



Trial Quality Assurance Review

On behalf of the Commission for the Conservation of Southern Bluefin Tuna



Undertaken by Global Trust Certification Ltd.

Member Report: Korea

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Executive Summary

This Quality Assurance Review (QAR) report provides an evidence-based review of Korea's Southern Bluefin tuna (SBT) fishery and associated fisheries management against section 1.1 of CCSBT's Compliance Policy 1, "Minimum performance requirements to meet CCSBT Obligations". The QAR was conducted April – August 2013, with a key consultation meeting held with key personnel within the Ministry of Oceans and Fisheries (MOF), National Fishery Products Quality Management Services (NFQS) and Korea Overseas Fisheries Association (KOFA) on 10th July 2013 GMT (Table 1).

Korea is recognised as one of the leading distant water fishing countries, reported as catching the third most globally and second in terms of tuna catches in 2008. The legal basis for the management of Korean distant waters fisheries is the *Distant Water Fisheries Development Act* (DWFDA). This Act legally requires fishing vessels and the Korean government to comply with Regional Fisheries Management Organisations (RFMOs) such as the CCSBT, and IOTC of which Korea is also a member. The Korean SBT fishing fleet consists of a small number of large-scale longliners operating exclusively in international waters. The operational management of the fishery is the responsibility of the new Ministry of Oceans and Fisheries, which devises and implements all technical measures and documentation requirements applied to the SBT fishery. The key management instrument is the annual application of a Total Allowable Catch (TAC), which is set in line with the CCSBT Allocated Catch (AC) for Korea. This TAC is initially allocated by the MOF to the three companies which currently prosecute the fishery based on their historical effort share, and subsequently to individual vessels within those companies. The *Distant Water Fisheries Development Act* stipulates a number of additional management requirements, such as mandatory vessel monitoring systems (VMS), logbook keeping, and catch reporting. The majority of Korean SBT catch is landed in and exported to Japan, either directly by the fishing vessels or via authorised foreign-flag transport vessels.

The management systems and processes applied by Korea to the SBT fishery have been successful in ensuring that the reported Attributable SBT Catch (ASBTC) has not significantly exceeded Korea's CCSBT AC. Catches are recorded daily in hard-copy logbooks, and must be submitted electronically a minimum of once per month to the MOF. Vessels also return the completed logbooks at the end of a trip. Additional documentation monitors transshipments and landings, and is used in conjunction with CCSBT Catch Documentation Scheme (CDS) documents to ensure consistency and reduce the probability of misreporting. Accuracy of SBT catch and mortality estimates is also ensured through an observer scheme, portside inspections at landing and transshipment, and the mandatory presence of an IOTC observer whenever fish are transhipped at sea.

Korea's SBT fisheries management systems have been shown to be effective in terms of the CCSBT minimum performance requirements, with well-established fisheries legislation, a strong fisheries management regulatory system and established fisheries reporting and sanctions. The QAR has also identified some weaknesses and risks associated with the Korean management system. The most significant of these are related to the two main risks. Firstly, the QAR identified a risk of inaccurate catch estimates due to the weight of catch not being obtained until after the tail of the fish has been removed; a fixed conversion factor is used but all catch weights, even those obtained at landing, remain an approximation. Secondly, the lack of at-sea inspections increases the risk of potential non-compliance. The main recommendations of this QAR are accordingly to require vessels to weigh catch before tails are removed, and to introduce at-sea inspections of vessels on some scale.

Table 1. Summary of Quality Assurance Review Implementation Information: Korea

| | |
|---|--|
| QAR contract period | <i>April – August 2013</i> |
| Reviewers | <i>Sam Peacock (Lead reviewer) Oliver Wilson (Support reviewer) Dave Garforth (Review Lead)</i> |
| Allocation Period covered | <i>2010 - 2013</i> |
| Date of consultation meeting(s) Length of consultation | <i>10/07/13 (BST) 3 hour conference call</i> |
| List of Member Agencies consulted with. | Ministry of Fisheries (MOF), National Fishery Products Quality Management Services (NFQS), Korea Overseas Fisheries Association. |
| Report Draft for Member Review | <i>July 18th 2013</i> |
| Receipt of Member Review Template/Comments | <i>August 21st 2013</i> |
| Final Report | <i>August 30th 2013</i> |

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ABBREVIATIONS

| | |
|--------|--|
| AC | Allocated Catch (Individual Member quota) |
| ASBTC | Attributable Southern Bluefin Tuna Catch |
| CCSBT | Commission for the Conservation of Southern Bluefin Tuna |
| CDS | Catch Documentation Scheme |
| CMF | Catch Monitoring Form |
| CPUE | Catch per Unit Effort |
| CTF | Catch Transfer Form |
| ERS | Ecologically Related Species |
| HMS | Highly Migratory Species |
| ICCAT | International Commission for the Conservation of Atlantic Tuna |
| IOTC | Indian Ocean Tuna Commission |
| IUU | Illegal, unreported and unregulated |
| LSTLVs | Large Scale Tuna Longlining Vessels |
| MIFAFF | Ministry for Food, Agriculture, Forestry and Fisheries |
| MLTM | Ministry of Land, Transportation and Maritime Affairs |
| MOF | Ministry of Oceans and Fisheries |
| MPR | Minimum Performance Requirement |
| NFQS | National Fishery Products Quality Management Services |
| NFRDI | National Fisheries Research and Development Institute |
| RFMO | Regional Fisheries Management Organisation |
| QAR | Quality Assurance Review |
| QIA | Quarantine & Inspection Agency |
| QMS | Quota Management System |
| SBT | Southern Bluefin Tuna |
| TAC | Total Allowable Catch |
| TDF | Transshipment Declaration Form |
| VMS | Vessel Monitoring System |

1 Quality Assurance Review

This is an evidence based review that forms the basis for the assessment of the Commission for the Conservation of Southern Bluefin Tuna (CCSBT) members against specific obligations from CCSBT's Compliance Policy 1, "Minimum performance requirements to meet CCSBT Obligations". Members were requested to demonstrate, by providing supporting documentation, that they meet the obligation from CCSBT's Compliance Policy. The scope of the assessment was limited to the obligations and associated Minimum Performance Requirements in section 1.1 of this policy, which are aimed at ensuring Members and Co-operating Non-Members have implemented adequate measures to ensure they do not exceed their Allocation of the global Southern Bluefin Tuna (SBT) catch. The obligations in this policy are derived from CCSBT Resolutions and Decisions, in particular:

- The "Resolution on the Allocation of the Global Total Allowable Catch"; and
- The "Resolution on Limited Carry-forward of Unfished Annual Total Allowable Catch of Southern Bluefin Tuna within Three Year Quota Blocks".

The main body of this report provides an overview of the management of fisheries of the Member under assessment; a step-by-step description of the approach taken by the Member to meet each Minimum Performance Requirement (MPR); a discussion of any areas where fishery management falls short of an MPR, and potential improvements; and a detailed flow diagram illustrating the relationships between the different components of the management process.

1.1 Methodology

- The QAR is an independent desk top review with remote consultation stages with Member authorities to gain further evidence, seek clarification and verification of performance against the Minimum Performance Requirements of Section 1.1 of the CCSBT Compliance Policy.
- A lead reviewer is assigned to each Member Review from a team of reviewers.
- The review method was undertaken in 3 steps.
 - i. Management System Review – the overall framework for management of SBT to ensure compliance with allocations
 - ii. Process and implementation review – the implementation of the fishery management system (description, features, specific measures, actions, rules/regulations that allow for implementation, catch recording, catch reporting and compliance). Evidence of implementation such as specimen records, reporting and recording documents will be requested to allow verification of the system's effectiveness to be assessed.
 - iii. Management System Effectiveness - the outcome of the analysis documented using a SWOT analysis with regard to the extent that the management system implementation effectively demonstrates compliance to each of the MPR.
 - iv. Recommendations for Improvement- areas identified through the review that may result in improved Member compliance (or improved reporting effectiveness for purposes of

subsequent QAR activities). This is presented using the Opportunities component of the SWOT analysis.



Figure 1. Methodology for the CCSBT Quality Assurance Review

A detailed process flow map of each Member is developed to provide a ‘visual’ description of allocation and catch accounting systems. The process flow maps are documented initially from the desk based review and then finalized during the final reporting stage.

The report is presented in 6 Sections.

- Section 1: This section, providing a short description of the process.
- Section 2: A background section that describes the fishery and the overall management system. This is supported with an organizational chart and table of identified agency roles specific to each MPR (where applicable).
- Section 3: Detailed description of the evidence that demonstrates conformity to the specific MPR requirement with a summary of outcome and key points.
- Section 4: A detailed flow chart has also been prepared to support the evaluation and provides specific details of the SBT Allocation, CDS and MCS in place.
- Section 5: Effectiveness of the Management Systems (SWOT).
- Section 6: Opportunities/Recommendations for improvement.

N.B. A further report on the overall outcome and feasibility of the approach, method and conclusions has also been undertaken as part of the QAR work.

2 Southern Bluefin fishery

2.1 Introduction

Korea is recognised as one of the leading distant water fishing countries, reported as catching the third most globally¹. Korean flagged large scale tuna longliners (LSTLVs) have been targeting Southern Bluefin Tuna (SBT) since 1991². SBT is a highly migratory species with Korea's SBT fishing operations occurring in the high seas western Indian Ocean from April and ends in December². Korean longliners target SBT in the high seas of the western Indian Ocean from April – July. Korean longliners occasionally fish in the south eastern Atlantic, whilst from July – December the fleet moves to the eastern Indian Ocean off Western Australia². This SBT fishing pattern and the fishing grounds used by Korean vessels is shown in Figure 3. The fishing patterns of the Korean fleet have reportedly not changed significantly in the past 20 years².

2.2 Commercial fishery

Korean SBT fisheries began in 1991 when three longliners operating in the high seas began targeting SBT. Given the high value of the species and the demand in the market, the Korean fleet increased to 19 vessels in 1998 with the number of vessels targeting SBT each year dependent on the Japanese market³. Figure 2 shows catches of SBT by Korean longliners from 2006 – 2011, showing that the number of fishing events and associated number of hooks has increased from 2006 – 2011, reaching a peak of 19,789 fishing events in 2009. Since 2009 the number of fishing events has decreased to 8,415 in 2011. The catch per unit effort (CPUE) associated with Korean longliners has also increased from 2.60 in 2006 to 3.38 in 2011. CPUE has remained above 3 since 2008. Figure 4 shows the commercial catches of SBT from 1991 – 2010 comparing this to the number of vessels involved in the fishery. The SBT fishing season runs from April 1st to March 31 of the subsequent year, although historically SBT catches have been between April - December².

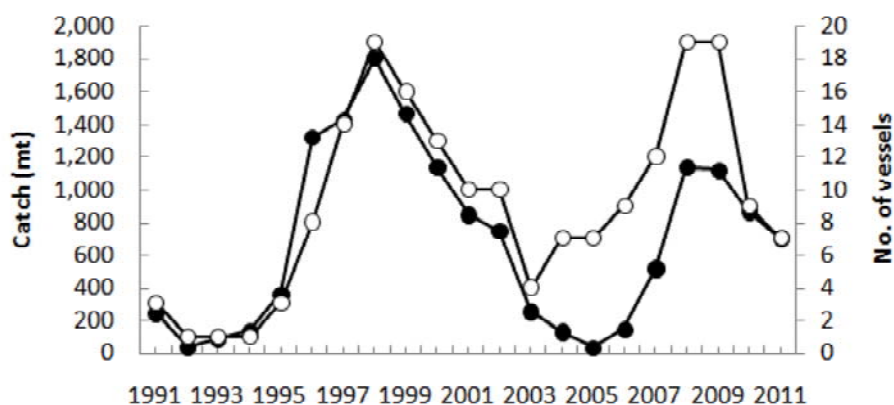


Figure 2 - Korean SBT catches from 2006 - 2011²

¹ Argonet. (2002) *Korea: A Distant-Water Fishing Nation*. [Online] Available from:

http://www.cls.fr/documents/argos/peche/argonet_info/argonet_7_en.pdf [Accessed 24/08/13]

² Ministry for Food, Agriculture, Forestry and Fisheries. (2012) *Annual Review of SBT Fisheries for the Annual Meeting of the Extended Commission*, CCSBT-CC/12-09/SBT Fisheries-Korea (Rev1)

³ Ministry for Food, Agriculture, Forestry and Fisheries. (2012) *Annual Review of SBT Fisheries for the Annual Meeting of the Extended Commission*. CCSBT-CC/12-09/SBT Fisheries-Korea (Rev1)

