

CHECKLISTS AND TECHNICAL GUIDELINES TO COMBAT ILLEGAL, UNREPORTED AND UNREGULATED (IUU) FISHING

Volume III: Checklist of monitoring, control and surveillance (MCS) systems, operations, procedures and tools





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Preparation of this document

VOLUME III

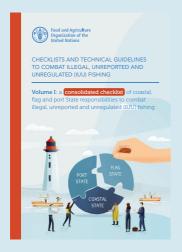
This checklist of monitoring, control and surveillance (MCS) was prepared by the Fisheries Global and Regional Processes Team of FAO's Fisheries Division in collaboration with FAO's Development Law Service. The document was drafted by Javier Villanueva García-Benítez, Glenn Quelch and Eric Mostert, with contributions from Joao Neves, Jose Antonio Acuña, Martin Cauchi Inglott, Esther Boy Carmona and Shelley Clarke. Overall technical backstopping was provided by Matthew Camilleri, Blaise Kuemlangan and Alicia Mosteiro.

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CHECKLISTS AND TECHNICAL GUIDELINES TO COMBAT ILLEGAL, UNREPORTED AND UNREGULATED (IUU) FISHING

Volume III: Checklist of monitoring, control and surveillance (MCS) systems, operations, procedures and tools

Also in this series:



Volume I: a consolidated checklist of coastal, flag and port State responsibilities to combat illegal, unreported and unregulated (IUU) fishing



Volume II:

a **legal checklist** of the main duties and responsibilities of coastal, flag and port States, and internationally agreed market-related measures to prevent, deter and eliminate illegal, unreported and unregulated (IUU) fishing

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Abbreviations

AIS Automatic Identification System **ARPE** advance request for port entry **CCTV** closed-circuit television system CDS catch documentation scheme **CMM** conservation and management measure EEZ economic and exclusive zone **ERS** electronic recording and reporting system Food and Agriculture Organization of the United Nations FAO **FMP** Fisheries Management Plan **FMC** Fisheries Monitoring Centre GIES Global Information Exchange System Global Record Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels **GPRS** general packet radio service identification **IMO** International Maritime Organization IPOA-IUU International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing IUU illegal, unreported and unregulated (fishing) LRIT Long-range Identification and Tracking

MCS	monitoring, control and surveillance	
MOU	memorandum of understanding	
PSMA	Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing	
	regional fisheries management organization/arrangement	
SOP	standard operating procedure	
VG-TS	Voluntary Guidelines for Transshipment	
VMS	vessel monitoring system	

Executive summary

This document is the third volume of a series of publications entitled Checklists and Technical Guidelines to Combat Illegal, Unreported and Unregulated (IUU) Fishing.

This monitoring, control and surveillance (MCS) checklist is intended to support States in establishing best practices for implementation of their responsibilities and for the enforcement of compliance, to ensure that they meet their international duties and obligations.

The checklist is designed to be used in the review of national MCS systems, operations, procedures and tools aimed at combating IUU fishing. Ideally, it should be used in close consultation with the Food and Agriculture Organization of the United Nations (FAO) and after the identification of improvement needs, using the first volume of the series, A consolidated checklist of coastal, flag and port State responsibilities to combat illegal, unreported and unregulated (IUU) fishing, as a reference. Alternatively, this checklist can be used by FAO Members and other interested parties independently, whilst recognizing that some aspects may not be applicable to the fisheries in their country.

The scope of this checklist is to support FAO Members and other interested parties in assessing their respective MCS systems, operations, procedures and tools aimed at combating IUU fishing, providing a list of minimum requirements to ensure that the national systems are of the desired standard to achieve the objectives of the fisheries management framework in place.

The content of the checklist has been developed from relevant provisions in binding and non-binding instruments, guidelines and tools, and presents a broad list of MCS and enforcement means, tools, standards and procedures that coastal, flag, port and market States should consider as they establish or assess their MCS systems.

The checklist covers the following:

- 1. monitoring, control and surveillance and enforcement framework;
- 2. Fisheries Monitoring Centre;
- 3. human resources;
- 4. training programmes and capacity building;
- 5. information collection mechanisms;
- 6. monitoring, control and surveillance assets; and
- 7. standard operating procedures.

This checklist does not make direct reference to MCS measures adopted by conservation and management measures (CMMs) in the framework of regional fisheries management organizations (RFMOs), which should be implemented as appropriate by the RFMO Party States concerned.

1 | Overview

International instruments establish a framework for sustainable fisheries management and to prevent, deter and eliminate IUU fishing. The management framework requires updated and strengthened national legislation, policies, institutions, capacities and cooperation, and for MCS to be implemented effectively.

The terms monitoring, control and surveillance were first defined in 1981, during an FAO Expert Consultation on Monitoring, Control and Surveillance Systems for Fisheries Management (FAO, 1981). The definitions for these three interrelated activities read as follows:

"Monitoring – the continuous requirement for the measurement of fishing effort characteristics and resource yields.

Control – the regulatory conditions under which the exploitation of the resource may be conducted.

Surveillance – the degree and types of observations required to maintain compliance with the regulatory controls imposed on fishing activities."

In 1992, an FAO resource paper, Report of a regional workshop on monitoring, control and surveillance for African states bordering the Atlantic Ocean (FAO, 1992), presented at a workshop held in Accra expanded on these terms, providing a fuller description as reproduced below, thereby providing greater clarity as to their precise meaning.

"Monitoring includes the collection, measurement and analysis of fishing activity including, but not limited to catch, species composition, fishing effort, bycatch, discards, area of operations, etc. This information is primary data that fisheries managers use to arrive at management decisions. If this information is unavailable, inaccurate, or incomplete, managers will be handicapped in developing and implementing management measures.

