



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 2020 AT A GLANCE





fisheries are at the heart of Mediterranean and Black Sea life. From food security to family livelihoods, from economic growth to ecosystem services, so much in the region depends on the effective and sustainable management of its rich marine resources.

The State of Mediterranean and Black Sea Fisheries 2020 is the definitive reference source on the subject. Developed by the General Fisheries Commission for the Mediterranean (GFCM) of the Food and Agriculture Organization of the United Nations (FAO), the latest edition of this biennial report is the most detailed ever released.

Reflecting how essential fisheries are to the socio-economic fabric of the region, *The State of Mediterranean and Black Sea Fisheries 2020* makes available a wealth of new data on the state of fishery resources and vulnerable species, the composition of the regional fleet, the contribution of the sector to the blue economy and the measures taken to preserve it. It also shines a spotlight on social issues for workers, particularly in the small-scale fisheries sector, which supports so many coastal communities.

This at-a-glance summary picks out key findings from *The State of Mediterranean and Black Sea Fisheries*, giving the general reader an overview of all these subjects, summarizing important data and explaining notable developments.



State of the fleet

The GFCM is responsible for overseeing the fishing fleet in the Mediterranean and the Black Sea, working closely with the region's 25 coastal countries to monitor and manage vessels of all types and sizes, from the wide variety of small-scale fishing boats that account for 83 percent of the total fleet to the industrial trawlers, purse seiners, longliners and others that make up the rest.

The latest data collected show that fishing fleet numbers have remained largely static over the last two years, with Turkey, Tunisia, Greece and Italy home to some 60 percent of the vessels:

- | | |
|--------------------------------------|---------------------|
| ▪ Small-scale vessels | 71 400 / 83 percent |
| ▪ Demersal trawlers | 6 700 / 7.8 percent |
| ▪ Purse seiners and pelagic trawlers | 4 300 / 5.1 percent |
| ▪ Other fleet segments | 3 600 / 4.2 percent |

Total vessels	87 600
Total gross tonnage	903 270 tonnes

The composition of the fleet varies by subregion. Small-scale vessels are the most relevant across the board, particularly in the Black Sea and the central and eastern Mediterranean. Trawlers play an important role in the Adriatic and in the central and western Mediterranean, while purse seiners and pelagic trawlers are also highly represented in the latter.

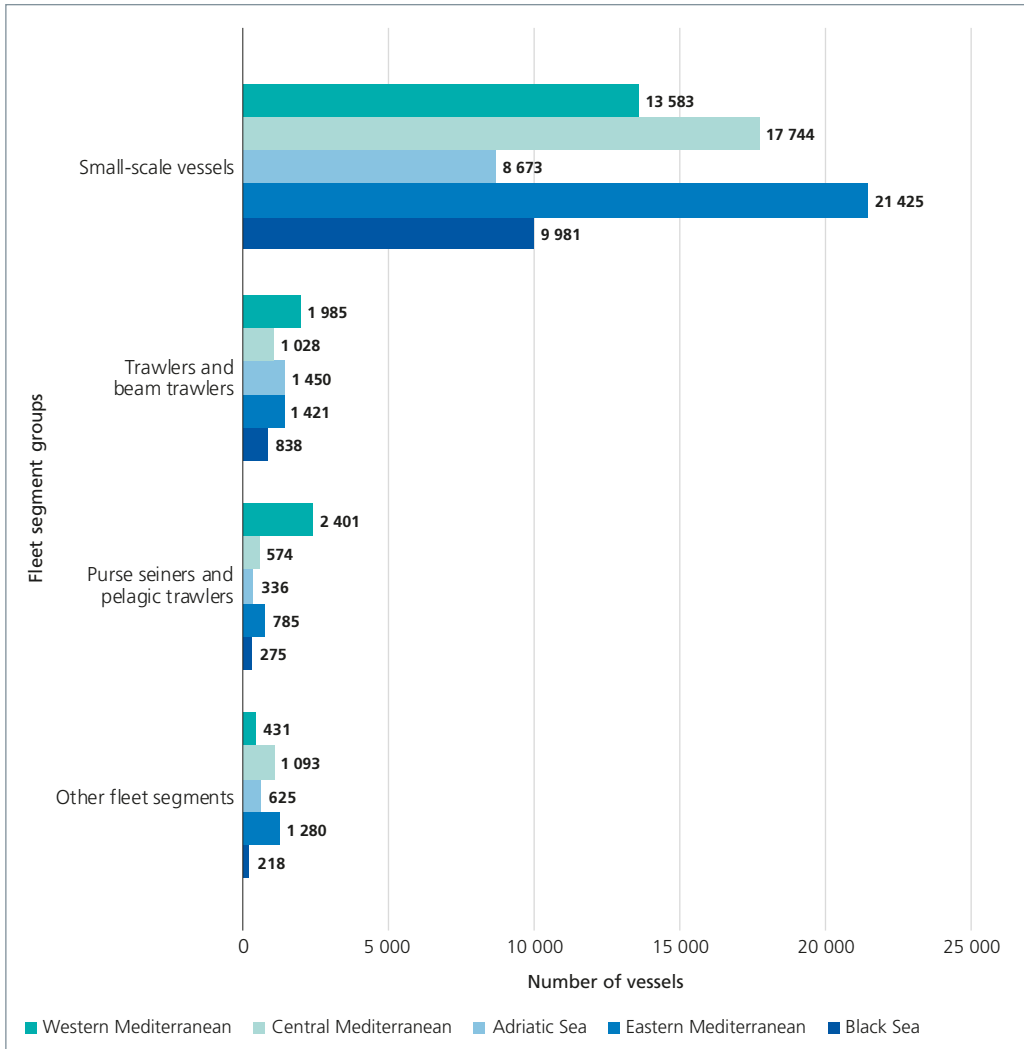
The numbering of the figures corresponds to *The State of Mediterranean and Black Sea Fisheries 2020*.





