



Food and Agriculture
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General Fisheries Commission
for the Mediterranean
Commission générale des pêches
pour la Méditerranée

Handbook for recreational fisheries data collection in the Mediterranean and Black Sea



27 October 2020

MEDAC
WG4 – Recreational fisheries

Marine RF is an important socio-economic component of coastal life and communities in the Mediterranean and Black Sea



Standard monitoring programmes based on statistically robust sampling designs are not regularly implemented in most countries



This can be challenging for assessing stocks which are exploited by commercial fisheries and for which RF might be an additional component of fishing mortality

Med&BS fisheries face serious challenges, with approximately 78% of the assessed stocks (2018) considered to be fished outside safe biological limits

GFCM has developed a multiannual mid-term strategy (2017-2020) towards the sustainability of Med&BS fisheries

The main aim is to reverse the alarming trend of exploited stocks by means of a series of targets, outputs and activities, also focusing on RF Assessment of the impacts of RF and the consideration of best management measures to regulate these activities



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HANDBOOK FOR RECREATIONAL FISHERIES DATA COLLECTION IN THE MEDITERRANEAN AND BLACK SEA



(Draft Version 2020)

The main goal of the handbook is to provide a methodological framework to allow Med&BS countries to adopt sampling and monitoring schemes for this sector



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HANDBOOK FOR RECREATIONAL FISHERIES DATA COLLECTION IN THE MEDITERRANEAN AND BLACK SEA



(Draft Version 2020)

- Methodology
- Quality check of data
- Data analysis
- Stakeholder engagement
- Annexes

...in this presentation
we will focus on the
Methodology for data
collection...

Statistical Universe

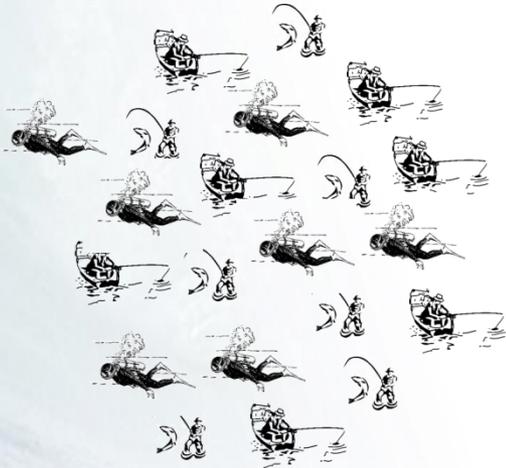
Total number of fishers

Panel

Extract a random sample of fishers

Data collection

Effort and catches



... on a voluntary basis

Statistical Universe

The first step of any sampling strategy is the definition of the target population to which the results of the survey are to be generalized

A complete list of recreational fishers could be obtained from:

License system

Telephone survey

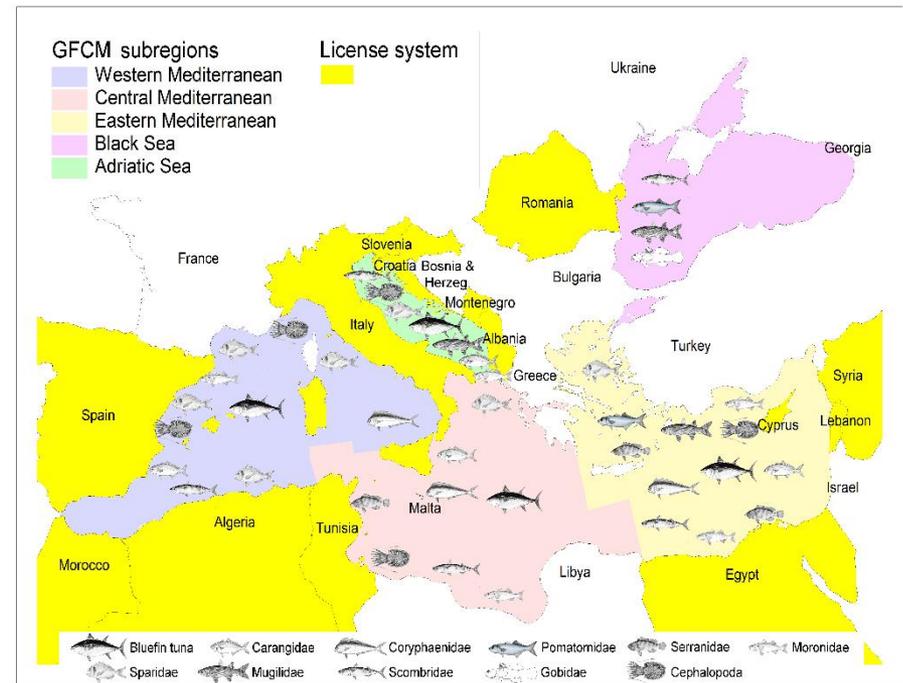
Free online registration

License system

If a country has a national license system in force including
a) all the RF modes (i.e. boat, shore and underwater) and
b) the contacts (e.g. telephone, email, etc.) of each fisher
then we could use this list as our statistical universe

Weaknesses:

- Not covering all fishing modes
- Not including fishers' contacts
- Fishers without a license



Telephone survey

If a country has not a complete license system in force, it is possible to hire a data collection firm and perform a line telephone survey (interviews) on a number of randomly selected households



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SCREENING
SURVEY

Weaknesses:

- High costs (the more interviews the more accurate the findings)
- Decreasing coverage of landline phones
- If participation rate is low, recruited diarists (panel) will also be few (tip: stratify coastal and inland cities)

City:

Telephone No:

Age	Gender	Marine fisher		Panel		N. trips previous year		
						Boat	Shore	Underwater
	♂	Yes	No	Yes	No			
	♀	Yes	No	Yes	No			
	♂	Yes	No	Yes	No			
	♀	Yes	No	Yes	No			
	♂	Yes	No	Yes	No			
	♀	Yes	No	Yes	No			
	♂	Yes	No	Yes	No			
	♀	Yes	No	Yes	No			
	♂	Yes	No	Yes	No			
	♀	Yes	No	Yes	No			



Free online registration

If a country has not a license system in force and a telephone survey is too expensive, a third option could be to register participants through an online fee-free registration programme that would collect a valid name, address and telephone number for each participant

Weakness:

- Internet may not be user friendly for old people

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Marine Recreational Fisheries Online registration - 1st step

Name	Surname
Email	Telephone number
Place of birth	Date of birth
Nationality	Address
Gender	<input type="radio"/> M <input type="radio"/> F
Username	Password

[CLICK HERE TO GO TO NEXT STEP](#)

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Marine Recreational Fisheries Online registration - 2nd step

ID Number (automatically generated)

Activities	How many fishing trips did you perform during the last 12 months?					
	1-5	5-10	10-25	25-50	>50	
Shore	Scoop net	1-5	5-10	10-25	25-50	>50
	Collection by hand	1-5	5-10	10-25	25-50	>50
	Knives, harpoons	1-5	5-10	10-25	25-50	>50
	Cast net	1-5	5-10	10-25	25-50	>50
	Beach seines	1-5	5-10	10-25	25-50	>50
	Hooks (rod and/or handline)	1-5	5-10	10-25	25-50	>50
Boat	Traps	1-5	5-10	10-25	25-50	>50
	Set nets	1-5	5-10	10-25	25-50	>50
	Hooks (rod and/or handline)	1-5	5-10	10-25	25-50	>50
	Longline	1-5	5-10	10-25	25-50	>50
Underwater	Traps	1-5	5-10	10-25	25-50	>50
	Speargun, harpoons	1-5	5-10	10-25	25-50	>50
	Collection by hand	1-5	5-10	10-25	25-50	>50

Association (name of the sport/recreational fishing Association you are affiliated, in case you have no affiliations choose the option "n.d.")

