# Catching The Potential

## Existing instruments, guidelines and regulations for sustainable fisheries.

What to take into account for a European standard for sustainable fisheries.

## **ProSea**

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### TABLE OF CONTENTS

Table of Contents - 2 -Terms and abbreviations - 4 -Introduction - 7 -Existing Instruments and Guidelines for Training - 7 -

#### International Standards of Training of fishers - 8 -

A brief history - 8 -International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel (STCW-F), 1995 - 10 -Document for Guidance on Training and Certification of Fishing Vessel Personnel - 11 -The united nations convention on the law of the sea, 1982 - 13 -IMO's International Code for Ships Operating in Polar Waters - 14 -ILO Work in Fishing Convention C 188 - 15 -FAO Code of Conduct for Responsible Fisheries - 16 -

## Sustainable fisheries requirements in the International Standards of Training of Fishers - 17 -

International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel (STCW-F), 1995 - 17 -Document for Guidance on Training and Certification of Fishing Vessel Personnel - 18 -Model Course 7.06: Officer in charge of a navigational watch on a fishing vessel

- 26 -

Model Course 7.07: Chief engineer officer and second engineer officer on a fishing vessel - 27 -

Summary Sustainable fisheries requirements in the International Standards of Training of Fishers - 28 -

#### EU Standards on Training of Fishers - 29 -

PECH study 2018 - 29 Ratification of STCW-F by EU member states - 29 Sustainable fisheries requirements for Fisher Vessel Personnel at the EU level - 30 Regional Sea Conventions - 30 Sustainable fisheries requirements in the regional sea conventions - 31 -

#### Sustainable fisheries requirements for Fishers in EU member states - 33

Sustainable fisheries requirements for Fishers in The Netherlands - 34 -

An overview of relevant regulations and instruments - 36 -

## CIP

#### United Nations - 36 -

Sustainable development Goals (SDG's) - 36 -The Paris Agreement - 38 -

#### IMO regulations - 39 -

Annex I - Oil - 40 -Annex III – Harmful Substances - 40 -Annex IV - Sewage - 41 -Annex V - Garbage - 41 -Annex VI – Air pollution - 42 -The Anti-fouling Convention - 43 -The Ballast Water Convention - 43 -IMO Action Plan to address Marine Plastic Litter from Ships - 44 -

#### ILO regulations - 45 -

ILO Work in Fishing Convention C 188 - 45 -

### FAO Regulations-46 -

Code of Conduct for Responsible Fisheries - 48 -

### Blue Economy - 49 -

### EU - Common Fisheries Policy - 50 -

Fisheries management - 51 -Fisheries Management - TACs and Quota's - 53 -Fisheries Management - technical Measures - 53 -Fisheries Management - Discards and the Landing Obligation - 54 -Fisheries Management - Scientific Advice - 55 -International Policy - 56 -Market Organization - 57 -

### EU – Integrated Maritime Policy - 57 -

Blue Growth - 58 -Aquaculture - 59 -Ocean Energy - 59 -Maritime spatial planning - 60 -

### EU - Marine Strategy Framework Directive - 62 -

Ecosystem Approach - 63 -Marine Protected Areas – MPA's - 63 -Marine Litter - 65 -Marine Litter in Regional Seas Conventions - 65 -

### EU climate action - 66 -

The European Green Deal - 66 -

### Instruments – Sustainable Fisheries Eco-labels and Standards 68 -



Marine Stewardship Council (MSC standard) - 68 -Aquaculture Stewardship Council (ASC Standard) - 69 -Fair Trade – Capture Fisheries Standard - 69 -

Attachment 1: Overview of requirements for fishing vessel personnel related to sustainable fisheries training - 70 -

### TERMS AND ABBREVIATIONS

In the context of this implementation plan, the following terms and abbreviations are used:

ASC: Aquaculture Stewardship Council

Bucharest Convention: Convention for the Protection of the Black Sea of 1992

CAB: Conformity Assessment Bodies

CFP: Common Fisheries Policy

CITES: Convention on International Trade in Endangered Species of Wild Fauna and

Flora

CMS: Content Management System

CTP: Catching the Potential project

EAF: Ecosystem Approach to Fisheries

EEDI: Energy Efficiency Design Index

EEZ: Exclusive Economic Zone

EP: European Parliament

ETS: Emission Trading System

EU: European Union

FAO: Food and Agriculture Organization

GES: Good Environmental Status

GFCM: General Fisheries Commission for the Mediterranean

GHG: Green House Gas

GT: Gross tonnage



HELCOM: Convention on the Protection of the Marine Environment in the Baltic Sea

Area of 1992 - the Helsinki Convention

HTW: IMO Sub-Committee on Human Element, Training and Watchkeeping

ICES: International Council for the Exploration of the Sea

IGO: Intergovernmental organization

ILO: International Labour Organization

IMO: International Maritime Organization

IMP: Integrated Maritime Policy

IPOA: International Plans of Action

ITF: International Transport Workers' Federation

IUCN: International Union for Conservation of Nature

MPA: Marine Protected Area

MSC: Marine Stewardship Council

MSFD: Marine Strategy Framework Directive

MSP: Marine Spatial Planning

NGO: Non-governmental Organization

OECD: Organisation for Economic Co-operation and Development (OECD)

OSPAR: Convention for the Protection of the Marine Environment in the North-East

Atlantic of 1992 – the OSPAR Convention

PECH: Committee of the European Parliament on Fisheries

PISCES: Partnerships Involving Stakeholders in the Celtic Sea Ecosystem

POLAR Code: International Code for Ships Operating in Polar Waters

RES: Renewable Energy Systems

RFMO: Regional Fisheries Management Organisation

SAC: Scientific Advisory Committee

SDGs: Sustainable Development Goals

SEEMP: Ship Energy Efficiency Plan

SME: Small and Medium-sized Enterprises

SMEFF: Sustainable Management of External Fishing Fleets



SOLAS: international Convention for the Safety of Life at Sea STCW: International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers, 2011 STCW-F: The International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel, 1995 STECF: Scientific, Technical, and Economic Committee for Fisheries TAC: Total Allowable Catch UN: United Nations UNCLOS: United Nations Convention on the Law of the Sea UNEP-MAP: Convention for the Protection of Marine Environment and the Coastal Region of the Mediterranean of 1995 – the Barcelona Convention UNFCCC: United Nations Framework Convention on Climate Change WP: Work Package - in the CTP project proposal, the work is divided in seven Work Packages



### INTRODUCTION

The goal of the CTP project is the development and implementation of a European standard for sustainable fisheries training. In WP2, the project team conducted a desk study to identify existing instruments and guidelines for sustainability training of fishers.

Firstly, this report identifies and describes the current international training requirements for fishing vessel personnel, with the emphasis on (elements of) sustainable fisheries training. This overview of the requirements will provide insight in the most promising ways for the implementation of the European standard for sustainable fisheries training that will be developed in WP5 and will serve as input for the implementation strategy and activities in WP6.

The second part of this report is focused on content. It identifies international regulations and instruments that are relevant for the content of the sustainable fisheries training that will be piloted in WP4. This inventory of subjects will serve as a checklist for the specific content that will be developed in the seven CTP countries. Important to mention is that the descriptions of the requirements, regulations and instruments are mostly directly copied from websites of the organizations involved or from literature and do not automatically express the views of the CTP-project partners.

### EXISTING INSTRUMENTS AND GUIDELINES FOR TRAINING

This part of the report describes the current international instruments for training of fishers, with the emphasis on (elements of) sustainable fisheries training. These instruments provide insight in the current requirements in sustainable fisheries training for fishers and will be guiding the development and implementation of the European standard.

The table in attachment 1 provides an overview of requirements for fishers working on vessels of different sizes. The requirements are described in more detail in the text of the following chapters.

### A BRIEF HISTORY

The first international maritime training guide for fishers, the Document for Guidance on Fishermen's Training and Certification, was prepared by a joint Working Group of the Food and Agriculture Organization (FAO), the International Labour Organization (ILO) and the International Maritime Organization (IMO) and published by the IMO in 1988. It emanated from the following set of events and circumstances:

- The General Conference of ILO adopted the Fishermen's Competency Certificate Convention, 1966, in order to establish standards of qualification for certificates of competency entitling persons to perform the duties of skipper, mate or engineer on board a fishing vessel. The ILO Conference also adopted the Vocational Training (Fishermen) Recommendation, 1966.
- The International Convention for the Safety of Life at Sea (SOLAS), 1974 (regulation 13, chapter V), which applies to all fishing vessels, requires Contracting Governments, each for its national ships, to maintain or, if it is necessary, to adopt measures for the purpose of ensuring that, from the point of view of safety of life at sea, all ships are sufficiently and efficiently manned.
- The International Conference on safety of Fishing Vessels, 1977, adopted resolution 8, which invites IMO to extend its consideration of the problem of training and certification of fishing vessel personnel, as defined in the Torremolinos International Convention for the Safety of Fishing Vessels, 1977, in co-operation with ILO and FAO.
- As a consequence of resolution 8 of the 1977 Torremolinos Conference, IMO prepared and adopted a number of recommendations on watchkeeping and certification of fishers.
- In 1981 the sixth session of the Joint IMO/ILO Committee on Training considered a proposal by the Seafarers Member to prepare a document for guidance on the training and certification of fishers. It was agreed that



the document for guidance should be prepared by a joint FAO/ILO/IMO Working Group and approved by the three organizations.

In 1995, a Diplomatic Conference held at the International Maritime Organization (IMO) adopted instruments, resolutions and recommendations for the International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel (1995 STCW-F Convention).

In 1995, all FAO member states adopted the Code of Conduct for Responsible Fisheries. The provisions of the Code include recommendations to enhance the sustainability of the world's fisheries and to prevent damage to ecosystems resulting from the over-exploitation of important fish stocks. The Code incorporates principles and standards for the conservation, management and development of fisheries and places considerable emphasis on the training of fishers in the implementation of its provisions. Article 8. Fishing Operations, indicates that:

8.1.7 States should enhance through education and training programmes the education and skills of fishers and, where appropriate, their professional qualifications. Such programmes should take into account agreed international standards and guidelines.

Although the Code is non-binding, by endorsing it, governments commit themselves to operating according to its values and standards.

In 2000, a revised Document for Guidance on Training and Certification of Fishing Vessel Personnel was written by a joint FAO/ILO/IMO Working Group and approved by the Secretariat of FAO, the Governing Body of ILO and the IMO Maritime Safety Committee. The revised document reflects the functional competence approach used in the STCW Code and takes account of the 1995 FAO Code of Conduct for Responsible Fisheries. It also takes account of the conventions and recommendations adopted by ILO and IMO and the wide practical experience of FAO in the field of training of fishing vessel personnel.



INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION AND WATCHKEEPING FOR FISHING VESSEL PERSONNEL (STCW-F), 1995

The International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel, 1995 (STCW-F 1995), entered into force on 29 September 2012.

The 1995 STCW-F Convention sets the certification and minimum training requirements for skippers, officers in charge of a navigational watch and engineer officers of seagoing fishing vessels of 24 metres in length and above, personnel in charge of or performing radiocommunication duties and provides basic training for all fishing vessel personnel regardless the size of the vessel. The STCW-F Convention is the first to establish basic requirements on training, certification and watchkeeping for fishing vessel personnel on an international level. This Convention prescribes minimum standards relating to training, certification and watchkeeping for fishing vessel personnel, which countries are obliged to meet or exceed. STCW-F is comparatively short and consists of 15 articles and an annex containing technical regulations in four chapters:

- Chapter I contains General Provisions;
- Chapter II deals with Certification of Skippers, Officers, Engineer Officers and Radio Operators;
- Chapter III deals with basic safety training for all fishing vessel personnel; and
- Chapter IV deals with watchkeeping.

The STCW-F Conventions largely aims at officer requirements. Requirements for non-officers can only be found in Chapter II/6 Regulation 6, 'Mandatory minimum requirements for certification of personnel in charge of or performing radiocommunication duties on board fishing vessels' and Chapter III, the Basic Safety Training.

Chapter III of the STCW-F Convention currently mentions only six subjects that should be covered in the basic training of all fishing vessel personnel. Further interpretation of the subjects is not included in the STCW-F. Article 1 of the Convention does require parties to ensure that, from the point of view of safety of



life at sea and for the protection of the marine environment, seagoing vessel personnel are qualified and fit for their duties.

Regulation I/2 makes provisions for the Administration of a Party to determine which of the requirements should apply to fishing vessels of less than 45 m in length operating exclusively from its ports and fishing its limited waters.

Resolution 3 of the STCW-F Convention requested that guidelines and recommendations be prepared for the training of fishing vessel personnel serving on fishing vessels of 12 m in length and over but less than 24 m.

Regulation III/1 of the STCW-F Convention requires that basic training should be given to all fishing vessel personnel before being assigned to any shipboard duties.

