



CCSBT-CC/1010/06

Implementation of the CCSBT Transshipment Resolution CCSBT 転載決議の実施

Background 背景

The Resolution for Transshipment by Large-Scale Fishing Vessels was agreed at CCSBT15 in October 2008. A copy of the resolution is available from the CCSBT website at:

大型漁船の転載に対する決議は、2008年10月のCCSBT15で合意された。決議は、次のCCSBTウェブサイトから入手可能である:

http://www.ccsbt.org/docs/pdf/about_the_commission/Resolution_Transshipment.pdf

The program comprises of 3 main components:

この計画は、主に以下の3つから構成される:

- Record of Vessels Authorised to receive Transshipments at-sea,
洋上転載を受けとることを認められた船舶の記録
- Regional Observer Program, and
地域オブザーバー計画
- Deployment Requests and Transshipment Declarations.
配置要求及び転載申告書

The Transshipment resolution came into force on 1 April 2009.

この転載決議は、2009年4月1日に施行された。

To avoid the duplication of the same measures, ICCAT and IOTC observers may be deemed to be participating in the CCSBT program, provided they meet the standards established in the CCSBT resolution. The CCSBT has signed Memorandums of Understanding with both ICCAT and IOTC regarding transshipments. These MOU's are contained in Attachments A and B respectively.

同一の措置の重複を避けるため、CCSBTの決議で創設された水準を満たすことを条件に、ICCAT及びIOTCのオブザーバーがCCSBTの計画に参加していると見なし得る。CCSBTは、転載に関してICCAT及びIOTCの双方と了解覚書に署名をした。これらのMOUは、それぞれ別紙A及びBに含まれる。

Summary of Transshipments

転載の概要

A summary of transshipments, aggregated by flag is contained in Attachment C. The Secretariat has not provided this summary on a vessel by vessel basis for confidentiality reasons, but has this information available if it is required by the Compliance Committee. 掲揚旗ごとに集計した転載の概要は、Attachment Cに含まれる。事務局は機密性の理由から船ごとの概要は提供していないが、遵守委員会が必要とする場合には、この情報を利用できるようにする。

At the time of writing this report, a total of 77 transshipments, totalling 1300t of southern bluefin tuna had been notified to the Secretariat. These have all had completed transshipment declarations provided.

この報告書を作成した時点では、合計 77 件、総重量 1300 トンのみなみまぐろの転載が事務局に通知されている。これらは、いずれも転載申告書の提供があったものである。

Record of Vessels Authorised to receive Transhipments at-sea

洋上転載を受けとることを認められた船舶の記録

The resolution requires that, prior to transhipping at sea, Members and Cooperating Non-Members must authorise their LSTLV's to tranship at sea. In addition, Members and Cooperating Non-members must provide a list of carrier vessels that are authorised to receive at-sea transhipments from its LSTLV's.

この決議は、メンバー及び協力的非加盟国に対して、洋上転載をする前に自らの LSTLV に対してその許可を与えなければならないことを要請している。さらに、メンバー及び協力的非加盟国は、自らの LSTLV から洋上転載を受けとることを認められた運搬船のリストを提出しなければならない。

There have been a few isolated incidents of transhipments taking place where a Carrier Vessel was not authorised, however after follow up with the Authorising Flag, an Authorisation has been provided. As a result, at the time of writing this report, all Fishing Vessels and Carrier Vessels have been authorised to perform the transhipments.

無許可運搬船による個別の転載事例がわずかにあったが、旗国によるフォローアップの後許可が与えられた。結果として、この報告書を作成した時点では、すべての漁船及び運搬船が転載を実施するための許可が与えていたものである。

Observer Requirements

オブザーバーの要件

All vessels transhipping SBT are required to have a CCSBT observer on board in accordance with the Regional Observer Program. The observer is required to submit a report on the transhipment within 20 days of the end of the period of observation.

