IOTC Regional Observer Programme

Manual

February 2009

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Abbreviations

BIOT	British Indian Ocean Territory
COFI	FAO Committee on Fisheries
CPCs	Contracting Parties, Cooperating non-Contracting Parties, Entities or Fishing Entities
CPUE	Catch per Unit Effort
EPIRB	Emergency Position Indicating Radio Beacon
EEZ	Exclusive Economic Zone
FAO	Food and Agriculture Organisation of the United Nations
GMDSS	Global Maritime Distress and Safety System
GRT	Gross Registered Tons
HF	High Frequency (radio)
IATTC	Inter-American Tropical Tuna Commission
ICCAT	International Commission for the Conservation of Atlantic Tuna
IOR	Indian Ocean Region
IOTC	Indian Ocean Tuna Commission
IMO	International Maritime Organisation
IPOA	International Plan of Action
ISM	International Safety Management
IUU	Illegal, Unreported and Unregulated (fishing activity)
LOA	Length Overall (of the ship)
LSA	Life-saving Appliance
LSTLVs	Large Scale Tuna Longline Vessels
MCS	Monitoring, Control and Surveillance
MF	Medium Frequency (radio)
MoU	Memorandum of Understanding
PFD	Personal Flotation Device
POR	Pacific Ocean Region
PST	Personal Survival Techniques
RFMO	Regional Fisheries Management Organisation
ROP	Regional Observer Programme
SART	Search and Rescue Transponder
SCRS	Standing Committee on Research and Statistics
SOLAS	International Convention for the Safety of Life at Sea, 1974
UNCLOS	United Nations Convention on Law of the Sea 1982
VHF	Very High Frequency (radio)
VMS	Vessel Monitoring System

1 Introduction

This Manual has been prepared by Marine Resources Assessment Group (MRAG) Ltd. and Capricorn Fisheries Monitoring (CapFish), for the Indian Ocean Tuna Commission (IOTC) for a Regional Observer Programme (ROP) working on board IOTC registered transhipment vessels in the IOTC regulatory area. It constitutes an integral part of the briefing documentation issued to observers and is a tool, both for sensitising and preparing observers and for reference purposes when they are in the field. Notwithstanding this, prospective observers should be familiar with both the IOTC Resolution 08/02 and the adjoining annexes:

Annex 1: In-Port Transhipment by LSTLVs
Annex 2: Transhipment Declaration Form
Annex 3: Regional Observer Programme

The document is intended to assist experienced observers with planning, preparation and implementation of the tasks required of both an IOTC approved Observer and a contracted consultant of MRAG Ltd & CapFish.

It is essential that all observers familiarise themselves with the material included in this and other briefing documentation issued to them.

The Manual provides reference material which will enable the observer to implement their role in the sprit of the ROP. Issues relevant to logistical, conduct, communications and safety are also presented, along with instructions detailing observer tasks, including observational requirements; sampling protocols; logbook entry protocols; and supplementary tasks.

This Manual all so serves as a technical paper providing background information on the IOTC Organisation and tuna fisheries, particularly longlining operations, in the Indian Ocean under the auspices of IOTC management, the problems presented by IUU fishing and the role of monitoring programmes.

This Manual should be considered as a live document which will change according to the evolution of the Programme and is intended to incorporate recommendations from observers returning from the field.

1.1 IOTC Organisation

The Indian Ocean Tuna Commission (the Commission) is responsible for the conservation of tunas and tuna-like species in the Indian Ocean and adjacent seas. The Commission was first conceived by the FAO Council in Rome on the 27th March 1993 and came into force on the 27th March 1996. The official languages of IOTC are English, French and Spanish.

The Commission's work requires the collection and analysis of statistical information relative to current conditions and trends of the fishery resources in the Convention area and covers up to 16 species:

- The main commercial tuna species; yellowfin tuna (*Thunnus albacares*), skipjack (*Katsuwonus pelamis),* bigeye tuna (*Thunnus obesus*), albacore (*Thunnus alalunga*), southern bluefin tuna (*Thunnus maccoyii*).

- A variety of other tuna species; longtail tuna (*Thunnus tonggol*), kawakawa (*Euthynnus affinis*), frigate tuna (*Auxis thazard*) and bullet tuna (*Auxis rochei*).

- Swordfish (*Xiphias gladius*) and a range of Billfish species; narrow barred Spanish mackerel (*Scomberomorus commersoni*), Indo-Pacific king mackerel (*Scomberomorus guttatus*), Indo-Pacific blue marlin (*Makaira mazara*), black marlin (*Makaira indica*), striped marlin (*Tetrapturus audax*) and Indo-Pacific sailfish (*Istiophorus platypterus*).

The Commission is composed of Contracting Parties, Cooperating Non-Contracting Party, Entity or Fishing Entity and subsidiary bodies set up by the Commission to analyse different types of information and refer their conclusions and recommendations back to the Commission for final decision-making.

1.1.1 Members & Structure

The Commission is open to any Indian Ocean coastal countries and to countries or regional economic integration organisations which are members of the UN or one of its specialised agencies and are fishing for tunas in the Indian Ocean. Currently, there are 26 Contracting Parties and 3 cooperating non-contracting parties.

Contracting Parties

Country	Acceptance
Australia	13 Nov 1996
Belize	May 2007
China	14 Oct 1998
Comoros	14 Aug 2001
Eritrea	9 Aug 1994
European Community	27 Oct 1995
France	3 Dec 1996
Guinea	31 Jan 2005
India	13 Mar 1995
Indonesia	09 July 2007
Iran, Islamic Republic of	28 Jan 2002
Japan	26 Jun 1996
Kenya	29 Sep 2004

Country	Acceptance
Madagascar	10 Jan 1996
Malaysia	22 May 1998
Mauritius	27 Dec 1994
Oman, Sultanate of	5 April 2000
Pakistan	27 Apr 1995
Philippines	9 Jan 2004
Seychelles	26 Jul 1995
Sri Lanka	13 Jun 1994
Sudan	3 Dec 1996
Tanzania	18 Apr 2007
Thailand	17 Mar 1997
United Kingdom	31 Mar 1995
Vanuatu	25 Oct 2002

The Commission is composed of Contracting Parties and is the main decision-making body. Subsidiary bodies set up by the Commission analyse different types of information. These associated bodies have specific functions and are responsible to the commission and refer their conclusions and recommendations back to the Commission for final decision-making.

Subsidiary Bodies

The Secretariat coordinates and facilitates the work of the Commission. This includes managing the Commission's budget, coordinating research programs, maintaining databases, preparing publications and organising the meetings of the Commission and subsidiary bodies. The Secretariat is managed by the Executive Secretary who is appointed by the Commission.

The Scientific Committee advises the commission on research and data collection, stock status and management issues.

Working parties conduct detailed analysis of technical areas, specific to that working party, related to the management goals of the Commission. More information on the working parties of the IOTC can be found on the IOTC website.

1.1.2 Role

In addition to prescribing management regulations, IOTC also compiles catch statistics submitted by member countries, monitors the tuna trade and penalises countries and vessels that do not comply with IOTC recommendations. IOTC also plays a major role in coordinating scientific research. The Standing Committee on Research and Statistics (SCRS) convenes stock assessments, encourages specific studies (*e.g.*, assessments of mixing rates of the western and eastern stocks of tunas), and provides a forum for sharing and analysing tagging, genetics, and other data.

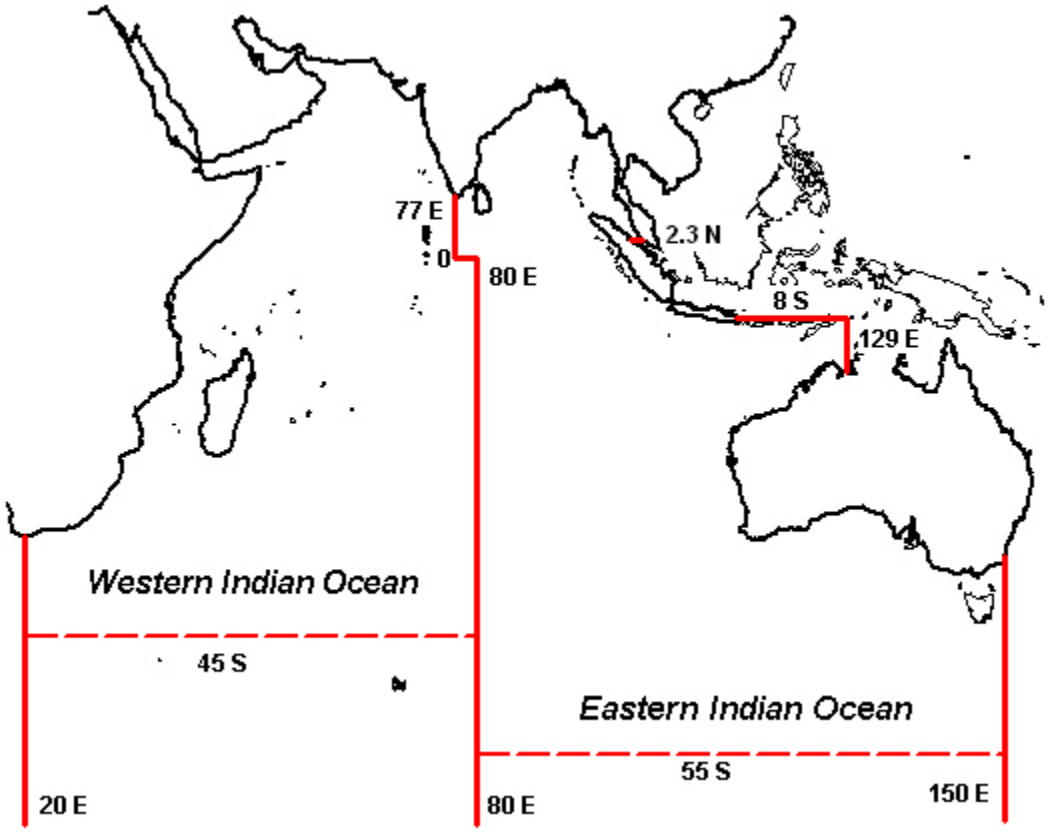

Figure 1 **IOTC Area – from IOTC website**

1.2 Biology and Catch of Tuna in the Indian Ocean

1.2.1 Longline Tuna Catch in the IOTC Area

In 2007 bigeye tuna, yellowfin tuna, swordfish and albacore were the main species targeted by longline vessels in the IOTC area of competency, in decreasing order of total volumes caught.

