EFCA
European Fisheries Control Agency

Introduction to fisheries inspection at sea and in port

Course for inspectors from e-FishMed Beneficiary Countries

Funded by the European Union

Disclaimer

The *Introduction to fisheries inspection at sea and in port* is a training course manuscript developed by the European Fisheries Control Agency in the framework of the EU-funded project 'e-FishMed'. It can be used by the administrations of e-FishMed Beneficiary Countries for the training of fisheries inspectors and other fisheries officials.

It is not a legal document and by no means replaces the national, regional or international legal framework for the application of conservation and management rules in the eastern Atlantic and Mediterranean.

Carrying out inspections at sea and in port is not without any risk. Although fisheries inspectors should have had thorough training concerning safety on board vessels, this course does not address safety aspects in detail.

More information on the European Union is available on the Internet (http://europa.eu).

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Foreword

Objective

This course, together with on-the-job training, will enable the trainee to carry out basic fisheries inspection tasks at sea and in ports in e-FishMed Beneficiary Countries.

Overview

In the framework of the international dimension of its mandate, the European Fisheries Control Agency (EFCA) supports and implements the Project "Mediterranean virtual regional training academy on fisheries control and inspection (eFishMed)".

e-FishMed promotes cooperation in the fight against Illegal, Unreported and Unregulated (IUU) fishing, the implementation of General Fisheries Commission for the Mediterranean (GFCM) and International Commission for the Conservation of Atlantic Tunas (ICCAT) conservation and management measures.

In order for these measures to be implemented successfully, it is essential that there is compliance with the rules in force. To achieve this there has to be an effective system of monitoring and controls managed by trained and motivated fishery inspectors.

Entry requirements

This basic course is open to all trainers and trainees from e-FishMed Beneficiary Countries.

Part A. Introduction

Officials undertaking inspections of fishing vessels at sea and/or in port should have a basic knowledge of risk management principles to ensure that inspection activities are effective and make the most of available resources.

This module is about the decision-making process that inspectors, with the support of their national Fisheries Monitoring Centre (FMC), should use to decide which fishing vessel to inspect to achieve their operational objectives. In particular, this decision should be guided by the risk of non-compliance with fishery conservation and management rules that the vessel presents. Having a clear picture of the rules in force and of the vessels to which they apply is therefore a vital preliminary condition for any inspection activity.

Part B. Methodology

1) How to determine the vessel to inspect by using risk management

The risk management process is a methodology that supports better decision-making by providing insight into risks and their impact, outlining a common foundation for management decisions regarding the allocation of resources and prioritising fishery control and inspection activities.

This section describes a basic risk management process to identify, assess and treat the risk of non-compliance presented by a given fishing vessel. Occasional random inspections also have a place in an overall inspection programme but the majority of inspections should be undertaken as the result of a careful risk-based assessment.

Step 1) Identify risks

The risk identification phase identifies and records all potential risks by using a systematic process to identify what, why and how risks could arise, thus forming the basis for further analysis. In the fisheries context, the risk is usually identified by reference to non-compliance with conservation and management measures, such as:

- catch reporting: risk of misreporting;
- access to fisheries: risk of fishing without an authorisation/licence;
- fishing opportunities: risk of quota overshooting;
- fishing area/period: risk of fishing in a closed area/during a closure period;
- technical measures: risk of fishing with prohibited/non-compliant gear, etc.

The outcome of the risk identification process is a register of risks, which documents the risks and ensures that the entire risk spectrum is considered. The risk register is usually presented as an index of risks identified by national authorities, from which each inspectorate can develop its respective risk plans according to fleet segments, fishing areas, etc.

Step 2) Assess the estimated level of risk

Risks can be assessed according to the likelihood that an infringement (for example, fishing without a valid authorisation) will occur and the potential consequence or damage

that this infringement would cause (for example, depending on the biological stock status). This is illustrated by the risk matrix shown in Figure 1 using five grades of risk and with the levels of risk identified by different colours. A risk thought unlikely to occur (low probability) and with minor impact if it occurs will score as a low (or green) risk. A risk considered as likely to occur and with a potentially major impact will score as an extreme (or red) risk.

Ref. ISO 31000	Consequence				
Likelihood	Insignificant	Minor	Moderate	Major	Catastrophic
Almost Certain	Moderate	High	Extreme	Extreme	Extreme
Likely	Moderate	High	High	Extreme	Extreme
Possible	Low	Moderate	High	Extreme	Extreme
Unlikely	Low	Low	Moderate	High	Extreme
Rare	Low	Low	Moderate	Moderate	High

Source: Adapted from ISO Standard 31000:2009, Risk management – Principles and guidelines.
Figure 1 – *Example of basic risk matrix using traffic light indicators*

While actual risks will depend on the actual situation, the following two examples illustrate the concept of risk.

- a vessel conducting unregulated fishing for a high value species, for example tuna, may have a high probability of non-compliance occurring and the impact of such a fishery may be severe for fishery conservation. Such a risk will demonstrate a high probability and a high impact and thus present a high (red) risk.
- a vessel engaged in artisanal fishing conducted on an abundant species, for example sardines, may have a medium probability of non-compliance occurring but a low impact in terms of conservation. This risk will demonstrate a medium probability and a low impact and thus present a low (green) risk.

As a result of the assessment, the potential target vessels that are available for inspection should be allocated a risk level (e.g. high, medium or low) and an informed decision should be taken on which vessel, or group of vessels, to inspect. An example of a risk assessment table taken from an EU-specific control and inspection programme is provided in Figure 2.

PROCEDURES FOR RISK ASSESSMENT

Each fishing vessel, group of fishing vessels, fishing gear category, operator, and/or fishing related activity, for the stocks and area(s) referred to in Article 1, shall be subject to control and inspections according to the level of priority attributed. The level of priority shall be attributed depending on the results of the risk assessment carried out by each Member State concerned, or by any other Member State for the sole purposes of application of Article 5(3), on the basis of the following procedure:

Risk description [*depending on the risk/fishery/area and data available*]	Indicator [*depending on the risk/fishery/area and data available*]	Step in the fishery/marketing chain (When and where does the risk appear)	Points to be considered [*depending on the risk/fishery/area and data available*]	Occurrence in the fishery (*)	Potential consequence(s) (*)	Level of risk (*)
[*Note: risks identified by Member States should be in line with objectives defined in Article 3*]			Levels of catches/landings distributed by fishing vessels, stocks, and gears, Availability of quota to fishing vessels, distributed by fishing vessels, stocks and gears, Use of standardized boxes, Level and fluctuation of market price for the landed fisheries products (first sale), Number of inspections previously carried out and number of detected infringements for the fishing vessel and/or other operator concerned, Obligation to land as from 1 January 2015 in accordance with Regulation (EU) of the European Parliament and of the Council No 1380/2013 of 11 December 2013, Background, and/or potential danger, of fraud linked to port/location/area, and metier, including Sport and Recreational vessels Fishing or fishing related activities during spatio-temporal closures, Any other relevant information or intelligence.	*Frequent/* *Medium/* *Seldom cases/or* *Not significant*	*Serious/* *Significant/* *Acceptable/or Marginal*	*very low/low/medium/high/or very high*

(*) *Note:* To be assessed by Member States. The risk assessment shall consider, on the basis of past experience and using all available information, how likely a non-compliance is to happen and, if it were to happen, the potential consequence.

Source: Official Journal of the European Union.

Figure 2 – *Example of risk assessment table*

In allocating a risk level, inspectors (or their national FMC) will need to take into account a wide range of information. This includes in particular: catch reports; commercial value of species targeted; quota availability; previous inspection records; infringements detected; and surveillance data including the vessel monitoring system (VMS) and the automatic identification system (AIS) if available, along with sea and aerial sightings, stock status and market demand for particular fishery products, etc.

Step 3) Mitigate the estimated risk through different inspection types

- **Inspections at sea**

Careful risk analysis will allow inspectors to concentrate their inspections on vessels and operators presenting the highest risk of non-compliance and will allow the inspection to be undertaken at the most effective point in the trip.

For example, there may be little point in undertaking an inspection at sea when the vessel has only been fishing for a couple of hours. However, if there is information suggesting that the vessel may be fishing without a licence, not adhering to quotas or using illegal fishing gear, then the inspection should be conducted as soon as possible.

If for various reasons (poor weather conditions, other operational priorities) the target vessel cannot be inspected at sea, a recommendation may be sent to the FMC that the vessel should be inspected at the time of landing or at the next opportunity.

- **Landing inspection**

The time and place of previous landings should be ascertained if possible, as this is where the vessel is most likely to land. This may be available from a prior notification of landing, previous logbooks / landing declarations or from the landing port authorities. Similarly, local contacts may provide details of the buyer, the destination of the catch and possibly details of any transport company involved.

Having obtained as much information as possible, inspectors should review all the information in order to identify the high-risk vessels and create a list of inspection priorities, for example, check for under-recording of catches and/or the landing of prohibited species.

A programme of landing inspections can be developed for the required time-period (e.g. 12 hours), which makes best use of the availability of resources and takes into account any logistical issues.

- **Transhipment inspection**

Transhipments of fish between a catching vessel and a transport vessel carry a number of intrinsic risks and present particular challenges for inspectors. Equally, transhipments between vessels are a less common occurrence than landings, so the decisions required of inspectors may be more focused on the risks associated with a single operation rather than on identifying a single entity to be inspected.

These factors should be reflected in the allocation of risk level of non-compliance for a vessel undertaking transhipment. For example:

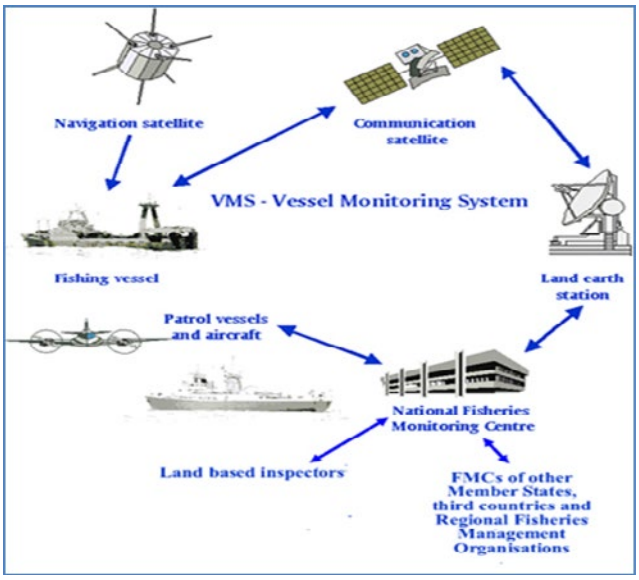
— non-compliance with specific Regional Fisheries Management Organisation (RFMO) rules surrounding transhipments, which restrict where they may take place and outline the documentation required before any operation begins;
— non-compliance with catch recording of highly processed fish where the species cannot easily be identified (e.g. fish mince or fish meal).

2) How to verify the position of a vessel remotely

When determining the fishing vessel to be inspected, it is obviously essential to know its geographical position in order to direct inspection activity and to be able to verify compliance with regulations, where/when a vessel can fish, for example. The position of a fishing vessel can be determined remotely (i.e. without on-the-spot presence) through a number of electronic methods.

- **Vessel monitoring system**

VMS is a satellite-based monitoring technology based on the automated transmission of position data (position, speed and course) from a fishing vessel to the flag state control authorities.



Source: Directorate-General for Maritime Affairs and Fisheries website.

Figure 3 – *VMS principles*

Where applicable, when the vessel enters the waters of a different state, the flag state's FMC should forward this data to the coastal state's FMC.

The VMS position data is automatically transmitted from the fishing vessel at fixed intervals (typically every 2 hours). In addition, various VMS devices allow the flag state's FMC to obtain an immediate real-time position by polling the VMS on an individual fishing vessel.

The inspector in the field should receive recent VMS data on fishing vessel positions from the FMC in order to plan inspection activity and verify compliance with rules on recording fishing activity and access to fishing grounds (see Module 4).

Source: European Fisheries Control Agency (EFCA).

Figure 4 – *Example of a VMS combined with AIS track in the Strait of Sicily*

- **Automatic identification system**

AIS is a collision-avoidance system to which the vessel automatically transmits information, such as position, heading and speed, and navigational status, at regular intervals via very high frequency (VHF) radio transmissions.

AIS has a useful secondary function in fishery control in that it can be used in much the same way as VMS, but since the transmissions are almost continuous (approximately every 10 seconds) there are no gaps in data, which is the case with VMS (typically up to 2 hours unless polled). AIS, however, is limited by range to line of VHF radio sight (about 50 km from a fishing vessel), so is of less use for shore-based surveillance of

vessels in the open sea. Where satellite reception of AIS data is available, this restriction disappears. In addition, in some busy maritime waters there are AIS receivers placed on fixed objects such as oil installations, which extend coverage. Other information, such as the vessel name and radio call sign, may also be transmitted regularly. The signals are received by AIS receivers fitted on other vessels, land-based systems, such as vessel traffic services (VTS) systems or satellites. Note that AIS data may be consulted via public websites (free or charged access).

3) How to verify prior notification of arrival and landing (or transhipment) in port

Prior notification of arrival and landing (or transhipment) are declarations from the fishing vessel to the authorities of the coastal state giving details of the catch to be discharged and the place and time of arrival.

The inspector may plan his/her inspection using the prior notification to achieve the most effective use of resources depending on the risks of non-compliance associated with the fishery. Prior notification is an important source of information to target a landing inspection. The inspectors should be able to have first-line access to prior notification messages, as they are the basis upon which inspection resources are allocated and target vessels are identified. The arrival-in-port notification is often due 72 hours in advance.

The notifications enable inspectors to monitor fish landings and transhipments. In this regard, the inspector should:

- make a list of the notification requirements according to the applicable rules;
- check whether a notification has been made for a particular landing and if it was sent within the required time limit;
- check if the vessel is arriving in a designated port;
- determine the purpose of the visit;
- check that the notification contains all the required information;
- cross-check the information provided in the notification against data from VMS/AIS, logbooks and any intelligence, including sightings;
- check if the vessel is on any illegal, unreported and unregulated fishing (IUU) list or is suspected of any IUU activity.

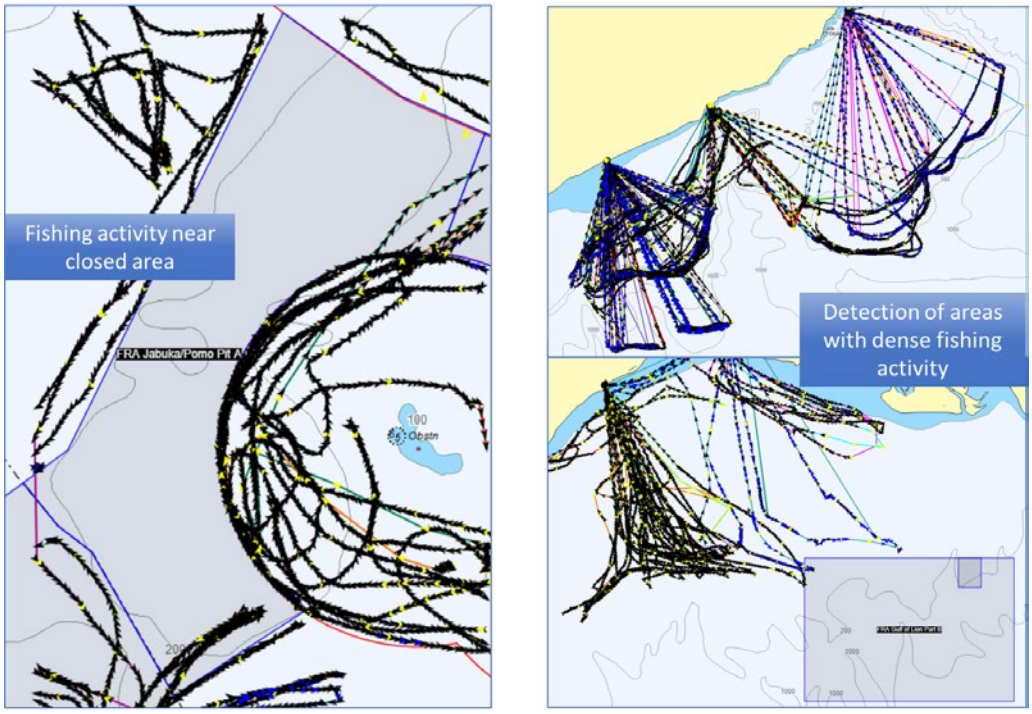
It is important to note that in most cases, the notification specifies the time that the vessel first arrives in port and not the time the vessel is to start to land its catch. This way, the inspector can be present to observe the physical arrival of the vessel in port thereby avoiding the possibility of the vessel landing an unobserved catch.

An example of an FAO port-entry notification is provided in Annex I.

4) How to prepare for an inspection

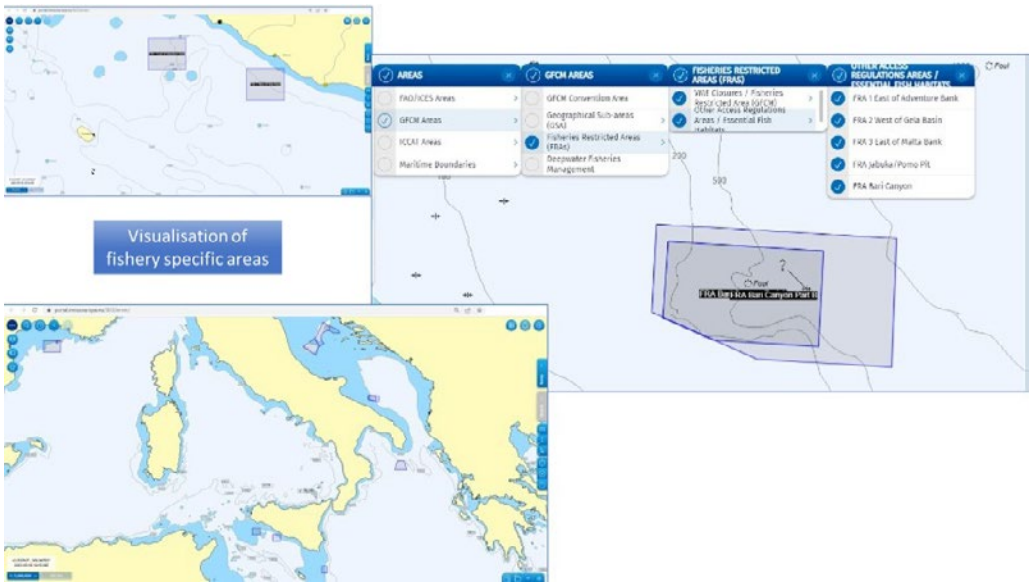
Knowledge of the position of fishing vessels from VMS/AIS data and/or prior notification is a key tool in planning inspections. Inspectors may monitor the activity of fishing vessels to inspect them while at sea or to see when and where they may return to port to land their catch. Inspectors can then target inspection resources at sea and in ports at the most effective times, taking into account the risk profile of the fishery (see Figure 5).

For example, if an individual vessel or group of vessels present a high risk of non-compliance compared with other vessels, they can be identified by VMS/AIS and chosen for a targeted inspection (see Figure 6).



Source: EFCA.

Figure 5 – *Example of AIS information used for planning and risk assessment*



Source: EFCA.

Figure 6 – *Example of AIS information used for real-time monitoring*

5) How to verify the fishing activity

The application of a wide variety of regulations depends on the fishing activity in which the vessel is engaged. It is therefore important to verify if the vessel is actively fishing at the time of inspection and to verify the fishing method. In general, fishing gear is classified into two main categories: passive and active. This classification is based on the relative behaviour of the target species and the fishing gear. With passive gear, the

capture of fish is generally based on the movement of the target species towards the gear (e.g. traps), while with active gear capture is generally based on an aimed chase of the target species (e.g. trawls, dredges). A parallel on land would be the difference between the trapping of and hunting for animals.

Fishing activity and fishing operations include all activities connected with searching for fish, the shooting, towing and hauling of active fishing gear, setting, soaking, removing or resetting of passive fishing gear, taking catch on board, removal of catch from the fishing gear and transhipping, retaining on board, processing on board, transferring, caging, fattening and landing of fish and fisheries products.

The following is a list of activities defined as fishing with some indicators of the activity that may be observed.

- **Normal navigation (not engaged in fishing)**

The vessel is navigating in a straight line between port and the fishing grounds or between fishing grounds, steaming at the normal speed of the vessel with no fishing gear in the water. At night only the navigation lights should be shown although in reality some vessels steam with fishing lights switched on. Similarly, some vessels steam with a fishing day-marker shown.

- **Searching for fish**

The vessel is in the fishing grounds searching for fish with no fishing gear in the water. Normally seen with fishing vessels fishing for pelagic species, the vessel moves slowly or is stationary while it uses its sonar to find fish.

- **Shooting, towing or hauling of active fishing gears**

All types of trawlers and dredgers may be seen shooting or recovering the fishing gear, which will be in the water close to the vessel or handled on the vessel. On single vessel trawlers, the trawl doors may be seen entering or leaving the water. While towing, the warps may be seen leading aft from the stern of the vessel, under tension and at an angle entering the water as the vessel moves forward. Vessels towing troll lines act in a similar manner.

Source: Neda de Karina.

Figure 7 – *Trawler hauling the net*

Pelagic trawlers and beam trawlers tend to tow the fishing gear at a higher speed (typically 5 to 8 knots) than demersal trawlers and dredgers (typically 3 to 5 knots). All types of trawlers and dredgers move faster as they shoot the gear and slower (sometimes dead in the water or even moving astern) as they haul the gear.

- **Setting, soaking, removing or resetting of passive fishing gears**

Seine net vessels (demersal and pelagic) set the fishing gear in a circle. A demersal seine vessel then hauls the gear moving slowly forward or from a stationary position. A pelagic purse seine vessel recovers the gear from a stationary position, sometimes moving laterally to keep clear of the gear in the water.

Fixed net and longline vessels shoot and haul the gear moving slowly forward. Sometimes the gear is set in a number of parallel rows. Marker buoys will be seen at each end of the gear and at intermediate points between the ends.

Source: Neda de Karina.

Figure 8 – *Purse seiner taking catch*

- **Taking catch on board, removal of catch from the fishing gear**

The fishing gear will be in the water close to the vessel and the catch removed by a pump or net brail or the gear will be recovered onto the vessel where the catch will be removed. Part of the gear, such as a trawl, may remain in the water while part of the net is taken on board to remove the catch.

- **Transhipping**

The catching vessel will be seen alongside the receiving vessel; both will be stationary in the water and the receiving vessel may be at anchor. The transfer of catch from one vessel to another may be seen. Often there are many seabirds in the vicinity to take fish that have dropped into the sea.

- **Processing on board**

The vessel may process the catch while stationary, underway or fishing. It is difficult to determine if the vessel is processing without being on board it. Often there are many seabirds in the vicinity to take fish offal that has been discarded into the sea.

- **Transferring**

Catches of highly migratory fish may be seen being transferred at sea between two vessels with nets (holding nets/cages and or purse seine) in the sea. Both vessels will be stationary and there may be auxiliary vessels present. A vessel towing a transport cage may be seen independently before or after the operation, moving very slowly.

Source: Neda de Karina.

Figure 9 – *Transferring*

- **Caging**

Catches of highly migratory fish may be seen being transferred from a transport cage and a farm cage. The vessel will be stationary and there may be auxiliary vessels present.

Source: EFCA.

Figure 10(a) – *Caging*

Source: Neda de Karina.
Figure 10(b) – *Caging*

Part A. Introduction

The inspection of a vessel does not start when an inspector boards the vessel. There are a number of requirements and actions that should be taken by an inspector in advance to ensure that all the relevant information is available for the inspection to start.

This module explains the initial steps required to prepare and perform an inspection of a fishing vessel at sea and/or in port.

Part B. Methodology

1) Inspection: basic pre-requirements

- **Nautical charts and Global Positioning System (GPS) basics**

In the nautical context, a geographical position is expressed as a latitude and longitude, normally written as degrees, minutes, decimal minutes and North (N) or South (S) and East (E) or West (W), for example, 04° 38.8' N, 002° 34.8' W.

Source: EFCA.

Figure 11 – *Example of nautical chart with vessel track*

GPS is a space-based satellite navigation system that provides location and time information in all weather conditions, and anywhere on or near the Earth, where there is an unobstructed line of sight to four or more GPS satellites.

Source: EFCA.

Figure 12 – *Example of possible on-board systems coupled with GPS*

A position derived from a GPS will use a coordinate system and a chart datum, such as World Geodetic System 1984 (WGS 84), which is also used on many nautical charts, so that the position derived from the GPS may be accurately plotted on the chart.

- **Authority and powers of inspectors**

Fishery inspection involves the observation and examination of fishing activities and the collection and safekeeping of any evidence of suspected infringements. Fishery inspectors need legal powers, backed up by sanctions in case of obstruction, to carry out these inspection tasks. These powers are granted in accordance with national law and are exercised within the limits provided by national law. These laws vary between countries but may include:

— the identification of fishery inspectors by document and uniform;
— the standards required for evidence to be admissible in legal proceedings;
— the standards required for the safekeeping of any items seized and their subsequent disposal;
— protection of the inspector when prevented or obstructed from carrying out inspections;
— protection of the inspector against any claims of negligence; –– rights of persons inspected.

- **Ethics**

Fishery inspectors are required to engage with operators (masters, crew, etc.) to carry out their work. While potentially in a position of power, the most effective inspector will be the person who maintains the respect and confidence of the operator by being:

— fair,
— honest,
— impartial.

Operators expect officials to:

— operate within the law;
— treat them as equals;
— be consistent in their approach.

Some fishery inspection authorities have a code of conduct that outlines how they expect their officials to conduct themselves. The code of conduct may be customised for specific situations, for example, to guide the way inspectors access vessels and interact with crew who speak a different language.

An example of a model code of conduct developed by the Food and Agriculture Organization of the United Nations (FAO) is provided in Annex 2.

- **Safety and security**

Fishing vessels, ports and factories are by nature hazardous and fishery inspectors need to be able to assess the risks involved, the likelihood of risks occurring, their potential consequences and the necessary steps required to mitigate those risks.

Practical guidance on safety and security developed by the FAO is provided in Annex 3.

- **Equipment**

In order to carry out an efficient and professional inspection of a fishing vessel at sea or in port it is necessary for the inspection team to have proper equipment.