The 1995 STCW-F Convention is currently being comprehensive reviewed by the Sub-Committee on Human Element, Training and Watchkeeping (HTW) in order to align the standards of the Convention with the current state of the fishing industry, and to make available an effective instrument, which will contribute to addressing the significant challenges of this sector.

### DOCUMENT FOR GUIDANCE ON TRAINING AND CERTIFICATION OF FISHING VESSEL PERSONNEL

The FAO/ILO/IMO Document for Guidance on Training and Certification of Fishing Vessel Personnel is intended to provide guidance when national training schemes and courses are instituted, amended or developed for the vocational training of any category of fishing vessel personnel. Guidance given on the training is complementary, and not intended to supersede, the knowledge requirements specified in these ILO and IMO conventions and recommendations.

Noting the similar objectives of the ILO Fishermen's Competency Certificates and Vocational Training (Fishermen) Recommendations, the FAO Code for Responsible Fisheries and the STCW-F Convention is encouraging the training of fishing vessel personnel in the interest of promoting the safety of life and property at sea and the protection of the marine environment. National Administrations are urged to establish appropriate education and training policies for fishing vessel personnel.



Taking into consideration provisions of Resolution 3 of the 1995 STCW-F Convention, regarding the preparation of guidelines and recommendations for the training and certification of personnel on board fishing vessels of 12 metres in length and over but less than 24 metres, the FAO/ILO/IMO Document of Guidance incorporates text relating to the training and certification of both small-scale and industrial fishers catching fish and other living resources of the sea.

Training programmes for fishing personnel should be based on an analysis of the prevailing needs and conditions in each particular area to ensure that in addition to safe operations, the skills to be developed will reflect the need for commercial success and the occupational requirements of fishing vessel personnel. It follows that training programmes should be prepared by competent authorities in co-operation with social partners, training institutes and organizations involved in the fishing industry and the overall welfare and development of the fishing industry.

The Document of Guidance consists of four chapters:

Part A – General Principles

### Part B – Small fishing vessels

Open fishing vessels and decked fishing vessels of less than 12 meters in length provide the majority of the world's fishing fleet, which are distributed widely in small fishing communities. The training needs of the fishing vessel personnel concerned differ considerably from those applicable to larger vessels, and a wider range of skills common to all fishing vessel personnel is necessary.

**Part C** – Decked fishing vessels of 12 meter and over but less than 24 meters or fishing vessels powered by main propulsion machinery of less than 750 kW propulsion power. This chapter is intended to apply primarily to fishing vessel personnel serving on fishing vessels operating in limited waters. In the case of fishing vessels operating in unlimited waters, it is desirable that training conforms as closely as practicable with the guidelines of part D of the Document.

Part D – Fishing vessels of 24 meters in length or by main propulsion machinery of 750 kW propulsion power or more. As there are varying fishing techniques associated with the harvesting of different fish species, the required skills and knowledge of the fishing vessel personnel concerned should be related to the type



of fishing vessel on which they will serve, and the method or methods of fishing used.

Part D describes requirements for article:

- 5.2 Skippers on fishing vessels 24 m and over operating in unlimited waters;
- 5.3 Officers on a navigational watch on fishing vessels 24 m and over operating in unlimited waters;
- 5.4 Skippers on fishing vessels 24 m and over operating in limited waters;
- 5.5 Officers on a navigational watch on fishing vessels 24 m and over operating in limited waters;
- 5.6 Skilled fishers;
- 5.7 Chief engineer and second engineer officers of fishing vessels powered by over 750 kW;
- 5.8 Communication;
- 5.9 Basic safety training for all fishing personnel;
- 5.10 Basic principles to be observed in keeping a navigational watch on fishing vessels.

### THE UNITED NATIONS CONVENTION ON THE LAW OF THE SEA, 1982

Additionally, almost every possible activity on, in, under, and over the sea is regulated by the 1982 United Nations Convention on the Law of the Sea (UNCLOS). UNCLOS entered into force on 16 November 1994. In the course of several years, all member states of, what is now the European Union, have become party to the Convention; the European Union itself became party on 1 April 1998. The Convention consists of 320 Articles and 9 Annexes of which the following are referring to the training of fishers:

- Article 62, Utilization of the living resources, and;
- Article 94, Duties of the flag State.

The Convention prescribes the international duties of fishing vessel coastal States to conserve living resources as laid down in Article 62 of the Convention and in



particular on the training of fishers. It states that nationals of other States fishing in the Exclusive Economic Zone (EEZ) have to comply with the conservation measures and with other terms and conditions established in the laws and regulations of the coastal State. The Article then refers to requirements for the training of personnel and the transfer of fisheries technology, including enhancement of the coastal State's capability of undertaking fisheries research.

The Convention prescribes the international duties of fishing vessel flag States to ensure safety at sea as laid down in Article 94 of the Convention and in particular on the training of fishers. It requires effective State exercise of its jurisdiction and control in administrative, technical and social matters over ships flying its flag with regard to the manning of ships, labour conditions and the training of crews, taking into account the applicable international instruments. This to ensure that each ship is in the charge of a master and officers who possess appropriate qualifications, in particular in seamanship, navigation, communications and marine engineering, and that the crew is appropriate in qualification and numbers for the type, size, machinery and equipment of the ship. Furthermore, it ensures that the master, officers and, to the extent appropriate, the crew are fully conversant with and required to observe the applicable international regulations concerning the safety of life at sea, the prevention of collisions, the prevention, reduction and control of marine pollution, and the maintenance of communications by radio.

In as such, concerning the latter Article, a fishing vessel flag State has these duties only with regard to fishing vessels that operate beyond its own EEZ, like in the EEZ of another State or on the high seas. Within its territorial waters and its EEZ, a flag State is free to take or to not take measures concerning the training and certification of fishing vessel personnel, whether or not based on internationally agreed standards.

## IMO'S INTERNATIONAL CODE FOR SHIPS OPERATING IN POLAR WATERS

IMO's International Code for Ships Operating in Polar Waters (Polar Code) is mandatory under both the International Convention for the Safety of Life at Sea (SOLAS) and the International Convention for the Prevention of Pollution from Ships (MARPOL). The Polar Code covers the full range of design, construction, equipment, operational, training, search and rescue and environmental protection matters



relevant to ships operating in the inhospitable waters surrounding the two poles. The Polar Code entered into force on 1 January 2017.

The Polar Code is intended to cover the full range of shipping-related matters relevant to navigation in waters surrounding the two poles – ship design, construction and equipment; operational and training concerns; search and rescue; and, equally important, the protection of the unique environment and ecosystems of the polar regions.

This Polar Code includes mandatory measures covering safety (part I-A), pollution prevention (part II-A) and recommendatory provisions for both (parts I-B and II-B).

The Code entails an entire chapter on manning and training (Chapter 12) to ensure that ships operating in polar waters are appropriately manned by adequately qualified, trained and experienced personnel. Therefore, it requires companies to ensure that masters, chief mates and officers in charge of a navigational watch on board ships operating in polar waters shall have completed training to attain the abilities that are appropriate to the capacity to be filled and duties and responsibilities to be taken up, taking into account the provisions of the STCW Convention and the STCW Code, as amended.

Mandatory minimum requirements for the training and qualifications of masters and deck officers on ships operating in polar waters were also adopted by IMO's Maritime Safety Committee in November 2016. They became mandatory under the STCW Convention and the STCW Code from 1 July 2018. The IMO Polar Code is not (yet) mandatory for fishing vessels.

### ILO WORK IN FISHING CONVENTION C 188

The ILO Work in Fishing Convention No.188 entered into force on 16 November 2017. The objectives of the Convention are to ensure that fishers have decent conditions of work on board fishing vessels regarding minimum requirements for work on board; conditions of service; accommodation and food; occupational safety and health protection; medical care and social security. It aims to ensure that fishing vessels are constructed and maintained so that fishers have decent living conditions on board. The Convention applies to all fishers and fishing vessels engaged in commercial fishing operations. Article 32 of the Convention mentions training of fishing vessel personnel but does not detail specific requirements.



In the European Union, social partners made a so-called social partners agreement based on ILO C.188. The social partners agreement was transposed into EU-Directive 2017/159. This directive is slightly different in content as the ILO C.188 Work in Fishing Convention. One major difference is the application, where ILO Convention C.188 applies to all commercial fishers, the related EU-directive only applies to workers. However, if one of the crew members is a worker, the application of EU-Directive 2017/19 applies to the whole crew. The EU-Directive came into force on 15 November 2019.

### FAO CODE OF CONDUCT FOR RESPONSIBLE FISHERIES

To promote long-term conservation and sustainable use of fisheries resources, the 1995 FAO Conference adopted the FAO Code of Conduct for Responsible Fisheries. The FAO Code of Conduct for Responsible Fisheries is a reference framework for national and international efforts, including in the formulation of policies and other legal and institutional frameworks and instruments, to ensure sustainable fishing and production of aquatic living resources in harmony with the environment.

Several articles in the Code of Conduct refer to the importance of training:

- Article 6.16 States, recognizing the paramount importance to fishers and fish farmers of understanding the conservation and management of the fishery resources on which they depend, should promote awareness of responsible fisheries through education and training. They should ensure that fishers and fish farmers are involved in the policy formulation and implementation process, also with a view to facilitating the implementation of the Code.
- Article 6.17 States should ensure that fishing facilities and equipment as well as all fisheries activities allow for safe, healthy and fair working and living conditions and meet internationally agreed standards adopted by relevant international organizations.
- Article 8.1.7 States should enhance through education and training programmes the education and skills of fishers and, where appropriate, their professional qualifications. Such programmes should take into account agreed international standards and guidelines.



It is important that (future) fishers are aware of international guidelines and best practices, to increase compliance and application in their daily work.

### SUSTAINABLE FISHERIES REQUIREMENTS IN THE INTERNATIONAL STANDARDS OF TRAINING OF FISHERS

The goal of the CTP project is to develop a European standard/framework for sustainable fishing education and training, and we are therefore particularly interested in requirements regarding sustainable fisheries in the current international standard for the training of fishers.

INTERNATIONAL CONVENTION ON STANDARDS OF TRAINING, CERTIFICATION AND WATCHKEEPING FOR FISHING VESSEL PERSONNEL (STCW-F), 1995

There are no specific IMO regulations regarding sustainability training for fishers. However, the STCW-F Code does include training requirements related to the prevention of pollution. It briefly mentions prevention of marine pollution as part of the basic training for all fishing personnel, and as a mandatory requirement for officers in charge of a navigational watch on fishing vessels of 24 meters in length and over.

Text for officers: Prevention of pollutions of the marine environment - Knowledge of the precautions to be observed to prevent pollution of the marine environment, in:

- Chapter II, Regulation 2 Mandatory minimum requirements for certification of officers in charge of a navigational watch on fishing vessels of 24 metres in length and over operating in unlimited waters.
- Chapter II, Regulation 4 Mandatory minimum requirements for certification of officers in charge of a navigational watch on fishing vessels of 24 metres in length and over operating in limited waters.

Text for all fishing personnel: Fishing vessel personnel shall, before being assigned to any shipboard duties, receive basic training approved by the Administration in the following areas:



- personal survival techniques, including donning of lifejackets and, as appropriate, immersion suits;
- fire prevention and firefighting;
- emergency procedures;
- elementary first aid;
- prevention of marine pollution; and
- prevention of shipboard accidents.

In implementing the provisions of paragraph 1, the Administration shall determine whether, and, if so to what extent, these provisions shall apply to personnel of small fishing vessels or personnel already employed on fishing vessels, in:

Chapter III - Basic safety training for all fishing vessel personnel (regulation 1)

Text for officers: Prevention of pollutions of the marine environment – The skipper and the officer in charge of the watch shall be aware of the serious effects of operational or accidental pollution of the marine environment, and shall take all possible precautions to prevent such pollution, particularly within the framework of relevant international and port regulations, in:

• Chapter IV Watchkeeping, regulation 1 – basic principles to be observed in keeping a navigational watch on board fishing vessels.

DOCUMENT FOR GUIDANCE ON TRAINING AND CERTIFICATION OF FISHING VESSEL PERSONNEL

### PART A – GENERAL PRINCIPLES

Training programmes should provide for instruction in fishing techniques appropriate for local fish species, management strategies and environmental protection, so as to ensure sustainable yields and the proper utilization of the resources of the sea.



Particular attention should be paid to extension training programmes, based on people's needs, for selected fishery communities. Attention should be given to the training of fishing vessel personnel in basic resource management, in environmental protection, in sustainable development, in the operation and management of fishers' organizations and in activities associated with social improvement.

Training programmes should be organized in relation to the technical standards of the fishing industry, taking into account the FAO Code of Conduct for Responsible Fisheries, the different training needs of small-scale and industrial fishers and the available national resources. Technical developments in countries where fish stocks are in danger of over-exploitation or which may lead to unemployment among fishers should be carefully considered and be mainly aimed at reducing the cost of catching fish and increasing the quality of fish production in general.