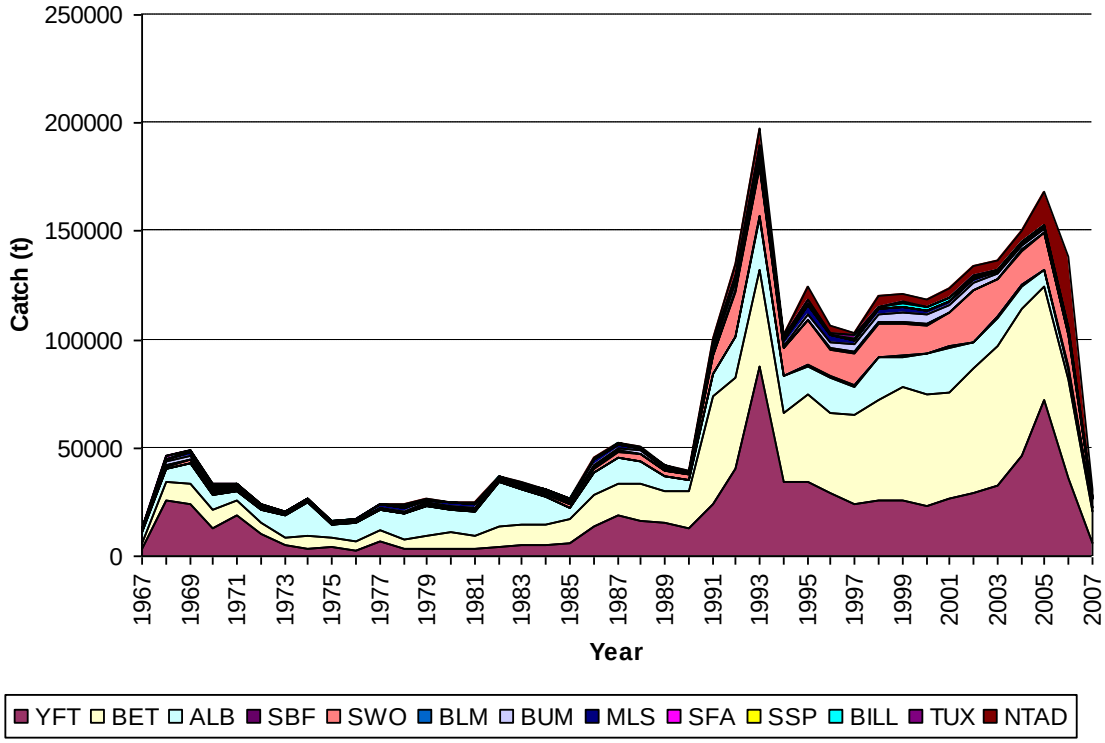

Figure 2 IOTC area longline catch (tonnage) by species, taken from IOTC catch and effort database.

Brief species descriptions are included in order of decreasing longline catch volumes in 2007.

1.2.2 Bigeye Tuna (*Thunnus obesus*)

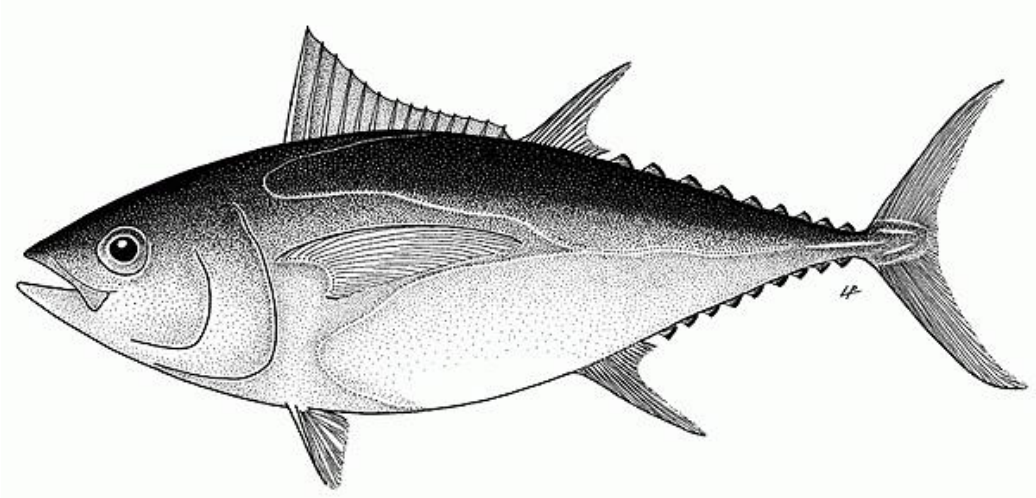

Figure 3 **Bigeye Tuna (FAO, Fishbase)**

Bigeye tuna spawn almost exclusively between 15ON and 15OS. Young bigeye school with skipjack and young yellowfin in shallow tropical waters. Mature adults live in deeper, cooler water and migrate to temperate feeding grounds in the North (May-June) and South Atlantic (September-October) (Fonteneau et al., 2005).

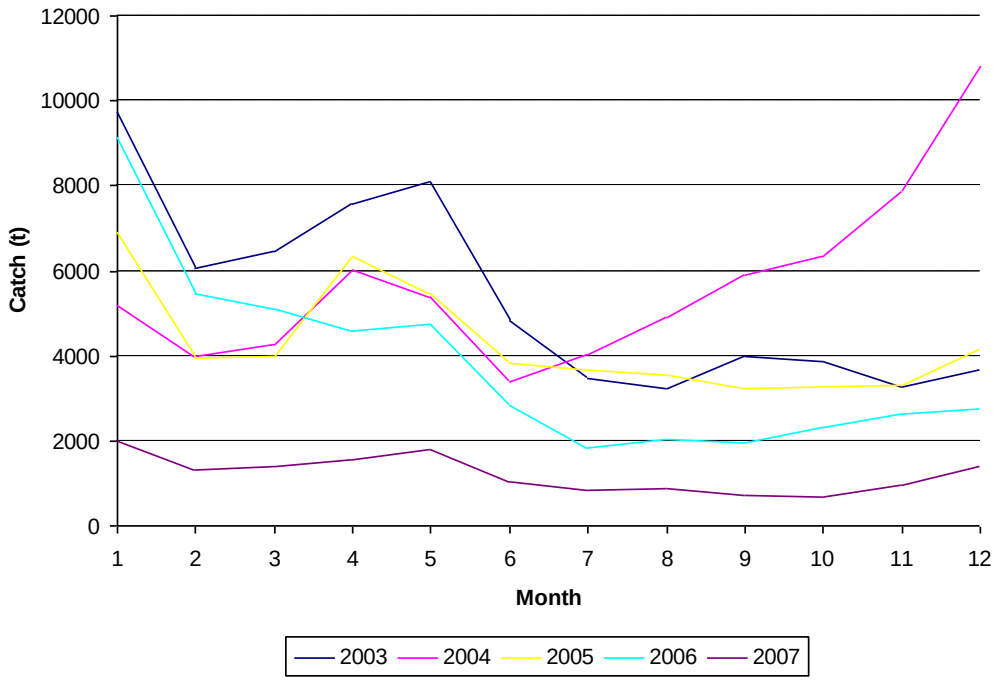

Figure 4 **Bigeye tuna longline catch seasonality in the IOTC area. Source: IOTC Catch and Effort database.**

Longline catches of bigeye tuna exceed those of any other species in the IOTC area. Longline catches of bigeye tuna in the last three years have been slightly higher from December to June (Figure 4).

1.2.3 Yellowfin Tuna (*Thunnus albacares*)

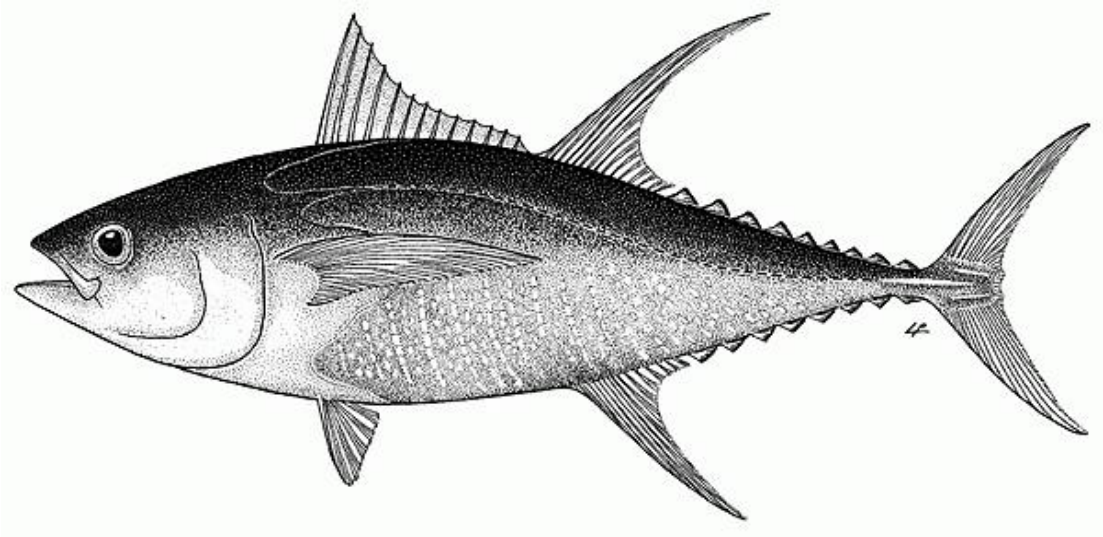

Figure 5 **Yellowfin Tuna (FAO, Fishbase)**

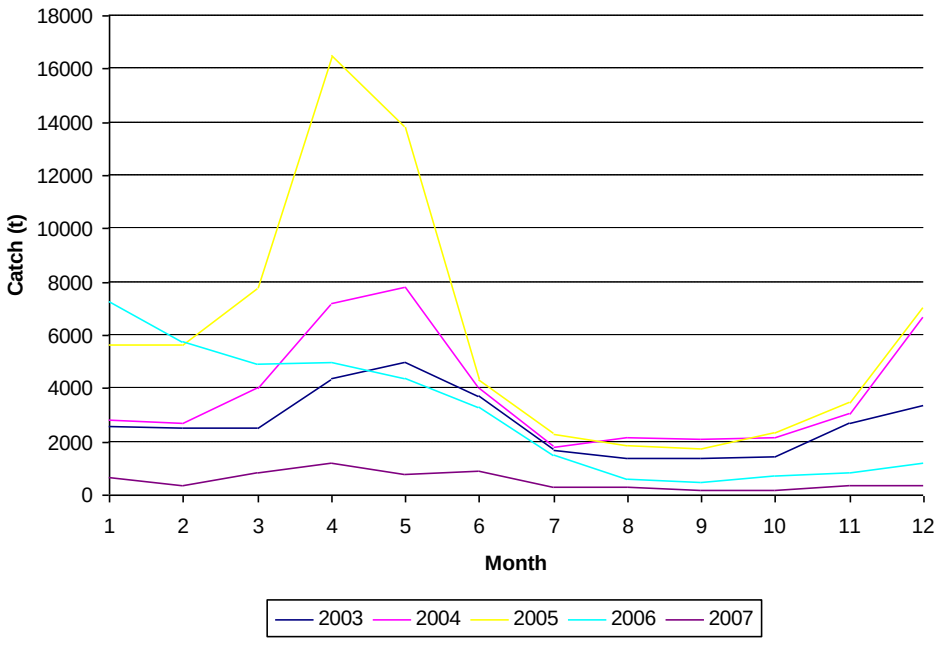

Figure 6 **Yellowfin tuna longline catch seasonality in the IOTC area. Source: IOTC Catch and Effort database.**

Yellowfin tuna longline catches are highest between December and June, and have tended to peak in April and May (Figure 6). However longline catch volumes have decreased significantly after the peak in catches in 2005.