SBT を転載するいかなる船舶も地域オブザーバー計画に従って、CCSBT オブザーバーの配乗が要請される。かかるオブザーバーは、観察期間の終了日から 20 日以内に転載についての報告書を提出するよう要請される。

To date observer reports have been submitted for most transhipments since 1 April 2009. The CCSBT secretariat is still following up with IOTC and/or ICCAT regarding any outstanding reports.

現在までのオブザーバー報告書は、2009 年 4 月 1 日以降の転載のほとんどのものに関して提出されている。CCSBT 事務局は、残りの報告書について、IOTC 及び/又は ICCAT とともに、引き続きフォローアップをしているところである

Deployment Requests

配乗要求

Within the IOTC and ICCAT transhipment program, to enable deployment of observers, Members and Cooperating Non-Members intending to tranship SBT submit a request for observer deployment. The "request for deployment form" also contains a requirement to specify whether SBT will be transhipped.

IOTC 及び ICCAT の転載計画において、オブザーバーの配乗を可能にするために、SBT を転載 予定のあるメンバー及び協力的非加盟国 はオブザーバーの配乗要求を提出する。当該「配乗要求の書式」には、SBT が転載されるかどうかを明示すべきことの要求も含まれる。

To date, for 64% of the transhipments completed and notified via IOTC and ICCAT, the secretariat also received deployment requests that indicated a transhipment of southern bluefin tuna would take place.

現在までに、64%の転載が IOTC 及び ICCAT を通じて終了及び通知されており、事務局は、SBT の転載の実施を示す配乗要求も受領した。

Implementation of the Resolution

決議の実施

Transhipments have been reported under MOU's with both IOTC and ICCAT, and a number of implementation issues have been identified. Each of these issues were also reported to the fourth meeting of the Compliance Committee in 2009, and as yet have not been fully resolved, and may require further investigation.

転載は、IOTC 及び ICCAT との MOU に基づき報告されており、多くの実施上の課題が判明した。これらの課題はいずれも 2009 年の第 4 回遵守委員会会合にも報告されているが、未だ十分には解決されていないため、更なる調査が必要となるだろう。

Initial Deployment requests not indicating SBT

SBT の転載を示さない当初の配乗要求

A significant number of deployment requests have not indicated transhipment of SBT, while some are later revised to include SBT. This is a serious issue because:

かなり多くの配乗要求が SBT の転載を示すことなく、そのうちのいくつかは後刻 SBT を含めるべく修正される。これは、以下の理由から、深刻な課題である。

- To be authorised to observe a transhipment of SBT, an observer needs to be trained in CCSBT's requirements. If there is no indication that SBT is to be transhipped, an inappropriately trained observer might be deployed.
SBT の転載を監視する権限を与えるためには、オブザーバーは CCSBT の要件に関する訓練を受ける必要がある。SBT が転載されることを示さなかった場合には、適切に訓練を受けたオブザーバーは配乗されないかもしれない。
- If there is no indication that SBT is to be transhipped, no checks are conducted as to whether the fishing vessel and transhipment vessel have been authorised with the CCSBT. Hence, a transhipment may be incorrectly allowed which could also pose a problem for appropriate implementation of the CDS.
もし SBT が転載されることを示さなかった場合には、当該漁船及び転載船が CCSBT の許可を受けているかどうかについて確認されない。したがって、転載は不適切な形で許可されるかもしれず、それは適切に CDS を実施する上でも問題である。
- There will be delays in the Secretariat becoming aware of the transhipment because only transhipments involving SBT are notified under the MOU's with IOTC and ICCAT. When transhipments of SBT are not notified in advance, the Secretariat only receives notification after the transhipment has occurred when a transhipment declaration is provided.
SBT を含む転載は、IOTC 及び ICCAT との MOU に基づきのみ通報されているので、事務局が転載を把握するのが遅れる。SBT の転載が事前に通報されない場合には、事務局は転載行為が行われた後、転載申請書が提出されたときに通報を受領するだけである。
- Without prior notification of SBT transhipment, no prior commitment is made of SBT being transhipped, which reduces the robustness of the resolution from a compliance perspective.