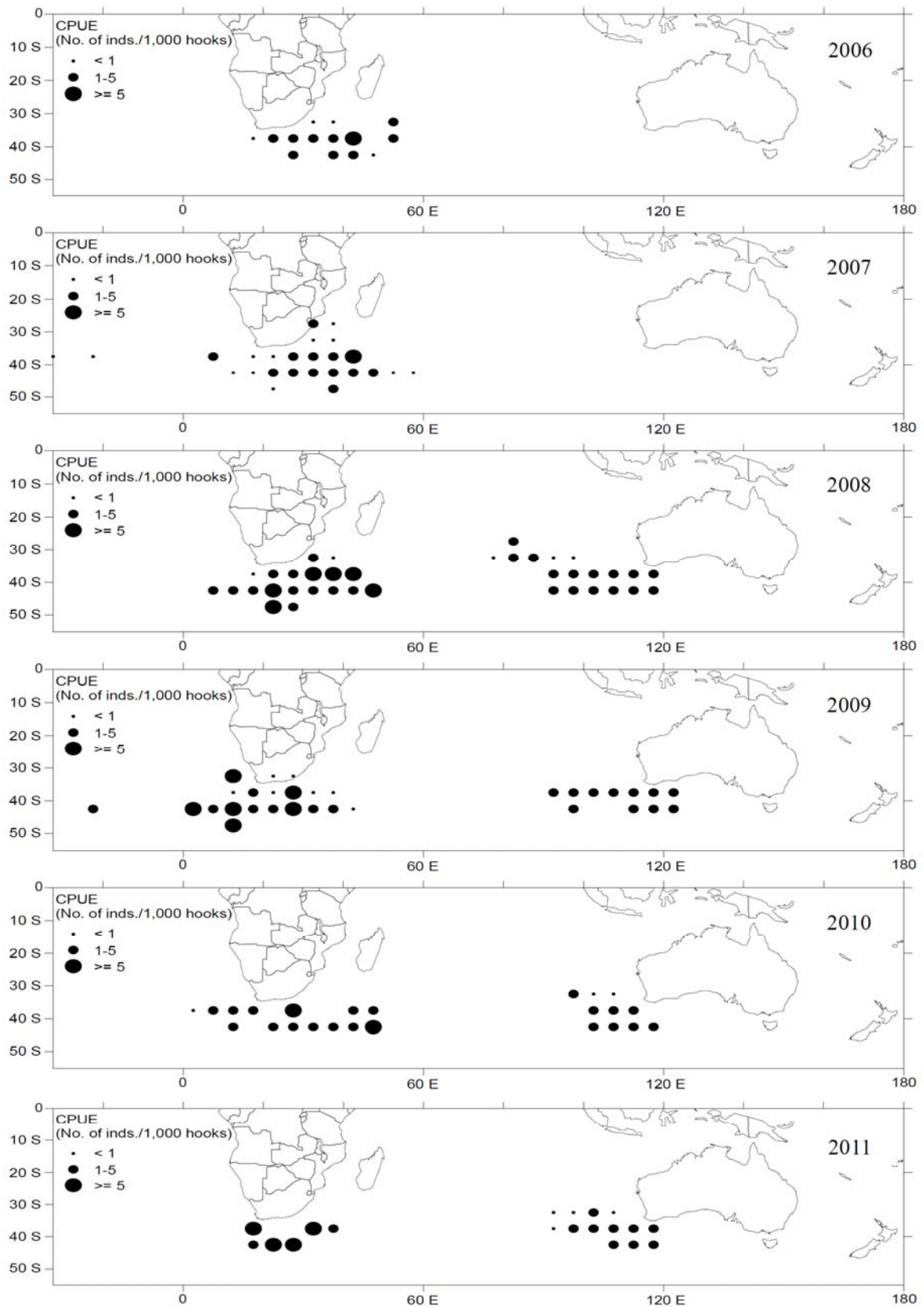


Figure 3 - Korean SBT fishing pattern and fishing grounds, showing Catch per unit effort (CPUE) of Korean longliners from 2006 - 2011²

| Year | Total | | | Area 2 | | | Area 8 | | | Area 9 | | | Others | | |
|------|--------------|--------------------------------|------|--------------|--------------------------------|------|--------------|--------------------------------|------|--------------|--------------------------------|------|--------------|--------------------------------|------|
| | No. of inds. | No. of hooks ($\times 10^3$) | CPUE | No. of inds. | No. of hooks ($\times 10^3$) | CPUE | No. of inds. | No. of hooks ($\times 10^3$) | CPUE | No. of inds. | No. of hooks ($\times 10^3$) | CPUE | No. of inds. | No. of hooks ($\times 10^3$) | CPUE |
| 2006 | 3,737 | 1,437 | 2.60 | - | - | - | - | - | - | 3,722 | 785 | 4.74 | 15 | 651 | 0.02 |
| 2007 | 6,689 | 3,391 | 1.97 | - | - | - | - | - | - | 6,615 | 2,696 | 2.45 | 74 | 695 | 0.11 |
| 2008 | 16,853 | 4,972 | 3.39 | 607 | 229 | 2.64 | 6,926 | 2,597 | 2.67 | 9,301 | 1,798 | 5.17 | 19 | 347 | 0.05 |
| 2009 | 19,789 | 5,962 | 3.32 | 0 | 3 | 0.00 | 4,348 | 2,142 | 2.03 | 15,269 | 3,501 | 4.36 | 172 | 315 | 0.55 |
| 2010 | 6,689 | 2,068 | 3.23 | 82 | 95 | 0.86 | 2,834 | 1,062 | 2.67 | 3,773 | 910 | 4.14 | - | - | - |
| 2011 | 8,415 | 2,489 | 3.38 | 39 | 60 | 0.65 | 4,430 | 1,928 | 2.30 | 3,946 | 501 | 7.88 | - | - | - |

Figure 4 - Korean SBT catches from Korean longliners by year and fishing area (2006 – 2011)²

2.3 Management Authorities

Korea has two levels of government: national authorities and local governments that are responsible for fisheries conservation and management⁴. Given the Korean SBT fishery occurs on the high seas the fishery is managed by the national authorities². Korean management authorities have recently undergone an organisational change with the fisheries department of the old Ministry for Food, Agriculture, Forestry and Fisheries (MIFAFF) and the maritime part from the Ministry of Land, Transportation and Maritime Affairs (MLTM) amalgamated under the newly formed Ministry of Oceans and Fisheries (MOF)⁵. The old QIA has also changed its name to the “National Fishery Products Quality Management Services (NFQS)”⁹. The third national authority responsible for fisheries management is the National Fisheries Research and Development Institute (NFRDI). The responsibilities of the three national authorities are as follows:

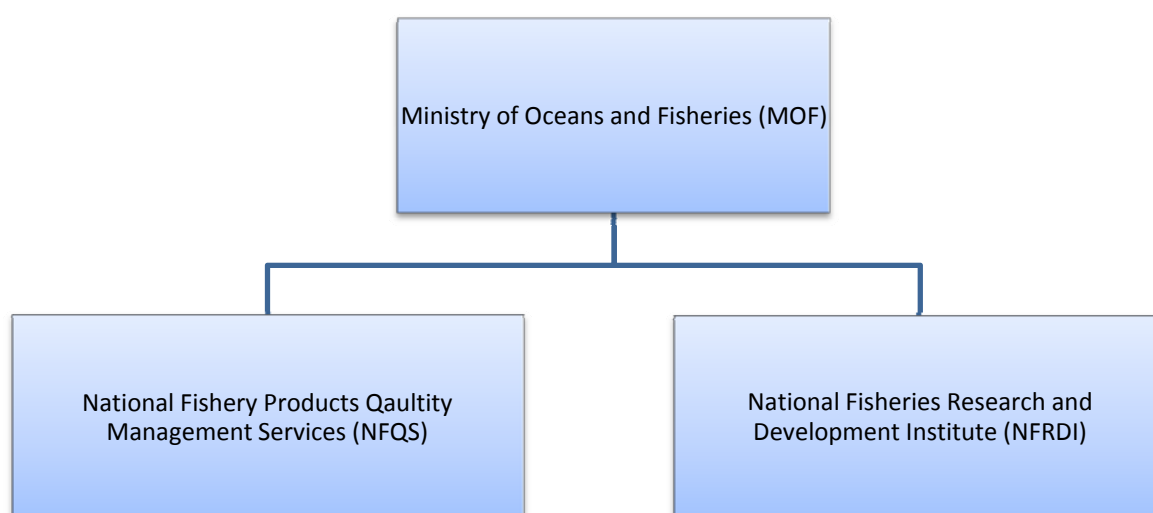
- MOF – directly manages the allocation of national quota, fishing authorizations and the mandatory reporting to the CCSBT Secretariat. MOF is responsible for managing and monitoring the NFQS and NFRDI and providing administrative and regulatory support.
- NFQS – are the verification body for all relevant documents under the CCSBT CDS (Catch Documentation Scheme) and any related statistics. NFQS are responsible for the issuance, validation and verification of these documents.
- NFRDI – collects vessel log sheet sampling data including the collection and analyses of catch and effort data, biological data and ERS data that are needed for stock assessments. NFRDI are responsible for the scientific data collection associated with the fishery and other CCSBT-related scientific activities. NFRDI also trains scientific observers and analyses observer data which is then provided to MOF⁹.

The National Fisheries Research and Development Institute (NFRDI) collects log sheet sampling data from vessels.

⁴ FAO. (2013) National Aquaculture Legislation Overview. Republic of Korea. National Aquaculture Legislation Overview (NALO) Fact Sheets. Text by Spreij, M. In: *FAO Fisheries and Aquaculture Department* [Online] Available from: http://www.fao.org/fishery/legalframework/nalo_korea/en [Accessed on 14/07/13].

Table 2 Management Authority responsibilities for Minimum Performance requirement (MPR)

| Management Authority | Responsibilities | CCSBT MPR |
|---|---|--|
| Ministry of Oceans and Fisheries (MOF) | <ul style="list-style-type: none"> Managing and monitoring the NFQS and NFRDI Provide administrative and regulatory support | 1.1 i (1) 1.1 i (2a i) 1.1 i (3) 1.1 i (4) 1.1 iii |
| National Fishery Products Quality Management Services (NFQS) | <ul style="list-style-type: none"> Issuance, validation and verification of these documents. | 1.1 i (2) |
| National Fisheries Research and Development Institute (NFRDI) | <ul style="list-style-type: none"> Scientific data collection Training of scientific observers Analysis of observer data | 1.1 i (2) 1.1 i (3) |

**Figure 5 – Basis of the Organisational structure of Korean fisheries management**

2.4 Management System

Korean fisheries management systems utilise voluntary and regulatory fishery measurements. Voluntary measures were introduced in 2010 by the Korean fisheries authorities in response to the reduction of Korea's national allocation which resulted in a reduction of the fleet from 19 vessels to nine in 2010 and vessels in 2011⁵.

Korea's *Distant Water Fisheries Development Act* provides the legal basis for the regulatory fisheries management used by the government to regulate the Korean-flagged distant water fishing fleet⁵. All Korean vessels operating on the high seas are required to comply with international conventions and management measures⁵. This encompasses all the vessels that are engaged in the SBT fishery as all vessels engaged in the SBT fishery operate on the high seas⁵. SBT vessels are required to have high seas licences which have regulatory measures such as terms and conditions associated with them requiring catch and transshipment reporting⁵.

2.5 Economic value

The SBT market has developed since 2010 and whilst Korea's SBT consumption is on the rise from imports from Indonesia and Australia, the Korean SBT fishery is predominantly an export fishery with 99 % of SBT caught exported to Japan². Figure 6 details Korea's SBT fishery exports showing that exports and re-exports have decreased from 973,969.2 kg in 2010 to 379,783 kg in 2012. Exports alone have decreased from 957,591 kg to 378,378 kg, with all exports sent to Japan. Figure 6 shows that Korea also sends SBT to China but that this is re-export goods with all export goods sent to Japan.

| Category | Country | 2010 | | 2011 | | end of June, 2012 | |
|-------------------------------------|---------|--------------|--------------|--------------|--------------|-------------------|---------------|
| | | No. of cases | Quantity(kg) | No. of cases | Quantity(kg) | No. of cases | Quantity (kg) |
| (aggregated total export+re-export) | | 29 | 973,969.2 | 12 | 583,594.4 | 6 | 379,783 |
| Export | total | 25 | 957,591 | 10 | 563,044.4 | 6 | 378,378 |
| | Japan | 25 | 957,591 | 10 | 563,044.4 | 6 | 378,378 |
| Re-export | total | 4 | 16,378.2 | 2 | 20,550 | 1 | 1,405 |
| | Japan | 4 | 16,378.2 | 2 | 20,550 | - | - |
| | China | - | - | - | - | 1 | 1,405 |

Figure 6 - Korean SBT fishery exports from 2010 – 2012²

3 Member Management System Implementation of CCSBT Minimum Performance Requirements

This section is based on historical Member Compliance Action Plans against the 2012 quota allocation; data that demonstrates performance of compliance to date against the 2013 quota and including reference to 2014 allocation.

3.1 Obligation 1.1 (i)

3.1.1 MPR 1 – “Rules in place to ensure that the total ‘Attributable SBT Catch’ of each Member does not exceed the Member’s Allocated Catch for the relevant period.”

Summary - Effort in the Korean SBT fishery is limited by the application of a national Total Annual Catch (TAC). There is a legal requirement that this TAC be set in line with the CCSBT Allocated Catch (AC). During the time period under scrutiny in this review (2009 – 2013), the total Attributable SBT Catch (ASBTC) reported by Korea has been below both the national TAC and the CCSBT AC for that period.

Key points

- Korean fishing season runs from 1st April – 31st March
- There is a legal requirement that the national TAC be set in line with the Korean CCSBT catch share.
- Korea utilised the carry-forward procedure to transfer 22 t of unused quota from the 2012/13 season to 2013/14

Since 2001, Korea has managed fishery removals in the SBT fishery using a Quota Management System (QMS), which applies an annual national Total Allowable Catch (TAC) quota to the Korean fishery. It is a legal requirement of the *Distant Waters Fisheries Development Act* that Korean fisheries management follow and be consistent with relevant Regional Fisheries Management Organisation (RFMOs) such as CCSBT with Article 13 (2) stating that;

‘distant water fishery operators shall not engage in any of the following activities in international waters:

4. Fishing without allocated quota or in excess of an allocated quota.....

6. Fishing in violation of conservation and management measures of an RFMO in the areas under the purview of such RFMO.⁵

It is therefore also a legal requirement that the Korean national SBT TAC be set in line with the CCSBT Allocated Catch (AC)⁶. For Korea, Attributable SBT Catch (ASBTC) is defined as “Commercial landing of SBT”⁷. Based on the information available during this assessment, the Korean ASBTC

⁵ Ministry of Fisheries (Official Communication, 18th July 2013)

⁶ Conference call, 10-7-13

⁷ CCSBT. (2010) *CCSBT Minimum performance requirements to meet CCSBT Obligations – Compliance Policy Guideline 1*. Revised at the Seventh Meeting of the Compliance Committee.

exceeded the Korean AC once during the period under examination. The 2010/11 ASBTC exceeded the TAC by 8t (0.9%). Table 3 lists the AC, national TAC and final reported ASBTC for each season since 2011/12.