1.2.4 Swordfish (*Xiphias gladius*)

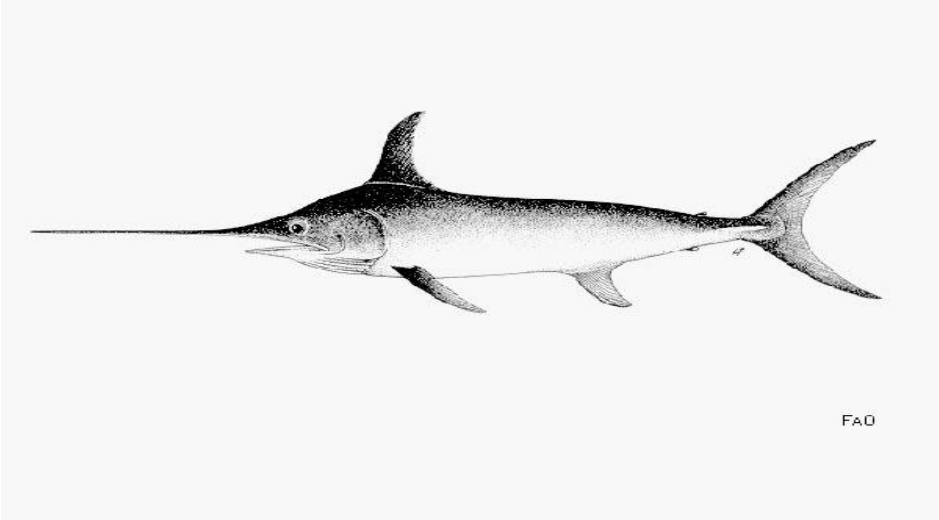

Figure 7 Swordfish (FAO, Fishbase)

Swordfish spawning occurs year-round in the Caribbean Sea, Gulf of Mexico, the Florida coast and other warm equatorial waters and in the spring and summer in cooler regions. Peak spawning in the Mediterranean occurs in July and August. Swordfish are highly migratory, generally moving to warmer waters in the winter and cooler waters in the summer (Govoni et al., 2003) (FIRMS, 2006).

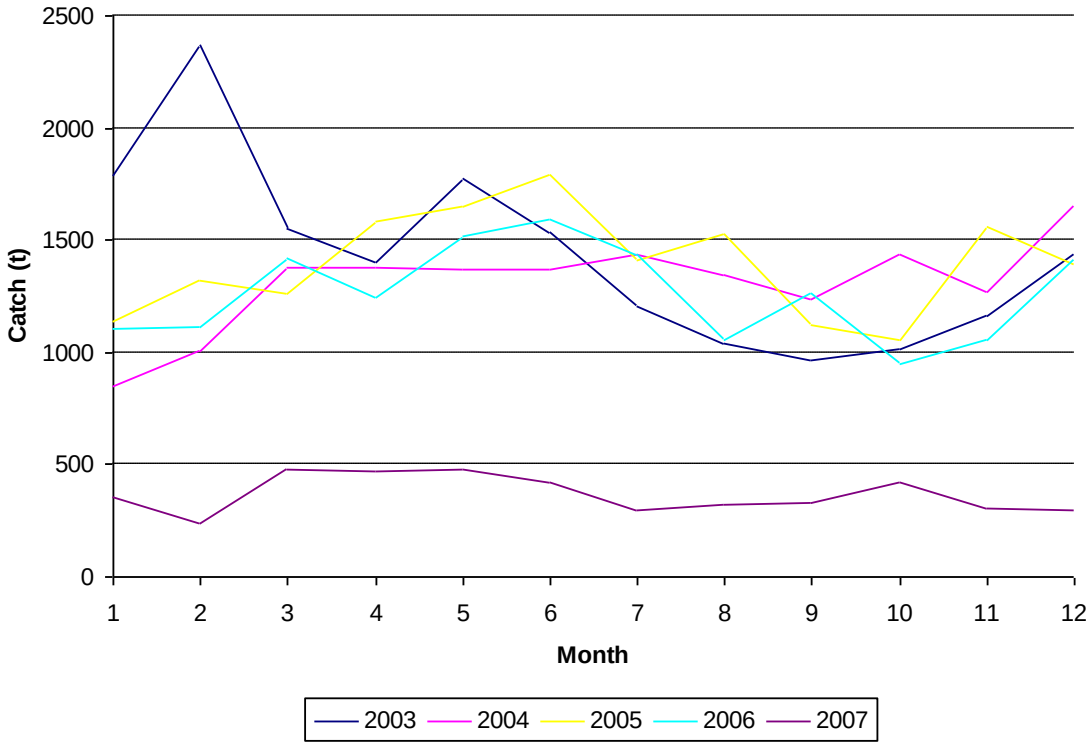

Figure 8 **Swordfish longline catch seasonality (b) in the IOTC area. Source: IOTC Catch and Effort database.**

Swordfish longline catch rates are relatively constant throughout the year (Figure 8).

1.2.5 Albacore (*Thunnus alalunga*)

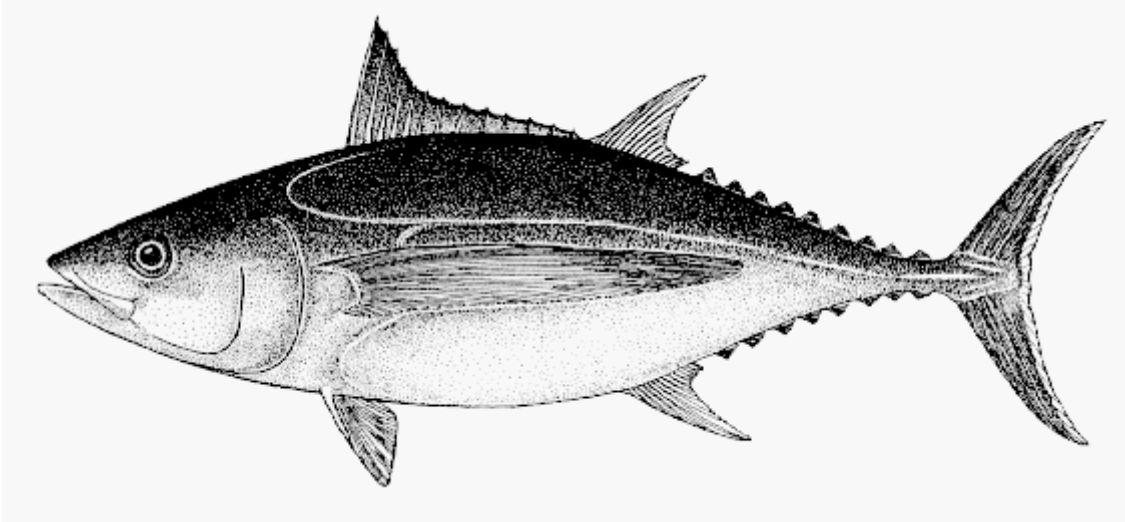

Figure 9 **Albacore (FAO, Fishbase)**

The distribution of albacore is cosmopolitan in subtropical and temperate waters of all oceans. Albacore undergo seasonal east-west migrations in both hemispheres.

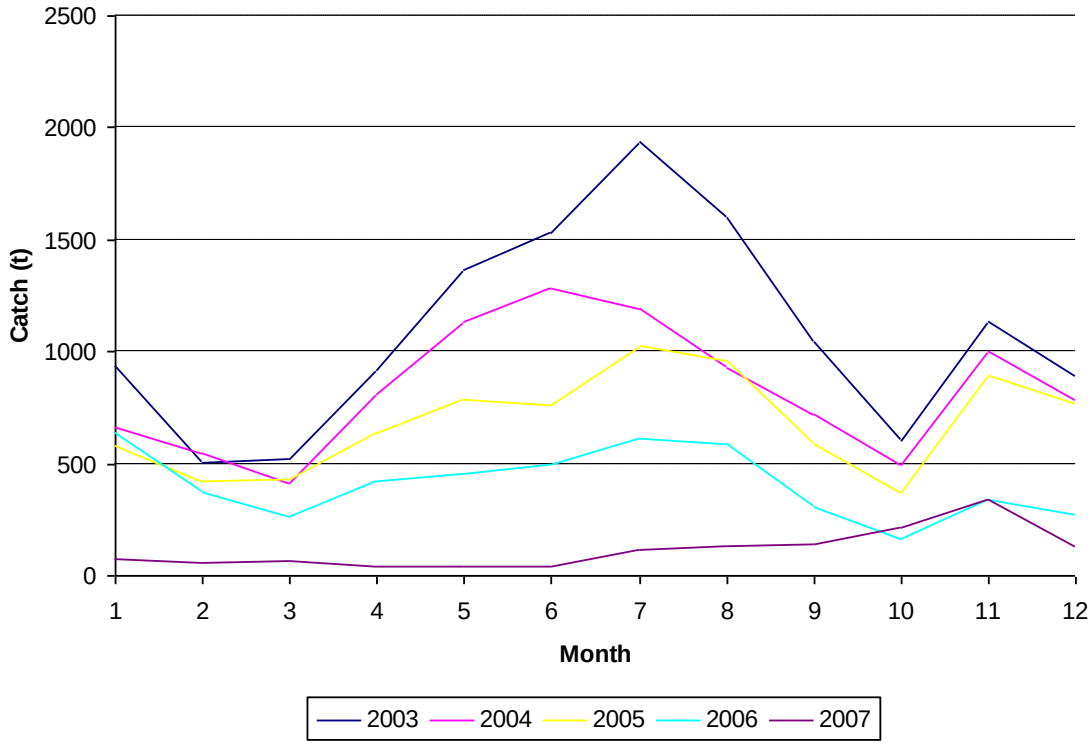

Figure 10 **Albacore longline catch seasonality in the IOTC area. Source: IOTC Catch and Effort database.**

Albacore catch rates have historically peaked in July, with a secondary peak in November. However since 2003 the magnitude of the July peak was steadily decreased and is not present in 2007 (Figure 10).