SBT の転載に関する事前通報がなければ、SBT が転載されることの事前の確約が行われず、それは遵守上の観点から当該決議の頑健性を損なうものである。

It is therefore strongly recommended that any transshipment of SBT be required to be preceded by an observer deployment request that specifies that SBT will be transhipped. したがって、すべての SBT の転載に関して、SBT が転載されることを明示するオブザーバー配乗要求が先に行われる必要があることが強く勧告される。

Observers unable to separate species during transhipments

転載中のオブザーバーによる種判別に関する困難性

Information from the Observer reports, along with discussion with the Observer Consortiums indicate that in many cases, it is not possible for the observer to separately identify SBT during transhipments. This is usually due to the fish being transhipped in frozen 'strings' containing a mix of species, in conjunction with the speed of transfers. This often results in the observer report recording 'Mixed Tuna Species'.

オブザーバー報告書からの情報及びオブザーバー協会との打ち合わせによれば、転載期間中、多くの場合、オブザーバーは SBT を見分けることは不可能ということである。これは通常、魚種が混合されたまま冷凍状態で「ストロップ」に吊られ、迅速に転載されてしまうためである。このため、オブザーバー報告書では、しばしば「まぐろ種の混合」と記録されることになる。

Evidence from the Observer reports indicates that the two most commonly used methods to identify SBT both rely on information provided by the fishing vessel;

オブザーバー報告書によれば、SBT を見分けるために主に用いられる 2 つの一般的な方法は、いずれも漁船から提供される情報を信頼していることを示している。

- To identify SBT, observers will often use the presence of tags that have been inserted by the fishing vessel. These are often domestic tags, and since the CCSBT Catch Documentation Scheme was implemented on 1 January 2010, can also be the centralised CCSBT CDS tag.

SBT を見分けるため、漁船によって挿入されている標識の存否を利用することがある。これらは、大抵が国ごとに実施している標識であるが、2010 年 1 月 1 日の CCSBT 漁獲証明制度の導入以降は、一元管理化 CCSBT CDS 標識もこの目印となり得るだろう。

- Where SBT can be visibly identified in a transfer (often using the above method), observers commonly use an average weight, multiplied by the estimated number, to calculate a total weight. The average weight is generally calculated using weights and numbers of fish provided by the fishing vessel.

移送の際に SBT が視覚的に認識可能な場合においては（大抵は上記の方法を用いる）、オブザーバーは、一般に、総重量を算出するために、平均体重を利用しこれに推定尾数を乗じている。かかる平均体重は、通常、漁船から提供される重量及び尾数を用いて計算される。

Each of these methods relies on the fishing vessel providing correct and accurate information. Discussion with IOTC and the observer consortiums has not yielded a solution to the difficulty in identifying SBT during transhipments.

いずれの方法も、漁船が正しく正確な情報を提供するという事に信頼を置いている。IOTC 及びオブザーバー協会との議論では、未だ転載時における SBT の判別の困難性の解決には至っていない。

To assist with the identification of SBT, New Zealand provided a bluefin tuna identification guide (see Attachment D) which outlines external and internal features of bluefin tuna, and Japan provided some photos of frozen SBT indicating a breast plate or “bust” in the body cavity (see Attachment E).”

SBT の判別を支援するため、ニュージーランドは、くろまぐろの体外及び体内の特徴を記述したくろまぐろ判別ガイド（別紙 D 参照）を提供し、日本は、魚体腔内の胸の隆起物又は「おっぱい」を示す冷凍 SBT の写真（別紙 E を参照）

Prepared by the Secretariat
事務局作成文書



**DRAFT Memorandum of Understanding
between the CCSBT¹ and ICCAT² Secretariats
for Transshipment at sea by Large-Scale Fishing Vessels**



Introduction

1. The ICCAT has adopted a Recommendation (06/11³) and implemented a program for transshipment at sea by large-scale tuna longline fishing vessels (LSTLV's) within the ICCAT convention area. The CCSBT has adopted a similar resolution (CCSBT15, Attachment 10⁴) for tuna longline fishing vessels with freezing capacity that applies globally to all transshipments involving southern bluefin tuna (SBT). Each Secretariat is in charge of administering the program within its jurisdiction.
2. The two Commissions have overlapping jurisdiction in the Atlantic Ocean, where the CCSBT and ICCAT resolutions are almost identical and most vessels that are required to comply with the CCSBT resolution are also required to comply with the ICCAT recommendation.
3. This Memorandum of Understanding (MOU) has been established to minimise the duplication of work and to minimise the associated costs for those that are required to comply with both the CCSBT and ICCAT resolutions.