Table 3 Korean Allocated Catch, TAC and ASBTC for each SBT fishing season since 2011

| CCSBT Year | Korean SBT Season | Allocated Catch | National TAC | ASBTC |
|------------|-------------------|-------------------|--------------|--------------------|
| 2010 | 2010/11 | 859t ⁸ | 859t | 867t ⁹ |
| 2011 | 2011/12 | 849t ⁷ | 849t | 737t ⁹ |
| 2012 | 2012/13 | 911t ⁷ | 911t | 889t ¹³ |
| 2013 | 2013/14 | 945t ⁷ | 945t | N/A |

CCSBT ACs are allocated to Members on an annual calendar year basis. However, Korea's administrative fishing season for SBT begins on April 1st and ends on March 31st, although the majority of fishing is completed by December. The CCSBT AC for a given year is applied in the season starting in that year; for example, the 2011 AC is applied in the Korean fishery season beginning on 1 April 2011 and ending on 31 March 2012. As fishing has generally ended by December, the total commercial landings in each fishing season are usually – though not always – the same as the landings in each calendar year⁹.

In accordance with the "Resolution on Limited Carry-forward of Unfished Annual Total Allowable Catch of Southern Bluefin Tuna within Three Year Quota Blocks," unused 22 tonnes from the 2012 quota were carried forward to 2013, which was duly notified to the Secretariat. With this carry-over, the total annual quota in 2013 is 967 tonnes⁹.

⁸ CCSBT (2009) Report of the Sixteenth Annual Meeting of the Commission

⁹ Ministry for Food, Agriculture, Forestry and Fisheries. (2012) Annual Review of SBT Fisheries for the Annual Meeting of the Extended Commission – Korea. CCSBT-CC/1209/SBT Fisheries-Korea (Rev1)

3.1.2 MPR 2a(i): [Operating systems and processes established to implement annual catching arrangements, including] **Specification of allocations by company, quota holder or vessel**

Summary - Korean national TAC is shared between three companies based on their relative number of vessels in 2003. Each company share is divided equally between that company's active vessels. Quota can be transferred (but not traded) between vessels and companies. Transfers happen frequently within companies but have yet to happen between companies. Beginning in 2013, only 95% of the TAC is initially allocated, with the remaining 5% becoming available later in the season to any vessel requesting a share.

Key points

- MOF allocate the TAC between companies and vessels
- MOF monitor any transfers between or within companies.
- MOF determine the timing and manage the distribution of the 5% quota reserve.

Starting in the 2013/13 season, 5 % of the Korean national TAC is set aside and held by the government. The remaining 95 % is divided by the MOF between three companies which own vessels engaged in the SBT fishery; prior to the current season, 100% of the quota was allocated at the start of the season. The proportion of the TAC received by each company is the same every year, and is based on the ratio of fishing effort, measured in number of vessels, exerted by each company in 2003⁶. The result of this is that Sajo Industries receives 6/16ths of the initial TAC, while Dongwon Industries and Dongwon Fisheries each receive 5/16ths. Each company applies for TAC for specific vessels. Each vessel for which TAC is applied for receives an equal share of that company's quota. All vessels engaged in the SBT fishery fish on the high seas and are subsequently required to obtain a fishing licence from MOF before entering the fishery, which is valid for five years⁵. The application form for distant water fishing authorisation, reservation and modification is provided at annex 3.6.

There are currently 19 vessels authorised to fish for SBT, owned by the three companies listed above. Theoretically it would be possible for additional companies to enter the fishery (or for the existing companies to authorise more vessels), but in practice they would be unlikely to receive any quota share from the MOF⁶. All 19 currently authorised vessels have different renewal dates, but all have been renewed at least once. The renewal process is via an application to the MOF, where the Minister will decide whether to renew the authorisation. All 19 vessels are large-scale tuna longliners (LSTLVs) that also fish for albacore, yellowfin and bigeye tuna.

Although there are currently 19 vessels authorised by the MOF to fish for SBT, the actual number of vessels which apply for quota varies from season to season. As the quota share received by each company in the first instance is fixed, each company will tend to only operate as many vessels in a season as it estimates are necessary to catch its TAC share. In the 2012/13 fishing season, only seven vessels received SBT quota (see Figure 7 and Figure 8).

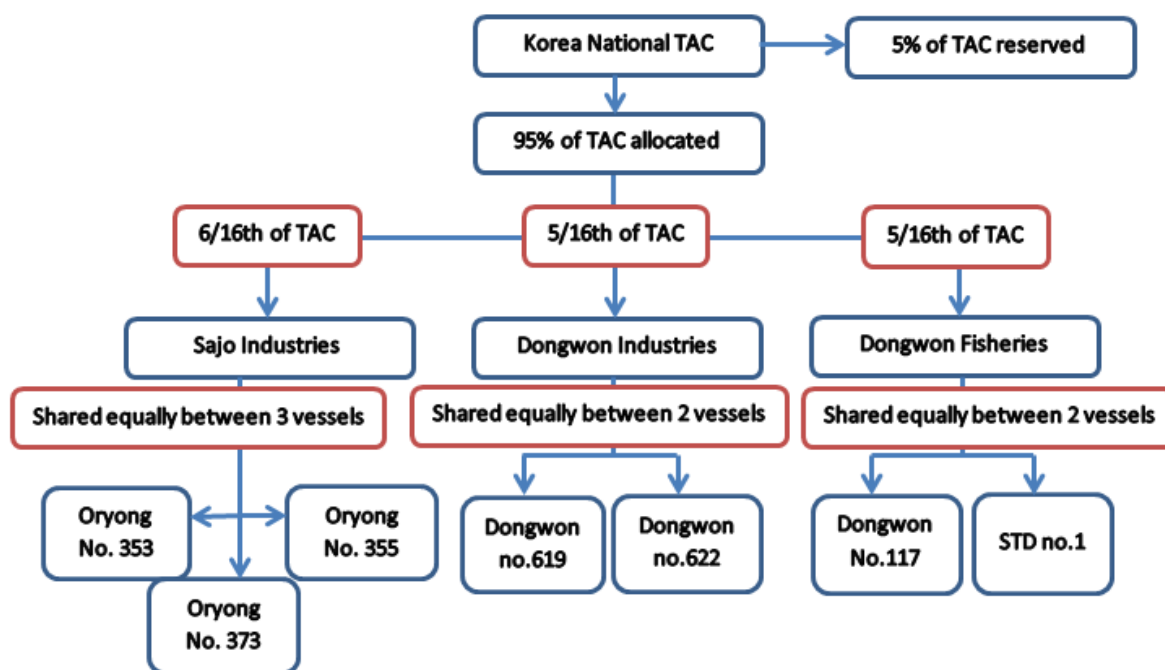


Figure 7 - Allocation of Korea national allocated catch. Vessels are representative of the 2012/13 season¹⁰

| Company | Vessel Name | GT | Age | Area of Operation | Date of Authorization Commencement | Date of Authorization Expiration | Authorization | Allocation (tonnes) |
|--------------------|--------------|-----|-----|-------------------|------------------------------------|----------------------------------|---------------|---------------------|
| Total | | | | | | | | 865.1 |
| Sajo Industries | total | | | | | | | 324.3 |
| | Oryong 353 | 386 | 25 | Pacific/Indian | 2012.04.11 | 2017.04.10 | authorized | 108.1 |
| | Oryong 355 | 380 | 24 | Pacific/Indian | 2012.05.17 | 2017.05.16 | authorized | 108.1 |
| | Oryong 373 | 441 | 15 | Pacific/Indian | 2012.09.07 | 2017.09.06 | authorized | 108.1 |
| Dongwon Industries | total | | | | | | | 270.4 |
| | Dongwon 117 | 393 | 24 | Pacific/Indian | 2011.03.13 | 2016.03.12 | authorized | 135.2 |
| | STD 1 | 392 | 27 | Pacific/Indian | 2011.04.14 | 2016.04.13 | authorized | 135.2 |
| Dongwon Fisheries | total | | | | | | | 270.4 |
| | Dongwon 619 | 417 | 23 | Indian | 2009.06.30 | 2014.06.29 | authorized | 135.2 |
| | Dongwon 622 | 424 | 23 | Indian | 2013.03.16 | 2018.03.15 | authorized | 135.2 |

Figure 8 - Company and vessel allocations for the 2012/13 season¹¹

¹⁰ CCSBT. (2012) *Korea's Compliance Action Plan (2012)*. CCSBT-CC/1209/Compliance Action Plan – Korea

¹¹ Ministry of Fisheries (Official Communication, 18th July 2013)

Exchange of quota between companies and vessels is permitted, but no exchange of money is allowed. Transfer of quota between vessels within the same company does not require government authorisation, but the MOF must be informed in writing before the transfer is official; such transfers occur fairly frequently⁶. In principle, transfer between companies requires an application to the government which would be reviewed and approved or denied. In practice, however, this has not occurred to date, and thus there are no official forms for this purpose¹². All vessels must have SBT quota to be permitted to fish; quota cannot be obtained after the SBT has been caught. Any vessel or company transferring quota without informing the MOF is subject to a penalty of 10 -20 % on their quota share in the subsequent SBT season. This subtraction is added to the 5 % government quota reserve for re-distribution later in the season as described below.

The 5% of the TAC which is initially reserved is made available later in the fishing season. The Korean government starts distributing the additional 5% either when 90% of the national quota has been exhausted or at any point the government finds it necessary to do so. The reserve quota is distributed between companies according to the ratio described above, although it may not be distributed at all or only partially distributed when there are issues of compliance with national and international/regional fisheries regulations¹³.

¹² Ministry of Oceans and Fisheries (Official Communication, 3rd July 2013)

¹³ Ministry of Oceans and Fisheries (Official Communication, 19th July 2013)

3.1.3 MPR 2a (ii): [Operating systems and processes established to implement annual catching arrangements, including] **Arrangements for daily recording of all catches;**

Summary – Korean SBT longliners are required to complete a daily logbook detailing SBT catch. This must be submitted to the National Fisheries Research and Development Institute (NFRDI) monthly, or more frequently when the remaining quota held by the vessel falls below 10% of the starting quantity. There is no reported SBT bycatch in other Korean fisheries, nor is there a recreational SBT fishery.

Key points

- Catch and discard numbers and weight recorded by vessel crew daily
- Logbooks submitted to the National Fisheries Research and Development Institute (NFRDI) via the vessel-owning company
- Commercial SBT longliners are the only Korean vessels removing SBT

Korean SBT vessels are required by law⁵ (*Article 16 of the Distant Water Fisheries Development Act*) to complete a daily logbook which records, for each day at sea, the location; time the gear was set; sea surface temperature; number of hooks; number of basket; weight and number of retained fish; and weight and number of fish discarded live and dead. The logbook also records general trip information such as start and finish dates and locations, vessel details, and authorisation number¹⁴. Total discards are currently estimated to be around 0.5 % of the weight of retained catch. An example of the logbook was provided and listed in Appendix 3.

Daily logbooks are submitted by vessels to their company, and the company submits the logbooks to the NFRDI. Submissions while the vessel is at sea are electronic, and hard copies of the logbooks covering the entire trip are submitted after the vessel reaches port⁹. The frequency of at-sea submission is dependent on the amount of quota held by the vessel:

- While a vessel has used less than 90 % of its quota, logbooks must be submitted every month.
- When a vessel has used between 90 % and 98 % of its quota, it must submit logbook data every 10 days.
- When a vessel has used more than 98 % of its quota, it must submit logbook data on a daily basis⁵.

Additional requirements are introduced as the total national TAC is approached, as follows:

- Before 90% of the national TAC is reached: The MOF checks the amount of catches and requires logbooks to be submitted on a monthly basis.
- When 90% of the national allocation is reached: The MOF checks the amount of catches on a weekly basis and collects logbooks every 10 days.
- When 98% of the national allocation is reached: The government checks the amount of catches on a daily basis, collects logbooks every 10 days¹³.

¹⁴ Distant Water Tuna Longliner Logbook Form – Appendix 3.1.

Daily submission of logbook data allows management of the fishery in real-time at that stage. When a vessel has filled its entire quota, the MOF will declare the fishery closed to that vessel. For verification of the reported catch quantities, the Korean government compares the submitted data with other information such as transshipment amounts, landings, observer data and other documentations stipulated in the CDS Resolution¹⁰.

Caught fish are first tailed by crew, weighed, and the weight multiplied by a set conversion factor of 1.15. The result is the estimated weight, the total of which for all fish caught in a day is used to complete the daily logbook. The conversion factor was first agreed upon by the CCSBT in 1997¹⁵ on the basis of several scientific papers¹⁶, and while further discussion has occurred since that time, no change has been made. Tailing fish before weighing is primarily to ensure freshness by bleeding the fish before it warms up, but also allows easier weighing as it limits movement¹³.

The MOF reports that weight estimates obtained at sea are generally consistent with weights recorded at the time fish are landed⁶ – see Section 3.1.6 and Figure 10 for details.

The MOF reports that there is no bycatch of SBT in other fisheries⁵. Bycatch of RFMO-managed species such as SBT is required to be recorded in the daily logbook, and accurate recording of such is checked by on-board observers (coverage around 12 %, see section 3.1.6.1). To date neither logbooks nor observers have reported bycatch of SBT in any other Korean fishery⁶. The MOF also reports that there is no Korean recreational fishery for SBT¹².

The MOF has also implemented the CCSBT Catch Documentation Scheme (CDS). The CDS was first introduced in January 2010 to provide for tracking and validation of legitimate SBT product from catch to the point of first sale¹⁷. Although CDS documentation does contain much of the same information as the Korean national logbooks and other paperwork, the implementation of the CDS scheme is not specifically a requirement of the CCSBT Minimum Performance Requirements covered by this quality assurance review (instead falling under section 3.1 – Catch Documentation System (Resolution))⁵. However, CDS paperwork is considered in a number of sections of this review in relation to its role aiding the estimation of total fishing mortality, and ensuring the accuracy of fishery removals estimates.