1.3 Longline Tuna Fishing Vessel Operations

1.3.1 Description of a Longliner

Longliners operating in the IOTC area generally range in size from 30m to 60m length overall (LOA) with gross registered tonnages (GRTs) of between 130mt and 500mt. Larger vessels generally have around 25 crew members of mixed nationality, with a Japanese captain/fishing master, Taiwanese/Japanese officers (mate and engineers) and a predominantly mixed Asian crew.

The work is extremely demanding for the crew, who may be employed for up to 18 hours a day while fishing. The crew typically signs on for a minimum of 3 years through recruiting agencies with offices in Singapore, Taipei and Manila, and may be at sea for between 6 and 12 months at a time. Salary depends on experience and nationality and can vary from $250 US to $400 US per month. Despite the relatively low salaries and the very hard working conditions, these jobs appear fairly sought after due to the very high level of unemployment in their home countries. Some individuals have worked these vessels for more than a decade.

1.3.2 Longline Fishing Gear

The mainline is typically 8 strand braided monofilament. Radio beacon transponders are attached at either end and at regular intervals along the line along with large polystyrene floats. Between each of these are a number of smaller plastic buoys. Branch lines (snoods) are then attached to the mainline at regular intervals, the number dependant on the target species (Figure 11).

Snoods are normally made up of an initial section of nylon / polyester braid which is then attached to a length of tapered monofilament leading to a curved shank hook. Some vessels also insert a short length of steel trace prior to the hook. Barrel swivels are used to connect each section, and all buoys, transponders and snoods are attached to the line with the aid of metal clips. A typical snood extends between 30m and 50m dependent upon the vessel and fishing practices.

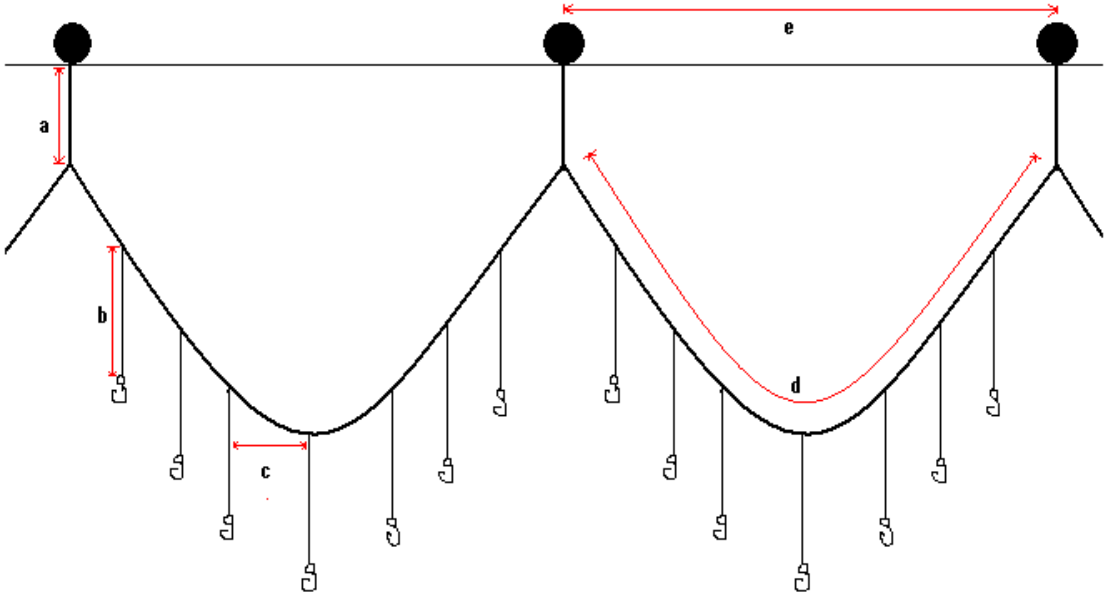

Figure 11 **Schematic of representative pelagic tuna longline gear**

1.3.3 Setting Operations

Line shooting operations are conducted from the stern of the vessel by six or seven crew members. An automated or manual conveyor system is implemented to bait individual coiled snoods. Snoods are typically baited with horse mackerel, milkfish or squid (or varying ratios of each dependant on the target species) and then clipped onto the mainline, synchronised by a series of beeps emitted that determine spacing along the

line. Baited snoods are shot with the aid of a bait catapult or thrown out manually. Typically, lines are shot at between 10 and 12 knots and a line-shoot would last between 5 and 6 hours. The efficiency of this process influences the amount of catch taken by the vessel.

1.3.4 Hauling Operations

The line is normally left to soak for between 3 and 4 hours before being hauled. Line-hauling is conducted at a slower speed than the shoot, being influenced by the sea state and the rate of fish capture. When a fish is being recovered the vessel will be put into hard astern to speed up recovery. During hauling operations there are between 10 and 14 crew members present on the hauling deck. In general, they perform 2 main tasks: landing the catch and then processing.

Figure 12 Hauling operations on board a tuna longliner (Manning)

1.3.4.1 Landing the catch

Hooked fish are brought alongside to be gaffed and hauled aboard by the crew. All large tuna, billfish and sharks are landed using gaff hooks attached to bamboo poles, generally around the mouth or the flanks of the fish to minimise damage. The largest and most powerful fish may also be harpooned, or brought aboard using scissor gaffs and an automated winch.

Figure 13 **A Yellowfin tuna being gaffed on board (Manning)**

Figure 14 **Yellowfin just landed (BIOT images folder)**

1.3.4.2 Processing

The principal feature of the longline fishing operation (in contrast to most other industrial fishing operations) is the care with which individual fish are handled in order to preserve the high quality demanded by the Japanese markets. The processors prepare both target and by-catch species for freezing. The method for processing the target species may vary slightly between vessels, but in general there are 4 main steps:

1. The caudal fin is removed at the peduncle, along with the finlets, pelvic, pectoral, anal and second dorsal fins;
2. Two incisions are made by the pectoral and pelvic grooves and a hose inserted into the rear of the operculum. The jet of water has the effect of bleeding the fish;
3. A section of the operculum is removed on both sides, followed by the gills and viscera; and
4. The product is meticulously cleaned to remove any traces of blood or viscera and then weighed prior to freezing.

1.3.5 Storage

In order to preserve the quality of the product, tuna are rapidly frozen in blast freezers (-55^{o}C to -65^{o}C) immediately after processing. After a certain period of time, the fish are then transferred to large capacity storage freezers (50^{o}C) in the hold. Hold capacity is determined by vessel size but, for an average sized vessel, there is capacity of approximately 200mt of catch.

1.4 Overview of Transhipment Operations

1.4.1 From Longliner to Port or Transhipment Vessel

Longliners will unload their catch either in-port, or at-sea to a transhipment vessel. Transhipments in port are arranged on an *ad hoc* basis and will typically occur once the hold is full. At-sea transhipments are typically arranged between the two parties, some time ahead of the actual event, and may occur before the longline vessel has completely filled its hold. Quantities transferred will therefore depend upon the fullness of the hold.

Due to the high value of the product, great care is taken to avoid damage to the tunas during the transhipment procedure. The transfer procedure is similar for in-port and at-sea transhipments. Tunas are first winched out from the freezer-hold to the deck of the longliner in groups of ten to thirty fish. These may then be winched across to the dockside or transhipment vessel attached to a rope, or may be winched across in a net (as depicted in Figure 15).

Figure 15 **Photo series depicting an in-port transhipment of tunas (Purves)**

1.4.2 From Transhipment Vessel to Port

The larger transhipment vessels may undertake over 30 individual transhipments from longline vessels, in any one trip, before returning to port. The majority of the higher value tuna catch (bluefin, bigeye and prime condition yellowfin tuna) will be brought to the market in Japan. As common practice, Japanese importers arrange for their products to be transhipped first to Korea or China due to the low cold storage costs and 6-8 months later these products are then shipped to Japan.

1.4.3 Description of a Transhipment Vessel

Transhipment vessels (also known as reefers) operating in the IOTC area, generally range in size from 80m to 125m (LOA) with GRTs of between 1800mt and 5300mt. Hold sizes vary from 1900m3 to 6400m3. Transhipment vessels are mainly flagged in Panama, though the majority has a reporting flag in Japan. The crew is normally of mixed nationality and typically has a Japanese captain, Taiwanese/Japanese officers (mate and engineers) and a predominantly mixed Asian crew.

Figure 16 Transhipment vessel in port (Heinecken)

1.5 Rationale for Monitoring Transhipments

Illegal, unreported and unregulated (IUU) fishing describes a wide variety of conduct related primarily to illicit fishing activities. It is a major concern for all fisheries stakeholders, including governmental authorities, law abiding fishers, and civil society. IUU fishing thwarts attempts by States and regional organizations to manage fisheries in a responsible manner and safeguard ocean resources. IUU fishing also constrains the progress of governments towards achieving food security for dependent populations and supporting sustainable livelihoods for fishers. Reflecting these widespread concerns, the UN General Assembly, in its resolution on sustainable fisheries, “emphasizes once again

its serious concern that IUU fishing remains one of the greatest threats to marine ecosystems and continues to have serious and major implications for the conservation and management of ocean resources".

IUU fishing involves complex webs of actions and entities and is not limited to the illegal harvesting of fish but also includes the shipment, processing, landing, sale and distribution of fish and fishery products. Support and provisioning of vessels and providing financing are also part of the IUU continuum. To monitor and control IUU activities, emphasis must not be limited to tracking the harvesting vessel but also must be put on tracking the fish, in recognition of the reality of product movement in today's supply chains. Usually it is not the harvesting vessel which arrives in port with its cargo holds filled with IUU fish. Rather, transactions are carried out at sea, which transfer the fish from harvesting vessel to reefers, mother ships, factory trawlers or other vessels. Catch can be divided among numerous processors, brokers or importers and multiple marketers can be involved, with transport by air, sea or overland.