### PART B – SMALL FISHING VESSELS

### 3.17 Prevention of Marine Pollution

Those responsible should have a knowledge of the factors contributing to marine pollution and precautions to be observed to prevent marine pollution when pumping out bilges and particularly when changing lubricating oil. They should also be aware that the disposal to the sea of all plastics, including but not limited to synthetic ropes, synthetic fishing nets, plastic sheeting and garbage bags, etc., is prohibited; disposal of other garbage is also prohibited or subject to restrictions and should be avoided.

### 3.34 FAO Code of Conduct for Responsible Fisheries

Where appropriate, fishing vessel personnel should be given training in the principles and guidelines of the Code of Conduct for Responsible Fisheries.

PART C – DECKED FISHING VESSELS OF 12 METER AND OVER BUT LESS THAN 24 METERS OR FISHING VESSELS POWERED BY MAIN PROPULSION MACHINERY OF LESS THAN 750 KW PROPULSION POWER

It had previously been determined that, given the extend of fishery and regional operational variations, national examinations for skippers, officers in charge of a



navigational watch, engineering officers and personnel of such fishing vessels should only include, examination for safety factors inherent in their operation and not in fishing technology. However, attention is drawn to the adoption of the 1995 FAO Code of Conduct for Responsible Fisheries, which places considerable emphasis upon the training of fishing vessel personnel, particularly in the area of fisheries management and resource conservation.

### 4.18 Prevention of marine pollution

The curricula for training skippers and engineering officers should include knowledge of the requirements of the International Convention for the Prevention of Pollution from ships (MARPOL 73/78).

### 4.27 Maritime law and fisheries regulations

Skippers, officers in charge of a navigational watch and engineer officers should possess a knowledge of appropriate international law embodied in international agreements and conventions, as they affect their specific obligations and responsibilities, particularly those concerning fishery safety and the protection of the marine environment.

### 4.37 FAO Code of Conduct for Responsible Fisheries

Where appropriate, fishing vessel personnel should be given training in the principles and guidelines of the Code of Conduct for Responsible Fisheries.

PART D – FISHING VESSELS OF 24 METERS IN LENGTH OR BY MAIN PROPULSION MACHINERY OF 750 KW PROPULSION POWER OR MORE

### 5.2 Skippers on fishing vessels 24 m and over operating in unlimited waters

### 5.2.14 Maritime Law

A knowledge of international maritime law as embodied in international agreements and conventions, as they affect their specific obligations and responsibilities of the skipper, particularly those concerning fishery safety and the protection of the marine environment. Particular regard should be paid to four specifically named subjects, including 4 responsibilities under annex I and annex V of MARPOL.



#### 5.2.20 FAO Code of Conduct for Responsible Fisheries

Fishing vessel personnel should have an adequate knowledge of the FAO Code of Conduct for Responsible Fisheries, which should include:

- responsible harvesting practices;
- responsible fishing gear/selectivity;
- energy optimization;
- the management partnership;
- duties of all states;
- duties of flag states; and
- port state duties.

## 5.3 Officers on a navigational watch on fishing vessels 24 m and over operating in unlimited waters

#### 5.3.20 Prevention of pollution of the marine environment

Knowledge of the precautions to be observed to prevent pollution of the marine environment.

#### 5.3.21 FAO Code of Conduct for Responsible Fisheries

Fishing vessel personnel should have an adequate knowledge of the FAO Code of Conduct for Responsible Fisheries, which should include:

- responsible harvesting practices;
- responsible fishing gear/selectivity;
- energy optimization;
- the management partnership;
- duties of all states;
- duties of flag states; and
- port state duties.



#### 5.4 Skippers on fishing vessels 24 m and over operating in limited waters

#### 5.4.13 Maritime Law

Taking into account the limited waters as defined by the Administration, a knowledge of international maritime law as embodied in international agreements and conventions, as they affect their specific obligations and responsibilities of the skipper in the waters concerned, particularly those concerning fishing safety and the protection of the marine environment.

#### 5.4.17 FAO Code of Conduct for Responsible Fisheries

Fishing vessel personnel should have an adequate knowledge of the FAO Code of Conduct for Responsible Fisheries, which should include:

- responsible harvesting practices;
- responsible fishing gear/selectivity;
- energy optimization;
- the management partnership;
- duties of all states;
- duties of flag states;
- port state duties.

## 5.5 Officers on a navigational watch on fishing vessels 24 m and over operating in limited waters

#### 5.5.16 Prevention of pollution of the marine environment

Knowledge of the precautions to be observed to prevent pollution of the marine environment

#### 5.5.17 FAO Code of Conduct for Responsible Fisheries

Fishing vessel personnel should have an adequate knowledge of the FAO Code of Conduct for Responsible Fisheries, which should include:

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- responsible harvesting practices;
- responsible fishing gear/selectivity;
- energy optimization;
- the management partnership;
- duties of all states;
- duties of flag states;
- port state duties.

#### **5.6 Skilled fishers**

The training and experience of a skilled fisher should ensure adequate practical:

- 5.6.7 skill in rope and net-mending;
- 5.6.9 ability in handling and stowage of catch;
- 5.6.10 knowledge of fishing equipment used and how to maintain it.

## 5.7 Chief engineer and second engineer officers of fishing vessels powered by over 750 kW

5.7.4 Adequate practical knowledge in, at least, the following subjects, including .8 regulations to be observed regarding operational or accidental pollution of the marine environment and methods and aids to prevent such pollution.

5.7.5 A knowledge of international maritime law as embodied in international agreements and conventions, as they affect their specific obligations and responsibilities of the engine department, particularly those concerning fishing safety and protection of the marine environment.

#### **5.8 Communication**

### 5.9 Basic safety training for all fishing personnel

Fishing vessel personnel shall, before being assigned to any shipboard duties, receive basic training approved by the Administration in the following areas:



- personal survival techniques, including donning of lifejackets and, as appropriate, immersion suits;
- fire prevention and firefighting;
- emergency procedures;
- elementary first aid;
- prevention of marine pollution; and
- prevention of shipboard accidents.

## 5.10 Basic principles to be observed in keeping a navigational watch on fishing vessels

### 5.10.10 Protection of the marine environment

The skipper and the officer in charge of the navigational watch should be aware of the serious effects of operational or accidental pollution of the marine environment and should take all possible precautions to prevent such pollution of the marine environment.

### Chapter 6 Training

### 6.16 Prevention of marine pollution

6.16.1 The curricula for training skippers and officers should include knowledge of requirements of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78)

### 6.24 Skilled fishers

6.24.1 Skilled fishers should receive practical training in accordance with the detailed guidance set out in appendix 32. In general, such training is applicable to skilled fishers irrespective of the size of the fishing vessel on which they serve. The type of fishing undertaken by the fishing vessels concerned will indicate the training that should be given in the use of fishing gear and fishing technique.

### 6.25 Maritime law and fisheries regulations



6.25.1 Skippers and officers should possess a knowledge of appropriate international maritime law, embodied in international agreements and conventions, as they affect their specific obligations and responsibilities, particularly those concerning fishing safety and the protection of the marine environment. In addition, skippers should possess sufficient knowledge of regional regulations and agreements affecting fishing in the area of operation of the fishing vessels on which they serve and should give due regard to the FAO Code of Conduct for Responsible Fisheries.

6.25.2 The extent of knowledge of national maritime legislation is left to the discretion of the competent authorities but should include national arrangements for implementing international agreements and conventions.

### 6.33 FAO Code of Conduct for Responsible Fisheries

6.33.1 Fishing vessel personnel should have an adequate knowledge of the FAO Code for Responsible Fisheries, which should include:

- responsible harvesting practices;
- responsible fishing gear/selectivity;
- energy optimization;
- the management partnership;
- duties of all States;
- duties of flag States;
- port State duties.

### Chapter 8 Minimum requirements

This chapter refers to the mandatory minimum requirements contained in regulations 1, 2, 3, 4, 5, 6 and 8 of chapter II of the 1995 STCW-F Convention

## 8.4 Mandatory minimum requirements to ensure the continued proficiency and updating knowledge for skippers, officers and engineer officers

8.4.2 The refresher and updating courses required by this regulation should be approved by the Administration and include the text of recent changes in



international regulations concerning the safety of life at sea and the protection of the marine environment.

8.4.3 The Administration should ensure that the texts of recent changes in international regulations concerning the safety of life at sea and the protection of the marine environment are made available to ships under its jurisdiction.

### Appendix 25 Engine-room personnel – pumping and piping systems

1 Engine-room personnel whose duties may require it should have a sufficient knowledge to perform their duties on the piping systems, pumping units and protective devices involved, including the following:

### 1.8 Protection of the marine environment

1.8.1 Precautions to be taken to prevent pollutions of the marine environment.

MODEL COURSE 7.06: OFFICER IN CHARGE OF A NAVIGATIONAL WATCH ON A FISHING VESSEL

Model Course 7.06 is based on materials developed by the Korea Institute of Maritime and Fisheries technology for IMO to meet the standards of training for officers in charge of a navigational watch required by regulation II/2 of the 1995 STCW-F Convention. The total course takes 547 hours. Prevention of Pollution of the Marine Environment (Competence 3.4) and the FAO Code of Conduct for Responsible Fisheries (Competence 3.8) are included in the model course 7.06 for a duration of 6 and 14 hours.

Competence Prevention of Pollution of the Marine Environment relates to the Document for Guidance on Training and Certification of Fishing Vessel Personnel and covers the application of provisions of the International Convention for the Prevention of Pollution from Fishing Vessels:

- MARPOL Annex I Oil
- MARPOL Annex IV Sewage
- MARPOL Annex V Garbage



• MARPOL Annex VI – Air Pollution

Competence FAO Code of Conduct for Responsible Fisheries also relates to the Document for Guidance on Training and Certification of Fishing Vessel Personnel and covers:

- The Objectives of the Code of Conduct;
- Responsible Harvesting Practices;
- Responsible Fishing gear selectivity;
- Energy Optimization; and
- Duties of all states, flag states and port states.

### MODEL COURSE 7.07: CHIEF ENGINEER OFFICER AND SECOND ENGINEER OFFICER ON A FISHING VESSEL

Model Course 7.07 is based on materials developed by the Korea Institute of Maritime and Fisheries technology for IMO to meet the standards of training for chief engineer officers and second engineer officers on a fishing vessels powered by main propulsion machinery of 750 kW or more required by regulation II/5 of the 1995 STCW-F Convention. The total course takes 724 hours.

Prevention of Pollution is part of the operation and maintenance of fishing vessel auxiliary machinery (Competence 1.3). International Maritime Law embodied in International Agreements and Conventions (Competence 3.2) includes knowledge of MARPOL (6 hours) and of the FAO Code of Conduct for Responsible Fisheries (4 hours).

Competence operation and maintenance of fishing vessel auxiliary machinery includes the application of provisions for the prevention of pollution of the sea by oil.

Knowledge of MARPOL relates to the Document for Guidance on Training and Certification of Fishing Vessel Personnel and covers the application of provisions of the International Convention for the Prevention of Pollution from Fishing Vessels:

- MARPOL Annex I Oil
- MARPOL Annex IV Sewage



- MARPOL Annex V Garbage
- MARPOL Annex VI Air Pollution

Knowledge of the FAO Code of Conduct for Responsible Fisheries also relates to the Document for Guidance on Training and Certification of Fishing Vessel Personnel and covers:

- The Objectives of the Code of Conduct
- Responsible Harvesting Practices
- Responsible Fishing Gear Selectivity

## SUMMARY SUSTAINABLE FISHERIES REQUIREMENTS IN THE INTERNATIONAL STANDARDS OF TRAINING OF FISHERS

There are no international standards regarding sustainability training for fishers.

Both the STCW-F Code and the FAO/ILO/IMO Document for Guidance on Training and Certification of Fishing Vessel Personnel do include some training requirements related to elements of sustainable fisheries:

- The 1995 STCW-F Code briefly mentions precautions to prevent marine pollution as part of the basic training for all fishing personnel, and as a mandatory requirement for officers in charge of a navigational watch on fishing vessels of 24 meters in length and over. It does not address any other elements of sustainable fisheries.
- The voluntary guidelines in the FAO/ILO/IMO Document for Guidance on Training and Certification of Fishing Vessel Personnel focus on precautions to prevent marine pollution, knowledge of maritime law to prevent pollution and knowledge of the FAO Code of Conduct for Responsible Fisheries. This Code addresses energy optimization and some fisheries related subjects including responsible harvesting practices and fishing gear selectivity.
- Model courses 7.06 (officers on a navigational watch) and 7.07 (engineers) also address knowledge of maritime law to prevent pollution and knowledge of the FAO Code of Conduct for Responsible Fisheries.

### PECH STUDY 2018

In July 2018, a study was issued on the training of fishers in the European Union, requested by the PECH Committee of the European Parliament (Policy Department for Structural and Cohesion Policies PE 617.484). The focus of this study was the training and certification of fishers relating to health, safety, and sustainability on board. Findings and conclusions on these issues are informed by case studies covering 11 EU Member States (MS), as well as a case study on scientific observers working at sea.