¹⁵ CCSBT - Report of the Fourth Annual Meeting (First Part), 8-13 September 1997, Canberra, Australia

¹⁶ Gunn, J., Farley, J. & Hearn, B. *Catch-at-age; age at first spawning; historical changes in growth; and natural mortality of SBT: An integrated study of key uncertainties in the population biology and dynamics of SBT based on direct age estimates from otoliths*. FRDC Project no. 97/111, December 2003.

¹⁷ http://www.ccsbt.org/site/monitoring_control_surveillance.php (accessed 29/6/13)

3.1.4 MPR 2a (iii): [Operating systems and processes established to implement annual catching arrangements, including] **Weekly reporting of catches by large scale tuna longliners and monthly reporting of catches by coastal fishing vessels**

Summary – Korean SBT vessels are required to report estimated total catch on a weekly basis.

Key points

- All Korean SBT vessels are large-scale longliners
- Vessels submit an estimate of weekly catch to the owning company
- Company submits catch estimate to NFRDI

All Korean vessels targeting SBT are large-scale longliners fishing on the high seas predominantly within IOTC (Indian Ocean Tuna Commission) managed waters. Although there are recorded catches within ICCAT waters as well (International Commission for the Conservation of Atlantic Tuna) (see Figure 3). In addition to the logbook reporting requirements detailed in section 3.1.3, vessels must also return estimates of their weekly total catch to the NFRDI via the owning company. This is a single weight estimate, calculated using the same methodology described in section 3.1.3 (i.e. fish tailed, weighed, and the weight multiplied by 1.15). The legal mandate is set out in the *Distant Water Fisheries Development Act, Act No. 8626, Aug. 3, 2007*.

3.1.5 MPR 2b: [Operating systems and processes established to], in accordance with the CCSBT timeline, monitor all fishing-related mortality of SBT

Summary – Korea has reporting procedures and paperwork in place to ensure the reporting of commercial catch and discards. Commercial catch weights are recorded accurately at landing, and discards are estimated by crew members and observers.

Key points

- Korea is required by the CCSBT to monitor commercial catch and discards
- Catch is estimated on a daily basis, reported weekly, and a final total submitted at landing
- Discards are estimated on a daily basis and reported monthly
- The MOF considers there to be no Korean sources of SBT mortality outside of the targeted commercial fishery

MPR 2b states that Korea should immediately monitor fishing-related SBT mortality from the following sources: Commercial retained catch; Commercial discard mortality; other discard mortality; other sources of mortality. Korean SBT longliners are required to record the number and total weight of commercial retained and discarded catch in daily logbooks (see section 3.1.3). CCSBT CDS documentation provides further record of commercial retained catch, and some other sources of mortality.

Discard weights and sizes are measured by crew and/or an observer, if one is present. The NFRDI conducts training sessions and circulates pamphlets to improve the ability of crew to accurately measure size and weight of both discarded and retained fish. Examples of the type of pamphlets produced by the NFRDI are provided in Appendix 3.4. As observer coverage is only 12 %, observer estimates of discards are extrapolated to produce a fleet-wide estimate, which is compared to the crew discard values. Discarding is estimated by observers to be around 0.5 % of retained catch, by weight.

The NFRDI compared discard rates from observer reports (coverage 12%) with those in vessel logbooks for the fishing season 2012/2013. It was concluded that the discard rates recorded in the logbooks were lower than those in the observer reports. These differences were considered due to the following: 1) The Resolution on Reporting All Source of Mortality of SBT was adopted in late October, 2012, which took effect on the Korean SBT vessels as from the 2013 fishing season. 2) Some vessels have recorded discards in their logbooks in accordance with amended domestic regulations, but the data were not sufficient to be used as a reference¹³.

In addition to the daily logbooks, which must be submitted electronically during the trip and in hard copy at the end of the trip, anyone landing SBT must complete a Landing Declaration Form¹⁸. Landing occurs primarily at Shimizu in Japan; one of four other designated foreign ports, or the designated home port of Busan. The full list of landings at designated ports in the 2011/12 season is provided in Figure 9. Overall, in the 2011/12 season 638,100 kg were landed in designated ports, which when multiplied by the conversion factor of 1.15 represents fishery removals of 733,815 kg.

¹⁸ Landing Declaration Form – Appendix 3.2

The dates of the landings reveal considerable overlap between fishing seasons; fish caught April 2011 – March 2012 were landed October 2011 – January 2013 (referencing 866 kgs landed on the 13th January 2013). Hence fish can be landed up to ten months after the end of the season in which it was captured.

| Landing of SBT in the fishing season 2011 (April 1, 2011-March 31st, 2012) | | | | | | |
|--|--------------------|-----------------|-----------------|---------------|---------------------|------------------------|
| Landing Date | Company | Vessel Name | Port of Landing | quantity (kg) | Landing Inspection | Inspection Authorities |
| | | | (city, state) | G-G | conducted (O, X) | |
| 11.10.24 | Sajo Industries | Oryong No. 353 | Shimizu, JP | 80,570 | ○ | JP |
| 13.1.18 | Sajo Industries | Oryong No. 353 | Shimizu, JP | 866 | ○ | JP |
| 11.10.25 | Sajo Industries | Oryong No. 373 | Shimizu, JP | 9,510 | ○ | JP |
| 11.10.26 | Sajo Industries | Oryong No. 355 | Shimizu, JP | 5,304 | ○ | JP |
| 11.10.28 | Dongwon Fisheries | Dongwon No. 622 | Shimizu, JP | 41,399 | ○ | JP |
| 12.1.5 | Dongwon Fisheries | Dongwon No. 619 | Shimizu, JP | 103,316 | ○ | JP |
| 12.1.16 | Sajo Industries | Oryong No. 353 | Shimizu, JP | 52,013 | ○ | JP |
| 12.2.10 | Dongwon Fisheries | Dongwon No. 622 | Shimizu, JP | 62,743 | ○ | JP |
| 12.10.26 | Dongwon Fisheries | Dongwon No. 619 | Shimizu, JP | 9,051 | ○ | JP |
| 12.2.14 | Dongwon Industries | Dongwon No. 117 | Shimizu, JP | 72,850 | ○ | KR |
| 12.2.14 | Dongwon Industries | STD1 | Shimizu, JP | 81,350 | ○ | KR |
| 12.2.16 | Sajo Industries | Oryong No. 355 | Shimizu, JP | 57,287 | ○ | KR |
| 12.12.25 | Sajo Industries | Oryong No. 355 | Shimizu, JP | 3,943 | ○ | JP |
| 12.2.16 | Sajo Industries | Oryong No. 373 | Shimizu, JP | 52,231 | ○ | KR |
| 12.11.15 | Sajo Industries | Oryong No. 373 | Shimizu, JP | 5,667 | ○ | JP |
| Total | three companies | 15 times | | 638,100 | | |

Figure 9 - Landing dates, weights and locations for the 2011/12 season¹⁹

As landing occurs primarily at the Japanese designated port of Shimizu, Korean officials travel to the port to observe a proportion of landings. At observed landings, Korean inspectors cross-check the total landings weight with the estimated weight caught reported by the vessel via the weekly reporting process and daily logbooks⁶. Landings not attended by Korean officials are attended by the officials of the relevant port authority. The coverage by Korean officials of Korean SBT landings into Shimizu was in the 2011/12 season as follows, with the required coverage in foreign ports set at 10%⁵:

263,718 kg of 620,036 kg was monitored by Korean officials (42.5 %)

- 4 of 11 landings were monitored by Korean officials (36.4 %)

There is no CCSBT requirement for 100% observer coverage in foreign ports; however higher coverage rates improve confidence in landings figures and allow additional validation checks.

No Korean-flagged vessels other than CCSBT-registered Korean SBT longliners catch SBT, and Korea does not farm SBT. Therefore, 'other discard mortality' and 'other sources of mortality' are estimated to be zero⁶.

¹⁹ Ministry of Fisheries (Official Communication, 21st August 2013)

3.1.6 MPR 2c: Ensure accuracy of the “Attributable SBT Catch”, including (for fishing Members) a physical inspection regime of SBT caught by the Member’s fishing vessel, and (for farming Members) monitoring the accuracy of the stereo video monitoring and adjusting/ re-calibrating where necessary.

Summary – Korean efforts to ensure the accuracy of commercial catch estimates include regional observer programmes such as the IOTC transshipment observer programme observer, port state measures, and verification of catch documents.

Key points

- No national observer deployed in the Korean SBT fleet during the 2011/2012 season
- No at sea inspections conducted in 2011/2012
- Use of transshipment Declaration Form (TDF) to monitor in port and at seas transshipments

3.1.6.1 Observer Program

Observer coverage in the 2012/13 Korean SBT fishery was 12 %, with target coverage of 10 %. Due to operational difficulties, no observer was placed on board Korean-flagged SBT vessels during the 2011/12 season. In order to ensure that vessels complied with the relevant CCSBT quota regulations, a team was formed consisting of inspectors and law enforcement officials. The team conducted three rounds of landing inspections on SBT landings during the 2011/2012 fishing season⁵. Korea’s observer programs are in line with CCSBT Scientific Observer program Standards. The information recorded by observers includes catch numbers, weight, length, sex, maturity, stomach contents; species composition of bycatch and ERS; discard number, weight, and live/dead; mitigation measures; ERS interactions; tag release and recapture information; and any other ERS details. The observer report is submitted to the NFRDI within one month of the observer activities being completed. Although the paperwork used by observers is voluminous, examples of some critical spreadsheets used by observers are provided in Appendix 3.5.

3.1.6.2 At-sea and portside inspections

The Korean authorities currently do not conduct at-sea inspections of vessels, although the MOF reports they do have the capacity to do so in future⁶. Monitoring is conducted at the point of landing through the verification of catch documents. Busan is designated the home port for SBT landings into Korea, with Shimizu (Japan), Cape-town and Durban (South Africa), Port Louis (Mauritius) and Bali (Indonesia) designated as the foreign landing ports for SBT. Vessels landing into Busan or any foreign port are required to submit landing declarations to MOF at least 30 days before entering the port⁶.

An accurate measure of catch weight is taken at landing and compared to the estimated weight produced by crew members during the trip. Figure 10 compares the on-board estimates to the final landed catch weight by company for the 2012/13 fishing season. On average the on-board catch estimates were 0.5 % higher than the final landing weight²⁰.

²⁰ Ministry of Fisheries (Official Communication, 18th July 2013)

2012/2013 Period

| Month | Weight measured onboard | | Weight of landed catch | |
|-------------------|-------------------------|-------------------|------------------------|-------------------|
| | Company | Catch(kg) | Company | Catch(kg) |
| 4 | Dongwon Industries | 25,973.90 | Dongwon Industries | 25,973.90 |
| | Dongwon Fisheries | 16,800.35 | Dongwon Fisheries | 17,087.85 |
| | Sajo Industries | 30,064.45 | Sajo Industries | 30,338.15 |
| | sub-total | 72,838.70 | sub-total | 73,399.90 |
| 5 | Dongwon Industries | 36,663.15 | Dongwon Industries | 36,790.80 |
| | Dongwon Fisheries | 41,962.35 | Dongwon Fisheries | 40,503.00 |
| | Sajo Industries | 24,160.35 | Sajo Industries | 24,363.90 |
| | sub-total | 102,785.85 | sub-total | 101,657.70 |
| 6 | Dongwon Industries | 72,161.35 | Dongwon Industries | 66,191.70 |
| | Dongwon Fisheries | 61,707.85 | Dongwon Fisheries | 59,422.80 |
| | Sajo Industries | 54,957.35 | Sajo Industries | 54,952.750 |
| | sub-total | 188,826.55 | sub-total | 180,567.250 |
| 7 | Dongwon Industries | 44,793.65 | Dongwon Industries | 44,793.65 |
| | Dongwon Fisheries | 48,603.60 | Dongwon Fisheries | 56,162.55 |
| | Sajo Industries | 54,222.50 | Sajo Industries | 54,224.80 |
| | sub-total | 147,619.75 | sub-total | 155,181.00 |
| 8 | Dongwon Industries | 19,953.65 | Dongwon Industries | 19,953.65 |
| | Dongwon Fisheries | 12,564.90 | Dongwon Fisheries | 12,564.90 |
| | Sajo Industries | 28,074.95 | Sajo Industries | 27,864.50 |
| | sub-total | 60,593.50 | sub-total | 60,383.05 |
| 9 | Dongwon Industries | 38,917.15 | Dongwon Industries | 38,917.15 |
| | Dongwon Fisheries | 36,354.95 | Dongwon Fisheries | 36,354.95 |
| | Sajo Industries | 71,934.80 | Sajo Industries | 71,064.250 |
| | sub-total | 147,206.90 | sub-total | 146,336.350 |
| 10 | Dongwon Industries | 41,356.30 | Dongwon Industries | 41,356.30 |
| | Dongwon Fisheries | 57,034.25 | Dongwon Fisheries | 57,034.25 |
| | Sajo Industries | 75,429.65 | Sajo Industries | 72,901.95 |
| | sub-total | 173,820.20 | sub-total | 171,292.50 |
| Accumulated catch | Dongwon Industries | 279,819.15 | Dongwon Industries | 273,977.15 |
| | Dongwon Fisheries | 275,028.25 | Dongwon Fisheries | 279,130.30 |
| | Sajo Industries | 338,844.05 | Sajo Industries | 335,710.30 |
| | Total | 893,691.45 | Total | 888,817.75 |

※ catch amount is based on round weight

※ 2012/2013 Period : April, 2012 - March, 2013

※ 2012/2013 Korea's national quota : 911ton

Figure 10 - Comparison of catch weights estimated by crew and final catch estimates at landing, 2012/13 fishing season²⁰

3.1.6.3 Transshipment Inspection and Monitoring

Transshipment of Korean SBT occurs both at sea and in port. In-port transshipment occurred on six occasions in 2011/12 (totalling 406 t) and on four occasions in 2012/13 (totalling 291 t)¹². In-port transshipment currently only occurs at foreign ports, and as such is observed only by foreign port officials⁶. There is no scheme for ensuring consistency between national transshipment inspection regimes, outside of that imposed by the IOTC. At-sea transshipment is less common, with three reported occasions in 2011/12 (totalling 57 t) and no reported at-sea transshipments reported in 2012/13¹². At-sea transshipment must be observed by an IOTC regional observer.