Hence, a broad range of actors and stakeholders can play a role in eliminating IUU activities, including flag states, coastal states, port states, and market states, international and intergovernmental organizations, fishing industry, non-governmental organizations, financial institutions, insurers and consumers.

Many recent activities of Regional Fisheries Management Organisations (RFMOs) have addressed IUU issues. Reflecting the desires of their member States and the guidance offered by the International Plan of Action (IPOA) for IUU and other instruments, RFMOs have adopted a variety of conservation and management measures designed to address their role in against IUU. These include: mandatory reporting, cooperation in the exchange of information, development and maintenance of records of fishing vessels, Monitoring, Control and Surveillance (MCS), boarding and inspection schemes and observer programmes, market related measures, definition of circumstances in which vessels are deemed to have engaged in IUU fishing and maintenance of records of vessels authorized to fish and records of vessels engaged in IUU fishing and many other options. The Indian Ocean Tuna Commission (IOTC) has developed lists of vessels authorized to fish in their respective areas of competence.

1.6 The Origin & Value of Observer Programmes

The impetus for at-sea observer programmes was provided by the need for a better understanding of how fisheries worked, concerns about over-exploitation in some fisheries and a desire to reduce conflicts that arose between industry stakeholders regarding management policies. These conflicts could be attributed to:

- A lack of trust between the stakeholders;
- Unsupported policies;
- No consensus on management priorities;
- Lack of appreciation of at-sea fishing operations; and
- Gaps in information combined with over-reliance on prevalent data.

A logical approach to resolving these issues was to develop an independent and objective means of collecting detailed data on fishing effort and methods, catch

composition including discards, biological characteristics of the catch the effects of fishing on the ecosystem. Observer programmes, whilst not necessarily providing an ideal a solution to all of these problems, certainly go a long way towards improving the understanding of fisheries, and the information base from which to undertake assessments of the effects of fishing.

The evolution of observer programmes can be traced through the establishment and application of several international agreements primarily driven by the United Nations Convention on Law of the Sea (UNCLOS 1982). The key question posed by UNCLOS was, did states have sufficient capability to manage the fishing activity within their respective Exclusive Economic Zones (EEZs)? The answer would be reflected in the capacity for the component resources of a MCS programme, comprising:

- Patrol platforms;
- Personnel;
- Infrastructure;
- Information systems;
- Vessel monitoring systems; and
- Institutional support.

Implementation of the approaches recommended by United Nation Convention on Law of the Sea (UNCLOS) to manage fishing activity within states' waters was crystallised in UN Fish Stocks Agreement of 1995. Articles 6 and 18 outline the measures for flag states to provide records on fishing activity and catch through the implementation of national, regional and sub-regional observer programmes. Article 25.3 (c) is directed at developing countries to increase their capacity for MCS through development at a local level.

Furthermore, the Food and Agriculture Organisation (FAO) Code of Conduct for Responsible Fisheries of 1995 identified observer programmes as an integral part of MCS. In 2001, the International Plan of Action (IPOA), designed to prevent, deter and eliminate illegal, unregulated and unreported (IUU) fishing, adopted by the Committee on Fisheries (COFI), encouraged the implementation of observer programmes as an MCS tool.

Observer programmes offer a means to monitor fishing fleet activity in remote and often challenging environments for long periods. They provide data for the scientific and management communities that would otherwise be difficult or impossible to verify. They can also provide a means to better understand the fishery from the fishermen's perspective, which is important in both for stock assessment and development of successful policy and management measures. Many countries now routinely require vessels to carry independent observers as a condition of fishing their waters.

Observer programmes offer several advantages to developing countries as a means for monitoring local fisheries. The structure of a programme can be tailored according to the resources available and can provide, relatively cheaply, baseline information required for basic compliance and scientific monitoring of a fishery. They also provide an opportunity to show potential donor organisations/countries that local effort and capacity is being developed and applied to better manage fisheries.

Whether motivated by issues of science or compliance, observer programmes should provide outputs that contribute to the development of management measures that encourage good fishing practices and promote both stock and fishery sustainability. The simple presence of observers on board vessels often acts as a deterrent to non-compliant behaviour.

1.7 Recommendation on Transhipment (Resolution 08/02)

The Recommendation requires that all transhipment operations at sea, of tuna and tuna-like species in the IOTC Convention area must take place in port. However, the flag CPC may authorise at-sea transhipment by its flag Large Scale Tuna Longline Vessels (LSTLVs) on the condition that such transhipment is conducted on carrier vessels with VMS capability, an observer onboard and ensure strict reporting procedures on operational details are observed and fish products transferred are recorded. A complete edition of the Recommendation is in Appendix C.

The role of the observers is to monitor all transhipment operations and verify the operational details of transhipments: where, when, vessels involved and the products transferred from the longliner to the carrier vessel.

The information will be recorded and collated in logbooks and database and submitted to the IOTC Secretariat within 20 days of disembarking from the carrier vessel.

The Regional Observer Programmes aims to server the following purposes:

- Expresses member State concerns that organised tuna laundering operations have been conducted and a significant amount of catches by IUU fishing vessels have been transhipped under the names of duly licensed fishing vessels;

- Recognises the need to ensure the monitoring of the transhipment activities by large-scale longline vessels in the Convention area, including the control of their landings;

- Takes into account the need to combat IUU fishing activities because they undermine the effectiveness of the conservation and management measures already adopted by IOTC.

1.8 Regional Observer Programme (ROP) Implementation

IOTC CPCs have devised and agreed upon the implementation of the ROP (the Programme).

Precise rules exist on the standards of observers eligible for the Programme; a comprehensive training programme; stringent health and safety standards applicable to operational aspects; precise transhipment monitoring requirements and programme outputs. Quality control measures feature in the majority of components of the Programme to ensure the integrity and standard of the programme is maintained in line with the Recommendation and in the spirit of the ROP.

The Programme will be implemented in the following fashion:

- A group of IOTC approved observers will be maintained by the Suppliers. Once an IOTC approved training programme has been completed, they will be eligible for deployment.

- Deployments are conditional on a number of factors which the Carrier Vessel Operators (the Operators) must meet. These are explained fully in the Memorandum of Understanding between the Observer Suppliers and the Carrier Vessels Operators in Appendix E.

- Once a request for an observer has been confirmed by IOTC, and a MoU is in place, the individual will be mobilised and deployed upon a carrier vessels pending an inspection within 96 hours. Deployments are possible at most ports around the Indian Ocean rim.

- Once at sea, the observers will be required to monitor all transhipment operations during their deployment, collecting data as described in section 3. Observers will be required to report to their co-coordinators at regular intervals providing information on vessels and transhipment activities (section 3.2). This information will be the basis of reports used to notify the Secretariat of “field operations”.

- Appropriate systems have been developed in cooperation with the IOTC Secretariat to facilitate reporting observer / vessel activities s reporting

- Upon completion of their trip observers will be required to submit a report to their coordinators. The master of the carrier vessel will also be offered an opportunity to contribute to the report. The mechanism for this is described in section 3.2.

- As mentioned earlier quality control measures feature strongly in the management approach. Notably, these will be applied at the observer selection, observer training, observer deployment outputs, at debriefing, evaluating observer performance phases and evaluating the training programme, observer support documentation and systems and making the appropriate improvements in cooperation with the Secretariat.

2 Operational

2.1 Observer Role & Responsibilities

Monitoring programme goals and objectives generally fall into 3 categories:

> *Science*: Collection of information and data on catch, biometrics, bycatch & discards, protected species and environmental parameters. This information may be required for in-season management and/or stock assessment;
> *Compliance*: Monitoring of adherence to regulations;
> *Management*: Monitoring of fishing or transhipment activity and fishing or transhipment effort to develop a better understanding of the operation of the fishery.

The objectives and goals of the ROP fall into the latter 2 categories.

Compliance/management data would include:

- Adoption of technical conservation measures;
- Verification of temporal and spatial information; and
- Logbook validation.

These data types are reflected in the responsibilities of the observer (shown below).

The ROP is explicit on the responsibilities of the observer, from which the individual should not deviate. Monitoring means precisely that: Observers do not have authority to instruct officers and crew on matters of transhipment or enforce matters of compliance.

The responsibilities of the Observers as set out in Annex 2 of the recommendation and have been summarised in Text Text Box 1 below.

Text Box 1: Summary of Observer Responsibilities (Resolution 08/02)

- Monitor the carrier vessel's compliance with the relevant conservation and management measures adopted by the Commission. In particular the observers shall:

  i) Record and report upon the transshipment activities carried out;

  ii) Verify the position of the vessel when engaged in transshipping;

  iii) Observe and estimate products transshipped;

  iv) Verify and record the name of the LSTLV concerned and its IOTC number;

  v) Verify the data contained in the transshipment declaration;

  vi) Certify the data contained in the transshipment declaration;

  vii) Countersign the transshipment declaration;

- Issue a daily report of the carrier vessel's transshipping activities;

- Establish general reports compiling the information collected in accordance with this paragraph and provide the captain the opportunity to include therein any relevant information.

- Submit to the Secretariat the aforementioned general report within 20 days from the end of the period of observation.

- Exercise any other functions as defined by the Commission.

- Observers shall treat as confidential all information with respect to the fishing operations of the LSTLVs and of the LSTLVs owners and accept this requirement in writing as a condition of appointment as an observer.

- Observers shall comply with requirements established in the laws and regulations of the flag State which exercises jurisdiction over the vessel to which the observer is assigned.

- Observers shall respect the hierarchy and general rules of behaviour which apply to all vessel personnel, provided such rules do not interfere with the duties of the observer under this programme.

2.2 Observer Code of Conduct

Again there are strict guidelines on the standard of conduct and behaviour expected form observers. These are provided below in Text Box 2.

It is vital that you acquaint yourself with these conditions as early as possible. If you have any doubts about your status you should declare your circumstances to the Programme Manager for verification.

