter and eliminate IUU fishing and uncontrolled importation and landing of IUU catches e.g. the Law of Special Measures for Strengthening Conservation and Management of Tuna Resources (1996) to control the import of tuna caught by IUU and reflagged fishing vessels. Some limited illegal fishing is known to occur in Japanese waters that may be landed but as a percentage of the overall Japanese market this will be low in terms of volume and value.</p> <p>Russia: No information can be found but a regulation states that fish caught outside the 12 nautical mile of the Russian shore is not allowed to be landed in Russian ports, reducing the likelihood of illegal landings. Regardless of this there have been several specific instances of IUU being reported in Russian waters, and eventually being transhipped either in Russian ports or at sea, and landed in Korea, Chinese or Japanese ports for onward processing.</p>	<p>USA: Pramod et al. (2014)</p> <p>http://www.noaanews.noaa.gov/stories2010/20101013_fishing.html</p> <p>Personal experience</p> <p>http://www.imcsnet.org/imcs/docs/illegal_fishing_exclusive_economic_zone_japan.pdf</p> <p>http://www.seaaroundus.org/doc/publications/wp/2015/Sobolevskaya-and-Divovich-Russia-Far-East.pdf</p> <p>Clarke and Hosch, 2013</p> <p>http://www.fao.org/in-action/globefish/market-reports/resource-detail/fr/c/522589/</p> <p>Petrossian et al. 2014</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
5.2 Corruption	<p>What is the WB corruption index for the port State? (see WB Governance Indicators).</p> <p>Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.</p>	<p>Japan and the USA all have very high governance indicators in the top 10%. Alternatively, Russia is in the bottom 20% with a control of corruption score of 19%.</p>	WBI 2016	1.5
5.3 Sanctions	<p>Are sanctions enforced for port related activities?</p>	<p>USA: U.S. law generally prohibits foreign vessels from landing or transshipping fish in U.S. ports. If evidence suggests that IUU fishing has occurred in U.S. waters, the vessel will be arrested if it enters a U.S. port. If IUU is suspected to have occurred outside U.S. waters, but the vessels seeks to enter a U.S. port, the matter will be investigated and a prosecution might follow.</p> <p>Japan: In Japan's NPOAs-IUU, any non-Japanese vessel which wants to land or tranship its catch at a Japanese port must obtain a landing permit and a port-call permit from the Japanese Minister of Agriculture, Forestry and Fisheries. IUU vessels are denied permits and their landings are prohibited. The maximum penalty for violations are 3 years imprisonment and/or a fine of 4,000,000 Yen. Non-Japanese vessels transporting fish can land its freight if it carries an official document to certifying that that the fish has been landed and exported from the flag state. Landings are not allowed if the fish were transhipped at sea.</p> <p>Russia: Sanctions are enforced and information on these are available in the FAF website, as well as through 3rd party reports (e.g., NOAA, MSC fisheries certification report).</p>	<p>Japan: ftp://ftp.fao.org/fi/document/tc-psm/Reg_Workshop_2006/Doulman_Role_Port_State1.pdf</p> <p>USA: http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf</p> <p>http://www.fao.org/fileadmin/user_upload/legal/docs/037s-e.pdf</p> <p>http://www.fao.org/fishery/psm/agreement/parties/en</p>	11.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		For the above States the levels of enforcement are unknown. USA is a participant of the Port State Measures Agreement but Russia and Japan are not.		