In port transshipments by Korean vessels are subject to IOTC Resolution 12/05 on establishing a programme for transshipment by large scale fishing vessels, which states that all vessels must provide 48 hours' notice to port state authorities detailing information of the transshipment. Port state authorities and the landing state of the transshipment i.e. flag state of the carrier vessel receiving the SBT, are required to cooperate with the longliner's flag state to 'ensure that landings are consistent with the reported catches amount of each vessel'²¹.

Both at-sea and in-port transshipments require the completion of a Transshipment Declaration Form (TDF) by the vessel captain, which must be submitted to the MOF within 15 days of the transshipment⁶. The Declaration form includes details of the carrier and fishing vessels, date and location of transshipment, total weight transhipped, and the individual weights of whole, gutted, headed and filleted fish of each transhipped species²². In the case of at-sea transshipments, the information collected by IOTC observers is compared to the data on the TDF at the end of the year. An example of a TDF is provided in Appendix 3.3.

| Transshipment Day | Fishing Vessel name | Carrier Vessel Name | Kg | Transshipment Place | | Observer Name (in case of Sea Transshipment) |
|-------------------|---------------------|---------------------|---------|-----------------------|----------------|---|
| | | | G-G | Name of the port | At sea | |
| June 22-23, 2011 | 373 Oryong | HOUTA MARU | 10,973 | | S32-06 E107-22 | KAPP MARIUS |
| June 24-25, 2011 | 355 Oryong | HOUTA MARU | 5,304 | | S31-00 E105-42 | KAPP MARIUS |
| June 29, 2011 | 622 Dongwon | YOMA | 41,399 | | S30-00 E43-00 | NEWTON JONATHAN STEWART |
| July 28, 2011 | 353 Oryong | HOUTA MARU | 80,570 | CAPE TOWN S. AFRICA | | |
| December 17, 2011 | 355 Oryong | VICTORIA | 57,287 | PORT LOUIS, MAURITIUS | | |
| December 19, 2011 | 373 Oryong | VICTORIA | 52,231 | PORT LOUIS, MAURITIUS | | |
| December 25, 2011 | 117 Dongwon | HATSUKARI | 72,838 | PORT LOUIS, MAURITIUS | | |
| December 25, 2011 | STD 1 | HATSUKARI | 81,266 | PORT LOUIS, MAURITIUS | | |
| December 27, 2011 | 622 Dongwon | VICTORIA | 62,743 | PORT LOUIS, MAURITIUS | | |
| TATOL | 9 | | 464,611 | | | |

Figure 11 - Transshipment information by vessel for the 2011/12 SBT season¹⁰

3.1.6.4 Risk based fisheries monitoring, control and surveillance (MCS)

Following the modification of the *Distant Water Fisheries Development Act* there is an expected expansion of fisheries MCS which will encompass the development of risk assessments and profiling in order to target potential illegal, unreported and unregulated (IUU) vessels⁵.

²¹ IOTC. (2012) *Collection of Active Conservation and Management Measures for the Indian Ocean Tuna Commission*. [Online] Available from: <http://iotc.org/files/CMM/IOTC%20-%20Collection%20of%20ACTIVE%20CMMs%2020%20June%202012.pdf> [Accessed 15/07/2013]

²² Transshipment Declaration Form - Appendix 3.3

3.1.7 MPR 3: All fishing-related SBT mortality is reported annually to the Extended Scientific Committee, for incorporation into stock assessment analysis, and to the Commission.

Summary – The MOF reports all relevant data to the CCSBT on the timescales required by CCSBT resolutions.

The MOF reports at the frequency required by CCSBT resolutions. SBT catches are provided by the Korean government to the CCSBT Secretariat monthly, CDS copies quarterly, plus tagging forms and export/import information, yearly quota allocation per vessels, final catches and ERS data are also provided.

3.1.8 MPR 4: Operating systems and processes applied to monitor compliance with annual catching arrangements, and impose sanctions or remedies where necessary.

Summary – Compliance in the Korean SBT fishery is monitored primarily with port-side inspections at landing and import/export, and mandatory VMS. There are a range of potential sanctions, although there have been no incidences of non-compliance in recent years in the SBT fishery.

Key points

- The majority of Korean SBT is exported to Japan, either via transshipment or direct landings by fishing vessels
- In the 2011/12 season, 43% of landings into Japan by weight were monitored by Korean fishery officials. The remainder were monitored by Japanese officials.
- VMS is mandatory on SBT vessels, and from 2014 there will be 24/7 monitoring of vessel locations

Monitoring fisheries compliance within the SBT fishery is the responsibility of MOF. Korean fisheries MCS is conducted in accordance with Regional Fishery Management Organisations (RFMO) requirements²³. SBT fisheries are monitored by Korea's central MCS system, with no specific SBT monitoring in place²³. Korea's MCS has recently undergone review with the modification of the *Distant Water Fisheries Development Act* resulting in the development of a Fisheries Monitoring Centre (FMC) which will provide 24/7 monitoring of vessel activities⁵. The FMC will become operational in 2014²³.

3.1.8.1 At-sea and portside inspections

The Korean authorities currently do not conduct at-sea inspections of vessels, although the MOF reports they do have the capacity to do so in future⁶.

For landing into the home port of Busan, fisheries authorities attend to conduct physical inspections of the landing. Landings into Busan are only issued with Catch Monitoring Forms (CMFS) following landing inspections⁵. Landings into foreign ports are monitored by port state authorities as per port state measures set out by the IOTC, of which Korea is a member^{5&6}.

The majority of Korean SBT catch is landed in Shimizu, Japan, and primarily at the end and start of the fishing season⁵. During these periods Korean officials from MOF and NFQS are in attendance to conduct landing inspections where the verification and cross checking of landing documents and the CCSBT CDS is conducted, such as cross checking CCSBT tagging records⁶. Landing weights are checked against all documentation, and cross checked with the information submitted to the Korean authorities in the vessel's monthly logbook reporting¹⁰. The coverage by Korean officials of Korean SBT landings into Shimizu was in 2011 was as follows, with the required coverage in foreign ports set at 10 %¹⁰:

²³ Ministry of Oceans and Fisheries. (2013) *CCSBT Trial Quality Assurance review Consultation: Information Collection Template for MOF Korea*. Prepared by Global Trust Certification

- 263,718 kg of 620,036 kg was monitored by Korean officials (42.5 %)
- 4 of 11 landings were monitored by Korean officials (36.4 %)

Vessels not monitored directly by Korean officials are monitored by Japanese officials. Figure 9 lists the inspecting authority of each landing at a designated port in the 2011/12 season.

Export requirements are in place for exported SBT regardless of whether they have been transhipped at sea, transhipped in port or landed directly into an importing country. All Korean SBT exports are required to request authorisation from the Korean authorities and have to submit the CCSBT CMFS and Catch Transfer Forms (CTFs) to the National Fishery Products Quality Management Services (NFQS) for validation. These forms will be submitted to the Korean authorities either electronically, or, in the case of landings in Japan observed by Korean authorities, by hand⁶.

For all SBT exports landing/transshipment plans must be submitted a month before the estimated landing/transshipment date. Prior to an at-sea transshipment being allowed to occur, the Korean authorities must issue CMFs. CMFs are issued after the vessel's logbook and individual vessel quotas have been thoroughly cross-checked by the NFQS, which maintains and checks quota uptake from individual vessels and companies⁶. Quota shares are initially issued by the MOF which monitors and keeps track of catches to ensure they are kept below AC. The NFQS deals with CDS operations (e.g. CDS issuance, validation, verification) and reports to the MOF. In the event that a company exceeds its quota it will not be able to obtain another catch document⁶.

3.1.8.2 SBT importation

Korea imports varying amounts of SBT from Indonesia, Australia and Japan. In 2011 the total import weight was 146,052 kg, and the 2012 import to late June that year was 40,524 kg. To control and monitor SBT imports, the NFQS conducts sampling inspections in addition to the CDS tagging and tracking documentation. The Korean government has also stated an intention to strengthen these measures with physical inspections⁵.

Companies which import SBT must apply for an imported food product quality inspection and provide relevant documentations including CDS. After the application is submitted, the official in charge conducts an inspection. Four % of the total amount of imported product is drawn as a sample for chemical analysis for heavy metal contamination. For processed products such as fillets, the inspection includes an examination for Carbon Monoxide. The remaining 96 % passes through a sensory test by the inspector and if it meets the hygienic standard, it can clear customs. The NFQS conducts a DNA analysis test for identification of species when necessary. The re-import of SBT goes through the same processes as the import¹⁰.

3.1.8.3 Sanctions

Korean authorities have a zero-tolerance position relating to any IUU, with Korean vessels subject to a series of strong sanctions including penalties, seizure of illegal catches and products and reduction of future SBT quotas⁶. The severity of sanction relates to the infringement, and infringements are dealt with in accordance with the *Distant Water Fisheries Development Act*⁶.

Potential sanctions for violations are set out in *Article 33 of the Distant Water Fisheries Development Act, Act No. 8626, Aug. 3, 2007*. These include confiscation of catch and gear, fines of up to 300

million won (or three times the value of the illegal fisheries products), and imprisonment for up to three years²⁴.

3.1.8.4 Vessel Monitoring Systems (VMS)

Functional, active VMS is mandatory for all Korean SBT fishing vessels. The MOF reports that there have been no incidences of non-compliance with the VMS requirement¹⁰.

A recent modification to the *Distant Water Fisheries Development Act*, expected to come into force in August 2013, will create a Fishery Monitoring Centre in 2014. The Centre will monitor the locations of fishing vessels on a full-time basis. The modification to the Act will also require all Korean flagged vessels to have VMS on board²³.

3.1.8.5 Recent infringements and sanctions

According to the MOF there have been no infringements and no sanctions applied in the SBT fishery in recent years⁶.

3.1.8.6 Compliance risk assessment

As part of the National Audit conducted by National Assembly, the state of the MOF in terms of its management systems is scrutinized and assessed, and recommendations for improvement are produced. The Korean government also works closely with the industry regarding compliance extension and education activities, sharing the result of RFMO meetings¹³.

²⁴ *Distant Water Fisheries Development Act, Act No. 8626, Aug. 3, 2007*, unofficial translation provided by Ministry of Fisheries (Official Communication, 18th July 2013)

3.2 Obligation 1.1(iii)

3.2.1 MPR 1a: An accurate, verified and robust figure for the final Attributable Catch is available before the notification to the Secretariat of the carry-forward, and a report on the adoption and use of the carry-forward procedure is included in each annual report to the Extended Commission.

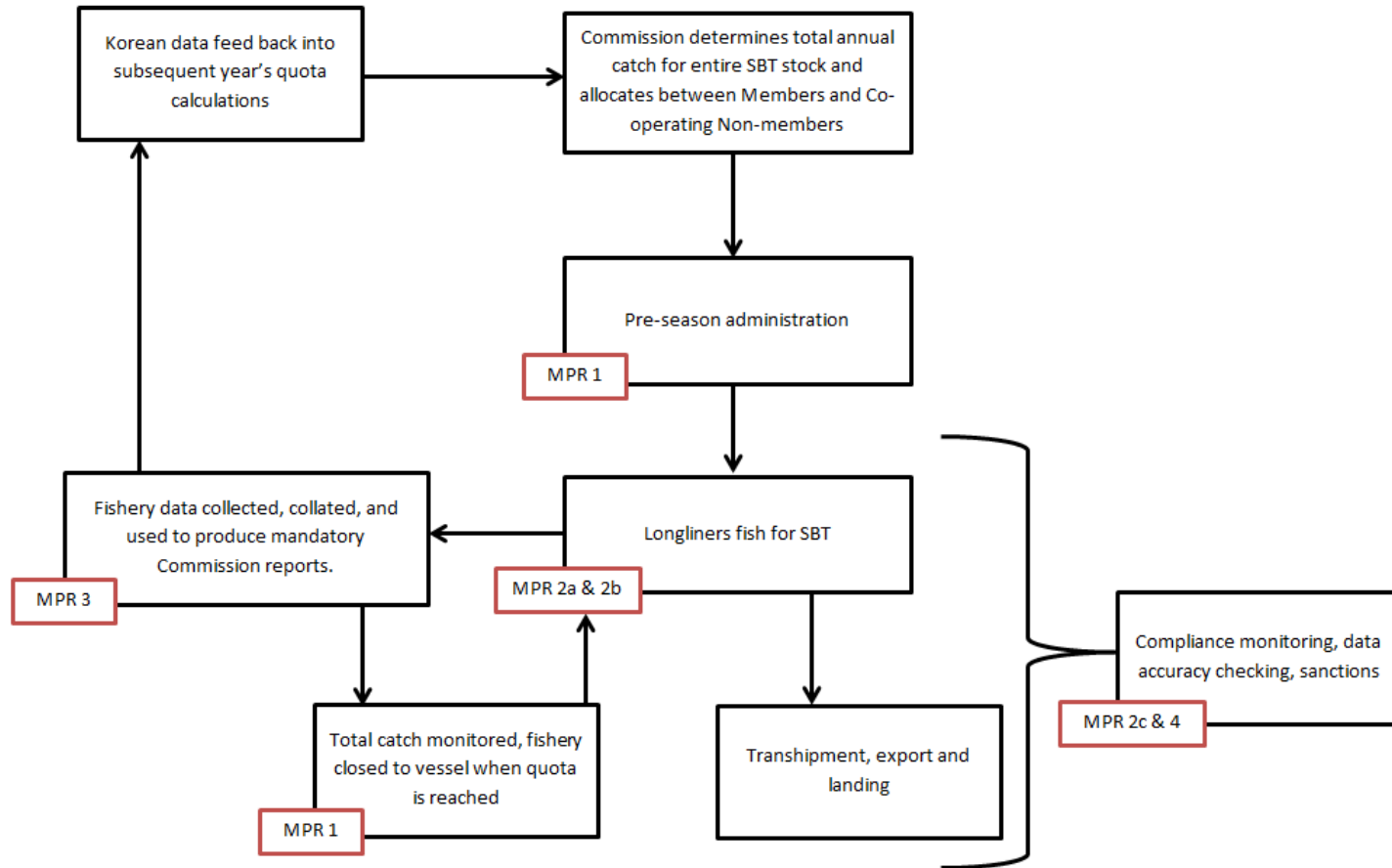
Summary – Korea reports that it conforms to all requirements in paragraph 3 and 5 of the “Resolution on Limited Carry-forward of Unfished Annual Total Allowable Catch of Southern Bluefin Tuna within Three Year Quota Blocks”.