Text Box 2 **Standards of Conduct & Behaviour of Observers**

- An individual is only considered an IOTC certified observer when employed by a Contractor that holds a contract with IOTC to provide observer services and is acting within the scope of his/her employment.
- Observers may not participate in any activity which would:
    - Cause a reasonable person to question the impartiality or objectivity with which the Observer Program is administered;
    - Significantly impair the observer's ability to perform his/her duties.
    - Adversely affect the efficient accomplishment of the Program's mission
- Observers may not have direct financial interest in the observed fishery, other than the provision of observer services including, but not limited to, vessels or shore-side facilities involved in the catching or processing of the products of the fishery, companies selling supplies or services to those vessels or shore-side facilities, or companies purchasing raw or processed products from these vessels or shore-side facilities. The interests of a spouse or minor child are considered those of the observer.
- Observers may not solicit or accept, directly or indirectly, any gratuity, gift, favour, entertainment, loan or anything of monetary value from anyone who conducts activities that are regulated by IOTC, or who has interests that may be substantially affected by the performance or non-performance of the observers' official duties.
- Observers may not serve as observers on any vessel or at any shore-side facility owned or operated by a person who previously employed the observer in any capacity.
- Observers may not solicit or accept employment as a crew member or an employee of the vessel or shore-side processor in any fishery while employed as an observer.
- A person may not serve as an observer in a fishery during the 3 consecutive months following the last day of his/her employment as a paid crew member or employee in that fishery.
- Observers may not engage in an activity that may give rise to the appearance of a conflict of interest that may cause another individual to question the observer's impartiality, fairness or judgment.
- Observers must avoid any behaviour that could adversely affect the confidence of the public in the integrity of the IOTC Observer Programme or of the IOTC, including, but not limited to the following:
    - Observers must diligently perform their duties.
    - Observers must accurately record their sampling data, write complete reports. If the observer chooses to report any suspected violations of regulations relevant to conservation of marine resources or their environment that they observe, it must be done honestly.
    - Observers must preserve the confidentiality of the collected data and observations made on board the carrier vessels
    - Observers must refrain from engaging in any illegal actions or any activities that would reflect negatively on their image, on other observers, or the Observer Program, as a whole. This includes, but is not limited to:
        - i) Engaging in drinking of alcoholic beverages while on duty
        - ii) Engaging in the use or distribution of illegal substances
        - iii) Becoming physically or emotionally involved with vessel personnel

Overall, it is important to remember that observers are representing both the Consortium and IOTC on a 24-hour basis. With this in mind, alcohol consumption must be kept to a minimum and behaviour must befit the position.

On the matter of confidentiality, all information regarding your deployment, including any images or footage taken of operations must not be divulged to a third party. This applies in particular to operations of LSTLVs and your deployment on board a transhipment vessel.

If you have any doubts about the sensitivity of information or material in your possession contact the Programme Manger for verification.

General conduct and behaviour expected from observers in is also addressed in subsequent sections on transit (2.5.3) and on board vessels (2.6).

2.3 Responsibilities of Transhipment Vessels

The responsibilities regarding observers of the flag States of the carrier vessels and their captains shall include the following, notably:

Text Box 3: Summary of Vessel Responsibilities (Resolution 08/02)

- Observers shall be allowed access to the vessel personnel and to the gear and equipment;
- Upon request, observers shall also be allowed access to the following equipment, if present on the vessels to which they are assigned, in order to facilitate the carrying out of their duties set forth in paragraph 5:
    - Satellite navigation equipment;
    - Radar display viewing screens when in use;
    - Electronic means of communication;
- Observers shall be provided accommodations, including lodging, food and adequate sanitary facilities, equal to those of officers;
- Observers shall be provided with adequate space on the bridge or pilot house for clerical work, as well as space on deck adequate for carrying out observer duties; and
- The flag States shall ensure that captains, crew and vessel owners do not obstruct, intimidate, interfere with, influence, bribe or attempt to bribe an observer in the performance of his/her duties.
- The Secretariat, in a manner consistent with any applicable confidentiality requirements, is requested to provide to the flag State of the carrier vessel under whose jurisdiction the vessel transhipped and to the Flag CPC of the LSTLV, copies of all raw data, summaries, and reports pertaining to the trip.
- The Secretariat shall submit the observer reports to the Compliance Committee and to the SCRS.

2.4 MoU between the Observer Suppliers & Carrier Vessel Operators

The Memorandum of Understanding clearly states the conditions that must be observed by Carrier Vessel Operators (Operators) in order to secure an observer. A template of a draft MoU can be found in Appendix E.

To summarise, Operators are notified of their obligations to ensure that all vessels upon which observers may be deployed must have adequate health and safety measures in place and posses relevant valid certification. Furthermore, all vessels will be subject to an inspection by the observer (section 3.1.2) and the MoU alerts Operators to this procedure and what items will be checked and the consequences if a vessel fails an inspection. The MoU also re-iterates the arrangements between observers and vessels in the ROP: the tasks you are permitted to perform, the conditions you should expect to work recognition of the hierarchical system onboard, access to communications, confidentiality matters etc.

Additionally, the MoU sets out the terms which Operators must abide by which govern:

- Observer transfer between vessels;
- The duration of a trip;
- Allowances for recovering an observer mid-trip.

You will be issued with a copy of the MoU for the vessel you will be joining. It is vital that you are conversant with its contents before deployment.

2.5 Pre - Deployment

Due to the short period of notice for travel, it is important that observers should be suitably prepared. Any personal matters and problems should be resolved prior to accepting a contract. Given the geographical location of operations, observers must prepare for a deployment period of up to 4 months in a particularly demanding environment.

2.5.1 Observer Checklist

Given that individuals will be required to travel large distances and accommodation facilities will be limited it is recommended that Observers bring essential items required for international travel, to perform their duties, those required for communication e.g. cell phones and those they cannot possibly do with out. A provisional list is provided below:

- Passport
- Cash (reasonable amount to cover taxi etc and in the appropriate currency)
- Credit card
- IOTC ID Card & Letter of Introduction (see Appendix M)
- Copy of the MoU (see Appendix E)
- Phrase Book(s)
- Mobile / Cell Phone
- Programme Manual
- Observer Logbooks (Forms T1 to T4) & Reporting Forms (R1, R2 & R4)
- Programme database
- Equipment issue

2.5.1.1 Equipment

Observers will be issued with a set of equipment. Each item has a serial number which will be used to maintain a register of equipment issued. You will be required to sign for the equipment you take and responsible for its condition until it is returned. Please look after, clean and maintain it. All health and safety kit should be thoroughly cleaned as soon as possible after leaving your vessel, or if possible onboard vessels before you leave. Your kit should be dried thoroughly before it is packed into the kit bag. Observers will be held responsible for any kit damaged due to mistreatment, particularly if it is packed away wet. A written explanation will be required for any loss or breakage.

Observers will be issued with the following equipment:

Health & Safety

- 1 Immersion suit;
- 1 Personal Floatation Device;
- 1 Strobe light;
- 1 Signal mirror; and
- 1 Emergency Position Indicating Radio Beacon (406 MHz EPIRB, preferably with integral GPS navigation receiver).
- 1 Hard hat (to European Standard EN397 “Industrial Safety Helmet”);
- 1 Safety Lanyard; and

Professional Equipment

In addition observers will be issued:

- 1 Species ID publication (FAO identification guides as electronic copies[1]);
- 1 Clip board with waterproof paper;
- Binoculars (10 x 30 Waterproof);
- Photographic camera (digital); and
- Data recording forms.
- Laptop computer to ensure timely and submission of satisfactory data with the database installed;
- Protective case in which to safely store all electronic and/or sensitive equipment.
- Suitable clothing which provides protection against inclement weather in order that the observer can perform their duties in all conditions.

2.5.2 On Standby

Once observers have completed training they will be notified on their potential deployment. When a deployment is imminent observers will be put on ***“Standby Status”.***

Observers must confirm their availability and keep coordinators informed of ***all*** their contact details. Observes will be required to move at short notice and must have their bags packed, and personal documents and equipment (as recommended in section 2.5.12.5.1.1) prepared.

Once confirmation of a request for an observer has been received, the designated observers must be deployed on the vessels within 96 hours.

[1] Tuna, billfish and sharks

2.5.3 Logistics

All international travel arrangement will be made by the observer coordinator including visa requirements.

The local agents appointed by the Carrier Vessel Operators will assist as much as possible. This may include meeting observers at the airport, accommodation and introductions to the carrier vessel and crew.

On occasion, observers may be required to organise local travel or accommodation independently and they should keep coordinators and local agents informed of their whereabouts, timings and contact details. All observers must have access to sufficient funds to pay for both hotel accommodation and subsistence en route. Disbursements can only be reimbursed if receipts are presented.

Because of the flexibility required to satisfy the logistical elements of deployment, observers often find themselves at a particular location awaiting flights or for a vessel. During this period observers' conduct must befit the position. Any reports to the contrary will be treated seriously by the Programme Manager.

2.5.4 Vessel Inspection Check

Observers boarding procedures onto carrier vessels and or transfer vessels are subject to a number of conditions. Prior to embarkation and an observer sailing with a carrier vessel or a transfer vessel, the observer (where possible together with their technical coordinator) will be required to conduct a pre-sea inspection to asses the vessels compliance with respect to safety standards (***Observer Logbook Form T3***).

The results of this inspection and the requirement for the vessel to meet the **"minimum compulsory requirements"** (outlined in Text Box 4 below) for international maritime safety standards will determine whether or not the observer will be permitted to board or can result in an observer's refusal to board a vessel.

Text Box 4: Minimum Requirements for Inspection

The following items that will be checked as part of the **"Pre-Sea Inspection"** will be considered as the **minimum compulsory requirements**. Should any of these items not comply the Observer will not be permitted to embark onboard the vessel.

Safety Certificate (Safety Management Certificate)

- The vessel must have onboard a current and valid Safety Certificate that does not expire for a period **of at least four months from the date of embarkation of the observer**.

Life Rafts

- The Life rafts must have the capacity to accommodate the full crew compliment including the observer.
- Life Rafts must be within their serviceable date, which must cover the **expected maximum duration of observer deployment**.
- All Life Rafts must be fitted with a Hydrostatic Release mechanism.

Life Jackets

- There must be a total number of life jackets onboard, readily available at the emergency muster stations to accommodate each of the compliment onboard the vessel.
- All Life Jackets must comply with IMO – SOLAS LSA standards.

Immersion Suits

- There must be a total number of Immersion Suits onboard, readily available at the emergency muster stations to accommodate each of the compliment onboard the vessel.
- All Immersion Suits must comply with IMO – SOLAS LSA standards.

GMDSS Requirements

- The vessel must be GMDSS compliant in accordance to its **tonnage** and its **area of operation**.
- Any component of the GMDSS requirement that is out of date or unserviceable will render the vessel as NOT being GMDSS compliant.