Scope of this Memorandum of Understanding

4. This MOU applies to transshipments at sea involving southern bluefin tuna (SBT) within the ICCAT convention area, by LSTLV's with freezing capacity that are Members/Contracting Parties (CPCs)⁵ of both CCSBT and ICCAT, and is further restricted to CPCs that are participating in both CCSBT's and ICCAT's regional observer program. At present, this comprises:
 - Japan
 - Korea
 - Philippines
 - Fishing Entity of Taiwan⁶ / Chinese Taipei⁷
5. CCSBT and ICCAT will notify each other of any changes in their Members/CPCs that may affect this list.

¹ Commission for the Conservation of Southern Bluefin Tuna

² International Commission for the Conservation of Atlantic Tunas

³ Recommendation 06-11 on establishing a programme for transshipment

⁴ Resolution on establishing a program for transshipment by large-scale fishing vessels

⁵ "Members" includes Cooperation Non-Members and "CPCs" includes Cooperating non Contracting Parties

⁶ For CCSBT

⁷ For ICCAT

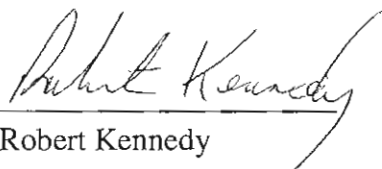
The Arrangement between CCSBT and ICCAT

6. All provisions of the ICCAT transshipment Recommendation will continue to apply to transshipments at sea that fall within this arrangement.
7. All provisions of the CCSBT transshipment resolution will also apply to transshipments at sea that fall within this arrangement, except that:
 - a. To enable a single Transshipment Declaration form to be completed for transshipment by an LSTLV, an ICCAT Transshipment Declaration form may be used instead of the CCSBT Transshipment Declaration form. This only applies while the ICCAT and CCSBT forms are unchanged unless there is agreement to the contrary. Furthermore, transmission of this form by Carrier Vessel masters to the ICCAT Secretariat is deemed to also be a transmission to the CCSBT Secretariat. The ICCAT Secretariat will transmit these documents to the CCSBT Secretariat without delay.
 - b. ICCAT Register Numbers for LSTLV's and Carrier Vessels may be used instead of the CCSBT equivalents. The CCSBT Secretariat will conduct the necessary conversions between ICCAT and CCSBT registration numbers.
 - c. To enable a single set of Transshipment Observers to be used, ICCAT Transshipment Observers will be deemed to be CCSBT Transshipment Observers providing these observers meet the standards established in the CCSBT Transshipment Resolution and providing that the CCSBT Secretariat is informed. In no case will ICCAT Transshipment Observers be required to observe transshipments outside of the ICCAT Convention Area.
 - d. The Consortium that operates the ICCAT program will issue a second report dealing exclusively with transfers that include SBT (i.e., omitting any transfers where no SBT were transhipped) from vessels subject to this MOU. Transmission of such Observer Reports by the Transshipment Observer to the ICCAT Secretariat is deemed to also be a transmission to the CCSBT Secretariat. The ICCAT Secretariat will re-transmit these documents to the CCSBT Secretariat without delay.
8. The combined effect of paragraphs 6 and 7 is that the ICCAT Secretariat and Transshipment Observers will continue to follow the requirements of the ICCAT Recommendation with the additions that:
 - a. The ICCAT and CCSBT Secretariats will advise each other regarding any planned or actual changes to their recommendations/resolutions for at sea transshipment including the Transshipment Declaration form.
 - b. The ICCAT Secretariat will transmit copies of Transshipment Declarations and Observer Reports for all transshipments involving SBT to the CCSBT Secretariat without delay.
 - c. In addition to the experience and training required by the ICCAT Transshipment at sea Recommendation, ICCAT Transshipment Observers that observe transshipments of SBT will have sufficient experience and knowledge to:
 - identify southern bluefin tuna; and
 - have a satisfactory knowledge of the CCSBT conservation and management measures.
 - d. An up-to-date list of ICCAT Transshipment Observers will be maintained and regularly provided to the CCSBT Secretariat by the ICCAT Secretariat.



