



PHAROS4MPAs

SAFEGUARDING MARINE PROTECTED AREAS IN THE GROWING MEDITERRANEAN BLUE ECONOMY: SMALL-SCALE FISHERIES

**POLICY
BRIEF**
SEPTEMBER 2019



SMALL SCALE FISHERIES:

A MAJOR SEGMENT OF MEDITERRANEAN FISHERIES

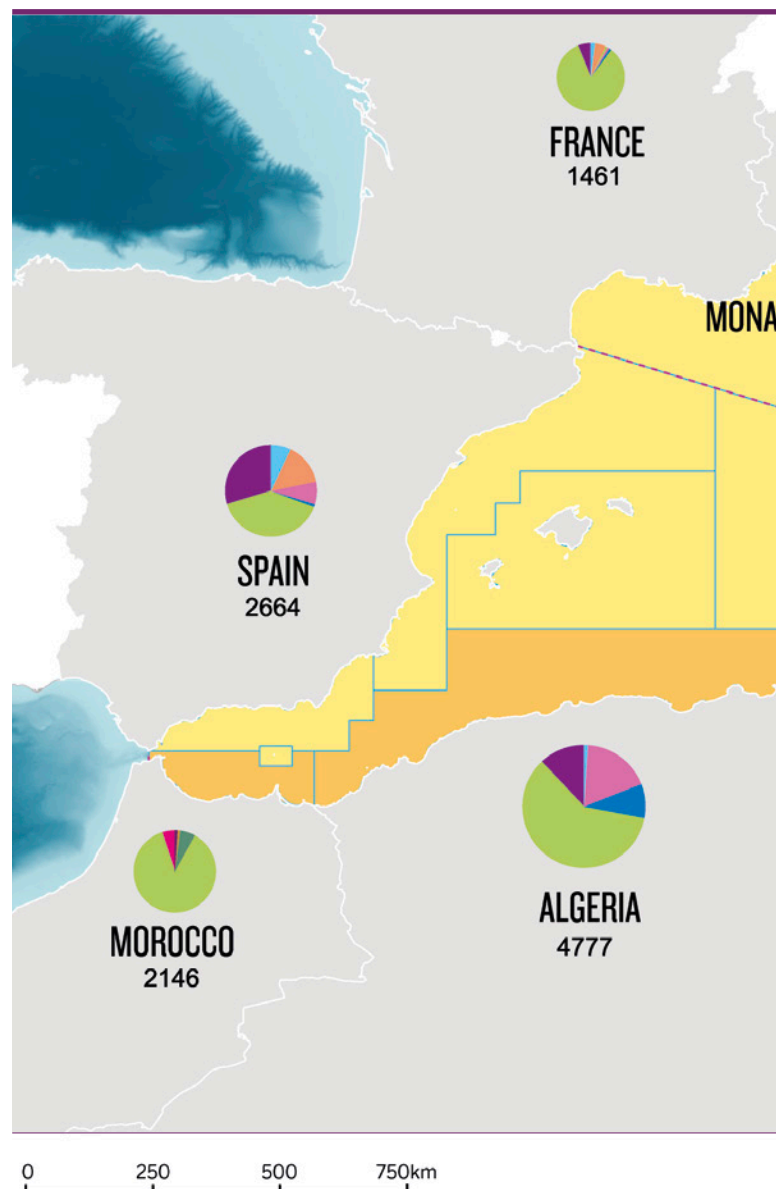
Mediterranean fisheries are facing serious challenges due to over-exploitation. **About 80% of all assessed stocks are fished outside safe biological limits, catches are decreasing, and regional fleets are shrinking.** Environmental degradation, coastal development and pollution are putting further pressure on fish stocks, while climate change is modifying the spatial distribution and productivity of marine species across the Mediterranean. Professional fishery landings have been declining for the past 20 years.

Small-scale fisheries (SSF) still make up most of the commercial fishing sector in the Mediterranean, both in terms of number of boats (83% of the total fleet) and of people employed (57% of the total workforce). SSF use many different techniques and more than 50 types of fishing gear to target species, often switching among them during a fishing trip. However, despite its socio-economic importance, the sector currently faces unprecedented challenges due to marine resource depletion.

According to the EU definition, 'small-scale coastal fishing' means fishing carried out by vessels of an overall length of less than 12 metres and not using towed fishing gear, including surrounding seines, beams and trawls (as listed in Table 3 of Annex I to Commission Regulation (EC) No 26/2004).