The following list of equipment for inspection at sea or in port is suggested, according to the type of inspection and the rules in force. The list is not exhaustive and in some circumstances not all of the equipment will be required to inspect a particular vessel:

Source: EFCA.

Figure 13 – *Elements of fishery inspectors' equipment*

- inspector's official identity badge or papers;
- inspection form(s);
- notebook;
- pens and pencils;
- camera, spare batteries and a storage medium;
- waterproof bags;
- fish measuring gauges;
- mesh gauge;
- tape measure of a size to measure cargo space;
- torch with spare batteries;
- dipping tape for measuring refrigerated seawater tanks;
- weighing scales;
- test weight;
- mobile telephone or VHF radio;
- laptop or tablet computer (where possible);
- sealable evidence bags and labels;
- seals with unique numbers, chains with welded links and security-marked tapes for use on fishing gear and to prevent access to certain parts of the vessel, such as fish rooms, to secure evidence in the event of suspected infringements;
- personal protection equipment (PPE) such as safety shoes, hard hat, gloves, life jacket (personal flotation device – PFD).

2) Inspection teams: who does what

An inspection team is normally made up of between two and four inspectors. However, in some inspections, such as a large landing or transhipment, or in the event of multiple simultaneous inspections, it may be necessary to deploy more inspectors. Note that some Sustainable Fisheries Partnership Agreements (SFPAs) stipulate the maximum number of inspectors that may be present.

Source: EFCA.

Figure 14 – *Inspection team at sea*

To assist in preparation for the inspection, a detailed brief should be carried out beforehand. This briefing will assist in guiding inspectors to specific areas where they are likely to find discrepancies. The briefing should involve all officials taking part in the inspection, including the person on board the fishery patrol vessel (FPV), the transfer boat (rigid inflatable boat – RIB) crew and the actual inspectors.

Depending on the level of inspection required, i.e. a full inspection of items such as documents, gear and catch, or a routine inspection of documents and monitoring offloaded catch, the briefing allows the inspection team to prepare their equipment and to prepare for entering enclosed or sub-zero temperature compartments during the operation.

The brief should include in particular:

- boarding procedures;
- communication protocols;
- personal and operational equipment;
- hazards (physical and personal) likely to be encountered on the fishing vessel;
- safe exit strategies and backup plans to cover all eventualities;
- copies of:
  - any vessel notifications,
  - pre-inspection checklists,
  - the mandate authorising the inspection, referencing the relevant RFMO rules and the national legislation,
  - the summary of any risk assessment carried out, specifically noting any information that should be verified and receive more attention in the inspection process,
  - transhipment declarations where these are available,
  - electronic reporting system (ERS) / VMS / AIS records where these are available,
  - the list of fishing gear expected on board,
  - the list of product codes and the weight of the target and by-catch species that the vessel has declared to be on board,
  - language cards,
  - inspectors' identification,
  - tables and formulas for calculating the volumetric measurements of fish holds.

The lead inspector should be clear to both the inspection team and those subject to an inspection. All communication should be through the lead inspector, subject to any constraints caused by different languages. The actual tasks of each inspector will vary

with the circumstances but it is common for one inspector to carry out the physical inspections and for the other inspector to record the results. The inspectors should not separate and should be accompanied by somebody that has been chosen by the master.

This should preferably be an officer or a person with responsibility.

In all cases, the inspection team should be in charge of the situation. Any action taken by the inspection team, such as the seizure of gear, should be agreed among the team in advance and the inspection team should ensure that those subject to the inspection understand what is required and what action is taking place. The attitude of the inspectors should be firm but respectful of those inspected.

Immediately following the inspection, there should be a meeting of everybody involved to review the conduct of the inspection, any lessons to be learnt and to agree and allocate any follow-up action. This is particularly important if an infringement has been detected and if evidence needs to be secured.

A report needs to be prepared and distributed after the inspection (see Module 8).

3) Initial actions

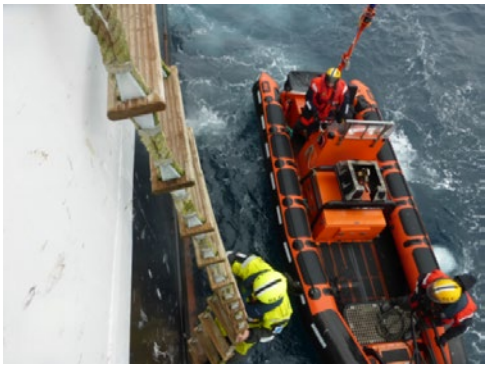
The initial actions listed below suggest a step-by-step process to be followed in chronological order. However, individual inspection circumstances may dictate a different order of events.

An example of standard operating procedure for inspection at sea is shown in Annex 4.

Step 1) Verify the boarding possibilities (at sea)

The fishing vessel is normally boarded using the boarding ladder. The inspector will not want to use a boarding ladder that does not appear to be in good condition, safely secured and in the correct position. When climbing the boarding ladder, the team leader, in cooperation with the RIB coxswain, should take care of and/or make a request to the vessel to be boarded regarding the following.

- the ladder should be clear of any fishing gear going into the water from the vessel.
- the boarding ladder should be fitted so that the lower part does not touch the surface of the water. If not, when the vessel makes its way through the water the boarding ladder will be dragged into the water and tilt, causing the inspector on the ladder to lose balance and fall.
- the position of the boarding ladder should be away from the propellers. Ideally, when an inspector is on the ladder, the propellers should be stopped or at the lowest possible speed.
- when an inspector is climbing up or descending from the ladder, the RIB should keep clear of the ladder, but remain close, so that if the inspector falls off the ladder, he/she does not fall into the RIB but into the water and the RIB crew can pick him/her up immediately.

Source: EFCA.

Figure 15 – *Boarding at sea*

Step 2) Verify the identity of the master, owner, agent and other operators

Once on board, it is important to verify the identity of the master at the earliest moment in the inspection as this is the person with legal responsibility for the vessel. The identity of the master may be verified from the official crew list, which will in most formats give their name, position on the vessel, nationality, date and place of birth, and details of their identity document. Depending on the legal entitlements of the inspectors, this information may be cross-checked against the vessel's official log and personal identification papers, such as passport, seaman's book, national identity card and master's certificate.

When the master is not in command and there is a replacement master for all or part of the trip, the legal master is the person who has command at the time of inspection, according to the crew list. For the majority of fishing vessels, the master is required to be properly qualified and licensed, and will carry certificates to prove this. Vessel documents such as the licence/registration documents and permits/ fishing authorisations will identify the legal owners.

For inspections in port, there may be papers in nearby premises that confirm the identity of the agent and other operators involved in the landing, marketing and/or transport operations. The inspector will need the appropriate legal power to examine any of these documents.

Step 3) Obtain the cooperation of the master and crew

The inspector should seek the cooperation of the master and explain what will happen during the inspection. Ideally, this should be with confirmation from the master that he/she understands what is going to happen and what he/she is expected to do to facilitate the inspection.

If the master does not want to cooperate, it may result in the inspector filing a report against the master for obstruction. Obstruction should be considered a serious infringement and the rules in force should provide for sanctions in the event of an obstruction. The consequences of this action should be explained to the master if necessary.

It is important to establish the language in which to communicate with the vessel's personnel and whether an interpreter is required. Flash cards with key inspection phrases can be of particular use when there is no mutual language. Note that an adequate knowledge of the English language should be required from the master and officers of larger vessels of 24 metres length overall or more ([1]).

([1]) Paragraph 15 of the Appendix to Regulation 1 of the International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel (STCW-F), 1995 (http://www.imo.org/en/OurWork/humanelement/pages/stcw-f-convention.aspx).

Source: EFCA.

Figure 16 – *Boarding with crew assistance*

Step 4) Verify the position of the vessel (at sea)

- **How to plot a position on a nautical chart:**

Note the geographical position from the appropriate equipment, i.e. GPS, radar, etc.

To plot the position on the nautical chart, put the latitude coordinate (N or S) on the vertical scale of the chart and draw a horizontal line at that point with a set of parallel rules (or a pair of dividers and a ruler) parallel to the printed line of latitude. Do the same with the longitude coordinate (E or W) using the horizontal longitude scale and draw a vertical line at that point parallel to the printed line of longitude.

The geographical position on the chart is where the two lines intersect:

— the latitude is expressed in degrees (°) (two figures), minutes (‘) (two figures) which are one sixtieth of a degree and decimals (no symbol, two figures) and North (N) or South (S), for example, 12° 10.20’ N (this is 12 degrees, 10 minutes, decimal 20 North (N));

— the longitude is expressed in degrees (°) (three figures), minutes (‘) (two figures) and decimals of minutes (two figures) and East (E) or West (W), for example, 017° 20.50’ E (this is 17 degrees, 20 minutes, decimal 50 East (E)).

The decimal points of a minute can also be expressed in seconds (‘‘). The points of a minute can be calculated back to seconds by multiplying by six and dividing by ten. Alternatively, seconds can be converted to decimal points of a minute by dividing the seconds by six and multiplying by ten. The same position expressed in degrees, minutes, seconds, would then be:

12° 10’ 12’’ N (12 degrees, 10 minutes, 12 seconds North (N))

017° 20’ 30’’ E (17 degrees, 20 minutes, 30 seconds East (E))

- **How to use the fishing vessel positioning equipment:**

The position of the fishing vessel should be taken on board the FPV before the inspection and then confirmed after boarding the fishing vessel at the beginning of the inspection. The time, including the time zone, that the position was taken should be noted. The position should be taken from the vessel’s GPS equipment if available, as this is the

most accurate method of determining the position. If no GPS is available, other equipment such as radar may be used or a visual fix of nearby land features may be taken. A visual fix is not as accurate as a GPS position, as it depends on the distance from the landmarks observed. The method of determining the position and the datum used on the chart (WGS 84 in most cases) should be noted.

— confirmation from the FPV

The FPV should be asked for its determination of the position of the fishing vessel at the same time. Modern radar equipment can show the latitude and longitude of a vessel automatically. The position of the FPV should be noted in the inspection report. Any difference between the positions of the fishing vessel obtained on board the fishing vessel and obtained on board the FPV should be investigated. Again, the method of determining the position and the datum used on the chart should be noted.

— confirmation of position by the master

The master of the fishing vessel should be asked to confirm the position of the vessel and a note should be taken of this.

Step 5) Verify the external identity of the vessel

The indicated vessel name, registration number, International Maritime Organisation (IMO) number and other external identification marks should be compared with the details recorded in the vessel's documents. Guidance on these documents is provided below.

- **Vessel name**

Larger fishing vessels are identified with a name (see Figure 17). It is not unique and different vessels may use the same name, sometimes followed by a number, or may use names that are very similar. Sometimes, particularly on older vessels, the current name is painted over previous names of the vessel (see Figure 18). Inspectors should pay particular attention to these fishing vessels when the name of the vessel is not clearly displayed.

Source: EFCA.

Figure 17 – *Example of vessel name painted on the bow*

Source: Indian Ocean Tuna Commission (IOTC).

Figure 18 – *Example of confused marks on the stern of a longliner*

- **Flag state**

The flag state is the nationality of the vessel and it is important to know because it affects the rules that apply to the vessel. The flag state should be evident from the vessel's papers, any markings on the vessel and any physical flags that are used.

- **Vessel external registration number**

The majority of larger fishing vessels have a registration number that is allocated in a format chosen by the flag state. Typically, the number is a combination of a code indicating the port or area of registration and a serial number. There may be other numbers or letters, indicating the class of the vessel, for example. It is possible that the same number may be used by two vessels from different flag states, and that the same number is used for another vessel after a vessel has been decommissioned.

The registration number is normally indicated on the bow and/or on another part of the hull of a fishing vessel (see Figure 19). Inspectors should pay particular attention to fishing vessels using removable plaques to indicate their registration number and/or name ([2]) (see Figure 20).

Source: EFCA.

Figure 19 – *Example of registration number painted on the hull*

([2]) See International Convention for the Safety of Life at Sea – Chapter XI-1 – Special measures to enhance maritime safety. Regulation 3 – Ship identification number – Paragraph 5.1: 'The permanent marking shall be plainly visible, clear of any other markings on the hull and shall be painted in a contrasting colour'.

Source: EFCA.

Figure 20 – *Example of removable plaques for the registration number and vessel name*

- **International radio call sign**

A call sign is a unique designation for a transmitter station. The vessel's international radio call sign (IRCS) is recorded in the vessel's documents and sometimes written on a notice in the wheelhouse, painted on the vessel's superstructure or on the hull and/or on the roof of the wheelhouse.

Source: EFCA.

Figure 21 – *Example of an international radio call sign*

- **International Maritime Organisation number**

The IMO issues a unique identification number to vessels under a register administered by IHS Maritime ([3]). The number is in the format 'IMO' followed by seven digits, for example, IMO 1234567. The IMO number provides a unique and checkable identity, which does not change throughout the life of the vessel, even if the name, registration number and nationality change.

The IMO number is displayed on a visible external part of the vessel hull or superstructure and on an internal bulkhead or hatchway.

The IMO scheme applies to ships of 100 gross tonnage and above and all motorised inboard fishing vessels above 12 metres in length overall (LOA).

The IMO number should be cross-checked against the IHS Maritime website, ICCAT and General Fisheries Commission for the Mediterranean (GFCM) vessel lists and, if available, the flag state vessel register.

([3]) http://www.imonumbers.lrfairplay.com.

In the ICCAT management area, vessels without IMO number cannot be included in the ICCAT record of vessels and authorised to operate. Exemptions are granted for vessels for which the flag state provides an explanation of impossibility to issue an IMO number.

Source: Spanish Ministry of Agriculture, Fisheries and Food.

Figure 22 – *Example of an IMO number on a fishing vessel*

Step 6) Collect relevant information from the observer

A fisheries observer is an independent specialist who is temporarily embarked on board a fishing vessel and is employed under a fisheries observer programme, either directly by a fisheries management agency (national or international) or by a third-party contractor.

There is no requirement under RFMO rules for the observer to give an inspector a copy of their report at the time of inspection. An observer is an important and independent source of information concerning compliance with the rules in force on the vessel during the fishing trip.

In the Mediterranean Sea, in the ICCAT bluefin tuna related framework, the deployed observer on board vessels is either a national or an ICCAT regional observer. The national observer should be deployed on each towing vessel, on a certain number of pelagic trawlers and longliners. The regional observer should be deployed on board all purse seine vessels and traps authorised to fish bluefin tuna and at the farms during the farming activities. The applicable ICCAT rules lay down the obligations, responsibilities and tasks of the observers. Any non-compliant event notified by the regional observer should be duly investigated in order to confirm or dismiss reported non-compliance. During an inspection, the inspector should pay attention to the regional observer obligations related to catching activities and transfer operations, in particular the information recorded in the ICCAT transfer declaration (ITD):

- regional observer estimated number of bluefin tuna transferred;
- any disagreements with the master;
- rules that were not respected;
- whether the regional observer has signed the ITD.

Particular care is needed in any communication with the observers to avoid compromising their relationship with the master and crew of the vessel, especially if they think inappropriate information has been given to the inspector.

Part A. Introduction

This module is about the documents a fishing vessel must carry on board and how to use these documents in an inspection.

Note that even if the legal requirements are often the same, the documents that should be available and the information they should contain will depend on the provisions adopted by the flag state, the coastal state and the RFMOs.

There are other documents, which, although they are not required under any law, may be required when an inspection is carried out and can be used to improve the quality of the inspection.

Part B. Methodology

The inspector should list in advance which documents the vessel is required to carry on board according to the rules in force. During the inspection, the inspector should check that these documents are available on board and that they are genuine (i.e. no forgeries – the inspector may be able to refer to sample copies available from the flag state), and that they are valid (in date) and contain the required information.

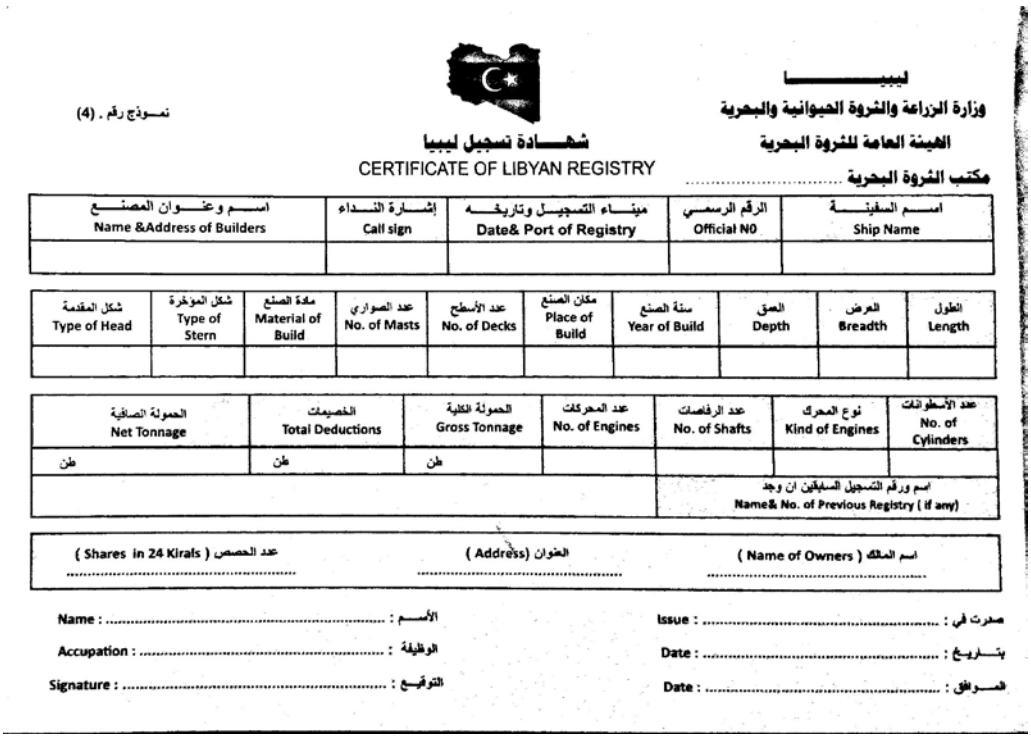
Note that the vessel might have changed flag state, name and owners over the years so it is important to verify if the documents presented are up to date (the only element that cannot change over the lifetime of a vessel is the IMO number). If a photograph is available in the documentation, it is useful to check if it still corresponds with the vessel being inspected.

The methodology given below suggests a step-by-step process to be followed in chronological order. However, individual inspection circumstances may dictate a different order of events.

Step 1) Check the certificate of registry

A certificate of registry is a document issued by the flag state that typically records the identity of a vessel and its principle dimensions and characteristics. The certificate of registry confirms that the vessel is recorded and registered in the flag state and is subject to the laws of that state. The certificate of registry may also indicate the IMO number and IRCS.

The vessel name, registration number, IMO number, IRCS, vessel dimensions and any other available information recorded in the registration documents should be cross-checked against the visible characteristics of the vessel and other legal documents, such as the fishing authorisation and licence.



ليبيـــــــــا
وزارة الزراعة والثروة الحيوانية والبحرية
الهيئة العامة للثروة البحرية
مكتب الثروة البحرية .....

نمـــوذج رقم . (4)

شهـــــادة تسجيل ليبيا
CERTIFICATE OF LIBYAN REGISTRY

اســـم وعنـــوان المصنـــع Name &Address of Builders	إشـــارة النـــداء Call sign	ميـنـــاء التسجيـــل وتاريخـــه Date& Port of Registry	الرقم الرسمـي Official N0	اســـم السفينـــة Ship Name

شكل المقدمة Type of Head	شكل المؤخرة Type of Stern	مادة الصنع Material of Build	عدد الصواري No. of Masts	عدد الأسطح No. of Decks	مكان الصنع Place of Build	سنة الصنع Year of Build	العمق Depth	العرض Breadth	الطول Length

الحمولة الصافية Net Tonnage	الخصميات Total Deductions	الحمولة الكلية Gross Tonnage	عدد المحركات No. of Engines	عدد الرفاصات No. of Shafts	نوع المحرك Kind of Engines	عدد الأسطوانات No. of Cylinders
طن	طن	طن				
				اسم ورقم التسجيل السابقين ان وجد Name& No. of Previous Registry (if any)		

(Shares in 24 Kirats) عدد الحصص ..... (Address) العنوان ..... (Name of Owners) اسم المالك .....

Name : ..... الأســم :
Accupation : ..... الوظيفة :
Signature : ..... التوقيـــع :

Issue : ..... صدرت في :
Date : ..... بتـــاريـــخ :
Date : ..... المـــوافق :

Source: Libyan authorities.

Figure 23 – *Example of a national certificate of registry*

Step 2) Check the fishing licence

A fishing licence is an official document, issued by the national authorities in paper and/or electronic format, giving the holder of the licence the right to use the fishing capacity of a fishing vessel for the commercial exploitation of fisheries.

The fishing licence typically contains information concerning the identity of the vessel, the owner(s), the principal dimensions and the fishing gear of the vessel. A fishing licence may be combined with the certificate of registry to form one document or it may be combined with the fishing authorisation.

The details of the fishing licence should be checked in order to make sure that they match those on the fishing authorisation.

Royaume du Maroc
Ministère de l'agriculture et de la pêche Maritime
Département de la Pêche Maritime
******

المملكة المغربية
وزارة الفلاحة والصيد البحري
إدارة الصيد البحري
******

LICENCE DE PECHE

Droit Licence+INRH :
N° de la Quittance :
Date de la Quittance :

Dahir portant loi n° 1-73-255 Chaoual 1393 (23 novembre 1973) tel qu'il a été modifié et complété,
Arrêté n° 1154-88 du 20 Safar 1409 (03 octobre 1988)

Décret n° 2-92-1026 du 4 Rajeb 1413 (29 décembre 1992),

Décret n° 2-02-770 du 2 Chaâbane 1423 (09 octobre 2002)
Arrêtés n° 4195-14 et n°4201-14 du 2 Safar 1436 (25 Novembre 2014)

N° .../Année

La présente licence de Pêche est accordée pour la période allant du **(date)** Au **(date)** Inclus, au navire désigné ci-après :

1-Nom du navire :
2-Nationalité du Pavillon :
3-N° d'Immatriculation : Port d'Attache :
4-Tonnage Brut : Puissance Motrice :
5-Type de Navire : Genre de pêche :

6-Nom et Prénom et Adresse ou Raison Social et Domicile de(s) Armateur(s):
.....
7-Effectif de l'Equipage Embarqué : ..... dont ..... Etrangers.
8-Nom et Prénom du Capitaine/Patron :..... Nationalité .....
9-Zone(s) de Pêche Autorisée(s) : .....
- Zones d'interdiction temporaire : .....
10- Engin(s) de Pêche et Maillage(s) Autorisés : .....
11- Engin(s) de Pêche Interdit(s) : .....
12- Espèce(s) Autorisée(s) : .....
13- Espèce(s) Interdite(s) : .....
14- Référence du dispositif de positionnement et de localisation du navire N° : .....

- L'armateur et le Patron/Capitaine du navire susmentionné, s'engagent à se conformer aux lois et règlements en vigueur sur l'exercice de la pêche et de la navigation maritime et notamment aux dispositions du Dahir portant loi 1-73-255 du 17Chaoual1393 (23 novembre 1973) formant règlement de la pêche maritime tel qu'il a été modifié ou complété et les texte pris pour son application.
- Le patron/capitaine du navire doit tenir un journal de pêche et déclarer les captures, conformément aux dispositions réglementaires en vigueur.
- Le navire est soumis à l'obligation de disposer à bord d'un système de positionnement et de localisation continue utilisant les communications par satellite pour la transmission des données, conformément à la réglementation en vigueur.

Signature de l'Armateur ou du Capitaine

Fait à ..... Le .....

Le Délégué des Pêches Maritimes

Source: Moroccan authorities.
Figure 24 – *Example of fishing licence*

Step 3) Check the regional fisheries management organisation's records of authorisation

A fishing authorisation is issued by national authorities in addition to its fishing licence to regulate which species managed by a RFMO may be caught, which fishing gear is permitted and where or when a vessel may fish.

In the Mediterranean Sea, an authorisation is necessary in ICCAT and GFCM management areas. Fishing authorisations in the ICCAT area should be issued for vessels and traps fishing bluefin tuna, swordfish and albacore tuna. All other vessels, such as towing vessels, auxiliary vessels and support vessels, should be registered in the ICCAT record of fishing vessels in the 'Other vessels' list.

In the GFCM area, all fishing vessels larger than 15 metres length overall should be authorised in order to fish in the area. However, vessels operating in areas subject to a management plan and fishing restricted areas should be also authorised regardless of their length.

In these fisheries and zones, fishing activities may only be carried out in accordance with a valid fishing authorisation issued to the vessel.

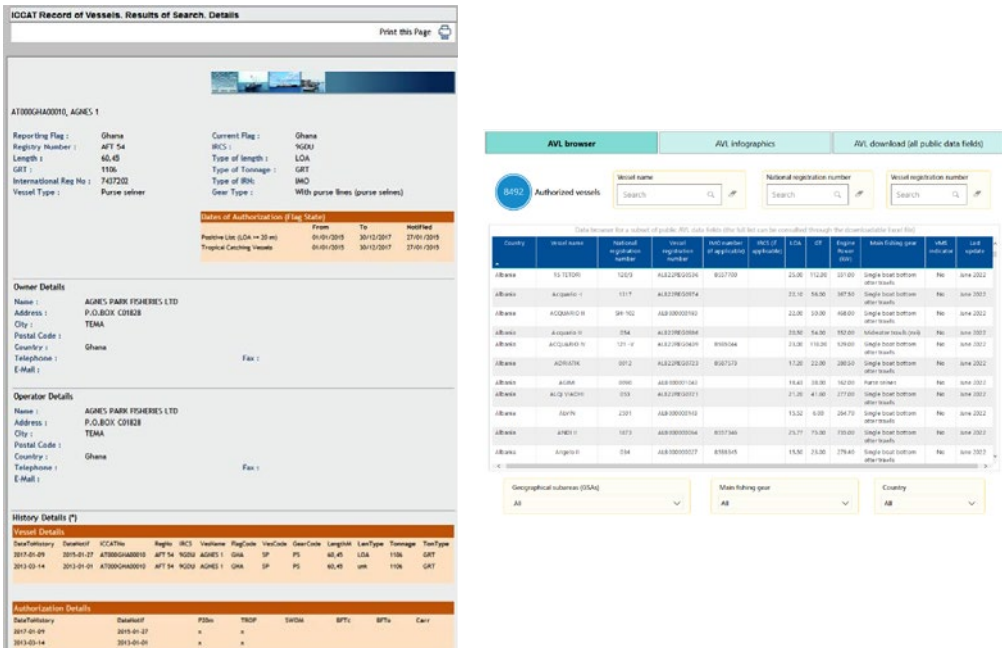
In general, a paper copy of the authorisation is carried on board the vessel. The fishing authorisation document may include the vessel characteristics, such as length and engine power, the period of validity, authorised species, fishing zones and gear. The issued authorisations may be accessed from the websites of the relevant RFMOs in the area.

