Food and Agriculture Organization of the United Nations

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

THE STATE OF MEDITERRANEAN AND BLACK SEA FISHERIES 2018

AT A GLANCE

Contents

This booklet contains the main points of the publication ***The State of Mediterranean and Black Sea fisheries* 2018**. The numbering of the tables and figures corresponds to this publication. The State of Mediterranean and Black Sea fisheries 2018 (full text) is available at: http://www.fao.org/gfcm/publications/somfi/2018.

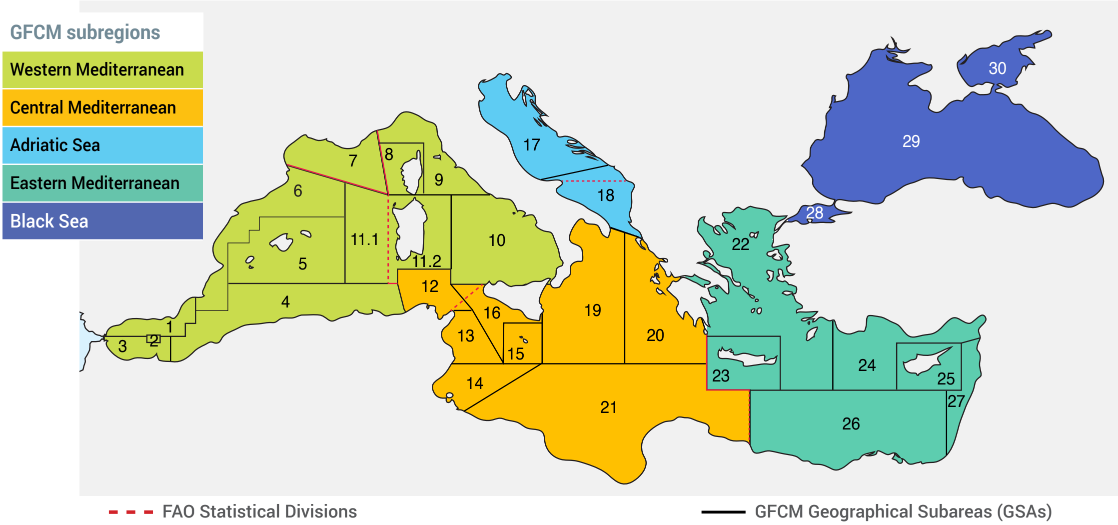
Introduction

The Mediterranean and the Black Sea have sustained important fisheries activities since ancient times. Today, industrial, semi-industrial and small-scale fisheries coexist in the region, using a large variety of fishing gear. In contrast with other major fishing areas, Mediterranean and Black Sea fisheries generally lack large mono-specific stocks, and instead exploit a variety of benthic and pelagic stocks of fish, as well as molluscs and crustaceans. In addition, since the Mediterranean and the Black Sea are semi-enclosed seas, with an overall lack of exclusive economic zones (EEZs) and consequently with stocks that are often shared among fleets from different countries, the fishery sector has always played an important role in the region. In fact, despite its relatively low economic output compared to other economic activities in the region (e.g. tourism, oil and gas exploration), the annual production of roughly 1.22 million tonnes offers employment opportunities to several hundred thousand people, supplies seafood products for human consumption to local and regional markets, and creates many other indirect benefits, maintaining the social fabric of coastal communities. Fisheries are also an intrinsic part of the cultural landscape of Mediterranean and Black Sea countries.

However, the sustainability of Mediterranean and Black Sea fisheries is threatened in particular by the effects of increased pollution from human activities, habitat degradation, the introduction of non-indigenous species, overfishing and the impacts of climate-driven changes to the marine environment and ecosystems. The dramatic ecosystem changes that have recently occurred, especially in the Black Sea in the past few decades, are testimony to the need to account for these different processes and stressors when managing fisheries in the region, in line with an ecosystem approach to fisheries (EAF).

The GFCM biennial series *The State of Mediterranean and Black Sea Fisheries* (SoMFi) is now at its second issue. The first report – published in 2016 following a request by GFCM contracting parties – proved to be a reference for experts, scientists, policy-makers and stakeholders both within and outside the region, seeking up-to-date and reliable information on the status of Mediterranean and Black Sea marine resources. It is a useful instrument for monitoring progress towards achieving GFCM objectives and thus supporting strategic decision-making. SoMFi can be seen as a magnifying glass on the Mediterranean and the Black Sea (FAO major fishing area 37), and a complement to the FAO global reference series *The State of World Fisheries and Aquaculture* (SOFIA).

SoMFi 2018 presents information mostly up to 2017, taken from data officially submitted to the GFCM by its membership and other sources. Data are analysed at different levels of aggregation, and particular attention is paid to address the main vessel categories and species. Information is provided at different spatial scales in order to facilitate analyses at the regional, subregional and national levels. At the regional scale, summaries are presented to provide a general overview of relevant aspects of fisheries in the entire GFCM area of application (the Mediterranean and the Black Sea). At the subregional level, the report provides a comparative analysis of the main characteristics in the western, central and eastern Mediterranean, the Adriatic Sea and the Black Sea. It also includes information for policy-makers at the level of states and relevant non-state actors, and it is expected to become an important reference for all stakeholders involved or interested in the sustainability of Mediterranean and Black Sea fisheries.



GFCM GSAs

01 - Northern Alboran Sea	07 - Gulf of Lion	13 - Gulf of Hammamet	19 - Western Ionian Sea	25 - Cyprus
02 - Alboran Island	08 - Corsica	14 - Gulf of Gabes	20 - Eastern Ionian Sea	26 - South Levant
03 - Southern Alboran Sea	09 - Ligurian Sea and Northern Tyrrhenian Sea	15 - Malta	21 - Southern Ionian Sea	27 - Eastern Levant Sea
04 - Algeria	10 - South and Central Tyrrhenian Sea	16 - South of Sicily	22 - Aegean Sea	28 - Marmara Sea
05 - Balearic Islands	11.1 - Sardinia (west) 11.2 - Sardinia (east)	17 - Northern Adriatic Sea	23 - Crete	29 - Black Sea
06 - Northern Spain	12 - Northern Tunisia	18 - Southern Adriatic Sea	24 - North Levant Sea	30 - Azov Sea

Source: GFCM 2018.

FIGURE 1 – GFCM area of application, subregions and geographical subareas

PART 1
Overview of the status and trends of Mediterranean and Black Sea fisheries

Part I of SoMFi provides an overview of status and trends, describing the current composition of the Mediterranean and Black Sea fishing fleet, the overall capture fisheries production, the economic performance and socio-economic characteristics of capture fisheries, bycatch (both discards and incidental catches of vulnerable species) and an analysis of the status of the stocks.

1. Fishing fleet

The Mediterranean and Black Sea fishing fleet has decreased slightly in size, and it continues to be largely comprised of small-scale vessels.

SoMFi 2018 shows that some 86 500 fishing vessels currently operate in the Mediterranean and the Black Sea. This number has decreased by around 6 000 (6 percent) in the last two years, due to the efforts of several countries to match their fleet capacity to the available resources.

Even so, it is probable that the real size of the fleet is larger: data are still lacking for some states, particularly on small-scale fisheries. The GFCM is engaging with its contracting parties to improve the quality of national fleet data submitted, providing wide-ranging technical guidance and on-the-ground assistance, ensuring that robust data collection protocols are standardized. The additional information gathered through this engagement continues to improve overall understanding of regional trends.

The latest figures show that more than half of the vessels operate in the eastern and central subregions, while a further third are split between the Aegean Sea, the Black Sea and the Northern Adriatic Sea. Mediterranean and Black Sea fleet is dominated by Turkey, Italy and Tunisia, who between them account for about 50 percent of the total fishing capacity in the region. Greece, Algeria and Spain also have substantial fleets.

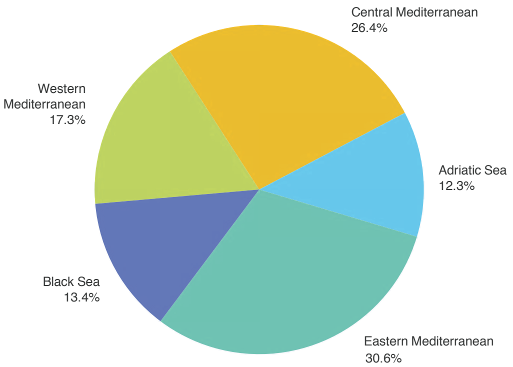


FIGURE 4 – Percentage of operating fishing vessels by GFCM subregion

As well as varying widely in size, different countries' fleets vary in age. Romania has the newest fleet, at an average of just 12 years per vessel, although it is small. Turkey has the largest fleet in the region, making up 17.8 percent of the total, and it is also relatively new at an average age of 22 years. The second largest fleet, Italy, by contrast averages 34 years; while Albania's small fleet is the oldest of all at 43 years.