The study concludes that there is a lack of a harmonised system of standards on training, certification and watchkeeping for fishers of the EU fishing fleet.

STCW-F is considered the most relevant standard, as it is the intended IMO global standard for the training and certification of fishers. However, STCW-F is not adequately ratified/implemented within the EU (yet).

Training and education establishments and programmes, training paths, and resources vary greatly per assessed EU MS. There is no clear, widely adopted international/ EU regulatory framework on the training and education of fishers. Some of the EU member states have fishery schools or specific education programs (typically 2-4 years) to become a qualified crew member on fishing vessels. Others don't have fisheries education at all. However, these EU MS do have certified training institutes offering safety training, like the (usually 5-days) Basic Safety Training Fisheries. Education of fishers among EU MS, both vocational and safety/ sustainability education, is as diverse as is fisheries itself. It varies from a father to son 'learning by doing' approach to formal, professional (higher) education.

### RATIFICATION OF STCW-F BY EU MEMBER STATES

The European Commission supports the adoption of the STCW-F Convention but cannot ratify the Convention itself as only States can be parties thereto.

- 29 -

30 April 2020



In 2015, Council Decision 2015/799 authorised EU MS to ratify the International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessels Personnel (STCW-F Convention) in the interest of the European Union and encouraged them to do so by May 2017.

In March 2019, the European Commission adopted a report to the Council reviewing EU member states' progress in the ratification of the STCW-F Convention. The report shows that only ten EU MS have become Parties to the STCW-F Convention (Belgium, Denmark, Latvia, Lithuania, Netherlands, Poland, Portugal, Romania, Spain, and France). The report urges EU member states to ratify the STWC-F Convention.

The European Commission has the possibility to draw up an EU-Directive based on the STCW-F; however, the EC so far is not prepared to use this option. The EC declared not to have the competence for education, however, there is an EU-Directive based on the STCW, the equivalent for shipping to the STCW-F Convention.

### SUSTAINABLE FISHERIES REQUIREMENTS FOR FISHER VESSEL PERSONNEL AT THE EU LEVEL

There are no EU standards regarding sustainability training for fishers. However, several EU Directives do include training requirements related to the prevention of pollution. Regulation (EC) No 1406/2002, established a European Maritime Safety Agency (the Agency), for the purpose of ensuring a high, uniform and effective level of maritime safety and prevention of pollution from ships. One of the tasks assigned to the Agency is to assist the Commission in the performance of any task assigned to it by community legislation applicable to the training, certification and watchkeeping of ships' crews.

### REGIONAL SEA CONVENTIONS

The EU Marine Directive requires that, in developing their marine strategies, EU MS use existing regional cooperation structures to co-ordinate among themselves and to make every effort to coordinate their actions with those of third countries in the same region or sub-region. In Europe, there are four cooperation structures which



aim to protect the marine environment and bring together EU MS and neighbouring countries that share marine waters: The Regional Sea Conventions.

- The Convention for the Protection of the Marine Environment in the North-East Atlantic of 1992 (further to earlier versions of 1972 and 1974) – the OSPAR Convention (OSPAR).
- The Convention on the Protection of the Marine Environment in the Baltic Sea Area of 1992 (further to the earlier version of 1974) – the Helsinki Convention (HELCOM).
- The Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean of 1995 (further to the earlier version of 1976) the Barcelona Convention (UNEP-MAP).
- The Convention for the Protection of the Black Sea of 1992 the Bucharest Convention.

### SUSTAINABLE FISHERIES REQUIREMENTS IN THE REGIONAL SEA CONVENTIONS

All four European regional sea conventions have published action plans for the reduction of marine litter, and, every action plan includes actions aimed at education and outreach. Both HELCOM and OSPAR include actions aimed at the education of fishers.

### HELCOM

#### Marine litter action plan

The HELCOM Marine Litter action plan includes a regional action to prepare information sheets to assist Contracting Parties (Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Russia, Sweden and the European Union) in developing material for education programs, especially for seafarers including fishers, highlighting the marine litter problem and including codes of practice.

In addition, it proposed voluntary national actions to identify and promote curricula for marine related education, including professional seafarers, which develop awareness, understanding, and respect for the marine environment and secure



commitment to responsible behaviour at personal, local, national and global level. Within the structure of HELCOM there is a FISH group on Ecosystem-based sustainable fisheries.

The Fish group deals with fisheries in relation to the implementation of the ecosystem-based approach. Moreover, the group responds to the need to find solutions on how the sector could further contribute to reaching the Good Environmental Status of the Baltic Sea by 2021.

The group will involve representatives from fisheries and environment authorities of the Baltic Sea countries, as well as EU, and HELCOM observers and others as appropriate.

#### OSPAR

Recommendation on the reduction of marine litter through the implementation of sustainability education programmes for fishers

The OSPAR Regional Action Plan for Prevention and Management of Marine Litter in the North-East Atlantic (RAP) sets out the policy context for OSPAR's work on marine litter. OSPAR is the mechanism by which 15 Governments (Belgium, Denmark, Finland, France, Germany, Iceland, Ireland, Luxembourg, The Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom) and the EU cooperate to protect the marine environment of the North-East Atlantic.

The RAP describes the various types of actions that OSPAR is working on, considering both land-based and sea-based sources of marine litter. In the RAP, marine litter from fishing is identified as a key area for action, and one of the actions (RAP Action 58) is specifically aimed at the education of fishers.

As the lead Contracting Party for RAP Action 58, the Netherlands has worked with the ProSea Foundation on the implementation of sustainable fisheries education in OSPAR countries. After accepting a background document in 2018, OSPAR adopted a recommendation and corresponding guidelines on the reduction of marine litter through the Implementation of Sustainability Education Programmes for Fishers in 2019.



The purpose of this Recommendation is to reduce marine litter by promoting the implementation of sustainability education programmes for fishers including social, economic and ecological impacts of marine litter. The implementation of sustainability education programmes for fishers should enable fishers to gain understanding of sustainable fisheries, of the marine environment and its challenges and of the economic viability of the fishing industry. The aim is to inspire them to take more consideration of the marine environment, contributing to the prevention of new marine litter and to a responsible, sustainable and successful fishing industry.

Contracting Parties should promote the use of the OSPAR Guidelines on the reduction of marine litter through Sustainability Education Programmes for Fishers (OSPAR Agreement 2019-08). To this end, they should implement one of the two recommended sustainability education programmes for fishers (including marine litter) consisting of (1) a short programme about sustainable fisheries for all fishers and for countries without formal education of fishers (one-day programme) or (2) a full sustainable fisheries course programme for fishing education bodies (four-day programme); or equivalent sustainability education programmes.

### SUSTAINABLE FISHERIES REQUIREMENTS FOR FISHERS IN EU MEMBER STATES

The PECH Study 2018 concludes that training and education of fishers varies greatly per EU MS. For the purpose of the CTP project, it is not necessary to describe the educational systems of every EU MS. However, it is interesting for CTP to assess whether countries include sustainable fishery requirements in their educational system. While aspects of sustainability are common in the educational programs for fishers, only one EU MS (The Netherlands) has, as far as we can tell, included comprehensive sustainability requirements related to sustainable fisheries in its fisher training requirements.

## CIP

## SUSTAINABLE FISHERIES REQUIREMENTS FOR FISHERS IN THE NETHERLANDS

If you want to become a fisher in the Netherlands, there are four specific educational programmes that can be followed (SW6, SW5, S4 and W4). All of these educational programmes are offered at state-controlled schools.

- Middle Vocational Education, MBO-2/SW6 (lowest level): small ship/engine, coastal fishing only. Duration: 2 years.
- MBO-3/SW5 (middle level): everything in between the smallest coastal vessels and the large pelagic trawlers. Duration: 3 years.
- MBO-4/SW4/S4/W4: big ships (> 45 m, incl. pelagic trawlers), unrestricted sailing area. Duration: 4 years.

Compulsory parts of the education programmes are an accredited course Basic Safety/Basic Safety Fisheries for all fishery students, accredited medical first aid (SW6 and SW5, an accredited medical care course (SW5 and S4), the course proficiency in survival crafts other than fast rescue boats (SW5 and S4) and Advance Fire Fighting (SW5, S4 and W4).

In addition to the compulsory components of the education programmes, students are free to choose their own specialisation courses. Examples of specialisation courses are entrepreneurship, sustainability and electrotechnology (this specialisation has been specifically requested by the fishing industry).

Since 2004 students also follow the 4-day course 'Fishing with a future' as part of their education programme. This course is conducted by the ProSea Foundation and focusses on sustainable fisheries. It empowers future fishers to protect fish stocks and the marine environment for future generations and helps future fishers find a balance between planet (environmental challenges), profit (economic viability), and people (acceptance of your business by society – a licence to operate) in shaping their sustainable and successful businesses. Students receive a certificate for attending this course. An overview of the general course content can be found below in Table 23.



### Table 23: General course content of the 'Fishing with a future' course provided by ProSea

Day 1	Day 2	Day 3	Day 4
Introduction sustainability: what is it? Why do we talk about it?	The Dutch fleet: developments, past 20 years and current trends	Fisheries management: lecture and exercises	Environmental challenges: oil, marine litter and air emissions
Workshop: own opinion about important sustainability issues Marine Environment: lecture and field trip	Fisheries economy: how to earn money with fishing and the fish supply chain Workshop Image and Identity: acceptance by society	Game: tragedy of the commons People P – communication skills (theory and role-playing exercises with an actor)	Workshop: drawing the ship of the future Final assignment: presentation of sustainable future plans

Within the Dutch educational system, the requirements that a student must meet in order to obtain a diploma are described in a qualification file. Each file contains one or more qualifications and each qualification leads to a diploma. The qualification files are based on a professional competence profile composed by representatives of workers and employers in the sea fishing industry.

Several important parts of the Fishing with a Future course are literally mentioned in the qualification files including prevention of pollution and knowledge of sustainable fisheries with topics such as marine environment, fish stock management. fish supply chains, impact of (demersal) fishing methods on the marine environment, sustainability of the product and basic knowledge of the rules of the European Common Fisheries Policy (CFP). This means that these subjects are a mandatory part of the education of fishers in The Netherlands.



## AN OVERVIEW OF RELEVANT REGULATIONS AND INSTRUMENTS

The goal of the CTP project is the development and implementation of a European standard for sustainable fisheries training. In Work Package 2, the project team conducted a desk study to identify existing instruments and guidelines for sustainability training of fishers.

This part of the report is focused on content. It identifies international regulations and instruments that are relevant for the content of the training that is developed and piloted in Work Package 4.

Below, every regulation is described in general terms first. After that, relevant subjects for the sustainable fisheries training are identified. Together, the subjects identified will form a first framework of content important to the seven pilot courses and, ultimately, the European standard for sustainable fisheries training.

### UNITED NATIONS

The United Nations (UN) is an international organization founded in 1945. It is currently made up of 193 member states. Its mission and work are guided by the purposes and principles contained in its founding Charter. The United Nations can take action on the issues confronting humanity in the 21st century, such as peace and security, climate change, sustainable development, human rights, disarmament, terrorism, humanitarian and health emergencies, gender equality, governance, food production, and more.

### SUSTAINABLE DEVELOPMENT GOALS (SDG'S)

The 2030 Agenda for Sustainable Development, adopted by all UN member states in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all UN member states - developed and developing - in a global partnership. They recognize that ending



poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests.

The Sustainable Development Goals are:

- 1. No Poverty
- 2. Zero Hunger
- 3. Good Health and Well-being
- 4. Quality Education
- 5. Gender Equality
- 6. Clean Water and Sanitation
- 7. Affordable and Clean Energy
- 8. Decent Work and Economic Growth
- 9. Industry, Innovation, and Infrastructure
- 10.Reducing Inequality
- 11.Sustainable Cities and Communities
- 12. Responsible Consumption and Production
- 13.Climate Action
- 14.Life Below Water
- 15.Life on Land
- 16.Peace, Justice, and Strong Institutions
- 17.Partnerships for the Goals

### SDG 14 - LIFE BELOW WATER

The world's oceans – their temperature, chemistry, currents and life – drive global systems that make the Earth habitable for humankind. Our rainwater, drinking water, weather, climate, coastlines, much of our food, and even the oxygen in the air we breathe, are all ultimately provided and regulated by the sea. Throughout history, oceans and seas have been vital conduits for trade and transportation.





Careful management of this essential global resource is a key feature of a sustainable future. However, at the current time, there is a continuous deterioration of coastal waters owing to pollution and ocean acidification. This is having an adversarial effect on the functioning of ecosystems and biodiversity, thereby also negatively impacting small scale fisheries.

Marine protected areas need to be effectively managed and well-resourced and regulations need to be put in place to reduce overfishing, marine pollution and ocean acidification.