3.2.2 MPR 1b: The Executive Secretary is formally notified of the catch for the concluded quota year together with the available catch limit (Catch Allocation + carry-forward) for the new quota year within 60 days of the start of the new quota year.

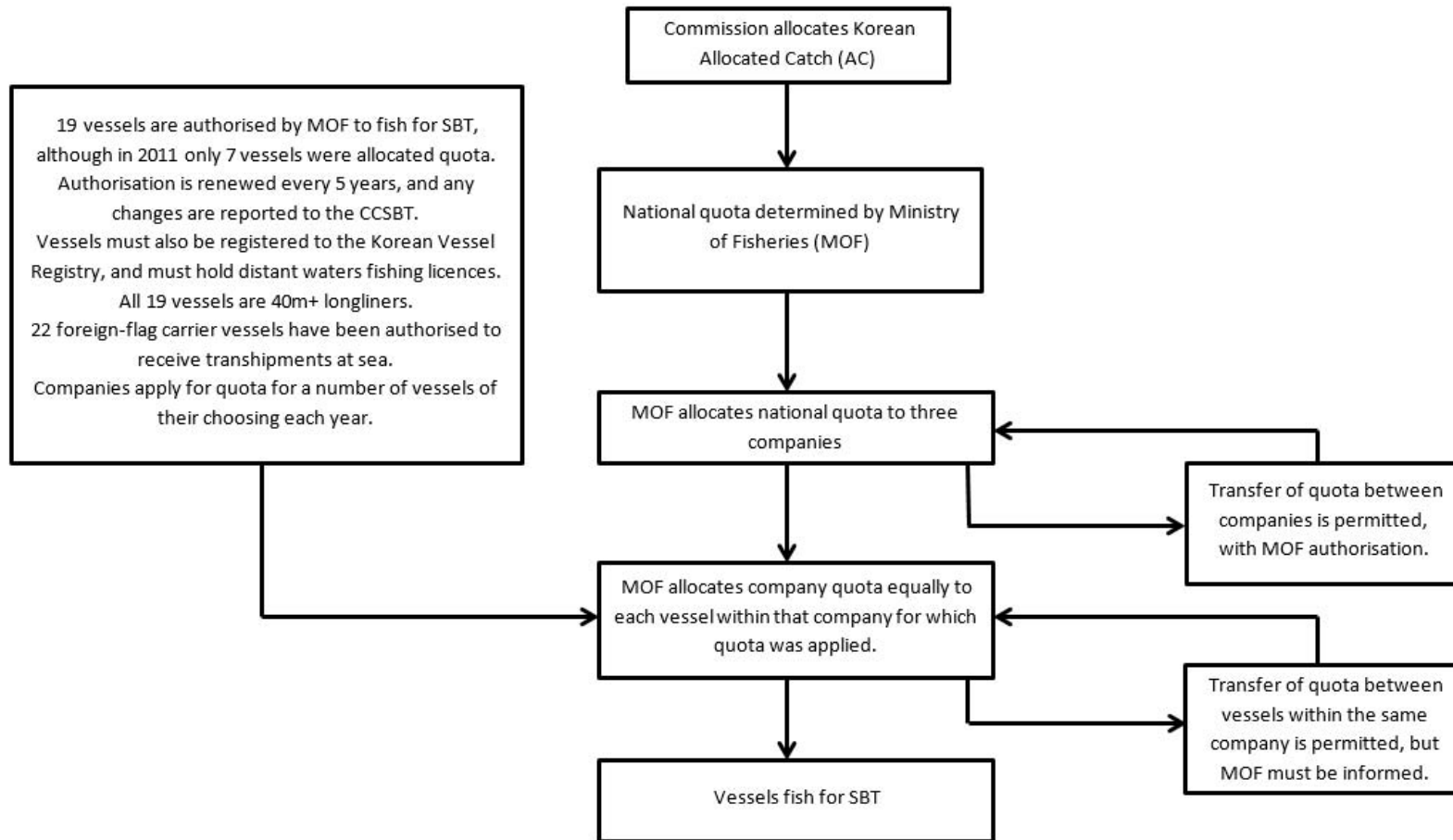
Summary – The CCSBT executive secretary was formally notified of Korea’s intention to utilise the carry-forward procedure for the 2013/13 season on 6th May 2013.

The CCSBT executive secretary was formally notified of Korea’s intention to utilise the carry-forward procedure for the 2013/13 season on 6th May 2013. A copy of the formal notification letter is provided at annex 3.7. The letter includes details of the amount of quota to be carried forwards and the catch limit from the previous year; however it does not state the new total quota for the 2013/14 season. Based on the information provided by the Member, the carry-forward procedure has not been used in any other year since 2010.

4 Member Process Flow Map

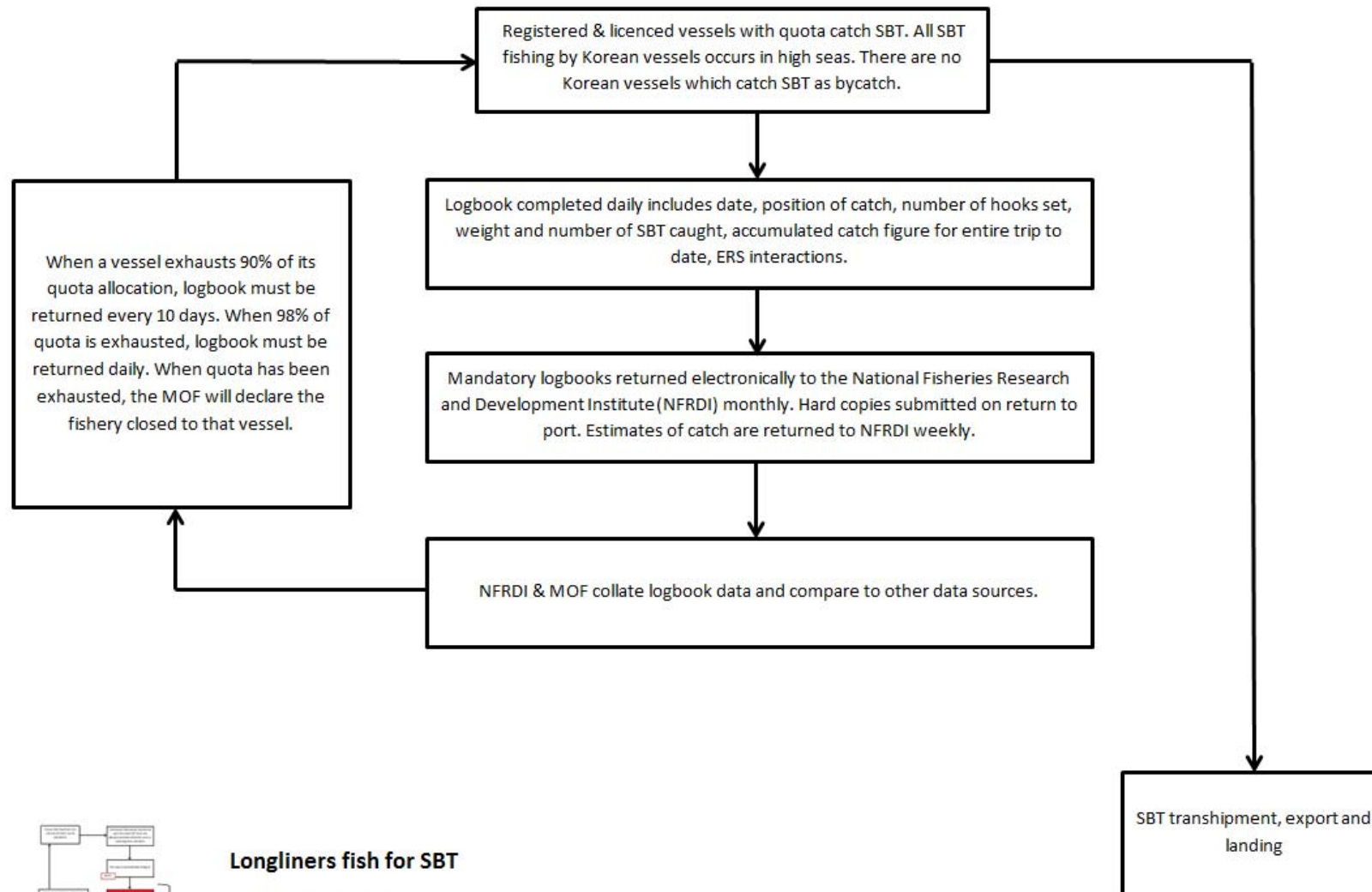


OVERVIEW



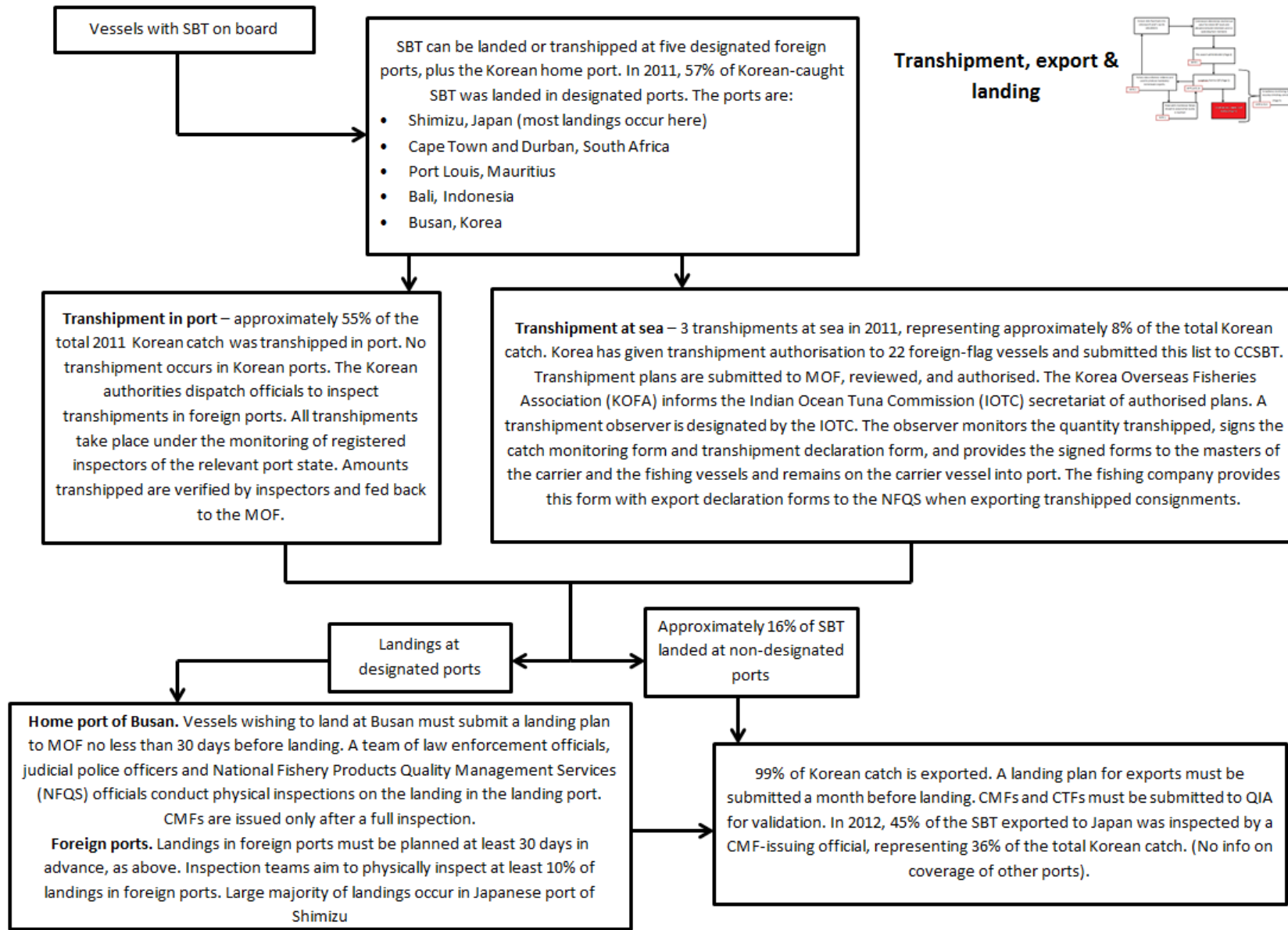
Pre-season administration

MPR 1



Longliners fish for SBT

MPR 2a & 2b



5 Management System Effectiveness

Korea's SBT fishery management systems have been demonstrated to be effective in terms of the CCSBT minimum performance requirements outlined in Section 3. At the same time, the QAR has identified areas where weaknesses and risks to on-going effectiveness can be considered. The report uses information provided by the Member state during consultation as well as information provided by a review of the available documentation. A strengths, weaknesses, opportunities and threats (SWOT) analysis has been conducted on this basis. Table 4 shows the strengths, weaknesses and threats (risks) identified by this process, whilst the recommendations (opportunities) of the SWOT are displayed in Section 6. Although the SWOT analysis identifies strengths, weaknesses, opportunities and threats applicable to the Korean SBT fishery, they are not necessarily exclusive and may refer to the current measures in place rather than concerns of lower compliancy. Where comments are thought to apply more broadly than just Korea, or if an issue has been discussed during CCSBT conferences, this is noted in the text.