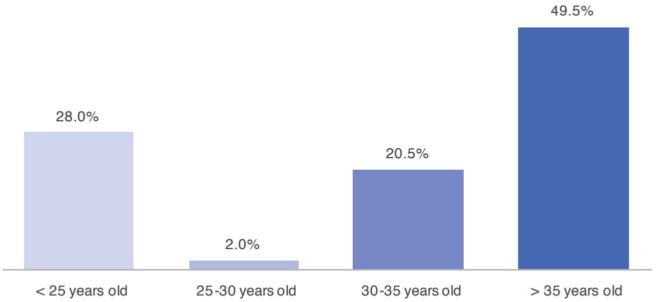


FIGURE 5 – Average age of fishing fleet in the Mediterranean and the Black Sea

Both the Mediterranean (78 percent) and the Black Sea (91 percent) fleets are dominated by multipurpose vessels. These are generally crewed by artisan fishers who use traditional methods to target a variety of species. In the Mediterranean, trawlers are the next most common class of vessels at 8.6 percent of the total fleet, while purse seiners and pelagic trawlers represent 4.7 percent of the total Black Sea fleet. These figures reflect the adaptation of the fleet to the characteristics of each basin: anoxic conditions in the Black Sea cause demersal resources to only inhabit shallow areas (up to 60–100 m depth) and the ecosystem being dominated by small pelagic species, hence a dominance of small-scale vessels and pelagic trawlers. In the Mediterranean, by contrast, there is a much larger area available for trawling and, although multipurpose vessels continue to dominate, the next segment is trawlers.

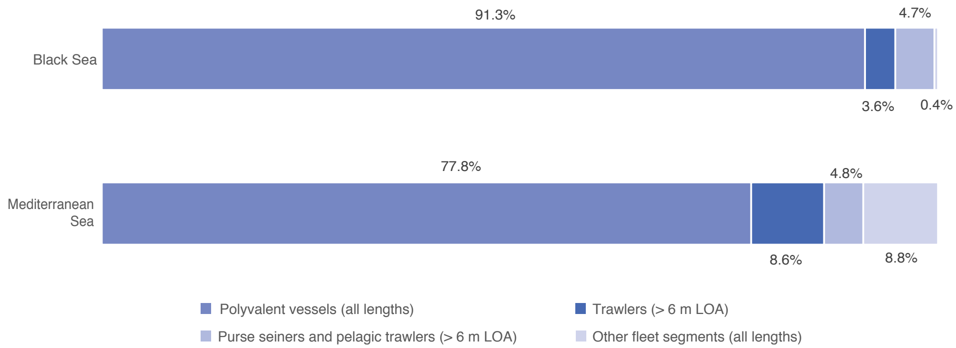


FIGURE 7 – Percentage of fleet segments operating in the Mediterranean and in the Black Sea

GFCM PRIORITIES

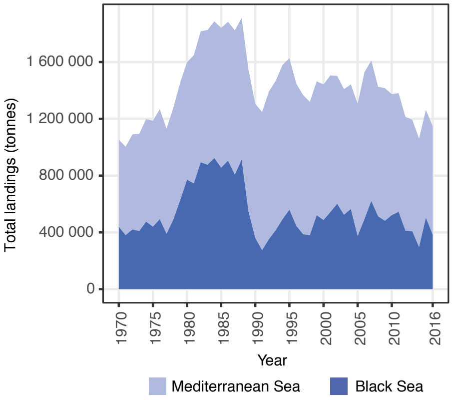
- Provide technical support and promote initiatives to build a more detailed understanding of small-scale fisheries;
- Align fleet capacity to the productivity of fisheries resources at regional and subregional scale; and
- Advocate for decent work in fisheries, including by promoting studies on safety at sea and vessel age.

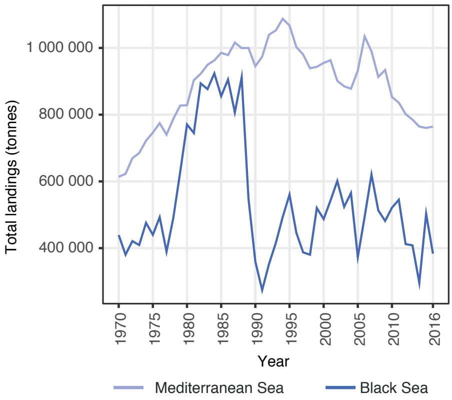
2. Capture fisheries production

The average annual catch in the Mediterranean and the Black Sea has fallen since the last report in 2016.

During the 2014-2016 period analysed in SoMFi 2018, an average annual total of 1 220 000 tonnes of fish was landed in the Mediterranean and the Black Sea combined. This is slightly higher than the landings in 2013 reported in SoMFi 2016 but lower than the annual average of 1 473 429 tonnes for the 2000–2013 period.

Landings used to be much higher. In 1982, the total catch reached almost 2 million tonnes, and continued at a similar level until an abrupt decline that began in 1989 with the collapse of pelagic fisheries in the Black Sea. After that, landings have generally been fluctuating, with an exceptional low in 2014 (300 000 tonnes) and reaching 390 000 tonnes in 2016. Landings in the Mediterranean continued to rise until 1994, reaching over a million tonnes, but they have since fallen to 830 000 tonnes. The reduction in landings and the current largely static phase reflects the general fact that Mediterranean and Black Sea fisheries are exceeding the maximum sustainable yield of the different fish stocks; although countries have also taken management measures to reduce pressure in particular fisheries.





Note: On the left, cumulative trends from both areas; on the right, trends by area.

FIGURE 11 – Trends in landings in the Mediterranean and the Black Sea, by year, 1970–2016

The dominant countries in terms of production continue to be Turkey, Italy, Tunisia, Algeria, Spain and Croatia reflecting the importance of their fishing sectors and their access to existing fisheries resources. Overall, national landing trends have largely remained similar since 2013, although Tunisia has increased from 7 to 9% and Croatia has doubled its relative share of capture fisheries production from 3% to 6%.

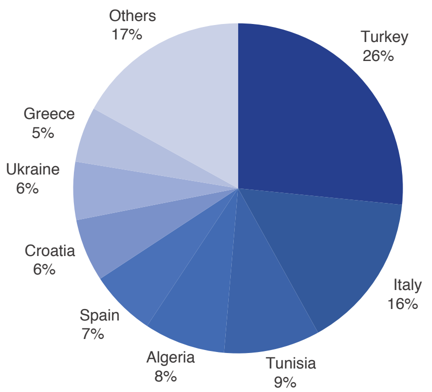


FIGURE 15 – Countries contributing to at least 5 percent of total captures in the GFCM area of application, average landings in 2014–2016

The breakdown of the overall catch has changed little since 2013. Small pelagic fish (mainly sardines and anchovies) represent 55 percent of the total amount, with other coastal fishes adding a further 13 percent. However, populations of these small pelagics vary widely from one year to the next, which is the main reason why catch levels show marked regional variation. Other species groups – including squid, cuttlefish, octopus, clams cockles, arkshells and shrimps and prawns – comprise the additional 32 percent.

There is still work to be done to understand the composition of landings, including the location of catches and in some cases the identification of species caught. Also, more information is needed on illegal, unreported and unregulated (IUU) fishing – but by definition this is more difficult to monitor. The GFCM is acting to improve the situation, including through the assessment of the quality of national landing data and the

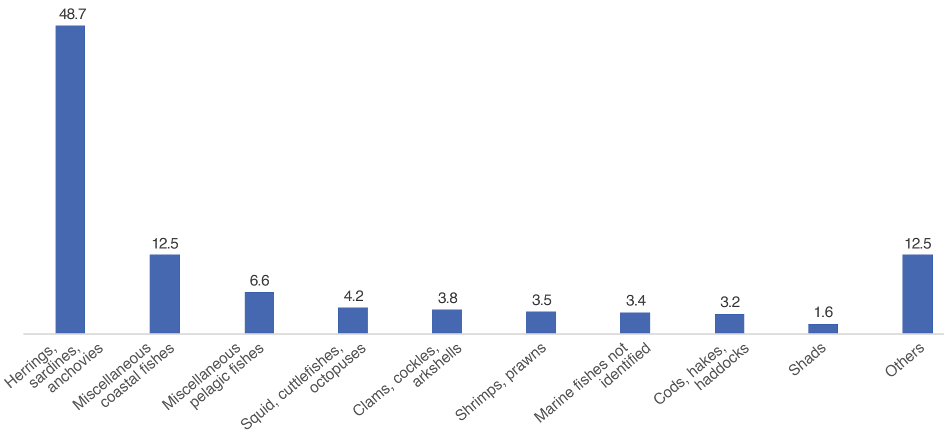


FIGURE 19 – Landings, by group of species (ISSCAAP) in the GFCM area of application, average values (percent) in 2014–2016

evaluation of IUU catches by area, aiming for greater precision and accuracy of reporting and analysis. This will in turn inform targeted management interventions that enable better conservation of vulnerable stocks and improve the profitability of fisheries.

GFCM PRIORITIES

- **Monitor regional changes in overall catch to identify areas for priority stock conservation and also new potential for sustainable exploitation;**
- **Improve data quality and the spatial characterization of catches, to hone species-level knowledge; and**
- **Assess IUU fishing and its effects on resources and coastal economies.**

3. Socio-economic characteristics

Larger vessels generate most of the economic rewards from fisheries in the Mediterranean and the Black Sea, despite offering fewer employment opportunities.

Marine capture fisheries in the Mediterranean and Black Sea produce a total estimated annual revenue of USD 2.8 billion – this has decreased by around 10 percent since the release of SoMFi 2016. During the same period, jobs in the sector have increased by about the same proportion, with just under a quarter of a million (248 000) people employed today on board the region's fishing vessels.