The authorisation from the RFMO record should be verified on the RFMO website. The details on the authorisation issued by the flag state (for example the declared method of fishing) should be cross-checked against the characteristics of the vessel.

Links to the RFMO websites

ICCAT: https://www.iccat.int/en/VesselsRecord.asp

GFCM: https://www.fao.org/gfcm/data/fleet/avl



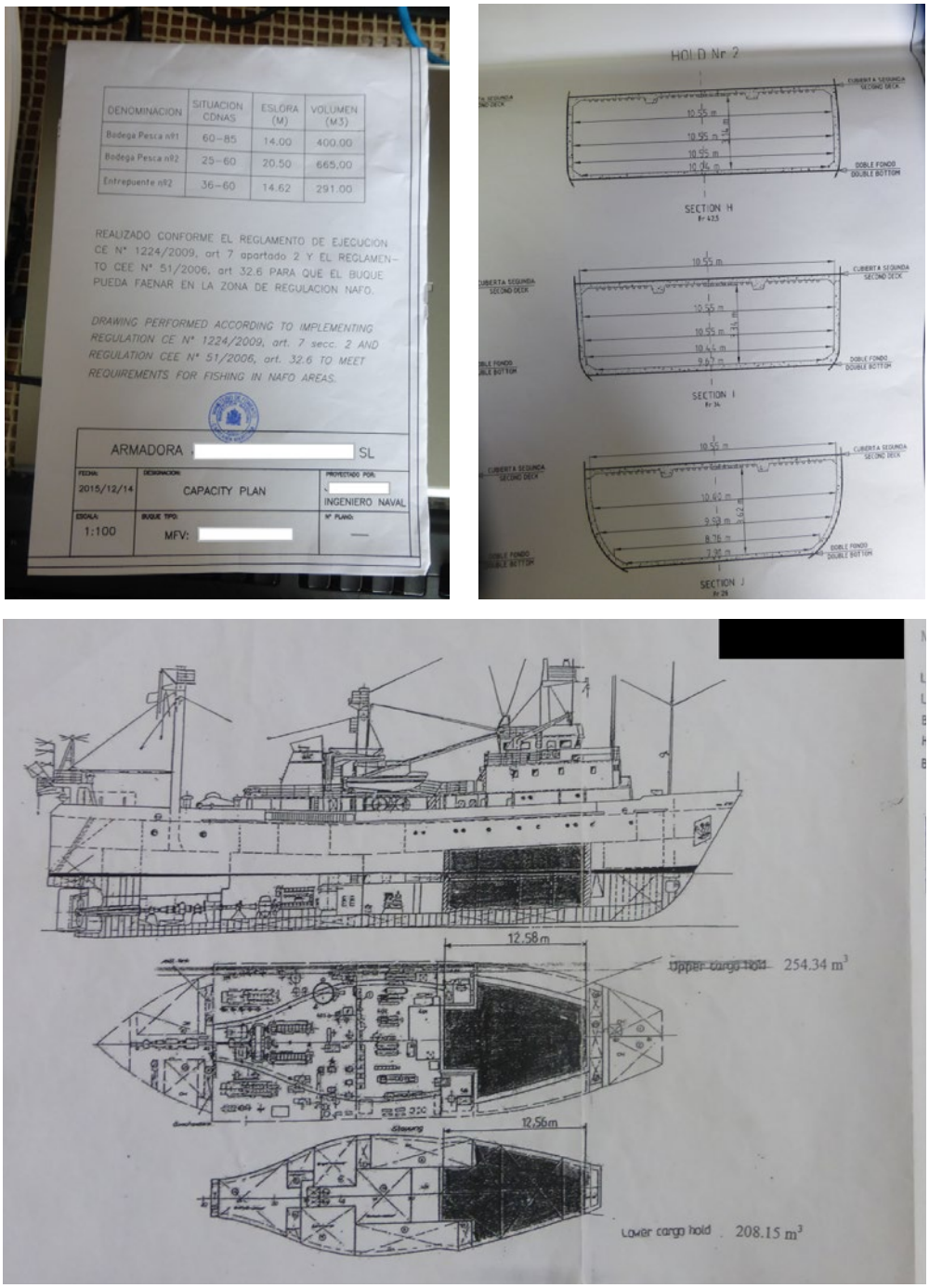
Source: ICCAT and GFCM websites.

Figure 25 – *ICCAT and GFCM record of vessels / fishing authorisations*

Step 4) Check the fish hold certificate/plan

A fish room certificate or capacity plan is a certified document issued by the flag state showing accurate drawings and a description of the fish holds (storage spaces) and the access points to these spaces. It includes the storage capacity of the fish rooms in cubic metres.

The fish hold plan should be checked to ensure it accounts for all the possible fish stowage spaces and that there are no other hidden spaces that could be used to store fish. The fish hold plan can also be used in the evaluation of the catches on board (see Module 5).



Source: EFCA.

Figure 26 – *Fish hold certificates / capacity plans*

Source: EFCA.

Figure 27 – *Example of a hidden fish compartment*

Part A. Introduction

This module is about the information related to the vessel's fishing activities, fishing trips, catches, transhipments, landings and other information that the master should provide to the control authorities.

Following assessment of these documents, inspectors should be able to detect potential suspicious activities or non-compliances with applicable rules and focus their inspection activity on these targets.

Part B. Methodology

The methodology given below suggests a step-by-step process to be followed in chronological order. However, individual inspection circumstances may dictate a different order of events.

Step 1) Verify vessel monitoring system and automatic identification system information

- **VMS**

The vessel monitoring system (VMS) is a satellite-based method of transmitting position, course and speed data from a fishing vessel to the FMC flag state and to the coastal state if the vessel is operating in its exclusive economic zone (EEZ) under a licence granted by the aforementioned coastal state.

Even though mainly satellite systems are used, it is possible to use hybrid solutions incorporating a General Packet Radio Service (GPRS) modem.

The frequency of VMS transmissions is set by the flag state or by the rules applicable in the convention area of an RFMO.

The following table shows a summary of technical requirements for VMS in the ICCAT and GFCM management area in the Mediterranean Sea.

	ICCAT	GFCM
Vessels covered by VMS requirements	Vessels of over 15 metres. Towing vessels irrespective of their length.	Vessels of over 15 metres ([4]).
Type of information transmitted	Vessel identification: position, date and time.	Vessel identification: position, date and time, speed and course.
Transmission frequency	Hourly for purse seiners and towing vessels. Every 2 hours for other vessels.	Every 2 hours.
Requirements in the event of a technical or operational failure of the VMS during a fishing trip	Communication of all information once a day. Towing vessels geographical coordinates every 1 hour.	Obligation to transmit information every 4 hours by other means.
VMS installation requirements	Each Member State must ensure the proper installation of the system.	Installation of VMS in a sealed compartment with official seal.

Figure 28 – *Summary of specific technical provisions of ICCAT and GFCM*

VMS is a very powerful tool that allows the competent authorities to monitor fishing vessels in near real time, to target control and to check the historical positions of a fishing vessel.

Inspectors, with the assistance of their FMC, should cross-check VMS/AIS information against the logbook entries. For example, if the logbook records fish caught in a certain area, then a VMS/AIS position would be expected from that area.

It should be also taken into consideration that VMS signals may only be transmitted every 2 hours, thus enabling possible fishing activity to be carried out in that two-hour period.

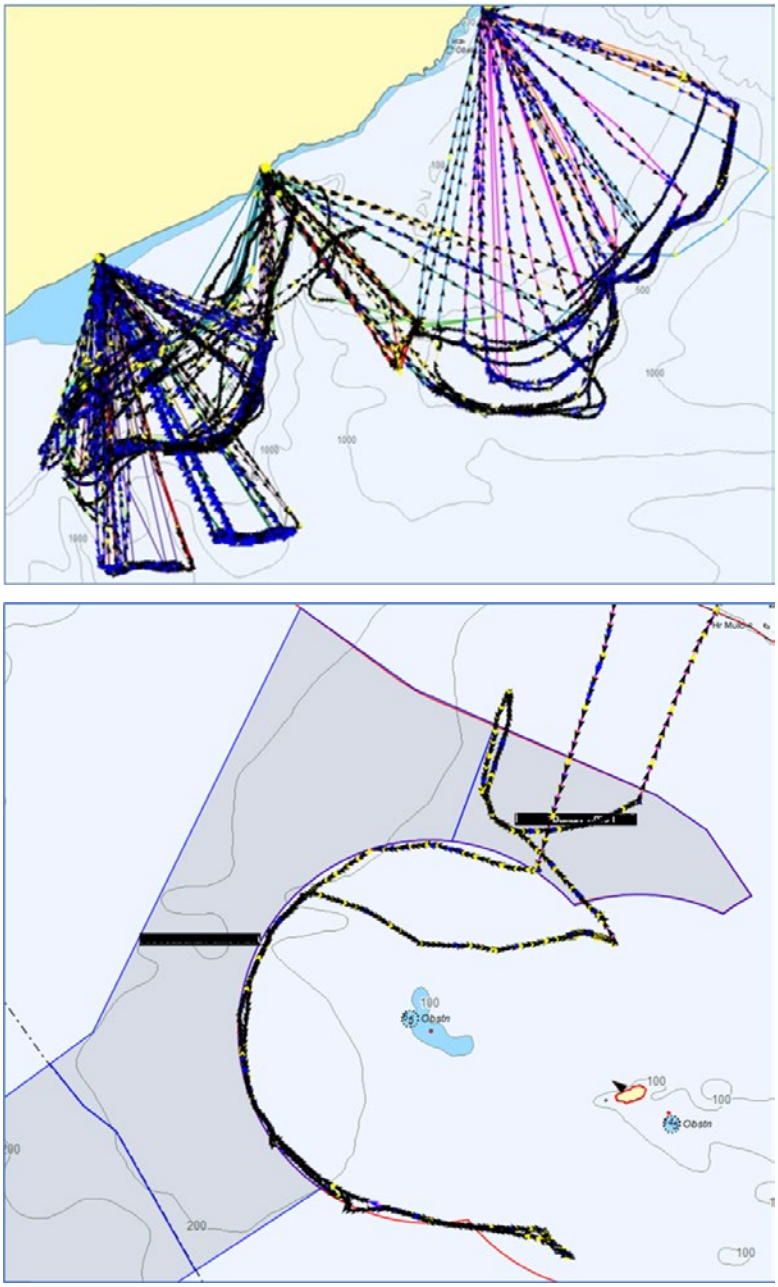
- **AIS**

An automatic identification system (AIS) is a ship position reporting system based on the transmission of messages from an on-board transponder and the receipt of messages from other vessels or land-based systems.

One of the strengths of AIS is that it has a higher frequency of transmissions than VMS, which can be measured in seconds and used to cover gaps in the VMS transmission.

The accuracy of the VMS position of the fishing vessel can be verified in real time by polling its VMS (either directly if the inspection vessel has access to the VMS system or indirectly via the FMC) and at the same time taking an AIS reading.

([4]) Apart from the Recommendation GFCM/33/2009/7, in the GFCM areas under management plans, different conditions may be required for authorised vessels



Source: EFCA.

Figure 29 – *Examples of AIS information used for basic behaviour monitoring*

- **Verify VMS/AIS data with entry and exit notifications**

Entry and exit notifications are messages from a fishing vessel that are sent to the coastal state when the vessel enters or exits a fishing zone, such as the EEZ.

These messages are meant to enable the authorities to monitor the presence of the vessel inside the fishing zone against the conditions given in the authorisation to fish, and to assist in monitoring, control and surveillance operations (for instance by making sure that the vessel that has sent an entry report can be seen on the VMS). Typically, there is a time limit within which the notification must be made, for example within 6 hours of entry or exit. The time and position of entry or exit, and details of the fish on board are also required.

With the assistance of the FMC, the inspector should cross-check data from VMS/AIS, logbooks and any intelligence including sightings, against the information given in any entry or exit notifications and vice versa.

- **Verification of the action taken by the master in case of VMS failure at sea**

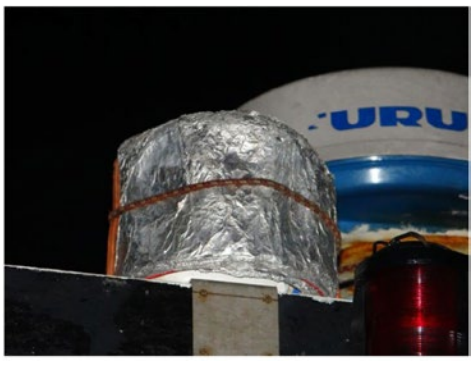
If there is no VMS data arriving from an individual vessel, either the equipment on board the vessel has malfunctioned or a transmission error has occurred between the vessel and the FMC. The inspector should check, via the FMC, whether the master has been informed of the VMS failure and has sent alternative manual position reports in accordance with the specific technical provisions of ICCAT and GFCM (figure 28).

If the master considers that the VMS equipment on board the vessel is functioning, the inspector should visually examine the VMS equipment, including the external antenna, looking for damage and taking photographs if necessary.

Source: Directorate-General for Natural Resources, Safety and Maritime Services.

Figure 30 – *Examples of a VMS antenna (left) and transceiver (right)*

This system, like all electronic systems, may sustain damage or sabotage to prevent it from properly transmitting its signal. Indeed, captains wishing to hide potential illegal activities can tamper with the power supply of their VMS or the transmission system. Figure 32 shows an example of a switch put in place to disrupt the system.



Source: FMC France.

Figure 31 – *Example of a masked VMS antenna*

Source: IOTC.

Figure 32 – *VMS junction box with an on/off switch*

The vessel's master/crew may also interfere with the transmission means. Antenna cables can be damaged by becoming 'snagged' on another piece of equipment. Another popular way to interfere with the transmission is by placing a metal bucket over the antenna, blocking the signal. Alternatively, a piece of aluminium foil may be wrapped around the antenna to achieve the same effect.

If the VMS equipment on board appears to be in good order, the inspector should ask the FMC to verify the data stream in order to identify the problem.

In some cases, VMS signal manipulation should be considered. For example, if the VMS signal is not interrupted but the vessel position at sea does not match with the received VMS position. The VMS signal could be manipulated with the use of an electronic application which modifies the GPS information transmitted to the system, and then transmits false positions.

It is important to confirm if any malfunction occurred during the trip. If it occurred during a previous trip, the legislation in force might expect that the vessel should not have left port until the VMS equipment had been repaired or replaced.

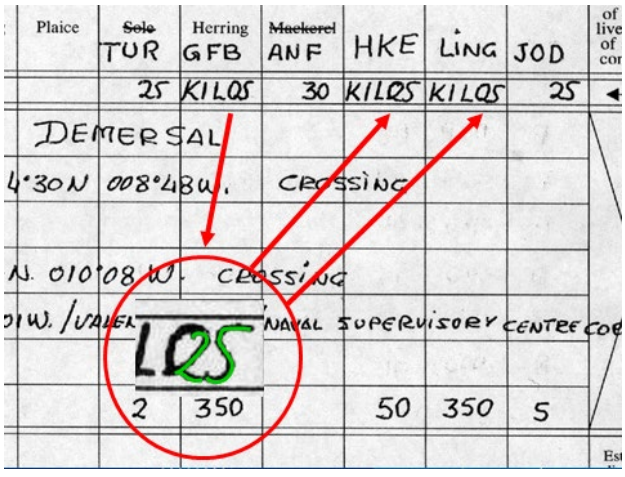
The VMS device may only be switched off in port if the fishing vessel flag state FMC has been notified in advance and when the VMS device is switched on again the fishing vessel is in the same position as it was in when the VMS device was switched off.

Step 2) Verify logbook entries

A fishing logbook is a record of catches and other information such as the location or zone of catch and fishing gear used. Depending on the applicable rules, the logbook may be in paper or electronic (ERS) form. It must be submitted to the national authorities within a specified time limit, either close to real time, usually before entering into the port or after the fishing trip when a paper logbook is used.

- **Paper logbook**

The format of the paper logbook varies between flag states. In general, paper logbooks are printed in a standard format and each sheet is numbered with a country code and a unique serial number. Each page has at least one carbon copy, the original page is for submission to the flag state and at least one copy should remain attached to the logbook. Minimum standard information for the logbook is listed in Annex 5.



Source: Marine Management Organisation.

Figure 33 – *Example of irregular handwritten changes introduced in the logbook figures*

- **Electronic logbook**

The ERS is a system used to electronically record, store and send fisheries data (catch, landing, sales and transhipment). In the EU context, it is compulsory on board EU vessels of 12 metres length overall and greater. In the ICCAT and GFCM context, it is not an obligation. The key element of the ERS is the electronic logbook where the master of a fishing vessel keeps a record of fishing operations. The same data elements must be entered into the on-board ERS as with a paper logbook, but there is no standard layout,

however rules concerning the minimum standard information for logbooks are laid down by ICCAT and GFCM (see Annex 5).

The main difference between an on-board ERS and a paper logbook is that the data is transmitted to a server hub in the flag state and is made immediately available to inspectors, who will then have the ability to view logbook data before the inspection.

The ERS data is always sent from the fishing vessel to the flag state. Depending on existing agreements, the data may also be accessible to the coastal state if the vessel is present in the waters of that state.

In the event of equipment failure on board the fishing vessel which prevents the master from submitting the required reports electronically, the master is obliged to submit the reports by any other means to the FMC.

During an inspection, of either a paper or an electronic logbook, inspectors should apply the following procedure:

- ask the master to update the logbook;
- compare the recorded data for the identity of the vessel and the master with the vessel's certificate of registry and the master's identification document;
- compare the assessment (see Module 5 for assessment of catches) of the catch on board or landed with the quantities entered in the logbook;
- check the quantities of species below the applicable minimum size;
- compare the recorded fishing activity, including any notifications, with the fishing authorisations and VMS/AIS/GPS records for the vessel;
- look for any fishing position from the previous trip(s) which would match with a prohibited area;
- compare the recorded fishing gear with the observed gear;
- compare the fishing logbook with the production logbook, if available;
- look for any mention of protected species;
- pay specific attention to corrections made by the master in order to make sure these corrections were made in due form and not to conceal an infringement.

Step 3) Verify prior notifications and landing/transhipment declaration

- **Prior notification of return to port / transhipment**

As part of the implementation of the PSMA, masters of foreign fishing vessels must send prior notification (see Annex 1 PSMA template) of entry into port to the state in which they wish to land or tranship their catches, in a designated port.

The deadline for sending the prior notification should be established by national law, providing sufficient time to allow an inspection to be planned in the most effective way.

In addition to PSMA requirements, ICCAT has put in place more restrictive measures. In accordance with the ICCAT recommendations ([5]), all landings of bluefin tuna and swordfish are subject to prior notification ([6]), which should be sent at least 4 hours in advance of arrival into the port for bluefin tuna landings.

In the GFCM area, for the vessels not flying port state flag in accordance with the recommendation ([7]), prior notification is required at least 72 hours in advance.

The minimum required information that should be submitted to the port authorities is specified in ICCAT and GFCM applicable rules (see figures 34(a) and 34(b)).

It is important to note that the notification specifies the time that the vessel first arrives in port and not the time the vessel is to start to land its catch. This way, the inspector can be present to observe the physical arrival of the vessel in port thereby avoiding the possibility of the vessel landing an unobserved catch.

([5]) ICCAT Recommendation 2022-08, ICCAT Recommendation 2016-05.

([6]) ICCAT Recommendation 2022-08.

([7]) GFCM/40/2016/1.

PORT ENTRY PRIOR NOTIFICATION FORM

Information to be provided in advance by vessels requesting port entry

1 Intended port of call					
2 Port State					
3 Estimated date and time of arrival	_____/_____/_____ _____H_____mn				
4 Purpose(s)					
5 Port and date of last port call	_____/_____/_____				
6 Name of the vessel		7 Flag State			
8 Type of vessel		9 IRCS			
10 Vessel contact information					
11 Vessel owner(s)					
12 Certificate of registry ID		13 IMO ID			
14 External ID		15 ICCAT ID			
16 VMS	□ No □ Yes	Type:			
17 Vessel dimensions	Length		Beam		Draft
18 Vessel master name and nationality					

19 Relevant fishing authorization(s)

Identifier	*Issued by*	*Validity*	*Fishing area(s)*	*Species*	*Gear*

20 Relevant transshipment authorization(s)

Identifier	*Issued by*	*Validity*

21 Transshipment information concerning donor vessels

Date	*Location*	*Name*	*Flag State*	*ID number*	*Species*	*Product form*	*Catch area*	*Quantity*

22 Total catch onboard				23 Catch to be landed / transhipped
Species	*Product form*	*Catch area*	*Quantity (kg)*	*Quantity (kg)*

Figure 34(a) – *Prior notice of entry into port, ICCAT template*

Information to be provided in advance by vessels requesting port entry						
1. Intended port of call						
2. Port state						
3. Estimated date and time of arrival						
4. Purpose(s)						
5. Port and date of last port call						
6. Name of the vessel						
7. Flag state						
8. Type of vessel						
9. International radio call sign						
10. Vessel contact information						
11. Vessel owner(s)						
12. Certificate of registry ID						
13. IMO ship ID, if available						
14. External ID, if available						
15. RFMO ID, if applicable						
16. VMS	No	Yes: National	Yes: RFMO(s)	Type:		
17. Vessel dimensions	Length		Beam		Draft	
18. Vessel master name and nationality						

19. Relevant fishing authorisation(s)					
Identifier	*Issued by*	*Validity*	*Fishing area(s)*	*Species*	*Gear*

20. Relevant transhipment authorisation(s)					
Identifier		*Issued by*		*Validity*	
Identifier		*Issued by*		*Validity*	

21. Transhipment information concerning donor vessels								
Date	*Location*	*Name*	*Flag state*	*ID number*	*Species*	*Product form*	*Catch area*	*Quantity*

22. Total catch on board			**23. Catch to be offloaded**	
Species	*Product form*	*Catch area*	*Quantity*	*Quantity*

Figure 34(b) – *Prior notice of entry into port, GFCM template*

In the Mediterranean Sea, transhipment of tuna and tuna-like species in designated ports is subject to transhipment authorisation issued by the flag state authorities. Transhipment authorisation shall be granted following reception of prior authorisation and with regard to receiving vessels authorised to carry tuna and tuna-like species.

The request for prior authorisation should be sent by the master of the donor vessel and contain information concerning the geographic location of the catches, the quantities of fisheries products to be transhipped, place of the transhipment, date and time and information of the receiving vessel.

An original or copy of the authorisation should be available on board the donor vessel.

- **Landing/transhipment declaration**

The landing or transhipment declaration may be required in addition to the declarations made in the logbook. These declarations are made after the landing/transhipment of the catch and/or fisheries products is completed.

- **Landing declaration**

The landing declaration, either in paper or electronic form, shall be completed after the landing of the catch has ended. A landing declaration accurately documents all quantities and all species that are landed and may be used to verify the fishing logbook entries. However, when there is no specific requirement for fishing vessels to submit a landing declaration, catch declared in the prior notification could be used to verify the fishing logbook.

Landings of bluefin tuna catches are subject to a landing declaration, which should be submitted after the landing has ended and within the given time constraints.

If the landing declaration is available to the inspector, the following checks may be made.

— verify if the declaration has been made within the required time limit.
— compare the landing declaration with the fishing logbook entries.
— compare the observed catch landed with the quantities entered in the landing declaration (where applicable).
— compare the landing declaration with the production logbook, if available. All these quantities should be recorded in terms of product weight or stowed weight after any processing. The comparison should be made for each presentation of each species as these should be separately recorded.
— convert the quantities recorded in the landing declaration to live weight equivalent.

- **Transhipment declaration**

The transhipment declaration is a document that may be requested from the donor and the receiving vessels after the transhipment. It indicates that the transhipment took place and states the quantities that have been transhipped.

The minimum required information for the transhipment declaration are specified by applicable rules in the ICCAT and GFCM area in the Mediterranean Sea (see Annex 9 for an example of ICCAT transhipment declaration).

If the transhipment declaration is made available, the following checks may be made.

— verify if the declaration has been made within the required time limit.
— compare the transhipment declaration with the fishing logbook.
— cross-check the transhipped quantities calculated or observed against those entered by the masters in the transhipment declaration (where applicable).
— cross-check the transhipment declaration against the electronic bluefin tuna catch document (eBCD) (where applicable).

Step 4) Verify other catch records

The inspector may look at other records of the catch on board a fishing vessel that can assist in an inspection.

- **Production logbook**

A production logbook is used to record the daily cumulative catch in the processed form as stowed, and the method of production. For example, the weight of fish with the guts removed or as fillets. This differs to the fishing log, which records the daily catch in live weight equivalent.

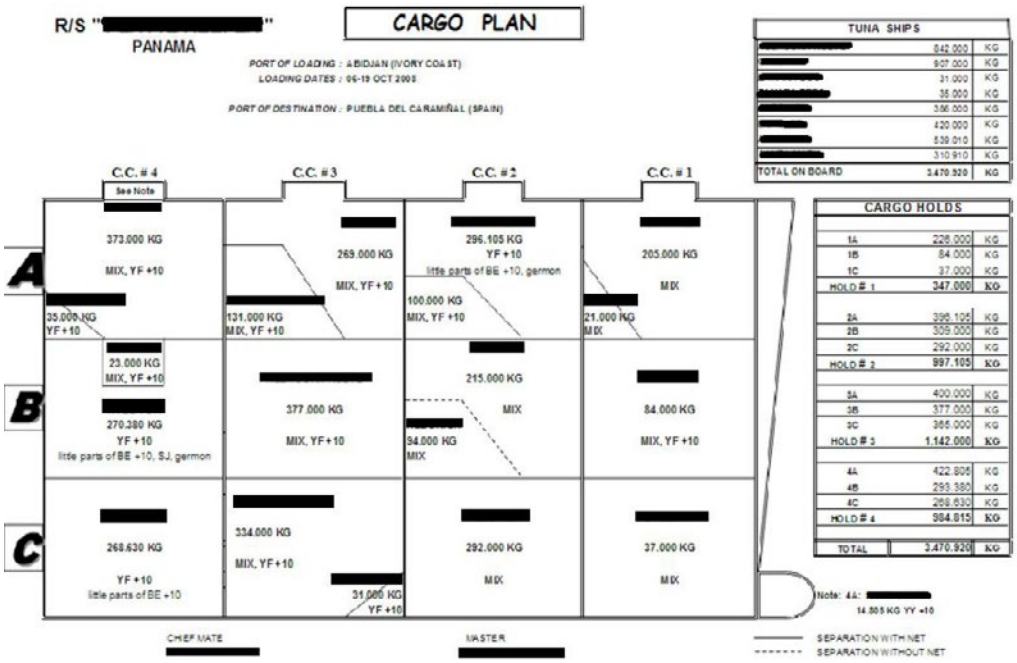
The inspector may compare the production logbook with the fishing logbook and the assessment of the on-board or landed catch.