	Are the sanctions enforced relative to the level of IUU fishing.	In the US and Canada, Offences relating to fisheries non-compliance can result in criminal prosecutions. Offences relating to fisheries compliance can result in significant criminal charges as well as temporary and permanent loss of license agreements, although there has been some criticism that in some cases, sanctions are not adequate to ensure deterrence. In Japan, while illegal fishing is prosecuted as such, it is not recognised as a serious crime, and it may be that sanctions do not fit the level of the crime, although these can still include prison sentences and revocation of the fishing license. In Russia, levels of enforcement and sanctions have been much improved in recent years and include strengthened sanctions, confiscations and quota cancellations. Fishing licenses may be revoked and quotas confiscated in cases of violations. Repeated offences can also lead to the total termination of the fishing rights. In China, there is no specific information on the criminal liabilities imposed and it is unclear if these are adequate to ensure deterrence.	Fisheries Agency of Japan, 2004 Government of Canada, 2005 Department of State, 2004 OECD, 2010 OLE, 2016 Teleteskey, 2015 http://www.gc.noaa.gov/enforce-office3.html http://www.dfo-mpo.gc.ca/fm-gp/enf-loi/index-eng.htm http://www.dfo-mpo.gc.ca/media/charges-inculpations/nl-tnl-eng.htm	2.0
5.4 RFMO	Membership: Is the port State a Member of the relevant RFMOs?	No RFMO covers the Bering Sea or tanner crabs. The USA and Russia participate in a number of other RFMOs in the waters that their fleets fish.	https://ec.europa.eu/fisheries/cfp/international/rfmo_en https://www.wcpfc.int/about-wcpfc http://www.nmfs.noaa.gov/ia/iuu/iuu_nation_alplan.pdf e.g. http://www.iccat.es/Documents/BienRep/REP_EN_10-11_I.1.pdf	0.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
			e.g. https://www.nafo.int/About-us	
	Compliance: is the port State compliant with all RFMO requirements and data submissions?	N/A		0.0
	Engagement: Does the port State submit additional information / papers to RFMO and actively participate in scientific and compliance committee meetings?	N/A		0.0
5.5 Multi-lateral agreements e.g. FAO Guidelines or UNCLOS	<p>Is the port State a contracting/cooperative non-member party to multi-lateral agreements e.g. PSMA, UNCLOS, UNFSA, FAO Agreements?</p> <p>Has the FAO Port State Measures Agreement been signed, acceded or implemented?</p> <p>Implementation of the provisions of the Convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks</p>	<p>UNCLOS: Russia and Japan</p> <p>UNFSA: USA, Japan, Russia</p> <p>Compliance Agreement: Japan and USA.</p> <p>FAO Agreement: Japan and USA.</p>	<p>http://www.un.org/depts/los/reference_files/chronological_lists_of_ratifications.htm</p> <p>http://www.fao.org/fileadmin/user_upload/legal/docs/012s-e.pdf</p>	1.0
5.6 NPOAs (IUU + others)	Is there a specific National Plan of Action (NPOA) in place to combat IUU in the port State?	<p>USA: Yes</p> <p>Japan: Yes</p> <p>Russia: Russia adopted an NPOA IUU in 2013 but there is no other information available on it.</p>	<p>USA: http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf</p> <p>Japan: ftp://ftp.fao.org/FI/DOCUMENT/IPOAS/national/japan/NPOA-iuu.pdf</p> <p>Russia : Russian Far East Crab, Fishery Improvement Project (November 2016)- Document archived</p>	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
5.7 Port Control	State How and to what level is control exercised in the port State in terms of administrative controls and checks? (e.g. logbook check against VMS and administrative checks including validation of catch certificates)	<p>Japan: VMS is in operation but the extent to which this is carried out is unknown. In compliance with international fishery organisations, Japan has implemented documentation schemes.</p> <p>USA: Foreign vessel seeking to enter a U.S. port must first provide notice to the Coast Guard. If the vessel is listed on an IUU list, it will be determined whether entry will be denied or whether certain restrictions should be imposed. Foreign vessels seeking to enter a U.S. port are not required to have logbooks. The USA promotes the use of catch documentation and certification schemes in cooperation with relevant RFMOs. The extent to which these procedures are carried out is unknown.