Table 4a lists Korea's strengths as identified by the QAR. The key strengths identified by the QAR are;

- **Robust legal foundations for the management of the fishery.** This forms the basis of any effective management regime. Management of the Korean SBT fishery is primarily based on the *Distant Water Fisheries Development Act*. It is particularly noteworthy that this Act makes compliance with Regional Fisheries Management Organisations a legal requirement.
- **Strong fisheries management regulatory system.** The MOF has a well-established fisheries management system that operates in accordance with Korea's fisheries legislation. The allocation of quota has a clearly defined process and allows companies to modulate fishing capacity annually to reflect the scale of the TAC.
- **Thorough data collection processes in place through vessel logbooks and observer coverage.** The MOF enforces a number of mandatory documentation, including daily recording of catch and mortality, records of all transshipments, records of landings, and the full suite of CCSBT CDS documentation and tagging.

Table 4b shows that although Korea's SBT fishery and associated management systems generally complied with CCSBT's MPRs, the QAR has identified some weaknesses which represent potential areas for improvement. The key weaknesses listed in Table 4b include;

- **Fish are not weighed before tailing.** Although at-sea estimates are generally very close to final landing weights, a fixed conversion factor must be applied to both measurements because fish tails are removed before the weighing process. This increases uncertainty in the total catch weight, and may potentially be manipulated by crews – although this review uncovered no evidence to suggest this is the case. Weighing post-tailing is common practice amongst CCSBT Members and the official conversion factor (of 1.15) is the result of CCSBT discussions.
- **Landings occur up to 10 months after the end of the fishing season, and there is overlap between landing periods of successive seasons.** Based on the landings dates provided, SBT

caught April 2011 – March 2012 were landed October 2011 – January 2013. This has two important implications. Firstly, estimates for total fishery removals are based at least partially on weights obtained at sea until all fish are landed – up to ten months after the end of the season. This has particular importance in relation to the utilisation of the carry-forward procedure, although the data provided in section 3.1.6 suggests that crews tend to over-estimate catch weight at sea. Secondly, assuming the 2011/12 landing period is representative, fish from two different seasons are being landed between October and January of each year. This requires vessels and authorities to keep track of multiple seasons within the same cargo.

- **No at-sea inspections.** A lack of at-sea inspections increases the risk of general non-compliance.

The weaknesses identified by the QAR have been used to determine potential risks associated with the Korean SBT fishery (Table 4c). Several of these risks have been previously identified by AFMA's internal risk assessment mechanisms. The key risks identified by the QAR are;

- **Risk of inaccurate catch weight estimates.** Weights measured at catch and landing are of fish which have had tails removed. This introduces uncertainty in the total weight of fish which were originally removed. A fixed conversion factor does not take into account variation in tailing methodology or fish size. See also the first weakness identified above.
- **Lack of at-sea inspections increases risk of general non-compliance.** Where vessels know they will not be boarded for inspection at-sea, there is an increased probability of non-compliance of all types. When documentation is not compared to catch except at official transshipments and landing, there is also the possibility of transshipping to an unlicensed transport vessel. However, it should be stressed that there is no evidence to suggest this has occurred and the risk is considered small.

A third identified risk does not represent a risk of failure to meet the MPRs, but is a potential economic risk for Korea and its fishers:

- **Risk of undercatch.** The quota system may increase the risk that the Korean quota is not filled. The additional 5% quota reserve is distributed between all vessels, irrespective of whether that vessel has filled its previous quota. This could lead to additional quota being allocated to vessels which are unlikely to catch it. Additionally, quota cannot be traded between companies, meaning any company finding it is unable to fill its quota share is unlikely to transfer it to another company.

Table 4 Strengths, weaknesses, opportunities and threats (SWOT) analysis conducted for Korea's systems determining compliancy to CCSBT Minimum Performance requirements (MPR's)**a) Strengths associated with Korea's SBT fishery and associated management in relation to CCSBT's MPRs****STRENGTHS**

| Obligation | MPR | Strengths |
|------------|----------|--|
| 1.1 (i) | 1 | <ul style="list-style-type: none"> • Legal requirement that TAC be set in line with CCSBT AC. • Reported landings have been below CCSBT AC in the years examined by this review (2010-2013). |
| | 2a (i) | <ul style="list-style-type: none"> • Government allocates quota at the company and vessel levels. • Restricted ability for additional capacity to enter the fishery. • Capacity is modulated each year by companies, based on economic considerations. • 5% TAC held in reserve limits the chance of over-catch. |
| | 2a (ii) | <ul style="list-style-type: none"> • Mandatory logbooks record catch and discard data on a daily basis. • Quota-dependent catch reporting frequency – daily monitoring of vessels close to quota limit. |
| | 2a (iii) | <ul style="list-style-type: none"> • All vessels legally required to report total catch weekly, via owning company. |
| | 2b | <ul style="list-style-type: none"> • Commercial retained and discarded catch mandatorily recorded in daily logbooks. • No other reported sources of SBT mortality. • Landing declaration forms provide additional validation of total catch weight. |
| | 2c (i) | <ul style="list-style-type: none"> • Observer coverage was above 10% in the 2012/13 fishery. • Weekly catch reports, logbooks, and transshipment and landings paperwork are all compared to ensure consistency. • CCSBT CDS documentation fully implemented. |
| | 2c(ii) | <ul style="list-style-type: none"> • N/A – Korea does not farm SBT. |
| | 3 | <ul style="list-style-type: none"> • All relevant data are reported to CCSBT on the necessary timescales. |
| | 4 | <ul style="list-style-type: none"> • Mandatory VMS on all SBT vessels, soon to be monitored 24/7. • All domestic landings and approximately 35% of foreign landings inspected by Korean officials. |
| 1.1 (iii) | 1a | <ul style="list-style-type: none"> • None specific to this MPR. |
| | 1b | <ul style="list-style-type: none"> • None specific to this MPR. |

b) Weaknesses associated with Korea's SBT fishery and associated management in relation to CCSBT's MPRs**WEAKNESSES**

| Obligation | MPR | Weaknesses |
|------------|----------|--|
| 1.1 (i) | 1 | <ul style="list-style-type: none"> The Korean fishing season does not match the accounting period used by CCSBT; however this does not appear to cause any difficulties. |
| | 2a (i) | <ul style="list-style-type: none"> No official documentation for monitoring the transfer of quota between companies. Lack of consistency in the utilisation of the 5 % quota reserve – the trigger is determined by the Government in each season and is not a set date or quota utilisation percentage. |
| | 2a (ii) | <ul style="list-style-type: none"> Fish are weighed by crew after tailing – potential for reduced accuracy of weight estimates. Around 90 % of vessels have no observer, meaning catch and discard estimates are recorded by crew alone. 10% observer coverage is the standard target for CCSBT Members. |
| | 2a (iii) | <ul style="list-style-type: none"> None specific to the requirement for weekly reporting. |
| | 2b | <ul style="list-style-type: none"> Discard weights and sizes measures by crew in most instances. Mitigated by government crew-training exercises. Landings occur up to 10 months after the end of the fishing season, and there is overlap between landing periods of successive seasons. |
| | 2c (i) | <ul style="list-style-type: none"> No observer coverage during 2011/12. No at-sea inspections. Some landings and all transshipments not observed by Korean officials. |
| | 2c(ii) | <ul style="list-style-type: none"> N/A – Korea does not farm SBT. |
| | 3 | <ul style="list-style-type: none"> None specific to this MPR |
| | 4 | <ul style="list-style-type: none"> No at-sea inspections. Landings at foreign ports inspected by officials from those ports. Mitigated by membership of IOTC of all designated ports, and Korean official attendance at 42.5 % of landings (by weight) in Japan in the 2011/12 season. |
| 1.1 (iii) | 1a | <ul style="list-style-type: none"> None specific to this MPR |
| | 1b | <ul style="list-style-type: none"> The 2013 letter notifying the CCSBT of the intention to utilise carry-over did not include statement of the new total quota. |

c) Risks (threats to compliance) associated with Korea's SBT fishery and associated management in relation to CCSBT's MPRs

RISKS/THREATS

| Obligation | MPR | Risks (Threats) |
|------------|----------|--|
| 1.1 (i) | 1 | <ul style="list-style-type: none"> None specific to this MPR. Reported catch has not significantly exceeded Korean AC. |
| | 2a (i) | <ul style="list-style-type: none"> Risk of undercatch for two reasons: <ul style="list-style-type: none"> Vessels may be compelled to apply for a share of the remaining 5% of quota even if it is unlikely they will fill it. Limited ability to transfer quota between companies due to restrictions on financial exchanges (i.e. quota cannot be sold). |
| | 2a (ii) | <ul style="list-style-type: none"> Vessels without observers (approx. 90 % of trips) could under-report discards. Exacerbated by lack of at-sea inspections. Set conversion factor and post-tailing weighing potentially encourages crew to manipulate tailing methodology to maximise fish for a set quota. |
| | 2a (iii) | <ul style="list-style-type: none"> None specific to this MPR. |
| | 2b | <ul style="list-style-type: none"> None specific to this MPR, though see also the risks identified for MPR 2a(ii). |
| | 2c (i) | <ul style="list-style-type: none"> None specific to this MPR, though see also the risks identified for MPR 2a(ii). |
| | 2c(ii) | <ul style="list-style-type: none"> N/A – Korea does not farm SBT. |
| | 3 | <ul style="list-style-type: none"> None specific to this MPR. |
| | 4 | <ul style="list-style-type: none"> Potential for non-compliance increased by lack of at-sea inspections. VMS is not currently physically monitored at all times, although it is technically recorded and can be accessed at any time. Additionally, the impending introduction of the Fishery Monitoring Centre will mitigate this risk. |
| 1.1 (iii) | 1a | <ul style="list-style-type: none"> None specific to this MPR. |
| | 1b | <ul style="list-style-type: none"> None specific to this MPR. |

6 Recommendations for Improvement

Based on the SWOT analysis and review of the effectiveness of management systems against the CCSBT minimum performance requirements in Section 3, the review team has provided recommendations for improvement of Korea's fishery management systems (Table 5). The key recommendations proposed by the QAR are;

- Introduce at-sea inspection of SBT vessels.
- Require vessels to weight fish before tails are removed.
- Require catch to be landed within 60 days of the end of the fishing season.

Table 5 – Recommendations (opportunities) identified by the strengths, weaknesses, opportunities and threats (SWOT) analysis conducted for Korea's systems determining compliancy to CCSBT MPRs

OPPORTUNITIES/RECOMMENDATIONS

| Obligation | MPR | Recommendations |
|------------|----------|--|
| 1.1 (i) | 1 | <ul style="list-style-type: none"> • None specific to this MPR. |
| | 2a (i) | <ul style="list-style-type: none"> • Encourage vessels/companies to transfer unused quota, e.g. by permitting financial exchanges. • Develop official documentation for inter-company quota transfers. |
| | 2a (ii) | <ul style="list-style-type: none"> • Require vessels to weigh fish before any processing (i.e. before tails are removed) • Increase observer coverage and/or introduce at-sea inspections of vessels |
| | 2a (iii) | <ul style="list-style-type: none"> • None specific to this MPR. |
| | 2b | <ul style="list-style-type: none"> • Require catch to be landed within 60 days of the end of the fishing season. |
| | 2c (i) | <ul style="list-style-type: none"> • None specific to this MPR. |
| | 2c(ii) | <ul style="list-style-type: none"> • N/A – Korea does not farm SBT. |
| | 3 | <ul style="list-style-type: none"> • None specific to this MPR. |
| | 4 | <ul style="list-style-type: none"> • Introduce at-sea inspections. • Continue the implementation of 24/7 physical VMS monitoring. |
| 1.1 (iii) | 1a | <ul style="list-style-type: none"> • None specific to this MPR. |
| | 1b | <ul style="list-style-type: none"> • Ensure carry-over notifications include all necessary information, including total catch for the season past and total quota for the season ahead. |

7 Post Final Report Member Comments

Korea's Comments on the Final QAR Report

The QAR team incorporated Korea's comments provided to the first draft of the QAR report to a great extent. However, there are some concerns and comments yet to have been addressed and Korea would like to take this opportunity to have them taken aboard. The final comments are mostly regarding the potential risks and threats suggested by the QAR team. With this comment, we have attached a revised statistics on the SBT landing in the fishing season 2011/2012. This revision regards to page 24 of the QAR report. (One of the companies landed some of their catches in Busan port, not a port in Japan they originally intended.)

1. QAR Report's Executive Summary

The report's executive summary says that "...the reported Attributable SBT Catch (ASBTC) has not significantly exceeded Korea's CCSBT AC." Since Korea's AC has been maintained strictly under its national quota, we are concerned that the phrase "has not significantly exceeded" may have wrong implications. Given this, we believe that "...the reported Attributable SBT Catch (ASBTC) has been strictly maintained within Korea's CCSBT AC" would be more accurate. It is very important for the Korean government because keeping the catches within Korea's National Quota is one of the compliance priorities of the government.