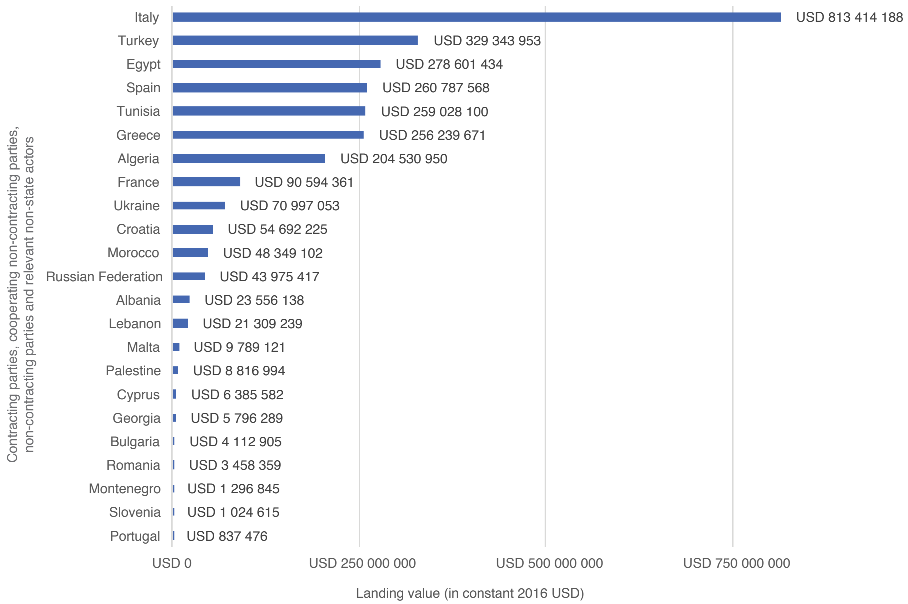


FIGURE 27 – Landing value at first sale by CPCs and relevant non-state actors

However, both the annual revenue and the direct employment represent only a small part of the wider socio-economic impact of fisheries in this region, with the economic impact being estimated to be at least 2.6 times the annual revenue or approximately USD 7.3 billion. The estimation of these region-wide figures still includes many uncertainties and it is not clear if the changes observed in revenue and employment reflect a real change, rather than simply being the result of more accurate and comprehensive

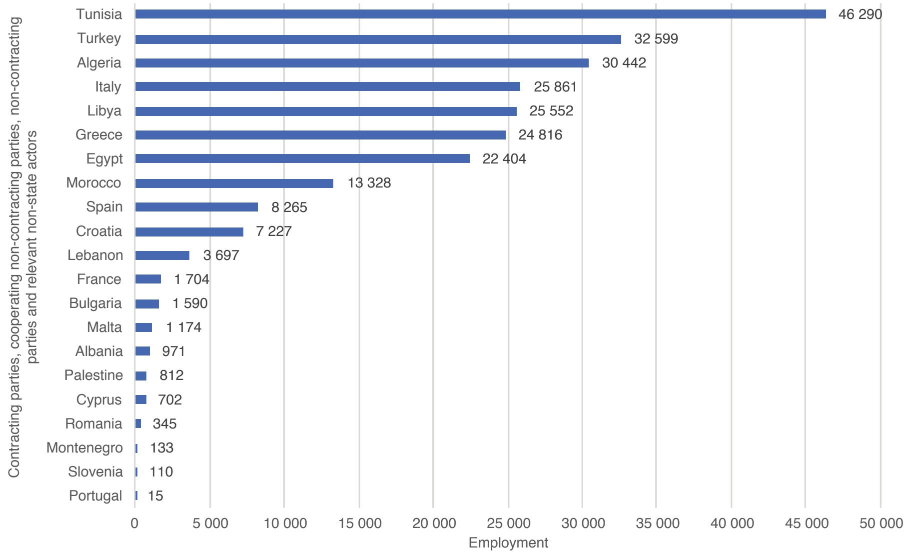


FIGURE 38 – Total employment onboard fishing vessels

data collection since the last survey was carried out. The increase in the employment figure is likely, in part, a reflection of the increased number of countries reporting data. It is also worth noting that these figures do not include other fisheries labour, which may account for as much as half the sector's total employment.

The socio-economic figures in SoMFi 2018 highlight one particularly striking fact: although the fishing fleet is dominated by multipurpose small-scale vessels, larger vessels take most of the economic rewards. Trawlers and purse-seiners together generate two-thirds (64 percent) of total revenue, but provide only one-third (34 percent) of the jobs in the sector. Smaller multi-purpose vessels, on the other hand, provide employment for 54 percent of the region's fishers while generating only a quarter (26 percent) of total revenue.

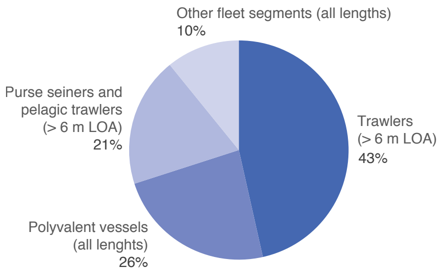


FIGURE 31 – Percentage of total landing value by vessel group in the GFCM area of application

This trend carries through into remuneration in the different vessel types: fishers on multi-purpose small-scale vessels earn only about half of what their peers in trawlers and purse seiners can expect to make. This is an important consideration for governments and fisheries managers: if Mediterranean

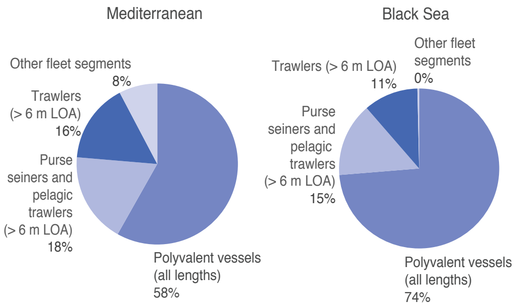


FIGURE 42 – Employment by vessel group by sea basin

and Black Sea fisheries are to provide sustainable livelihoods in future, then more must be done to improve the earning potential in the vessel groups which provide the most employment opportunities.

Despite the central importance of fisheries to regional economies, the majority of states bordering the Mediterranean and the Black Sea are in fact net importers of fish products. Only eight countries export more fish than they import: Morocco, the Russian Federation, Turkey, Tunisia, Croatia, Malta, Albania and Greece.

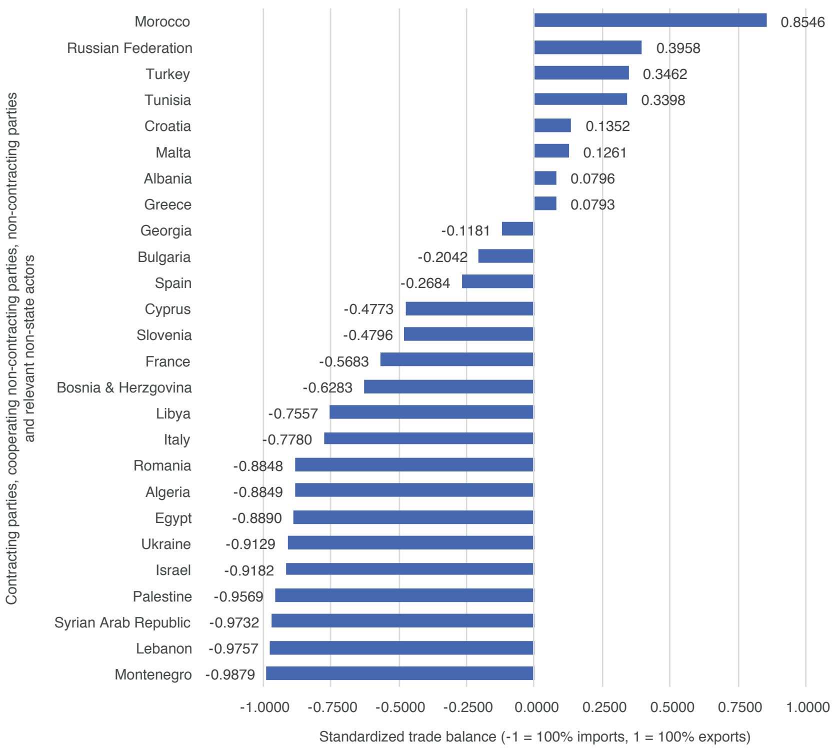


FIGURE 47 – Standardized trade balance

At well over USD 800 million, Italy's landing value at first sale is more than twice as high as any other country and represents around 30 percent of total regional revenue, but Italy too is a net importer.

GFCM PRIORITIES

- Work with governments to strengthen economic sustainability of small-scale fisheries and contribute to the wellbeing of coastal communities;
- Contribute to the FAO Strategic Objectives (e.g. reducing rural poverty, increasing livelihood resilience) and United Nations Sustainable Development Goals (e.g. gender equality, decent work and economic growth) through enhancing the fisheries sector, including small-scale fisheries; and
- Improve data collection to give a full picture of the fisheries sector's social composition and economic contribution.

4. Bycatch: discards and incidental catch of vulnerable species

More monitoring and information is key to reducing the negative impact of bycatch on marine ecosystems in the Mediterranean and Black Sea.

"Bycatch" refers to any marine creatures unintentionally captured alongside target species during a fishing operation. This could include other commercial species (often landed), non-commercial species (usually discarded at sea), and incidentally captured vulnerable species.