</p> <p>Russia: All Russian and foreign fishing boats that fish in the inland sea waters, territorial sea, continental shelf and the EEZ of the Russian Federation are monitored by VMS but the extent to which this is carried out is unknown. Fishers are obliged to register catch and landings and report on fishing activities through daily catch reports and log books. The extent to which these procedures are carried out is unknown. Official bodies of control are allowed to request catch documents for verification, detain citizen for violation of mandatory requirements, inspect vessels, or tools for fishing and seize them if necessary. In 2008 Russia mandated that all catch on board a vessel, must be checked in a Russian port for customs clearance and documentation.</p>	<p>Japan: https://www.oecd.org/tad/fisheries/34429748.pdf</p> <p>USA: http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf</p> <p>http://www.noaanews.noaa.gov/stories2010/20101013_fishing.html</p> <p>Russia: http://www.fao.org/fishery/topic/18090/en</p> <p>WWF (2008) Illegal fishing in arctic waters http://d2ouvy59p0dg6k.cloudfront.net/downloads/iuu_report_version_1_3_30apr08.pdf</p> <p>http://www.fish.gov.ru/files/documents/documenty/federalnye_zakony/Federalnyj-zakon_166-FZ_ot_20-12-2004.pdf</p> <p>WWF (undated) Illegal Russian Crab. An investigation of Trade Flow. https://c402277.ssl.cf1.rackcdn.com/publications/733/files/original/WWF_Illegal_crab_report_final_15_Oct_2014.pdf?1413407573</p>	2.0
	How and to what level is control exercised in the port State in terms of inspections on vessels in port?	Japan: Employs standard port inspection measures but how and to what level is unknown.	Japan: http://www.europarl.europa.eu/RegData/etudes/note/join/2014/529044/IPOL-PECH_NT(2014)529044_EN.pdf	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		<p>USA: Foreign vessels are normally prohibited to land or tranship fish in U.S. ports, except for a few ports located in insular territories, or when special agreements are in place. The NOAA's Office of Law Enforcement boards approximately 60% of foreign flagged fishing vessels and fishing support vessels that land in U.S ports.</p> <p>Russia: According to Russian legislation, all catches have to be delivered to a Russian port where the Federal Customs Agency may inspect landings both for domestic or export purposes. However, transparent information on the percentage of inspections is not readily available. Official bodies of control are allowed to inspect vessels, or tools for fishing and seize them if necessary but the level to which this is carried out is unknown.</p>	<p>USA: http://www.fao.org/3/a-y3536e/y3536e09.htm#fnB76</p> <p>http://www.nmfs.noaa.gov/ole/about/implementing_psm_faq.html</p> <p>http://www.fao.org/docrep/005/Y3274E/y3274e0h.htm#fnB329</p> <p>Russia: http://www.fish.gov.ru/files/documents/documenty/federalnye_zakony/Federalnyj-zakon_166-FZ_ot_20-12-2004.pdf</p> <p>http://www.fish.gov.ru/otkrytoe-agentstvo/opendata</p>	
	How and to what level is control exercised in the port State in terms of vessel monitoring (e.g. notification of port entry, VMS and AIS)?	<p>In Japan VMS has been introduced to some fisheries conducted in specific areas but the level to which it is exercised is not publically available. Vessels intending to tranship or land their catch at Japanese ports need to obtain a landing permit and a port-call permit.</p> <p>Russia: All Russian and foreign fishing boats that fish in the inland sea waters, territorial sea, continental shelf and the EEZ of the Russian Federation are monitored by VMS. Aerial patrolling of the Russian EEZ is also undertaken to monitor IUU. The level to which this is exercised is unknown. Approximately 3,800 (3000 domestic and 800 foreign) vessels are monitored by Russian VMS but it is reported that Russian vessels sometimes switch off their VMS before entering neighbouring nations.</p> <p>USA: Foreign vessels must provide prior notice to the U.S. Coast Guard if they wish to enter a U.S port. According to NOAA the VMS program currently</p>	<p>Japan: ftp://ftp.fao.org/FI/DOCUMENT/IPOAS/national/japan/NPOA-iuu.pdf</p> <p>Russia: http://www.fao.org/fishery/topic/18090/en</p> <p>https://portals.iucn.org/library/sites/library/files/documents/Traf-065.pdf</p> <p>USA: http://www.noaanews.noaa.gov/stories2010/20101013_fishing.html</p> <p>http://www.nmfs.noaa.gov/ole/about/implementing_psm_faq.html</p>	2.