2. Tailing before Weighing as a Potential Risk

The report pointed out "tailing before weighing" as a potential risk. However, it is a commonly conducted practice amongst CCSBT Members for the sake of freshness of the catches and discussions are currently underway regarding this issue. Therefore, we are concerned that it may look like weighing after tailing is a problem specific to Korea when it is not. Also, the QAR report mentioned that crew may possibly manipulate the total catch weight by using different methods for tailing, but since there is a widely accepted and reasonable proportion of tailing, though not accurate, it shouldn't be a matter for concern. For example, in the wholesale market, no one would want to buy an SBT with a large chunk was taken off its body. So, the crew on board cut off tails just enough to draw out blood, not to adjust the weight of the whole catches to maximize their profit. Also, the fixed conversion factor of 1.15 is a commonly used figure among the CCSBT Members. Even though the fixed number may not take into account variation in tailing methodology or fish size, this is not an issue specific to Korea since it has been produced and used within the CCSBT. Therefore, it is not appropriate to say that tailing before weighing is a problem specific to Korea especially when this is not something that goes against the minimum performance requirements for CDS.

3. Lack of At-sea Inspection

The QAR reported pointed out Korea's lack of at-sea inspection as a potential threat. However, in RFMOs, at-sea inspections are usually conducted on other states' vessels to ensure the objectivity and independence. That means the lack of at-sea inspection by the Korean authorities does not necessarily increase the risk of non-compliance by Korean-flagged vessels because this compliance can be checked by inspection vessels deployed by other states anytime. Also, unlike other RFMOs, CCSBT does not have its own "Convention Area," and Members' SBT vessels operate where the fish

occur. Therefore, it is very difficult for Members to deploy their at-sea inspection vessels targeting SBT fishing vessels unless the operation takes place in their EEZ.

4. Observer Coverage

Throughout the report, it is said that Korea's scientific observer coverage is "only" around 10% and it could pose a potential compliance risk. However, a 10% observer coverage is what is required in the resolution and relevant minimum performance requirement. It is a full compliance, not a compliance risk.

5. Port Inspection Coverage

Regarding port inspection coverage, the QAR report pointed out not all SBT catches landed in foreign ports were inspected by Korean inspectors. However, a 100% inspection coverage in foreign ports is not an obligation under CCSBT Conservation Measures. At CDS Minimum Performance Requirement Working Group meeting in Canberra this year, Japan proposed a 100% inspection coverage, but all other members agreed that it is practically impossible and it was so reflected in the meeting records, saying that such requirement goes above and beyond the current measures.

6. Not Allowing Companies to Trade their Quotas

Regarding the arrangement that doesn't allow the trade of individual quota between different companies, the QAR report pointed this out as a potential risk. However, we don't see what kind of threat it poses.

7. Landing at Non-designated Ports

Regarding the point that some landings occur at non-designated ports, the 16% differences occurred due to the differences in RD and GG weights, as we explained through the communication on August 16, 2013. All landings were made at designated ports.

8. Lack of At-sea Inspection

Regarding "lack of at-sea inspections," in RFMOs, at-sea inspections are usually conducted on other states' vessels to ensure the objectivity and independence. That means the lack of at-sea inspection by the Korean authorities does not necessarily increase the risk of non-compliance by Korean-flagged vessels because this compliance can be checked by inspection vessels deployed by other states anytime. Also, unlike other RFMOs, CCSBT does not have its own "Convention Area," and Members' SBT vessels operate where the fish occur. Therefore, it is very difficult for Members to deploy their at-sea inspection vessels targeting SBT fishing vessels unless the operation takes place in their EEZ.

9. VMS

Regarding the remark "VMS is not currently monitored at all times, although the implementing introduction of the Fishery Monitoring Center will mitigate this risk." This remark could be misleading because all VMS data sent from the SBT vessels are fully recorded in the system so the authorities can retrieve those data anytime. Currently, VMS is not "physically" monitored by dedicated agents 24/7, but it is being technically monitored at all times, and the location and movement of a vessel can be checked anytime.

10. Undercatch

We also do not quite understand how undercatch might pose potential threat. Also, this remark does not correspond with “AC has not significant exceeded Korea’s National Allocation.” Korea is managing its SBT fishery in a way that SBT catches by its vessels are strictly kept under its National Allocation, even though it sometimes could lead to undercatch of its National Allocation.

Revised Statistics on SBT landing in the 2011/2012 fishing season

| Landing of SBT in the fishing season 2011 (April 1, 2011-March 31st, 2012) | | | | | | |
|--|--------------------|-----------------|-----------------|---------------|---------------------|--|
| Landing Date | Company | Vessel Name | Port of Landing | quantity (kg) | Landing Inspection | Inspection Authorities (Korean or Japanese) |
| | | | (city, state) | G-G | conducted (O, X) | |
| 11.10.24 | Sajo Industries | Oryong No. 353 | Shimizu, JP | 80,570 | ○ | JP |
| 13.1.18 | Sajo Industries | Oryong No. 353 | Shimizu, JP | 866 | ○ | JP |
| 11.10.25 | Sajo Industries | Oryong No. 373 | Shimizu, JP | 9,510 | ○ | JP |
| 11.10.26 | Sajo Industries | Oryong No. 355 | Shimizu, JP | 5,304 | ○ | JP |
| 11.10.28 | Dongwon Fisheries | Dongwon No. 622 | Shimizu, JP | 41,399 | ○ | JP |
| 11.12.23 | Sajo Industries | Oryong No. 373 | Busan, KR | 379 | ○ | KR |
| 12.1.5 | Dongwon Fisheries | Dongwon No. 619 | Shimizu, JP | 103,316 | ○ | JP |
| 12.1.16 | Sajo Industries | Oryong No. 353 | Shimizu, JP | 52,013 | ○ | JP |
| 12.2.10 | Dongwon Fisheries | Dongwon No. 622 | Shimizu, JP | 62,743 | ○ | JP |
| 12.12.26 | Dongwon Fisheries | Dongwon No. 619 | Shimizu, JP | 9,051 | ○ | JP |
| 12.2.14 | Dongwon Industries | Dongwon No. 117 | Shimizu, JP | 72,850 | ○ | KR |
| 12.2.14 | Dongwon Industries | STD1 | Shimizu, JP | 81,350 | ○ | KR |
| 12.2.16 | Sajo Industries | Oryong No. 355 | Shimizu, JP | 57,287 | ○ | KR |
| 12.12.25 | Sajo Industries | Oryong No. 355 | Shimizu, JP | 3,943 | ○ | JP |
| 12.2.16 | Sajo Industries | Oryong No. 373 | Shimizu, JP | 52,231 | ○ | KR |
| 12.11.15 | Sajo Industries | Oryong No. 373 | Shimizu, JP | 5,667 | ○ | JP |
| Total | three companies | 15 times | | 638,479 | | |

8 Appendices

Appendix 1: Consultation Process

| Organisation | Person | Action | Date |
|----------------------------|--|---|-------------------------|
| SAI Global | Dave Garforth | Initial Contact | |
| Korean fishery authorities | Ms. Jung-re Riley Kim | Preliminary phone call | 28/06/2013 |
| SAI Global | Dave Garforth | | |
| Korean fishery authorities | Ms. Jung-re Riley Kim | Consultation arrangements | 28/06/2013 – 10/07/2013 |
| SAI Global | Dave Garforth and Sam Peacock | | |
| Korean fishery authorities | Ms. Jung-re Riley Kim | Providing documentation prior to consultation | 28/06/13 – 10/07/2013 |
| Korean fishery authorities | Mr. Sung-su Lim Ms. Jung-re Riley Kim Ms. Jiae Son | Consultation | 10/07/2013 |
| SAI Global | Mr. Park (replacing Mr. Dojin Kwak) Mr. Ikang Na Sam Peacock and Oliver Wilson | | |
| SAI Global | Sam Peacock | Additional information request | 15/07/2013 |
| SAI Global | Ms. Jung-re Riley Kim | Providing additional documentation | 17/07/2013 |

Appendix 2: Overview of Obligations and Associated CCSBT Minimum Performance Requirements

Obligation 1.1(i):

For 2012, 2013 and 2014, each Member shall be bound to the Allocated Catch for the respective year as specified below:

| | Allocated Catch (t) | | |
|-------------|---------------------|------|-------|
| | 2012 | 2013 | 2014* |
| Japan | 2519 | 2689 | 3366* |
| Australia | 4528 | 4698 | 5147 |
| New Zealand | 800 | 830 | 909 |
| Korea | 911 | 945 | 1036 |
| Taiwan | 911 | 945 | 1036 |
| Indonesia | 685 | 707 | 750 |

* The allocations shown for 2014 and the proportional allocation shown for Japan are dependent on the TAC for 2014 (these figures assume a TAC of 12,449t) and a compliance review at CCSBT 20 (2013) as described in the Resolution on the Allocation of the Global Total Allowable Catch.

Minimum Performance Requirements for Obligation 1.1(i):

1. Rules in place to ensure that the total "Attributable SBT Catch" (see the note below concerning the Attributable SBT Catch) of each Member does not exceed the Member's Allocated Catch for the relevant period.

Note on "Attributable SBT Catch"

Until the CCSBT agrees on a single definition, each Member and Cooperating Non-Member must clearly and unambiguously state the definition of its Attributable SBT Catch and these definitions are repeated below. As a minimum, the attributable catch must include all commercial catch landings:

- **Australia: All commercial catch, except catch that is released in a live and vigorous state.**
- *Indonesia: The amount of commercial catch/landing of tagged SBT within its national allocation.*
- *Fishing Entity of Taiwan: Retained commercial catch.*
- **Japan: The amount of SBT put into fish hold of the vessel.**
- **Korea: Commercial landing of SBT.**
- **New Zealand: Within its national allocation New Zealand allows for recreational and customary catch, other sources of fishing mortality and sets a total allowable commercial catch limit.**
- *European Union: Catches landed by commercial vessels*
- *Philippines: The entire catch of SBT including any discards (alive or dead) counted is against its allocation.*

- *South Africa: Any SBT catch that is landed, independently verified by the Department, and counted against the individual right holding company in the tuna and swordfish longline sectors. This does not include SBT that has been released alive, discarded, depredated or confiscated.*

2. Operating systems and processes established to:

- Implement annual catching arrangements, including:
 - specification of allocations by company, quota holder or vessel,
 - arrangements for daily recording of all catches,
 - weekly reporting of catches by large scale tuna longliners and monthly reporting of catches by coastal fishing vessels.
- In accordance with the timeline in the table in the Compliance Policy Guideline document, monitor all **fishing-related mortality of SBT**.

Starting Year for Monitoring of SBT Mortality

| MEMBER | Sources of SBT Mortality | | | | | |
|-------------------|-------------------------------|--|---------------------------------|-----------------------------------|---|--|
| | Commercial Retained Catch (t) | Commercial Discard Mortality (numbers and/or estimated weight) | Commercial Towing Mortality (t) | Non-Commercial Retained Catch (t) | Other Discard Mortality (numbers and/or estimated weight) | Other Sources of Mortality (numbers and/or estimated weight) |
| Australia | now | now | now | now | now | now |
| Indonesia | now | now | N/A | now | now | now |
| Japan | now 2 | now | N/A | N/A | now | now |
| Republic of Korea | now | now | N/A | N/A | now | now |
| New Zealand | now | now | N/A | now | now | now |
| Taiwan | now | now | N/A | N/A | now | now |
| European Union | now | now | N/A | N/A | now | now |
| Philippines | now | now | N/A | N/A | now | now |
| South Africa | now | now | N/A | now | now | now |

Any of the sources of the mortality listed in the table above may or may not contribute to 'Attributable Catch'

- Ensure accuracy of the "Attributable SBT Catch", including:
 - For fishing Members, a physical inspection regime of SBT caught by the Member's fishing vessel
 - For farming Members, monitoring the accuracy of the stereo video monitoring and adjusting/ re-calibrating where necessary.

3. All fishing-related SBT mortality is reported annually to the Extended Scientific Committee, for incorporation into stock assessment analysis, and to the Commission.

4. Operating systems and processes applied to:
 - a. monitor compliance with annual catching arrangements; and
 - b. impose sanctions or remedies where necessary.
-

Obligation 1.1(ii) applies only to Co-operating Non-Members

Obligation 1.1(iii):

Unless the Extended Commission reduces the TAC or a Member's allocation of the TAC, Members may carry forward up to 20% of their unfished quota to the next quota year within the same three year quota block, but quota that is carried forward may not in turn generate further under-fishing to be carried forward to the following year. Members that decide to adopt the carry-forward procedure for their fishery shall:

- a. Report on their use of the procedure in their annual reports to the Extended Commission, regardless of whether the procedure was in fact used by the Member during that quota year;
- b. If at the beginning of a new quota year, the Member decides to carry forward unfished quota from a previous year, it shall within 60 days of the new quota year, notify the Secretariat of this carry-forward and provide a revised annual available catch limit (i.e. Catch Allocation + carry-forward) for the new quota year

Minimum Performance Requirements for Obligation 1.1(iii):

1. For Members that decide to adopt the carry-forward procedure (regardless of whether carry-forward was used in the particular year):
 - a) Operating systems and processes must be in place to ensure that
 - i. an accurate, verified and robust figure for the final Attributable Catch is available before the notification to the Secretariat of the carry-forward,
 - ii. a report on the adoption and use of the carry-forward procedure, together with documentation on quantification and verification of the total catch is included in each annual report to the Extended Commission;
 - b) The Executive Secretary is formally notified of the catch for the concluded quota year together with the available catch limit (Catch Allocation + carry-forward) for the new quota year within 60 days of the start of the new quota year.

Appendix 3 – Copies of fishery logbooks & other paperwork

| Appendix | Form | Source |
|----------|--|--------------------------|
| 3.1 | Distant Water Tuna Longliner Logbook Form | MOF <i>official comm</i> |
| 3.2 | Landing Declaration Form | MOF <i>official comm</i> |
| 3.3 | Transshipment Declaration Form | MOF <i>official comm</i> |
| 3.4 | Examples of field guides produced for vessel crew by NFRDI | MOF <i>official comm</i> |
| 3.5 | Examples of Observer spread sheets | MOF <i>official comm</i> |
| 3.6 | Application form for distant water fishing authorisation, reservation and modification | MOF <i>official comm</i> |
| 3.7 | Rollover notification letter, 2013 | MOF <i>official comm</i> |