



MedPath

Impact Report 2024



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Supporting Mediterranean fisheries in their path towards sustainability

After almost 15 years in Southern Europe, the MSC program is now well established in the region's wild seafood and fisheries landscape. France, Italy, Portugal and Spain now account for a significant number of MSC certified fisheries and labelled products. But this is only the most visible part of the MSC's real impact. Our program is all about supporting fisheries on their path to sustainability, whatever their size, location, gear, or starting point.

Project MedPath comprises some of the first Pathway projects that the MSC launched in Southern Europe with the aim of increasing the

number of sustainable fisheries in the Mediterranean, through a regional and multistakeholder approach. When the MSC started Medfish in France and Spain in 2015 with our partner WWF and the support of our donors, we had the strong feeling that the best approach was to work with fisheries in the region and adapt to the Mediterranean's own challenging environment. Now, almost 10 years later, MedPath has extended to the East with BluFish in Italy and HellasFish in Greece and represents an important cluster of the 14 Pathway projects active around the world, now an essential element of the MSC program.

Edouard Le Bart

Regional Director, South Europe and AMESA

Committed to a healthy Mediterranean

Since the inception of the first MedPath project in late 2015, a significant number of achievements have been reached towards a healthier Mediterranean Sea. From the implementation of the multiannual plan for demersal stocks in the Western Mediterranean and the multiannual plans fostered by the FAO General Fisheries Commission for the Mediterranean (GFCM) in the Adriatic, to the establishment of new marine protected areas or the successful completion of the recovery plan for bluefin tuna, the MSC welcomes the many, notable achievements to reduce fishing pressure. However, the region still faces multiple challenges and enhanced risks preventing a truly sustainable use of its marine

resources.

The MSC's project MedPath is contributing to this crucial objective by bringing together the fishing sector, national and local administrations, research institutions and NGOs. By applying a participatory and bottom-up approach the project has helped foster the development of new scientific discoveries and contributed to new management frameworks in the Mediterranean. I would like to thank all Marine Stewardship Council staff involved in France, Italy, Greece and Spain for their commitment, WWF Spain and France for their collective efforts, our stakeholders for their engagement and the MedPath donors for supporting the project.



Julio Agujetas

MSC MedPath Coordinator and Fisheries Manager, Mediterranean Spain

Executive summary

While the Mediterranean Sea represents only 0.7% of the world's oceans, it is home to 7.5% of marine fauna and 18% of marine flora species globally. Despite being a hotspot for biodiversity, the region faces significant challenges. Although the GFCM reports a continuous reduction in overall fishing pressure, which has fallen by 31% since 2012, the overall pressure is still at twice the level considered sustainable.

To address these challenges, the MedPath projects (Medfish in Spain and France, BluFish in Italy and HellasFish in Greece) were developed by the MSC to support Mediterranean fisheries in transitioning towards sustainability. Similar to other MSC Pathway to sustainability projects, MedPath offer tools, training materials, and frameworks to facilitate improvements in sustainability.

Over the past nine years (Medfish, the first MedPath project, was initiated in Spain in 2015), MedPath has made substantial progress, fulfilling key objectives such as identifying gaps in performance when compared to the MSC Fisheries Standard, bringing stakeholders together to foster improvements, providing technical assistance and capacity building, and developing innovative accessibility tools. Today, MedPath remains instrumental in structuring engagement with key fishery stakeholders, and facilitating the development and implementation of action plans to address gaps in sustainable practices.