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		monitors more than 4,000 vessels. The information received will also be passed on to the NOAA's Office of Law Enforcement so that the vessel can be screened to determine whether it should be granted or denied access. Vessel entry into a U.S. port can be denied if it is listed for engaging in IUU by one of the world's international fishery management organisations. The Fisheries Management Plan mandates that all vessels in the tanner crab fisheries must have electronic logbooks and VMS. From March 2016 owners and operators of most U.S flag and foreign commercial vessels operating in US waters were required to install and use AIS.	https://www.seafoodwatch.org/-/m/sfw/pdf/reports/c/mba_seafoodwatch_crab_tanner_snow_alaska_report.pdf http://www.aismandate.com/ais-mandates/ http://www.nmfs.noaa.gov/ole/about/our_programs/vessel_monitoring.html	
5.8 Port State Cooperation	Does the port State work with neighbouring or regional States to enhance MCS on vessels landing in their ports?	<p>USA: The U.S is a member of many bilateral and multilateral agreements for fisheries enforcement. Under the Agreement on Mutual Fisheries Relations (1988), they cooperate with Russia on enforcement in the Bering Sea. However, very few U.S. ports allow foreign vessels to land or tranship in its ports.</p> <p>Japan has agreements in place for the provision for one party to call other party's attention to breaches by its vessel of joint conservation and management measures [Japan/China Agreement; Japan/Korea Agreement] and a corresponding duty on the other party to take actions and notify these [Japan/China Agreement; Japan/Korea Agreement]. Japan will also provide notification in the event of seizure or enforcement action by one party against the other party's vessels [Japan/China Agreement; Japan/Korea Agreement].</p> <p>Russia: Russia have also signed a bi-lateral agreement with the USA to combat illegal fishing. Russia shares its VMS data with ministries and agencies at the national and international level.</p>	<p>USA: http://www.nmfs.noaa.gov/ia/iuu/iuu_nationalplan.pdf</p> <p>Japan: http://www.fao.org/docrep/006/Y4698B/y4698b0g.htm</p> <p>Russia: http://www.nmfs.noaa.gov/ia/agreements/bilateral_arrangements/russia/us_russia.html http://www.fao.org/fishery/topic/18090/en</p>	1.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
5.9 Designated ports	Are the ports used appropriate in terms of location and size for particular fleets or species? NB: The ideal is for designated ports assigned to fleets and species to be used.	No requirement for designated ports and none have been determined for the tanner crab fisheries but appropriate and a limited number of ports have been identified in all port States. The US also publish information on landings of tanner crab across different ports.	Descriptions of fisheries and knowledge of North Pacific fisheries from the assessment team. https://alaskafisheries.noaa.gov/fisheries-catch-landings	3.0
5.10 Transhipment	Is transhipment allowed in port and is observation required through an RFMO programme or by port States for their own ports?	USA: The US generally denies transhipments by foreign vessels in its ports, except for a few ports located in U.S. insular territories. Under the Magnuson–Stevens Act the Secretary of Commerce is allowed to issue a transhipment permit to authorise a vessel other than a U.S vessel to engage in fishing solely consisting of transporting fish or fish products from within in the U.S. EEZ or outside in concurrence of that State. Transhipment is not prohibited except in port. However, there is no information on whether independent verifications of in port transhipment are required or carried out with any of the coastal States. It is not clear if these are appropriate for the fishery and vessel size and transhipment activities are not transparent.	USA: http://www.fao.org/docrep/005/Y3536E/y3536e09.htm https://www.federalregister.gov/documents/2017/03/21/2017-05493/permits-foreign-fishing Japan: http://www.fao.org/docrep/v9982e/v9982e28.htm#japan Russia: http://www.fao.org/docrep/v9982e/v9982e3h.htm#russian%20federation https://www.megafishnet.com/news//2079.html NOAA, 2015 Pramod <i>et al.</i> , 2014	2.5
Average				1.48