- **Stowage or well plan**

A stowage plan is a document that describes the location of the different species in the hold. It should be sufficiently clear for the inspector to be able to use it to find the different species in the hold. For example, a drawing showing a plan view of the hold and the names of the species may be sufficient. For larger holds, where the species may be different at different levels, there will also need to be an indication of the vertical location of the fish (see Figure 35).

A stowage plan on a vessel that uses refrigerated seawater (RSW) tanks to store fish is sometimes called a well plan.

The inspector may use the stowage plan in the assessment of the on-board or landed catch.



Source: EFCA.

Figure 35 – *Example of a reefer vessel stowage plan*

- **Labelling**

Labels are applied to fishery products to identify the vessel, species, weight, production method and the date and zone of capture (see Figure 36).

Not all labels will show all this information and some labels may show other data such as serial numbers and bar codes. Labels are more likely to be used on frozen products

for reasons of traceability but may also be seen on fresh fish, especially when the fish has been weighed at sea and is to be sold by direct contract.

Source: EFCA.
Figure 36 – *Examples of labels on boxes of frozen fish*

Labels may be used by inspectors to assist in the assessment of on-board or landed catch and to compare with the records of dates and zones of capture in the logbook.

- **Private notebooks**

Sometimes private notebooks containing details regarding daily fishing strategies and catches can be found in the wheelhouse and can provide information to be cross-checked against the logbook, for instance, in order to check that the catches recorded correlate. Note that a private notebook is not a legal document and care should be taken with the admissibility of any information seen in a private notebook.

Step 5) Verify declarations required from the master of catching vessels in the ICCAT management area

- **Logbook**

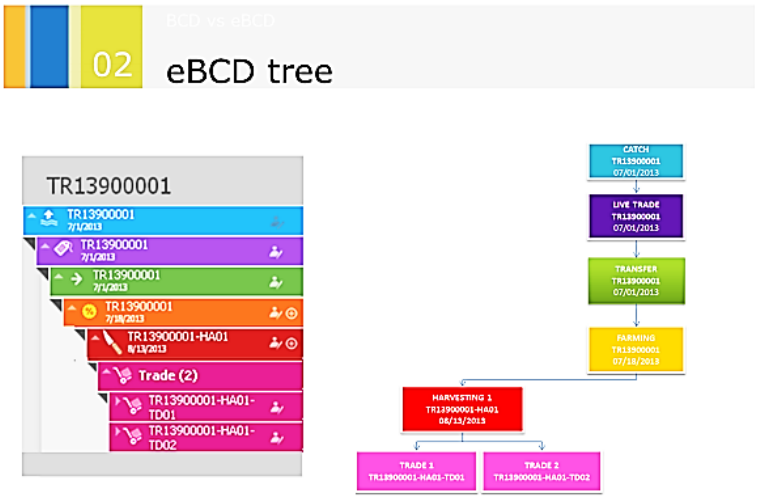
The logbooks of the catching vessels fishing bluefin tuna include additional requirements regarding the submission of data and the information that should be recorded (see Annex 5). In particular, additional information is required for the fishing activities of purse seiner vessels catching live bluefin tuna, such as information on the fishing activities of other vessels involved in joint fishing operations, transfer information and position, even if no fishing activities have been carried out during the day.

Source: EFCA.

Figure 37 – *Joint fishing operation*

- **Electronic bluefin tuna catch document**

The eBCD is a document issued for the purpose of identifying the origin of bluefin tuna and should accompany each bluefin tuna from catching or harvesting to the retail stage ([8]). In order to ensure the traceability of each bluefin tuna, eBCDs are numbered with a unique numbering system which includes a code for each action taken. In addition, different information should be recorded by users, such as catching and towing vessels information, traps information, quantities in number and weight of live and dead fish, farms and farming information, and trade information.



Source: ICCAT.

Figure 38 – *eBCD tree*

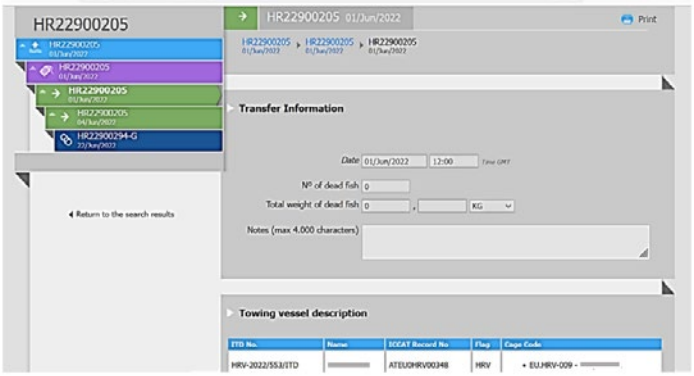
([8]) ICCAT Recommendation 2018-13.

Each eBCD must be completed by entering the required information in the appropriate sections and be validated by an authorised government official.

The following sections are available:

- catch information,
- trade information for live fish trade,
- transfer information,
- transhipment information,
- farming information,
- harvesting information,
- trade information.

The example in Figure 39 presents an eBCD with catch, first transfer and further transfer information in advance of the caging operation.



Source: ICCAT.

Figure 39 – *eBCD example*

The eBCD system was developed to manage eBCDs and can be accessed by authorised users on this website: https://etuna.iccat.int

Although the ICCAT recommendation makes the use of an eBCD mandatory, access to the eBCD system is not always available to the control authorities, thus it is recommended to have a printed copy of the eBCD available on board for control purposes.

- **ICCAT transfer declaration**

The ICCAT transfer declaration (ITD) is a document that must be completed after each transfer operation. The information that should be recorded in the ITD gives details on the donor and receiving operator, information of the transfer operations, quantities of transferred live fish and mortalities, reference to the required declarations and authorisations and observer information.

The donor operator is responsible for completing the ITD. The terms 'donor operator' refer to the master of the catching or towing vessel, or the representative of a farm or trap, from which a transfer operation originates.

The ITD is a paper format document printed in a standard format and numbered by a unique numbering system, using the letters CPC code, followed by the numbers of the year, the sequential numbers and the three letters ITD (CPC- 20**/xxx/ITD), for example, ESP-2022/014/ITD (see Annex 17).

Each page has several carbon copies while the original page accompanies the transferred fish to the destination farm and the copies of the ITD remain on board the donor vessels. The copy of the ITD must be accessible for control purposes at any time during the fishing campaign.

The ITD should be signed by the ICCAT regional observer who confirms with his/her signature that the transfer operation has been carried out in accordance with the applicable rules.

The main objectives of the transfer inspection are to verify:

(1) whether the transfer operation is authorised and carried out in accordance with the applicable rules; and

(2) that the quantities of fish transferred have been correctly estimated and recorded.

During the inspection, inspectors should pay particular attention to the difference between the number of fish reported in the ITD by the donor operator and the number of fish estimated by the observer, or when the ICCAT regional observer has not signed the ITD.

The inspection procedure should include:

- checking if all relevant entry fields are recorded;
- verifying the cage number (where applicable);
- cross-checking the information declared in ITD against the information in the logbook / eBCD / daily logbook / report of fish that died during transport (where applicable) – catch, transfer and mortality data;
- cross-checking the transfer operation position / VMS position;
- cross-checking the number of bluefin tuna declared by the master against the number declared by the observer;
- calculating the difference between the number of fish reported by the master and by the regional observer (the margin of error is expressed as a percentage of the master's figures and should not exceed 10 %);
- checking if the ITD is signed by the ICCAT regional observer;
- checking any records of disagreements between the master and the ICCAT regional observer on board and the reason(s) for any disagreement;
- checking any notes of broken rules;
- checking any corrections made, in particular to the number of bluefin tuna transferred.

Step 6) Verify declarations required from the master of the non catching vessels in the ICCAT management area

During bluefin tuna fishing activities for farming purposes, 'non-catching' vessels, such as towing, auxiliary, support and processing vessels, are involved.

Towing vessels are used to tow cages containing live bluefin tuna.

Auxiliary vessels are used to transport dead bluefin tuna from the purse seine vessel, trap or farm cage to the port or processing vessel.

Support vessels are any other vessels authorised to operate in the bluefin tuna fishery to perform support tasks, however they may not transport bluefin tuna or keep any on board.

Masters of the towing, auxiliary and processing vessels are required to complete specific documents during bluefin tuna fishing activities.

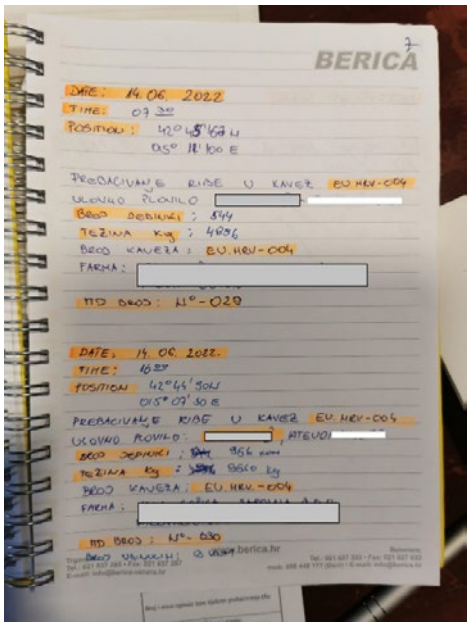
During the inspection, attention should be paid to the quantities recorded in the required documents that should be cross-checked against the logbook, eBCD, ITD and other relevant documents, depending on the activity that has been carried out.

- **Daily logbook of towing vessels**

The daily logbook contains details on all transfers carried out during the fishing season for a particular towing vessel and should be kept on board the vessel. Apart from transfer information, any unloading of dead bluefin tuna to an auxiliary vessel should also be recorded in the daily logbook. The format of the daily logbook is not prescribed and it is usually a handwritten notebook.

The following information must be recorded:

- date, time and position of transfer,
- name(s), flag(s) and ICCAT number(s) of the catching/towing/auxiliary vessel(s),
- ICCAT transfer declaration number,
- cage number,
- quantities transferred (number of fish and quantity in kg),
- farm of destination and its ICCAT number.



Source: Neda De Karina.

Figure 40 – *Daily logbook of a towing vessel*

- **Daily logbook of auxiliary vessels**

The daily logbook contains information concerning all the activities of the auxiliary vessel during the fishing season and should be kept on board the vessel.

The daily logbook should contain the following information:

- date, time and position of activity carried out;
- the quantities (number of fish and quantity in kg) of bluefin tuna transferred;
- the name of the fishing vessel, farm or trap that they are operating with.

Source: EFCA.

Figure 41 – *Auxiliary vessel*

- **Daily logbook of processing vessels**

In the context of the bluefin tuna fisheries, 'processing vessel' means a vessel on board of which bluefin tuna is subject to certain processing operations such as filleting and freezing. In order to receive bluefin tuna, a transhipment operation will be carried out and rules applicable for transhipment operation shall apply.

In addition to the processing logbook, stowage plan and transhipment requirements, the master of the processing vessel must keep a daily logbook.

Daily logbooks contain the details of all transhipments carried out during the fishing season:

— date, time, and position of activity carried out;
— the quantities (number of fish and quantity in kg) of bluefin tuna transhipped and received from farms and traps;
— the names and ICCAT numbers of fishing vessels, farms or traps.

The daily logbook should be kept on board the vessel and be accessible for control purposes.

Inspectors should cross-check information from the daily logbook, processing logbook, stowage plan and originals of ICCAT transhipment declarations.

- **Report of fish that died during further transfers and towing operations**

Any bluefin tuna that died or is considered lost during the towing operation and further transfers must be indicated in the report (see template in Annex 13) which is filled in by the master of the towing vessel.

The original of a report accompanies the fish to the destination farm and a copy of the report must be kept on board the towing vessel(s).

During an inspection, inspectors should verify the number of dead bluefin tuna recorded in the report with the observed number on board the vessel and cross-check information from the ITDs / logbook / eBCD / daily logbook.

Cross-checks of information recorded in some declarations (e.g. electronic logbook, eBCD) are feasible only if ERS and eBCD systems are available to the control authorities during the inspection. Otherwise, the required information should be cross-checked with the assistance of the FMC.

Part A. Introduction

This module covers the verification of accuracy of the quantities recorded by the master and the conformity of the catch.

Note that for the completion of the tasks considered in this module it is important that the inspector is able to identify the most important commercial species of fish that are likely to be encountered in their normal area of operation.

Part B. Methodology

The methodology given below suggests a step-by-step process to be followed in chronological order. However, individual inspection circumstances may dictate a different order of events.

Step 1) Identify species on board

The inspector should begin by establishing the identity of each of the species held on board.

Source: EFCA.

Figure 42 – *Unloading of a cargo vessel*

The ICCAT species identification manual provides extremely useful tips for identifying the most common oceanic sharks, tunas and billfishes ([9]).

Step 2) Verify the quantity of fish on board

The master's declarations of the weights of fishery products are typically in live weight equivalent; i.e. the weight of the fishery products when they were alive and before they were processed.

([9]) https://www.iccat.int/en/iccatmanual.html.

In order to verify the accuracy of the logbook entries, it is necessary to determine the weight of each species of fish on board. The quantity of fish may be expressed as the total weight of an individual species, in live equivalent weight or processed weight, or the total number of individual fish of an individual species.

Note that fishery products stowed on board may be held in many different forms; they may be stowed in bulk, boxed or in containers; they may also be either fresh or frozen. Bulk pelagic species may be held in RSW tanks.

The processed weight of each of the species retained on board should be established by one of the following methods.

- **Direct weighing**

Weighing the total weight using one of the following weighing methods.

— an on-board weighing system.
— the inspector's own scales, either mechanical or electronic.
— shore-based weighing systems, either mechanical or electronic; these may include a sophisticated conveyor belt system used by processors, market scales or more simply, scales attached to the unloading cranes.
— fish held in RSW tanks. The tanks should be dipped with a weight attached to a rope, which is lowered into the tank until it touches the fish settled in the water inside the tank. The distance should be measured from the top of the tank to the fish and the contents of the tank calculated using the vessel's fish hold plan.

- **Determining the processed weight**

There are two principal methods of estimating weights, described below.

— **Volumetric estimation.** Measure the volume of the product and multiply it by the bulk density to give the total weight. The bulk density is the weight of a given volume (tonnes per cubic metre). It may already be known or may have to be calculated by the inspector by taking a representative sample and measuring its weight and volume.

Stowage conversion factor = weight of sample / volume of sample

Example 1: A sample bin is taken from a catch of a particular species, the bin measures 1.5 m × 1.5 m × 1.0 m and the fish in the bin weigh 1 753 kg.

Volume of bin = 1.5 m × 1.5 m × 1.0 m = 2.25 m^3

Stowage conversion factor = 1 753 ÷ 2.25 kg/m^3 = 779.1 kg/m^3

When the hold is nearly full, it may be easier to arrive at the volume of the fishery's products by measuring the free space in the hold and deducting this from the declared volume on the vessel's fish hold plans.
Irregular shaped holds should be taken into consideration, which may cause the volume to be less than that observed.

Product weight = volume of product × stowage factor

Example 2: Using the scenario from Example 1, the total volume of the catch on board is estimated at 52.3 m^3.

Product weight = 52.3 m^3 × 779.1 kg/m^3 = 40 746.93 kg = 40.75 tonnes

Note that the bulk density will vary according to the species and that in most cases the volumetric estimation will only provide a very rough estimate of the quantities on board. Therefore, this methodology should be mainly used as a way to detect blatant discrepancies.

— **Average weight estimation.** Count the number of containers of fish or individual fish and multiply it by the average weight of the container or individual fish to find the total weight.

Example 3: An inspector has counted the total number of skipjacks landed from a vessel as 1 231 individuals. A representative sample of 125 skipjacks of the same presentation is taken from the landing and weighed. The sample weighs 481 kg.

Average weight = 481 kg ÷ 125 = 3.848 kg

Total product weight = 3.848 kg × 1 231 = 4 736.9 kg

Obtaining a true representative sample can be difficult if there is a large variation in fish size. The inspector should be aware that for each species there may be more than one presentation type, i.e. the fish may be whole, gutted or filleted. The inspector should ensure that the weight of the fishery's products is the net weight, taking into account the weight of any packaging, containers or ice, for which an allowance should be made. Furthermore, the labelling of boxes should not be taken on trust; the contents of a random sample of boxes should be checked against the weight and species declared on the boxes.

- **From processed weight to live weight equivalent**

Once the processed weight has been determined, it should be multiplied by a conversion factor to establish the live weight equivalent. This is the factor that needs to be applied to convert or raise the processed weight of fishery products to live weight equivalent; there is a different conversion factor corresponding to each species and presentation type.

The conversion factors will be laid down in the relevant legislation, which will be either that of the RFMO, that of the coastal state or that of the flag state.

Live weight equivalent = processed weight × conversion factor

Example 4: A vessel has landed a total catch of 6.8 tonnes of skipjack. The skipjack have been gutted and the relevant conversion factor is 1.09.

Live weight equivalent = 6.8 tonnes × 1.09 = 7.412 tonnes

In cases where the inspector has used an estimation method to arrive at the weights held on board and these estimations do not match those made by the master, the inspector should consider whether a full weighing of the relevant species may be necessary.

Step 3) Verify compliance with minimum size requirements

- **Principles**

The inspector should cross-check the measurements of the sizes of species held on board against minimum size requirements, where applicable. Minimum sizes may be specified for some species. The minimum size may be expressed as minimum lengths or weights, depending on the species concerned.

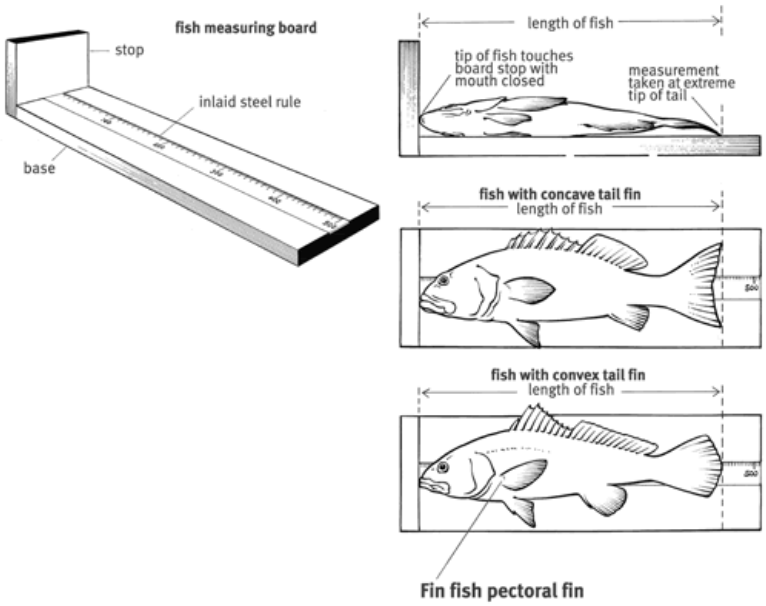
When determining the size of the marine organisms, the inspector should follow the methodology described in the relevant legislation, with regard to how the size should be determined and which measuring instrument should be used, where such requirements are specified. Where no specifications exist, then best practice would be to use a dedicated measuring board for length measurements (where practicable, depending on the size of the fish) and vernier calipers for shellfish.

- **Measurement of minimum size of a marine organism**

The method for measuring the size of a marine organism is usually laid down in the relevant legislation, normally that of the coastal state or the RFMO. Principal methods may include the following.

— **Length**. The length may be measured as either the overall length or the length between specified points on the body of the fish (such as snout to tail fork). This should be specified in the relevant legislation for that species and area of capture. For most tuna species and swordfish this is the fork length.
The main instruments used are listed below.

- For smaller species, a dedicated **measuring board** is used.



Source: EFCA.

Figure 43 – *Fish measuring board*

Source: EFCA.

Figure 44 – *Example of measuring using measuring board*

- For larger species, a **caliper** or a **tape measure** is used.

Source: IOTC.

Figure 45 – *Use of a caliper*

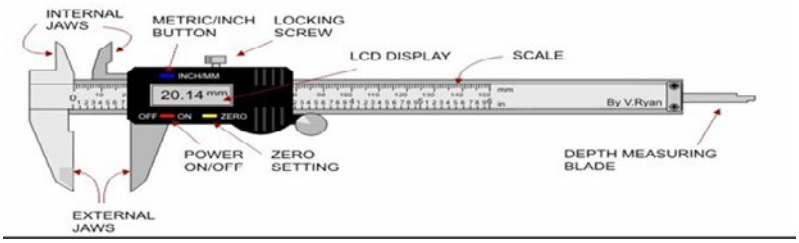
A steel or fibreglass measuring tape can also be used if there is no alternative method.

In this case, the tape must be kept straight. It should be the fish that is put on the tape and not the opposite; otherwise there is a risk, with flexible tapes, of adding undue centimetres since the tape will follow the shape of the body. A good practice is to mark the dimension of the fish to be measured on deck and then measure the marked distance.

- For shellfish and molluscs, a **shellfish gauge** is used

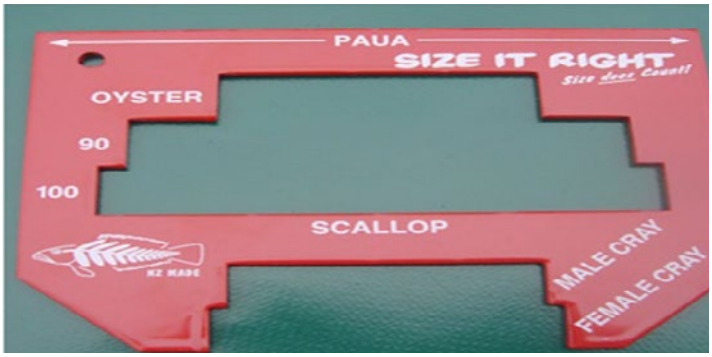
Shellfish gauges are available in various forms. Vernier gauges are the most suitable tool for obtaining the exact size of individual shellfish, although it is a time-consuming process if large numbers of catch are involved.

The external jaws are placed across the part to be measured and a reading taken off the machine to an accuracy of 1 mm. A nonelectronic vernier gauge can also be used.



Source: EFCA.

Figure 46 – *Example of a vernier shellfish gauge*



Source: EFCA.

Figure 47 – *Example of a multi-sized fixed gauge*

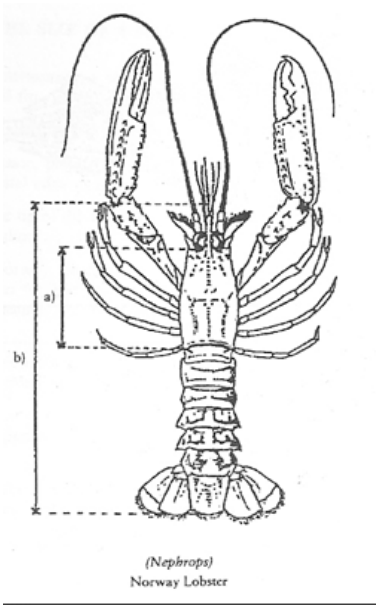
Source: EFCA.

Figure 48 – *Other examples of fixed gauges*

A shellfish **fixed gauge** is an alternative gauge consisting of a plate sized to allow under-sized catch to pass through the plate. While this type of gauge does not allow individuals to be measured precisely, it does allow large numbers of catch to be quickly measured on a pass/fail basis. The external jaws are placed across the part to be measured.

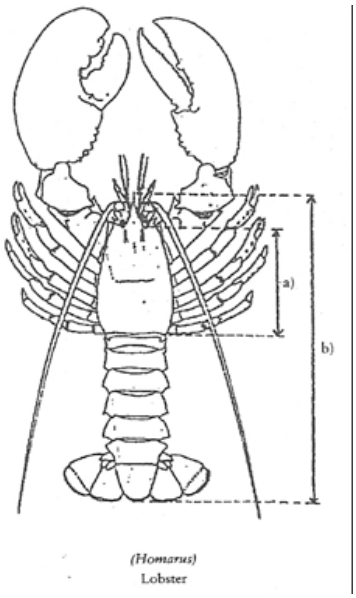
Lobsters and Norway lobsters

The size of lobster and Norway lobster is measured either as the length of the carapace, parallel to the midline, from the tip of the rostrum to the rear of the telson, not including the setae (length "b" in Figures 49 and 50), or as the total length, from the tip of the rostrum to the rear end of the telson, not including the setae (length 'b' in Figures 49 and 50).



Source: EFCA.

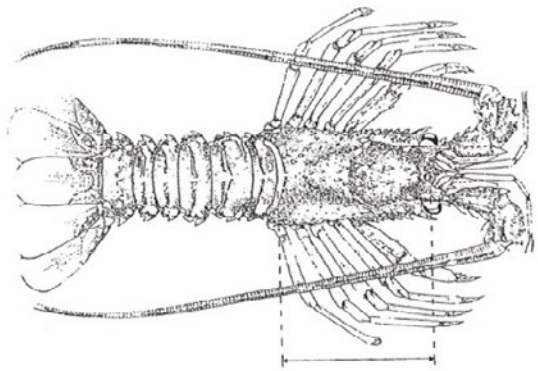
Figure 49 – *Norway lobster*



Source: EFCA.
Figure 50 – *Lobster*

Crawfish

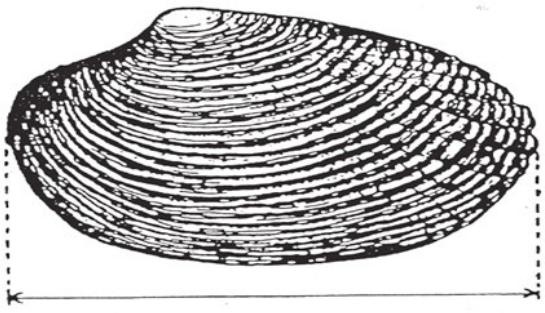
The size of crawfish shall be measured as the length of the carapace, parallel to the midline from the tip of the rostrum to the midpoint of the distal edge of the carapace (see Figure 51).



