



GENERAL FISHERIES COMMISSION
FOR THE MEDITERRANEAN
COMMISSION GÉNÉRALE DES PÊCHES
POUR LA MÉDITERRANÉE



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**GENERAL FISHERIES COMMISSION
FOR THE MEDITERRANEAN**

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MANAGEMENT OF MEDITERRANEAN FISHERIES

I. INTRODUCTION

1. This document summarizes the main advice and suggestions on fisheries management from the Scientific Advisory Committee (SAC) as stated in the report of the SAC's ninth session (document GFCM:XXXI/2007/Inf.5). The conclusions and advice of the Committee on Aquaculture are presented in document GFCM:XXXI/2007/2 to the extent that they not imply a decision on aquaculture management. The document also refers to the draft recommendations or resolutions of the SAC and the International Commission for the Conservation of Atlantic Tunas (ICCAT) and to the draft recommendation on the Pelagos Sanctuary for the conservation of marine mammals for which the Commission had requested further SAC scrutiny before its re-consideration¹.

II. SUGGESTIONS AND ADVICE OF THE SCIENTIFIC ADVISORY COMMITTEE

Socio-economics

2. The Scientific Advisory Committee recognized the importance of ensuring appropriate monitoring of fish trade and market flows, including recreational and sport fisheries, and underlined the need to complement assessments of stocks and assemblages of species with socio-economic analysis of fisheries in GSAs, with a view to helping the formulation of integrated management advice. More specifically, the Committee suggested:

- facilitating the collection of data on import and export flows between trade blocks to promote the analysis of market situations affecting fisheries management;

¹ Paragraph 35 of the report of the 30th Session.

- compiling and examining exploratory data on recreational and sport fisheries;
- inviting Members to gather the socio-economic data and information identified in GFCM Task 1.

Marine environment and ecosystems

3. The SAC noted the progress made in the field of cooperation with partner international organizations (ACCOBAMS, IUCN, WWF and UNEP-RAC/SPA), notably with regard to the impact of fisheries on protected and/or endangered species, the identification of vulnerable zones and habitats and implementation of the ecosystem approach to fisheries. The Committee called for a strengthening of collaboration with the International Commission for the Scientific Exploration of the Mediterranean Sea (ICSEM) and with the Secretariat of the Pelagos Sanctuary. The SAC suggested in particular:

- developing case studies on the ecosystem approach to fisheries, integrating socio-economic parameters and aspects related to the functioning of ecosystems;
- establishing a transversal ad hoc working group on by-catches and incidental catches;
- compiling an inventory/synthesis of published studies on fisheries and biodiversity in deep-sea areas;
- assessing the impact of different types of pinger (ultrasound emitter) on cetaceans and fish species;
- extending the data collection process on cetaceans to other endangered or vulnerable species such as turtles and sharks;
- defining scientific criteria for recognized status as a restricted fishing zone.

Monitoring fish stocks

4. The SAC reviewed the results of 22 assessments corresponding to nine demersal stocks and 14 small pelagic stocks, including seven shared stocks, in seven GSAs. The SAC took note of the advice of the SCSA on the management of demersal and small pelagic stocks as summarized in Appendix F of the SAC's report (GCFM:XXXI/2007/Inf.5) and requested that future SCSA advice be supplemented with the information and data stipulated in Recommendation GCFM/2006/1.

5. The SCA also made the following suggestions:

Stock assessment and formulation of management advice

- establish a group of experts to define ecosystems in the GCFM area;
- encourage the use of composite models and direct survival analysis in stock assessment;
- use the outcomes of trawl surveys (MEDITS), especially for identifying bio-indicators;
- develop cooperation in the Black Sea zone by formulating and implementing a regional fisheries management support project;
- improve the presentational format of stock assessments and scientific advice and related matters so as to include the parameters for the proposed technical measures.

Priority species and shared stocks

6. The SAC invited the Commission to adopt as a GFCM Resolution: i) the list of priority species (Appendix A) and ii) the list of shared stocks (Appendix B) as updated by the Sub-Committee on Stock Assessment (SCSA).