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FIGURE 9. Number of operating fishing vessels by fleet segment group and GFCM subregion





Capture fisheries

While

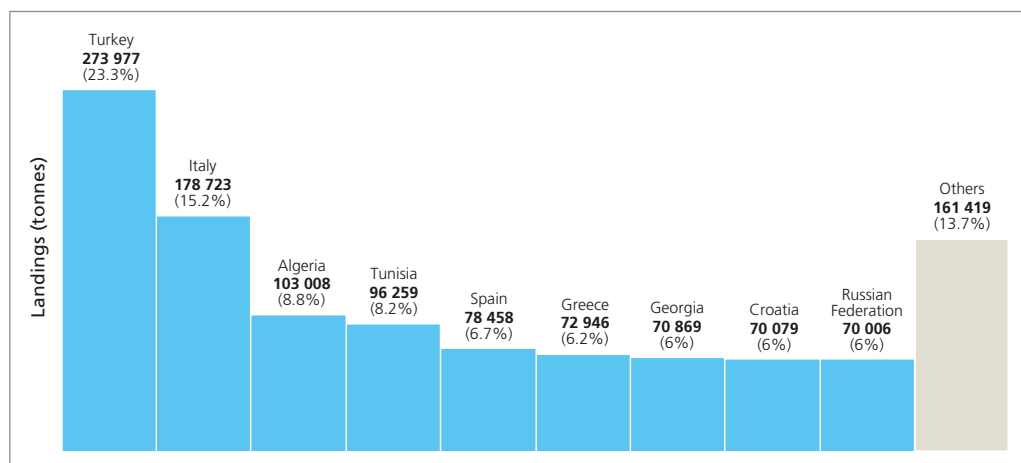
the fleet has not grown since 2016, the latest figures reveal that overall landings in both the Mediterranean and the Black Sea have increased by 2–3 percent. Purse seiners and pelagic trawlers targeting anchovy and sardine are responsible for just over half the total catch.

The total catch in the Mediterranean and the Black Sea in 2018 was 1 175 700 tonnes¹.

Together, three countries bring in nearly 50 percent of this total by weight, with Algeria recently overtaking Tunisia as the country contributing the third largest share.

¹ Excluding tuna-like species.