Source: EFCA.
Figure 51 – *Crawfish*

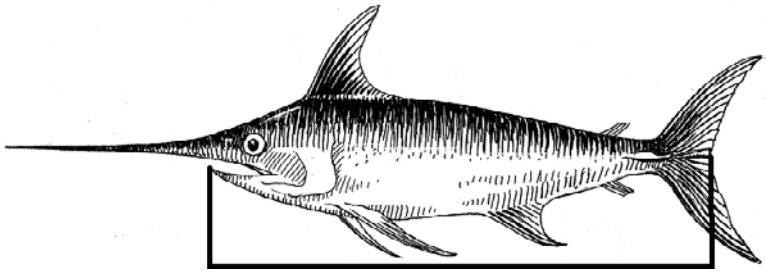
Bivalve molluscs

The size of any bivalve mollusc shall be measured across the longest part of the shell (see Figure 52).



Source: EFCA.
Figure 52 – *Bivalve molluscs (source: EFCA)*

— **Weight**. For some species, the minimum size may be expressed as the weight of either an individual fish or the total weight of a specific number of individual fish. For example, the Mediterranean swordfish (ICCAT area): minimum size 100 cm lower jaw length or 11.4 kg live weight (10.2 kg of gilled and gutted weight)**,** with a 5 % tolerance by weight and/or number of pieces per landing of the total swordfish catch of the vessel



Source: EFCA.

Figure 53 – *Measuring of swordfish*

Source: Domagoj Bojko.

Figure 54 – *Example of measuring swordfish using tape*

Step 4) Verify compliance with data recorded by the master

The inspector should cross-check their own observations or measurements of catch composition and the weights of species held on board against the data recorded by the master in the relevant vessel documents, bearing in mind the following:

— logbook. The master's estimates should correspond with those of the inspector. Being estimates, there might be a small difference.

— landing declaration. In cases where a landing declaration is to be completed, the actual quantities of fish landed must be recorded by the master. The inspector should check that these figures match with estimates made in the logbook, taking into account any legal margin of error, which would allow for limited variations between the master's estimates and actual weights.

Step 5) Verify compliance with permitted catches and/or fishing opportunities

Inspectors should cross-check their own observations or measurements of catch composition and the weights of species retained on board against the permitted catches laid down in the vessel's authorisation and/or fishing opportunities, bearing in mind the following.

— The catch limits may not be on a trip-by-trip basis but may be for a longer period, such as monthly or annual. In such cases, the inspector will have to check the historical catch records of the vessel or of the fleet to which it belongs to ensure compliance.

— historical records may not be readily available to the inspector; in such cases, the inspector will have to refer the matter to the relevant administration (usually FMC) for further cross-checks on quota consumption (where applicable).
— the applicable by-catch rules for species covered with catch limits/quotas established by national regulations in accordance with the ICCAT recommendations. All quantities of by-catch must be reported and deducted from the quota. For example, by-catch of the bluefin tuna in the Mediterranean Sea should never exceed 20 % of the total catches on board at the end of each fishing trip.

In the GFCM area of application covered by management plans, by-catch rules for non-authorised vessels are established. In the Levant Sea and the Ionian Sea, the catch of species covered by management plans (giant red shrimp and blue and red shrimp) should not exceed 3 % of the total live weight of catch retained on board.

Step 6) Verify the existence of protected species and temporarily prohibited catches

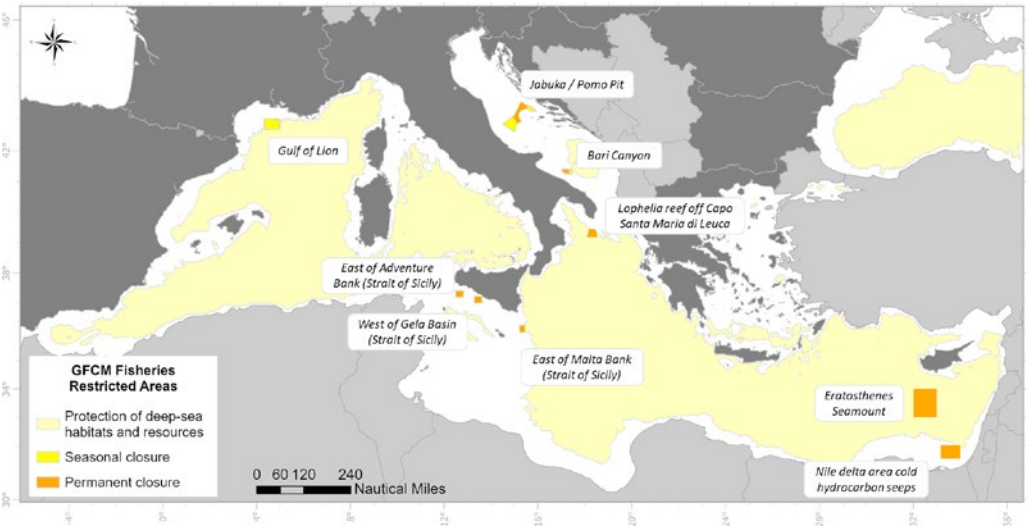
In the course of an inspection of the catch retained on board, the inspector should check for the existence of any protected species and temporarily prohibited species and check figures recorded in the logbook.

Even if temporarily prohibited species have been properly recorded, the inspector should check they have not been caught during the closed period or in the closed area. For that purpose, VMS/AIS information should be closely checked for any fishing position which would match with a prohibited area. The assistance of the FMC could be necessary for these cross-checks.

In the Mediterranean Sea, ICCAT and GFCM have established closed seasons, closed areas and fishing restricted areas for species covered by management plans.

In the ICCAT area, a closed season has been established for bluefin and albacore tuna, and swordfish. During that period, it is not allowed to catch (either as a targeted species or as by-catch), retain on board, tranship, transfer (where applicable) or land any of these species.

The GFCM has established fishery restricted areas (FRA) where fishing activities are temporarily or permanently either prohibited or restricted. The restrictions are in general associated with the type of gear, fishing effort, mesh size, landing ports, fishing authorisation and VMS/AIS.



Source: EFCA.

Figure 55 – *Chart with GFCM FRAs*

The inspector should also check specific rules applying to protected species such as turtles, sea birds and sharks. In the ICCAT and GFCM management areas, specific measures for mitigation of by-catch and mortality have been established. These measures recommend the use of specific types of bait and large circle hooks, the use of bird-scaring lines, the setting of longlines only at night, etc.

In this regard, specific attention should be paid to the practice of shark finning which refers to the removal of fins while the remainder of the shark is discarded in the sea.

Part A. Introduction

This module will lead the inspector through the processes involved in identifying the type of fishing gear in use and/or on board and in establishing the conformity of the gear.

Part B. Methodology

1) Identify the type of gear in use

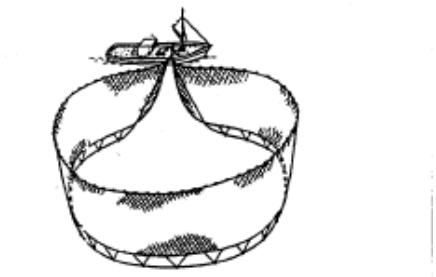
The first step for the inspector is to verify the type of fishing gear in use by visual observation of the fishing vessel equipment and any fishing gear present. Normally the equipment seen on board a vessel is unique to the type of gear in use, for example the large derrick with a powered net hauler seen on a purse seine vessel.

Before carrying out any inspection, an inspector must be able to recognise all of the main fishing gear types and the associated vessels seen in his/her area of operations.

- **Purse seine**

These nets catch fish by surrounding them from the sides and underneath. They are normally surface nets, with the headline supported by numerous floats. The net is characterised by the use of a purse line at the bottom of the net, enabling the net to be closed like a purse, thus retaining all the fish within the encircling net. Fish aggregating devices (FADs) are frequently used in conjunction with a purse seine.

Source: EFCA.
Figure 56 – *Purse seine*



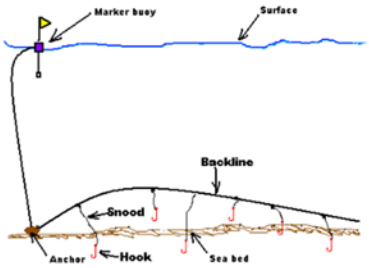
Source: FAO.
Figure 57 – *Retrieval of a purse seine*

Source: FAO.
Figure 58 – *FAD*

- **Longline**

A longline is a piece of fishing gear that is comprised of a main line carrying numerous hooks on branch lines of varying length and spacing, depending on the target species. It may be set either at or near the bottom (bottom-set longline), drifting in midwater or near the surface (surface longline).

Source: EFCA.
Figure 59 – *Longliner*

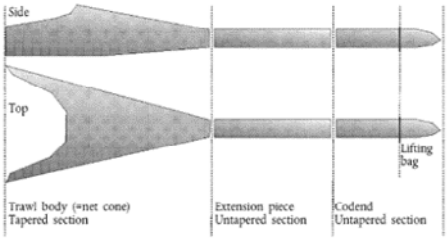


Source: EFCA.
Figure 60 – *Bottom-set longline*

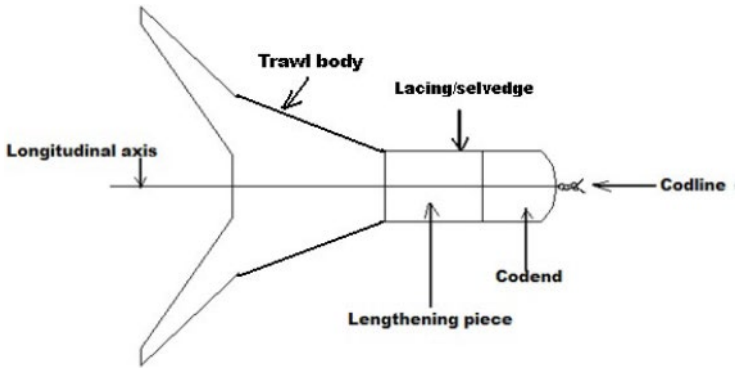
- **Trawl**

Trawls are towed nets consisting of a cone-shaped body that terminates in a closed bag (cod-end), which collects the fish. The front opening (mouth) can be kept open, both vertically and horizontally by a variety of means, depending on the type of trawl. Bottom trawls are towed along the seabed to catch demersal (bottom-dwelling) species; midwater trawls are towed anywhere between just off the seabed and the surface to catch pelagic species.

Source: EFCA.
Figure 61 – *Trawler*



Source: Official Journal of the European Union.
Figure 62 – *Typical trawl construction*



Source: EFCA.
Figure 63 – *General trawl layout*

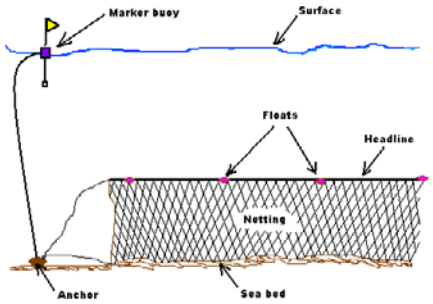
- **Gillnets and entangling nets**

In this type of gear, fish are gilled, entangled or enmeshed in the net, which may be either a single-walled net (gillnet) or a multiple-walled net (trammel net). These nets can be used alone or, more commonly, in large numbers connected in a line, normally called a 'fleet'.

Due to their design, which uses ballasts and buoyancy, these nets may be used to fish on the surface, in midwater or on the seabed.

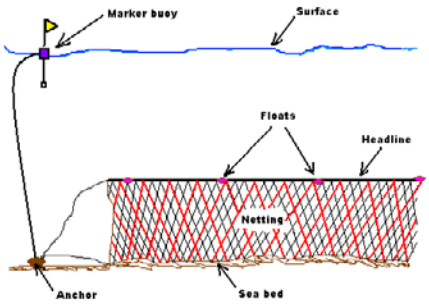
Source: EFCA.

Figure 64 – *Gillneter*



Source: EFCA.

Figure 65 – *Bottom-set gillnets*

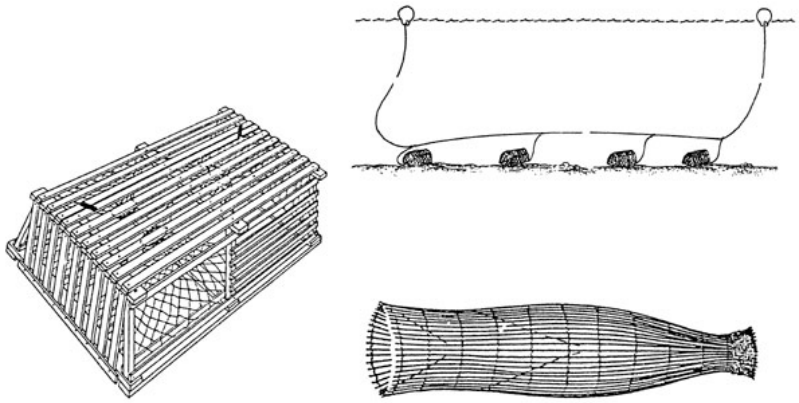


Source: EFCA.

Figure 66 – *Bottom-set trammel nets*

- **Traps**

Traps are fishing gears which are fixed to or deployed on the bottom and which act as a trap to catch marine species. They are constructed in the form of a basket, pot, barrel or cage, and in the majority of cases they comprise a rigid or semirigid frame made of various materials (wood, wicker, metal rods, wire netting, etc.) that may or may not be covered with netting. They have one or more funnels or mouths with smooth ends that allow species to enter the internal chamber. They may be used separately or in groups. When used in groups, a main line carries numerous traps on branch lines of variable length and spacing depending on the target species.



Source: EFCA.

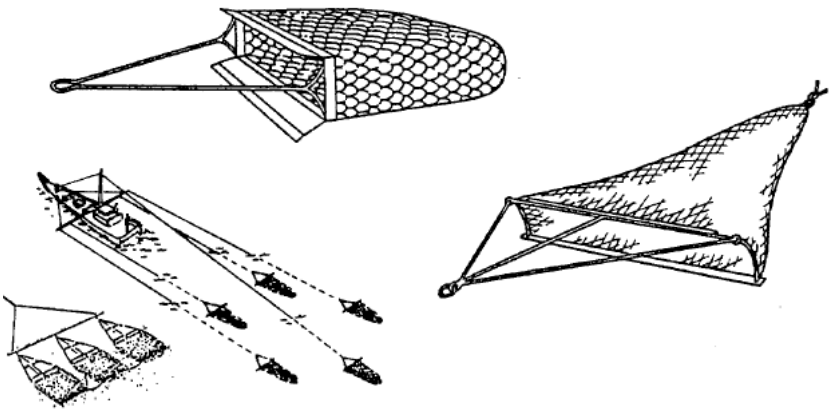
Figure 67 – *Traps*

Source: EFCA.

Figure 68 – *Traps on board the vessel*

- **Dredges**

Dredges are pieces of fishing gear which are typically a heavy metal framework, equipped with either a blade or tooth bar, which are dragged along the seabed to dig out molluscs such as mussels, oysters, scallops and clams. The shellfish are collected in a bag, often made of steel rings, which allows the mud and sand to be sieved out.



Source: EFCA.

Figure 69 – *Dredges*

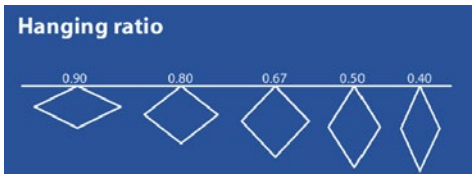
2) Measure any relevant gear parameters

Once the inspector has established the type of gear in use and/or kept on board, he/she should then measure any relevant gear parameters, namely dimensions that are restricted by the authorisation or by legislation. The main restrictions that may be encountered are the following.

- **Length/drop**

For purse seines and gillnets, the length is the length of the headline and the drop is the vertical measurement of the net.

- **Hanging ratio**



Source: EFCA.

Figure 70 – *Example of hanging ratio*

For gillnets, the hanging ratio determines the depth and mesh tension on a panel of netting. The hanging ratio is effectively the relationship between the length of the net attached to the headline or footrope divided by the maximum length of the net. The hanging ratio measures how tightly the net is stretched along the head and footrope and it greatly influences fish selectivity.

- **Mesh size**

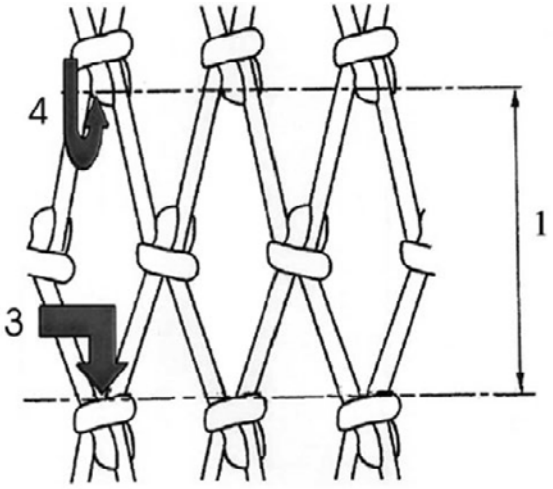
There may be restrictions on the mesh size of any gear containing netting, such as purse seines, gillnets and trawls.

It is necessary to measure the mesh size to verify compliance with any restrictions on mesh size. It is vitally important that the inspector follow any official procedures regarding the selection of meshes and the number of meshes to be measured, the condition of the net and the physical process of the measurement itself. Common methods of mesh measurement may include the following.

— interior mesh size

Source: EFCA.

Figure 71 – *Wedge-type mesh gauge*



Source: EFCA.

Figure 72 – *Where to measure a mesh (EFCA)*

The internal distance between the mesh knots is measured by using a mesh gauge. Normally this is through the use of a wedge gauge, which is a tapered wedge that is inserted into the mesh, either by hand or with a predetermined force by using a weight. The mesh size is read off the gauge at the point where the wedge cannot be inserted further.

Source: EFCA.

Figure 73 – *Measuring mesh size of a trawl*

— overall (knot-to-knot) mesh size

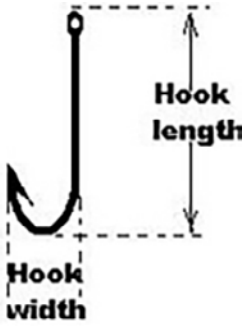
The overall length of a number of stretched meshes is measured using a tape and an average mesh size is determined by dividing the overall length by the number of meshes.

- **Bar length**

The distance between two adjacent knots on one side of a mesh.

- **Hooks**

Depending on the rules in force, it may be necessary to verify the total number of hooks that may be used on floating or bottom-set longlines and the size (length and width) of the hooks. This may be done by counting the number of hooks on a sample length of longline and extrapolating to the total length.



Source: EFCA.

Figure 74 – *Hook dimensions*

3) Verify compliance of data recorded by the master

The inspector should then cross-check his/her own observations or measurements of the type of gear and its parameters against the data recorded by the master in the logbook (see Annex 8 on FAO gear codes and types).

When inspectors board a vessel and check documentation they will either have, or be presented with, logbook data on the fishing gear that has been used to take the catch held on board. The inspector has to ensure that the type of gear that is recorded on the log sheet matches the type of gear that is held on board. This is especially important where the catch composition is restricted according to the gear used. However, the inspector should not assume that the gear found on board, especially items such as a trawl cod-end, is the gear that has been used to take the catch that is held on board.

For example, fishermen may transfer cod-ends at sea between vessels when a fellow fisherman has torn or lost gear. It may also be the case that, while pair trawling, the catch has been taken by the net that is on board the partner vessel rather than the gear on board the vessel that the inspector is checking. It is good practice for the inspector to ask if the gear he/she finds on board is the gear used on the fishing trip.

4) Verify compliance of the gear

The inspector should cross-check his/her own observations or measurements of the type of gear and its parameters against the authorisation, to ensure that the type of gear in use is authorised and that it complies with any restrictions contained in the authorisation regarding the use and the parameters of the gear.

When verifying the compliance of the fishing gear used, any temporal or/and spatial restrictions should be considered. For example, fishing in restricted areas is usually banned, or restrictions on using specific fishing gear are applied; catching bluefin tuna using a purse seine net during the temporal closure is prohibited.

Inspectors should also be aware that some fishing methods and gear may be prohibited.

Prohibited methods may include:

- explosives,
- stupefying substances,
- electric current,
- harpoons,
- aerial means (bluefin tuna fisheries).

Prohibited fishing gear may include:

- drifting nets in bluefin tuna fisheries.

This list is not meant to be exhaustive and the prohibited methods will depend upon the regulations in force.

5) Verify compliance of attachments

The inspector should now check that any attachments found on the gear comply with any relevant requirements. Such devices may include the following.

- **Chafer**

A chafer is an attachment in the form of a flat piece of material or netting that prevents dam age to the cod-end of a trawl and may be subject to certain conditions of use.

- **Lifting ropes**

Lifting ropes are fixed to the trawl and are used to lift it with the winch from the deck of a fishing boat.

Source: EFCA.

Figure 75 – *Lifting ropes*

- **Strengthening bag**

Strengthening bags are attached around the cod-end of a trawl to prevent damage and may be subject to certain conditions of use.

Source: EFCA.

Figure 76 – *Strengthening bag*

6) Verify presence of prohibited gear

The inspector should check that none of the gear found on board is prohibited by any relevant legislation. For example, using driftnets in large pelagic fisheries in the Mediterranean Sea and using aerial means to search for bluefin tuna are both prohibited, and the maximum number of hooks that can be set or taken on board of vessels targeting swordfish is 2 500.

7) Verify presence of turtle release gear

The inspector should check that, where required, turtle release devices are available on board. For example, fishing vessels using longlines and bottom-set nets in the GFCM area must carry safe handling, disentanglement and release equipment, capable of releasing sea turtles unharmed and in a manner that maximises the probability of their survival. This equipment may include: a lifting basket or dip net, line cutters and a de-hooking device.

Source: South Chatham Tackle.
Figure 77 – *Sea turtle release kit*

8) Verify compliance of fish aggregating devices

FADs are drifting or anchored floating structures made from a variety of materials and under which fish naturally tend to aggregate (see Figure 58). In this way, FADs can be used to create concentrations of commercially important species that can be exploited by fishing vessels. The inspector should verify whether the use of FADs is limited or prohibited by RFMO rules.

In the Mediterranean Sea, the GFCM has established management measures for the use of FADs in dolphin fisheries, which lay down fishing authorisations for vessels using FADs and technical measures with regard to the composition, location, maintenance and replacement, identification and marking of FADs.

9) Verify marking of gear

The inspector should verify whether the gear and FADs are marked in accordance with the applicable legislation.

In general, fishing gear and FADs should be marked in such a way as to easily enable identification of the fishing vessel owning the gear.

The markings could include various pieces of information, such as external identification details of the vessel, fishing licence number, country code, etc.

In the GFCM area, passive fishing gears and FADs deployed by certain categories of fishing vessels should be marked in accordance with national rules.

Source: Domagoj Bojko.

Figure 78 – *Marking buoy*

Part A. Introduction

'Transhipment' means the unloading of all or any fisheries or aquaculture products from one vessel, the donor vessel, to another, the receiving vessel.

Transhipments are governed by different rules depending on the area where the operation takes place, the species involved and the vessel's nationality. The rules are laid down by the national laws of the coastal states and, depending on the area or fish species, the RFMO concerned.

In order to ensure that such operations are carried out legally, it is important that inspections of transhipments are carried out on a regular basis and the quantities involved are verified.

Part B. Methodology

In general, in advance of any transhipment operation, prior notification is required. This notification should contain certain minimum information such as: details of both the donor vessel and the receiving vessel, details of the species to be transhipped and the day and place of transhipment. Following reception of the prior notification, the relevant authorities shall issue a transhipment authorisation. It should be noted that no transhipment shall take place until the authorisation for the transhipment has been received. In order to confirm that the transhipment took place and ascertain the quantities that have been unloaded from both the donor and the receiving vessels, the transhipment declaration may be requested (see Annex 9 Transhipment declaration).

In the Mediterranean Sea, the transhipment at sea of tuna and tuna-like species managed by ICCAT is prohibited while in the GFCM area, and it is prohibited in areas subject to management plans. Transhipment of these species is allowed only at designated ports and rules applicable for entering into the port also apply.

In accordance with the ICCAT recommendations, obligations applicable to both the donor vessel and the receiving vessel have been laid down.

The master of the fishing vessel must notify the port state authorities of the date and the time of the foreseen transhipment and of name of the receiving vessel.

Transhipment of tuna and tuna-like species at designated ports is subject to the transhipment authorisation issued by the flag state authorities. The transhipment authorisation is granted following receipt of the prior authorisation and with regard to receiving vessels authorised and included in the ICCAT record of carrier vessels.

The request for prior authorisation should be sent by the master of the donor vessel and contain information on the geographic location of the catches, quantities of fisheries products to be transhipped, place of the transhipment, date and time and information of the receiving vessel.

An original or copy of the prior authorisation should be available on board the donor vessel.

Following the transhipment operation, the master of the donor vessel should complete the ICCAT transhipment declaration and submit it to the flag state authorities.

With regard to the obligations of the receiving vessel, the master of the receiving carrier vessel shall inform the port state authorities of the quantities of catches of tuna and tuna-like species transhipped to his/her vessel in advance of transhipment operation. Following completion of the transhipment, the ICCAT transhipment declaration should be completed and transmitted to the competent authorities.

It is required that all transhipments of tuna and tuna-like species be inspected by the control authorities of the designated port.

Although such constrict rules have been laid down for the species managed by ICCAT, the monitoring and control of possible transhipment operations at sea should be carried out irrespective of species involved. Transhipments at sea often go unnoticed by flag state or coastal state control authorities and therefore constitute a possible means for operators to hide illegal fishing and/or catches.

Source: EFCA.

Figure 79 – *Example of transhipment operation*

FMCs have an important role in the monitoring and control of possible transfer operations as they are tasked with notifying field inspection units of any activity suspected to be a transhipment operation.