- e. When ICCAT is informed that an observer deployment will involve transhipments of SBT, ICCAT will notify CCSBT prior to dispatching the observer so that the CCSBT Secretariat can check the validity of authorisations of the Fishing Vessels and Carrier Vessels against the published list of CCSBT Authorised Fishing Vessels and CCSBT Authorised Carrier Vessels respectively.
- f. In addition to tasks specified in the ICCAT Transhipment Recommendation, Transhipment Observers that observe transhipments of SBT will:
- Conduct checks on the Fishing Vessel intending to tranship in accordance with section 5a of Annex 2 of the CCSBT Transhipment Resolution.
 - From 1 January 2010, sign the transhipment verification section of the CCSBT CDS documentation to indicate that the transhipment details (date, name and registration of carrier vessel) were filled in correctly and that the transhipment of product was observed according to the CCSBT Transhipment Resolution⁸.
9. Additional costs imposed on the ICCAT observer program resulting from this MOU will be covered by CCSBT. The costs associated with additional training, additional reports, and insurance required for observers, will be calculated by the Consortium that operates the ICCAT program and transmitted to the CCSBT Secretariat via the ICCAT Secretariat. The CCSBT Secretariat will be responsible for recovering these costs from the CPC's concerned.
10. This MOU comes into effect for twelve months, commencing 1 April 2009. It will be automatically renewed for another twelve months on 1 April each year unless otherwise decided by either the CCSBT or ICCAT Secretariat and informed to the other in writing. Either of the Secretariats may terminate the MOU at any time by written notice to the other Secretariat.

Signed and duly dated:



Robert Kennedy
Executive Secretary
Commission for the Conservation of
Southern Bluefin Tuna



Driss Meski
Executive Secretary
International Commission for the
Conservation of Atlantic Tunas

Date: 7 March 2009

Date: 7 March 2009

⁸ A discrepancy between the stated product on the CDS document and the quantities recorded by the observer would be recorded in the observers report (not the CDS document) and would not prevent the observer from signing the CDS document.

Commission for the Conservation of
Southern Bluefin Tuna



みなみまぐろ保存委員会

iotc
ctoi

Indian Ocean Tuna Commission
Commission des Thons de l'Océan Indien



**Memorandum of Understanding between the CCSBT¹ and IOTC² Secretariats
for Monitoring Transshipment at Sea by Large-Scale Tuna Longline Fishing Vessels**

Introduction

1. The IOTC adopted Resolution 08/02³ that required implementation of a monitoring program for transshipment at sea by large-scale tuna longline fishing vessels (LSTLV's) within the IOTC convention area. The CCSBT has adopted a similar resolution (CCSBT15, Attachment 10⁴) for tuna longline fishing vessels with freezing capacity that applies globally to all transshipments involving southern bluefin tuna (SBT).
2. Within the IOTC convention area, the CCSBT and IOTC resolutions have the same provisions and most vessels that are required to comply with the CCSBT resolution are also required to comply with the IOTC resolution.
3. This Memorandum of Understanding (MOU) has been established to minimise the duplication of work and to minimise the associated costs for those that are required to comply with both the CCSBT and IOTC resolutions.