### THE PARIS AGREEMENT

At COP 21 in Paris, on 12 December 2015, Parties to the UNFCCC reached a landmark agreement to combat climate change and to accelerate and intensify the actions and investments needed for a sustainable low carbon future. The Paris Agreement builds upon the Convention and – for the first time – brings all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects, with enhanced support to assist developing countries to do so. As such, it charts a new course in the global climate effort.

The Paris Agreement's central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Additionally, the agreement aims to increase the ability of countries to deal with the impacts of climate change, and at making finance flows consistent with a low GHG emissions and climate-resilient pathway. To reach these ambitious goals, appropriate mobilization and provision of financial resources, a new technology framework and enhanced capacity-building is to be put in place, thus supporting action by developing countries and the most vulnerable countries, in line with their own national objectives.

The Paris Agreement requires all Parties to put forward their best efforts through "nationally determined contributions" (NDCs) and to strengthen these efforts in the years ahead. This includes requirements that all Parties report regularly on their emissions and on their implementation efforts. There will also be a global stocktake every five years to assess the collective progress towards achieving the purpose of the agreement and to inform further individual actions by Parties.



The Paris Agreement entered into force on 4 November 2016, thirty days after the date on which at least 55 Parties to the Convention accounting in total for at least an estimated 55 % of the total global greenhouse gas emissions have deposited their instruments of ratification, acceptance, approval or accession with the Depositary.

### IMO REGULATIONS

The International Maritime Organization (IMO) has adopted a wide range of measures to prevent and control pollution caused by ships and to mitigate the effects of any damage that may occur as a result of maritime operations and accidents. In 1973, IMO adopted the International Convention for the Prevention of Pollution from Ships, now known universally as MARPOL. MARPOL entered into force on 2 October 1983 and has been updated by amendments through the years.

The MARPOL Convention includes regulations aimed at preventing and minimizing pollution from ships - both accidental pollution and that from routine operations - and currently includes six technical Annexes:

- Oil (annex I);
- Noxious liquid substances carried in bulk (annex II);
- Harmful substances carried in packaged form (annex III);
- Sewage (annex IV);
- Garbage (solid waste: annex V);
- Air emissions (annex VI);

Other IMO conventions address anti-fouling systems used on ships, the transfer of alien species by ships' ballast water and the environmentally sound recycling of ships. In addition, the IMO Marine Environment Protection Committee has adopted an 'IMO Action Plan to Address Marine Plastic Litter from Ships' that will build on and complement existing measures and regulations on discharge of waste in the ocean.

The MARPOL regulations in annexes I, IV, V and VI and the antifouling convention are relevant for all fishing vessels. Annex III and the ballast water convention are only relevant for some fishing vessels.



### ANNEX I - OIL

IMO regulations for the Prevention of Pollution by oil can be found in MARPOL Annex I. Annex I entered into force in 1983 and replaced the International Convention for the Prevention of Pollution of the Sea by Oil, which had been in force since 1954. Some main regulations of MARPOL Annex I are summarized below.

Sludge and waste fuel oil should be discharged in the port of call or incinerated on board. While discharging sludge and waste oil is prohibited under all circumstances, bilge water can be legally discharged in the open sea if:

- the oil content is no higher than 15 parts per million (ppm), whatever the quantity involved;
- a type-approved oily water separator is in use; and
- the ship is proceeding on route.

In special areas special rules apply. Annex I contain extra requirements for vessels of 400 GT and over. Many countries apply the parameter length in legislation for the fishing industry. A conversion table from Gross Tonnage to length is not included in MARPOL, however the Cape Town Agreement considers 300 GT equivalent to a length of 24 metres, 950 GT equivalent to a length of 45, 2000 GT equivalent to a length of 60 metres and 3000 GT equivalent to a length of 75 metres.

### ANNEX III – HARMFUL SUBSTANCES

IMO regulations for the Prevention of Pollution by Harmful Substances Carried by Sea in Packaged Form oil can be found in MARPOL Annex III (entered into force 1 July 1992). It contains general requirements for the issuing of detailed standards on packing, marking, labelling, documentation, stowage, quantity limitations, exceptions and notifications. For the purpose of this Annex, "harmful substances" are those substances which are identified as marine pollutants in the International Maritime Dangerous Goods Code (IMDG Code) or which meet the criteria in the Appendix of Annex III.



### ANNEX IV - SEWAGE

Annex IV of MARPOL contains requirements to control pollution of the sea by sewage. Under MARPOL Annex IV, all ships must have one of the following systems:

- An approved treatment plant which complies with recommendations on international effluent standards as described by the IMO. Most sea-going cruise and passenger ships have treatment plants that allow treatment of grey and black water. At present there are over 30 sewage treatment plants type-approved by IMO. The technologies used by these systems include conventional biological treatment and physical-chemical treatment systems.
- An approved comminution and disinfecting system plus temporary storage when the ship is less than 3 nautical miles from the nearest land.
- A holding tank that can store the appropriate amount of sewage according to the operation of the ship, the number of persons on board and other relevant factors.

In special areas special rules apply.

### ANNEX V - GARBAGE

Prevention of Pollution by Garbage from Ships entered into force 31 December 1988. Annex V deals with different types of garbage and specifies the distances from land and the manner in which they may be disposed of; the most important feature of the Annex is the complete ban imposed on the disposal into the sea of all forms of plastics.

Annex V of MARPOL deals with garbage generated onboard ships and has been in effect since 1988. Discharging plastics in the marine environment has been forbidden by MARPOL since 1988. As of January 2013, the discharge of all garbage into the sea is prohibited, including but not limited to plastics, synthetic ropes, packing materials, paper, glass, and metal. There are very few exceptions, such as grounded food waste, which may be discharged into the sea.

Annex V also states that:



- every port must have reception facilities;
- keeping a garbage record book on board is mandatory; and
- all vessels of 100 gross tons or greater must carry a Garbage Management Plan which the crew shall follow.

Special areas have stricter discharge regulations concerning unground food waste, cargo residues not contained in wash water and carcasses of animals.

### ANNEX VI – AIR POLLUTION

International regulations to cut air pollution from ships are developed by IMO and are described in Annex VI of MARPOL. Annex VI entered into force on 19 May 2005. It sets limits on sulphur oxide and nitrogen oxide emissions from ship exhausts and prohibits deliberate emissions of ozone depleting substances; designated emission control areas set more stringent standards for SO<sub>x</sub>, NO<sub>x</sub> and particulate matter. IMO has also been actively engaged in a global approach to further enhance ship's energy efficiency and develop measures to reduce GHG emissions from ships, as well as provide technical cooperation and capacity building activities.

In 2011, in a new chapter of Annex VI, IMO adopted a package of technical measures for new ships and operational reduction measures for all ships. This package is composed of the Energy Efficiency Design Index (EEDI) for new ships and the Ship Energy Efficiency Plan (SEEMP). The regulations entered into force on 1 January 2013 and apply to all ships of 400 GT and above, irrespective of flag and ownership. These measures represent the first-ever, mandatory global regime for CO<sub>2</sub> emission reduction in an entire industry sector.

On 13 April 2018, MEPC 72 adopted resolution MEPC.304(72) on Initial IMO Strategy on reduction of GHG emissions from ships. The "Vision" set out in the text of this important "Initial Strategy" confirms IMO's commitment to reducing GHG emissions from international shipping and, as a matter of urgency, to phasing them out as soon as possible in this century. The Initial Strategy envisages for the first time a reduction in total GHG emissions from international shipping and identifies levels of ambition as follows:

1. carbon intensity of the ship to decline through implementation of further phases of the EEDI for new ships;



- carbon intensity of international shipping to decline by reducing CO<sub>2</sub> emissions per transport work, as an average across international shipping, by at least 40% by 2030, pursuing efforts towards 70% by 2050, compared to 2008; and
- 3. GHG emissions from international shipping to peak as soon as possible and to reduce the total annual GHG emissions by at least 50% by 2050 compared to 2008 whilst pursuing efforts towards phasing them out as called for in the Vision as a point on a pathway of CO<sub>2</sub> emissions reduction consistent with the Paris Agreement temperature goals.

In May 2019, MEPC 74 progressed in the implementation of the Initial Strategy and its programme of follow-up action.

### THE ANTI-FOULING CONVENTION

The International Convention on the Control of Harmful Anti-fouling Systems on Ships entered into force on 17 September 2008. Anti-fouling paints are used to coat the bottoms of ships to prevent sea life, such as algae and molluscs, attaching themselves to the hull – thereby slowing down the ship and increasing fuel consumption.

The Anti-fouling Convention prohibits the use of harmful organotin in anti-fouling paints used on ships and establishes a mechanism to prevent the potential future use of other harmful substances in anti-fouling systems.

### THE BALLAST WATER CONVENTION

The International Convention for the Control and Management of Ships' Ballast Water and Sediments entered into force on 8 September 2017. Invasive aquatic species present a major threat to the marine ecosystems, and shipping has been identified as a major pathway for introducing species to new environments. The effects of the introduction of new species have been devastating in many areas of the world.

The Ballast Water Management Convention, adopted in 2004, aims to prevent the spread of harmful aquatic organisms from one region to another, by establishing



standards and procedures for the management and control of ships' ballast water and sediments.

### IMO ACTION PLAN TO ADDRESS MARINE PLASTIC LITTER FROM SHIPS

In October 2018, the IMO Marine Environment Protection Committee has adopted an 'IMO Action Plan to Address Marine Plastic Litter from Ships' that will build on and complement existing measures and regulations on discharge of waste in the ocean. The action plan is in line with IMO's commitment to support achievement of SDG 14 (life below water).

The plan recommends specific measures to:

- reduce marine plastic litter generated from, and retrieved by, fishing vessels;
- reduce shipping's contribution to marine plastic litter;
- improve the effectiveness of port reception facilities and treatment in reducing marine plastic litter;
- enhance public awareness,
- reviewing provisions related to the training of fishing vessel personnel and familiarization of seafarers to ensure awareness of the impact of marine plastic litter;
- improve understanding of the contribution of ships to marine plastic litter;
- improve understanding of the regulatory framework associated with marine plastic litter from ships;
- strengthen international cooperation; and
- target technical cooperation and capacity building.

The action plan recommends strengthening international cooperation, especially with FAO and UNEP. This action plan identifies a number of specific measures to tackle marine litter and waste, such as promoting reporting the loss of fishing gear and facilitating the delivery of retrieved fishing gear to shore facilities. Other measures suggest: consideration of actions, such as making marking of fishing gear mandatory, in cooperation with the FAO, and the establishment of a compulsory mechanism to declare loss of containers at sea and identify the number of losses;



and reviewing provisions related to the training of fishing vessel personnel and seafarers to ensure awareness of the impact of marine litter.

### ILO REGULATIONS

Commercial fishing provides one of the most important sources of food, in particular animal protein, and is essential to food security. Over 58 million people are engaged in the primary sector of capture fisheries and aquaculture. Of these, approximately 37 percent are engaged full time, 23 percent part time, and the remainder either occasional fishers or of unspecified status. Over 15 million people are working fulltime on-board fishing vessels.

Fishing is one of the most challenging and hazardous occupations. ILO is working to ensure decent work for all fishers. The ILO's international labour standard specifically about work on board fishing vessels is the Work in Fishing Convention, 2007 (No. 188). This Convention demonstrates the renewed commitment by the ILO to ensure decent work in fishing. It is also a valuable tool for addressing issues concerning migrant fishers and eliminating forced labour and child labour in the fishing sector.

### ILO WORK IN FISHING CONVENTION C 188

The ILO Work in Fishing Convention No.188 entered into force on 16 November 2017. The objectives of the Convention are:

- to ensure that fishers have decent conditions of work on board fishing vessels regarding minimum requirements for work on board;
- conditions of service;
- accommodation and food;
- occupational safety and health protection; and
- medical care and social security.

It aims to ensure that fishing vessels are constructed and maintained so that fishers have decent living conditions on board. The Convention applies to all fishers and fishing vessels engaged in commercial fishing operations.

- 45 -



The Convention helps to prevent unacceptable forms of work for all fishers. It provides regulations on the recruitment process and the investigation of complaints by fishers. This will help to prevent forced labour, trafficking and other abuses. The competent authority shall:

- (a) after consultation, require that the fishing vessel owner, in accordance with national laws, regulations, collective bargaining agreements and practice, establish on-board procedures for the prevention of occupational accidents, injuries and diseases, taking into account the specific hazards and risks on the fishing vessel concerned; and
- (b) require that fishing vessel owners, skippers, fishers and other relevant persons be provided with sufficient and suitable guidance, training material, or other appropriate information on how to evaluate and manage risks to safety and health on board fishing vessels.

Fishing vessel owners shall:

- (a) ensure that every fisher on board is provided with appropriate personal protective clothing and equipment;
- (b) ensure that every fisher on board has received basic safety training approved by the competent authority; the competent authority may grant written exemptions from this requirement for fishers who have demonstrated equivalent knowledge and experience; and
- (c) ensure that fishers are sufficiently and reasonably familiarized with equipment and its methods of operation, including relevant safety measures, prior to using the equipment or participating in the operations concerned.