FIGURE 14. Average annual landings of GFCM contracting parties, cooperating non-contracting parties, non-contracting parties and relevant non-state actors contributing at least 5 percent of the total catch in the GFCM area of application, 2016–2018

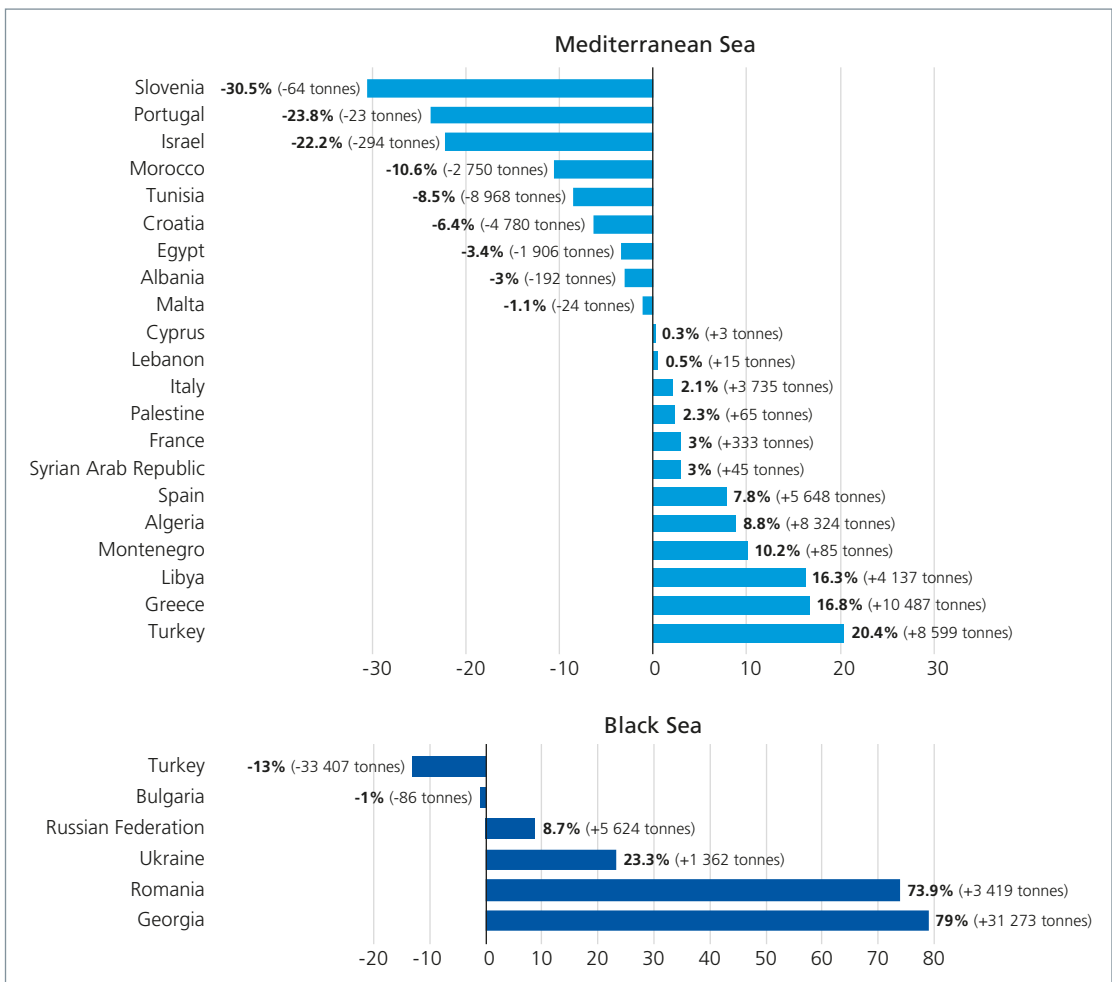




Of the major fishing countries in the **Mediterranean Sea** (annual catch > 20 000 tonnes), Turkey has seen the largest increase in landings (20.4 percent) since the previous edition of *The State of Mediterranean and Black Sea Fisheries*, while Morocco has seen the largest decrease (-10.6 percent).

In the **Black Sea**, significant increases in landings from Georgia (79 percent, mostly due to fluctuations in anchovy catch) and Romania (73.9 percent) are offset by a 13 percent reduction from Turkey.