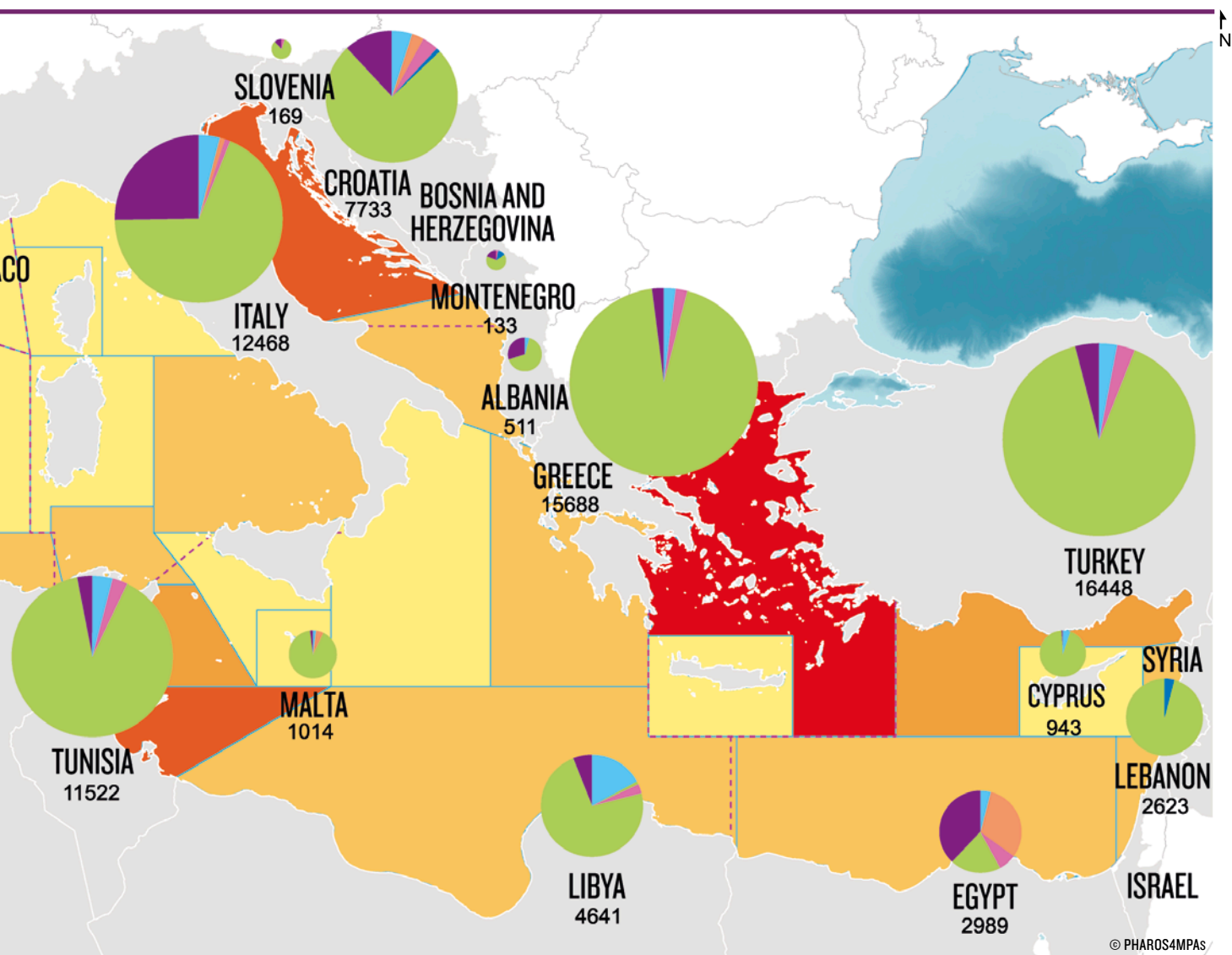
SSF landing sites are widespread along the coasts and in fishing ports, which makes effective monitoring, control and surveillance (MCS) extremely challenging. The heterogeneity of markets and points of sale poses further complications for assessing the sector. In addition, the governance of the sector is very fragmented, and SSF have limited representation at both national and regional level.