5.10.2.6 Market State – Japan - Traceability and national requirements

Japan is the sole market State in this risk assessment. IUU products have been reported to have been imported into Japan and the sheer volume of imports that it receives could potentially increase the risk of IUU. As the supply chain of tanner crab entering the Japanese market is unknown, it cannot be determined what the exact risk of IUU activities are but based on previous incidences of IUU activity involving crab species by the

States under assessment (mainly Russia) the risk is higher. However, Japan has a high governance score which suggests that once the product is in the supply chain, illegal actions are unlikely.

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
6.1 Products of IUU fishing found in the final market State or within the States of the supply chain?	Has the market State or any of the States in the supply chain been identified as a non-compliant State by the EU (yellow / red card)?	Japan has not been identified by the EU IUU regulation yellow/red card system.	https://ec.europa.eu/fisheries/sites/fisheries/files/illegal-fishing-overview-of-existing-procedures-third-countries_en.pdf	0.0
	Has the market State or any of the States in the supply chain been identified as a "country of interest" within NOAA biennial reports?	Japan has not been identified by NOAA in any of its reports to congress.	NOAA, 2013; 2015; 2017 http://www.nmfs.noaa.gov/ia/iuu/iuu_overview.html	0.0
	Has the market State or any of the States in the supply chain been identified as having IUU fish landed in its ports? (NB: This may be identified by the port State itself, another State or by an RFMO).	In Japan there are no reports of illegal fish being landed in its ports by RFMO or State sources.	Personal experience	0.0
	Has the market State or any of the States in the supply chain been identified as having IUU fish landed in its ports by fishing vessel of any State by an NGO or in scientific or press reports?	Japan has been identified by various press reports as being the recipient of IUU sourced fish, usually after being laundered in the supply chain, although trade measures to combat IUU have been noted to have been improved.	Clark, 2007a; 2007b Clark and Hosch, 2013 DGIPOL, 2013 Marine Conservation Institute, 2014 Petrossian <i>et al.</i> , 2014 Pramod <i>et al.</i> , 2014	2.0
6.2 Supply chain length, complexity and transparency	How many States and companies are in the supply chain?	There is no information on the supply chain. Tanner crab often undergoes transport and some transformation / processing in a range of different States, which may include China, Russia and the US. Subsequently, it can be expected that the supply chain is diverse.	Clark and Hosch, 2013 Pramod <i>et al.</i> , 2014 Sobolevskaya and Divovich, 2015	3.0
	How many different companies and transfers of ownership, amount of processing?		Clark and Hosch, 2013 Sobolevskaya and Divovich, 2015 Information from the client	3.0
	Is the chain publically known and transparent?		Clark and Hosch, 2013 Sobolevskaya and Divovich, 2015 Information from the client	3.0
6.3 High risk points in the supply chain	Are the ports in the supply chain (after the port of first landing) known or suspected PONCS and do the ports used have well documented	The ports in the supply chain are not specifically known. However, Japan is not recognised as a PONC or port.	Petrossian <i>et al.</i> , 2014	0.0

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
	and effective port control and inspection?			
	Does processing occur in locations that seem out of context (e.g. locations with no history of processing, high costs incurred for transport, high cost of processing) or with history of laundering IUU catches?	The location of tanner crab processing is unknown but seafood processing in Japan has decreased as it has moved to other Asian countries including China, Vietnam and Thailand. Canadian seafood products are also often processed to some degree before export.	http://www.agr.gc.ca/resources/prod/Internet-Internet/MISB-DGSIM/ATS-SEA/PDF/6770-eng.pdf	1.0
6.4 Corruption	What is the WB corruption index for the port State? (see WB Governance Indicators). Governance score - Low scores of governance are particularly vulnerable to incursions and illegal activities perpetrated by all distant water fishing nations in addition to internal weaknesses and corruption.	Japan- 91%. This high governance score suggests that illegal actions once in the supply chain would be unlikely in Japan.	WBGi 2016	0.0
	Performance of spot audits at key transport hubs and border inspection points?	There is no information on spot audits being carried out at key transport hubs and BIPs. However, there are clear indicators this does occur, at least in the tuna industry, with a consignment if tuna being refused entry.	DGIPOl, 2013 Fisheries Agency of Japan, 2004 http://www.oecd.org/agriculture/ http://www.jfa.maff.go.jp/e/index.html	2.0
6.6 Post landing inspections	Are inspections carried out on the fish after landings e.g. by customs, BIPs and in transit?	When a consignment arrives at a Japanese port a 'Notice of Customs Clearance' is sent to the addressee from a customs office and a customs clearance procedure is initiated. In some cases a health and sanitary certificate must also accompany the import notification form. Food is then quarantined and inspected to ensure it complies with Food Sanitation Law. Consignments with a past record of non-compliance will often require further examination. Some fish require approval for import prior to customs clearance procedures (e.g. those governed by import quotas or by international conventions or agreements).	http://www.fao.org/docrep/008/y5924e/y5924e06.htm	1.5
6.6 Independent Verifications	Is supply chain MSC CoC certified?	As the supply chain is unknown this cannot be determined but the Far East Crab Catchers Association successfully passed the preliminary MSC assessment in 2016, which included tanner crab off	http://crab-dv.ru/en/sovershenstvovanie-promyisla.html	2.5