Statistics and information

7. The SAC drew the Commission's attention to the importance of ensuring follow-up to the conclusions of the transversal workshops on the measurement and standardization of fishing effort and on stock assessment and operational units. It emphasized the need to pursue work on the allocation of fishing mortality and on the calibration and standardization of fishing effort, taking into account the spatial dimension of fishing effort.

8. The SCA invited the Commission:

- to adopt as a GFCM Resolution, the Task 1 matrix reproduced in Appendix C of this document, with component tasks 1.1 and 1.2 to be considered mandatory for all Members, while component tasks 1.3, 1.4 and 1.5 (of Task 1) would be gradually implemented to allow for potential difficulties that certain Members might encounter;
- to approve the table of parameters for measuring fishing effort, both in terms of fishing capacity and of fishing activity (Appendix D) and to invite Members to refer to this table to communicate fishing effort data to the Secretariat;
- to consider applying for membership of the Coordinating Working Party on Fisheries Statistics (CWP);
- to adopt the GSA nomenclature as revised (Appendix E);
- to invite the FAO Regional Projects to continue their efforts in data collection and contribution to reinforcing the GFCM's statistics and information system and to help the countries concerned in measuring their fishing effort, especially fishing intensity for demersal stocks;
- to adopt as a GFCM Resolution the SAC fleet segmentation (Appendix F).

III. PROPOSED RECOMMENDATIONS

Proposed recommendation from the work of the SAC

9. Drawing upon the conclusions of the SCSA and the outcome of the workshop on the standardization of selectivity methods applied to trawling, held in Sète, France, in February 2005 (GFCM:XXXI/2007/Dma.6), the SAC invited the Commission to:

- to adopt a recommendation aimed at using a 40 mm square mesh codend of bottom trawls and to envisage its gradual implementation, in view of the need to assess the possible socio-economic effects of such a measure, especially for coastal fishery activities in certain GSAs.

Proposed recommendation on the Pelagos Sanctuary for the conservation of marine mammals

10. In accordance with the decision at the 30th Session of the Commission, the Scientific Advisory Committee re-examined the Pelagos Sanctuary issue. It noted that the sanctuary had been recognized as a Specially Protected Area of Mediterranean Interest (SPAMI) and that it could serve to broaden knowledge of cetacean populations, their habitat and their interactions with human activities, particularly fishing. This proposed recommendation is still before the Commission as in GFCM:XXXI/2007/Inf.8.

ICCAT proposed recommendations on Mediterranean fisheries

11. The International Commission for the Conservation of Atlantic Tunas adopted the following recommendations on Mediterranean fisheries at its 15th Extraordinary Session (Croatia, November 2006):

- [06-05]-ICCAT recommendation on the implementation of a multi-annual recovery programme for bluefin tuna in the eastern Atlantic and the Mediterranean;
- [06-07]-ICCAT recommendation on the farming of bluefin tuna;
- [06-11]-ICCAT recommendation on the establishment of a transshipment programme.

12. The texts of these proposals are given in GFCM:XXXI/2007/Inf.9.

IV. SUGGESTED ACTIONS FOR THE COMMISSION

13. The Commission is invited to examine and endorse, as appropriate, the conclusions and advice received from its Scientific Advisory Committee.

14. The Commission is also invited to examine for possible adoption the draft recommendation on the Pelagos Sanctuary and those concerning the Mediterranean adopted by the ICCAT in 2006.