In the course of a transhipment inspection, two main objectives should be respected:

- to verify whether the transhipment is authorised and carried out in accordance with the regulations;
- to verify that the quantities transhipped have been correctly recorded.

Although the full processes outlined below may be carried out to check the quantities transhipped, i.e. inspection of both vessels before and after transhipment, it is often more efficient to monitor the fisheries products as they are being transhipped. The actual methodology applied will depend on the type of fisheries product(s) being transhipped and the physical and temporal constraints at the time of the inspection.

Transhipment inspection procedures should include the following.

- Verify that the transhipment has been authorised.

  No transhipment shall take place until authorisation for the transhipment has been received. An original or copy of the prior authorisation should be available on board the donor vessel.

— Verify quantities in the transhipment prior notification/authorisation.

  Inspectors should monitor the transhipment and cross-check the quantities listed in the prior notification message against those retained on board.

— verify catch on board before and after transhipment.

  The catch on board the donor vessel before the transhipment begins and after the transhipment has finished may be established by using the methodology for the verification of catch described in Module 5. The results should be in live weight equivalent for each species, bearing in mind the presentation of the fishery products and the relevant conversion factors.

— verify transhipped quantities.

  The transhipped quantities can be calculated as the difference between the catch retained on board the donor vessel before and after transhipment or, if the actual transhipment was monitored, it will be the quantities observed.

— verify observed quantities transhipped.

  If the actual transhipment itself has been monitored, then it may be possible to cross-check the calculated quantities transhipped against those observed.

— verify observed quantities on board the receiving vessel.

  It may also be possible to cross-check the results of the transhipped quantities against the observed quantities found on board the receiving vessel before and after the transhipment.

— verify logbook records of the transhipment operation (both donor and receiving vessel).

— verify the transhipment declaration.

  Cross-check the transhipped quantities calculated or observed against those entered by the masters of the donor and receiving vessels in the transhipment declaration. Cross-check the transhipment declaration against the eBCD (where applicable). This may not be possible at the time of the inspection as there may be a time delay in the receipt of the transhipment declaration by the responsible authority; the cross-check should then be carried out as soon as it is feasible.

Part A. Introduction

The inspection of a vessel at the time of landing is the only opportunity to examine the actual nature of what has been retained on board by the fishing vessel and then landed.

Most landings are carried out in ports or other landing places. However, some other suitable places along the coast could be used if there is the intention to do something illegal or when something illegal has already been done during the fishing trip.

Source: Neda de Karina.

Figure 80 – *Landing in port*

In 2016, the FAO port state measures agreement (PSMA) entered into force. This agreement provides the establishment of designated ports in which foreign fishing vessels may land their catches, after sending prior notification of entry into the port and obtaining authorisation from the port state. The prior notification of entry into the port (for landing or transhipment purposes) is a declaration from the fishing vessel to the authorities of the coastal state giving details on the fishing vessel, the catch to be unloaded and the place and time of arrival. The deadline for sending the prior notification could be established by national law, providing sufficient time to allow an inspection to be planned in the most effective way,

In the Mediterranean Sea, apart from the PSMA requirements, in the scope of ICCAT and GFCM management areas, several recommendations ([10]) have laid down prior notifications for fishing vessels intending to land or tranship their catch. These recommendations establish prior notifications and landings in designated ports for all authorised vessels fishing in a particular area (see Annex 12 GFCM management plans requirements – overview)

The list of authorised vessels and designated ports is available on the websites of relevant RFMOs.

([10]) Recommendation GFCM/43/2019/2; GFCM/42/2018/3; GFCM/42/2018/4; GFCM/43/2019/6; GFCM/43/2019/5; GFCM/43/2019/2; GFCM/42/2018/5; GFCM/42/2021/20; GFCM/42/2018/1; GFCM/43/2021/9.

Part B. Methodology

Before and during inspections in port, upon landing or transhipment, the inspector should follow instructions described in previous chapters and apply, to the extent possible, the following procedures ([11]).

- verify that the official documentation onboard is valid, if necessary, through contacts with the flag state or international records of vessels (where necessary, arrange for an official translation of the documentation).
- verify the vessel's name, flag, any external identification number and markings (and IMO ship identification number when available) and the international radio call sign are correct (if possible, examine whether the vessel has recently changed name and/or flag and, if so, note the previous name(s) and flag(s)).
- note the port of registration, details of the owner, operator, beneficial owner, master and previous owner during past 5 years.
- verify authorisation(s): whether to fish or transport fish, the duration of the authorisation(s) and its/their application to areas, species and fishing gear.
- review and verify documents of fishing activities: logbooks, prior notification, landing declaration, transhipment declaration, catch documents, trade documents.
- review and verify information available in the ERS in cooperation with the FMC if necessary.
- review and verify stowage plans and drawings or descriptions of fish holds in order to verify whether their size and composition correspond to these drawings or descriptions and whether the stowage is in accordance with the stowage plans.
- verify VMS/AIS information.
- verify fishing gear conformity with the conditions of the authorisation(s), if necessary measuring the mesh size(s), length of nets and hook sizes.
- verify identification marks of the gear correspond to those authorised for the vessel.
- search the vessel for any fishing gear stowed out of sight and for fishing gear that is otherwise illegal.
- examine whether the fish and fishery products on board were harvested in accordance with the conditions set out in the applicable authorisation(s).
- determine the quantities and species on board in the fish hold (in doing so, the inspector may open cartons where the fish has been pre-packed and move the fish or cartons to ascertain the integrity of fish holds).
- review and verify composition of all catch onboard, if necessary by sampling.
- verify the species and quantities landed, product type, live weight (quantities determined from the logbook) and the conversion factor used for calculating processed weight to live weight.
- examine any possible quantities retained on board after unloading.
- review and verify the composition of all catch on board, if necessary by sampling.

  Examine and verify possible IUU fishing. The inspector shall, as soon as possible, notify the competent authority of the port state when he/she suspects that a vessel has engaged in or supported IUU fishing. In such cases, the port state authorities should contact the flag state authorities and coastal state, if necessary, to verify whether fishing activities have been carried out in areas as reported in the relevant documents and electronic systems.
- complete the inspection report and provide a copy to the master.

([11]) ICCAT Recommendation 2018-09; Recommendation GFCM/2008/1.

Part A. Introduction

In the course of fishing live bluefin tuna for farming, several activities can be performed. These activities differ in many ways from typical fishing activities. Fish caught is not retained on board or landed but live transferred into the transport cage, so routine observation of the catch is not possible. Apart from catching vessels, several different vessel types are involved in the fishing operation, such as towing vessels, auxiliary vessels and support vessels. In order to perform an adequate inspection, inspectors should be familiar with the particularities of the bluefin tuna related activities.

Part B. Methodology

Transfer operations are specific activities carried out mainly in the course of fishing live bluefin tuna using purse seine surrounding nets and traps. In accordance with ICCAT recommendations, the following relocations of live bluefin tuna are considered transfer operations:

- from the catching vessel's net to the transport cage;
- from the trap to the transport cage, independent of the presence of a towing vessel;
- from the transport cage to another transport cage;
- between different cages in the same farm (intra-farm transfer);
- from a farm cage to a transport cage.

The transfer of a cage containing live bluefin tuna from a towing vessel to another towing vessel is also considered a transfer operation although no relocation of live bluefin tuna has been carried out.

Source: Neda de Karina.

Figure 81 – *Transfer operation*

In the course of transporting bluefin tuna from a fishing ground to the farming facilities, several transfer operations can be performed:

- the first transfer operation is a transfer operation of live bluefin tuna from a purse seine net or a trap to the transport cage;
- The further transfer is any transfer operation that is conducted after the first transfer and before caging, which could include the splitting or merging of the contents of transport cages.

Transport cage(s) used to transfer the fish to the farms are numbered with a unique numbering system in order to enable the traceability of the live bluefin tuna from the catching vessel to its final destination. This numbering system includes an alphanumeric combination of the farming state code and the number of the cage (e.g. MLT003). The number assigned to the cage should be of appropriate dimensions and stamped on two opposite sides of the ring of the cage and above the water line. Alternative methods to mark the unique number of the cage are possible only if adequate visibility, legibility and inviolability are ensured.

For example, the numbers could be painted or stamped on the board that is affixed to the ring of the cage (Figure 82).

Source: Neda de Karina.

Figure 82 – *Alternative method of marking the transport cage*

A transfer operation involves two operators: the donor operator and the receiving operator. The donor operator refers to the master of the catching or the towing vessel, or the representative of a farm or a trap, from which a transfer operation originates.

The responsibilities laid down in the ICCAT recommendation are addressed to the donor operator.

- **Prior transfer notification and transfer authorisation**

A transfer operation cannot be carried out before the prior transfer notification is sent by the donor operator and, following its submission, a transfer authorisation number has been assigned. Once the transfer has been authorised, the transfer activities may start by connecting the net with the door of the transport cage in case of first transfer, or door to door of two transport cages for further transports. During the first transfer operations, the presence of an ICCAT regional observer, and for the further transfers a national observer, is mandatory. At the end of the transfer operation, the net of the purse seine should not be separated from the transport cage until the ICCAT regional observer has carried out its obligations.

The transfer authorisation number includes:

— CPC letter code;
— four numbers for the year;
— three letters AUT or NEG: AUT refers to the positive authorisation and NEG to the negative authorisation;
— sequential numbers of authorisation.

For example, ITA2022AUT00017.

- **Monitoring of transfer operations**

In order to determine the number of bluefin tuna being transferred from the catching vessel net, trap or another transport cage, all transfer operations are monitored by a video camera in the water. Transfers of cages containing live bluefin tuna from a towing vessel to another towing vessel without relocation of live bluefin tuna are exempted from the video recording requirement. The master of the fishing vessel or towing donor vessel is responsible for ensuring the monitoring of the transfer operation with the video camera in accordance with minimum standards and procedures.

The transfer operation is considered valid if the video record meets the minimum standards and procedures for video recording.

Source: Neda de Karina.

Figure 83 – *Video record of transfer operation*

- **Minimum standards and procedures for video recording**

a) At the beginning and/or the end of the video, the transfer authorisation number is displayed.

   The number is written on the board in contrasted colours and displayed at the beginning of the transfer operation by the diver in the water.

b) The time and the date of the video must be continuously displayed throughout video record.

c) The video record must be continuous, i.e. without any interruptions and cuts, and cover the entire operation.

d) Before the start of the transfer operation, the video record includes the opening of the net/door and shows whether the receiving cage already contains bluefin tuna or not. At the end of the transfer operation, the video record includes the closing of the net/door.

e) The video record must be of sufficient quality to determine the number of bluefin tuna being transferred,

f) A copy of the video record must be kept on board the donor vessel during the entire period of authorisation and must be provided to the ICCAT regional observer, CPC observer, inspection authorities and to the flag, trap and farm states' competent authorities.

g) The original video footage accompanies the catches to the destination farm.

i) The electronic storage device containing the original video record must be, without delay, provided to the ICCAT regional and/or CPC national observer after the end of the transfer. The edition or manipulation of the original video record is prohibited.

- **Procedures in case the video record is of insufficient quality to determine the number of bluefin tuna being transferred**

In case of insufficient quality of video recordings, the transfer operation should be repeated if necessary. The repetition should be carried out until the video is of adequate quality to determine the number of bluefin tuna and is in accordance with the minimum standards and procedures for video recordings. The transfer operation can be repeated on a voluntary basis, by the donor operator (voluntary transfer) or ordered by control authorities of the donor operator (control transfer).

Once the control transfer has been ordered and the time and the place of the control transfer determined, the transport cage is sealed with seals provided by the regional observer, enabling the catching vessel to proceed with fishing activities.

The sealing operation requires that, on each transport cage door, seals are placed in a way that the door(s) cannot be opened without breaking the seals and the entire operation is recorded by video camera.

After completion of the sealing operation, video record is delivered to the ICCAT regional observer and national observer on board of the receiving towing vessel, for transmission to the control authority or regional observer present during the control transfer.

The control transfer is performed in the presence of the control authority of the donor operator or ICCAT regional observer. The number of bluefin tuna determined by the valid voluntary and/or control transfer is used to complete the logbook, ICCAT transfer declaration and eBCD.

- **ICCAT transfer declaration**

After completion of the transfer operation, including voluntary and/or control transfer, the donor operator completes the ICCAT transfer declaration (ITD). The ITD should be made available to the ICCAT regional observer who will record information on whether any potential non-compliance(s) during the transfer operation has been noticed and the estimated number of bluefin tuna transferred.

The original ITD is delivered to the receiving operator and accompanies the fish up to the destination farm(s). For more detailed description of the ITD requirements see Module 4, Chapter 5.

- **Reporting requirement for the fish that die during catch, transfer operations and transport**

The bluefin tuna that died during the catch and first transfer from a purse seine vessel or trap must be recorded in the purse seine vessel logbook or the trap daily catch report, in the ITD and eBCD.

The bluefin tuna that die or were lost during the transport and further transfers are reported by the master of the towing vessel using the template 'Report of fish that died during further transfers and towing operations' (see Annex 13)

The original report ('Report of fish that died during further transfers and towing operations') accompanies the fish to the destination farm and a copy is kept on board the donor towing vessels.

Source: Neda de Karina.

Figure 84 – *Towing of transport cage*

The inspection of the transfer operation can be performed either on the donor vessel or on the recipient vessel. However, considering that the responsibilities laid down in the applicable rules are addressed to the donor operator, it is recommended to perform the inspection on the donor vessel.

The following inspection procedures are recommended for the inspection of the transfer operation.

- before boarding, observe if the transfer operation has started or not and cross-check against the information submitted in the prior notification and transfer authorisation in order to verify that the transfer operation has been authorised.
- verify that the transport cage is numbered as required.
- look for any dead bluefin tuna on board the vessel.
- verify entries made in the logbook and cross-check against the VMS in order to detect discrepancies between data recorded in the logbook and the VMS positions.
- verify entries made in the ITD as described in Module 4, Chapter 5,
- verify entries made in the eBCD – catch, live trade, transfer and mortalities.
- verify entries made in the 'Report of fish that died during further transfers and towing operations' as described in Module 4, where applicable.
- verify entries made in the daily logbook where applicable.
- cross-check reported mortalities in the logbook/ITD/eBCD.
- take note of any discrepancies declared by the ICCAT regional observer and in particular whether the ITD is signed. If a non-compliant event is suspected to have taken place, all necessary measures should be taken to ensure that evidence is secured.
- investigate discrepancies noted by the observer.
- in communication with the observer(s), the inspector should be careful to avoid compromising the relationship between the observer and the master and crew.
- analyse the video footage of the transfer operation in order to verify that the video record of the transfer operation is in accordance with the minimum standards for video records and in particular if the video footage is of sufficient quality to determine the number of fish.
- determine the number of fish being transferred. The inspector should collect video records of all transfers carried out. Thus the counting of the fish can be performed after the inspection has been carried out.
- calculate the difference between the number of fish reported by the master and the inspector's figures (the margin of error is expressed as a percentage of the master's figures and shall not exceed 10 %). If the calculated margin of error is more than 10 %, the number determined by the master shall be amended with the inspector's figures.

Part A. Introduction

Once the live bluefin tuna have arrived from fishing grounds to the destination farm, they are relocated from the transport cage(s) to the farming cage(s). Although the caging operation is very similar to the transfer operation, it is not considered a transfer operation since it includes several requirements that are different from those required for the transfer operation.

Each caging operation should be monitored by control authorities in order to determine the number and the weight of bluefin tuna caged.

Fattening or farming activities follow the caging operation and include several activities that could be carried out at the bluefin tuna farms:

- intra-farm transfers,
- carry-over,
- random controls,
- inter-farm transfers,
- harvesting,
- release operation.

Part B. Methodology

1. Inspection of caging operations

The live bluefin tuna caught by purse seine vessels or/and traps at sea shall be relocated from the transport cage(s) into farming cages on farms.

Farms are marine sites defined by geographical coordinates used for the farming of bluefin tuna. All cages located on the farm are numbered by a unique numbering system and their position is indicated in the schematic plan of the farm.

Requirements regarding the numbering system of farm cages are the same as those for transport cages (see Module 9). Farm schematic plans must be accurate and any modification to the number and/or distribution of farm cages is subject to prior notification to the farm authority.

Each caging operation is subject to the caging authorisation issued by the farm authority. In order to receive a caging authorisation, ICCAT transfer declarations, eBCD(s) and reports of fish that died during further transfers and towing operations must accompany fish.

In addition to the caging authorisation, the presence of farm control authorities and ICCAT regional observers is mandatory and the relevant eBCD sections (catch and live trade) are completed and validated by the catching or trap flag control authorities. Before the start of the caging operation, the towing vessel is not allowed to be less than 1 nautical mile from the farm.

Source: Neda de Karina.

Figure 85 – *Caging operation; connected transport and farm cage*

Once all the requirements are fulfilled, the caging operation can start.

The caging operation is recorded by the farm operator using control cameras in the water. The transport cage cannot be anchored as a farm cage avoiding the movement of fish and there is an obligation to record and analyse video record footage. Video footage must comply with the minimum standards and procedures for video recording, except point d) for stereoscopic camera footage (see Module 9). There are additional requirements for stereoscopic camera records in accordance with ICCAT recommendations.

Where the video footage of control cameras does not comply with the minimum standards, farm competent authorities should order a control caging. Control caging can be carried out until the video footage complies with the minimum standards for video recording and the number and weight of bluefin tuna caged can be determined.

The stereoscopic camera video footage is analysed by the farm authority in order to determine the number and weight of bluefin tuna being caged.

After relocation of the bluefin tuna from the towing cage to the farm cage, the farm cage containing bluefin tuna is sealed in such a way that opening the doors without the seals being broken is not possible. Unsealing is prohibited unless authorised by the control authority and in their presence.

After the caging operation, the farm operator must submit the ICCAT caging declaration (see example Annex 16) validated by the ICCAT regional observer to the farm authorities.

Inspection of the caging operation:

- verify that the caging operation is authorised;
- check the VMS position of the towing vessel before and after boarding;
- verify the ICCAT regional observer presence onboard the towing vessel;
- verify the transport cage is numbered as required;
- verify ITDs, eBCDs, reports of fish that died during further transfers and towing operations, the daily logbook and cross-check the details against the caging authorisation;
- collect video records of all transfer operations;
- verify the farm cage is numbered as required;
- observe the position of the farm cages and cross-check this against the schematic plan of the farm;
- verify that the control cameras are operational;

— verify that the video records of the caging operation are in accordance with the minimum standards for video records and, in particular, whether the video footage is of sufficient quality to determine the number and the weight of fish caged.

2. Controls of farm activities

After caging operations, there are several activities that could be carried out at the bluefin tuna farms:

— intra-farm transfers,
— carry-over,
— random controls,
— inter-farm transfers.

a) Intra-farm transfers

Intra-farm transfers refer to farming activity at the bluefin tuna farm, where live bluefin tuna is relocated between different cages in the same farm, either directly from one farm cage to another farm cage or by using the transport cage to relocate fish.

Each intra-farm transfer is subject to an authorisation. The presence of the farm competent authorities during this operation is mandatory. The transfer operations must be recorded by the control cameras to confirm the number of bluefin tuna individuals transferred which is recorded in the eBCD.

b) Carry-over

The bluefin tuna remaining after harvesting operation should be placed in an empty cage or in the farm. The transfer of the bluefin tuna to an empty cage must be recorded by the control cameras to confirm the number and weight of bluefin tuna individuals transferred and recorded in the eBCD.

The results of the carry-over assessment are compared with the expected number of bluefin tuna individuals after harvesting is recorded in the eBCD and other available traceability systems. In the case of excess and considering the allowed margin of error, the farm authorities will order the release of the excess number of bluefin tuna.

c) Random control

Random controls are farm control activities carried out by the farm competent authorities in order to determine the number of bluefin tuna in the farm cage(s). For that purpose, all the fish from one farm cage are transferred to another empty farm cage and recorded by the video camera.

Random controls are carried out in the period between the last caging operation and before the first caging of the following year. The number of random controls carried out depends on the number of farm cages on the farm. Selecting which cage on the farm will be controlled is based on risk analysis.

Following random control and analysis of the video records, the number of bluefin tuna determined shall be compared with the number expected to be present in the cage. In the case of excess and considering the allowed margin of error, the farm authorities will order the release of the excess number of bluefin tuna.

d) Inter-farm transfer

Inter-farm transfers include two operations:

1. the transfer operation at the donor farm, where the fish from the donor farm cage is transferred to the transport cage; and
2. the caging operation at the receiving farm, where the fish from the transport cage is caged into the receiving farm cage.

The first operation is considered a transfer operation and should be carried out in accordance with the requirements for transfer operations (see Module 9). The second operation is considered a caging operation and should be carried out in accordance with the requirements for caging operations (see Module 10, Chapter 1.)

If the entire farm cage is relocated between two farms, the requirements laid down for the transfer and caging operation are not necessary, however the farm cage must be sealed.

3. Release operation inspection

A release operation is conducted after control authorities have issued a release order. Certain situations are subject to a release order:

- when a transfer or caging authorisation is not issued;
- where an excess of bluefin tuna has been caged;
- when an excess of bluefin tuna has been identified following a carry-over assessment or random control.

A release operation can be carried out at sea when the fish is released from the catching net immediately after receiving the release order. In cases where the release operation needs to be conducted after caging, it should be carried out within required time limits. The release operation is monitored by control camera in the water, in accordance with minimum standards (Module 9). During release operations, the presence of an ICCAT regional observer is mandatory.

Following completion of the release operation, the farm operator must complete and submit the release report validated by the ICCAT regional observer.

4. Harvesting

'Harvesting' means the killing of bluefin tuna in farms or traps. The destination of the harvested bluefin tuna can be a processing vessel or a designated port. Dead bluefin tuna from the farm cage or a trap is transported by an auxiliary vessel to a designated port and/or processing vessel.

Each harvesting operation is subject to the authorisation issued by the farm/trap competent authority. The presence of an ICCAT regional observer at the farm and a national observer at the trap is obligatory.

After completion of harvesting operations, the master of the processing vessel shall complete a 'Processing declaration' and the farm or trap operator shall complete a 'Harvesting declaration' when the bluefin tuna is landed in the port. Each declaration should be validated by an observer present at the harvesting operation and submitted to the farm authorities.

All harvesting operations destinated for the processing vessel must be checked by the control authorities. Control of harvesting operations shall include verification and cross-checks of all relevant information. Attention should be paid to the cross-check of the number of fish harvested against the expected number from the eBCD.

Part A. Introduction

Surveillance can be defined as the observation of fishing activities on the basis of sightings by inspection vessels or official aircrafts and technical detection and identification methods.([12])

The information and data obtained from surveillance are important elements of the control of fishing operations.

Part B. Methodology

The most common surveillance methods are sea surveillance, using marine vessels, and air surveillance, using aircraft.

Each of these methods have positive and negative points which should be considered in operational planning.

For example, air surveillance, while very expensive, can cover a large area in a limited time period, and is therefore considered to be the most cost-effective means of marine surveillance. That said, sea surveillance has a number of benefits over air surveillance, such as better identification of vessel markings and the opportunity to board and inspect in case of presumed illegal activity.

The presence on board of a control observer who carries out on-board observation and records information on fishing activities is also considered a mean of surveillance.

The final outcome of the surveillance is the surveillance or sighting report (see Figure 89) which is an important tool in the monitoring and control of fisheries, and can be cross-checked against other sources of information available to FMCs in order to verify the fishing vessel's compliance with regulations.

1. Completion

The data recorded in the report should be accurately reported, therefore the inspector should know:

- how to determine the geographical position, course and speed of a fishing vessel;
- where to find or expect to find marking on vessels, for example, registration number, international radio call sign, IMO number and flag state;
- to identify different designs of fishing vessels and fishing deck machinery which could be an indication of the type of fishing gear used; and
- how to identify the fishing activity.

- Vessel identification and marking

The vessel external registration number, name and IMO number are indicated on the bow and/or on another part of the hull of a fishing vessel, and the radio call sign is on a horizontal surface, usually the wheelhouse roof.

They should be large enough and painted in a contrasting colour to allow the observer to identify the vessel from the air or from a surveillance vessel.

These areas should be checked in order to identify the fishing vessel and/or detect possible falsification or concealing of markings, identity or registration.

([12]) Regulation (EC) No 1224/2009

- Description of the vessel

The design of a vessel will often give the observer a good indication of the type of fishing activity that the vessel is fitted out for. When photographs are taken or video is recorded, the vessels design can be examined in detail. However, when neither of these recording methods is available, the observer should make notes or sketches of the design of the vessel. This will help in cases where the markings displayed by the vessel are not clear enough for the individual vessel to be positively identified.

Wheelhouse or deck structure locations are usually dictated by the type of fishing operation being carried out. The vessel with the centre-mounted wheelhouse uses static gear and does not require gear-handling equipment. A vessel using trawling gear takes in the net over the stern so the wheelhouse is placed at the front to leave as much free deck space as possible where the net is hauled on board. Notes taken on these design aspects of a vessel will give the inspector a good idea of the fishing method being used.

Source: EFCA.

Figure 86 – *Centre (left) and forward (right) wheelhouse*

Fishing deck machinery and the presence of fishing gear can be useful in identifying the vessel type and whether fishing gear is in use, so notes should be taken on the following.

- net drums / net stowage bins – placement and whether stowed gear is detected.
- towing wires or ropes – are they stowed or are they streamed from the vessel?
- marker flags / buoys – how many are there and do they have any distinct markings or design features?
- shellfish pots – are they stowed or being hauled/shot away?
- hooks and lines – are they stowed or being hauled/shot away?
- static nets – are they stowed or being hauled/shot away?

- Fishing activity

The activity of a fishing vessel can be determined by close observation of the vessel's behaviour at sea. A detailed description of the indicators of the activity that may be observed can be found in Module 1.

Source: Neda de Karina.

Figure 87 – *Net hauling on board the vessel*

The inspectors are encouraged to record as much detailed information of the sighted vessel as possible and also to take photos and/or videos and/or make sketches.

It is important that all data recorded in the report is of high enough quality and accuracy to enable cross-checks against other sources of information in the FMC.

In the ICCAT and GFCM management areas, a standardised format of a surveillance report is required. In general, a surveillance report includes information on the vessel sighted, such as time and date of surveillance, geographical position, vessel identification and markings, description of the vessel, fishing activity, gear in use and other relevant information.