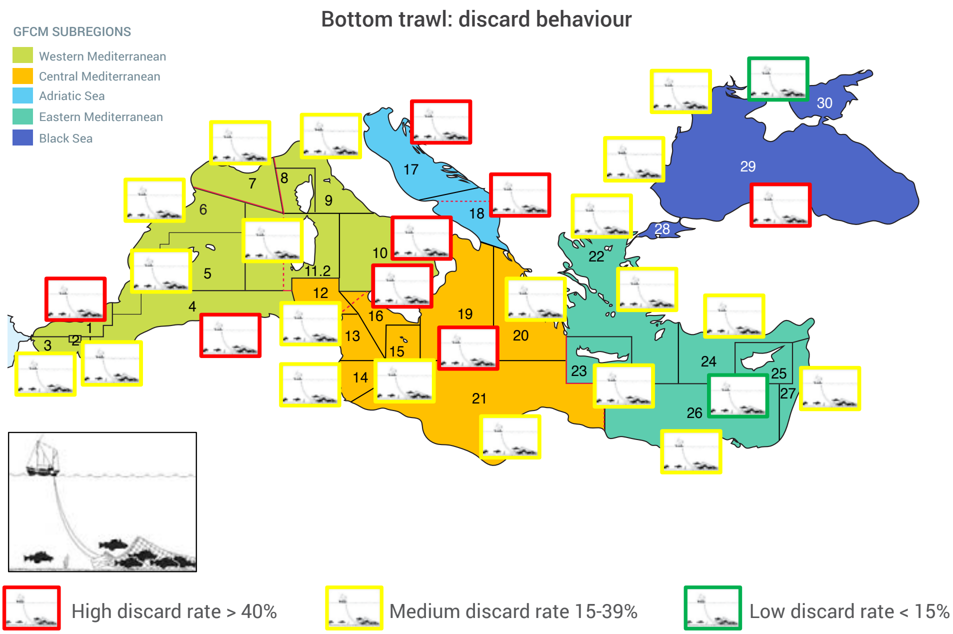
Discards in particular have negative environmental consequences, harming the marine ecosystem and wasting natural resources, while disproportionately comprising small, immature fish which will therefore not form part of the future breeding stock. Fisheries managers need a clear understanding of bycatch in order to understand the full impact of fishing activities, particularly in cases where overexploitation is taking place.

Discards make up a large proportion of bycatch. In the Mediterranean, annual discards are estimated at around 230 000 tonnes, equivalent to about 18 percent of the total catch landed. The figure is lower for the Black Sea, with 45 000 tonnes of discards or between 10–15 percent of the total catch. These percentages are large and affect the efficiency and sustainability of fisheries.

Trawlers – using active, non-selective gear – are responsible for the bulk of discards in the Mediterranean and the Black Sea, with rates above 40 percent in some areas. Small-scale fisheries are significantly less destructive, with discard rates generally below 10 percent for the main gear types (trammels, gillnets and small longlines).

Incidental catches of vulnerable species are on the other hand relatively rare events, but with important consequences, as the species caught are of conservation concern. Among the vulnerable species affected, sea turtles are the group of species more often mentioned in reports of incidental catches, although it is usually possible to release them alive. Sharks and rays are the next most frequently caught vulnerable species groups, while seabirds and marine mammals are only reported occasionally.

The picture remains incomplete as most studies only cover short periods of time and small areas. There is a need for more systematic and standardized monitoring of discards and incidental catches of vulnerable species for many types of fishing gear, countries and areas – aside from the western Mediterranean, information for most areas is in short supply.



Source: GFCM discard questionnaire and literature review.

FIGURE 54 – Discard rates (in percentage) for bottom trawl fisheries operating in the different geographical subareas

New bycatch monitoring programmes are being carried out in line with standardized methodologies developed by the GFCM. These will enable a better understanding of the impact of fisheries in the region, as well as highlight the main threats to conservation.

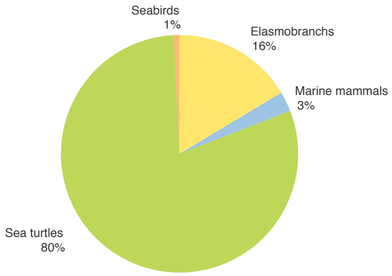


Figure 63 – Number of specimens (in percentage), by group of vulnerable species, reported as bycatch in scientific publications (preliminary analysis)

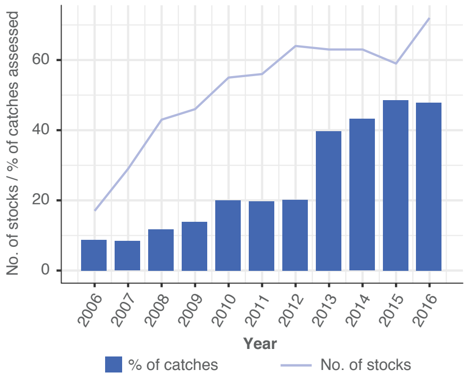
GFCM PRIORITIES

- Step up training of data collectors and roll out standard monitoring programmes to build detailed picture of regional bycatch impacts;
- Increase scientific observers on commercial fishing vessels;
- Focus on reducing discards and incidental catches of vulnerable species by promoting fishing activities that reduce bycatch, including through more selective gear and the establishment of fisheries restricted areas; and
- Promote international knowledge-sharing on discard reduction and mitigation techniques.

5. Status of fishery resources

Nearly 80 percent of assessed stocks in the region are being overexploited, although this figure does represent an improvement since 2014.

The first challenge associated to the determination of stock status at a Mediterranean level is to assess as many stocks as possible. SoMFi 2018 shows a significant improvement in the number of assessments performed in recent years. Today, around 50 percent of the catches in the Mediterranean and Black Sea are assessed, which provides coverage of about 40 percent of management units for priority species.



Note: Stock units are defined as a combination between species and management units. Only validated and non-deprecated assessments (e.g. less than three years old for small pelagic species or five years old for demersal species) are considered in this plot; stock units for which several assessments exist in a given year are only counted once.

FIGURE 65 – Number of stock units (blue line) and percentage of declared landings assessed in 2006–2016

The findings of recent stock assessments are concerning, although they do give some grounds for optimism. A considerable majority of stocks assessed – 78 percent, including stocks of all priority species – are regarded as overexploited, which means more fish are being caught than the population can naturally replace. High as this percentage is, though, it has slightly decreased since 2014, when the figure was 88 percent. This reflects the difference recent management measures have made, but underlines the need to go further.

Almost half (47 percent) of stocks in the Mediterranean show low biomass: this may reflect the long time-frame over which they have been subject to overexploitation, diminishing their capacity to replenish. In the Black Sea, biomass estimates are only available for turbot, showing a clear improvement over the past three years.

The most seriously overexploited priority species is European hake in the Mediterranean, which – due to its presence in most trawl fisheries – shows an overexploitation rate 5.8 times higher than the target. Horse mackerel follows in both the Mediterranean and the Black Sea, while another emblematic species, turbot, is the most overexploited in the Black Sea.

Conversely, stocks which are fished within biologically sustainable limits mostly include small pelagic species (sardine and anchovy) and some stocks of red mullet and deep-water rose shrimp.

Even so, aside from hake, overexploitation indexes are decreasing in most priority species. In the Black Sea, while overexploitation remains serious, a

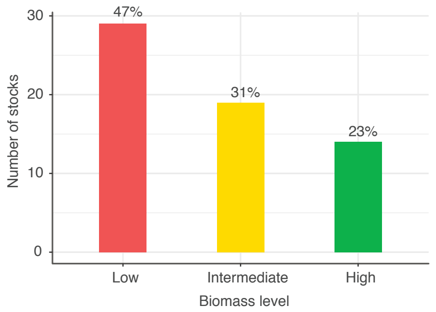


FIGURE 70 – Number of stocks (and percentage on top of the bars) at low, intermediate and high biomass levels in the Mediterranean Sea, based on information available for 62 stocks over a combination of 20 GSAs and 14 species

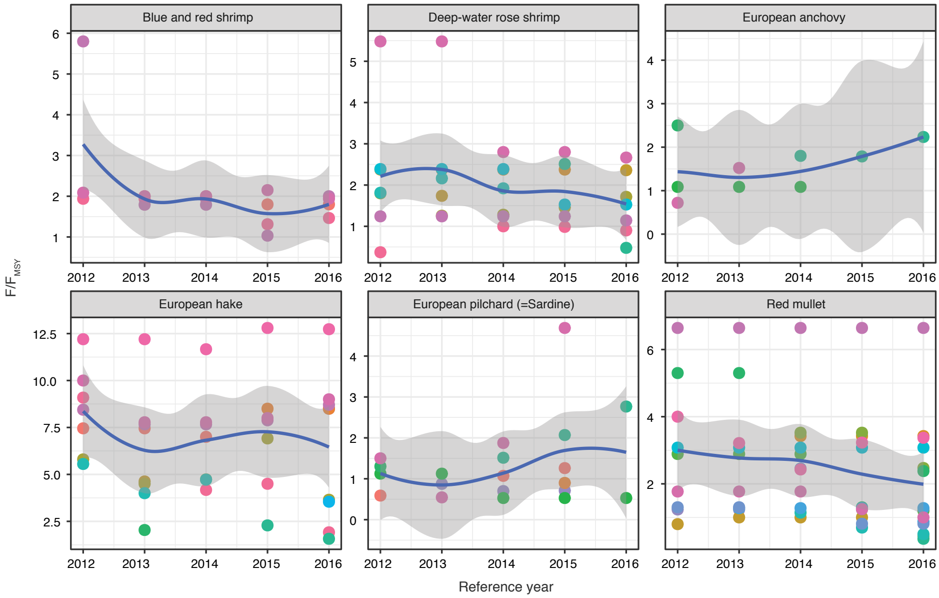
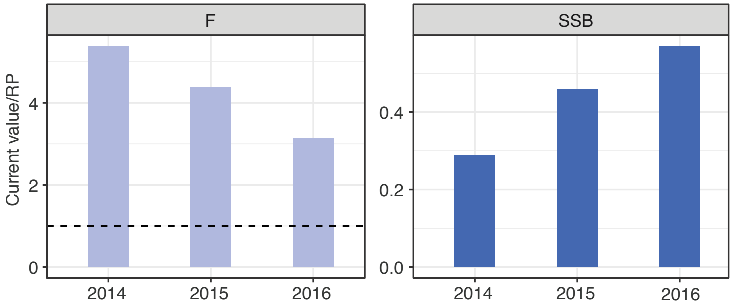


FIGURE 73 – Trend (Loess smoother) in the overexploitation index ($F_{current}/F_{MSY}$) of selected priority species in the Mediterranean Sea since 2013



Note: The dashed line represents F/ F_{MSY} = 1.