APPENDIX A

List of priority species

English common name	Scientific name
Danube sturgeon(=Osetr)	<i>Acipenser gueldenstaedtii</i>
Starry sturgeon	<i>Acipenser stellatus</i>
Sturgeon	<i>Acipenser sturio</i>
European eel	<i>Anguilla anguilla</i>
Giant red shrimp	<i>Aristaeomorpha foliacea</i>
Blue and red shrimp	<i>Aristeus antennatus</i>
Bogue	<i>Boops boops</i>
Common dolphinfish	<i>Coryphaena hippurus</i>
Horned octopus	<i>Eledone cirrosa</i>
Musky octopus	<i>Eledone moschata</i>
Anchovy	<i>Engraulis encrasicolus</i>
Beluga	<i>Huso huso</i>
Shortfin mako	<i>Isurus oxyrinchus</i>
Porbeagle	<i>Lamna nasus</i>
European squid	<i>Loligo vulgaris</i>
Blackbellied angler	<i>Lophius budegassa</i>
Monkfish or angler	<i>Lophius piscatorius</i>
Whiting	<i>Merlangius merlangus</i>
Hake	<i>Merluccius merluccius</i>
Blue whiting	<i>Micromesistius poutassou</i>
Red mullet	<i>Mullus barbatus</i>
Striped red mullet	<i>Mullus surmuletus</i>
Norway lobster	<i>Nephrops norvegicus</i>
Black spot seabream	<i>Pagellus bogaraveo</i>
Common pandora	<i>Pagellus erythrinus</i>
Common spiny lobster	<i>Palinurus elephas</i>
Pink spiny lobster	<i>Palinurus mauritanicus</i>
Deepwater rose shrimp	<i>Parapenaeus longirostris</i>
Bluefish	<i>Pomatomus saltatrix</i>
Blue shark	<i>Prionace glauca</i>
Turbot	<i>Psetta maxima</i>
Sardine	<i>Sardina pilchardus</i>
Round sardinella	<i>Sardinella aurita</i>
Atlantic mackerel	<i>Scomber scomber</i>
Common cuttlefish	<i>Sepia officinalis</i>
Common sole	<i>Solea vulgaris</i>
Sprat	<i>Sprattus sprattus</i>
Albacore	<i>Thunnus alalunga</i>
Bluefin tuna	<i>Thunnus thynnus</i>
Mediterranean horse mackerel	<i>Trachurus mediterraneus</i>
Atlantic horse mackerel	<i>Trachurus trachurus</i>
Swordfish	<i>Xiphias gladius</i>