If the conditions are not satisfactory, copies of the ***R1 Form: Observer Deployment Report*** and a completed ***Inspection Form (T3)*** must be immediately submitted to:

- The master of the vessel;
- The observer coordinator; and
- IOTC Secretariat.

If for any reason the observer refuses to board they must immediately notify their coordinator, and furnish full reasons for not boarding.

The same inspection procedure and the "*right of the observer to refuse to board*" is also applicable when the observer is required to embark onboard a transfer vessel, either to take them to the carrier vessel or to return from the carrier vessel back to port.

Other items on the safety checklist, although not compulsory still reflect on the safety and seaworthiness of the vessel and are expected to be in a fully serviceable state.

Note that the safety checklist sheets may have to be faxed and must be filled in clearly and neatly. Also do not leave any field blank. Where there is an item missing or the field cannot be completed for any reason explain your reasons in the comment section. Remember the person receiving the sheet or entering the data will not be in a position to question your data.

2.5.4.1 Reporting to Coordinators

If conditions on board the vessel are satisfactory, observer is required to send their coordinator via fax or email the ***R1 Form: Observer Deployment Report*** within 24 hours of embarking onboard the vessel. The report must confirm that the Pre-sea Inspection has been competed and the copy of the completed vessel Inspection report must be attached.

The respective forms and instructions for their completion can be found in Appendix xxx.

2.6 Deployment

In the event that observer embarkation/disembarkation directly onto carrier vessels is not possible in port by the quayside, 3 options exist for observer transfer. In each case, transfers shall be made during daylight hours if possible and sea conditions must be evaluated and judged to pose no undue risk to the observer before any at sea transfer can take place.

- Option 1:Transfer at-sea from a vessel that has recently left port to a carrier vessel;
- Option 2: Transfer at-sea from a carrier vessel onto a vessel returning to port; and
- Option 3: Transfer from/to a launch in and around a port area.

All of these options involve transfers between the transhipment vessel and another vessel at-sea and do not permit a ***Pre-sea Boarding Inspection*** to be performed alongside the quay for one or more of the vessels. This procedure is not without risk and the Supplier shall agree to its implementation under the following terms and Conditions:

The Supplier will apply the following protocol when taking decisions regarding observer deployments:

Low risk options will have priority

- Embarkation
    - In port
        - Directly onto transhipment vessel tied up alongside
    - In port
        - Onto vessel at anchor via local port services

- Disembarkation
    - In port
        - Directly from transhipment vessel tied up alongside
    - In port
        - From vessel at anchor via local port services

Medium risk options will be considered, but only if the vessels involved have been identified and approved by IOTC and Consortium partners to undertake such transfers. These transfer vessels will require port inspection and must have a clean safety record issued by the flag state safety authority. As far as possible, Consortium partners will inspect these vessels, but when this is not possible, agents for these vessels must submit safety certification in inspection documentation.

- Embarkation
  - In port
    - Directly onto fishing vessel
  - 1 leg transfer on high seas; transfer from fishing vessel to transhipment vessel

- Disembarkation
  - 1 leg transfer on high seas
  - From transhipment vessel to fishing vessel returning to port

For Options 1 & 2

Option 1:Transfer at-sea from a vessel that has recently left port to a carrier vessel
Option 2: Transfer at-sea from a carrier vessel onto a vessel returning to port

Carrier Vessel Operators must notify the Suppliers, and through the appropriate CPC authorities the Purchaser, at least 3 days (72 hours) prior to an at-sea transfer and supply the following details (these will be logged in the Programme Database).

High risk options will not be considered unless circumstances prevail where the observer has to return urgently to home base or unless vessel operators can satisfy Consortium technical advisors that such transfers can be safely performed without endangering the observers' safety unduly.

- Embarkation
  - Directly onto fishing vessel in port
  - 2 leg transfer on high seas; transfer from fishing vessel to transhipment vessel via third vessel (i.e. two at-sea transfers)

- Disembarkation
  - 2 leg transfer on high seas
  - From transhipment vessel to vessel returning to port via third vessel (i.e. two at-sea transfers)

Once on board, observers must ensure that they meet the master and officers at the earliest opportunity. Observers should produce their IOTC Letter of Introduction and their IOTC ID card; explain clearly whom they represent and their role on board the vessel.

Observers must quickly familiarise themselves with the layout of the vessel and the facilities/amenities onboard. Meal times are an important social aspect of life at sea. Observers should be both punctual and well presented – soiled work clothes are not suitable attire for the officers' mess.

Observers should conduct themselves in a professional manner at all times.

Observers should not discuss fees/rates of pay with crew. You will be paid considerable more which may lead to resentment.

2.6.1 Communication

As soon as possible after boarding the Observer must attempt to test the communication system onboard the vessel. The GMDSS equipment onboard should include telephone, fax and email facilities. As part of the Pre-sea Inspection record these contact numbers. With the Captains permission send a test fax and/or email to your agencies office. Your coordinator should reply to both of these immediately.

The format for all written communications should include specific details to facilitate a response. The details required are:

- ***Name of sender;***
- ***Name of intended recipient;***
- ***Date;***
- ***Contact details (vessel/hotel name and contact numbers inclusive of all available telecommunication formats);***
- ***Number each page and total number of pages; and***
- ***Reference or title of the message or request.***

Personal communications, between observers, should only be undertaken under supervision and at the discretion of the ships radio operator or master.

VHF radios have a short maximum range (approx. 15-55 miles) and are dependent on atmospheric conditions. They are frequently used by the officers to communicate with ships in the area and must not be over-used.

Remember, communications over the radio are NOT secure. Do not use inappropriate language or discuss inappropriate topics. In particular, observers should be careful not to discuss issues relating to transhipment activities.

If observers are uncertain with an aspect of their duties or responsibilities, all queries should be directed to their coordinators.

2.6.2 Work Schedule

2.6.2.1 Transhipment Days

A diligent observation and documentation routine should be developed for collecting and collating data (see section 3.1). An effective programme will be tailored to the manner in which transhipment operations are undertaken, and may vary considerably from one vessel to another.

Daily Tasks will include liaising with officers to establish logistical and transhipment plans and checking information on position to develop a timeline of events for self-organisation purposes.

Maintaining a diary of events is recommended as observations may contribute to the final report and satisfy observer reporting obligations as described in section 3.2).

Observers are encouraged to collate photographic images or footage of transhipment activities and events for training purposes or of products for identification guides or other support documentation. Naturally, observers will also record images for their own purposes. Ensure that you have permission from the master of the vessel or the officer on watch or inform them that you plan to take photographs. Some may be more sensitive than others and it would be prudent to err on the side of caution.

2.6.2.2 Non- Transhipment Days

It is likely that non-transhipment days will offer the best opportunity to report to coordinators, enter data into the database; carrying out data checks, write up notes of events and observations made during actual transhipments, and review any images or footage taken. The latter will inform which footage is required from future transhipments bearing in mind that the material should be used for developing training and the Manual.

It also offers an opportunity for observers to recover sufficiently if transhipment operations have been protracted.

Otherwise observers should attempt to collect information, where possible on transhipment strategies and the factors that influence them

2.6.3 Disembarking

Upon completion of transhipment activities, observers should jointly notify their co-ordinators and the vessel's agent in the port of destination. The observer should have the information on the their date of arrival, request a assistance for a visa if required, secure accommodation (if needed) and request return flights to either the UK or RSA.

Before disembarking from the vessels the observer must submit a draft copy of their end of trip report to the Master of the Vessel.

If you have problem completing this task e.g. rapid transfer to another vessel or insufficient time to produce a report notify your coordinator for further advice.

2.6.3.1 Debrief

Upon their return, observers will be expected to visit the offices of their coordinator for a debriefing session. Ideally, observers should aim to have a first draft of their final reported completed to submit to the observer co-ordinator. This provides an opportunity for any outstanding matters for the report to be addressed. Observers will also be expected to submit a copy of their data. This will checked in their presence, so observers should ensure that the data set is complete and correct before debriefing.

3 Technical

3.1 Data Collection

3.1.1 Introduction

Scientific observers, aboard transhipment vessels, are required to report upon all transhipment operations within IOTC waters. Notwithstanding the fundamental IOTC logbook data requirements, actual tasks undertaken by scientific observers are dependent upon arrangements made between Members designating and receiving scientific observers. Text Box 5 details the priority activities of observers on board transhipment vessels.

Text Box 5: Current obligations of observers operating on transhipment vessels operating in the IOTC area:

- Record and report on the transhipment activities carried out;
- Verify the position of the vessel when engaged in transhipping;
- Observe and estimate products transhipped ;
- Verify and record the name of the LSTLV concerned and its IOTC number;
- Countersign the transhipment declaration.

Actual data requirements and associated data reporting formats expected of observers are discussed comprehensively below. Logbook forms are completed throughout the trip and are presented to the observer supplier offices post-deployment. Additionally, the observer is required to communicate Reporting Forms immediately following completion of specific tasks. Figure 16 shows the order in which the observer logbook and reporting forms are completed during the typical deployment.