[CLICK HERE TO DOWNLOAD YOUR CERTIFICATE](#)

Data collection

License system

Telephone survey

Free online registration

Independently from data source, there are a number of different methods for collecting effort and catch data

There are two broad types of approaches to data collection

Offsite surveys

Onsite surveys

Offsite surveys

Offer a means of measuring all forms of fishing activity across large spatial scales to produce total harvest estimates.

Potential advantages are geographical coverage, and ability to reach all the various types of recreational fishers.

Respondents can be asked about fishing over extended periods, especially when they are enrolled in a panel type survey.

There are two types
of approaches

Logbook survey

Recall survey

Logbook surveys

Logbooks provide a very cost-effective means of collecting both fishing effort and catch data

Number of fishers, Fishing area, Total fishing time, soak time and effort per gear, catches per gear (number of specimens kept and/or released, and estimated length), comments (e.g. state of released fish)

Weaknesses:

- A certain fraction of fishers might not fill their logbooks on a regular basis
- “Prestige bias”, when fish size or numbers are exaggerated



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LOGBOOK PROGRAM
**Marine Recreational
Fisheries**

Name and Surname: <i>Mario Rossi</i>		Total Fishing Time	Start <i>06:00</i>
			End <i>14:00</i>
Date: <i>13/05/2018</i>	Fishing location	Lat	<i>45°15'48"</i>
		Long	<i>12°43'58"</i>
No. of fishers in party: <i>3</i>		Area	<i>Adriatic Sea 3 nm off Venice</i>

Activities	Code	Soak time (hours)	No. of gears used	
Shore-based	Scoop net	S_SCN		
	Collection by hand	S_HAC		
	Knives, harpoons	S_HAR		
	Cast net	S_CAS		
	Beach seines	S_SEI		
	Hooks (rod and/or handline)	S_HOO	<i>5</i>	<i>3</i>
	Traps	S_TRA	<i>3</i>	<i>2</i>
Boat-based	Set nets	B_NET		
	Hooks (rod and/or handline)	B_HOO		
	Longline	B_LON		
	Traps	B_TRA		
Underwater	Speargun, harpoons	U_HAR		
	Collection by hand	U_HAC		

Act. Code	Species	No. Kept	No. Released	Length (cm) or estimated weight (kg)
B-HOO	<i>common pandora</i>	<i>1</i>	<i>1</i>	<i>25cm/0.3kg (10cm/0.02kg)</i>
B-HOO	<i>horse mackerel</i>	<i>3</i>		<i>30-25-30cm/0.4-0.3-0.4kg</i>
B-HOO	<i>gilthead seabream</i>	<i>1</i>	<i>1</i>	<i>40cm/1.0kg (15cm/0.1kg)</i>
B-HOO	<i>black goby</i>	<i>40</i>		<i>1.2kg (tot)</i>
B-TRA	<i>cuttlefish</i>	<i>2</i>		<i>0.5-0.7kg</i>

Comments:
discarded common pandora was alive when released
discarded gilthead seabream was seriously wounded when released

Recall surveys

This is an alternative/integration to logbook, it relies on contacting (e.g. telephone) the selected fishers, asking them to recall their catches, effort and expenditures, within a specific timeframe

Weakness:

- Extended timeframes can significantly affect data accuracy

 Food and Agriculture Organization of the United Nations		 General Fisheries Commission for the Mediterranean Commission générale des pêches pour la Méditerranée		RECALL SURVEY Marine Recreational Fisheries	
<input type="text" value="Name and Surname:"/>			<input type="text" value="ID"/>		
ECONOMIC DATA COLLECTION - EXPENDITURES					
Shore fishing					
Equipment (rods, hooks, reels, cast nets, etc.)				<input type="text"/>	
Artificial baits (jigs, lures, spinner baits, etc.)				<input type="text"/>	
Natural baits (worms, sardines, anchovies, shrimps, etc.)				<input type="text"/>	
Travel and accommodation (train, plane, car, hotels, etc.)				<input type="text"/>	
License fee				<input type="text"/>	
Boat fishing					
Equipment (rods, hooks, reels, cast nets, etc.)				<input type="text"/>	
Artificial baits (jigs, lures, spinner baits, etc.)				<input type="text"/>	
Natural baits (worms, sardines, anchovies, shrimps, etc.)				<input type="text"/>	
Travel and accommodation (train, plane, car, hotels, etc.)				<input type="text"/>	
License fee				<input type="text"/>	
Boat rental				<input type="text"/>	
Charter				<input type="text"/>	
Fuel				<input type="text"/>	
Taxes				<input type="text"/>	
Electronics				<input type="text"/>	
Boat maintenance				<input type="text"/>	
Underwater fishing					
Equipment (speargun, fins, mask, wetsuit, etc.)				<input type="text"/>	
Travel and accommodation (train, plane, car, hotels, etc.)				<input type="text"/>	
License fee				<input type="text"/>	
Boat rental				<input type="text"/>	
Charter				<input type="text"/>	
Fuel				<input type="text"/>	
Taxes				<input type="text"/>	
Electronics				<input type="text"/>	
Boat maintenance				<input type="text"/>	

Onsite surveys

The locations (harbors, beaches, etc.) can vary and hence it is important to include all sites with potential fishers in the sample frame. It could be important as a means of validating and integrating the data acquired through offsite surveys and/or could be used to provide additional independent data on catch, size and species composition.

Number of fishers, Fishing area, Total fishing time, soak time and effort per gear, catches per gear (number and weight of specimens kept and/or released), total length of landed specimens, trips performed during the last year, willingness to be contacted for a recall/logbook survey (if yes, ask for telephone number)

Date:		Total Fishing Time	Start	End
Willingness particip. panel (Name & Telephone)		Fishing location		
N. fishers: <input type="checkbox"/> Male <input type="checkbox"/> Female	Age	Fishing trips performed previous year (by activity)		
Activities	Code	Soak time (hours)	No. of gears used	
Shore-based	Scoop net	S_SCN		
	Collection by hand	S_HAC		
	Knives, harpoons	S_HAR		
	Cast net	S_CAS		
	Beach seines	S_SEI		
	Hooks (rod and/or handline)	S_HOO		
Boat-based	Traps	S_TRA		
	Set nets	B_NET		
	Hooks (rod and/or handline)	B_HOO		
	Longline	B_LON		
Underwater	Traps	B_TRA		
	Speargun, harpoons	U_HAR		
	Collection by hand	U_HAC		
Act. Code	Species	N. Landed	Weight Landed (kg)	N. Released
Comments:				

Onsite surveys

The locations (harbors, beaches, etc.) can vary and hence it is important to include all sites with potential fishers in the sample frame. It could be important as a means of validating and integrating the data acquired through offsite surveys and/or could be used to provide additional independent data on catch, size and species composition.

Weakness:

- Fishers might be reluctant to be interviewed (this handbook includes instructions on how approach them) and to let interviewers measure his catches

Date:		Total Fishing Time	Start	End
Willingness particip. panel (Name & Telephone)		Fishing location		
N. fishers:	♂	Age	Fishing trips performed previous year (by activity)	
	♀			
Activities	Code	Soak time (hours)	No. of gears used	
Shore-based	Scoop net	S_SCN		
	Collection by hand	S_HAC		
	Knives, harpoons	S_HAR		
	Cast net	S_CAS		
	Beach seines	S_SEI		
	Hooks (rod and/or handline)	S_HOO		
	Traps	S_TRA		
Boat-based	Set nets	B_NET		
	Hooks (rod and/or handline)	B_HOO		
	Longline	B_LON		
	Traps	B_TRA		
Underwater	Speargun, harpoons	U_HAR		
	Collection by hand	U_HAC		
Act. Code	Species	N. Landed	Weight Landed (kg)	N. Released
Comments:				

Conclusions

Based on the best available information in the Med&BS we would suggest the following complemented survey design

Complete list
of fishers

- License system
- Telephone survey

Panel

- Logbook
- Recall 1 month

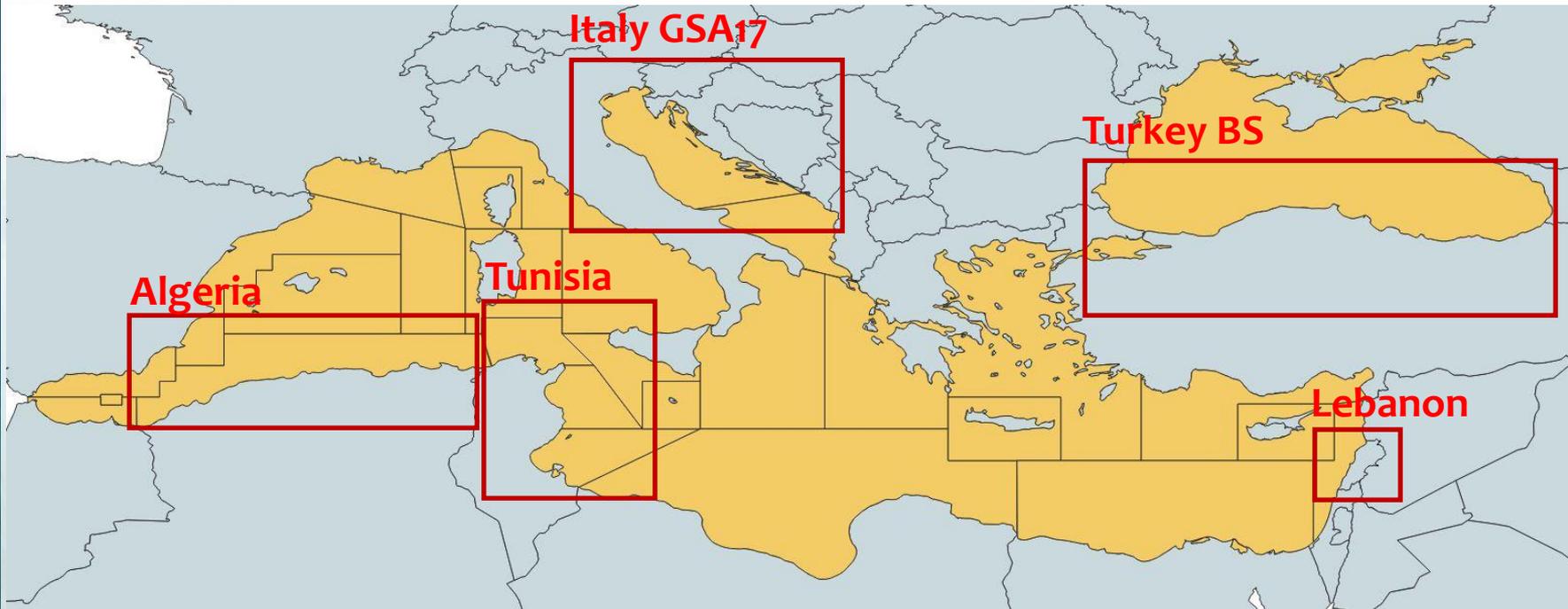
Onsite
survey

- Integration of data collected with logbook and/or recall
- Enrollment of fishers for a second panel

During the early years of the data collection it would be better to:

- a) Set up a simple but effective method, being flexible enough to make customizations as required and moving to more advanced survey techniques in due time
- b) Perform multispecies survey to have a complete picture of catches and identify priority species

Pilot studies



- The methodology proposed in the Handbook will be tested in five pilot studies
- Feedback from pilot studies will be used to improve next versions of the Handbook

WHAT'S
NEXT?





***Thank you for
your attention***