FIGURE 75 – Black Sea turbot: Yearly (reference year) progression in B/B_{MSY} (left) and F/ F_{MSY} (right) since 2014 in GSA 29

decrease in its index has been particularly marked for turbot; with only sprat showing a steady rise in recent years.

GFCM PRIORITIES

- Extend assessment coverage to all stocks of priority species and increase the percentage of catches assessed;
- Improve and speed up the collection of scientific evidence on status of resources and introduce benchmarking process to guarantee quality of the scientific advice supplied to managers; and
- Continue to promote efforts to reduce unsustainable exploitation of key stocks, including through the provision of precise advice on adequate management targets.

PART 2
Management of Mediterranean and Black Sea fisheries

Part 2 of SoMFi 2018 focuses on fisheries governance, with insights on small-scale fisheries – since they account for more than 80 percent of the Mediterranean and Black Sea fleet – and measures put in place by the GFCM to support sound fisheries management. It concludes with a summary of GFCM's contribution to the United Nations Sustainable Development Goals by reviewing progress in implementing the mid-term strategy towards the sustainability of Mediterranean and Black Sea fisheries.

6. Insights on small-scale and recreational fisheries

Small-scale fisheries continue to dominate the sector across the region, while better data is clearly needed on the impact of recreational fisheries.

Small-scale fisheries have deep traditional roots in the region, having supported livelihoods and food security in coastal communities for millennia. This is a role they continue to play, despite ever-increasing rural to urban migration. Small-scale coastal fisheries also contribute to local cultures around the Mediterranean and Black Sea, adding value to other important sectors including the restaurant and tourism industries.

Small-scale fishers represent 84 percent of the total regional fishing fleet, with 83 percent in the Mediterranean and 91 percent in the Black Sea. This comes to just over 70 000 vessels, which is a drop of around 4 000 vessels (5 percent) since the previous SoMFi report. Despite this reduced number of vessels, the employment they provide has increased by 9 percent (about 15 000 people), so about 60 percent of the region's fishers – a total of just under 150 000 – now work onboard in small-scale fisheries.

Despite clearly dominating the sector in terms of vessels and personnel, small-scale fisheries generate only 26 percent of total revenue (USD 633 million), even allowing for a

7 percent increase (USD 45 million) since SoMFi 2016. On the other hand, large-scale vessels account for 74 percent of revenue but only 40 percent of employment.

The changes in these figures do need to be treated with some care, however, since data submissions on small-scale fisheries have recently become much more complete and accurate: variations may in part be due to improved data collection. In order to improve the assessment of small-scale fisheries, there is a need to better characterize this sector and to enhance data collection, particularly in relation to social and economic aspects. A Regional Plan of Action for Small-Scale Fisheries in the Mediterranean and the Black Sea (RPOA-SSF) was adopted in Malta in September 2018 and sets forth a series of concrete actions to be implemented over the next 10 years. Among others, the need for better characterizing small-scale fisheries and further enhancing data collection is stressed.

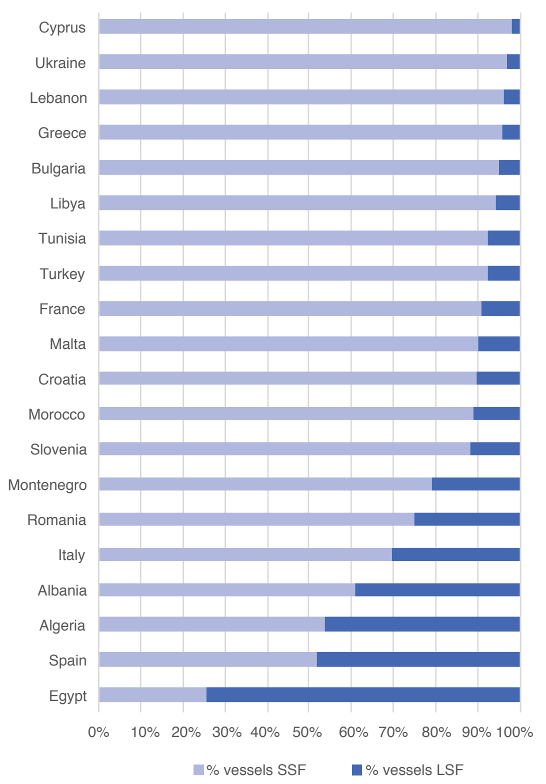


FIGURE 77 – Percentage of vessels from small-scale fisheries by contracting party and cooperating non-contracting party

In the case of recreational fisheries, data collection remains a challenge. Anecdotal evidence, however, suggests that recreational fishing activity may be having a significant impact in the region, but data is limited and collected in different ways across the region. Much better data – collected in line with a common methodology – is needed before the reality of the situation can be understood and addressed. The GFCM has developed a handbook to address the issue, and this will be piloted in selected countries in 2019.

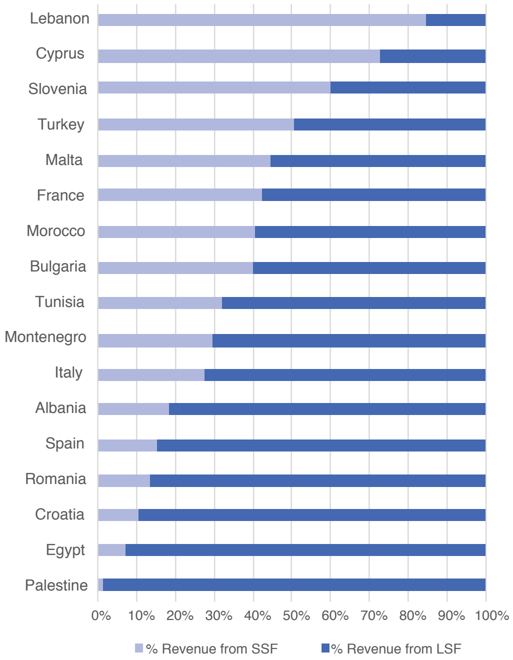


FIGURE 82 – Percentage of capture fishery production revenue from small-scale fisheries by contracting party and cooperating non-contracting partyand relevant non-state actor

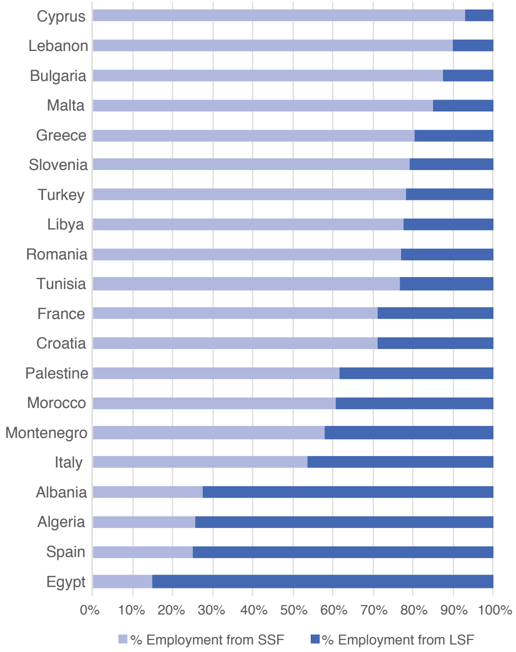


FIGURE 87 – Percentage of onboard employment from small-scale fisheries by contracting party and cooperating non-contracting party and relevant non-state actor

GFCM PRIORITIES

- Improve the characterization of small-scale fisheries;
- Expand assessment of the sector to increase understanding, particularly regarding social and economic features including employment, profitability and value chain, demographic trends and decent work; and
- Pilot the handbook for recreational fisheries data collection in the region, producing data on the biological and economic impact of these fisheries, with a view to providing advice on future action for the sector.

FIGURE 91 – Distribution of the main nekton family and group of species targeted by recreational fisheries across the GFCM subregions

7. Fisheries management measures

GFCM management plans are in place for several core fisheries, while steps are being taken to protect other important marine areas

Sustainable fisheries require detailed, long-term management plans to conserve stocks. These plans include a wide range of measures such as minimum landing size, catch limits, spatial and temporal closures etc. The first requirement, however, is detailed data and information on current exploitation: sound fisheries management depends on reliable scientific advice.

Most recently the GFCM has implemented four subregional management plans (small pelagic fisheries in the Adriatic Sea, demersal fisheries in the Strait of Sicily and deep-water red shrimp in the Levant and Ionian seas), two Mediterranean regional plans (red coral and European eel) and one Black Sea regional plan (turbot). These management plans are particularly timely, as evaluations show that continuing current fishing regimes would lead to the collapse of all the fisheries concerned. Work towards a management plan for blackspot seabream in the Alboran Sea is also well advanced.

Theoretically, these plans will allow the stocks to recover, returning some to levels only seen in the past. In some cases, a management strategy evaluation framework is developed to simulate the application of different measures and evaluate the trade-offs they entail – for example between reduced catches and increased biomass. The key challenge is then to translate hypothetical required changes in fishing mortality into practical measures that make a difference in the real world.