FIGURE 16. Percentage variation between total landings recorded over 2014–2016 and total landings recorded over 2016–2018 by GFCM contracting party, cooperating non-contracting party, non-contracting party and relevant non-state actor





PRIORITY SPECIES

The composition of the region's total catch has varied over time, in some cases due to reduced stock biomass, in other cases due to the adoption of management measures. This variation is evident in changing trends in the landings of priority species:

- **Small pelagics:** large fluctuations, well down from historical peaks of the 1980s.
- **Demersal species:** decreasing landings of European hake, whiting, Norway lobster, turbot, sole.
- **Molluscs and crustaceans:** generally increasing landings of cuttlefish, rapa whelk, spottail mantis shrimp, deep-water rose shrimp, blue and red shrimp, giant red shrimp.

Catches of species of conservation concern, such as the European eel and the piked dogfish in the Black Sea have declined steeply to near zero in recent years, likely a reflection of both the critical state of these resources and the measures taken to minimise any further impact on them from fisheries.



Fishery resources

The recent overall increase in catch in the Mediterranean and the Black Sea, coupled with generally stable fishing effort, reflects a modest but welcome inversion of the negative trends in the status of fishery resources in the region. For fisheries to continue playing their critical socio-economic role in the face of climate change and increasing human pressures on the marine environment, efforts toward rebuilding stocks to allow them to produce their maximum sustainable yield (MSY) are essential and require effective management.

Bending the curve of overexploitation has been the main objective of the GFCM across its area of application since *The State of Mediterranean and Black Sea Fisheries 2018*, and the significant increases in the quality and quantity of available fisheries data have led to the adoption of more and better management efforts at the local, subregional and regional levels.

Advice on the status of fishery resources is now available for some 85 management units, covering nearly 50 percent of the total catch across the Mediterranean and Black Sea, in 26 out of 30 geographical subareas.

The fishery resource data in *The State of Mediterranean and Black Sea Fisheries 2020* clearly shows that much work remains to be done, but the positive developments reflect gradually improving results across the region:

- Though 75 percent of assessed stocks remain overexploited in 2018, six years previously, that figure was at 88 percent.
- The exploitation ratio has decreased by a similar proportion, from 2.9 x MSY in 2012 to 2.4 x MSY in 2018.
- An increase in biomass levels is observed in six out 18 stocks, and 46 percent of assessed stocks now have high relative biomass.



Management measures

Better fisheries information allows the GFCM to work with its members to improve the condition of stocks through a range of management measures. Thanks to significant advances since the last edition of *The State of Mediterranean and Black Sea Fisheries*, there are now ten GFCM management plans in place, involving around 4 150 vessels.