APPENDIX B

List of shared stocks

English common name	Scientific name	Area	Countries
Dolphin fish	<i>Coryphaena hippurus</i>	Western Mediterranean.	Italy, Malta, Spain and Tunisia
Horned octopus	<i>Eledone cirrhosa</i>	Adriatic Sea	Albania, Croatia, Italy and Serbia-Montenegro
Musky octopus	<i>Eledone moschata</i>	Adriatic Sea	Albania, Croatia, Italy, Slovenia and Serbia-Montenegro
Anchovy	<i>Engraulis encrasicolus</i>	Adriatic Sea	Albania, Croatia, Italy, Slovenia and Serbia-Montenegro
Anchovy	<i>Engraulis encrasicolus</i>	Aegean Sea	Greece and Turkey
Anchovy	<i>Engraulis encrasicolus</i>	Gulf of Lions	France and Spain
Shortfin mako	<i>Isurus oxyrinchus</i>	All Mediterranean	All countries
Porbeagle	<i>Lamna nasus</i>	All Mediterranean	All countries
European squid	<i>Loligo vulgaris</i>	Adriatic Sea	Albania, Croatia, Italy, Slovenia and Serbia-Montenegro
Blackbellied angler	<i>Lophius budegassa</i>	Adriatic Sea	Albania, Croatia, Italy, Slovenia and Serbia-Montenegro
Monkfish or angler	<i>Lophius piscatorius</i>	Adriatic Sea	Albania, Croatia, Italy, Slovenia and Serbia-Montenegro
Hake	<i>Merluccius merluccius</i>	Adriatic Sea	Albania, Croatia, Italy, Slovenia and Serbia-Montenegro
Hake	<i>Merluccius merluccius</i>	Gulf of Lions	France and Spain
Hake	<i>Merluccius merluccius</i>	North Tyrrhenian and Corsica	Italy and France
Hake	<i>Merluccius merluccius</i>	Sicily Channel	Italy, Tunisia, Libya and Malta
Blue whiting	<i>Micromesistius poutassou</i>	Adriatic Sea	Albania, Croatia, Italy and Serbia-Montenegro
Blue whiting	<i>Micromesistius poutassou</i>	North Tyrrhenian and Corsica	Italy and France
Red mullet	<i>Mullus barbatus</i>	Western Mediterranean	Corsica and Sardinia
Red mullet	<i>Mullus barbatus</i>	Adriatic Sea	Albania, Croatia, Italy, Slovenia and Serbia-Montenegro
Striped red mullet	<i>Mullus surmuletus</i>	Western Mediterranean	Corsica and Sardinia
Norway lobster	<i>Nephrops norvegicus</i>	Adriatic Sea	Albania, Croatia, Italy, Slovenia and Serbia-Montenegro
Norway lobster	<i>Nephrops norvegicus</i>	North Tyrrhenian and Corsica	Italy and France
Black spot seabream	<i>Pagellus bogaraveo</i>	Alboran Sea and the Straits of Gibraltar	Spain and Morocco
Common pandora	<i>Pagellus erythrinus</i>	Adriatic Sea	Albania, Croatia, Italy, Slovenia and Serbia-Montenegro
Common spiny lobster	<i>Palinurus elephas</i>	Western Mediterranean	Corsica and Sardinia
Common spiny lobster	<i>Palinurus elephas</i>	Sicily channel	Tunisia and Italy
Pink spiny lobster	<i>Palinurus mauritanicus</i>	Sicily channel	Tunisia and Italy
Deepwater rose shrimp	<i>Parapenaeus longirostris</i>	Adriatic Sea	Albania, Croatia, Italy and Serbia-Montenegro
Blue shark	<i>Prionace glauca</i>	All Mediterranean	All countries
Sardine	<i>Sardina pilchardus</i>	Adriatic Sea	Albania, Croatia, Italy, Slovenia and Serbia-Montenegro
Sardine	<i>Sardina pilchardus</i>	Aegean Sea	Greece and Turkey
Atlantic mackerel	<i>Scomber scomber</i>	Adriatic Sea	Albania, Croatia, Italy, Slovenia and Serbia-Montenegro
Common cuttlefish	<i>Sepia officinalis</i>	Adriatic Sea	Albania, Croatia, Italy, Slovenia and Serbia-Montenegro
Common sole	<i>Solea vulgaris</i>	Adriatic Sea	Albania, Croatia, Italy, Slovenia and Serbia-Montenegro
Sprat	<i>Sprattus sprattus</i>	Adriatic Sea	Croatia, Italy, Slovenia
Albacore	<i>Thunnus alalunga</i>	All Mediterranean	All countries
Bluefin tuna	<i>Thunnus thynnus</i>	All Mediterranean	All countries
Swordfish	<i>Xiphias gladius</i>	All Mediterranean	All countries

APPENDIX C

Table of parameters of fishing effort measurement

Gear	Number and dimension	Capacity	Activity	Nominal Effort
Dredge (for molluscs)	Open mouth (width)	GT	Time fishing	Dredged bottom surface
Trawl (including dredges for flatfish)	Type of trawl (pelagic, bottom) GT and/or GRT Engine power Mesh size Size of net (width of mouth) Speed	GT	Time fishing	GT*days GT*hours KW*days
Purse seine	Length and drop of net GT Light power Number of small boats	GT Length and drop of net	Search time	GT * Fishing activity Length of net Fishing activity
Nets	Type of net (e.g. trammel net, gillnet, etc.) Net length (regulatory) GT Net surface Mesh size	Length and drop of net	Time fishing	Net length*days Net surface*days
Longlines	Number of hooks GT Number of longlines Characteristics of hooks Bait	Number of hooks Number of longline units	Time fishing	Number of hooks *hours Number of hooks *days Number of longline units * days/hours
Traps	GT	Number of traps	Time fishing	Number of traps * days
Purse seine/FADs	Number of FADs		Number of trips	Number of FADs * Number of trips



GFCM Task 1: Operational Units

GSA or other (specify: _____)

Fleet Segment	No. of vessels
A Minor gear without engine	< 6
B Minor gear with engine	< 6
C Minor gear with engine	6 - 12
D Trawl	6 - 12
E Trawl	12 - 24
F Trawl	> 24
G Purse Seine	6 - 12
H Purse Seine	12 - 24
I Long line	12 - 24
J Pelagic Trawl	12 - 24
K Tuna Seine	12 - 24
L Dredge	12 - 24
M Polyvalent	12 - 24

01	02	03	04	05	06	07	08	09	10	11	20	25	98	99	National	Gear Classes
Surrounding Nets	Seine Nets	Trawls	Dredges	Lift Nets	Falling Gear	Gillnets and Entangling Nets	Traps	Hooks and Lines	Grappling and Wounding	Harvesting Machines	Miscellaneous Gear	Recreational Fishing Gear	Other Gear	Gear Not Known or Not Specified	Regional	

Task 1.1
Fleet and area variables

- Vessel number
- Capacity

Task 1.3
Economic components variables

- Gross Tonnage
- Horse Power
- Employment
- Salary Share %
- Landing weight
- Landing value
- Vessel value of total Fleet
- Fishing days/year per vessel
- Fishing hours/day per vessel
- Cost of fishing/day per vessel

Task 1.2
Main resource and activity components variables per OU

- Operational Unit code
- Activity
- Fishing gear
- Target species
- Main associated species
- Fishing period
- Vessels No.
- Areas