NUMBER OF FISHING VESSELS IN GFCM SUB-AREAS AND



SOURCE: FAO (2016, 2018)

BREAKDOWN OF FISHING VESSELS BY FISHING PRACTICE GROUP AND COUNTRY



FISHING AREAS (STATISTICAL UNITS)

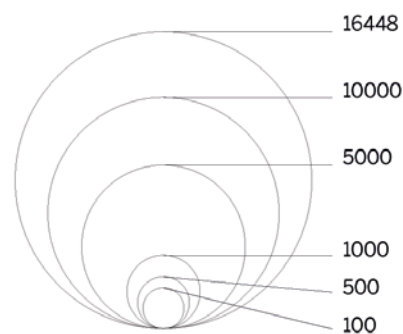
- FAO Subarea Limit
- GFCM Subarea Limit

REPORTED FISHING BOATS

- 17 - 1500
- 1500 - 3500
- 3500 - 6000
- 6000 - 10000
- 10000 - 14600

BREAKDOWN BY FISHING PRACTICE

- Trawlers and Dredgers
- Small Scale Artisanal
- Purse Seiners 6-12m
- Purse Seiners >12m
- Tuna Seiners
- Long Liners >6m
- Polyvalent Vessels >12m



Nevertheless, during the last decade there have been serious efforts to improve the sector's regulatory framework. These include an **FAO-GFCM Regional Plan of Action for Small-Scale Fisheries in the Mediterranean and the Black Sea (RPOA-SSF)**, supported by a Ministerial Declaration. **The implementation of the Action Plan is essential for the sustainability of the sector and applies in MPAs where new practices have proved to be effective in both ecological and socio-economic terms.**

SSF AND MPAs: A LONG HISTORY OF WORKING TOGETHER IN THE MEDITERRANEAN



Most MPAs are primarily designated with conservation objectives, but they may additionally aim to protect or recover fishery resource species and/or habitats. Fully or highly protected MPAs are likely to bring ecological benefits including an increase in abundance, biomass, density and fecundity of fish populations. **This so-called 'reserve effect' results in the export of fish biomass to fishing grounds, and it may lead to economic benefits for SSF in adjacent areas.**

The establishment of MPAs in the Mediterranean is a relatively recent development for SSF. While MPAs and other spatial tools such as Fisheries Restricted Areas (FRAs) can support an ecosystem approach to fisheries management, the designation of coastal MPAs has created new constraints for fishers. This has led to frequent conflicts and has in some cases made it difficult to promote collaboration between MPAs and small-scale fishers. However, the situation is evolving. **Increasing numbers of MPA managers and small-scale fishers are finding that through dialogue they can create a shared vision and objectives, such as the recovery of fishery resources.**

BENEFITS AND IMPACTS OF SMALL-SCALE FISHERIES

At a global scale, SSF support livelihoods in coastal communities and contribute significantly to food security, especially in developing countries. The same is true in the Mediterranean basin, especially in countries with high numbers of small-scale fishers. Despite accounting for only 26% of overall fishery revenue, SSF account for around 59% of all onboard employment in the Mediterranean, a total of some 134,300 jobs, and they represent 80% of the Mediterranean fleet, with some 60,000 vessels. These brought in USD 519 million (24%) of the region's commercial fishing revenue in 2017.

Despite the fact that the volume of SSF catches are relatively low compared to large-scale commercial fisheries, SSF still have the potential to impact fishing resources and marine ecosystems. **While other factors – including climate change, pollution from marine and terrestrial sources and catches from recreational fishers – also contribute to the decline of fish resources, SSF can cause serious impacts when, for example, the fishing effort is very high.** Yet they are generally considered to have less ecological impact than industrial fisheries, and are usually seen as more sustainable.