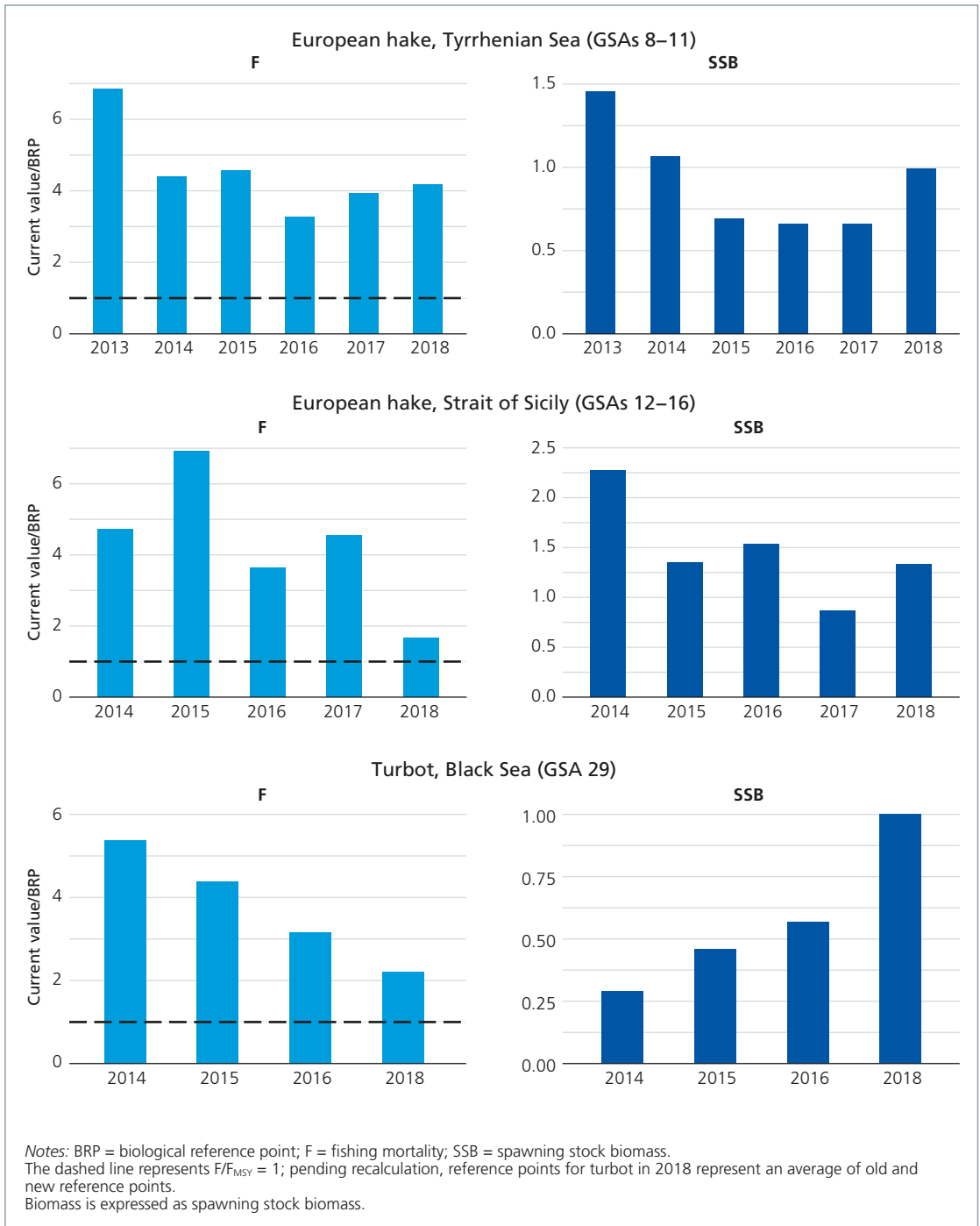
Important steps have been taken to increase spatial management capabilities: these include new monitoring plans for fisheries restricted areas (FRAs), the determination of the footprint of key fisheries and the identification of vulnerable marine ecosystems (VMEs) and VME indicator species hotspots with the creation of a dynamic database of sensitive benthic habitats and species.

Active management makes an immense difference. GFCM plans target a number of priority stocks, and this latest report provides examples of some important advances. Some European hake stocks display signs of recovery in the Mediterranean, while in the Black Sea, turbot exploitation ratio is decreasing and its spawning stock biomass has been rebuilding over the past four years towards reaching a value (biomass precautionary limit or B_{PA}) that reduces the possibility of collapse.





FIGURE 82. Annual progression in biomass (B/B_{PA}) (right) and exploitation ratio (F/F_{MSY}) (left) for European hake in the Tyrrhenian Sea and the Strait of Sicily and for turbot in the Black Sea





THE JABUKA/POMO PIT FISHERIES RESTRICTED AREA

The implementation of a FRA in the Jabuka/Pomo Pit is an example of best practice in transnational collaboration and in incorporating the views of fishers and other stakeholders when establishing spatial protection measures. Italy and Croatia take joint responsibility for enforcing restrictions in this area, which, in addition to hosting a rich ecosystem that includes vulnerable species, is also important for the reproduction of key commercial stocks, such as European hake, Norway lobster and deep-water rose shrimp.

The spatial protection measures are accompanied by a comprehensive scientific monitoring plan that is already showing encouraging results two years after the establishment of the FRA. These include higher densities and abundance of the main priority stocks addressed by the FRA, both within the restricted area and in adjacent areas.

BYCATCH AND VULNERABLE SPECIES

Bycatch remains a significant management issue for fisheries, involving both the discard of unwanted resources and the incidental catch of vulnerable non-target species.