### FAO REGULATIONS

FAO recognizes the importance of fish and its many associated products for (1) Food security and nutrition, (2) Economic growth through fish production and trade, and (3) Poverty alleviation and the creation of employment opportunities in rural areas.

The FAO plays a leading role in international fisheries policy, including through the Committee on Fisheries (COFI) and related sub-committees on Fish Trade and



Aquaculture. FAO works with a wide range of partners, including Governments, Regional Fisheries Bodies, cooperatives, fishing communities and others on:

- Implementing the Code of Conduct for Responsible Fisheries and the Ecosystem Approach to Fisheries (EAF).
- Compiling and publishing the global capture production database, including fleet, fishers and trade-related data.
- Reducing the negative impacts of fishing on the environment through technological and community-based management solutions.
- Implementing the Port State and Flag State Measures Agreements to prevent, deter and eliminate illegal, unreported and unregulated fishing.
- Assisting Members countries in disaster preparedness as well as providing assistance to fishing communities affected by emergencies and natural disasters.
- Supporting Member countries in developing and implementing international guidelines relating to fisheries operations including bycatch management and reduction of discards; eco-labelling and traceability; reduction of fish loss and waste; and supply chain efficiency.
- Improving understanding of the socioeconomics of fisheries taking into account value chain dynamics and market access, the status of fisheries resources; access and user right; issues related to decent work conditions and social protection; equitable revenue distribution and profitability and value-addition.
- In close collaboration with intergovernmental organizations (e.g. CITES, CMS, IUCN and NGOs), implementing the International Plans of Action (IPOA) for: Reducing Incidental Catch of Seabirds in Longline Fisheries; Conservation and Management of Sharks; Management of Fishing Capacity; and Prevent, Deter, and Eliminate Illegal, Unreported and Unregulated Fishing.
- Raising the profile of inland fisheries due to its importance for food security and poverty alleviation.
- Providing assistance in disaster preparedness planning and in dealing with the impacts of climate change at the national, regional and international level as well as assisting fishing communities affected by natural disasters and prolonged emergencies.



• Recognizing small-scale fisheries as a fundamental contributor to poverty alleviation and food security, FAO supports the development of the sector, including through the development of a dedicated instrument the voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication.

### CODE OF CONDUCT FOR RESPONSIBLE FISHERIES

To promote long-term conservation and sustainable use of fisheries resources, following a call from the International Conference on Responsible Fishing (1992) to strengthen the international legal framework for more effective conservation, management and sustainable exploitation and production of living aquatic resources, the 1995 FAO Conference adopted the FAO Code of Conduct for Responsible Fisheries.

The FAO Code of Conduct for Responsible Fisheries is a reference framework for national and international efforts, including in the formulation of policies and other legal and institutional frameworks and instruments, to ensure sustainable fishing and production of aquatic living resources in harmony with the environment.

The Code sets out principles and international standards of behaviour for responsible practices with a view to ensuring the effective conservation, management and development of living aquatic resources, with due respect for the ecosystem and biodiversity. It recognizes the nutritional, economic, social, environmental and cultural importance of fisheries and the interests of all stakeholders of the fishing and aquaculture industries. The Code takes into account the biological characteristics of the resources and their environment and the interests of consumers and other users.

National and international fisheries policies and management practices that better reflect the principles of the Code of Conduct will lead to an improved and sustainable economic, social and environmental contribution of the fisheries sector. The optimization of the contribution of fisheries to achieving benefits in terms of food, employment, recreation and trade as well as ecosystem and socio-economic well-being will benefit populations throughout the world.

The Code is voluntary and is to be interpreted and applied in conformity with international law, the provisions of which form an integral part of the Code.



In connection with the Code of Conduct for Responsible Fisheries, the FAO has published a range of technical and international guidelines and fisheries instruments that include a wide variety of subjects, including but not limited to:

- Fishing operations. Best practices to reduce incidental catch of seabirds in capture fisheries FAO Technical Guidelines for Responsible Fisheries No.1 Suppl.2.
- Precautionary approach to capture fisheries and species introductions -FAO Technical Guidelines for Responsible Fisheries No.2.
- Fisheries management. 1. Conservation and management of sharks FAO Technical Guidelines for Responsible Fisheries No.4 Suppl.1.
- Fisheries management. 2. The ecosystem approach to fisheries FAO Technical Guidelines for Responsible Fisheries No.4 Suppl.2.
- Managing Fishing Capacity FAO Technical Guidelines for Responsible Fisheries No.4 Suppl.3.
- Fisheries management, v. 4: Marine protected areas and fisheries FAO Technical Guidelines for Responsible Fisheries 4 suppl. 4.
- Indicators for sustainable development of marine capture fisheries FAO Technical Guidelines for Responsible Fisheries No. 8.
- Implementation of the International Plan of Action to deter, prevent and eliminate, illegal, unreported and unregulated fishing FAO Technical Guidelines for Responsible Fisheries No. 9.
- Responsible fish trade FAO Technical Guidelines for Responsible Fisheries No. 11.

### **BLUE ECONOMY**

Blue economy is all economic activities related to oceans, seas and coasts. The Blue economy covers a wide range of interlinked established and emerging sectors.

## CIP



### **EU - COMMON FISHERIES POLICY**

The Common Fisheries Policy (CFP) was first introduced by the European Commission in 1970's and gets updated every 10 years, the latest version is from

- 50 -

30 April 2020



2014. It is a set of rules for managing European fishing fleets and for conserving fish stocks. Designed to manage a common resource, it gives all European fishing fleets equal access to EU waters (within fishing opportunities based on Total Allowable Catch (TAC) and quota for regulated species) and fishing grounds and allows fishers to compete fairly. Stocks may be renewable, but they are finite. Some of these fishing stocks, however, are being overfished. As a result, EU MS have taken action to ensure the European fishing industry is sustainable and does not threaten the fish population size and productivity over the long term.

The CFP aims to ensure that fishing and aquaculture are environmentally, economically and socially sustainable and that they provide a source of healthy food for EU citizens. Its goal is to foster a dynamic fishing industry and ensure a fair standard of living for fishing communities. Although it is important to maximise catches, there must be limits. We need to make sure that fishing practices do not harm the ability of fish populations to reproduce. The current policy stipulates that between 2015 and 2020 catch limits should be set that are sustainable and maintain fish stocks in the long term.

To this day, the impact of fishing on the fragile marine environment is not fully understood. For this reason, the CFP adopts a cautious approach which recognises the impact of human activity on all components of the ecosystem. It seeks to make fishing fleets more selective in what they catch, and to phase out the practice of discarding unwanted fish.

The CFP has four main policy areas:

- Fisheries Management
- International Policy
- Market and Trade Policy
- Funding of the Policy

The CFP also includes rules on aquaculture and stakeholder involvement

### FISHERIES MANAGEMENT

Fishers catch fish from fish stocks, which generally have a high, but not unlimited, reproductive capacity. If fishing is not controlled, stocks may collapse, or fishing



may cease to be economically viable. It is in everyone's interest to have a fisheries management system in place to safeguard stock reproduction for high long-term yield, lay the foundations for a profitable industry, share out fishing opportunities fairly, and conserve marine resources.

The principal aim of fisheries management under the Common Fisheries Policy (CFP) is to ensure high long-term fishing yields for all stocks by 2015 where possible, and at the latest by 2020. This is referred to as maximum sustainable yield. Another increasingly important aim is to reduce unwanted catches and wasteful practices to the minimum or avoid them altogether, through the gradual introduction of a landing obligation. Lastly, the new CFP has overhauled its rules and management structure, with regionalisation and more extensive stakeholder consultation.

Fisheries management can take the form of input control, output control, or a combination of both.

- Input controls include rules on access to waters (to control which vessels have access to which waters and areas), fishing effort control (to limit fishing capacity and vessel usage) and technical measures (to regulate gear usage and where and when fishers can fish).
- Output controls mainly consist of limiting the amount of fish from a particular fishery, in particular through TACs and quotas.

The Common Fisheries Policy increasingly uses multi-annual plans which often combine different management tools. Fisheries management is based on data and scientific advice, and control measures to ensure that rules are applied fairly to and complied with by all fishers.

Since fisheries policy is an exclusive competence of the European Union, it is up to the EU to take any fisheries-related measures. However, the EU's Common Fisheries Policy (CFP) also gives EU member states the chance to play an active role in designing fisheries conservation measures (so-called regionalisation). Affected EU MS may submit joint recommendations as regards the fisheries conservation measures deemed necessary to achieve those environmental objectives. The Commission can then adopt legislation on the basis of those recommendations, effectively turning them into binding EU law.



### FISHERIES MANAGEMENT - TACS AND QUOTA'S

Total allowable catches (TACs) or fishing opportunities, are catch limits (expressed in tonnes or numbers) that are set for most commercial fish stocks. The European Commission prepares the proposals, based on scientific advice on the stock status from advisory bodies such as ICES and STECF. Some multi-annual plans contain rules for the setting of the TACs. TACs are set annually for most stocks (every two years for deep-sea stocks) by the European Council of fisheries ministers. For stocks that are shared and jointly managed with non-EU countries, the TACs are agreed with those (groups of) non-EU countries.

TACs are shared between EU countries in the form of national quotas. For each stock a different allocation percentage per EU MS is applied for the sharing out of the quotas. This fixed percentage is known as the relative stability key. EU MS can exchange quotas with another EU MS.

EU countries have to use transparent and objective criteria when they distribute the national quota among their fishers. They are responsible for ensuring that the quotas are not overfished. When all the available quota of a species is fished, the EU MS has to close the fishery.

### FISHERIES MANAGEMENT - TECHNICAL MEASURES

Technical measures are a broad set of rules which govern how, where and when fishers may fish. They are established for all European sea basins, but they differ considerably from one basin to another, in accordance with the regional conditions.

The measures may include:

- minimum landing sizes and minimum conservation sizes;
- specifications for design and use of gears;
- minimum mesh sizes for nets;
- requirement of selective gears to reduce unwanted catches;
- closed areas and seasons;



- limitations on by-catches (catches of unwanted or non-target species); and
- measures to minimize the impact of fishing on the marine ecosystem and environment.

### FISHERIES MANAGEMENT - DISCARDS AND THE LANDING OBLIGATION

Discarding is the practice of returning unwanted catches to the sea, either dead or alive, because they are undersized, due to market demand, the fisher has no quota or because catch composition rules impose this. The reform of the CFP of 2013 aims at gradually eliminating the wasteful practice of discarding through the introduction of the landing obligation. This radical change in fisheries management aims to improve fishing behaviour through improvements in selectivity.

The CFP phased in the implementation of the landing obligation from 2015 through to 2019 for all commercial fisheries (species under TACs, or under minimum sizes) in European waters and for European vessels fishing in the high seas. This gradual approach was to support the fishing industry in its adaptation to significant changes in fisheries management and practices (e.g. from a system recording only the landed fraction of the catch to a system recording the entire catch).

The landing obligation requires all catches of regulated commercial species onboard to be landed and counted against quota. These are species under TAC (Total Allowance Catch, and so-called quotas) or, in the Mediterranean, species which have an MLS (minimum landing size such as mackerel, which is regulated by quotas; and gilt-head seabream, which is regulated by size). Undersized fish cannot be marketed for direct human consumption purposes whilst prohibited species (e.g. basking shark) cannot be retained on board and must be returned to the sea. The discarding of prohibited species should be recorded in the logbook and forms an important part of the science base for the monitoring of these species.

From 2015 to 2019, the landing obligation was phased in across fisheries and species. By 2019 all species subject to TAC limits and Minimum Conservation Reference Sizes in the Mediterranean are subject to the landing obligation. The phasing in provisions as well as a number of exemptions are based on Joint recommendations from regional groups of EU MS. Following evaluation by the STECF, and provided that the assessment is positive, the joint recommendations are



transformed into temporary discard plans by means of delegated act. The plans detail the species covered, provisions on catch documentation, minimum conservation reference sizes, and exemptions (for fish that may survive after returning them to the sea, and a specific de minimis discard allowance under certain conditions). The plans have a maximum duration of 3 years and eventually the provisions of the landing obligation will become incorporated into Multi Annual Plans.

### FISHERIES MANAGEMENT – SCIENTIFIC ADVICE

Taking the best available scientific advice as a basis for defining management measures is one of the Common Fisheries Policy's (CFP) principles of good policymaking. Such measures include setting fishing opportunities and monitoring their efficiency in delivering policy objectives and targets.

When proposing new fisheries rules and regulations, the European Commission seeks scientific advice from a number of bodies. Facts and figures collected by EU MS under the data collection framework form the basis for these bodies' work.

The Scientific, Technical and Economic Committee for Fisheries (STECF) was set up in 1993 to advise the Commission on fisheries management. It is not a permanent body, but a pool of experts who contribute to its work either on a temporary basis as members, or on a demand basis as experts in working groups. STECF members are appointed by the Commission for their expertise in marine biology and ecology, fisheries science, gear technology, aquaculture, and fisheries economics. STECF reports directly to the Commission.

The International Council for the Exploration of the Sea (ICES) is an intergovernmental body founded in 1902 to conduct and coordinate research into the marine ecosystems of the North Atlantic. ICES provide advice to a number of governments and regional fisheries management organisations, including the EU.

The Scientific Advisory Committee (SAC) of the General Fisheries Commission for the Mediterranean (GFCM) is a regional fisheries management organisation established in 1952 whose structure and mandate were renewed in 2004. SAC advice forms the basis for binding GFCM recommendations on fisheries management and the conservation of marine resources in the area for which it is responsible, comprising the Mediterranean, the Black Sea and connecting waters.



### INTERNATIONAL POLICY

More than 20% of Union vessels catches are taken outside Union waters. 9.3% of EU catches (2014-18) are made in the EEZ of third countries engaged with the EU in fishing agreements, 2.2% in other third countries, while another 10% are taken in the high seas, mainly tropical tunas in regions managed by tuna Regional Fisheries Management Organisations (RFMOs).

As a major fishing power, and the largest single market for fisheries products in the world, the EU also plays an important role in promoting better governance through a number of international organisations. It promotes developing and implementing policy on fisheries management and – more generally – the implementation of the Law of the Sea. The EU works closely with its partners from around the globe through the United Nations system, including the Food and Agriculture Organisation (FAO), as well as in other bodies, such as the Organisation for Economic Cooperation and Development (OECD).

All the "external" fishing activities of Union vessels: in the EEZ of third countries whether or not covered by a bilateral agreement (direct authorisations regime), in RFMO areas, in the high seas not under RFMOs, must be specifically authorised by the Flag EU member state. Authorisations are to be granted under predefined conditions (see Regulation on the sustainable management of external fishing fleets – "SMEFF Regulation" below) and have to be monitored constantly to check those conditions. Even outside Union waters, EU vessels continue to be submitted to EU Control rules.

In fisheries agreements between the EU and third countries, arrangements regarding crew compositions can be included. In these situations, crew from the country that opens its waters for fishing operations for EU flagged vessels become crew members of these vessel. Crews from a third country might not always be in the possession of the required education of training, like the basic safety training for all fishing vessel personnel. The same is true for sustainable fisheries related education and training.



### MARKET ORGANIZATION

The Common Organisation of the Markets, the EU policy for managing the market in fishery and aquaculture products, is one of the pillars of the Common Fisheries Policy. It strengthens the role of the actors on the ground: producers are responsible for ensuring the sustainable exploitation of natural resources and are equipped with instruments to better market their products. Consumers receive more and better information on the products sold on the EU market, which, regardless of their origin, must comply with the same rules. Thanks to dedicated tools, it is now possible to have a better understanding of how the EU market functions.

### EU – INTEGRATED MARITIME POLICY

The EU integrated maritime policy seeks to provide a more coherent approach to maritime issues, with increased coordination between different policy areas. It focuses on issues that do not fall under a single sector-based policy e.g. "blue growth" (economic growth based on different maritime sectors) and issues that require the coordination of different sectors and actors e.g. marine knowledge.

Specifically, it covers the following cross-cutting policies:

- Blue growth
- Marine data and knowledge
- Maritime spatial planning
- Integrated maritime surveillance
- Sea basin strategies

It seeks to coordinate, not to replace policies on specific maritime sectors. We need it to:

• Take account of the inter-connectedness of industries and human activities centred on the sea. Whether the issue is shipping and ports, wind energy, marine research, fishing or tourism, a decision in one area



can affect all the others. For instance, an offshore wind farm may disrupt shipping, which in turn will affect ports.

- Save time and money by encouraging authorities to share data across policy fields and to cooperate rather than working separately on different aspects of the same problem.
- Build up close cooperation between decision-makers in the different sectors at all levels of government national maritime authorities, regional and local authorities, and international authorities, both inside and outside Europe. Many countries are recognising this need and move towards more structured and systematic collaboration.

### **BLUE GROWTH**

Blue growth is the long-term strategy to support sustainable growth in the marine and maritime sectors as a whole. Seas and oceans are drivers for the European economy and have great potential for innovation and growth. It is the maritime contribution to achieving the goals of the Europe 2020 strategy for smart, sustainable and inclusive growth. The 'blue' economy represents roughly 5.4 million jobs and generates a gross added value of almost €500 billion a year. However, further growth is possible in a number of areas which are highlighted within the strategy. The strategy consists of three components:

- 1. Develop sectors that have a high potential for sustainable jobs and growth, such as:
  - a. aquaculture;
  - b. coastal tourism;
  - c. marine biotechnology;
  - d. ocean energy; and
  - e. seabed mining.
- 2. Essential components to provide knowledge, legal certainty and security in the blue economy.
- 3. Sea basin strategies to ensure tailor-made measures and to foster cooperation between countries.



### AQUACULTURE

Farming finfish, shellfish and aquatic plants is one of the world's fastest growing food sectors, it already provides the planet with about half of all the fish we eat. In Europe, aquaculture accounts for about 20% of fish production and directly employs some 70,000 people. The sector is mainly composed of SMEs or micro-enterprises in coastal and rural areas. EU aquaculture is renowned for its high quality, sustainability and consumer protection standards.

EU overall output has been more or less constant in volume since 2000 whereas global production, at the same time, has been growing by nearly 7% per year. The Commission intends to boost the aquaculture sector through the Common Fisheries Policy reform, and in 2013 published strategic guidelines presenting common priorities and general objectives at the EU level. As a result, the Commission and EU MS are collaborating to help increase the sector's production and competitiveness. EU MS have been asked to set up multiannual plans to promote aquaculture. The Commission is helping with the identification of bottlenecks but also facilitates cooperation, coordination and exchange of best practices between EU countries.

### OCEAN ENERGY

Our seas and oceans offer a vast renewable energy resource, particularly, but not only, along the Atlantic seaboard. Renewable sources of energy (wind power, solar power, hydroelectric power, ocean energy, geothermal energy, biomass and biofuels) are alternatives to fossil fuels that contribute to reducing GHG emissions, diversifying energy supply and reducing dependence on unreliable and volatile fossil fuel markets, in particular oil and gas. EU legislation on the promotion of renewables has evolved significantly in recent years. The future policy framework for the post-2030 period is under discussion.

The existing Renewable Energy Directive, adopted by co-decision on 23 April 2009 (Directive 2009/28/EC, repealing Directives 2001/77/EC and 2003/30/EC), established that a mandatory 20% share of EU energy consumption must come from Renewable Energy Systems (RES) by 2020. In addition, all EU MS are required to obtain 10% of their transport fuels from RES by 2020.



The directive specifies national renewable energy targets for each MS, taking into account its starting point and overall potential for renewables. These targets range from a low of 10% in Malta to a high of 49% in Sweden. EU countries set out how they plan to meet these targets and the general roadmap for their renewable energy policy in national renewable energy action plans. Progress towards the national targets is measured every two years when EU MS publish national renewable energy progress reports.

In the context of the second strategic energy review carried out in November 2008, the Commission issued a communication on 13 November 2008 entitled 'Offshore Wind Energy: Action needed to deliver on the Energy Policy Objectives for 2020 and beyond' (COM(2008)0768), with the aim of promoting the development of maritime and offshore wind energy in the EU.

On 20 January 2014, the Commission set out an action plan to support the development of ocean energy, including that generated by waves, tidal power, thermal energy conversion and salinity gradient power (in its communication entitled 'Blue Energy: Action needed to deliver on the potential of ocean energy in European seas and oceans by 2020 and beyond' (COM(2014)0008)).

### MARITIME SPATIAL PLANNING

Competition for maritime space, for renewable energy equipment, aquaculture and other uses has highlighted the need to manage EU waters more coherently. Maritime spatial planning (MSP) works across borders and sectors to ensure human activities at sea take place in an efficient, safe and sustainable way. The benefits of maritime spatial planning are:

- Reduce conflicts between sectors and create synergies between different activities.
- Encourage investment by creating predictability, transparency and clearer rules.
- Increase cross-border cooperation between EU MS to develop energy grids, shipping lanes, pipelines, submarine cables and other activities, but also to develop coherent networks of marine protected areas.
- Protect the environment through early identification of impact and opportunities for multiple use of space.



In 2014, the European Parliament and the Council have adopted legislation to create a common framework for maritime spatial planning in Europe. This legislation establishes a framework for maritime spatial planning aimed at promoting the sustainable growth of maritime economies, the sustainable development of marine areas and the sustainable use of marine resources.

Maritime Spatial Planning (MSP) is defined in the EU Directive on MSP as 'a process by which the relevant EU MS's authorities analyse and organise human activities in marine areas to achieve ecological, economic and social objectives. Generally, MSP is seen as an integrative process to cope with the increasing demand for maritime space from traditional and emerging sectors while preserving the proper functioning of the marine ecosystems. MSP is also part of the overarching Integrated Maritime Policy of the EU, which has as its objective to 'support the sustainable development of seas and oceans and to develop coordinated, coherent and transparent decisionmaking in relation to the European Union's sectoral policies affecting the oceans, seas, islands, coastal and outermost regions and maritime sector..'.

The EU MSP Directive lists several minimum requirements for maritime spatial plans, including reference to aspects such as:

- land-sea interactions;
- the ecosystem-based approach;
- coherence between MSP and other processes such as integrated coastal management;
- the involvement of stakeholders;
- the use of best available data;
- transboundary cooperation between EU MS; and
- and cooperation with third countries.

According to the EU MSP Directive, EU MS are free to design and determine the format and content of their maritime spatial plans, including the institutional arrangements and the allocation of maritime activities.



### EU - MARINE STRATEGY FRAMEWORK DIRECTIVE

The European Union's Marine Strategy Framework Directive was adopted on 17 June 2008. The Marine Strategy Framework Directive aims to achieve Good Environmental Status (GES) of the EU's marine waters by 2020 and to protect the resource base upon which marine-related economic and social activities depend. This Marine Directive enshrines in a legislative framework the ecosystem approach to the management of human activities having an impact on the marine environment, integrating the concepts of environmental protection and sustainable use.

The Marine Directive is the environmental pillar of the cross-cutting Integrated Maritime Policy (IMP), which was presented by the Commission in October 2007. Successful implementation of the Marine Directive will be vital if the Integrated Maritime Policy is to be delivered as intended.

In order to achieve its goal, the Directive establishes European marine regions and sub-regions. The Directive lists four European marine regions – the Baltic Sea, the North-east Atlantic Ocean, the Mediterranean Sea and the Black Sea – located within the geographical boundaries of the existing Regional Sea Conventions. Cooperation between the countries of one marine region and with neighbouring countries which share the same marine waters, is already taking place through these Regional Sea Conventions.

In order to achieve GES by 2020, each EU MS is required to develop a strategy for its marine waters (or Marine Strategy). In addition, because the Directive follows an adaptive management approach, the Marine Strategies must be kept up-to-date and reviewed every six years.

Some of the key legislation and policies directly relevant to the Directive are described here:

• The Water Framework Directive (2000) is closely linked to the Marine Directive. It sets a goal of achieving Good Status for all EU surface and groundwaters by 2015, tying in with the goal of Good Environmental Status under the Marine Directive.



- The Habitats and Birds Directives (1992 and 1979, codified 2009) are Europe's central laws on nature conservation, providing special protection for key sites (the Natura 2000 network), animal species, plant species and habitat types of European importance. This protection will be reinforced with the Marine Directive's Marine Protected Areas.
- The Common Fisheries Policy sets out a collaborative approach to managing the EU's shared seas and fisheries.
- The EU REACH Regulation (Registration, Evaluation, Authorisation and Restriction of Chemical substances), which entered into force on 1 June 2007, aims to improve the protection of human health and the environment through the better and earlier identification of the intrinsic properties of chemical substances, like the environmental risk they pose. It is directly related to Descriptor 8 (contaminants) and indirectly to Descriptor 9 (contaminants in seafood) and 10 (marine litter) of the Marine Directive.

### ECOSYSTEM APPROACH

Growing demand for finite marine resources and a lack of coordination is causing increased conflict between stakeholders and is threatening the health of the marine environment on which so many depend. The ecosystem approach could help to ensure we have viable marine industries, prosperous coastal communities and a healthy marine environment for generations to come.

The ecosystem approach involves consideration of all ecosystem components – physical and biological - in an integrated and holistic way. It also places a strong emphasis on stakeholder participation; an area explored in detail in the PISCES guide.

### MARINE PROTECTED AREAS - MPA'S

Marine protected areas (MPAs) are geographically distinct zones for which protection objectives are set. They constitute a globally connected system for safeguarding biodiversity and maintaining marine ecosystem health and the supply of ecosystem services.