Control involves the specification of the terms and conditions under which resources can be harvested. These specifications are normally contained in national fisheries legislation and other arrangements that might be nationally, sub-regionally, or regionally agreed. The legislation provides the basis for which fisheries management arrangements, via MCS, are enforced. For maximum effect, legislation should be flexible (to cater for different and changing circumstances) and easily enforceable.

Surveillance involves the checking and supervision of fishing activity to ensure that national legislation and terms, conditions of access and management measures are observed. This activity is critical to ensure that resources are not over exploited, poaching is minimized, and management arrangements are implemented."

MCS is a key element for the successful implementation of the applicable legislation and agreed policy and regulatory measures designed to achieve sustainable fisheries. MCS requires the application of a carefully planned risk-based strategy with operations, standardized procedures, and the allocation of necessary resources, to ensure both effectiveness and efficiency. MCS promotes compliance of fisheries management measures. However, in cases of non-compliance detected during MCS operations, it is essential to apply enforcement actions. The absence of MCS and enforcement would render fisheries management incapable of achieving its objectives.

States experience different challenges to establishing and implementing efficient and effective MCS strategies and enforcement. These include the absence of suitable legislation, policies and plans, or a robust, effective and efficient institutional framework adapted to national needs; inadequate capacities of officers who are directly or indirectly involved in MCS; and lack of mechanisms, instruments, means and tools that would allow institutions to carry out their responsibilities.

MCS requires an understanding of: the dynamics of the fisheries sector, including its relations with the environment and ecosystems; preharvest, harvest and post-harvest activities; temporal and spatial characteristics; and a detailed knowledge of all stakeholders, their roles, and the manner in which they interact. This knowledge is used to identify priority needs in terms of the design and implementation of appropriate strategies, plans, operations and procedures, and to determine the necessary means to undertake a comprehensive and effective MCS of the fisheries of interest.

However, since MCS has evolved significantly in the last decades, alongside a parallel evolution of fishing-related activities, it is important to reconsider the MCS definition to include different approaches, add new focus areas, and clarify the relationship among monitoring, control and surveillance activities, always bearing in mind that some MCS measures could be considered in more than one category of monitoring, control and surveillance.

MCS systems are designed to incentivize self-compliance by those involved in fishing and fishing-related activities with the regulatory measures and fisheries management in force. Additionally, real-time or near real-time observations by responsible authorities are required to oversee compliance. MCS should also be complemented by an effective and efficient enforcement framework. Enforcement plays a fundamental role in ensuring that MCS systems can meet their objectives. Enforcement occurs where there is an actual or suspected contravention of measures or non-compliance and involves imperative action to stop or correct the action and/or impose dissuasive sanctions (administrative or criminal) for the action.

This document is presented in a checklist format that States should use according to their needs and realities. The document is Volume III Checklist of monitoring, control and surveillance (MCS) systems, operations, procedures and tools to combat IUU fishing of the series entitled Checklists and Technical Guidelines to Combat Illegal, Unreported and Unregulated (IUU) Fishing. Volume III complements Volume I, A consolidated checklist of coastal, flag and port State responsibilities to combat illegal, unreported and unregulated (IUU) fishing, and Volume II, A legal checklist of the main duties and responsibilities of coastal, flag and port States, and internationally agreed market-related measures to prevent, deter and eliminate illegal, unreported and unregulated (IUU) fishing. It is intended to be used in the review of national MCS systems, operations, procedures and tools to improve the compliance of fisheries management and achieve the effective and efficient combating of IUU fishing.

2 Introduction

Designing an effective and efficient MCS system requires extensive knowledge of the fisheries sectors to which it should apply. Carrying out an inventory of the areas under jurisdiction, the fleets to be monitored, and the known or potential threats in terms of IUU fishing will make it easier to establish an institutional, legal and operational framework that is adequate to respond to the various State responsibilities and challenges.

The key elements to consider for a general description of the fisheries sector are listed below:

2.1 Areas under jurisdiction

A State reviewing its MCS system requires clarity on the areas where its jurisdiction applies, to ensure that the coverage of the MCS system is appropriate. Knowledge, and an exhaustive and detailed description of the areas under national jurisdiction, are essential for the proper design of MCS systems.

Jurisdictional areas should be legally defined and consolidated in national legislation. Regarding other jurisdictional areas with special status, such as marine protected areas, those co-managed, etc., States must identify the applicable regime for those areas and, where appropriate, include them in the MCS system. In the case of spatial disputes with neighbouring States, it is important to identify a proper strategy for MCS in these areas, and to have clarity on how to proceed accordingly.

2.2 National fleets

The national fleet encompasses those vessels registered in a State and hence entitled to fly its flag, and operating either within waters under national jurisdiction, in other coastal States' waters, or in areas beyond national jurisdiction on the high seas. The national fleet also includes artisanal vessels operating within waters under national jurisdiction.

The national fleet may be categorized by length class, operational grouping (artisanal, semi-industrial, industrial), or other parameters such as fishing gear. The subcategories should be described in terms of type of vessel, power, operational areas, fishing gear used, target species, and incidental impacts in terms of bycatch, discards and non-fish interactions and mortalities.

In-depth knowledge about the activities of the different fleet segments in terms of trip length, frequencies of landings, and the ports and landing places used is required during the design and implementation of MCS. Furthermore, States should consider any existing use conflicts between fleet segments, whether derived from fishing gear or fishing area issues.

2.3 Foreign fleets

Some States authorize foreign-flagged vessels engaged in fishing and fishing-related activities to operate in waters under their jurisdiction, as a source of revenue or for other bilateral reasons. Where this is the case, legislation should be clear in establishing the MCS responsibilities of coastal and flag States. The mechanisms (memoranda of understanding, bilateral agreements, regional mechanisms, private agreements etc.) that provide the basis for authorizing foreign vessels to operate in waters under their jurisdiction in your role as a coastal State, or in their ports in the context of port State measures, should include the MCS responsibilities of the flag States involved.

The foreign fleet authorized to operate under the jurisdiction of a coastal State should be similarly described in terms of size class, type of vessel, fishing gear used (if any), activities undertaken and levels of activity (trip length, frequency of port visits, landings, transshipments, other activity), and the MCS system applied to such vessels should be at least as stringent as that of the MCS applicable to the national fleet.

2.4 Known illegal, unreported and unregulated fishing risks

Having an in-depth knowledge and analysis of potential IUU fishing risks that your State has to face, and identifying the local or regional trends in IUU fishing, are crucial to guarantee an effective and efficient MCS system.

Gathering and analysing information related to IUU fishing, including what is known about the main perpetrators and where this activity occurs, as well as the current mitigation measures applied and their effectiveness in dealing with the problem, are all essential for MCS. Where IUU risks are potential or suspected, States should consider strategies to enhance what is being done to improve knowledge regarding these suspected or potential activities.

2.5 Fish products market

The fish products market is often convoluted, involving products destined for national consumption, products for processing, products that are exported, and products that are imported. An important indicator of possible IUU activity is where discrepancies are identified in the consideration of fish landed plus fish product imports, subtracting fish product exports, in comparison with national consumption. Analysis of this type requires detailed information and records regarding the dynamics of the national market in fish and fish products, including the international dimension.

The MCS system should take account of any applicable internationally agreed market-related measures, as well as national measures, and be capable of monitoring compliance with any rules applicable to the State's marketing arrangements.

These rules may be focused on verifying legal provenance, traceability and consumer information.

Market-related measures, applied either to the internal market or to exports and imports, play a key role in combating IUU fishing. States should understand the national dynamics of fish marketing, in order to set up a proper MCS system, capable of following and tracing the products before they are consumed at national level, or exported, including during processing. Furthermore, States should set up adequate measures for verifying the legality of fish imports from external markets.

3

Monitoring, control and surveillance, and enforcement framework

Carrying out MCS in line with applicable legislation and policy requires an adequate operational framework to establish the key components, based on the fisheries situation prevailing within a given State and assessed risk-based priorities, at national or regional level. This framework should indicate the coastal, flag and port State responsibilities and internationally agreed market-related measures, as appropriate, identifying the human, financial and technological resources needed. As the framework is being established, stock should be taken of what resources are available (possibly through a strengths, weaknesses, opportunities, and threats analysis), and means to address any shortcomings should be identified. Moreover, all relevant agencies that may be involved in MCS should be identified and their respective roles and responsibilities should be established to promote coordination and cooperation.

Key elements in the establishment of an MCS framework are listed below:

Index	Instruments	Key element
3.1	National fisheries legal framework	Is your system of national fisheries laws (including implementing regulations) up-to-date and consistent with applicable international instruments, including a robust and dissuasive sanctions system? The legal framework can be reviewed using the FAO publication A legal checklist of the main duties and responsibilities of coastal, flag and port States, and internationally agreed market-related measures to prevent, deter and eliminate illegal, unreported and unregulated fishing (IUU).

Index	Instruments	Key element
3.2	Fisheries Management Plans	Have you adopted any Fisheries Management Plans (FMPs) to set up your fisheries policy? FMPs establish the fisheries policy to implement the national legal framework and international obligations, including applicable conservation and management measures (CMMs) adopted by regional fisheries management organizations (RFMOs). Are your FMPs reviewed and updated regularly? The Fisheries Management Plan should be reviewed periodically.
3.3	National Plan of Action	Have you developed a National Plan of Action (based on the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU)) to prevent, deter and eliminate IUU fishing? Has this plan been officially adopted and implemented? Is there a mechanism for evaluating and reviewing this plan? The development of a national action plan (based on IPOA-IUU) sh ould be reviewed and revised, as necessary, or at least every four years.
3.4	National MCS plan	Have you developed a national MCS plan to set out the objectives and priorities, and to assess available resources, which should meet the MCS objectives? Is there a mechanism for evaluating and reviewing this plan?

Index	Instruments	Key element
3.5	National inspection plan	Have you established a national inspection plan to implement objectives and priorities, based on risk assessment methodology and associated inspection planning and targeting?
		Is there a mechanism for evaluating and reviewing this plan?
3.6	Management and coordination working group	Is there a structure in charge of implementation of the framework to manage and coordinate MCS operations and enforcement, by prioritizing effort and allocating the most suitable assets to conduct operations? This structure (committee, working group etc.) may bring together representatives of different relevant agencies involved in MCS, and should meet periodically, or when needed.
3.7	Interagency cooperation mechanism	Is there an instrument or mechanism (regulatory text, memorandum of understanding (MOU)) to define the roles and contributions of the different authorities involved in the implementation of MCS operations and enforcement?

4 Fisheries Monitoring Centre

The effective implementation of an MCS framework involves the collection and management of information, the implementation of communication and coordination mechanisms, and operational procedures. It is usually the Fisheries Monitoring Centre (FMC) that fulfils these functions. Therefore, when designing, implementing or improving MCS systems, an adequate structuring of the FMC must be put in place so that it can carry out the various functions entrusted to it. The FMC should take into account the characteristics of the fishing sector and fleets to be monitored, as well as the institutional articulation of the different administrations or agencies involved in the implementation of MCS operations and enforcement.

Index	Instruments	Key element
		Under what ministerial authority(ies) does the FMC operate?
		What are the missions entrusted to the FMC? Are there any secondary missions?
		What is the working pattern of the FMC? (24/7?)
4.1	Authorities, functions and missions	What are the geographical areas in which the FMC is able to monitor fishing activities and coordinate fisheries surveillance?
		Is there an allocated operational budget adequate for conducting routine operations, and to cover maintenance of equipment and infrastructures and human resources costs?
		Does the FMC have dedicated infrastructures?
	Infrastructure, dedicated facilities	Are there secondary centres to monitor fishing activity in particular areas?
4.2		Are there any mechanisms to guarantee that the FMC is maintained in operational condition (emergency energy supply systems, security of communications networks etc.)?

Index	Instruments	Key element
		Does the FMC have high frequency (HF) radio transmission and reception capability?
4.3		Does the FMC have very high frequency (VHF) radio transmission and reception capability?
ч.3	Communication equipment	Does the network of radio stations cover the entire coastline?
		Does the FMC have satellite communication capability?
		Does the FMC maintain a dedicated information management system?
		Does the FMC have permanent access to relevant national MCS databases?
		Does the FMC have access to relevant regional/ RFMO MCS databases?
		Does the FMC implement the national vessel monitoring system (VMS)?
4.4	Information management and monitoring technology	Does the FMC have access to Automatic Identification System (AIS) data? If yes, in what way?
		In what ways does the FMC use the AIS system?
		Does the FMC implement any national electronic recording and reporting system (ERS)?
		What other technologies for monitoring fishing activities are operated or accessible by the FMC (radar surveillance, satellite detection, drones etc.)?

5 | Human resources

Human resources play a fundamental role in achieving the objectives established in the fisheries policy, and hence the efficacy of its MCS. When designing, establishing or improving MCS systems, adequate human resources should be assigned, in order to facilitate compliance with national and international responsibilities. Choices relating to the allocation of sufficient human resources should also be aligned with the characteristics of the fisheries sector and its activities, to ensure an effective and efficient MCS. Finally, it is worth highlighting that even the most technologically advanced MCS systems will fail without properly trained and adequately resourced human inputs. Requirements for officials directly involved in carrying out MCS activities are described below:

Index	Resources	Key requirements
		Is there a legal framework to define the responsibilities and duties that allow officials to carry out functions related to MCS and enforcement?
		The legal framework should provide civil servants with the appropriate powers to perform their duties effectively.
5.1	Fisheries inspectors and fisheries officers	Do you have the appropriate number of fisheries inspectors/fisheries officers to implement the MCS system effectively and efficiently?
		Implementation of the MCS system should have adequate coverage that ensures compliance with applicable laws, regulations and conservation and management measures.
		Do fisheries inspectors have official identification (ID) documents in accordance with national legislation and/or international obligations, such as RFMO ID?

Index	Resources	Key requirements
		Is there a legal framework to define the responsibilities and duties that allow officials to perform MCS-related functions in the Fisheries Monitoring Centre (FMC)?
5.2	Fisheries Monitoring Centre (FMC) operators	Are reports written by FMC operators admitted as evidence in investigations of possible non-compliance by the legal services?
		Are there enough trained FMC operators to ensure that the FMC is operational 24 hours a day, 7 days a week?
		Is there a legal framework to define the observers' responsibilities and duties in accordance with the objectives of the observer programme?
		The legal framework should define the objectives of the programme (scientific or compliance, or combined scientific and compliance objectives) and provide observers with the appropriate powers.
		Is there an appropriate number of observers, to ensure adequate coverage of the fleets to be monitored?
5.3	Onboard observers	Coverage should consider programme objectives, locations, flag(s), fleet(s), species and gear, and consider appropriate strategies to manage risks and logistical issues.
		Do you have a reporting policy in place to define reporting procedures?
		These procedures should include, at a minimum, the frequency of transmission of reports, independent means of communication, the model for observer reports, and debriefings after deployments.
		Do you have a system or procedures in place for observers to send alerts and notify the programme manager and/or the FMC if they consider themselves in danger?

Index	Resources	Key requirements
5.4	Data collectors/ observers on land	Is there a legal framework to define responsibilities and duties in line with the objectives of the relevant programme? This framework should clearly define the type of data to be collected and their purpose (differentiation between scientific data and compliance data).
		Is there an appropriate number of officers to ensure adequate coverage in ports, landing places, processing facilities and other places of deployment? Are reports written by data collectors admitted
		as evidence in investigations of possible non-compliance?
		Do you have a reporting policy in place to define reporting procedures?
		These procedures should include, at a minimum, the frequency of transmission of reports and the model for observer reports.
5.5	Officers from other relevant agencies involved in MCS	Is there a legal framework to define the responsibilities and duties that allow officers from other relevant agencies involved in MCS to carry out functions related to MCS and enforcement?
		The legal framework should provide officers from other agencies involved in MCS with the appropriate powers to perform their duties effectively. These may include officers from the navy, coast guard, port authority, police, customs etc.
		Are there any mechanisms to establish reporting procedures, type of information exchange, and reporting template?

6 Training programmes and capacity building

Personnel must be suitably trained to be able to fulfil their responsibilities and ensure the effective implementation of MCS systems. In order to foster a culture of compliance, it may be useful to provide training and/or organize awareness-raising events for stakeholders and other relevant actors operating in the fisheries sector. Considerations related to training programmes and capacity building are described below.

Index	Target	Key considerations
	National authorities	Are personnel properly trained to enable them to discharge their duties in accordance with national law, to ensure that the State is able to meet its international obligations as a port, flag, coastal or market State? It is highly recommended that national and
6.1		regional training programmes should be in line with the courses offered through the FAO Global Programme to Support Implementation of the Agreement on Port State Measures and Complementary International Instruments and Regional Mechanisms to Combat IUU Fishing.
		Are the FMC operators trained and qualified as fisheries inspectors/fisheries officers, and are they both trained and proficient in using the tools available in the FMC?
		Are observers trained to collect and record data and other information related to fisheries activity and to report in a standardized format, in line with MCS needs?
		Are data collectors trained to collect and record data and information in accordance with their role in relation to MCS processes and systems?

Index	Target	Key considerations
		Are training programmes and workshops organized for the personnel of other relevant national authorities, to raise awareness about the applicable fisheries' legal framework, management measures, and MCS activities?
6.1	(Continued) National authorities	Do other national agencies that have responsibilities for participating in or carrying out MCS activities, as laid out in an interagency MOU, receive familiarization training to understand and appreciate the work of fisheries inspectors/fisheries officers, in order to ensure efficient and effective cooperation and coordination between authorities?
6.2	Stakeholders	Are events organized for stakeholders to raise awareness about sustainable fisheries, fisheries management, the fight against IUU fishing, the role and importance of MCS operations, traceability and other relevant topics?
		Do you organize training for stakeholders as appropriate – particularly important in cases where co-management and participatory surveillance schemes are in operation, or planned?

7 Information collection mechanisms

Data and information generated by MCS play a central role in decision-making related to planning, budgeting, statistics, fisheries management, designing MCS strategies, risk assessment etc. Therefore, it is important to set up MCS mechanisms focused on collecting relevant information throughout the fisheries supply chain – from pre-harvest operations, to harvest operations, including fishing-related activities, to post-harvest activities. The following are the essential elements of an effective information collection mechanism:

Index	Source	Key elements
7.1	Advance request for port entry	Have you established the requirements for the operator to submit the advance request for port entry (ARPE), along with the minimum information required by Article 8 and Annex A of the Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (PSMA)?
		Is the advance time period required sufficient to examine the information presented, request more information if required, engage with other national agencies, possibly regional and international organizations and other States?
	7.2 Departure from port notification/authorization	Do you require vessels to notify departure from port?
7.2		Do you authorize such departure?
		Do you regard absence from port as a proxy indicator of fishing activity?

Index	Source	Key elements
7.3	Vessel monitoring systems and remote electronic systems	Have you established and implemented the requirement for vessel monitoring systems to remotely collect and record data and information related to the geographical position, course and speed of different fishing and fishing-related activities?
		Do you require any other kinds of remote electronic monitoring systems?
7.4	Logbooks	Have you established and implemented the requirement for an official logbook format (paper or electronic) to record fishing activities or fishing-related activities by the vessel to the competent authorities, where appropriate, according to national legislation and regional commitments?
7.5	Catch reports	Have you established and implemented the requirement for an official format to report information by the vessel to the competent authorities related to catches, including information on, <i>inter alia</i> , species, catch area(s), quantities and fishing gear(s)?
7.6	Bycatch and discard reports	Have you established and implemented any requirements for an official format to report relevant information by the vessel to the competent authorities related to bycatch and discards, as required? This may be linked to the catch reports referred to in 7.5.

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Index	Source	Key elements
7.7	Landing declaration	Have you established and implemented the requirement for an official format to report information by the vessel to the competent authorities related to landed catches, including information on, <i>inter alia</i> , species, product form, catch area(s), quantity declared, quantity offloaded, quantity retained aboard, as required by paragraph 40 and Annex II of the 2022 FAO Voluntary Guidelines for Transshipment (VG-TS)?
7.8	Transshipment – advance notifications	Have you established and implemented the requirement for an official advance notification from both donor and receiver vessels to competent authorities, in accordance with national legislation, regional commitments and international guidelines, in particular in accordance with paragraph 26 of the 2022 FAO VG-TS?
		Is minimum information required, such as name, flag State, International Maritime Organization (IMO) number, quantities onboard, quantities to be transshipped by species, product form, catch area(s), time, date and place of planned transshipment, as required by paragraph 27–28 of the 2022 FAO VG-TS?
		Have you established and implemented the requirement for an official declaration from both donor and receiver vessels to competent authorities, in accordance with national legislation, regional commitments and international guidelines, in particular in accordance with paragraphs 33–38 and Annex I of the 2022 FAO VG-TS?

Index	Source	Key elements
7.9	Observer reports	Have you established and implemented a requirement for an official template for reporting independent observations, data and information on relevant fishing and fishing-related operations, according to national legislation, management and MCS requirements, and regional commitments?

MCS assets

Monitoring, control and surveillance assets

Different assets can be used for carrying out surveillance activities at sea, from the air and on land, to ensure compliance with applicable legislation and conservation measures. Some of these assets may be expensive, but States should endeavour to put in place the means required, in order to implement and achieve the objectives of an effective MCS strategy. Planning and allocating an adequate budget is essential to make effective and efficient use of MCS assets. Formalized interagency cooperation may also be necessary to access and use the material resources of other national agencies for fisheries MCS activities. The following is a list of possible surveillance vehicles to choose from, depending on the budget and national needs:

Index	Asset	Key considerations
	Patrol vessels	Do the available classes of vessel have adequate capacity to carry out effective operations offshore and inshore, and rapid interventions, in accordance with MCS needs?
		Do these vessels have adequate performance in terms of stability, autonomy, speed and fuel efficiency?
8.1		Are the communications and data systems aligned with national and international legislation, including radio and/or satellite communications, vessel monitoring system (VMS) receivers and other equipment, as appropriate?
		Is there an allocated operational budget adequate for conducting planned operations?
		Is there an allocated maintenance budget adequate for ensuring the operational availability of these assets?
		Are the vessels staffed by appropriately trained personnel in adequate numbers, to operate the vessels as needed?

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Index	Asset	Key considerations
	Aircraft	Do you have access to the use of surveillance aircraft such as fixed wing, rotary wing and uncrewed aerial systems to support MCS operations?
8.2		Where aerial systems are used, are they of adequate performance in terms of flight time, resilience to weather conditions, and appropriate speed?
		Are onboard payload systems in accordance with requirements and aligned with national and international legislation?
		Is there an allocated operational budget adequate for planned aerial operations?
		Is there an allocated maintenance budget adequate for planned aerial operations?
	8.3 Terrestrial vehicles	Do you have enough appropriate vehicles to carry out land operations, including off-road capability where required?
		Do these vehicles perform adequately in terms of safety, robustness, speed and fuel efficiency?
0.7		Are vehicles fitted with communication systems that allow continuous communication with other fisheries inspectors, fisheries national authority and other national authorities?
6.5		Is there an allocated operational budget adequate for planned operations using these vehicles?
		Is there an allocated maintenance budget adequate for planned operations using these vehicles?
		Are there appropriately trained personnel in adequate numbers, to operate the vehicles as needed?

9 | Standard operating procedures

The establishment of standard operating procedures (SOPs) for different types of MCS activities ensures standardization and clarification of the processes for addressing MCS objectives. It is therefore important to identify the responsibilities that must be fulfilled, in order to establish aims and identify the tasks that need to be carried out. SOPs should function as clear, step-by-step procedures to follow for the officials responsible for carrying out MCS activities, indicating roles and responsibilities, actions, time frames and reporting requirements. Additionally, in cases where there is more than one agency involved, the SOP will establish coordination and communication channels, and define tasks to be shared between agencies.

Key elements of a non-exhaustive list of SOPs important for MCS activities are described below:

Note: Given the nature of SOPs, this section is not framed in the context of questions, but as key considerations in drawing up the relevant SOPs.

Index	SOP	Key elements
9.1	Vessel registration	Procedure to verify vessel identification (including IMO number), Maritime Mobile Service Identity, and other unique identifiers, International Radio Call Sign, ownership (including beneficial ownership) and operators, vessel characteristics and history, including previous flags, ownership, authorizations, operations and compliance history. This procedure should also verify consistency between the objectives, in terms of capacity, as set out in the Fisheries Management Plan(s) (fishing authorization), and the requests for registration on the national register of vessels.

Index	SOP	Key elements
9.1	(Continued) Vessel registration	(Continued) It requires interagency coordination and cooperation to permit relevant authorities to comply with their responsibilities, including risk assessments, in accordance with the mandate of those authorities (typically maritime and fisheries), and ensuring that registration takes account of national policy in critical areas, such as capacity limitation. Furthermore, it is essential to establish mechanisms to share and exchange information with the previous flag State, and as appropriate, other authorities, States or organizations, to guarantee that information is complete and accurate. Measures established to deny or delete registration if the vessel is on an IUU vessel list, has been engaged in or has supported IUU fishing, or is registered in two or more States, or if it holds a registration from another State.
9.2	Vessel authorization	Procedures for issuing authorizations for vessels engaged in fishing and fishing-related activities flying the national flag. Establish an appropriate scope and the conditions of the authorization, assessing vessel histories and the ability to comply with authorization conditions and applicable measures, establishing minimum information requirements that allow identification of accountable persons, fishing areas, gears where applicable, and catch information by species.

Index	SOP	Key elements
9.2	(Continued) Vessel authorization	Procedures for issuing authorizations for foreign-flagged vessels engaged in fishing and fishing-related activities and operating in national waters. Ensure coordination and cooperation with the flag State and establish an appropriate scope and conditions for the authorization, assessing vessel histories and the ability to comply with authorization conditions and applicable measures. Establish minimum information requirements that allow identification of accountable persons, fishing areas, gears where applicable, and catch information by species.
	Risk assessment	Procedures for identifying and classifying existing and potential IUU fishing risks associated with fishing operations and fishing-related activities.
9.3		Procedures that allow the proper processing and analysis of the risks identified in fishing operations and fishing-related activities, in order to be able to evaluate them and make appropriate decisions.
		Procedures for establishing a strategy for risk management, considering at least: risk impact (high, medium, low), probability of occurrence (frequent, probable, unlikely), as well as numerical methodologies.

Index	SOP	Key elements
9.4	Information exchange – national and international	Establish procedures to share and exchange information among national agencies that are directly or partially responsible for carrying out MCS, with the aim of supporting effective decision-making (with due regard for the appropriate confidentiality requirements). Establish procedures to request, share and exchange information with other port, flag, coastal and market States, RFMOs and other relevant international organizations, as appropriate, according to national needs in the development and implementation of MCS, to support effective decision-making. These procedures should be established considering a specific format, exchange mechanism (e.g. electronic platform), timing and responsibilities for sharing and exchanging information to and from the relevant authorities, as well as the objectives and use of such information.
9.5	FMC and vessel monitoring	Establish procedures to carry out efficient and effective MCS with available tools in the FMC, as well as to be able to detect IUU fishing operations or fishing-related activities through VMS and other available tools, or by cross-checking information from different information sources. The main tasks that these procedures should include are: a. maintenance of a comprehensive and integrated FMC database for the effective MCS of fishing operations and fishing-related activities;

Index	SOP	Key elements
9.5	(Continued) FMC and vessel monitoring	 b. continuous electronic monitoring of fishing operations and fishing-related activities, establishing automatic controls and associated warnings regarding the applicable legislation and conservation and management measures, related to the different types of fleet, species and areas, as appropriate; c. undertaking risk assessments, leading and implementing the strategy for risk management; d. recording evidence of suspicious activity detected by the FMC, whether it has been detected automatically or by an FMC operator; chain of custody considerations; e. transmission of information to fisheries inspectors and other authorities regarding apparent evidence of IUU fishing; f. exchanging and sharing information at national and international level; g. communicating with relevant agencies and stakeholders; h. initiating, receiving and processing electronic reports through e-reporting mechanisms; and i. following up inspection results and enforcement actions.
9.6	Routine at-sea patrolling and surveillance	Establish procedures to plan and conduct regular surveillance in the waters under national sovereignty, especially in fishing areas, to monitor in real time the fishing operations and fishing-related activities, and provide a deterrent presence. The patrolling and surveillance plans at-sea should cover, at least:

Index	SOP	Key elements
9.6	(Continued) Routine at-sea patrolling and surveillance	 (Continued) a. operational objectives; b. lead authority and operational responsibilities, as appropriate; c. duration, areas of patrol, safety and weather restrictions; d. assets and tools available; e. communication and support from the FMC; and f. communications and reporting channels.
9.7	Inspection at sea	Establish procedures for the safe boarding and inspection of vessels, covering the following areas: a. preboarding observations, briefings and preparations; b. preliminary risk assessment in situ, according to the situation; c. external examination of vessel, including its markings; d. introduction of inspection team and its objectives to the masters of vessels who receive the inspectors onboard; e. verification of the identity of the vessel master and review of crew list; f. examination of relevant documents and authorizations; g. examination of fishing gears onboard; h. examination of fishing gears onboard; i. examination of relevant areas, such as stores and dry holds, freezer holds, processing areas, main deck, other decks, as appropriate; and j. report of the inspection.

Index	SOP	Key elements
9.8	Advance request for port entry (ARPE)	Procedures to analyse information provided by foreign vessels, in accordance with the PSMA, seeking entry and use of ports, to verify that foreign vessels are authorized to operate in areas beyond national jurisdiction, and to analyse all relevant information to determine if the vessel has been engaged in IUU fishing or supporting such activities; in the case of container vessels that are carrying legitimately caught fish, not previously landed, to review legal provenance. These procedures should include: a. examination of relevant documents and authorizations, as appropriate; b. analysis of VMS data, where applicable and available; c. exchange of information with the flag State and relevant coastal, port States and RFMOs; d. cross-checking information with other sources, such as the FAO Global Information Exchange System (GIES) and the FAO Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels (Global Record); and e. transmission of the decision to the vessel, or to its representative, regarding authorization or denial of entry to port. Notwithstanding, the port State may allow a vessel's entry into port exclusively for the purpose of inspecting it, and taking other appropriate actions. Pending the results of such actions, the use of port should be denied. Depending on the inspection findings, use of port may be authorized or denied following the inspection.

Index	SOP	Key elements
9.8	(Continued) Advance request for port entry (ARPE)	Where appropriate, procedures to analyse information provided by vessels flying the national flag, seeking entry and use of ports, to examine in advance relevant documentation, data and information, in order to verify that vessels have complied with authorization conditions and to determine if they have been engaged in IUU fishing, or supporting such activities. These procedures should include: a. examination of relevant documents and authorizations, as appropriate; b. analysis of VMS data; c. exchange of information with relevant national agencies; d. exchange of information with relevant coastal, port States and RFMOs, as appropriate; and e. cross-checking information with other sources, such as the FAO GIES and FAO Global Record.
9.9	Inspection in port	Establish procedures in accordance with Article 13 and Annex B of the PSMA to inspect foreign vessels according to the scenario of inspection – type of vessel and the requested use of port – covering at least the following areas: a. review of ARPE results to define the inspection objectives; b. external examination of vessel, including its markings; c. introduction of inspection team and its objectives to the masters of vessels who receive the inspectors onboard; d. verification of the identity of the vessel master and review of the crew list; e. examination of relevant vessel documents and authorizations;

Index	SOP	Key elements
THE CA	SOP	f. examination of fishing gears onboard; g. examination of catches onboard, including quantity, presentation, size and species composition; h. examination of relevant areas, such as stores and dry holds, freezer holds, processing areas, main deck, other decks, as appropriate; and i. report of the inspection. These procedures, where appropriate, should include the subdivisions of the national authority responsible for carrying out the different tasks, as well as the communication channels between inspectors, FMC, MCS unit among others, as appropriate.
9.9	(Continued) Inspection in port	Establish procedures to inspect vessels entitled to fly the national flag according to the scenario of inspection – type of vessel and use of port – covering at least the following areas: a. review of prior information to define the inspection objectives; b. external examination of vessel, including its markings; c. introduction of inspection team and its objectives to the masters of vessels who receive the inspectors onboard; d. verification of the identity of the vessel master and review of the crew list; e. examination of relevant vessel documents and authorizations; f. examination of fishing gears onboard; g. examination of catches onboard, including quantity, presentation, size and species composition;

Index	SOP	Key elements
9.9	(Continued) Inspection in port	(Continued) h. examination of relevant areas, such as stores and dry holds, freezer holds, processing areas, main deck, other decks, as appropriate; and i. report of the inspection. These procedures, where appropriate, should include the subdivisions of the national authority responsible for carrying out the different tasks, as well as the communication channels between inspectors, FMC, MCS unit among others, as appropriate.
9.10	Transshipment monitoring	Procedures for monitoring transshipment activity, whether as a flag State, a coastal State or a port State, which include the following verifications and checks, in accordance with the 2022 FAO VG-TS: a. Vessels carrying out transshipment in areas beyond national jurisdiction are authorized to do so. b. Vessels, if eligible, have an IMO number. c. Vessels engaged in transshipment have an approved and functional vessel monitoring system on board. d. Vessels do not act as both donor and receiving vessels for any given period, beginning with a port exit and ending with the next port entry. e. Donor and receiving vessels are included in all vessel authorization records of relevant regional fisheries management organization/arrangements (RFMO/As) and, where applicable, the FAO Global Record.

Index	SOP	Key elements
9.10	(Continued) Transshipment monitoring	f. Only donor and receiving vessels entitled to fly the flag of a contracting party or a cooperating non-contracting party of a specific RFMO/A should be authorized to conduct transshipment activities, subject to the regulatory competence of that RFMO/A. The authorization of donor and receiving vessels should comply with the rules established by that RFMO/A. g. Vessels not entitled to fly their flag should be authorized by the relevant coastal State before engaging in transshipment if such transshipment is intended to take place in areas under national jurisdiction of that coastal State, or the relevant port State if the transshipment is intended to take place in a port of a State other than the flag State. h. Transshipment should not take place if any of the vessels involved are included in IUU fishing vessel lists established by relevant RFMO/As. i. The donor vessel should report quantities of fish on board prior to the transshipment event, as well as quantities to be transshipped, including regulated and unregulated species, and any bycatch. The receiving vessel should report the quantities of fish on board prior to the transshipment event, including regulated and unregulated species, and any bycatch. Quantities of transshipped fish should be reported by species and product form and catch area. j. The advance notification by donor and receiving vessels should also include the date, time and location of the planned transshipment event.

Index	SOP	Key elements
9.10	(Continued) Transshipment monitoring	 (Continued) k. The flag State should verify the vessel's compliance with relevant conservation and management measures and MCS measures, including near real-time VMS reporting, and other applicable electronic monitoring and observer coverage requirements. l. The flag State of the donor vessel should verify that such vessel has provided regular reporting about fishing since its last port exit, including catch and effort data, for the specific transshipment event to proceed. m. Observer reports should be examined by relevant competent authorities, and should trigger appropriate control measures when the observer reports discrepancies on the data reported by the masters of the donor and receiving vessels, or possible non-compliance with applicable rules. n. Donor and receiving vessels should record the event in their logbooks and provide a transshipment declaration containing information on vessels, quantities of fish transshipped, and quantities remaining on board. Such quantities should be reported by species, product form and catch area. Date, time and location of the transshipment event are also to be reported. o. Where a receiving vessel has received transshipments from more than one donor vessel, the transshipped catches from each donor should be stowed separately (separation by canvas, netting etc.). Documentation should also be kept separate. The receiving vessel is required to maintain an up-to-date stowage plan. p. Independent verification by human observers or electronic monitoring is required. The coverage rate for receiving vessels should be 100%.

Index	SOP	Key elements
9.11	Internal verification of catch documents	Establish procedures to ensure that all data provided under catch documentation schemes (CDS) is internally verified prior to validation of CDS forms, and that those verification sources remain accessible in the case of external verification requests from downstream supply chain parties receiving CDS forms. Verification processes should be designed to encompass not only those data fields shown on the CDS forms, but also any key data elements not included on the forms that are critical to establishing the legality of the fish, and thus underpin the validations (for example, relating to the fishing vessel, catch conditions, transshipment, landing, processing or import/export). SOPs should specify what data are to be verified, how (identifying both primary and secondary verification mechanisms, if possible) and by whom, including necessary permissions and potential timing issues.
9.12	Monitoring of imports and exports	Procedure to verify documentation, which establishes the legal provenance of imported fish, ensuring that it has been caught according to applicable legislation and conservation measures, as appropriate. This procedure should include the communication channels and mechanisms between responsible agencies of the imports, and with flag State or export State and/or shipping State.
		Procedure to verify that the fish to be exported was caught according to applicable legislation and conservation measures, as appropriate. This procedure should include the communication channels and mechanisms between responsible agencies and other relevant States.

Index	SOP	Key elements
9.13	Other land-based inspections	Establish procedures to inspect different scenarios, including, but not limited to, fish transport vehicles, processing plants, hold and freezer storages and fish markets, covering the following areas: a. pre-inspection observations, briefings and preparations; b. preliminary risk assessment of the situation; c. external examination, as appropriate; d. introduction of inspection team and its objectives to the inspected party; e. verification of the identity of the operator (e.g. driver, manager, legal representative); f. examination of relevant documentation related to legal provenance of fish; g. examination of fish, including quantity, presentation, species and size composition; h. if appropriate, examination of relevant areas, such as storage, freezer hold, processing areas; and i. report of the inspection.
9.14	Dissemination of inspection results	Procedures for the reporting of inspection results and actions taken, at national, regional and international levels, as appropriate, when evidence exists of IUU fishing, or support for such fishing.
		Procedures for reporting inspection results through existing official platforms, such as GIES, Global Record, and RFMO platforms.

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CHECKLISTS AND TECHNICAL GUIDELINES TO COMBAT ILLEGAL, UNREPORTED AND UNREGULATED (IUU) FISHING

Volume III: Checklist of monitoring, control and surveillance (MCS) systems, operations, procedures and tools

This document is the third volume of a series of publications entitled *Checklists and Technical Guidelines* to *Combat Illegal, Unreported and Unregulated (IUU) Fishing.* This checklist provides a list of minimum requirements to ensure that the national MCS systems, operations, procedures and tools aimed at combating IUU fishing are of the desired standard to achieve the objectives of the fisheries management framework in place.

This checklist is meant to serve as a reference for entities to review and assess such systems, operations, procedures and tools, in order to identify opportunities to improve these and establish best practices that will allow them to fulfil international duties and obligations to combat IUU fishing.

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