As reported in *The State of Mediterranean and Black Sea Fisheries 2018*, annual discards in the Mediterranean are estimated at around 230 000 tonnes (18 percent of the total catch), while some 45 000 tonnes (10–15 percent of the total catch) are discarded in the Black Sea. The bottom trawl fishery is responsible for the majority of this quantity in all geographical subareas, while small-scale fisheries, by contrast, tend to show discard rates of below 10 percent. Discards are highly complex to monitor: gathering more data in this area and presenting an up-to-date detailed assessment are key aims of the next report.



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The State of Mediterranean and Black Sea Fisheries 2020 presents revelatory new information on the incidental catch of vulnerable species, which require careful management to ensure maximum protection and recovery. The most commonly reported incidents have involved the loggerhead sea turtle (*Caretta caretta*), followed by sharks and rays – mainly the sandbar shark (*Carcharhinus plumbeus*), the smooth-hound shark (*Mustelus mustelus*), and the blackchin guitarfish (*Rhinobatos cemiculus*). The most frequently reported cetaceans are the striped dolphin (*Stenella coeruleoalba*) in the Mediterranean and the harbour porpoise (*Phocoena phocoena*) in the Black Sea. Meanwhile, shearwaters from the Procellariidae family are the seabirds most affected.

Understanding bycatch and adopting effective measures to reduce its levels represent essential steps towards minimizing discards as well as fisheries' impacts on vulnerable species, and on the marine ecosystem more generally. They are also critical considerations for the long-term sustainability of the sector. The GFCM is working to come up with common protocols and methodologies to engage with the issue more effectively across the region.



Socio-economics

The State of Mediterranean and Black Sea Fisheries 2020 shows how Mediterranean and Black Sea capture fisheries contribute importantly to regional economies, generating direct revenues, driving wider spending and providing crucial jobs. Over the whole region, one in every 1 000 coastal residents is a fisher, and in Croatia, Morocco and Tunisia, this number can reach closer to one in 100. But some fisheries – particularly small-scale ones – offer uncertain livelihoods, and as the COVID-19 pandemic has shown only too clearly, the sector requires a strong social protection framework in order to ensure its resilience to shocks.

Overall, 2018 revenue figures have increased by approximately USD 300 million² since 2016:

- Mediterranean: USD 3.4 billion
- Black Sea: USD 251 million

Total direct fishery revenue: USD 3.6 billion

The wider economic contribution of fisheries in the region, including both direct revenue and indirect impacts, is estimated at **USD 9.4 billion**.

² Adjusted for inflation and calculated as constant 2018 USD.



Top 10 commercial species by value: Mediterranean Sea

Sardine	USD 349 375 929
European anchovy	USD 308 438 492
European hake	USD 237 433 394
Deep-water rose shrimp	USD 218 795 181
Common cuttlefish	USD 203 874 915
Common octopus	USD 171 080 261
Blue and red shrimp	USD 148 740 272
Red mullet	USD 144 991 024
Common Pandora	USD 130 492 265
Surmulletts (mainly red mullet and striped mullet)	USD 103 502 345

Top 3 commercial species by value: Black Sea

European anchovy	USD 275 784 853
Whiting	USD 19 658 866
Horse mackerel	USD 19 578 874

In the employment market, Mediterranean and Black Sea fisheries provide 225 000 on-board jobs; adding other fisheries-related employment along the value chain, the estimated total reaches 785 000 jobs. *The State of Mediterranean and Black Sea Fisheries 2020* shows, however, that current workers are ageing: almost half are over 40, and only 17 percent are under 25. Proactive support will be needed to ensure a skilled workforce remains available in the future.



Small-scale fisheries

For hundreds of years, small-scale fisheries have been integral to societies and cultures around the Mediterranean and Black Sea. Today, they continue to account for the overwhelming majority of fishing vessels (83 percent) and fishing-based jobs (57 percent) in the region. At the same time, they have a relatively low impact on fish stocks, bringing in only 15 percent of the region's total catch.

- 71 400 vessels (83 percent of the total fleet)
- 127 000 people (57 percent of total employment)
- USD 1.04 billion (29 percent of total revenue)
- 175 000 tonnes (15 percent of total catch)

Despite the clear importance of the small-scale sector, economic benefits from fisheries are not evenly distributed. Small-scale fishers generate only 29 percent of total fisheries revenue and experience an average annual remuneration of USD 4 868, less than half of that earned on trawlers, and only just over half the average for purse seiners.