Scope of this Memorandum of Understanding

4. This MOU applies to transshipments at sea involving southern bluefin tuna (SBT) within the IOTC convention area, by LSTLV's with freezing capacity that are Members/Contracting Parties (CPCs)⁵ of both CCSBT and IOTC. At present, this comprises:
 - Australia
 - European Community
 - Indonesia
 - Japan
 - Korea
 - Philippines
 - South Africa

¹ Commission for the Conservation of Southern Bluefin Tuna

² Indian Ocean Tuna Commission

³ Resolution 08/02 on establishing a programme for transshipment by large-scale fishing vessels

⁴ Resolution on establishing a program for transshipment by large-scale fishing vessels

⁵ For the purpose of this MOU, "Members" includes Cooperating Non-Members and "CPCs" includes Cooperating non Contracting Parties

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5. This MOU also applies to any other fleets that are participating in both the CCSBT and IOTC programs for monitoring transshipments at sea.
6. CCSBT and IOTC will notify each other of any changes in their Members/CPCs/participating fleets that may affect this list.

The Arrangement between CCSBT and IOTC

7. All provisions of IOTC transshipment Resolution 08/02 will continue to apply to transshipments at sea that fall within this arrangement.
8. All provisions of the CCSBT transshipment resolution will also apply to transshipments at sea that fall within this arrangement, except that:
 - a. To enable a single Transshipment Declaration form to be completed for transshipment by an LSTLV, an IOTC Transshipment Declaration form may be used instead of the CCSBT Transshipment Declaration form. This only applies while the IOTC and CCSBT forms are unchanged unless there is agreement to the contrary. Furthermore, transmission of this form by Carrier Vessel masters to the IOTC Secretariat is deemed to also be a transmission to the CCSBT Secretariat. The IOTC Secretariat will transmit these documents to the CCSBT Secretariat without delay.
 - b. IOTC Register Numbers for LSTLV's and Carrier Vessels may be used instead of the CCSBT equivalents. The CCSBT Secretariat will conduct the necessary conversions between IOTC and CCSBT registration numbers.
 - c. To enable a single set of Transshipment Observers to be used, IOTC Transshipment Observers will be deemed to be CCSBT Transshipment Observers providing these observers meet the standards established in the CCSBT Transshipment Resolution and providing that the CCSBT Secretariat is informed.
 - d. Transmission of Observer Reports by the Contractor to the IOTC Secretariat is deemed to also be a transmission to the CCSBT Secretariat. The IOTC Secretariat will transmit these documents to the CCSBT Secretariat without delay.
9. The combined effect of paragraphs 7 and 8 is that the IOTC Secretariat and Transshipment Observers will continue to follow the requirements of the IOTC resolution with the additions that:
 - a. The IOTC and CCSBT Secretariats will advise each other regarding any planned or actual changes to their resolutions for at sea transshipment including the Transshipment Declaration form.
 - b. The IOTC Secretariat will transmit copies of Transshipment Declarations and Observer Reports for all transshipments involving SBT to the CCSBT Secretariat without delay.
 - c. In addition to the experience and training required by IOTC Resolution 08/02, IOTC Transshipment Observers that observe transshipments of SBT must:
 - have sufficient experience and knowledge to identify southern bluefin tuna; and
 - have a satisfactory knowledge of the CCSBT conservation and management measures.
 - d. An up-to-date list of Transshipment Observers will be maintained and regularly provided to the CCSBT Secretariat by the IOTC Secretariat.