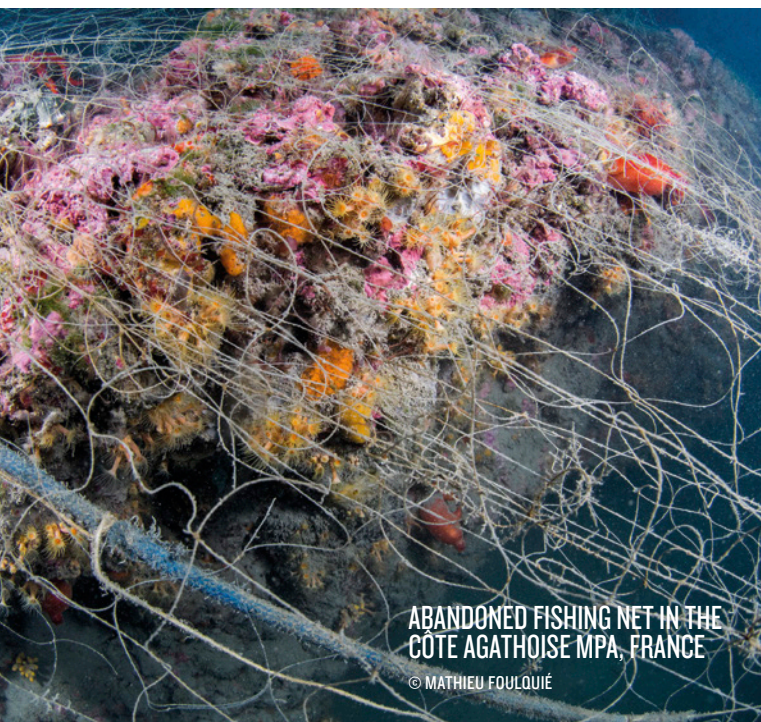
Potential impacts include:

- **Altering biodiversity and changing ecosystem functioning** by removing key species (e.g. top predators) or specific size classes. Key species are regulative species which help control the proliferation of other species; while larger females have more offspring, reproduce over a longer period and spawn more eggs and larvae with better survival rates than smaller females.
- **Targeting species that are classed as vulnerable** on the IUCN Red List. In a study carried out in France, Italy and Spain, nearly 50% of the total SSF catch in coastal waters – and 100% in offshore waters – was of vulnerable species.
- **Size-selective fishing affecting hermaphrodite fish species**, such as dusky grouper (*Epinephelus marginatus*), which can make up a significant portion of the catch. Fishing may disproportionately remove members of one or other sex, altering sex ratios and leading to egg or sperm limitation.
- **Catches below the minimum landing size** prevent individuals from reaching maturity and reproducing. There is growing concern that levels of fishing mortality as a result of **bycatch** and **discards** threaten the long-term sustainability of many fisheries and the maintenance of biodiversity in many areas.
- **Habitat degradation with direct and indirect action.** Specific fishing techniques (e.g. small-scale dredges) and anchoring destroy or erode vulnerable habitats including seagrass meadows (*Posidonia oceanica*), coralligenous reef assemblages and deep rocky habitats that contain sessile and fragile organisms such as gorgonians, sponges and corals.
- **Lost or abandoned fishing gear** – such as nets, hooks and lines – also causes harm. So-called ghost gear continues to catch fish, and gear of all kinds can abrade sessile animals like corals and gorgonians. It also represents a significant fraction of marine litter. Oil and antifouling paints are other notable sources of pollution.

IMPACTS ON ENDANGERED, THREATENED OR PROTECTED SPECIES

Marine mammals are mostly impacted by polyvalent vessels when they're caught in nets. Small vessels using set nets, demersal longlines or pelagic longlines make up most of the Mediterranean fleet, and likely cause more incidental or intentional deaths of marine turtles than large vessels typically using bottom trawls or pelagic longlines. The total annual bycatch of marine turtles in the Mediterranean is estimated at up to 132,000 individuals, resulting in a potential annual mortality of 44,000. Gillnet, trammel net, longline and bottom trawl fisheries are considered a major threat to the survival of elasmobranch (sharks and rays) populations in the Mediterranean and the Black Sea. Seabird populations are mainly impacted by longliners, while fishing on longliners' baits.





PUBLIC AUTHORITIES AND MPA MANAGERS CAN PLAY A MAJOR ROLE IN AVOIDING OR MINIMIZING SSF IMPACTS ON MPAS

At the Mediterranean level, **the implementation of the GFCM's Regional Plan of Action on SSF (RPOA-SSF) by 2028 will be key in bringing the small-scale fisher community onto a sustainable path.** Contracting parties must address its priority actions as soon as possible. The EU is a contracting party to the GFCM, so EU policies should be

coordinated with the RPOA-SSF. New CFP regulations, such as the control regulations, should take SSF specificities into account and deliver an approach that they can practically and effectively implement without becoming overburdened.