The nature of work in the small-scale sector differs, however, from the industrial sector. Small-scale fishers often work seasonally and tend to consume a higher proportion of their catch, relying more heavily on fishing for food security than other fishing sectors do. Small-scale fishers are more likely to be involved in other professional activities as well, providing them with additional sources of revenue. For example, small-scale fisheries account for 55 percent of the revenue from non-fishery uses of the regional fleet (tourism, aquaculture, etc.). This diversification of income sources represents a crucial component of the small-scale sector's resilience.



The State of Mediterranean and Black Sea Fisheries 2020 sheds new light on this sector, and on progress made towards the vision for a healthy and sustainable small-scale sector set out in the Regional Plan of Action for Small-Scale Fisheries³. It is clear that, while records of vessels' characteristics are comprehensive, information on the catch and the fishers themselves needs to be improved. Currently, only half of the GFCM contracting parties and cooperating non-contracting parties require small-scale fishers to report landings at designated ports, and only 40 percent require the use of logbooks or other self-reporting tools. Meanwhile, only 30 percent collect data on non-vessel-based fisheries, such as gleaning.

It is also clear that, given the importance of small-scale fishing livelihoods, better access to social protection programmes and financial services would play a role in strengthening the resilience of coastal communities. For example, although around three-quarters of the GFCM contracting parties and cooperating non-contracting parties offer health coverage and old age pensions to their small-scale fishers, *The State of Mediterranean and Black Sea Fisheries 2020* reports that 40 percent provide no access at all to unemployment insurance, further contributing to the vulnerability of fishers.

Therefore, for socio-economic reasons as much as for fishery management ones, continued progress towards the objectives of the Regional Plan of Action for Small-Scale Fisheries remains a top priority.

³ The Regional Plan of Action for Small-Scale fisheries is available at: <http://www.fao.org/gfcm/activities/fisheries/small-scale-fisheries/rpoa-ssf>



The future

The significant increases in the quality and quantity of information produced by the GFCM is driving the adoption of more and better fishery management measures at the local, subregional and regional levels – and these are delivering results. As *The State of Mediterranean and Black Sea Fisheries 2020* illustrates, the GFCM has begun to reverse the prevailing trend of overexploitation in the region, with an increase of more than 10 percent in the share of stocks that are sustainably exploited and a reduction of more than 15 percent in exploitation ratios, along with a rise in overall stock biomass.

Progress has been made in the right direction, but many challenges remain before Mediterranean and Black Sea fisheries can be assured of a sustainable future coinciding with maximum contributions to the blue economy. Catches are lower than in the 1980s, exploitation rates are mostly still too high, management plans need to be extended, discards and bycatch must be reduced, and an ageing fleet and workforce require greater social support. Thanks to the close attention *The State of Mediterranean and Black Sea Fisheries 2020* gives to all these issues, it is possible to continue taking effective steps toward addressing them.

The State of Mediterranean and Black Sea Fisheries 2020 AT A GLANCE

The State of Mediterranean and Black Sea Fisheries at a glance is based on the GFCM flagship biennial report *The State of Mediterranean and Black Sea Fisheries*.

The full-length publication is the most comprehensive overview of regional and subregional trends in fisheries currently available, and the 2020 edition contains more data and information than ever before. *The State of Mediterranean and Black Sea Fisheries at a glance* offers a summary of this material, giving the general reader a swift and simple overview of its main themes and findings.

The report takes a deep dive into the composition of the regional fishing fleet, capture fisheries production statistics and the current state of fishery resources, including bycatch and vulnerable species. Notably, it provides the most detailed picture yet of the vital small-scale sector, both in terms of its activities at sea and in the broader socio-economic context of coastal communities across the region. Long-term management measures are also investigated, highlighting the ways in which the GFCM is working to make key fisheries in the region sustainable for the future.

The State of Mediterranean and Black Sea Fisheries at a glance examines findings on all these subjects, summarizing important data and explaining notable developments. When looking for the latest and most reliable information on Mediterranean and Black Sea fisheries and the communities they support, this is the place to start.



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