The European Union (EU) has acted on its responsibility to maintain the health of its seas. As such political commitments including specific EU legislation, have been made by both the EU and individual MS. One of the key policy commitments is Aichi Target 11 under the Convention on Biological Diversity:

> 'By 2020 [...] 10 % of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures and integrated into the wider [...] seascape'.

By 2016, a total of 27.1 % of the Greater North Sea was covered by MPAs; the highest proportion of any European regional sea. By contrast, the only regional sea where no new MPAs were designated between 2012 and 2016 was the Aegean-Levantine Sea. It also remained the sea with the lowest MPA coverage at 2.9 %. Overall, more MPA coverage is required, especially in the Macaronesia region and the Mediterranean Sea as a whole.

Approximately 50 % of EU MPAs measure less than 30 km<sup>2</sup> and a high proportion of these are below 5 km<sup>2</sup>. Many existing sites may be good for protecting single vulnerable biodiversity features. However, such sites may be too small to sustain ecosystem resilience and hence, they do not fully deliver ecosystem services. Larger MPAs could improve the provision of services from European seas through a systems approach to spatial conservation action. This could contribute to the spill-over effect of fish biomass, which would support fisheries outside the sites, while protecting biodiversity inside. As such, Europe should consider the establishment of larger MPAs beyond coastal waters as part of future designation efforts.

The EU's 'Natura 2000' is the largest coordinated network of protected areas in the world. Natura 2000 in the marine environment is a subset of the main network with designated areas in the marine waters of 23 countries. These sites aim to conserve a wide range of rare, vulnerable or threatened marine species as well as certain rare and characteristic marine habitats. In 2017, marine Natura 2000 sites covered 515 000 km<sup>2</sup> or 8.9 % of Europe's seas, although they too are mainly in near-shore and coastal waters



### MARINE LITTER

The Marine Strategy Framework Directive (MSFD) requires EU MS to ensure that, by 2020, "properties and quantities of marine litter do not cause harm to the coastal and marine environment". Pollution of the seas from plastics and microplastics is one of the three major areas of the Strategy for Plastics, adopted by the Commission on 16th January 2018; most of the proposed Actions are directly or indirectly related to marine litter, including its international dimension.

Flagship initiatives against plastic pollution of the oceans, flowing from the Strategy include the Directive on Single Use Plastics and fishing gear, measures to reduce emissions of microplastics releases to the environment, and, the Port Reception Facilities Directive.

The Port Reception Facilities Directive, aims, inter alia, to effectively address marine litter from shipping, including from fishing, by providing for financial incentives for delivery of waste to ports, better monitoring and enforcement of the mandatory delivery obligation and better management of this waste in EU ports in adequate port reception facilities.

In order to protect and restore marine biodiversity and ecosystems in the framework of sustainable fishing activities, the European Maritime and Fisheries Fund (EMFF) may support the collection of waste by fishers from the sea such as the removal of lost fishing gear and marine litter.

### MARINE LITTER IN REGIONAL SEAS CONVENTIONS

Within the Regional Seas Conventions around Europe, action plans focus on prevention or reduction of marine litter and address both land- and sea-based sources of marine litter. Through a range of actions at national or regional level, such as improved waste and wastewater management, port reception facilities, targeted fishing for litter, education, awareness raising and outreach activities they hope to achieve these objectives. The EU participates actively in the development and implementation of these action plans and promotes their coordination.



### EU CLIMATE ACTION

The EU is fighting climate change through ambitious policies at home and close cooperation with international partners. It is already on track to meet its GHG emissions reduction target for 2020 and has put in place the key laws and measures to achieve its climate and energy targets for 2030. By 2050, Europe aims to become the world's first climate-neutral continent.

### THE EUROPEAN GREEN DEAL

Climate action is at the heart of the European Green Deal – an ambitious package of measures ranging from ambitiously cutting GHG emissions, to investing in cutting-edge research and innovation, to preserving Europe's natural environment. First climate action initiatives under the Green Deal include:

- European Climate Law to enshrine the 2050 climate-neutrality objective into EU law.
- European Climate Pact to engage citizens and all parts of society in climate action.

Based on a comprehensive impact assessment and analysis of the national energy and climate plans, the Commission will also propose a new EU ambition to reduce GHG emissions by 2030.

By June 2021, the European Commission will also review and, where necessary, propose to revise all relevant policy instruments to deliver additional GHG emission reductions. It will adopt a new, more ambitious EU strategy on adaptation to climate change in order to strengthen efforts on climate-proofing, resilience building, prevention and preparedness, ensuring that businesses, cities and citizens are able to integrate climate change into their risk management practices.

At the international level, the EU will continue to lead international negotiations to increase the ambition of major emitters ahead of the 2020 United Nations climate change conference in Glasgow. Key EU legislation and policies are:



- EU Emissions Trading System (EU ETS) to reduce GHG emissions from the power sector, industry and flights within the EU.
- National targets for sectors outside emissions trading, such as transport, buildings and agriculture.
- Ensuring our forests and land contribute to the fight against climate change.
- Reducing GHG emissions from transport, e.g. through CO<sub>2</sub> emission standards for vehicles.
- Boosting energy efficiency, renewable energy and governance of EU countries' energy and climate policies.
- Promoting innovative low-carbon technologies.
- Phasing down climate-warming fluorinated GHGs.
- Protecting the ozone layer.
- Adapting to the impacts of climate change.
- Funding climate action.

The EU is actively working with other countries and regions to achieve the goals of the Paris Agreement. It promotes ambitious climate action in multilateral fora and in its bilateral cooperation with countries outside the EU.

Fighting climate change and achieving the transition to a climate-neutral society will require significant investments, research and innovation, new ways of producing and consuming, and changes in the way we work, use transport and live together. The EU is addressing this by aligning action in key areas, for example:

- energy;
- environment;
- mobility and transport;
- regional policy and the low-carbon economy;
- sustainable finance;
- industrial policy;
- trade and sustainable development;
- international cooperation and development;

- research and innovation on climate change; and
- sustainable development goals.

### INSTRUMENTS – SUSTAINABLE FISHERIES ECO-LABELS AND STANDARDS

Seafood from well-managed wild fisheries and fish farms is some of the healthiest, most sustainable protein around. One way to tell which seafood is sustainable is to look for eco-labels that certify whether a fish was caught or raised in a responsible way.

Seafood certifications, or eco-labels, aim to incentivize seafood producers to act in a sustainable manner. They also help consumers distinguish between a dizzying array of fish and shellfish. Seafood certification initiatives can vary widely in what they measure and how effective they are at helping fishers and fish farmers improve their operations.

There are many different labels for seafood, and these labels vary greatly in geographical scope (international, regional, local), may include different aspects of sustainability (People, Planet, Profit) and include third-party certification (or not). Discussing labels should be considered in the sustainable fisheries standard, but many labels have advantages and disadvantages.

In this part of the report, we present a few examples of international labels (MSC and ASC standards for fisheries and aquaculture and the Fair-Trade standard). These labels are chosen as examples because they are well established, not because these are selected as the best labels available.

### MARINE STEWARDSHIP COUNCIL (MSC STANDARD)

The MSC Fisheries Standard is used to assess if a fishery is well-managed and sustainable. The Standard reflects the most up-to-date understanding of internationally accepted fisheries science and management. MSC reviews and develops the MSC Fisheries Standard in consultation with scientists, the fishing industry and conservation groups.



When a fishery is successfully certified to the Fisheries Standard, its certified catch can be sold with the blue MSC label. Certification to the MSC Fisheries Standard is voluntary. It's open to all fisheries who catch marine or freshwater organisms in the wild. This includes most types of fish and shellfish. Fisheries are assessed by accredited independent certifiers (called Conformity Assessment Bodies (CABs) – also called certification bodies), not the MSC.

The MSC Fisheries Standard has three core principles that every fishery must meet.

- Sustainable fish stocks Are enough fish left in the ocean? Fishing must be at a level that ensures it can continue indefinitely and the fish population can remain productive and healthy.
- Minimising environmental impact What are the impacts? Fishing activity must be managed carefully so that other species and habitats within the ecosystem remain healthy.
- Effective fisheries management- Are operations well managed? MSC certified fisheries must comply with relevant laws and be able to adapt to changing environmental circumstances.

### AQUACULTURE STEWARDSHIP COUNCIL (ASC STANDARD)

The ASC standard for responsible aquaculture addresses the key environmental impacts of farming, set requirements for workers' rights and protect communities surrounding certified farms.

Its standard sets strict requirements for responsible farming, which encourage seafood producers to minimise the key environmental and social impacts of aquaculture. The current eleven ASC standards cover 17 species groups: abalone; bivalves (clams, mussels, oyster, scallop); flatfish, freshwater trout; pangasius; salmon; seabass, seabream, meagre; seriola and cobia; shrimp; tilapia, and tropical marine finfish. There is also a joint ASC-MSC standard for seaweed.

### FAIR TRADE – CAPTURE FISHERIES STANDARD

The Fair-Trade Capture Fisheries Standard was developed to provide the opportunity for fishers to demonstrate the core elements of Fair Trade in their



practices, while helping them commercialize their product. The Standard is structured along the core Fair Trade USA principles that represent the main organizational objectives of:

- Empowerment: The Standard supports fishers to develop skills necessary to effectively negotiate with those who have an influence on the buying, processing, and marketing of their products.
- Economic Development: The Fair-Trade Capture Fisheries Standard aims to increase the income of fishers by ensuring a transparent and stable trading relationship with their buyer(s) and by requiring payment of a Fair-Trade Premium on every Fair Trade Certified<sup>™</sup> product sale. The Standard establishes wage requirements for workers employed by the registered fishers and the certificate holder in order to increase their income.
- Social Responsibility: The Standard protects the human rights of those involved in the fishery. For fishers and their employees, health and safety measures are established in order to avoid work-related injuries.
- Environmental Stewardship: Independent fishers must adopt responsible fishing practices and protect biodiversity. This includes data collection and monitoring to provide better information on the state of fish stocks and mitigate the impacts of fishing, recognizing that small-scale fisheries often face challenges with data availability and management. A goal of the Capture Fisheries program is to have fisheries improve over time and eventually reach a level of environmental sustainability consistent with Marine Stewardship Council certification. In addition, the certificate holder and Fisher Association(s) work with government agencies and other stakeholders to jointly improve fishery management.

ATTACHMENT 1: OVERVIEW OF REQUIREMENTS FOR FISHING VESSEL PERSONNEL RELATED TO SUSTAINABLE FISHERIES TRAINING

Catching THE Potential		Open fishing vessels and decked fishing vessels of less than 12 meters in length	Decked fishing vessels of 12 meter and over but less than 24 meters or fishing vessels powered by main propulsion machinery of less than 750 kW propulsion power	Fishing vessels of 24 meters in length or by main propulsion machinery of 750 kW propulsion power or more		
STCW-F 1995	Sustainable Fisheries Prevention of Pollution	None Part of the basic training for <b>all fishing personnel</b> , subject to national administration approval		All fishing personnel, part of basic training Officers in charge of navigational watch.		
				precautions to be observed <b>Personne</b> l keeping navigational watch, serious effects of pollution, and take all possible precautions		
Document for Guidance on Training and Certification of Fishing Vessel Personnel	Sustainable Fisheries	None				
	Prevention of Pollution	Basic training (see STCW-F), and, <b>Those responsible</b> precautions to be observed: -pumping out bilges -changing lubricating oil -disposal of plastics and other garbage	Basic training (see STCW-F), and, Skippers and engineering officers requirements of the International Convention for the Prevention of Pollution from ships (MARPOL 73/78)	All requirements in STCW-F, and, Engineers - regulations to be observed regarding pollution and methods and aids to prevent pollution		
	Maritime Law and Fisheries Regulations	None	Skippers and all officers- appropriate international law	Skippers and engineers A knowledge of international maritime law as embodied in international agreements and conventions		
	FAO Code of Conduct	Where appropriate, fishing vessel personnel should be given training in the principles and guidelines of the Code of Conduct for Responsible Fisheries		Skippers and officers on a navigational watch FAO Code of Conduct for Responsible Fisheries, which should include: - responsible harvesting practices - responsible fishing gear/selectivity - energy optimization		
	Sustainable fisheries	None				
European Union	STCW-F	Ratified by Belgium, Denmark, Latvia, Lithuania, Netherlands, Poland, Portugal, Romania and Spain Prevention of marine pollution as part of the basic training for all fishing personnel, subject to national administration approval.				
Regional Sea Conventions in the EU - OSPAR	Sustainable fisheries	OSPAR Guidelines on the reduction of marine litter through Sustainability Education Programmes for Fishers (OSPAR Agreement 2019-08)				
EU Member states – The Netherlands	Sustainable fisheries	Students in The Netherlands participate in a 4-day course 'Fishing with a future' as part of their education programme - several important parts of the Fishing with a Future course are literally mentioned in the qualification files (requirements that a student must meet in order to obtain his/her diploma)				