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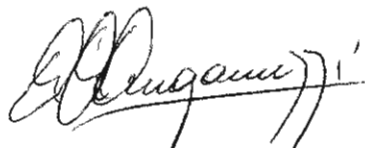
- e. When IOTC is informed that an observer deployment will involve transhipments of SBT, IOTC will notify CCSBT prior to approving the observer deployment so that the CCSBT Secretariat can check the validity of authorisations of the Fishing Vessels and Carrier Vessels against the published list of CCSBT Authorised Fishing Vessels and CCSBT Authorised Carrier Vessels, respectively.
- f. In addition to tasks specified in IOTC Resolution 08/02, Transhipment Observers that observe transhipments of SBT will:
- From 1 January 2010, sign the transhipment verification section of the CCSBT CDS documentation to indicate that the transhipment details (date, name and registration of carrier vessel) were filled in correctly and that the transhipment of product was observed according to the CCSBT Transhipment Resolution⁶.
10. Additional costs imposed on the IOTC Secretariat by operating according to this MOU (e.g. additional training and insurance required for observers) will be recovered from the CPC's concerned through IOTC's transhipment cost recovery mechanism. This will involve distributing these costs amongst participating fleets from the CCSBT in proportion to those fleets average SBT catch in the IOTC Convention area over the past three years. The costs will be invoiced by the IOTC in arrears.
11. This MOU comes into effect for twelve months, commencing 1 April 2009. It will be automatically renewed for another twelve months on 1 April each year unless otherwise decided by either the CCSBT or IOTC Secretariat and informed to the other in writing. Either of the Secretariats may terminate the MOU at any time by written notice to the other Secretariat.

Signed and duly dated:



Robert Kennedy
Executive Secretary
Commission for the Conservation of
Southern Bluefin Tuna

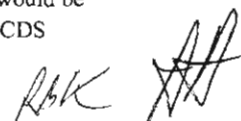
Date: 9 March 2009



Alejandro Anganuzzi
Executive Secretary
Indian Ocean Tuna Commission

Date: 9/3/2009

⁶ A discrepancy between the stated product on the CDS document and the quantities recorded by the observer would be recorded in the observers report (not the CDS document) and would not prevent the observer from signing the CDS document.



Summary of Transhipments as of 19 August 2010

Fishing Vessel Flag	Date range of Transhipments	Number of Transhipments	Total SBT Weight declared (kg)	Product Type
Taiwan	27-Apr-09 to 25-Jul-10	31	221,807	GG
Japan	02-May-09 to 04-Jul-10	38	687,666	GG
Korea	02-Feb-10 to 11-Jul-10	7	368,842	GG
Philippines	7-Jul-09	1	21,100	GG

UNCLASSIFIED

BLUEFIN TUNA IDENTIFICATION GUIDE

Pacific bluefin tuna (generally known as “Northern bluefin tuna”), *Thunnus orientalis*, is similar to Southern bluefin tuna, *T. maccoyii*, in external appearance. Identification based on large size of the fish and the colour of the caudal keels has not proved to be reliable, but there are other external differences, outlined below. An internal feature can be used to reliably distinguish the two species. Genetic (DNA) testing is conclusive.

EXTERNAL FEATURES:

Black caudal keels (Photos 1. and 2. – over)

The median caudal keel is yellow in adults of Southern bluefin tuna, and black in adults of Pacific (Northern) bluefin tuna, but the yellow coloration of Southern bluefin tuna keels can be lost in larger fish, so this alone is not a reliable indicator. The black coloration can often be scraped away to reveal yellow underneath in Southern bluefin tunas.

Body coloration (Photos 3., 4. and 5. – over)

Pacific bluefin tuna often have distinctive coloration and patterns. They tend to be of darker colour overall (sometimes referred to as “black tuna”). Patterns seen are blue flecks or speckling above the pectoral fins and sometimes on the head (and occasionally over the whole body), or a blueish circular mottling pattern, or reticulation, on the ventral area towards the tail. See over for examples of these patterns. Not all Pacific bluefin tuna display these colour patterns.

Body proportions

Pacific bluefin tuna are more “elongated” with a head that is smaller in relation to its body size, compared with Southern bluefin tuna. The eye of a Pacific bluefin tuna is also relatively smaller in relation to the size of its head, compared with Southern bluefin tuna.

Body size

Pacific bluefin tuna tend to be larger than Southern bluefin tuna. The average size of Pacific bluefin tuna is 191 cm fork length while the average size of Southern bluefin tuna is 154 cm. The average weight of Pacific bluefin tuna after processing, is 126 kg, compared with 62 kg for Southern bluefin tuna. A fish greater than 190 cm fork length is very likely to be a Pacific bluefin tuna. Smaller fish should also be examined as small Pacific tuna are known to occur in New Zealand waters.