The GFCM also looks at the marine environment more broadly, beyond species-specific fisheries, and can safeguard important locations by designating them as fisheries restricted areas (FRAs). As of 2018, eight FRAs covering 22 500 km^2 have been established to protect essential fish habitats and deep-sea ecosystems of high ecological value, while spatial fishing restrictions have been implemented in additional coastal areas. A larger deep-sea FRA of more than 1.7 million km^2 has remained in place since 2005, protecting all sea bottoms below 1 000 m across the entire basin – this equates to almost 60 percent of the entire GFCM area of application.

Table 29 – Summary of the management measures contained in GFCM recommendations and in technical elements for management

Measures		Recommendations									Proposed in technical elements	
Type of measure	Measure	Small pelagics GSAs 17–18	Demersal resources GSAs 17–18	Demersal resources GSAs 12–16	Turbot GSA 29	Piked dogfish GSA 29	Blackspot seabream GSAs 1–3	Deep-water red shrimps GSAs 19–21; 24–27	European eel Mediterranean Sea	Red coral Mediterranean Sea	Deep-water red shrimps GSAs 12–16; 19–27	Protection of vulnerable marine ecosystems and management of deep-sea fisheries
Spatial restrictions	Closures/FRA to protect EFH	38/2014/1 40/2016/3 42/2018/8	41/2017/3	39/2015/2 40/2016/4 42/2018/5	41/2017/4		41/2017/2	42/2018/3 42/2018/4	42/2018/1	41/2017/5	✓	
	FRA to protect VMEs		41/2017/3								✓	✓
	Depth restrictions		29/2005/1	29/2005/1		36/2012/3 42/2018/2		29/2005/1		35/2011/2	✓ (29/2005/1)	✓ (29/2005/1)
	Precautionary closures								42/2018/1	41/2017/5		
Temporal restrictions	Temporal closures	38/2014/1 39/2015/1 40/2016/3 42/2018/8		40/2016/4 42/2018/5	41/2017/4	36/2012/3	41/2017/2		42/2018/1	41/2017/5	✓	
	Authorized number of fishing days/times	40/2016/3			41/2017/4							
Catch restrictions	Daily and/or annual catch limitation/TAC	40/2016/3			41/2017/4				42/2018/1	41/2017/5	✓	
	Habitat protection					36/2012/3					✓	
	Obligation to declare bycatch				41/2017/4			42/2018/3 42/2018/4				✓
	Elimination of discards			40/2016/4								
	Obligation to land all catches, including discards					39/2015/4						
Participatory restrictions	Register of fishing authorizations	37/2013/1 40/2016/3 42/2018/8		39/2015/2 40/2016/4 42/2018/5	41/2017/4		41/2017/2	42/2018/3 42/2018/4	42/2018/1	35/2011/2 36/2012/3	✓	
Effort restrictions	Fleet capacity	40/2016/3 42/2018/8		40/2016/4 42/2018/5			41/2017/2					
	Effort	40/2016/3 42/2018/8		40/2016/4 42/2018/5	41/2017/4		41/2017/2			41/2017/5		
Gear restrictions	Authorized gear types				37/2013/2				42/2018/1	35/2011/2	✓	
	Prohibited gear types				37/2013/2					35/2011/2		
	Gear characteristics				37/2013/2 41/2017/8 41/2017/4				42/2018/1		✓	
	Gear ID/marking				39/2015/3		41/2017/2					
Minimum reference conservation size		37/2013/1		39/2015/2 40/2016/4 42/2018/5		39/2015/4	42/2018/8			36/2012/1	✓	
Data collection obligations	Vessel characteristics	37/2013/1 40/2016/3		39/2015/2 40/2016/4 42/2018/5	41/2017/4	39/2015/4	41/2017/2				✓	✓
	Catch	37/2013/1		40/2016/4 42/2018/5	41/2017/4	36/2012/3 39/2015/4	41/2017/2	42/2018/3 42/2018/4	42/2018/1	35/2011/2 41/2017/5	✓	✓
	Effort	37/2013/1		39/2015/2 40/2016/4 42/2018/5	41/2017/4	39/2015/4	41/2017/2	42/2018/3 42/2018/4	42/2018/1	35/2011/2 41/2017/5	✓	✓

Table 29 (Continued)

Measures		Recommendations									Proposed in technical elements	
Type of measure	Measure	Small pelagics GSAs 17-18	Demersal resources GSAs 17-18	Demersal resources GSAs 12-16	Turbot GSA 29	Piked dogfish GSA 29	Blackspot seabream GSAs 1-3	Deep-water red shrimps GSAs 19-21; 24-27	European eel Mediterranean Sea	Red coral Mediterranean Sea	Deep-water red shrimps GSAs 12-16; 19-27	Protection of vulnerable marine ecosystems and management of deep-sea fisheries
Monitoring, control and surveillance	VMS (or other)			39/2015/2 40/2016/4 42/2018/5	40/2016/6		41/2017/2	42/2018/3 42/2018/4				✓
	Authorized ports/ landing points			40/2016/4 42/2018/5	39/2015/3			42/2018/3 42/2018/4	42/2018/1	36/2012/1		
	Logbooks	37/2013/1			40/2016/6 41/2017/4			42/2018/3 42/2018/4	42/2018/1	35/2011/2		
	Transhipment prohibition			42/2018/5		29/2005/1	41/2017/2	42/2018/3 42/2018/4				
	National inspection plan	42/2018/8		42/2018/5	39/2015/3			42/2018/3 42/2018/4				✓
	International inspection plan	42/2018/8		41/2017/8 42/2018/5	41/2017/4			42/2018/3 42/2018/4				
Other	Harvest control rule	GFCM 37/2013/1										
	Scientific research								42/2018/1	41/2017/5		

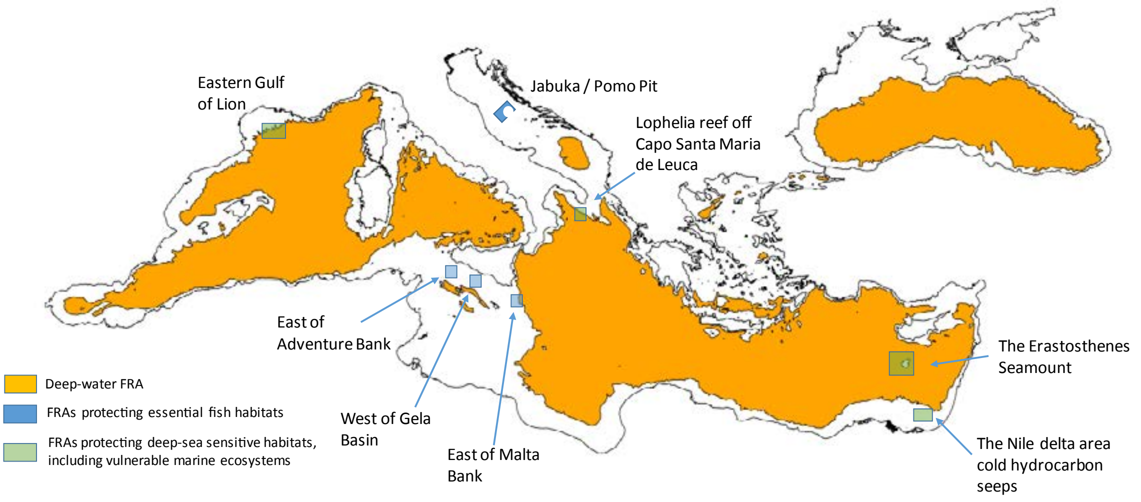


FIGURE 96 – Map of the GFCM fisheries restricted areas

GFCM PRIORITIES

- Adopt and implement robust management measures for key fisheries, in particular for those priority stocks where urgent actions are needed;
- Adopt and implement precautionary measures to ensure an adequate management framework throughout all the region;
- Minimize significant adverse impacts of fisheries on vulnerable ecosystems and ensure conservation of essential fish habitats to maximize the productivity of fish stocks;
- Develop and spread disseminate best practice in fisheries management across the region; and
- Increase monitoring, control and enforcement activities in FRAs.

8. The mid-term strategy towards the sustainablility of Mediterranean and Black Sea fisheries

The mid-term strategy towards the sustainability of Mediterranean and Black Sea fisheries is progressing on all fronts.

In 2016, the GFCM launched its first mid-term strategy to reverse the trend of over-exploitation of commercial fisheries in the region and improve coastal livelihoods by 2020.

The Mediterranean and Black Sea region is highly complex. Levels of development vary widely, and conflicts and turmoil have led to significant instability. For this reason, it is all the more important to ensure a robust strategy is in place for the region as a whole.

The mid-term strategy contributes directly to achieving the United Nations Sustainable Development Goals, particularly Goal 14 “Conserve and sustainably use the oceans, seas and marine resources for sustainable development”.

During 2017–2018 all the activities comprising the strategy were launched, and are either in progress, well advanced or – in some cases – completed. The next two years will see consolidation across the board.

Key to the success of the mid-term strategy is the creation of successful partnerships: joint projects promoting synergies between diverse stakeholders have greater reach than isolated initiatives. Political backing is also important. To underline their support for the strategy, 16 Mediterranean countries signed the Malta MedFish4Ever Declaration in 2017; a move followed the next year in the Black Sea with the Sofia Declaration.

- Scientific advice is improved, with more stocks and areas assessed (see Chapter 5).
- Science-based regulations are strengthened and more fisheries are subject to multiannual management plans (see Chapter 7).
- Expertise on fisheries science is increased to improve the technical capacity to assess the status of resources at the national, subregional and regional levels.