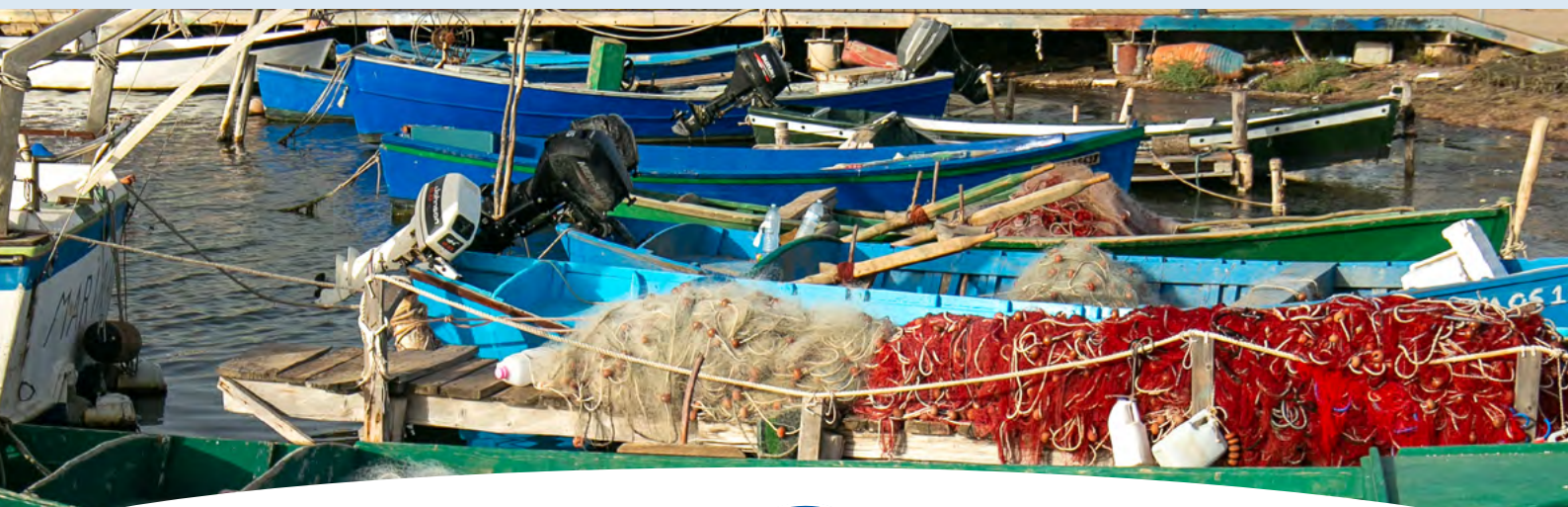
Currently, 29 fisheries are engaged in the project; each have a tailored action plan aimed at improving the health of fish stocks, minimising their impact on the environment, and the efficacy of fishery management. Fourteen fisheries have already begun implementing their action plans, addressing a total of 47 improvements so far. Progress varies across different regions and fisheries, from enhancing data collection and analysis in the North Alboran Sea and Corsican fisheries to improving gear selectivity and reducing Catalonia's bottom trawl fisheries' impact on marine habitats/ecosystems. MedPath

has supported the development of new management regulations for Gulf of Lion fisheries, conducted analytical stock assessments in Sardinian and North Aegean Sea octopus fisheries, and devised a methodology for stock assessment of the Western Sardinian octopus trap fishery, applicable to other data-limited fisheries.

In addition to technical assistance, MedPath has provided training to over 170 stakeholders, including fishers organisations, research institutions, management authorities, NGOs and independent experts. This has increased their knowledge of the MSC Fisheries Standard and enabled them to lead their own improvement processes.

Furthermore, MedPath promoted nationwide activities to share best practices and foster discussions and synergies between fisheries and stakeholders. Workshops and site visits have been held to identify optimal approaches for data collection, assessment and management for octopus fisheries, resulting in the development of tools to assist fishery managers in designing management systems responsive to the stock status.

The project's participatory approach has strengthened collaboration and mutual trust among various people involved in the project, and facilitated interactions between fishers and scientists. This collaboration has led to the development of research and technical projects (e.g. SEINE-ETP, DatAlboran, Corytrack) addressing critical information gaps regarding target stocks or interactions with other species or habitats. Looking ahead, MedPath is poised to continue supporting ongoing improvement processes, empowering fisheries and stakeholders to take proactive roles for more sustainable Mediterranean fisheries.



The Mediterranean context and the state of its fisheries

The Mediterranean Sea is the largest (2,969,000 km²) semi-enclosed sea on the planet and one of the main hotspots for marine and coastal biodiversity. Despite representing just 0.7% of the world's oceans' surface, it encompasses 7.5% and 18% of the world's species of marine fauna and flora respectively. In total, 28% of the species the Mediterranean Sea houses are endemic, the highest rate at a global level. The rich variety of habitats includes seamounts, submarine canyons, maërl beds, coralligenous communities and endemic Posidonia oceanica meadows as one of the most unique and critical Mediterranean habitats.

The Mediterranean Sea is of great economic and cultural significance for the more than 150 million people who live along its coasts. The evidence of human settlements and use of natural resources dates from millenia. The remains of consumed marine fauna, fish hooks and harpoons found in Neanderthal archaeological sites is testimony of this long relationship, which is also highlighted in the around 300 species of fish, crustaceans, mollusks and other invertebrates of fishing interest mentioned in Greek and Latin texts¹. All this translates into levels of anthropogenic impacts in the Mediterranean that are significantly greater than in other marine areas around the world².

A wounded sea

Nowadays, the Mediterranean Sea faces multiple threats causing widespread degradation of marine ecosystems and biodiversity reduction. