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**TECHNICAL CONSULTATION ON MARKING OF FISHING GEAR**

**Rome, 5–9 February 2018**



Report of the  
TECHNICAL CONSULTATION ON MARKING OF FISHING GEAR  
Rome, 5–9 February 2018

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## PREPARATION OF THIS DOCUMENT

This document contains the report of the Technical Consultation on the Marking of Fishing Gear which was held at FAO Headquarters, Rome, Italy, from 5 to 9 February 2018.

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### ABSTRACT

The Technical Consultation on the Marking of Fishing Gear was held at FAO headquarters in Rome, Italy, from 5 to 9 February 2018. The Technical Consultation worked towards concluding the development of Draft Voluntary Guidelines on the Marking of Fishing Gear. The Technical Consultation used a preliminary draft text that had been developed at the Expert Consultation on the Marking of Fishing Gear held by FAO on 4-7 April 2016 as further edited by the FAO Secretariat. The Technical Consultation reviewed and finalized the scope of the guidelines, agreeing that supporting technical documents could be developed by the Secretariat via a separate process. The Technical Consultation considered how the guidelines should be implemented, controlled and monitored and identified the importance of gear marking in combating abandoned, lost or otherwise discarded fishing gear (ALDFG) as well as the role that gear marking could play in reducing or eliminating Illegal, Unreported and Unregulated (IUU) fishing. The Guidelines agreed by the Technical Consultation also addressed commercial traceability of fishing gear marking, reporting and recovery of ALDFG and provided for special considerations when marking and reporting of fish aggregating devices (FADs). Special consideration was also given to developing States and small scale fisheries when implementing the guidelines in these contexts. The Technical Consultation highlighted a number of key areas for research and development on gear marking and related issues, and also provided guidance on communication and capacity development. The Technical Consultation considered the results and recommendations of two gear-marking pilot projects supported by FAO and recommended that further projects should be conducted to support the implementation of the guidelines. The Technical Consultation recommended that the FAO Committee on Fisheries (COFI) consider the endorsement of the Voluntary Guidelines on the Marking of Fishing Gear. The Technical Consultation further recommended that COFI considers the development of a comprehensive global strategy to address ALDFG which could include the establishment of a mechanism to facilitate the sharing of information on the global implementation of these guidelines as well as data collected by national ALDFG reporting systems, and recommending to States the development and implementation of national action plans to address ALDFG.

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## **OPENING OF THE TECHNICAL CONSULTATION**

1. On the recommendation of the Thirty-second session of the Committee on Fisheries (COFI), the Food and Agriculture Organization of the United Nations (FAO) convened the Technical Consultation on the Marking of Fishing Gear. The Technical Consultation was held at FAO Headquarters, in Rome, Italy, from 5 to 9 February 2018. The Consultation was funded by the Governments of Canada, Norway, Sweden and the United States of America.
2. The Consultation was attended by thirty-seven FAO Members, and by observers from three Intergovernmental and international non-governmental organizations. The list of delegates is provided in Appendix B.
3. Mr Árni M. Mathiesen, Assistant Director-General, FAO Fisheries and Aquaculture Department, called the Technical Consultation to order and made an opening statement on behalf of Mr Jose Graziano da Silva, Director General of FAO.
4. Mr Mathiesen reminded the Technical Consultation that this was not the first time that gear marking guidelines had been discussed by FAO, as the Organization had previously undertaken a process to develop draft guidelines on the marking of fishing gear in 1991, even though the guidelines were not finalized at that time. However he highlighted that technology has greatly advanced since that time, including low-cost options that make gear marking more feasible for developing countries. Mr Mathiesen highlighted the negative impacts of Abandoned, Lost or Otherwise Discarded Fishing Gear (ALDFG), including impacts on the marine environment as a significant source of plastic pollution and on sustainable fisheries due to ghost fishing. He also drew attention to the fact that marine debris is now a high profile international issue, specifically mentioning the UN's 2030 Agenda for Sustainable Development, in particular, Sustainable Development Goal 14.1 which urges a significant reduction of marine pollution of all kinds by 2025. Mr Mathiesen outlined the outcomes of the 2016 Expert Consultation on the Marking of Fishing Gear and the subsequent recommendations made by COFI. He highlighted the role of gear marking as a tool to prevent and reduce ALDFG and to assist in the prevention and detection of Illegal, Unreported and Unregulated (IUU) Fishing. Mr Mathiesen's full opening statement is attached as Appendix D.
5. The Technical Secretary, Mr Matthew Camilleri, introduced the working documents, in particular TCMFG/2018/3, the Draft Guidelines on the Marking of Fishing Gear, and TCMFG/2018/4, the technical annexes to the Draft Guidelines. Mr Camilleri also informed delegations that FAO had facilitated the implementation of two pilot projects and added that papers summarising the key results of these projects and recommendations that may be considered relevant to the Technical Consultation were provided as information papers.
6. Mr Camilleri explained that the Secretariat had made edits to the Draft Guidelines and the technical annexes prepared by the 2016 Expert Consultation on the Marking of Fishing Gear, on the basis of further consultation with the participants of the Expert Consultation, fishing industry stakeholders and related experts, and taking into account the preliminary results of the two pilot projects. These edits were presented as tracked changes in TCMFG/2018/3 and TCMFG/2018/4.

## **ELECTION OF THE CHAIRPERSON AND VICE-CHAIRPERSON**

7. Ms Deirdre Warner-Kramer (United States of America) and Mr Suseno Sukoyono (Indonesia) were unanimously elected as Chairperson and Vice Chairperson, respectively.

## **ADOPTION OF THE AGENDA**

8. The Chairperson drew attention to the draft agenda. She proposed that time be allocated on the morning of the second day of the Technical Consultation for brief presentation, by the Secretariat, on the outcome of the two pilot projects.
9. The Technical Consultation agreed that only Annex A of the Technical Annexes (TCMFG/2018/4) should be part of the Guidelines, and considering that the Annexes B and C were of a highly technical nature, they would instead be dealt with via a separate process.
10. The Technical Consultation adopted the agenda as given in Appendix A.

## CONSIDERATION OF THE DRAFT GUIDELINES ON THE MARKING OF FISHING GEAR

11. Discussion and elaboration on the draft guidelines commenced using document TCMFG/2018/3 as a starting point.
12. Within the Statement of Purpose, the Technical Consultation agreed that it was important to note that these guidelines would serve as one of several tools to contribute to sustainable fisheries and to improve the state of the marine environment by minimising or eliminating ALDFG and facilitating its recovery. The Technical Consultation also noted several other benefits associated with the marking of fishing gear including improved safety at sea and reducing or eliminating IUU fishing.
13. Matters relating to the challenges of addressing ALDFG in developing States and in small-scale or artisanal fisheries were raised and considerable time was spent to address these issues, as relevant, within the guidelines.
14. The Secretariat presented the outcomes of two gear marking projects which FAO had recently supported: i) a global feasibility study on the marking of fish aggregation devices (FADs) and ii) a field project in Indonesia focussed on the practical application of gear marking in small-scale coastal gillnet fisheries. Attending Indonesian delegation provided some further remarks regarding the project, including its recommendations. The Technical Consultation expressed appreciation for this work noted the recommendations, and called for further similar work to be undertaken in support of the implementation of the guidelines.
15. The Technical Consultation paid particular attention to defining the different components of ALDFG i.e. ‘abandoned’, ‘lost’ and ‘discarded’, as well as other terms used in the guidelines.
16. The Technical Consultation agreed to task the FAO Secretariat with the further development of technical documents, including types of gear marks for identification of the owner; suggestions for the location of the mark in relation to gear type; guidance for the marking of fishing gear to indicate position and to mark the presence of the gear in the water column, and any other subject relevant to the implementation of gear marking systems. It was agreed that the technical annexes drafted by the 2016 Expert Consultation could be used as a basis for the technical documents.
17. The Technical Consultation agreed on the text for an Annex to the Draft Guidelines, Risk-based approach to assist relevant authorities in determining the appropriateness or otherwise of implementing a system for marking fishing gear.
18. Considering that the instrument is voluntary in nature, it was agreed that the title should read “Voluntary Guidelines on the Marking of Fishing Gear”. The Technical Consultation agreed that these guidelines would apply only to marine fisheries, but encouraged States to take the guidelines into consideration, as appropriate, when developing gear marking systems for inland waters.
19. The Technical Consultation agreed that broader measures to prevent, reduce and eliminate ALDFG were important and should be reflected within the recommendations of the Technical Consultation for consideration by COFI and the further work of FAO on this issue.
20. The text of the Voluntary Guidelines on the Marking of Fishing Gear, as adopted by the Technical Consultation, is in Appendix E. The Secretariat was requested by the Technical Consultation to review the text to ensure internal language and legal consistency, and to undertake editorial work as required, prior to submitting the Guidelines to COFI for its consideration at its Thirty-third Session.

## RECOMMENDATIONS

21. The Technical Consultation welcomed the reports on the outcomes of the pilot projects that have been supported by FAO and recommended that additional pilot projects be developed and implemented in other regions and fisheries.
22. The Technical Consultation further recommended that:
  - COFI consider the endorsement of the Voluntary Guidelines on the Marking of Fishing Gear;



- COFI consider the development of a comprehensive global strategy to address ALDFG which could include the establishment of a mechanism to facilitate the sharing of information on the global implementation of these guidelines as well as data collected by national ALDFG reporting systems; and
- COFI consider recommending to States the development and implementation of national action plans to address ALDFG

### **ADOPTION OF THE REPORT**

23. The report of the Technical Consultation was adopted on 9 February 2018 at 15:00



**AGENDA**

1. Opening of the Technical Consultation
2. Election of the Chairperson and Vice-Chairperson
3. Adoption of the Agenda
4. Review and development of Guidelines
5. Follow up procedures
6. Other matter
7. Adoption of the Report

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**LIST OF DOCUMENTS**

TCMFG/2018/1	Provisional Agenda and Timetable
TCMFG/2018/2	Background and Progress Toward the Development of Draft Guidelines on the Marking of Fishing Gear
TCMFG/2018/3	Draft Guidelines
TCMFG/2018/4	Draft Annexes and Appendices to the Draft Guidelines on the Marking of Fishing Gear
TCMFG/2018/Inf.1	List of Documents
TCMFG/2018/Inf.2	Report of the FAO Expert Consultation on the Marking of Fishing Gear
TCMFG/2018/Inf.3	Stakeholder views on methods to identify the ownership and track the position of drifting fish aggregating devices used by tuna purse seine fisheries with reference to FAO's Draft Guidelines on the Marking of Fishing Gear
TCMFG/2018/Inf.4	Gillnet marking, reporting and recovery: preliminary results of a pilot study in Indonesia

**Opening statement at the first session of the Technical Consultation**

by

**Árni M. Mathiesen**  
**Assistant Director-General**  
**Fisheries and Aquaculture Department**  
**FAO**

Distinguished delegates, friends and colleagues:

On behalf of the Director-General of FAO, Mr José Graziano da Silva, it gives me great pleasure to welcome you to Rome, and to FAO in particular, to participate in this Technical Consultation.

I have followed closely the preparations for the meeting and I am delighted to see you all here this week to review and develop the Draft Guidelines on the Marking of Fishing Gear, a matter of great importance for the FAO Fisheries and Aquaculture Department.

Some of you may be aware that this is not the first time that gear marking guidelines have been discussed by FAO. The matter was first raised by FAO Members at the Eighteenth Session of COFI in 1989, with an Expert Consultation that followed in 1991. Unfortunately, the draft guidelines that were developed through that process were not finalized, as some Members expressed concern regarding the administrative burdens which may result from implementing a common system for marking fishing gear. However, the FAO Code of Conduct for Responsible Fisheries, finalized in 1995, does include a requirement for fishing gear to be appropriately marked so that ownership of the gear can be identified, and that such marking should take into account uniform and internationally recognizable gear marking systems.

I hope you will all agree that many things have changed since that 1991 meeting, including our collective knowledge, understanding and concern about the impacts of marine debris, including abandoned, lost or otherwise discarded fishing gear, the challenges we face in managing fish stocks and the threat posed by IUU fishing, as well as the technological advances that make finding cost-effective solutions possible. All of these things provide us with an important and useful context in which we will conduct our work together this week.

Appropriate marking of fishing gear has been identified as an effective tool for improving overall fishing gear management, preventing abandoned, lost or otherwise discarded fishing gear, facilitating the retrieval of lost gear and identifying illegal fishing operations. At the Thirty-first Session of COFI in 2014, concern was expressed about the impacts of ‘ghost fishing’ and it was noted that greater attention should be paid to this issue by FAO Members and Regional Fisheries Management Organizations. In response to this concern, FAO convened an Expert Consultation on the Marking of Fishing Gear in April 2016 which developed new draft guidelines and recommendations which included that these guidelines should be further developed through a Technical Consultation. At the Thirty-second Session of COFI in July 2016, the Committee supported the proposed Technical Consultation and also encouraged FAO to conduct pilot projects, particularly in developing countries.

It is important to take note that several legally binding international instruments already provide explicit requirements for the marking of fishing gear and for improved management of fishing gear generally, including the United Nations Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks, and IMO’s MARPOL Annex 5. Furthermore, FAO’s Agreement on Port State Measures to Prevent, Deter and Eliminate IUU Fishing prescribes that inspections should include examination of fishing gear to ensure its markings correspond to those authorized for the vessel. The FAO’s International Guidelines on Bycatch Management and Reduction of Discards also call upon States to adopt measures, including gear marking, to prevent gear loss.

It is also important to stress that the matter of marine debris is now of highest priority in the UN’s 2030 Agenda for Sustainable Development. In fact, it has been said that the UN has launched a war on plastics. Those of you who attended last year’s Ocean Conference in New York may have noted the

many voluntary commitments that have been made by governments, industry and civil society to address the unacceptable volume of plastic entering our oceans. Fishing gear, which is made predominantly of plastic, is part of this global problem and with Sustainable Development Goal 14.1 calling for a significant reduction of marine pollution by 2025, we all have a shared and urgent responsibility to address it.

Colleagues, as you well know there are many different types of fishing gear that are lost or abandoned with different impacts and costs. They all pose a problem for the marine environment, and some can continue to 'ghost fish', entangling and killing wildlife, including commercially important and vulnerable fish species, and thus affecting the social and economic benefits we obtain from the ocean. It also presents a navigational hazard for ocean users.

We have the opportunity this week to make progress in addressing these important issues.

I expect that over the coming days you will review the structure, form and contents of the draft text for the guidelines, taking into account the need for the final product to be simple, practical to implement and relevant for all relevant fisheries and jurisdictions.

Ladies and Gentlemen, I wish you a fruitful and successful meeting and hope that your time in Rome will also provide you with an opportunity to enjoy this beautiful city.

Thank you very much.

Árni M. Mathiesen

**VOLUNTARY GUIDELINES ON THE MARKING OF FISHING GEAR**

## STATEMENT OF PURPOSE

1. These guidelines for the application of a system for the marking of fishing gear are a tool to contribute to sustainable fisheries and to improve the state of the marine environment by combatting, minimising and eliminating Abandoned, Lost or Otherwise Discarded Fishing Gear (ALDFG), and facilitating the identification and recovery of such gear. The guidelines may assist States in meeting their obligations under international law, including relevant international agreements and related governance frameworks, as well as contribute to improved safety at sea by reducing the hazard to navigation caused by ALDFG and helping to identify illegal, unreported and unregulated (IUU) fishing activities. States are also encouraged to take these guidelines into consideration, as appropriate, when developing gear marking systems for inland waters.
2. The purpose of these guidelines is to assist States and RFMO/As in developing and applying a system for the marking of fishing gear and related measures to address ALDFG, that provide:
  - (i) practical means of locating and identifying the ownership of fishing gear;
  - (ii) guiding text on the development of appropriate marking systems;
  - (iii) a framework for undertaking risk assessment to identify the appropriateness or otherwise of implementing a system for marking fishing gear; and
  - (iv) a basis for the preparation of recommendations and regulations designed to minimize the abandonment, loss and discarding of fishing gears and encourage recovery of ALDFG.
3. These Guidelines take into account, *inter alia*, the following documents:
  - (i) The Code of Conduct for Responsible Fisheries;
  - (ii) 2001 International Plan of Action to Prevent, Deter and Eliminate IUU fishing;
  - (iii) The Report of the 1991 Expert Consultation on the Marking of Fishing Gear (FAO Fisheries Report No. 485, 1993);
  - (iv) The 1993 FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessel (the "Compliance Agreement") that provides for a system for the marking of fishing vessels;
  - (v) The contents of Annex III (Proposed System for the Marking of Fishing Gear) and Annex IV (Proposal for the Application of a Standard System of Lights and Shapes for the Identification and Location of Fishing Gear) of the FAO Technical Guidelines for Responsible Fisheries. No.1. FAO (1996);
  - (vi) MARPOL Annex V, which generally prohibits the discharge of all garbage into the sea, except as provided otherwise in regulations 4, 5, 6 and 7 of the Annex, which are related to food wastes, cargo residues, cleaning agents and additives and animal carcasses, as well as exceptions set out in regulation 7. Unless explicitly provided otherwise, MARPOL Annex V applies to all ships, which means all vessels of any type whatsoever, including fishing vessels, operating in the marine environment;
  - (vii) The 2003 FAO Technical Guidelines for Responsible Fisheries. Fisheries Management - 2. The Ecosystem Approach to Fisheries;
  - (viii) UNGA resolution 60/31, operational paragraphs 77-81, and UNGA resolution 70/75, operational paragraphs 174 and 175;
  - (ix) The 2009 FAO International Guidelines for the management of Deep-sea Fisheries in the High Seas;
  - (x) The 2009 FAO Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing;
  - (xi) The 2011 FAO International Guidelines on Bycatch Management and Reduction of Discards;
  - (xii) The 2012 Guidelines for the implementation of MARPOL Annex V, adopted by IMO through resolution MEPC 219(63), as amended;
  - (xiii) The IMO resolution A.1117(30) that invites governments concerned to implement the IMO Ship Identification Number Scheme;



- (xiv) The Revised International Standard Classification of Fishing Gears (ISSCFG, Rev.1, 21 October 2010) adopted by the Coordinating Working Party at the 25th Session, Rome 2016; and
  - (xv) Recommendations made by the Expert Consultation on the Marking of Fishing Gear held on 4-7 April 2016 in Rome.
4. The main text of these guidelines outlines the considerations in developing a system for the marking of fishing gear. The Annex provides some basic elements to be considered when preparing a risk assessment for gear marking.
  5. These guidelines are to be interpreted and applied in conformity with the relevant rules of international law, as reflected in the United Nations Convention of the Law of the Sea of 10 December 1982 (1982 UN Convention). Nothing in these guidelines prejudices the rights, jurisdiction and duties of States under international law of the sea as reflected in the 1982 UN Convention. In particular, nothing in these guidelines is to be construed to affect the right of States to adopt, maintain or expand more stringent requirements for the marking of fishing gear than those provided for in these guidelines, including such measures adopted pursuant to a decision of a RFMO/A.

### **SCOPE AND PRINCIPLES**

6. These guidelines are voluntary and are intended to be global in scope. They apply to all fishing gear types used in all types of fishing activities in all oceans and seas.
7. A system of marking fishing gear should be put in place for all gear types unless the relevant authority deems otherwise, through risk assessment or other appropriate means. The level of complexity of the gear marking should be based upon the necessity and practicality of such a system.
8. A risk assessment can also facilitate prioritization of actions and guide additional phased mitigation approaches. These would be based on the level of severity and likelihood of potential impacts of different fisheries, using the best available information at the time of the assessment.
9. A system for the marking of fishing gear should be designed to take into account the practical requirements of the fishery to which it applies and the responsibilities of the States as flag, coastal and port States and, where appropriate, as members of RFBs and RFMO/As.
10. There should be an active, inclusive and informed participation of interested parties, including fishing communities, in the whole decision-making process for the development, implementation and regulation of a gear marking system in a transparent and open manner.
11. The system for the marking of fishing gear should:
  - (i) build on an assessment of risks associated with ALDFG so that gear marking actions are prioritized and proportional with the identified risks, and be designed to reduce, mitigate and eliminate these risks effectively;
  - (ii) provide a simple, pragmatic, affordable and verifiable means of identifying the ownership and position of fishing gear, and its link with the vessel(s), or operator(s) undertaking the fishing operations;
  - (iii) to the extent possible, be compatible with related traceability and certification systems;
  - (iv) be supported by a monitoring process that ensures that the system is responsive to the changing conditions of all stakeholders;
  - (v) aid resource management systems and meet obligations of relevant international conventions and agreements;
  - (vi) link, through any fishing authorization or license, to any vessel(s) or operator(s) engaged in fishing and related operations;

- (vii) be consistent with MARPOL Annex V and associated guidelines, and contribute to implementing regulation 10.6 relating to reporting requirements; and
  - (viii) promote employment of methods that do not pose an environmental risk, e.g. plastic pollution.
12. A system for the marking of fishing gear may also include a method for indicating the presence of fishing gear in the water column.
  13. The system of marking of fishing gear should be set out in, or supported by, national and sub-national legislation, and regional legal frameworks as appropriate, without prejudice to existing measures that achieve the same effect.
  14. Where the guidelines recommend that a particular mark be fitted on a fishing gear, or other marking specification be complied with, the relevant national authority, RFB or RFMO/A, as appropriate, may allow other mark or marking specification, provided it satisfies the minimum requirements set in these guidelines and further aids in the marking of gear.
  15. The risk assessments referred to in this section should address the potential risks to navigation, safety and the environment, and the benefits of having an effective gear marking and reporting system established in a fishery. The criteria to be considered when preparing a risk assessment are set out in the Annex.

## DEFINITIONS

16. For the purpose of these guidelines:
17. The term ‘fishing gear’ to be marked refers to any physical device or part thereof or combination of items that may be placed on or in the water or on the seabed with the intended purpose of capturing or controlling [for subsequent capture] or harvesting, marine organisms, in accordance with MARPOL Annex V.
18. The term “mark” is:
  - (i) an identifier, that allows the relevant authority to discern the party ultimately responsible for the use of the fishing gear; and / or
  - (ii) a means of providing an understanding of the presence, scale and nature of fishing gear in the water.
19. The term “fish aggregating device” (FAD) in these guidelines, without prejudice to the use of different definitions in other instruments, refers to a permanent, semi-permanent or temporary object, structure or device of any material, man-made or natural, which is deployed, and/or tracked, and used to aggregate fish for subsequent capture. FADs can be either anchored (aFADs) or drifting (dFADs).
20. The term “abandoned fishing gear” means fishing gear over which that operator/owner has control and that could be retrieved by owner/operator, but is deliberately left at sea due to force majeure or other unforeseen reasons.
21. The term “lost fishing gear” means fishing gear over which the owner/operator has accidentally lost control and that cannot be located and/or retrieved by owner/operator.
22. The term “discarded fishing gear” means fishing gear that is released at sea without any attempt for further control or recovery by the owner/operator.

## IMPLEMENTATION OF A GEAR MARKING SYSTEM

23. Gear marking should be considered in the context of broader fisheries management measures which support sustainable fisheries and healthy oceans, including the reduction, minimisation and elimination of ALDFG.
24. The relevant policy-making authorities, with the participation of all parties concerned, should:
  - (i) determine the use of a system, if applicable, for the marking of fishing gear;
  - (ii) identify the fisheries, fishing gears, vessels or areas to which the system applies to, and specify conditions for implementation, or the grant of exemptions from, the agreed system; and
  - (iii) define reporting procedures, data storage, retrieval and information exchange.
25. States should cooperate, either bilaterally or through subregional or regional fishery bodies, including RFMO/As, as appropriate, on the establishment, implementation and harmonization of fishing gear marking schemes as deemed necessary and appropriate.
26. The system of marking of fishing gear should be designed to provide sufficient information to achieve its intended benefits as laid out in Paragraph 11. To this end, the system of marking of fishing gear should provide for the components, aspects, requirements and specifications set out in the guidelines, including:
  - (i) reporting of ALDFG;
  - (ii) reporting of fishing gear found;
  - (iii) recovery of ALDFG; and
  - (iv) where possible, the safe and environmentally sound disposal of unwanted gear.
27. The systems of the marking of fishing gear should be designed to make their implementation as feasible as possible to ensure their adoption.
28. Where the marking of fishing gear is implemented by relevant national, sub-national, or regional requirement, gear marking, should, as appropriate, be a condition of any new fishing authorization or license. Where there is no fishing authorization or license to fish required, a system of marking of fishing gear may be implemented as part of the fisheries management system when deemed both necessary and practical.
29. An owner of fishing gear should be allocated a mark that would apply to the relevant fishing gear so owned.
30. When the fishing gear is associated with a registered fishing vessel, if applicable, the mark allocated for the fishing gear should match the vessel registration details (e.g. the port letters and numbers or IMO number<sup>1</sup>, if available).
31. The relevant authority may authorize the use of a common mark to a company, organization of fishers or similar entity, if it can be demonstrated that the fishing gear to be marked can be used by more than one group of users or vessels on a rotational or common pool basis. When feasible, such identification marks should be followed by an individual gear identifier, and the owner(s) should keep a log of the physical location of the gear.

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<sup>1</sup> According to the provisions of the resolution A.1117 (30) – IMO Ship Identification Number Scheme, adopted on 6 December 2017.

32. Marks should be of a type and design approved by the competent authority and fitted in accordance with technical specifications, taking into account, if applicable, the best available international standards.
33. Such marks could be documented in the form of a fishing gear record or through a fishing licensing or authorization system. Information associated with the mark should be recorded and incorporated into the existing fishery licensing or authorisation system, if applicable.

### **MONITORING, CONTROL AND SURVEILLANCE**

34. States, and regional and subregional fishery bodies, including RFMO/As and fishing communities should ensure that enforcement of a system for the marking of fishing gear is an integral part of arrangements for MCS of fisheries.
35. These arrangements should provide for the application of appropriate penalties or sanctions for non-compliance with the various requirements of the fishing gear marking system.
36. Inspections should be carried out by the relevant authority to verify that owners and operators mark their fishing gear as required. Unmarked, or poorly marked fishing gear that cannot be linked to its ownership, or permission to fish in a specific area may indicate IUU fishing operations, and should be referred to the relevant authorities for appropriate action. Gear marking should be considered an important mechanism for assisting in the prevention of IUU fishing.
37. Port State inspection of fishing gear should be conducted in accordance with the procedures set out in Annex B, paragraph e) of the FAO Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, including conditions in relation to marking of the fishing gear.
38. Relevant authorities, in developing mechanisms for the traceability of gear marks, should make appropriate provisions for loss, damage and replacement of individual marks. In the event of a mark being lost, damaged or illegible, the owner should provide as soon as practicable to the relevant fisheries authority a declaration detailing the circumstances of the loss and requesting provision of new marks(s).
39. States should encourage anyone who finds deployed gear without appropriate marks should report it to the relevant authorities.

### **REPORTING OF ALDFG**

40. The requirement for fishing operators to report ALDFG to the relevant authority could be a condition of the fishing authorization/license.
41. Relevant authorities should establish appropriate reporting regimes, using the best available international standards. Reports should be made in a timely manner, to the flag State, to the relevant authority that issued any relevant gear mark, and, if relevant, to the coastal State in whose jurisdiction the loss of the fishing gear occurred.
42. A record/register of fishing gear reported as being found, abandoned, lost or otherwise discarded should be maintained by the relevant authority, in accordance with national legislation. This record/register should include details, where available, of:
  - (i) gear ownership;
  - (ii) type and characteristics of the fishing gear;
  - (iii) any fishing gear mark(s) and other identifiers;
  - (iv) date, time, position of loss or retrieval, depth of water, etc.;

- (v) reason for loss;
  - (vi) weather conditions;
  - (vii) any other relevant information including entrapment of endangered, threatened or protected species; and
  - (viii) Status of ALDFG (i.e., retrieved/not retrieved, sold, or destroyed)
43. States should provide information about ALDFG available to relevant RFMO/As, other relevant organizations and entities, including stakeholders, as appropriate. Reciprocal arrangements should apply, as appropriate.
44. Recognising that ALDFG may be a danger to navigation, States should encourage the owner/operator of the ALDFG to immediately warn other vessels in the vicinity, giving details of the gear and its last known position. The relevant authority should use the most effective means to give a general warning to other vessels.

### **RECOVERY OF ALDFG**

45. States should encourage owners/operators of fishing gear to make every reasonable effort to retrieve ALDFG. In the event of failure of recovery, it should be reported, consistent with paragraph 41 to the relevant authority, who should consider where practicable and feasible, cost effective arrangements for recovery of ALDFG.
46. The recovery of ALDFG should be undertaken with due regard to human safety and the subsequent damage such retrieval may have on the marine environment and habitat.
47. Priority should be given to the retrieval of ALDFG that:
- (i) presents a hazard to the navigation of surface and sub-surface vessels, or to fishing operations;
  - (ii) poses a significant adverse impact to critical, vulnerable or otherwise sensitive habitats;
  - (iii) poses an entanglement, entrapment or ingestion threat to marine wildlife or has a potential of ghost fishing;
48. States should make efforts to identify ALDFG ‘hotspots’ that pose elevated risks including those identified in Paragraph 47, and devise specific strategies for recovery of ALDFG in those areas.
49. The relevant authority should encourage owners of the fishing gear to have adequate equipment and training available to facilitate the recovery of ALDFG. Where possible, the owner/operator and the relevant authority should collaborate to enhance recovery efforts. Owners (national or foreign) should be informed of gear recovered (where appropriately marked) so that they can facilitate the collection of the recovered gear for recycling, re-use or safe disposal.
50. Recovered ALDFG and fishing gear no longer in use should be recycled, or disposed of responsibly on land. States should ensure the provision of adequate port reception facilities for the disposal of such fishing gear in accordance with MARPOL Annex V.
51. States and other interested parties are encouraged to support the development of infrastructure to enable the recycling of recovered ALDFG and fishing gear no longer in use.

## COMMERCIAL TRACEABILITY OF FISHING GEAR MARKING

52. State should encourage fishing gear manufacturers and suppliers to facilitate traceability across the supply chain, from production to use and subsequent disposal. Such traceability could include marking with manufacturer name, year of manufacture, type of product and serial number or production batch, and other information that is useful for commercial traceability. These marking systems should be linked to standard record-keeping practices of commercial transactions. States should also encourage retailers of fishing gear, if different from the manufacturer, to include these serial or batch numbers in their record keeping.
53. States should encourage fishing companies and other relevant enterprises, including associations promoting the interests of the fishing industry to consider developing procurement strategies and policies which require their suppliers to operate in conformance with the present guidelines or applicable national and/or local legislation to the same effect.
54. Due consideration should be given to making compliance with these guidelines an integral part of assessments linked with sustainable seafood certification programmes and other sustainability initiatives.
55. State should take into account the particularities of fishers who produce their own fishing gear, and the specificities of small-scale manufacturers that produce fishing gear for small-scale or artisanal fisheries in applying the provisions of this section of the guidelines.

## FISH AGGREGATING DEVICES

56. States, RFMO/As and other relevant authorities are encouraged to develop marking systems and other measures, as appropriate, for FADs, in line with the elements outlined in this section.
57. The fishing authorization or license using any form of FAD should be made on the condition that they are marked.
58. The structure of a FAD, or the electronic buoy, attached to it should contain a physical unique identification mark. For dFADs, an electronic buoy should be attached to enable real-time tracking of spatial position by the operator. For large-scale offshore operations, relevant authorities may require the use of satellite buoys on dFADs as a condition of fishing to facilitate global monitoring and fisheries management measures, taking into due consideration the need to protect confidentiality of commercially-sensitive information.
59. Relevant authorities should clearly define (i) when a FAD is considered lost, or abandoned and (ii) the FAD operator, taking into account potential issues such as the frequent exchange of satellite buoys (ownership) attached to a FAD and abandoning of dFADs when they drift into areas where fishing or transmitting is prohibited.
60. When FADs are lost or abandoned, the relevant authorities should be notified of the last known position for the FAD by the FAD operator.
61. When feasible, recovery of FADs abandoned or no longer in use should be encouraged. The relevant authorities should establish a framework to determine the responsibility for the recovery of lost or abandoned FADs. Priorities should be given to the retrieval of FADs that:
  - (i) present a hazard to the navigation of surface and sub-surface vessels, or to fishing operations;
  - (ii) pose a significant adverse impact to critical, vulnerable or otherwise sensitive habitats;
 and

- (iii) pose an entanglement, entrapment or ingestion threat to marine wildlife or has a potential of ghost fishing;
62. To reduce the potential impact or damage to marine wildlife, environment, or habitat, States and RFMO/As should encourage the use of non-entangling designs and materials, as well as natural and biodegradable materials in the construction of FADs.

#### **RESEARCH AND DEVELOPMENT**

63. States, RFMO/As, and other interested parties, should, alone or in cooperation, conduct research that would facilitate the development and adoption of new technologies and procedures related to the marking of fishing gear and FADs, including, *inter alia*, the monitoring and retrieving of ALDFG and FADs, and more effective and ecological methods and technology.
64. States, RFMO/As, and other relevant authorities, should conduct research into strategies which ensure responsible management of fishing gear to reduce, mitigate, eliminate the loss, abandonment and discarding of fishing gear throughout its complete lifecycle, which could incorporate gear marking and other relevant tools and management measures.
65. States, RFMO/As, and other relevant parties should conduct research into measures which would reduce the negative impact of fishing gear and FADs if lost, abandoned, or discarded, for example, non-entangling and biodegradable materials and escape mechanisms for trapped animals.

#### **AWARENESS RAISING, COMMUNICATION AND CAPACITY DEVELOPMENT**

66. States, RFMO/As, and other interested parties, should cooperate to identify and share best practices, collate and share information, as well as coordinate effective communication and training.
67. All parties should raise awareness of the problems caused by ALDFG and provide States, relevant stakeholders and the general public a clear purpose and rationale why it is necessary and beneficial to properly mark fishing gear and apply other measures which reduce the risk of ALDFG. This should include raising awareness of MARPOL Annex V regulations on waste management at sea and other relevant instruments.
68. RFMO/As should periodically consult their members to collate information and build understanding of ALDFG trends and impacts over time, fishing industry attitudes and behaviour towards fishing gear management measures, as well as to monitor the effectiveness of any measures employed.
69. States, RFMO/As and other relevant parties should encourage, and where possible, facilitate communication between different fishing fleets operating over the same ground to make others aware of passive/set gear and other factors which may increase risk of gear conflict. States, RFMO/As and other parties should also consider segregation of areas by stationary and mobile gear, where appropriate, to reduce gear conflict and gear loss.
70. States, regional/sub-regional bodies, including RFMO/As, are encouraged to develop communication frameworks to enable the recording and sharing of information on ALDFG, where necessary, in order to reduce its occurrence and facilitate its recovery. States are further encouraged to develop frameworks to assist fishing vessels in reporting the loss of gear to the flag State, and where appropriate, to the coastal State in whose jurisdiction the loss of the fishing gear occurred. Such frameworks should take into consideration implementation challenges in small scale and artisanal fisheries and recreational operations, as well as the use of the best available international standards.

71. States and RFMO/As should address potential constraints to the effective implementation of a system for gear marking. They should provide adequate education, training, technology exchange, on voluntary and mutually-agreed terms, and other forms of capacity development to fishers, relevant authorities, and other interested parties to facilitate the implementation of the gear marking system.
72. States, RFMO/As and fishing sectors that require additional resources to develop or conduct capacity-development in gear marking should collaborate with appropriate organizations, NGOs, commercial entities or other national authorities in order to fully avail of the benefits of the system of gear marking, including, *inter alia*, the monitoring and retrieving of ALDFG, combating IUU fishing, and improving safety at sea.

### **SPECIAL REQUIREMENTS OF DEVELOPING STATES AND SMALL SCALE FISHERIES**

73. Due attention should be given to enhancing the capacity of developing States to develop and adopt appropriate technology and knowledge in gear marking, through financial and technical assistance and cooperation, technology transfer and training, on voluntary and mutually agreed terms, in conformity with relevant international law and the FAO Code of Conduct for Responsible Fisheries and its related instruments.
74. States should give full recognition to the special requirements of developing States, in particular, least developed and Small Island Developing States, and small-scale fisheries in relation to their capacity to implement a system of gear marking consistent with these guidelines, including the assessment of risk and feasibility. States may, either directly or through international organizations including RFMO/As and other relevant partners, provide assistance to developing States, in order to, *inter alia*:
  - (i) enhance, and where necessary develop, adequate legal and regulatory frameworks for a system of gear marking;
  - (ii) strengthen the institutional arrangements and infrastructure needed to ensure effective implementation of a system of gear marking;
  - (iii) strengthen research and development on a system of gear marking
  - (iv) develop, implement and improve practical and effective control and monitoring systems; and
  - (v) build institutional and human resource capacity.
75. States may, either directly or through FAO, assess the special requirements of developing States to implement these guidelines.
76. States may cooperate to establish appropriate funding mechanisms to assist developing States to implement these guidelines. These mechanisms may be directed specifically towards developing and enhancing the capacity of the States to implement these guidelines, and may include technical and financial assistance.

### **ADDITIONAL CONSIDERATIONS**

77. FAO will, as and to the extent directed by its mandate, promote the use and collect relevant information on global implementation of these guidelines and report this information, as requested, to the FAO Committee on Fisheries.
78. FAO will, as and to the extent directed by its mandate, facilitate the implementation of these voluntary guidelines by, *inter alia*, producing technical documents regarding types of gear marks for identification of the owner; suggestions for the location of the mark in relation to gear type; guidance for the marking of fishing gear to indicate position and to mark the presence of the gear in the water column, and any other subject relevant for the implementation of gear marking systems.





**RISK-BASED APPROACH TO ASSIST RELEVANT AUTHORITIES IN DETERMINING  
THE APPROPRIATENESS OR OTHERWISE OF IMPLEMENTING A SYSTEM FOR  
MARKING FISHING GEAR**

A risk-based approach to implementing gear marking systems to mitigate against ALDFG can reduce the likelihood of loss and the impact of the loss if it occurs.

Many factors contribute towards ALDFG, including but not limited to; the type of fishing gear, weather, sea and bottom conditions, equipment failure, the level of fishing effort in a particular area, human error and safety considerations.

Before a full risk assessment is undertaken, a simple yes/no assessment may be conducted based on the type of fishing gear, marking methods and techniques, and the area of operation. This will allow simple small-scale methods, usually hand-held fishing gears, to be assessed without the need for a full risk assessment.

The assessment should be devised based upon the best available information to determine the risk associated with the current level of gear marking in the fishery in question (i) of ecological harm ii) of economic harm due to ghost fishing or illegal, unreported, and unregulated fishing (iii) to safety at sea, and iv) of the impact on fishing operations.

The determination of risk levels involves four primary steps:

- (i) Estimation of the consequence (impact) of the lack of a gear marking system and the fishery under consideration;
- (ii) Estimation of the likelihood of occurrence (probability) of the identified impacts, occurring as a result of the lack of a gear marking system in the fishery under consideration;
- (iii) Scoring of the risk; and
- (iv) Categorization of the risk.

The specific criteria addressed in the risk assessment should be based on the specific fishery conditions under consideration. Notwithstanding, the scope of a risk assessment should include parameters influencing consequences and impacts including, *inter alia*:

- (i) Ecological risks: Status of species impacted, habitats fished, vulnerability and fragility of the species and habitats where the fishery takes place and taking into account that ALDFG may drift large distances and settle in areas outside the fishery of concern, in areas beyond national jurisdiction or in another national jurisdiction;
- (ii) Economic risks: Level of effort, the value of the fishery, economic nature of the fishery (subsistence, industrial) and the potential for ghost or IUU fishing);
- (iii) Technological risks: Gear type, numbers of gears, numbers of vessels, method of operation;
- (iv) Safety and Navigational risks;
- (v) Social and cultural risks: Different users, language competencies, level of organization;
- (vi) Availability of information and the quality of information; and
- (vii) The synergies to be derived from harmonizing gear marking systems.

Determining a risk level needs defensible estimates of the consequences and likelihood. A clear rationale should be provided on how estimated levels were chosen, so that the process can be traced and verified. A clear rationale also provides a basis from which future assessments can be measured. The information, data and expert opinion collected and consolidated through the initial scoping exercise form the basis for that rationale, with additional information being provided where appropriate and necessary.

## **FURTHER INFORMATION TO CONSIDER IN THE RISK ASSESSMENT PROCESS**

### Feasibility and affordability

In addition to the risk assessment, decisions should also be informed by an assessment of the feasibility of implementing a system for the marking of gear and of the related cost/benefit issues. Accordingly, the assessment could address the following basic questions:

- (i) Is the technology associated with the system feasible, cost-effective and fit for the required purpose?
- (ii) Will the technology mature over time?
- (iii) Are there any technical barriers to integrating the capability within the current fishery system?
- (iv) How would the gear marking system affect the efficiency of the fishery (i.e., reduced CPUE, added down time, associated costs, etc.)?
- (v) What measures would be necessary to assist the fleet into implementation of gear marking?
- (vi) What resources would be available to ensure successful implementation?
- (vii) Does the gear marking system add potential hazards or interference to regular fishing activities?
- (viii) Do the States in question have the administrative and economic capacity to implement and monitor the system?
- (ix) What capacity building and/or funding needs should be considered (both in terms of administrations and fishery operators)?
- (x) Do language competencies, level of organisation and different users have an impact on the implementation of gear marking systems?

### Participation

Arrangements for conducting risk assessments and associated decisions should be carried out with balanced participation by independent technical experts and by representatives of interested parties in system development, revision and approval processes.

### Transparency

Risk assessments and associated decision making should be carried out in a transparent fashion and follow written rules of procedure. Once a risk assessment has been completed, it should be promptly published and where possible be accessible electronically to the public.

**The Technical Consultation on the Marking of Fishing Gear was held at FAO headquarters in Rome, Italy, from 5 to 9 February 2018. The Technical Consultation worked towards concluding the development of Draft Voluntary Guidelines on the Marking of Fishing Gear.**

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