- Impacts of small-scale and recreational fisheries on marine resources and interactions with other activities are assessed (see Chapter 6).
- Coastal communities are strengthened through livelihood diversification, market access and decent working conditions.
- Small-scale fishers involved in decision-making through participatory mechanisms.

- Compliance with measures in place for sustainable fishing practices is reinforced.
- Modular monitoring, control and surveillance (MCS) is enhanced with the operationalization of a regional vessel monitoring and control system.

- Litter is minimized from fishing activities, in particular abandoned, lost or otherwise discarded fishing gear.
- Awareness is raised on the impacts of marine litter on marine ecosystems in general, and commercial fish and shellfish in particular, and on possible corrective actions.
- Fishers are involved in marine litter mitigation activities, such as removal of marine litter ("fish for litter").

- Vulnerable marine ecosystems are protected from significant adverse impacts from fisheries, and any potentially harmful effect of fisheries on marine biodiversity and ecosystems is minimized through targeted measures.
- Bycatch of unwanted and vulnerable species is reduced through selected fishing gear.
- Combined effects of climate change and other direct and indirect anthropogenic impacts are mitigated through adaptation strategies.
- Species of conservation concern, such as European eel or red coral, are adequately managed at the Mediterranean level to ensure sustainability (see Chapter 7).

- Illegal, unreported and unregulated (IUU) fishing is curbed through reinforced inspections and a regular assessment of IUU activities.
- Fisheries are sustainably managed through an improved science-policy interface and science-based decisions (see Chapter 7).

- New fisheries restricted areas (FRAs) are identified and established to protect priority areas and ecosystems (see Chapter 7).
- Synergies are promoted with relevant international organizations to jointly work on conservation of key areas.

- Profitability of fisheries is secured through management plans based on robust biological and socio-economic information.
- Management strategy evaluation is systematically applied to assess the economic, social and biological implications of management scenarios (see Chapter 7).

FIGURE 97 – The mid-term strategy's contribution to achieving SDG 14 targets

GFCM PRIORITIES

There are five core targets in the mid-term strategy itself:

1. Reverse the declining trend of fish stocks through strengthened scientific advice in support of management

The GFCM is playing an increasingly important role in researching, setting and adopting binding recommendations on Mediterranean and Black Sea fisheries, based on sound scientific advice, with sustainability as the main aim.

2. Support livelihoods for coastal communities through sustainable small-scale fisheries

The GFCM is gathering data and promoting dialogue to help frame policies which improve socioeconomic conditions in small-scale fishing communities.

3. Curb illegal, (IUU) fishing, through a regional plan of action

Political and operational commitments under a holistic regional plan are needed to fight IUU fishing: the GFCM has developed this plan and is enhancing regional monitoring, control and surveillance activities.

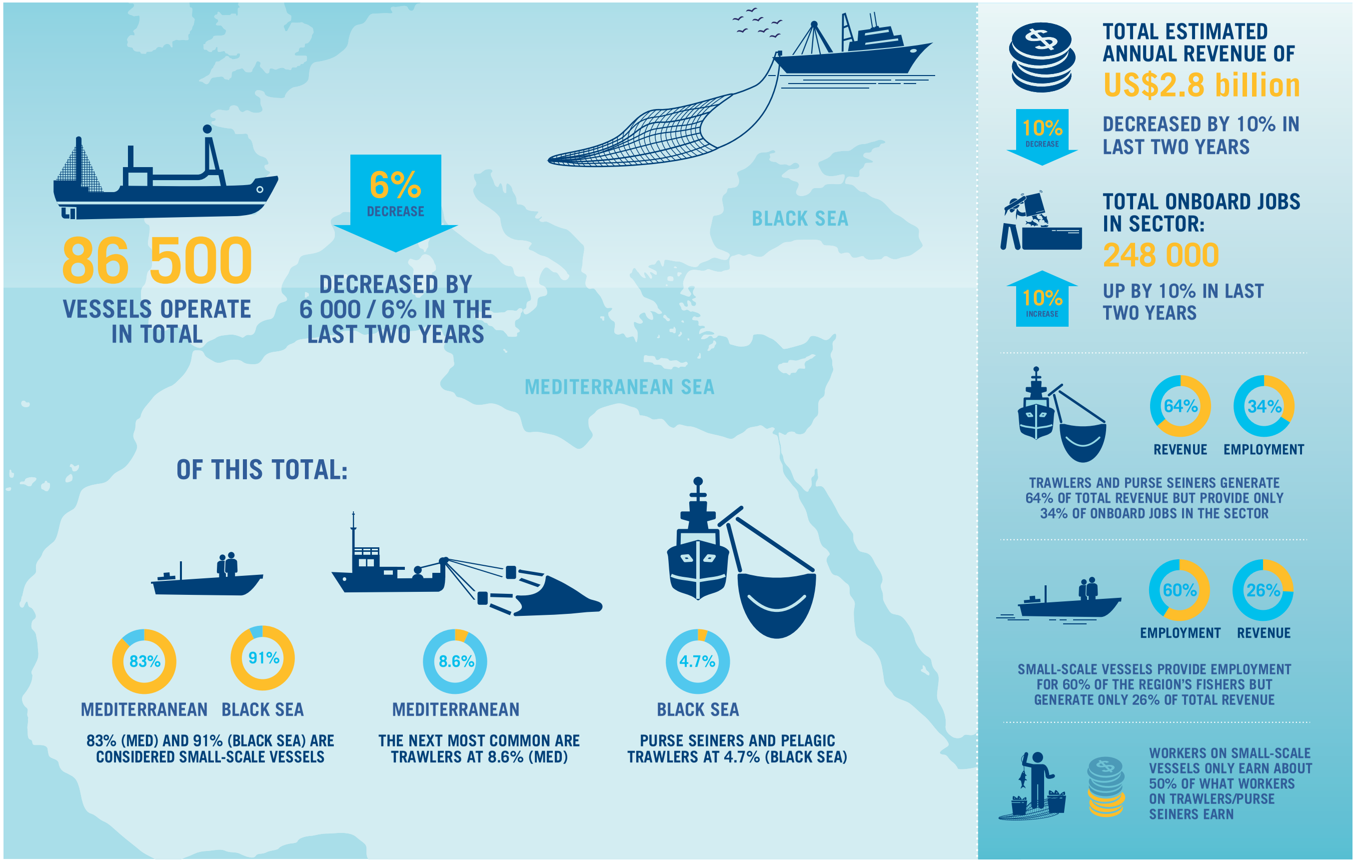
4. Minimize and mitigate unwanted interactions between fisheries and marine ecosystems and environment

The GFCM is taking a series of actions to create more productive, less environmentally damaging fisheries, while promoting healthy marine ecosystems and adaptation to other anthropogenic factors such as climate change and marine litter.

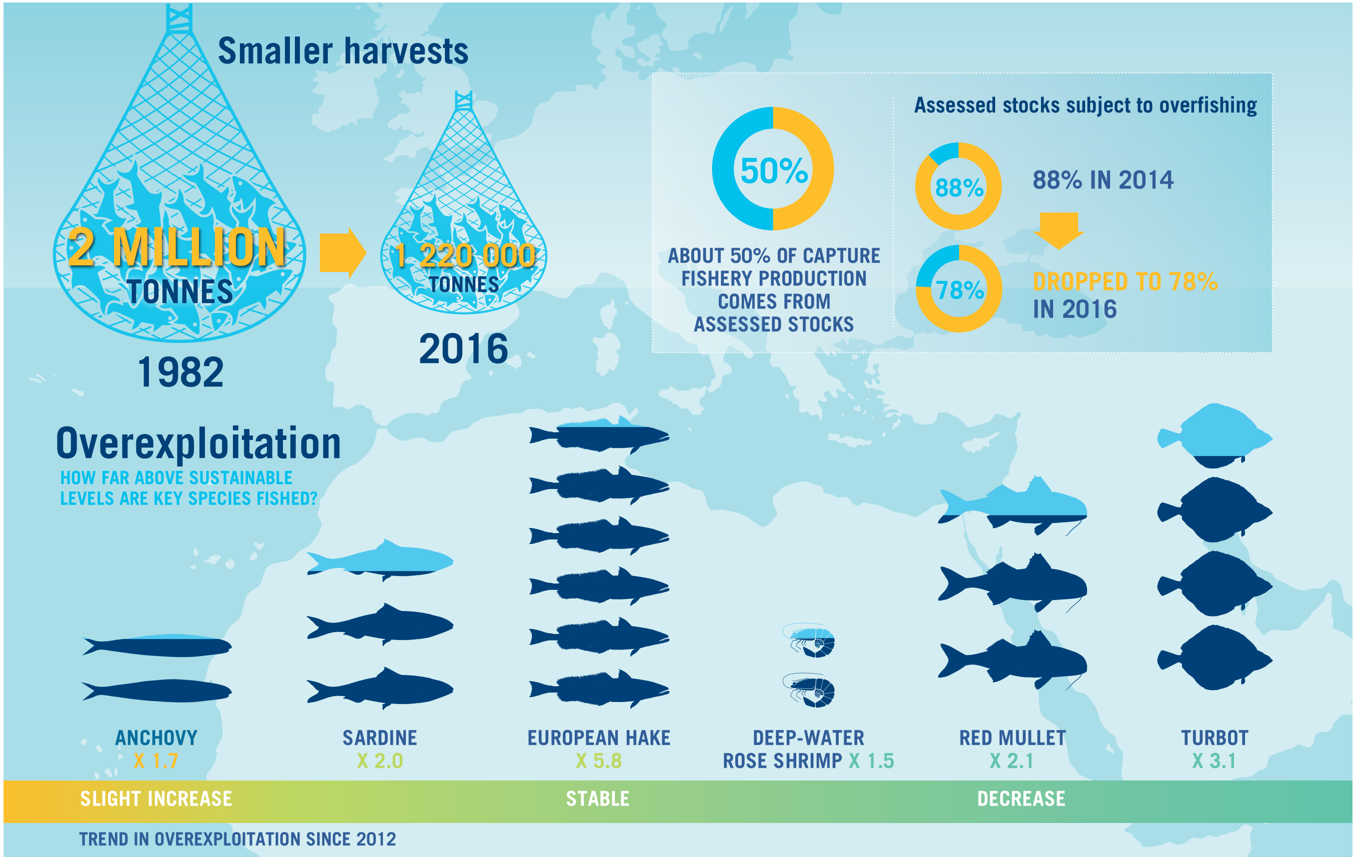
5. Enhance capacity-building and cooperation

The ambitious mid-term strategy implemented by the GFCM relies on scientific and technical cooperation between diverse stakeholders across the region. Promoting capacity-building towards a level-playing field – from agreeing common actions to knowledge-sharing and technical assistance – is at the core of GFCM's vision.