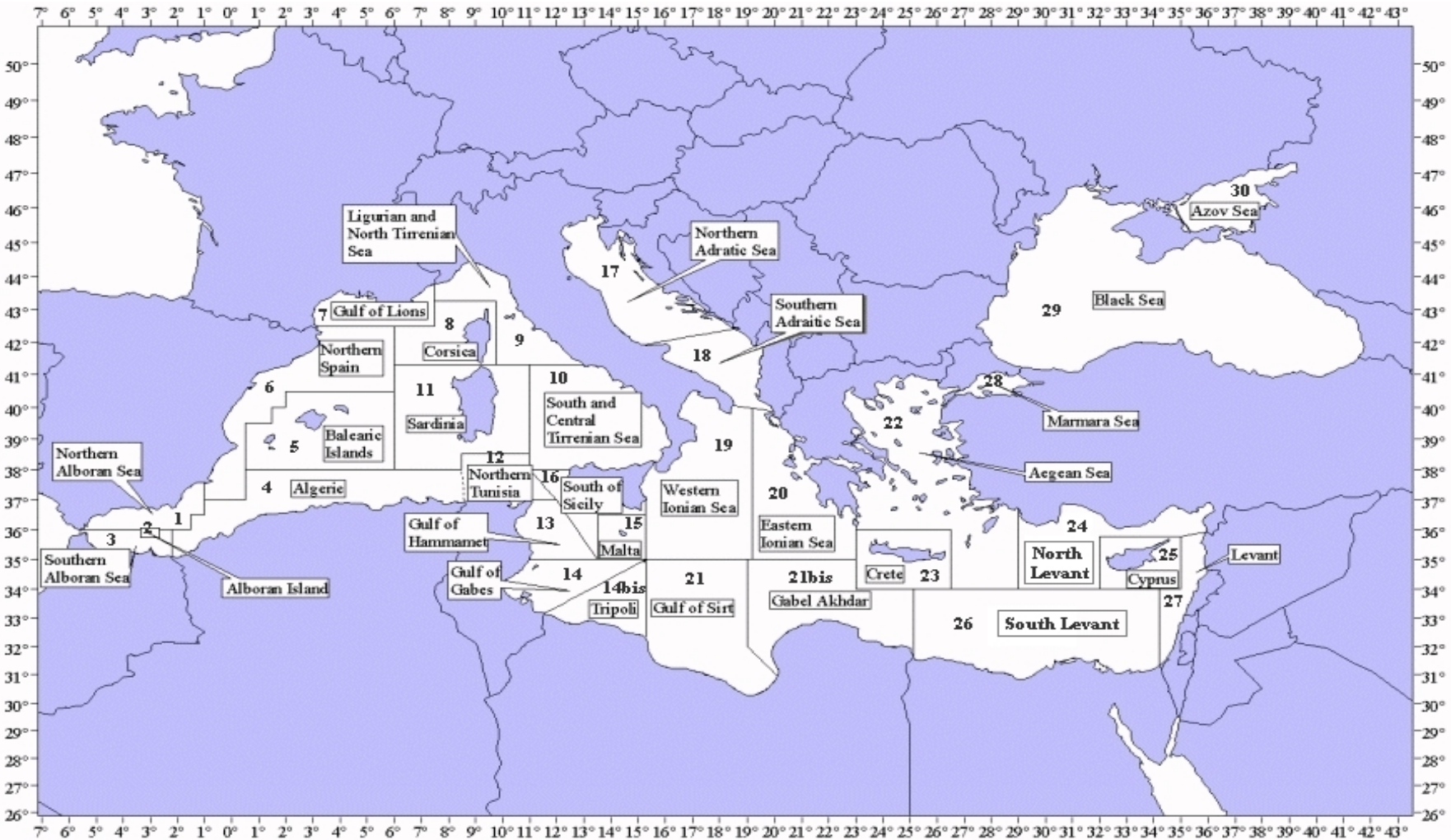
Task 1.4
Effort variables

- Catch / Landing
- Effort measure
- CPUE / LPUE
- Discard
- Bycatch

Task 1.5
Provisional biological parameters

- Length range of captured species
- Length Average
- Sex
- Maturity
- Biological reference points

GFCM Task 1: Operational Units



ANNEXE F

Fleet segmentation

Groups	< 6 metres	6-12 metres	12-24 metres	More than 24 metres
1. Minor Gear without engine	A	←		
2. Minor Gear with engine	B	C		
3. Trawl	⇒	D	E	F
4. Purse Seine		G	H	←
5. Longline			I	
6. Pelagic trawl		⇒	J	←
7. Tuna seine			K	←
8. Dredge		⇒	L	
9. Polyvalent			M	

Segments description

- A. Minor gear without engine. All vessels less than 6 metres in length without an engine (wind or oar propulsion). Exceptionally, vessels without engine longer than 6 metres can be included.
- B. Minor gear with engine less than 6 m. length. All vessels under 6 metres length with engine, excluding trawl vessels.
- C. Minor gear with engine between 6 to 12 metres. All vessels between 6 to 12 metres length with engine, excluding specific gear such as demersal trawl, purse seine, pelagic trawl and dredge.
- D. Trawlers less than 12 m. length. All demersal trawlers less than 12 metres. Exceptionally, trawl vessels under 6 metres can be included.
- E. Trawlers between 12 to 24 m. Demersal trawl between 12 to 24 metres.
- F. Trawlers of more than 24 m. Demersal trawl with length of more than 24 metres.
- G. Purse seines between 6 to 12 m.
- H. Purse seines between 12 to 24 m. Excluded tuna seine. Exceptionally, purse seine vessels of more than 24 metres can be included
- I. Long line of more than 12 m. Long line as exclusive gear more than 12 m. Exceptionally, vessels more than 24 metres can be included.
- J. Pelagic trawlers. All pelagic trawl vessels, but normally this group is between 12 to 24 metres.
- K. Tuna seine. All tuna seine vessels.
- L. Dredge. All dredge vessels. Normally this group is between 12 to 24 metres, but exceptionally dredges under 12 metres can be included.
- M. Polyvalent (and other) longer than 12 m. All vessels longer than 12 metres that use different gear during the year or gear not listed in this classification.