The combination of ALL of the above external features i.e. A large fish with the body proportions and colorations described above is likely to be a Pacific bluefin tuna, but identification should be confirmed with the internal feature described below, and/or DNA (genetic) determination.

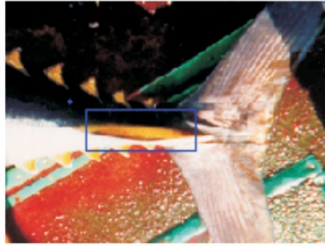
INTERNAL DISTINGUISHING FEATURE:

Shape of the dorsal wall of the gut cavity (Photos 6. and 7. – over)

There is an internal fleshy protrusion at the dorsal anterior end of the body cavity, sometimes referred to as a breast plate or “bust”. This feature is pronounced in Southern bluefin tuna and reduced in Pacific bluefin tuna (see over) and can be seen when the gills and guts are removed as part of standard onboard processing. Presence or absence of the dorsal bulge has been found to be a reliable method to distinguish Southern bluefin from Pacific bluefin tuna. This feature may not be apparent in specimens less than about 130 cm. It may be harder to identify smaller *T. orientalis*, but the caudal keels will be black, while small *T. maccoyii* will have yellow caudal keels.

If the identity of a fish is uncertain, this can be confirmed by DNA determination. Freeze a piece of muscle tissue, or place a matchstick strip of muscle in a small tube of ethanol (if available), label it and send it to N.I.W.A. attention Lynda Griggs or Peter Smith, 301 Evans Bay Parade, Greta Pt, Wellington.

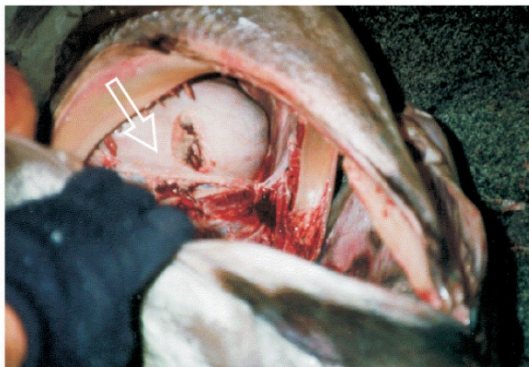
Southern bluefin tuna, *Thunnus maccoyii*



1. Yellow caudal keels
(marked with box)

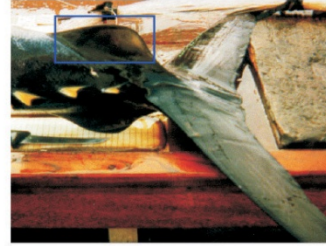


3. Absence of any speckling or mottling pattern
on the body



6. Prominent bulge
at the anterior end of the gut cavity

Pacific (Northern) bluefin tuna, *T. orientalis*



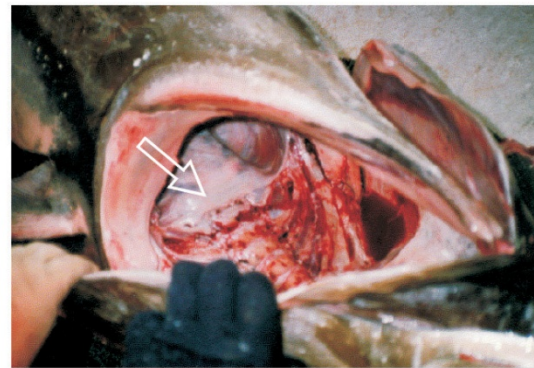
2. Black caudal keels



4. Speckling pattern



5. Ventral mottling pattern



7. Reduced / absent bulge

Photos 6. and 7. show the view into the gut cavity (gills removed). The ventral surface is uppermost and the head is to the bottom right. The operculum is held back to show the prominent bulge in *T. maccoyii* (left) while the feature is much reduced in *T. orientalis* (right). Arrows mark the position of the dorsal bulge.

Photos of frozen tuna provided by Japan

Southern Bluefin Tuna



Atlantic Bluefin Tuna



Bigeye Tuna