THE FISHING FLEET AND ITS ECONOMIC IMPACT



REGIONAL STOCK STATUS

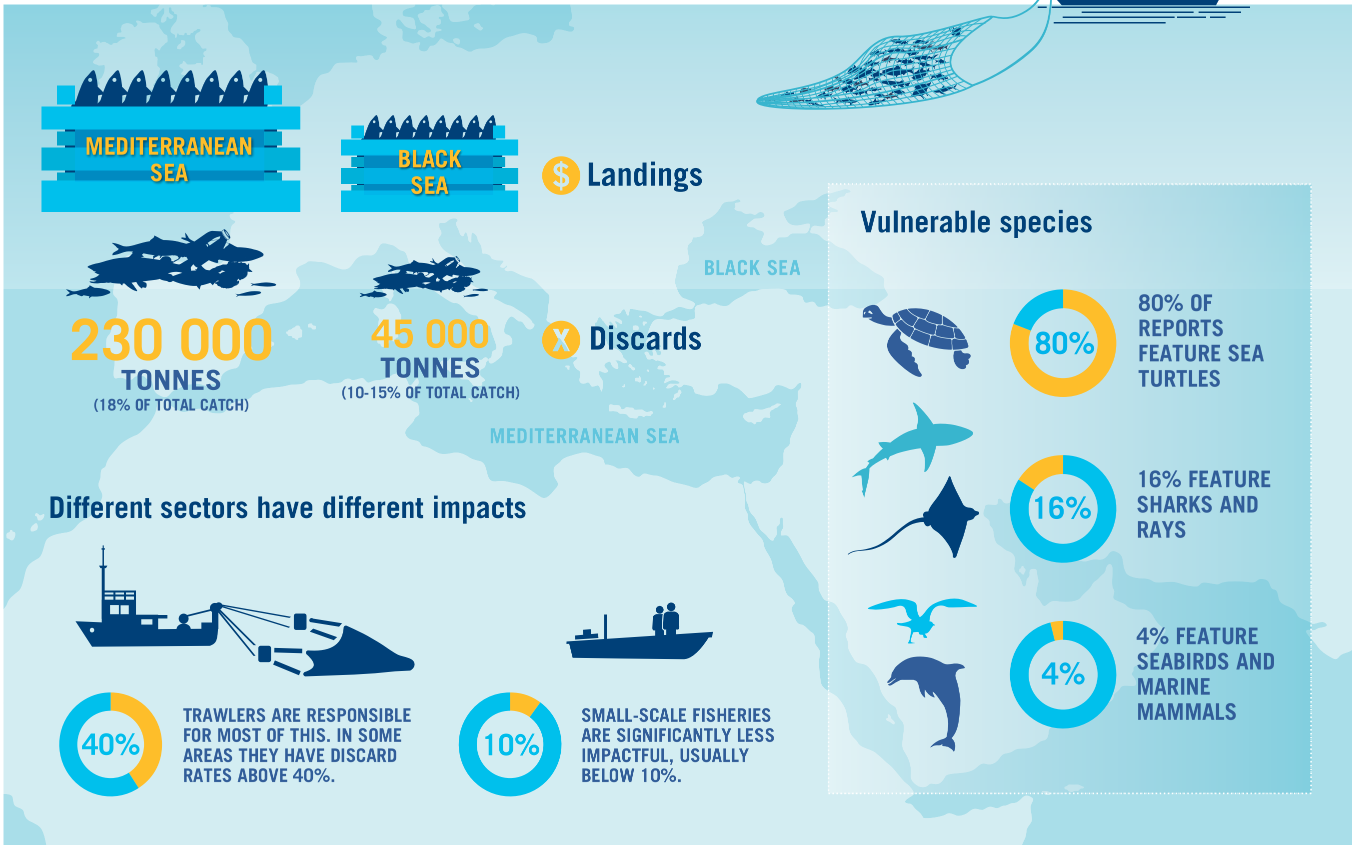


Food and Agriculture Organization of the United Nations

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

THE STATE OF MEDITERRANEAN AND BLACK SEA FISHERIES **2018**

BYCATCH: DISCARDS AND INCIDENTAL CATCHES OF VULNERABLE SPECIES



Food and Agriculture Organization of the United Nations

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

THE STATE OF MEDITERRANEAN AND BLACK SEA FISHERIES **2018**

MID-TERM STRATEGY TOWARDS SUSTAINABLE FISHERIES

THE GLOBAL GOALS
For Sustainable Development

The GFCM defined a course of decisive action aimed at reverting the negative trends observed in Mediterranean and Black Sea fisheries, by means of 5 targets:

1. **Reverse the declining trend of fish stocks**
   - Strengthened scientific advice
   - Multiannual management plans
   - Assessed socio-economic impacts
2. **Support livelihoods for sustainable small-scale fisheries**
   - Livelihood diversification, market access and decent working conditions
   - Participatory mechanisms
   - Profitable fisheries
3. **Curb illegal, unreported and unregulated (IUU) fishing**
   - Modular monitoring, control and surveillance
   - Regional standards for vessel monitoring and control practices
   - Reinforced inspections
4. **Minimize and mitigate unwanted interactions**
   - Focus on climate change, marine litter and non-indigenous species
   - Enhanced gear selectivity
   - Spatial management measures
5. **Enhance capacity building and cooperation**
   - Science-policy interface
   - Synergies with relevant international organizations
   - Training and technical assistance

5 GENDER EQUALITY | 8 DECENT WORK AND ECONOMIC GROWTH | 13 CLIMATE ACTION | 14 LIFE BELOW WATER

The mid-term strategy contributes to achieving the United Nations Sustainable Development Goals (SDGs), in particular relevant targets of SDG14:

- TARGET 14·A — INCREASE SCIENTIFIC KNOWLEDGE, RESEARCH AND TECHNOLOGY FOR OCEAN HEALTH
- TARGET 14·B — SUPPORT SMALL SCALE FISHERS
- TARGET 14·C — IMPLEMENT AND ENFORCE INTERNATIONAL SEA LAW
- TARGET 14·1 — REDUCE MARINE POLLUTION
- TARGET 14·2 — PROTECT AND RESTORE ECOSYSTEMS
- TARGET 14·4 — SUSTAINABLE FISHING
- TARGET 14·5 — CONSERVE COASTAL AND MARINE AREAS
- TARGET 14·7 — INCREASE THE ECONOMIC BENEFITS FROM SUSTAINABLE USE OF MARINE RESOURCES

Food and Agriculture Organization of the United Nations

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

THE STATE OF MEDITERRANEAN AND BLACK SEA FISHERIES 2018

The 2018 edition of *The State of Mediterranean and Black Sea Fisheries* (SoMFi 2018), the flagship publication of the GFCM, provides a comprehensive overview of regional and subregional trends in Mediterranean and Black Sea fisheries.

Bringing together data and indicators submitted by GFCM contracting parties and cooperating non-contracting parties on stock status, national catches, fleet and socio-economic aspects as well as information obtained from other sources, SoMFi 2018 aims to provide objective, reliable and up-to-date information to a wide audience and support decision-making in fisheries.

SoMFi 2018 is divided into eight chapters. The first analyses the current composition of the fishing fleet, including information on fleet capacity, vessel types and age classes. Next comes a detailed breakdown of overall capture fishery production with comparisons of the latest figures to data from previous years, highlighting significant changes and trends. The report then looks at what this means for regional economies and for the livelihoods of the people who depend on the fisheries sector. As small-scale fisheries make up a large majority of Mediterranean and Black Sea fisheries, they receive special focus.

SoMFi 2018 also provides the most detailed assessment yet of the state of fishery resources in the region. It shows the current status of the stocks, including those most at risk from overfishing, and looks at related issues like discards and incidental catches of vulnerable species. The report then highlights GFCM's strategic efforts to build long-term sustainability, as it works with its stakeholders to sustainably manage fisheries and improve coastal livelihoods across the region. Finally, SoMFi 2018 concludes with an overview of the important role fisheries have to play in achieving the United Nations Sustainable Development Goals, maintaining healthy ecosystems and productive fisheries.

With the financial support of

Cover photograph: ©GFCM/Claudia Amico

CA4074EN/1/04.19