Specific Risk	Specific Questions to Address Risk	Description	Evidence	Score
		West Kamchatka. It is unknown though whether this fishery supplies the Japanese market and if so whether it is sourced through MSC CoC supply chains		
	Non-MSC Supply chain and traceability audits (due diligence) conducted?	Marine Eco-Label (MEL) Japan is a seafood certification scheme. Distributing organisations wishing to handle products from MEL-Japan certified fisheries can voluntarily apply for chain of custody certification. It is unknown if this covers tanner crab.	ftp://ftp.fao.org/fi/DOCUMENT/COFI/cofift_13/5e.pdf	3.0
6.7 CDS / CC certification	Do catch documentation schemes exist for the species?	In compliance with international fishery organisations, Japan has implemented documentation schemes but these only cover several tuna and tooth fish species.	https://www.oecd.org/tad/fisheries/34429748.pdf	3.0
6.8 Processing or transshipment vessels involved in market chain.	If transshipment or processing onboard a Klondiker or mother vessels is allowed (licensed) in the fishery, are the Klondiker and transshipment (reefer) vessels on the relevant whitelists (authorised) or blacklists (IUU)?	There was no information on whether processing vessels are used in the supply chain.	No evidence available.	3.0
	Are there independent observer programmes on non-fishing vessels?	There are no independent observer programmes on non-fishing vessels, although there are no support vessels in the fishery and transshipment at sea is illegal.	As above.	3.0
Average				1.81

5.10.3 Recommendations

5.10.3.1 *Fishing vessels, legal personalities and companies*

- Information is required on the fishing vessels, legal personalities and companies involved in all stages throughout the supply chain to provide a more accurate assessment of individual supply chains entering the Japanese market.

5.10.3.2 *Fisheries*

- Clarification of the species name (e.g common issue of misreporting of tanner crab as snow crab).
- Information is required on the specific fisheries sourced that supply Japan.
- Further data on tanner crab fisheries should be collected in order to gain a better understanding of the tanner crab stocks.
- Populations' status may regularly change, therefore it is important to keep informed on the status on a regular basis.
- Wherever possible, MSC certified products should be sourced through MSC CoC certified supply chains.
- Engage in working towards MSC certification.

5.10.3.3 *Flag State*

- Complete vessel and fisher identification, including license and registration, as well as any unique vessel identifiers should be obtained for all product sourced. As all of the flag States involved have the capability to produce a catch certificate, a catch certificate should be obtained in all cases, and accompany the product.
- Regular forensic audits of the supply chain should be carried out and include administrative checks of the catching vessels. The case where any product is sourced from another coastal State, detailed information on the nature of the agreement should be obtained.
- Further information on the enforcement of control requirements specifically for tanner crab.

5.10.3.4 *Coastal State*

- In the case where any product is sourced from flag State different to the coastal State, detailed information on the nature of the agreement should be obtained (whether private or State to State). In addition, full details of those vessels fishing in other coastal State waters should be obtained.
- Forensic audits of the supply chain should be tiered to ensure higher risk coastal States, i.e., Japan and Russia, are examined in more detail. Furthermore, these audits should provide reassurances that catch was not obtained from the high seas.
- Further information should be collected on the implementation of coastal State controls.
- Information on transshipment controls within in their coastal waters is required.

5.10.3.5 *Port State*

- Transshipment within the supply chain should be avoided. In cases where this is unavoidable, accompanying documentation, including details of any independent verification needs to be obtained.
- Where possible, engage both Japan and Russia to ratify the PSMA.

5.10.3.6 Market State

- Ensure all product is accompanied by a catch certificate, as well as any accompanying documentation, notably transportation (including transshipment) and transformation (processing).
- Obtain a list of all possible intermediary companies and States involved in the supply of product.
- Carry out regular forensic audits of the supply chain, examining any links in custody, and the associated companies and States.
- Ensure requirements for a clear and transparent supply chain are communicated throughout the chain of custody.
- Wherever possible, source tanner crab direct from the supplier, or with limited supply chain complexity.

NB: It should be noted that the IUU risk assessment carried out is limited in scope, analysing the risk that IUU fish may enter the supply chain from a particular fishery. It does not analyse the individual supply chains present and this would require a traceability assessment to be carried out which has not been done in this case.

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