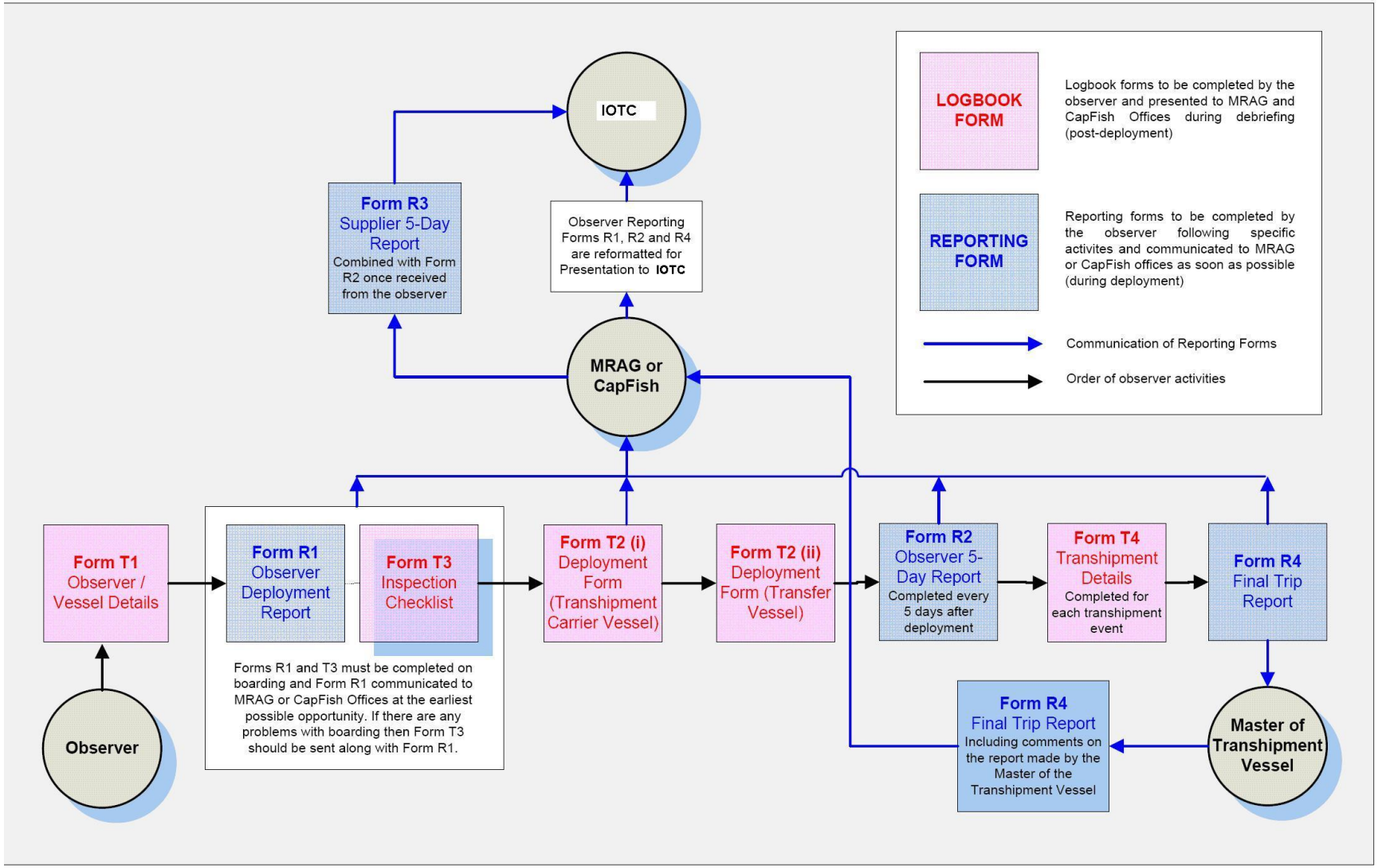

Figure 17 **Schematic diagram of observer logbook and reporting tasks and order the in which they will typically be completed**

3.1.2 Observer Logbooks & Instructions

Observational requirements have been grouped into four categories, each of which is referenced to specific IOTC Observer Logsheets where appropriate:

- **Form T1 - Observer / Vessel Details**
- **Form T2 - Deployment Forms (i, ii and iii)**
- **Form T3 - Inspection Checklist**
- **Form T4 - Transhipment Details Form**

IOTC codes and units of measurement to be used in completing the logbooks are found in the Appendix B.

3.1.2.1 Form T1 - Observer / Vessel Details

Form T1 describes the basic information required to identify the observer trip, specifically:

- Observer identity (name and IOTC Reference Number);
- Transfer (transhipment) vessel identity (vessel name, IOTC Reference Number and Call Sign);
- Ports and dates of embarkation and disembarkation.

All information required to complete this form will provided to the observer during the briefing session, during which, the observer will also be provided with prior information on the frequency and dates of transhipment events, when available. This form requires information on the date of disembarkation and can be completed once the trip is completed.

3.1.2.2 Form T2 - Deployment Forms

Form T2 describes the details of observer deployment. It is split up into three sub-forms:

- T2 (i) Deployment Form for Transhipment (Carrier) Vessel
- T2 (ii) Deployment Form for Transfer Vessel (Outgoing)
- T2 (iii) Deployment Form for Transfer Vessel (Return)

The observer will need to fill out a T2 Form for every vessel that they personally board. For every transhipment vessel that they board they must fill in a copy of the T2 (i) Deployment Form. Most of the information on the first part of this form relates to identification of the transhipment vessel and this information should already have been made available to the observer pre-deployment, during the briefing session. On completing this the observer will also need to identify whether tuna products are present onboard at the time of boarding. Soon after boarding, the observer should ask one of the officers whether tuna products are already present in the hold. The opportunity may

arise for the observer to view the hold in person, though it is important that the observer does not compromise their position onboard or their personal safety in trying to achieve this.

Should the observer board any other vessel than the transhipment (carrier) vessel, then they must complete one copy of the T2 (ii or iii) Deployment Form, for each vessel that is boarded. These forms are similar in their information requirements to the T2 (i) Deployment Form for a Transhipment Vessel. The observer should communicate with one of the officers of the vessel to obtain the required information while still onboard.

3.1.2.3 Form T3 - Inspection Checklist

The T3 Inspection Checklist Form should be completed for all vessels boarded by the observer. The observer should have a copy of the form ready to complete immediately after boarding the vessel. In completing the form, the observer will need to personally observe a number of features around the vessel, relating to safety and communications, and should request a tour of the vessel to achieve this. In particular the observer should request to see:

- Safety Equipment, including:
    - a valid safety certificate;
    - life boats, life rafts (and will need to confirm quantities, capacities and service status of each);
    - life jackets and immersion suits (and will need to confirm the quantities and locations of these);
    - Life buoys, flares, first aid materials and fire extinguishers;

- Vessel Contact details, including: telephone, fax, inmarsat (and evidence of the operational status of each);

- Observer accommodation.

Should the observer decide that their safety would be compromised, then they may refuse boarding onto the vessel and the observer should indicate on the T3 Inspection Checklist Form the reasons for refusal to board. In the event of a refusal to board, it is essential that the observer communicates the T3 Form to MRAG or CapFish offices at the earliest possible opportunity, and certainly within 24 hours of the refusal to board. This should be faxed or emailed together with the R1 Observer Deployment Reporting Form (which should always be sent to MRAG or CapFish within 24 hours of the boarding event).

3.1.2.4 Form T4 - Transhipment Details Form

The observer will need to carry out a number of tasks relating to transhipment activities observed during deployment. Each trip may include over 30 separate transhipments with different longliner vessels and a separate form must be completed for each transhipment event. The first part of this form (T4 i) requires the observer to identify the longliner vessel transhipping with the carrier vessel as well as to state the timings and positions of transhipments. Additionally the observer should photograph the fishing vessel with the supplied camera and take down any other observations of note.

The second part of the Transhipment Details Form (T4 ii) relates to the tuna products transferred between vessels. The tunas are typically transferred using a winch, in batches of between 10-30 individual fish. The observer will need to estimate the average numbers of fish and species composition of each load and, in doing so, will quantify the 'unit' of transhipment. The tunas will most likely be partially processed and frozen and species identification can sometimes be difficult. The observer should refer to the species identification guides provided with the Observer Manual, so that they become practised at discerning between tuna species.

It may not always be possible for the observer to monitor the entire transhipment and a new T4 (ii) form should be completed for each observation period of each individual transhipment, noting the start and end times of each event.

3.2 Reporting

In addition to the logbook forms, the observer is required to complete and send reporting forms to MRAG or CapFish offices before, during and after the trip.

Form R1 - Observer Deployment Report

The deployment report form must be completed and communicated (by fax) to MRAG offices within 24 hours after deployment (relevant contact details on the form itself). There are three types of possible deployment:

- Portside, directly onto the carrier vessel.
- on a transfer vessel to the carrier vessel if it is out at sea
- on a launch to the carrier vessel if it is in port

With the exception of transfer by launch, the start of the deployment is defined as when the observer leaves land, with the launch it is defined as when the observer boards the vessel.

Before boarding either the carrier vessel or the transfer vessel the observer must complete the inspection checklist (see T3). If for any reason the vessel does not pass the inspection and the vessel does not board the vessel then he must fax through both the R1 and T3 forms as soon as possible.

Form R2 - Observer 5-Day Report

This should be completed at the end of each monthly 5 day period, the month is divided up as follows:

Period A – 1st to 5th
Period B – 6th to 10th
Period C – 11th to 15th
Period D – 16th to 20th
Period E – 21st to 25th
Period F – 26th to the end of the month.
The reports are created automatically by the database, to generate these reports you will need to follow the instructions below:

- *Select the "5 day reports" option from the database menu screen;*
- *Select the year, month and period from the pull-down menus at the top of the dialog box;*
- *Press the "Display Stats" button.*
- *Copy the figures in blue to the sheet.*
- *Repeat for periods b – f for the same month.*
- *Fax the completed form to MRAG London on +44 (0) 2074995388 or email it to j.clark@mrag.co.uk and o.wilson@mrag.co.uk.*

The report should only include completed transhipments, if a transhipment is in progress at the end of a reporting period then it should be included in the next one.

The reports will be compiled by the observer supplier and sent through to the IOTC secretariat (form R3).

Form R3 – Supplier 5-Day Report

It is not the responsibility of the observer to fill in this form, it will be completed by the observer supplier.

Form R4 – End of Trip Report

In order to give the fishing master an opportunity to comment on the report, an initial draft report should be submitted to them when the observer disembarks from the vessel. It should be emphasised that this is a draft report only and the fishing master can submit any comments to the Observer Supplier within 5 days of receiving it.

The observer must also submit a draft report during their debriefing session upon return to the observer supplier's offices; this will be reviewed during the debriefing session along with health and safety issues, conditions onboard and ease of performing observer duties. Following this, a final draft submission should be given to the observer supplier within 12 days of disembarkation which will then be combined with any comments from the master of the carrier vessel and submitted to the IOTC secretariat.

The forms and instructions for completion are included in Appendix J.

3.3 Data Management

MRAG will provide all hard copy documentation (reporting forms) for recording purposes plus electronic copies on a laptop as part of the standard set of documents.

Observers are expected to complete hard copies in the event that the database is damaged or erased and for verification purposes. The completed forms should be legible and submitted with your report at the end of your trip.

We strongly advise that observers develop a routine of data entry into the ROP database following each transhipment event or series of events. The database should be backed up on each occasion on the hard drive and copied onto the pen drive that comes as part of your kit. On completion of each session check the accuracy of data entry and amend accordingly if any mistakes are apparent.

On completion of your trip observers should submit all hard copies of completed reporting forms. Please do not leave any information of transhipments unguarded and ensure that any excess, duplicated or corrected work is disposed of correctly i.e. shredded. If this is not feasible onboard the vessel, please submit it to the office along with the final data set for disposal.

A completed database covering the trip should also be submitted to the office once it has been checked for errors.

Unsatisfactory work will result in delay of payment.