RECOMMENDATIONS FOR MSP AUTHORITIES

National public authorities are the most influential actors in implementing and **coordinating international policies nationally and locally, whether the RPOA-SSF or EU policies.** They should in general support the implementation of environmentally favourable frameworks, such as the **ecosystem-based approach.**

Following the EU Directive on maritime spatial planning (MSP) (DIRECTIVE 2014/89/EU), EU Member States are currently developing their marine spatial plans and associated visions and strategies, a process which should be finalized by 2021. Non-EU countries are also addressing MSP, although on a non-binding basis. **Any new economic development overlapping with or impacting fishing grounds should be thoroughly discussed with fishers.**

To address impacts of SSF, environmental measures need to be taken to:

- **Avoid the excessive impact of SSF on marine resources and vulnerable marine species,** through gear and size restrictions, fishing effort limitation, seasonal closures, etc.
- **Improve the selectivity of fishing gear** with regard to size and species
- Increase investments in fishing techniques that **eliminate discards** by avoiding or reducing unwanted catches of commercial and non-commercial stocks
- Support the exclusion of fishing activities in areas showing high probabilities of unwanted catches, including the **establishment of zones for the recovery of fish stocks**, in spawning sites and nursery areas for juveniles
- **Support – in close coordination with fishers – an increase in coverage of no-take zones** that help ecosystem and marine resource recovery
- **Minimize the impact of fishing activity and gear** on sensitive habitats such as *Posidonia* meadows and coralligenous assemblages
- Establish derelict fishing gear management schemes from collection to final treatment or recycling together with waste collection plans in landing sites.



From a socio-economic perspective, measures could include:

- **Developing a national legal framework enabling fishery co-management** to support sustainable stocks
- Improving legal frameworks that **enable the SSF sector to be organized as cooperatives, producer groups or organizations**, micro-enterprises or other structures to help fishers better manage their activities, mutualize costs, add value, develop diversification schemes (such as pescatourism activities) and ensure a sale directly or in short circuits
- **Guaranteeing good and fair access to landing sites** adequately equipped to facilitate SSF activities – fully serviced docking areas, moorings, refrigerated warehousing, drinking water, ice machines, litter disposal and recycling (e.g. for expandable polystyrene boxes, etc.)
- **Taking into account recreational fishing activities in fishery management through multiannual plans**
- Raising awareness among consumers and local communities about SSF activities and their benefits, to improve the image of the SSF sector.

Collaboration with MPAs can be beneficial to fishers, as both pursue common objectives of **restoring fish stocks and preserving habitats used by fish at different life stages**. Many MPAs have already supported some of these objectives in their management plans: the implementation of national strategies should take into account experience gathered and existing best practice.

RECOMMENDATIONS FOR MPA MANAGERS

MPA managers have a central role in SSF management. They should:

- **Proactively establish a permanent and close dialogue with the SSF sector and implement governance which supports co-management**
- **Monitor SSF** to support management measures
- **Use appropriate zoning, especially by the establishment of no-take zones**. Zoning approaches should aim to avoid gear interaction or conflicts over access to marine resources, both with other fishers (e.g. large-scale industrial fishers, recreational fishers) and with other stakeholders
- **Prepare and implement a fisheries management plan**. Specific management measures may include:
 - Reducing fishing effort, through for instance seasonal or temporary closures in adjacent zones or through gear restrictions or time limitation of fishing (maximum 24 hours)
 - Improving the selectivity of fishing gear
 - Reducing the incidental catch of elasmobranchs, seabirds, turtles and marine mammals through mitigation measures
 - Minimizing bycatch and reducing discards, through regulations or economic incentives
 - Minimizing the impacts of SSF on vulnerable marine species through gear and size restrictions or seasonal restrictions
 - Reducing ghost fishing by collecting lost fishing gear
 - Implementing waste collection plans in landing sites
 - Implement effective control and enforcement of regulations
 - Support initiatives to enhance the added value of small-scale fisheries products: optimization of distribution channels, promotion of less marketable catches, eco-labeling of sustainable SSF products, education and awareness-raising among consumers, pescatourism.



The PHAROS4MPAs project explores how Mediterranean MPAs are affected by activities in the growing Blue Economy, and provides a set of practical recommendations for regional stakeholders on how the environmental impacts of key sectors can be prevented or minimized. Encouraging international collaboration across MPA networks and cooperation between state, industry and other actors, PHAROS4MPAs aims to enhance MPA management effectiveness and improve the conservation of marine ecosystems across the whole of the Mediterranean.



Further details, see full report at <https://pharos4mpas.interreg-med.eu>

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FRONT COVER: Fisher in Zakynthos MPA, Greece, with a cruise ship in the background

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BACK COVER: Fisher from Kaş, Turkey

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