GFCM sighting report

GFCM sighting report
1. Date of the sightings: ……/……/…….. Time: ..... UTC
2. Position of the vessel sighted: Latitude…… - Longitude…….
3. Course:…….. – Speed……..
4. Name of the vessel sighted:
5. Flag of the vessel sighted:
6. External number/marking:
7. Type of vessel:
☐Fishing vessel
☐Carrier vessel
☐Freezer vessel
☐Other (specify)
8. International Radio Call Sign:
9. IMO number (where applicable):
10. Activity(ies):
☐Fishing
☐Steaming
☐Drifting
☐Transhipping
11. Radio contact: ☐YES - ☐NO
12. Name and nationality of the captain of the sighted vessel: ----------
13. Number of people on board the sighted vessel: ----------
14. Catches on board sighted vessel: ----------
15. Information collected by: Name of inspector: Contracting Party: GFCM Identity Card number: Name of the patrol vessel:

Figure 88 – *GFCM sighting information sheet template*

2. Submission of surveillance report

Following the surveillance, inspectors should submit the surveillance report with all relevant additional information to their competent authorities, usually the FMC, as soon as possible after its completion.

The FMC or other competent authority should submit the surveillance/sighting report to the flag state of the sighted vessel or to the ICCAT or GFCM secretariat if a vessel is without nationality and is presumed to be engaged in IUU fishing activity.

In general, surveillance reports are stored in the FMCs, where they can be cross-checked against other information available to the FMC.

Part A. Introduction

The inspection report is the final outcome of the inspection and is a vital tool in fishery control and inspection. It should contain all the information necessary for the control and enforcement authorities, in particular, information on collected evidence if any infringements were detected during the inspection.

Where references are made in this module to an inspection report, they are based on the standards laid down in the FAO agreement on port state measures to prevent, deter and eliminate IUU fishing, and the equivalent inspection report standards laid down by the appropriate RFMO.

Part B. Methodology

1) Completion

The inspection report should be completed as soon as possible after the end of the inspection; all entries in the report should be written clearly and legibly. All elements of the report should be completed as thoroughly as possible, taking into account any physical and temporal restraints placed upon the inspection. Only facts should be recorded, not suppositions.

- Format. The actual format of the inspection report will vary according to the situation. Normally the inspection report used will be the one used by the coastal state administration, although the inspection form of the RFMO may be used in some cases. For example, in the ICCAT management area, when a joint international scheme is established (see Annex 11)
- FAO-PSMA. This agreement stipulates that an inspection report should be completed at the end of each inspection (see Annex 10). Annex C of the agreement contains useful guidelines as to the elements that should be contained.

2) Master's comments

The master should be given the opportunity to read the report and to sign it to acknowledge that he has read it. The master should also be given the opportunity to make any comments on the content of the report. If the master refuses to sign the inspection report, and in order to avoid any ambiguity, this refusal should be mentioned in the inspection report.

3) Submission of inspection report

Inspectors should submit the inspection report to their administration as soon as possible after its completion. It is usually the responsibility of this administration, not of the

inspector, to disseminate the report to the relevant parties, such as the flag state and RFMO.

4) Evidence in the event of an infringement

In the event of an apparent infringement, the inspector must gather all the available evidence required to prove the case beyond a reasonable doubt. Each element of an infringement is proved using evidence of the illegal act. For example, this may be the record of the actual mesh size measurements of the illegal net.

Whether or not evidence is admissible in legal proceedings and how the evidence is gathered, recorded and stored depends on the national legislation.

5) Continuity of evidence/corroboration

In the case of an apparent infringement, the inspector should ensure that it can be demonstrated that any evidence produced at a later date is the same evidence that was gathered at the time of the inspection. To this end, records should be kept of the chain of custody of the evidence, clearly stating at all times the whereabouts of the evidence and the person responsible for its safekeeping. This is done to certify that the evidence has not been tampered with in any way.

For fishing gear, this may take the form of tamper-proof labels or seals. In some other cases, for example where a follow-up inspection is needed on shore after an inspection at sea or where an unloading is interrupted, the integrity of the hold should be assured by using a tamper-proof seal (see Figure 89).

The serial numbers of the seals should be recorded.

Source: EFCA.

Figure 89 – *Example of sealing of access to the hold*

Physical evidence, such as original documents, fishery products or gear, may be taken away for safekeeping by the inspector, with a view to producing it in court at a later date. This process is sometimes known as 'seizure', which implies that the evidence still remains the property of the original owner. The process whereby something is taken and ownership is transferred to the authorities is known as 'confiscation'. However, the powers of inspectors to seize or confiscate evidence depends on the legal system in force at the place of inspection. The inspector should be aware of these powers in order to avoid any challenge to the admissibility of the evidence.

Where original documents are taken, photocopies may be provided to the master.

Whenever possible, inspectors should attempt to reinforce their findings with corroborative evidence, i.e. further evidence that will back up any findings they have made.

Such corroborative evidence could include additional witness statements, additional measuring procedures or further sighting information.

6) Dealing with infringements

Fishery inspectors may discover non-compliance or infringements of the rules, which should be investigated. They may also discover evidence of infringement, which must be prepared for possible legal proceedings. Each country will have its own legal system and the rules covering the investigation of suspected infringements and preparation of evidence will differ between countries.

7) Detention of vessel

It may be necessary to detain a fishing vessel in port as evidence of an illegal act until any legal proceedings have taken place. The vessel may subsequently be confiscated for later disposal. The national legislation will specify how vessels may be detained and who is permitted to order and enforce a detention.

Detention of a vessel is a significant act and any official carrying out a detention will need to consider the necessity of such an act, if it was carried out within the law and the practical consequences of the detention. This may include making sure that the vessel does not leave port, deciding who pays the port charges, maintenance of machinery and any catch on board, prevention of pollution and the legal liability of the person carrying out a detention.

8) Legal proceedings

The end result of an infringement may be formal legal proceedings, a warning or no further action. The manner of any legal proceedings will depend on the actual situation and the national legislation.

This course does not cover how legal proceedings are undertaken. Generally, such decisions are beyond the responsibility of the fishery inspector. However, the inspector is responsible for carrying out inspections, and gathering and making any evidence available in an ethical and professional manner.

Information to be provided in advance by vessels requesting port entry

1. Intended port of call								
2. Port State								
3. Estimated date and time of arrival								
4. Purpose(s)								
5. Port and date of last port call								
6. Name of the vessel								
7. Flag State								
8. Type of vessel								
9. International Radio Call Sign								
10. Vessel contact information								
11. Vessel owner(s)								
12. Certificate of registry ID								
13. IMO ship ID, if available								
14. External ID, if available								
15. RFMO ID, if applicable								
16. VMS	No	Yes: National	Yes: RFMO(s)	Type:				
17. Vessel dimensions	Length		Beam		Draft			
18. Vessel master name and nationality								
19. Relevant fishing authorization(s)								
Identifier	*Issued by*	*Validity*	*Fishing area(s)*	*Species*	*Gear*			
20. Relevant transshipment authorization(s)								
Identifier		*Issued by*		*Validity*				
Identifier		*Issued by*		*Validity*				
21. Transshipment information concerning donor vessels								
Date	*Location*	*Name*	*Flag State*	*ID num-ber*	*Species*	*Product form*	*Catch area*	*Quantity*
22. Total catch onboard				**23. Catch to be offloaded**				
Species	*Product form*	*Catch area*	*Quantity*	*Quantity*				

Annex 2

Food and Agriculture Organization of the United Nations model code of conduct ([13])

This code of conduct sets out standards of conduct applicable to all staff. It must be read along with any law and any customary practice.

- you must always conduct yourself in a way that does not bring your agency into disrepute.
- in undertaking your duties, you must not deliberately contravene the law or relevant administrative requirements, policies and procedures.
- you must not act in any way to intimidate, harass, verbally abuse, discriminate against or take advantage of anyone.
- you must exercise a high degree of care and diligence in carrying out your functions.
- you must show fairness and equity in all your dealings.
- you must consider issues consistently, promptly and fairly with due regard to milestones and deadlines.
- you must deal with matters in accordance with established procedures and in a non-discriminatory manner.
- you must not harass, discriminate against or support others who harass and discriminate against any person because of his or her race, religion, disability, medical condition, sex, sexual preference, pregnancy, age or marital status.

- **Honesty**

You have a duty to act honestly, to declare any interests that may affect your duties and to take steps to resolve any potential or actual conflicts. You must obey the law; follow policies and procedures; observe this code of conduct; disclose actual or potential conflict of interests; and exercise delegated power strictly in accordance with the reasons and the limits conferred.

- **Integrity**

You must conduct yourself with the utmost integrity and never place yourself under any financial or other obligation to any individual or organisation that might influence you in the performance of your role.

- **Impartiality**

You have a duty to make decisions and provide recommendations and advice in an impartial way, considering only relevant matters.

- **Accountability and transparency**

You are accountable for any decisions or recommendations you make and any advice you provide. You are required to conduct your role in a transparent way within the limitations of your role, terms of employment and the law.

- **Probity**

In all matters you must act with due probity, showing the qualities of strong moral principles, honesty and decency, ensuring all processes are fair and transparent to the fullest extent.

- **Openness and confidentiality**

You have a duty to be as open as possible when going about your work, within the constraints of any contract or agreement, whether written or verbal, including explaining reasons for any decision, advice or recommendation, cooperating to the fullest extent possible with the employing organisation or agency, and providing information and

([13]) Extract from Unit 4 of the FAO document: *Implementation of Port State Measures – Technical guide to port inspection of fishing vessels – Volume 1* (http://www.fao.org/docrep/019/i3508e/i3508e00.htm).

communications clearly. You are required to keep information that is not in the public domain confidential, other than when you are required to make it known by law.

- **Respect**

You must treat others with respect at all times. You must not use derogatory terms towards others and you must observe the rights of other people. You must treat all people with courtesy when undertaking your role.

- **Leadership**

You must observe legitimate direction from leaders, and promote and support leadership through examples of ethical behaviour.

- **Without self-interest**

You have a duty to make decisions and provide recommendations and advice in the interest of the government and the broader community. You must not act to gain future financial or other benefits for yourself, your family, friends or business interests.

- **Safety**

You have a duty to act at all times in a manner that ensures your health and safety and the health and safety of others with whom you are working. Actions that might cause either physical or emotional harm are not to be tolerated.

- **Reporting**

You have a duty to report any breach of this code, or any other behaviour you may believe is inappropriate or unlawful, to your supervisor or to the appropriate law enforcement agency.

- **Conflicts of interest**

It is your duty to avoid or appropriately manage any actual, potential or perceived conflicts of interest as soon as they arise. The onus is on you to identify these circumstances and to take the appropriate action to manage the situation.

A conflict of interest exists where a reasonable and informed person would perceive that you could be influenced by a particular set of circumstances in the exercise of your duties, in particular where a potential pecuniary interest can be identified to you, a partner, spouse, friend or relative, no matter how distant.

- **Personal benefit**

A gift or benefit includes any item greater than the cost of a simple non-alcoholic beverage. For example, free meals or other valuable refreshments, invitations to attend concerts, social, cultural or sporting events, and gifts of alcohol, ties, scarves, hats, and of course payments of cash or other property.

No gift or benefit is too small to be considered inappropriate. You are required to inform your manager by email (so as to create a record) and to enter into the gifts and benefits register details of any such gift or benefit if there is any potential for a conflict of interest to be perceived.

- **Complaints**

Complaints about behaviour in contravention of this code should be brought to the attention of a nominated person.

Understand your obligations to HSS, and understand how to assess risk and how to mitigate those risks. The HSS of everyone involved in port inspections is of paramount importance. This includes every member of government staff involved in the inspection, any observers or participants from other contracting parties and cooperating non-contracting parties, entities or fishing entities (CPC) or RFMOs, and the master, crew and other parties such as agents.

Responsibility for the HSS of staff primarily lies with the senior officer in charge of the boarding party. It is the responsibility of the senior officer to undertake a risk assessment, establish the potential risks, their likelihood and the potential consequence(s), and then to take the necessary steps to mitigate those risks, to minimise the risk of occurrence and any consequence(s).

The safety risk assessment

The safety risk assessment is an essential part of a pre-inspection briefing, as it serves to ensure that everyone in the boarding party knows their responsibilities. As well as being responsible for each other, the boarding party also owes responsibility to the master and crew by ensuring that they do not do anything that may create a potential HSS issue.

The risk assessment should cover:

- boarding and disembarking the vessel;
- moving around the vessel;
- slips, trips and falls;
- communication with the crew;
- conflict with crew;
- confined space entry and exit;
- searching activities;
- firearms or other weapons on board;
- deck machinery;
- electricity;
- fire;
- weather;
- evacuation;
- administering first aid;
- calling for assistance;
- communications.

Older fishing vessels can present a particular range of safety risks to inspectors.

([14]) Extract from Unit 5 of the FAO document: *Implementation of Port State Measures – Technical guide to port inspection of fishing vessels – Volume 1* (http://www.fao.org/docrep/019/i3508e/i3508e00.htm).

Annex 3	Food and Agriculture Organization of the United Nations guidance note on safety and security

The safety risk assessment should be carried out by the entire boarding party and everyone should be invited to identify potential risks. The safety risk assessment should identify safety equipment requirements for the inspection.

Note that this is a hypothetical standard operating procedure (SOP) for illustrative purposes only. In practice, an SOP will need to be written according to the local situation.

SOP for inspections at sea	Check
Prepare for boarding	
Provide and receive pre-boarding briefs	
Prepare boarding equipment	
Don relevant personal protective equipment (PPE)	
Establish and check communications	
Establish communications with fishing vessel, where appropriate (use language cards if necessary)	
Conduct transfer between vessels	
Transit by transfer boat (RIB)	
Identify hazards on approach	
Brief RIB coxswain and inspection team on boarding strategy	
Maintain communications with fishery patrol vessel (FPV)	
Embark fishing vessel (FV)	
Identify and assess FV embarkation points or ladder	
Embark FV	
Identify FV hazards and conduct risk assessment	
Identify master of FV	
Brief master of intentions (use language cards if necessary)	
Conduct FV documentation inspection (use language cards as required, recording all details)	
Examine logbook	
Assess logbook's current state (to do first)	
Ask logbook to be brought up to date	
Check for indications of fraud	
Check compulsory entries are made	
Retain logbook for duration of inspection	
Examine certificate of registration	
Determine if FV is currently registered	
Examine licence	
Determine if vessel is currently licenced and recorded vessel details match with observations	
Examine authorisation	
Determine if vessel is authorised to fish in the area, for the species on board and with the gear used	
Examine fish room plan	
Check authenticity	
Establish storage method	
Sketch diagram in notebook	

Annex 4 Example standard operating procedure for inspections at sea

SOP for inspections at sea	Check
Examine VMS equipment	
Identify VMS equipment	
Confirm functionality	
Conduct catch inspection (use assistance of crew)	
Access fish hold	
Assess entry method	
Follow crew in and exit first	
Confirm fish hold plan is accurate	
Check for hidden compartments	
Conduct fish species identification	
Identify fish	
Record all species types and presentation types	
Apply minimum fish size criteria	
Use correct measuring appliances	
Measure fish	
Separate any undersized fish and assess and record the quantity	
Conduct catch assessment of fish stored in boxes	
Record number of boxes	
Rig and calibrate weighing scales	
Assess weight of catch by sampling (no ice)	
Record all weights	
Mark weighed boxes	
Apply conversion factors as required	
Estimate catch in fish hold	
Compare assessment with logbook	
Conduct catch assessment of fish stored in pounds (unboxed)	
Assess pounds and identify species	
Measure dimensions and calculate volume in use	
Complete diagram in notebook	
Estimate catch in fish hold (use unit conversions)	
Break down selected pounds if required	
Check weight as appropriate	
Record all weights	
Apply conversion factors as required	
Compare assessment with logbook	
Conduct fishing gear inspection	
Identify fishing gear type	
Examine gear	
Preserve integrity of gear prior to inspection	

SOP for inspections at sea	Check
Identify component parts of gear	
Identify attachments	
Measure mesh sizes	
Determine legality of mesh sizes	
Determine legality of attachments	
Check disembarkation of vessel	
Terminate inspection	
Debrief master of FV	
Stamp logbook (if required)	
Return logbook	
Seek signature of master on inspection report	
Give master a copy of inspection report (if required)	
Disembark vessel	
Secure all inspection equipment	
Communicate with coxswain	
Call in RIB	
Establish disembarkation point with coxswain	
Coordinate disembarkation of personnel	
Coordinate disembarkation of boarding bag	
Coordinate disembarkation of any seized evidence if required	
Descend ship's side and board RIB	
Check the conduct of an emergency disembarkation if necessary	
Conduct post-boarding routines	
Provide debrief	
Disseminate any intelligence gained	
Finalise and distribute inspection report	

A. ICCAT Logbook requirements ([15])

Minimum specification for fishing logbooks:

1. The logbook must be numbered by sheets.
2. The logbook must be filled in every day (by midnight) or before port arrival.
3. The logbook must be completed in case of at sea inspections.
4. One copy of the sheets must remain attached to the logbook.
5. Logbooks must be kept on board to cover a period of one-year operation.

Minimum standard information for fishing logbooks:

1. Master name and address
2. Dates and ports of departure, dates and ports of arrival
3. Vessel name, register number, ICCAT number, international radio call sign and IMO number (if available)
4. Fishing gear:
    a) Type by FAO code
    b) Dimension (length, number of hooks...)
5. Operations at sea with one line (minimum) per day of trip, providing:
    a) Activity (fishing, steaming)
    b) Position: Exact daily positions (in degree and minutes), recorded for each fishing operation or at noon when no fishing has been conducted during this day
    c) Record of catches including:
        i) FAO code
        ii) round (RWT) weight in kg per day
        iii) number of pieces per day

For purse seine vessels this should be recorded by fishing operation including nil returns

6. Master signature
7. Means of weight measure: estimation, weighing on board and counting
8. The logbook is kept in equivalent live weight of fish and mentions the conversion factors used in the evaluation.

Minimum information for fishing logbooks in case of landing or transhipment:

1. Dates and port of landing/transhipment
2. Products
    a) species and presentation by FAO code
    b) number of fish or boxes and quantity in kg
3. Signature of the Master or Vessel Agent
4. In case of transhipment: receiving vessel name, its flag and ICCAT number

Minimum information for fishing logbooks in case of transfer into cages:

1. Date, time and position (latitude/longitude) of transfer
2. Products:
    a) Species identification by FAO code
    b) Number of fish and quantity in kg transferred into cages
3. Name of towing vessel, its flag and ICCAT number
4. Name of the farm of destination and its ICCAT number

([15]) ICCAT recommendation 2021-08

5. In case of joint fishing operation, in complement of information laid down in points 1 to 4, the masters shall record in their logbook:
   a) as regards the catching vessel transferring the fish into cages:
   - amount of catches taken on board,
   - amount of catches counted against its individual quota,
   - the names of the other vessels involved in the JFO.
   b) as regards the other catching vessels not involved in the transfer of the fish:
   - the name of the other vessels involved in the JFO, their international radio call signs and ICCAT numbers,
   - that no catches have been taken on board or transferred into cages,
   - amount of catches counted against their individual quotas,
   - the name and the ICCAT number of the catching vessel referred to in a).

B. GFCM Logbook requirements ([16])

Minimum specifications for the GFCM logbook:

1. the logbook shall be numbered by sheet (3-digit country code and 7-digit unique reference);
2. the logbook shall be filled for each fishing operation carried out every day (preferably by midnight) and before port arrival;
3. the logbook shall be completed in case of sea inspections or upon request of the flag state;
4. one copy of the sheets shall remain attached to the logbook;
5. logbooks shall be kept on board to cover a period of one-year operation or the quota period.

Minimum standard information for the GFCM logbook:

1. master(s) name(s) and address(es);
2. date and time of departure and return from/to port;
3. vessel name, call-sign, GFCM unique number and IMO number (if available);
4. fishing gear (FAO code and units) and their dimension, mesh size and number of hooks;
5. operations at sea, with at least one line per day of trip, providing:
   a) activity (fishing, steaming, etc.),
   b) position: geographical positions, recorded for each fishing operation or at noon when no fishing has been conducted during this day as well as GFCM geographical subarea (GSA) and/or the number of the rectangle 30'x30' of the GFCM statistical grid,
   c) the numbers of a rectangle in the GFCM statistical grid is a 5-digit code, as reported in the Annex 2 of this recommendation and identified by the following rule:
      (i) latitude is covered by a 3-digit code composed of a letter and two numbers. Maximum range from M00 (30°N) up to M34 (47°30'N),
      (ii) longitude is covered by a code composed of a letter and a number. The letter range is from A to J and number range per letter is from 0 to 9. Maximum range from A0 (6°W) up to J5 (42°E).
   d) record of catches by species.

([16]) Recommendation GFCM/35/2011/1

6. species identification:
    a) by FAO code,
    b) round weight (RWT) in kg per day for all species,
    c) number of fish caught per day (only for tuna, swordfish and highly migratory shark);
7. master(s) signature(s);
8. observer signature (if applicable);
9. means of weight measure: estimation, weighing on board and/or counting of containers (boxes, baskets, etc.).

Minimum information in case of landing and/or transshipment:

1. Date, time and port of landing and/or transshipment;
2. Products:
    a) presentation,
    b) number of fish or containers and quantity in kg;
3. Signature of the master(s) or vessel agent(s);
4. Vessel details (transshipment): (name, call-sign, markings, flag and any other characteristics);
5. The permitted margin of tolerance of 10 percent shall be expressed as a percentage of the actual determined live weight equivalent of each species retained on board.

A guide to the identification of species directly covered by the ICCAT convention and by-catch species of special importance can be found in Chapter 2 of:

https://www.iccat.int/en/iccatmanual.html

Presentation 3-Alpha codes

3-Alpha presentation code	Presentation	Description
FIL	Fillets	Removal of head, guts, bones and fins. Each fish originates two fillets not joined by any part
FIS	Skinned fillets	Removal of head, guts, bones, fins and skin. Each fish originates two fillets not joined by any part
GHT	Gutted headed and tailed	Guts, head and tail removed
GUG	Gutted and gilled	Guts and gills removed
GUH	Gutted and headed	Guts and head removed
GUL	Gutted liver in	Guts removed with the exception of liver
GUS	Gutted headed and skinned	Guts head and skin removed
GUT	Gutted	All guts removed
HEA	Headed	Head removed
LVR	Liver	Liver only. In case of collective presentation use code LVR-C
OTH	Other	Any other presentation
ROE	Roe(s)	Roe(s) only. In case of collective presentation use code ROE-C
SGT	Gutted and salted	Guts removed and fish salted
TAL	Tail	Tails only
TNG	Tongue	Tongue only. In case of collective presentation use code TNG-C
WHL	Whole	No processing
WNG	Wings	Wings only

Fishing gear description	Code
Surrounding nets	
Surrounding net with purse line (purse seine)	PS
One-boat operated purse seine	PS1
Two-boat operated purse seine	PS2
Surrounding net without purse line (lampara)	LA
Boat seine nets	
Beach seine	SB
Danish seine	SDN
Scottish seine	SSC
Trawl nets	
Beam trawl	TBB
Bottom otter trawl	OTB
Bottom pair trawl	PTB
Nephrops trawl	TBN
Shrimp trawl	TBS
Bottom trawl (not specified)	TB
Midwater otter trawl	OTM
Midwater pair trawl	PTM
Midwater trawl (not specified)	TM
Otter twin trawl (Twin bottom otter trawl)	OTT
Otter trawl (not specified)	OT
Pair trawl (not specified)	PT
Other trawl (not specified)	TX
Dredges	
Boat dredges (Towed dredges)	DRB
Hand dredges	DRH
Mechanised dredges	HMD
Dredges (not specified)	DRX
Lift nets	
Portable lift nets	LNP
Boat-operated lift nets	LNB
Shore-operated stationary lift nets	LNS
Lift nets (not specified)	LN
Falling gear	
Cast nets	FCN
Cover pots / lantern nets	FCO
Falling gear (not specified)	FG
Gillnets and entangling nets	
Bottom-set gillnets	GNS
Driftnets	GND
Trammel nets	GTR
Combined gillnets and trammel nets	GTN
Gillnets and entangling nets (not specified)	GEN
Encircling gillnets	GNC

Annex 8 Food and Agriculture Organization of the United Nations gear codes

Gillnets (not specified)	GN
Traps	
Pots	FPO
Fyke nets	FYK
Stow nets	FSN
Barriers, fences, weirs, etc.	
Traps (not specified)	FIX
Hooks and lines	
Hand lines and pole lines (hand operated)	LHP
Hand lines and pole lines (mechanical)	LHM
Bottom-set longlines	LLS
Drifting longlines	LLD
Longlines (not specified)	LL
Hooks and lines (not specified)	LX
Trolling lines	LTL
Miscellaneous gear	
Harpoons	HAR
Hand implements (wrenching gear, clamps, tongs, rakes, spears)	MHI
Pumps	MPM
Push nets	MPN
Scope nets	MSP
Diving	MDR
Gear (not specified)	MIS
Gear not known	
Gear not known	NK

Transshipment Declaration

Carrier vessel
Vessel Name and radio call sign:
Flag Country/Entity/Fishing Entity:
Flag State authorization number:
Domestic Registration Number:
ICCAT Record Number:
IMO Number, if any:

Fishing vessel
Vessel Name and radio call sign:
Flag CPC:
Flag CPC authorization number:
Domestic Registration Number:
ICCAT Record Number, if applicable:
IMO Number, if any:
External identification:

	Day	Month	Hour	Year	
Departure	|_|_|	|_|_|	|_|_|	from	|2_|0_|_|_|
Return	|_|_|	|_|_|	|_|_|	to	|_____|
Transshipment	|_|_|	|_|_|	|_|_|		|_____|

Agent's name:
Signature:

Fishing vessel Master's name:
Signature:

Carrier vessel Master's name:
Signature:

Indicate the weight in kilograms or the unit used (e.g. box, basket) and the landed weight in kilograms of this unit: |___| kilograms

LOCATION OF TRANSSHIPMENT.....

Species (by stock,* if applicable)[2]	Port		Area[3]		Type of Product[1] RD/GG/DR/FL/ST/OT	Net Weight (Kg)					

ICCAT Observer signature and date (if transshipment at sea):

[1] Type of Product should be indicated as Round (RD), Gilled and Gutted (GG), Dressed (DR), Fillet (FL), Steak (ST), Other (OT) (describe the type of product).
[2] A list of species by stock, with their geographic delineations, is included on the back of this form. Please provide as much detail as possible.
[3] Atlantic, Mediterranean, Pacific, Indian.

*If stock level information is not available, please provide explanation.

ICCAT transhipment declaration

Annex 10 Typical elements of an inspection report ([17])

1. Inspection report no				2. Port state			
3. Inspecting authority							
4. Name of principal inspector				ID			
5. Port of inspection							
6. Commencement of inspection	YYYY		MM		DD		H
7. Completion of inspection	YYYY		MM		DD		H
8. Advanced notification received					Yes		No
9. Purpose(s)	LAN		TRX		PRO		OTH (specify)
10. Port and state, and date of last port call				YYYY		MM	DD
11. Vessel name							
12. Flag state							
13. Type of vessel							
14. International radio call sign							
15. Certificate of registry ID							
16. IMO ship ID, if available							
17. External ID, if available							
18. Port of registry							
19. Vessel owner(s)							
20. Vessel beneficial owner(s), if known							
and different from vessel owner							
21. Vessel operator(s), if different from vessel owner							
22. Vessel master name and nationality							
23. Fishing master name and nationality							
24. Vessel agent							
25. VMS	No	Yes: National		Yes: RFMOs		Type	
26. Status in RFMO areas where fishing or fishing-related activities have been undertaken, including any IUU vessel listing							
Vessel identifier		RFMO	Flag state status	Vessel on authorised vessel list		Vessel on IUU vessel list	
27. Relevant fishing authorisation(s)							
Identifier	Issued by	Validity	Fishing area(s)	Species		Gear	
28. Relevant transhipment authorisation(s)							
Identifier		Issued by		Validity			
29. Transhipment information concerning donor vessels							
Name	Flag state	ID no	Species	Product form	Catch area(s)	Quantity	
30. Evaluation of offloaded catch (quantity)							
Species	Product form	Catch area(s)	Quantity declared	Quantity offloaded	Difference between quantity declared and quantity deter mined		

31. Catch retained on board (quantity)					
Species	Product form	Catch area(s)	Quantity declared	Quantity retained	Difference between quantity declared and quantity determined
32. Examination of logbook(s) and other documentation			Yes	No	Comments
33. Compliance with applicable catch documentation scheme(s)			Yes	No	Comments
34. Compliance with applicable trade information scheme(s)			Yes	No	Comments
35. Type of gear used					
36. Gear examined in accordance with paragraph e) of Annex B			Yes	No	Comments
37. Findings by inspector(s)					
38. Apparent infringement(s) noted including reference to relevant legal instrument(s)					
39. Comments by the master					
40. Action taken					
41. Master's signature					
42. Inspector's signature					

([17]) Article 14 of and Annex C to the FAO agreement on port state measures to prevent, deter and eliminate illegal, unreported and unregulated fishing.

Annex 11 ICCAT Inspection report template

REPORT OF INSPECTION N°……

1. Inspector(s) Inspector's witness
   - 1.1 Name…… Name……
   - 1.2 Nationality…… Nationality……
   - 1.3 Contracting Parties…… Contracting Parties ……
   - 1.4 ICCAT Identity Card number…… ICCAT Identity Card number……

2. Vessel carrying the Inspector
   - 2.1 Name and Registration ……
   - 2.2 Flag……

3. Vessel inspected
   - 3.1 Name and Registration……
   - 3.2 Flag……
   - 3.3 Captain (Name and address)……
   - 3.4 Ship owner (Name and address)……
   - 3.5 ICCAT Record number……
   - 3.6 Type of vessel……

4. Position
   - 4.1 As determined by the inspector:…… Lat……Long……
   - 4.2 As determined by the captain of the fishing vessel:… Lat……Long……
   - 4.3 Time (GMT) when position was recorded: ……

5. Date (dd/mm/yyyy……

6. Time
   - 6.1 On arrival on board……
   - 6.2 Of departure from the vessel……

7. Fishing gear on board
   - Purse seine ☐ Pole & Line (Baitboat) ☐
   - Long line ☐ Trolling lines ☐
   - Other (specify) ……
   - Towing cage(s) Yes No Number of cages……

8. Statement of photographs taken with description of subjects:

_____

_____

_____

_____

9. List of documents inspected and comments:
   - 9.1 Log book Yes No Infringement Yes No
   - 9.2 BCD Yes No Infringement Yes No
   - 9.3 Transfer / transhipment declaration Yes No Infringement Yes No
   - 9.4 Other (specify)……

10. Results of the inspection of the fish on board:

10.1 Species observed on board

SPECIES				
TOTAL CATCH (kg)				
INFORMATION SOURCE				
PRODUCT TYPE				
SAMPLE INSPECTED				
% UNDER MIN SIZE				

10.2 Species declared to be in the cage/s

Transfer document No..... Date of first transfer .....Farm of Destination.....

Catching vessel name.....

ICCAT No.....

Cage No .....Specie.....Individuals No..... Weight (kg).....

11. Infringements of ICCAT conservation and management measures observed (description of infringement with mention of legal reference, and if serious violation(s) have been detected, please complete the attached sheet)

12. Inspector's comments (if necessary use a complementary sheet specifying: "*attachment to ICCAT report number xxxx*")

13. Inspector's signature_____Witness' signature_____

14. Observer's name, comments and signature

15. Captain's comments and signature

_____

_____

_____

_____

_____

_____

_____

_____

SERIOUS VIOLATIONS OBSERVED

Vessel name:

Vessel flag:

ICCAT number:

- fishing without a license, permit or authorization issued by the flag CPC,
- failure to maintain sufficient records of catch and catch-related data in accordance with the Commission's reporting requirements or significant misreporting of such catch and/or catch-related data;
- fishing in a closed area;
- fishing during a closed season;
- intentional taking or retention of species in contravention of any applicable conservation and management measure adopted by the ICCAT;
- significant violation of catch limits or quotas in force pursuant to the ICCAT rules;
- use of prohibited fishing gear;
- falsification or intentionally concealment of the markings, identity or registration of a fishing vessel;
- concealment, tampering with or disposal of evidence relating to investigation of a violation;
- multiple violations which taken together constitute a serious disregard of measures in force pursuant to the ICCAT;
- assault, resistance, intimidation, sexual harassment, interference with, or undue obstruction or delay of an authorized inspector or observer;
- intentional tampering with or disabling the vessel monitoring system;
- fishing with assistance of spotter planes;
- interference with the satellite monitoring system and/or operates without VMS system;
- transfer activity without transfer declaration;
- other (specify)

Inspector's signature_____ Witness' signature_____

Date_____

Annex 12 Overview of requirement in GFCM management area

Management plan	Blackspot seabream in the Alboran Sea	Deep-water red shrimps fisheries in the eastern-central Mediterranean	Deep-water red shrimps fisheries in the eastern-central Mediterranean	Deep-water red shrimps fisheries in the eastern-central Mediterranean	European hake and deep-water rose shrimp bottom trawl fisheries in the strait of Sicily
	Alboran Sea	Levant Sea	Ionian Sea	Strait of Sycily	Strait of Sycily
Area	GSAs 1,2 and 3 Strait of Gibraltar	GSAs 24, 25, 26 and 27	GSAs 19, 20 and 21	GSAs 12, 13, 14, 15 and 16	GSAs 12, 13, 14, 15 and 16
FRA					East of Adventure Bank, West of Gela Basin, East of Malta Bank
Species	Blackspot seabream (*Pagellus bogaraveo*)	Giant red shrimp and Blue and red shrimp (*Aristaeomorpha foliacea, Aristeus antennatus)*	Giant red shrimp and Blue and red shrimp (*Aristaeomorpha foliacea, Aristeus antennatus*	Giant red shrimp and Blue and red shrimp (*Aristaeomorpha foliacea, Aristeus antennatus*	Demersal species including European hake (Merluccius merluccius) and deep-water rose shrimp (Parapenaeus longirostris)
Minimum size	30 cm				European hake – 20cm deep-water rose shrimp -20 mm carapace length (CL)
Fishing gear	longlines and handlines	trawlers	trawlers	trawlers	bottom trawlers >10 m
Authorization	Yes	Yes	Yes	Yes	Yes
Not authorized		shall not be allowed to fish for, retain on board or land any quantity of the key species greater than 3 percent of the total live weight catch retained on board, if the vessel is engaged in a fishing trip in any of the GSAs 19, 20 or 21.	shall not be allowed to fish for, retain on board or land any quantity of the key species greater than 3 percent of the total live weight catch retained on board, if the vessel is engaged in a fishing trip in any of the GSAs 19, 20 or 21.	shall not catch, retain on board, transship, land, store or sell any of the key species	
VMS	>12 m	>10 m	>10 m		>10 m
Logbook	Yes, irrespective of the live weight of the catch	Yes, irrespective of the live weight of the catch	Yes, irrespective of the live weight of the catch	Yes, irrespective of the live weight of the catch	Yes, irrespective of the live weight of the catch
Prior notification	4 hours (1 hour)				
Designated port	Yes	Yes, specified permitted landing and transhipping times	Yes, specified permitted landing and transhipping times	Yes	Yes, specified permitted landing and transhipping times; ensure inspection coverage during all landing and transshipping times and at all landing and transshipping places

Transhipment	No	In Designated ports	In Designated ports		In Designated ports
Fishing effort					
Temporal / spatial closure					any fishing activity with bottom trawlers irrespective of their overall length shall not be allowed between the coast and the 200 metres depth isobath in GSA 14 (Gulf of Gabès). This closure shall apply every year from 1 July until 30 September.
Additional requirements	Individuals <30cm should not be land (if represent more than 10% of the landings, catch and release				smaller than the minimum conservation reference size defined in paragraph 7 shall not be caught, retained on board, transshipped, transferred, landed, stored, sold, displayed or offered for sale.

Management plan	**Demersal fisheries in the Adriatic Sea,**	**Small pelagic in the Adriatic Sea,**	**Red Coral in the Mediterranean Sea**	**European eel in the Mediterranean Sea**	**Black Sea turbot fisheries,**	**Common dolphinfish fisheries and the use of FADs**
	Adriatic Sea	Adriatic Sea	Mediterranean Sea	Mediterranean Sea	Black Sea	Mediterranean Sea
Area	GSAs 17 and 18	GSAs 17 and 18	GSAs 1 to 27 (Mediterranean Sea)	GSAs 1 to 27 (Mediterranean Sea) Marine waters	GSA 29	GSAs 1 to 27 (Mediterranean Sea) Marine waters
FRA	Jabuka/Pomo Pit; Bari Canyon	Jabuka/Pomo Pit				
Species	European hake (Merluccius merluccius) Norway lobster (*Nephrops norvegicus),* Common sole (*Solea solea) GSA 18,* Deep-water rose Shrimp (*Parapenaeus longirostris),* Red mullet (*Mullus barbatus)*	anchovy (*Engraulis encrasicolus),* sardine (*Sardina pilchardus)*	Red coral (*Corallium rubrum)*	Eel (*Anguilla anguilla*)	European sprat (*Sprattus sprattus)*	Common dolphinfish *(Coryphaena hippurus)*
Minimum size	deep-water rose shrimp 20 mm carapace length (CL); Norway lobster 20 mm CL or 70 mm total length (TL); common sole 20 cm; red mullet 11 cm		red coral colonies minimum diameter 7 mm measured within one centimetre from the base of the colony.			

Fishing gear	otter-trawling, beam-trawling, bottom pair trawling and otter twin trawling	purse-seiners and pelagic-trawlers	hammer used by an authorized fisher or fishing vessel using scuba diving equipment	All fishing activities including recreational fishery		FAD s composition, location, maintenance, replacement and markings
Authorization	Yes	Yes	Yes	Yes	Yes	Yes
Not authorized			shall not harvest, retain on board, transship, land, store or sell red coral		shall not catch, retain on board, transhipp, land, store or sell	
VMS	>12 m	>12 m	Voluntary base		>12 m	
Logbook	E-logbook irrespective of the volume of the catch, to vessels >12 metres length catches of non-target species in excess of 50 kg,	E-logbook Catches of non-target species in excess of 50 kg irrespective of the live weight for Vessels >12 m	Yes, irrespective of the live weight of the catch	Yes, irrespective of the live weight of the catch	Yes, irrespective of the live weight of the catch	
Prior notification			4 hours (1 hour)			
Designated port	Yes, specified permitted landing and transhipping times	Yes	Yes	Yes	Yes	
Transhipment		In Designated ports	In Designated ports		In Designated ports	
Fishing effort	for a continuous period of at least eight week or set a closure of at least 30 continuous days and covering at least 20 percent of territorial sea for fishing activities with OTB, PTB, OTT and TBB irrespective of their overall length.	joint catch limits				

Temporal /spatial closure	close the coastal zone, irrespective of depth, out to six nautical miles, or four nautical miles for vessels not allowed to fish beyond six nautical miles, to towed gear targeting demersal stocks, for a continuous period of at least eight week or set a closure of at least 30 continuous days and covering at least 20 percent of territorial sea for fishing activities with OTB, PTB, OTT and TBB irrespective of their overall length.	1 October to 31 March for sardine; 1 April to 30 September for anchovy; spatial closures to vessels > 12 metre length for no less than 9 months. Such closures shall cover 30 percent of the territorial or inner waters	waters >50 m deep			
Additional requirements	smaller than the minimum conservation reference size as defined in paragraphs 17 and 18 shall not be retained on board, transshipped, transferred, landed, stored, sold, displayed or offered for sale.		Catch Documentation Scheme (CDS)- catch certificate for the purpose of identifying the origin of red coral harvested			All fishing vessels exploiting common dolphinfish should record their fishing activities with FADs.

Mediterranean Sea" means geographical subareas (GSAs) 1 to 27 included, as defined in Resolution GFCM/33/2009/2 on the establishment of geographical subareas in the GFCM

Annex 13

ICCAT template – reporting of fish that die during further transfers and towing operations

Reporting of fish that die during further transfers and towing operations		
Towing vessel	Name	
	ICCAT N° and Flag	
	ITD N° and Cage N°	
	Master's name	
Catching vessel(s)/trap	Name of vessel(s)/trap	
	ICCAT number and JFO N°	
	eBCDs number(s)	
Previous towing vessel (if any)	Name	
	ICCAT N° and Flag	
	ITD N° and Cage N°	
	Total number of BFT reported dead (*)	
Farm of destination	CPC / Name / ICCAT N°	
Date	N° of dead BFT	Master's signature
TOTAL		

Annex 14 GFCM Fisheries Restricted Areas requirements

FRA	ZONE	Prohibited fishing gear(s)/ activites	Fishing authorization for gear(s)	VMS/ AIS	Fishing authorization for gear(s)	Time closure	Restriction-fishing days number	Designated port
East of Adventure Bank		Bottom trawl				Permanently		
	Buffer area 1 NM beyond the FRA	Bottom trawl				Permanently		
West of Gela Basin		Bottom trawl				Permanently		
	Buffer area 1 NM beyond the FRA	Bottom trawl				Permanently		
East of Malta Bank		Bottom trawl				Permanently		
	Buffer area 1 NM beyond the FRA	Bottom trawl				Permanently		
Gulf of Lion	A	Towed nets, Bottom and mid-water longlines, bottom-set nets, Recreational fishing				Permanently		
	B		Towed nets, Bottom and mid-water longlines, bottom-set nets,		Towed nets, Bottom and mid-water longlines, bottom-set nets,			X
Jabuka/ Pomo Pit in the Adriatic Sea	A	Bottom-set nets, Bottom trawlers, Set longlines and traps, Purse seiners and Pelagic trawler (trageting PIL,ANE), Recreational fishing				Permanently		
	B	Purse seiners and Pelagic trawler (trageting PIL,ANE),	Bottom-set nets, Bottom trawlers, Set longlines and traps,		Bottom-set nets, Bottom trawlers, Set longlines and traps,			
	C	Purse seiners and Pelagic trawler (trageting PIL,ANE),	Bottom-set nets, Bottom trawlers, Set longlines and traps,		Bottom-set nets, Bottom trawlers, Set longlines and traps,		X	

Bari Canyon in the southern Adriatic Sea	A	Any professional and recreational fishing				Permanently		
	B	Towed nets, Bottom set nets, Recreational fishing	Set longlines, Traps		Set longlines, Traps	X	X	
Deep-sea fisheries restricted area "Lophelia reef off Capo Santa Maria di Leuca"		Bottom trawlers, dredges				Permanently		
Deep-Sea fisheries restricted area "the Nile delta area cold hydrocarbon seeps"		Bottom trawlers, dredges				Permanently		
Deep-sea fisheries restricted area "the Eratosthenes Seamount"		Bottom trawlers, Dredges				Permanently		
Deep-waters below 1000 m – Mediterranean and Black seas		Trawl nets, Dredges				Permanently		

Annex 15 GFCM sigthing/surveillance information sheet

GFCM sighting inspection report
Date of the sightings: ...../...../..... Time: UTC
Position of the vessel sighted: Latitude..... - Longitude.....
Course..... – Speed.....
Name of the vessel sighted:
Flag of the vessel sighted:
External number/marking:
Type of vessel:
☐ Fishing vessel
☐ Carrier vessel
☐ Freezer vessel
¨Other (specify)
International Radio Call Sign:
IMO number (where applicable):
Activity(ies):
☐ Fishing
¨Steaming
☐ Drifting
¨Transhipping
Radio contact: ¨YES - ¨NO
Name and nationality of the captain of the sighted vessel: .....
Number of people on board the sighted vessel: .....
Catches on board sighted vessel: .....
Information collected by: Name of inspector: Contracting Party: GFCM Identity Card number: Name of the patrol vessel:

Annex 16 ICCAT Caging Declaration template

ICCAT Caging Declaration	**Document No:**	
1 - CAGING OF BLUEFIN TUNA		
Farm name: ICCAT Register number: Caging authorization number: Transport cage number: Farm cage number: Date of caging:	Towing vessel name: ICCAT Register number: Flag: JFO number: eBCD number(s): Transfer declaration (ITD) number(s):	
Bluefin tuna that die during transport (1):		
2 - CAGING INFORMATION – FARM OPERATOR AND ICCAT OBSERVER (2)		
	Farm Operator	ICCAT Observer
Number individuals:		
Quantities in kg:		Not applicable
Number and weight (kg) of BFT dead during caging:		
Farm operator name, date and signature:	Observer Name, ICCAT No, date and signature:	
Presence of Observer: (Y/N)	Reasons for disagreement:	Rules or procedure not respected:
3 - CAGING INFORMATION – CPC FARM AUTHORITIES (3)		
Number individuals:	Quantities in kg:	
CPC authorities officer, date and signature:		

Annex 17 ICCAT Transfer Declaration template

Document No.		**ICCAT Transfer Declaration**	
1 - TRANSFER OF LIVE BFT DESTINATED FOR FARMING			
Fishing vessel name: Call sign: Flag: ICCAT Register No.: External identification: Transfer authorization No.: Fishing logbook No.: JFO No.: eBCD No.:	Trap name: ICCAT Register No.:	1st towing vessel name: Flag: ICCAT Register No.: External identification: Transport cage number:	Name destination farm: ICCAT Register No:
		2nd towing vessel name (2): Flag: ICCAT Register No.: External identification: Transport cage number:	Name destination farm (3): ICCAT Register No:
	Donor farm name (1): ICCAT Register No.:	3rd towing vessel name (2): Flag: ICCAT Register No.: External identification: Transport cage number:	Name destination farm (3): ICCAT Register No:
2 – FIRST TRANSFER INFORMATION			
Date:_ _ / _ _ / _ _ _ _		Place or position: Port: Lat: Long:	
No. individuals and estimated weight (kg) in first cage (4): First transfer: Voluntary transfer: Control transfer: BFT dead during the transfer (5):	No. individuals and estimated weight (kg) in second cage: First transfer: Voluntary transfer: Control transfer: BFT dead during the transfer (5):	No. individuals and estimated weight (kg) in third cage: First transfer: Voluntary transfer: Control transfer: BFT dead during the transfer (5):	
Master of fishing vessel / trap operator / farm operator name and signature:	Master of receiving vessel name and signature: 1st receiving vessel: 2nd receiving vessel: 3rd receiving vessel:	Observer Name, ICCAT No. and signature:	

Presence of Observer: (Y/N) Estimated No. of individuals Regional Obs: Seals Numbers (6):	Reasons for disagreement:	Rules or procedure not respected:

3 – FURTHER TRANSFERS (7)			
FURTHER TRANSFER 1			
Date:_ _ / _ _ / _ _ _ _ ITD number:		Place or position: Port: Lat: Long:	
Donor towing vessel name: Receiving towing vessel name:	Call sign: Call sign:	Flag: Flag:	ICCAT Register No.: ICCAT Register No.:
Transfer authorization No.:	External identification:	Donor Cage No.: Receiving Cage No.:	Master of donor vessel name and signature: Master of receiving vessel name and signature:

<table>
<tr><td colspan="2">No. individuals transferred and estimated weight (kg)(4):
Further transfer:
Voluntary transfer:
Control transfer:
In case of voluntary or control transfer:
i. Information on the receiving towing vessel:
Name:
Flag:
ICCAT Register No.:
External identification:
ii. Transport cage number:</td><td colspan="3">Number of BFT that died during transfer:</td></tr>
<tr><td colspan="5">FURTHER TRANSFER 2</td></tr>
<tr><td colspan="2">Date:_ _ / _ _ / _ _ _ _ ITD number</td><td colspan="3">Place or position: Port: Lat: Long:</td></tr>
<tr><td>Donor towing vessel name:

Receiving towing vessel name:</td><td>Call sign:

Call sign:</td><td>Flag:

Flag:</td><td colspan="2">ICCAT Register no.

ICCAT Register no.</td></tr>
<tr><td>Transfer authorization no:</td><td>External identification:</td><td>Donor Cage No.: Receiving Cage No.:</td><td colspan="2">Master of donor vessel name and signature:
Master of receiving vessel name and signature:</td></tr>
<tr><td colspan="2">N° individuals transferred and estimated weight (kg)(4)
Further transfer:
Voluntary transfer:
Control transfer:
In case of voluntary or control transfer
i. Information on the receiving towing vessel:
Name:
Flag:
ICCAT Register No.:
External identification:
ii. Transport cage number:</td><td colspan="3">Number of BFT that died during transfer:</td></tr>
<tr><td colspan="5">FURTHER TRANSFER 3</td></tr>
<tr><td colspan="2">Date:_ _ / _ _ / _ _ _ _ ITD number</td><td colspan="3">Place or position: Port: Lat: Long:</td></tr>
<tr><td>Donor towing vessel name:

Receiving towing vessel name:</td><td>Call sign:

Call sign:</td><td>Flag:

Flag:</td><td colspan="2">ICCAT Register No.:

ICCAT Register No.:</td></tr>
<tr><td>Transfer authorization No.:</td><td>External identification:</td><td>Donor Cage No.:

Receiving Cage No.:</td><td colspan="2">Master of donor vessel name and signature:

Master of receiving vessel name and signature:</td></tr>
<tr><td colspan="2">No. individuals transferred and estimated weight (kg)(4)
Further transfer:
Voluntary transfer:
Control transfer:
In case of voluntary or control transfer
i. Information on the receiving towing vessel:
Name:
Flag:
ICCAT Register No.:
External identification:
ii. Transport cage number:</td><td colspan="3">Number of BFT that died during transfer:</td></tr>
</table>

Appendix

Appendix 1. Bibliography

- FAO, Agreement on port state measures to prevent, deter and eliminate illegal, unreported and unregulated fishing.
- FAO, International plan of action to prevent, deter and eliminate illegal, unreported and unregulated (IUU) fishing.
- United Nations Convention on the Law of the Sea (UNCLOS).
- FAO, *Voluntary Guidelines on the Marking of Fishing Gear*.

Appendix 2. Links and references

- EU legislation: http://eur-lex.europa.eu/homepage.html
- EU Sustainable Fisheries Partnership Agreements: https://oceans-and-fisheries.ec.europa.eu/fisheries/international-agreements/sustainable-fisheries-partnership-agreements-sfpas_en
- EU vessels – European Union fleet register for registration data: https://webgate.ec.europa.eu/fleet-europa/search_en
- FAO: http://www.fao.org/fishery/en
- FAO port state measures agreement: https://www.fao.org/port-state-measures/en
- FAO Regional Office for Asia and the Pacific, *Implementation of Port State Measures – Technical guide to port inspection of fishing vessels*, Vol. 1: http://www.fao.org/docrep/019/i3508e/i3508e00.htm
- ICCAT: http://www.iccat.int/en
- The compendium of management recommendations and resolutions adopted by ICCAT for the conservation of Atlantic tunas and tuna-like species, which provides a complete set of active ICCAT recommendations and resolutions: https://www.iccat.int/en/RecRes.asp
- ICCAT Statistics – conversion factors: https://www.iccat.int/en/index.asp
- ICCAT IUU vessel list: http://www.iccat.int/en/IUU.asp
- ICCAT vessel records: https://www.iccat.int/en/vesselsrecord.asp
- ICCAT eBCD: https://www.iccat.int/en/ebcdprog.asp
- *ICCAT Manual*: https://www.iccat.int/en/iccatmanual.html
- GFCM: https://www.fao.org/gfcm/en/
- GFCM legislation: https://www.fao.org/gfcm/decisions/en/
- GFCM fleet register: https://www.fao.org/gfcm/data/fleet/register
- GFCM authorised vessel list: https://www.fao.org/gfcm/data/fleet/avl
- GFCM fisheries restricted areas: https://www.fao.org/gfcm/data/fleet/fras
- GFCM port register: https://www.fao.org/gfcm/data/ports
- GFCM IUU vessel list: https://www.fao.org/gfcm/data/iuu-vessel-list
- IUU plan of action: https://www.fao.org/documents/card/en/c/71be21c9-8406-5f66-ac68-1e74604464e7

- International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel (STCW-F), 1995: http://www.imo.org/en/OurWork/humanelement/pages/stcw-f-convention.aspx
- International Maritime Organization website for IMO numbers: http://www.imonumbers.lrfairplay.com
- Marine intelligence sources, such as Lloyd's List Intelligence: http://www.lloydslistintelligence.com/llint/index.htm

APPENDIX 3: List of figures

([15]) http://www.fao.org/docrep/019/i3508e/i3508e00.htm

Appendix

This manual is also available in electronic format
on the e-FIshMed e-learning platform
https://e-fishmed.efca.europa.eu

Publications Office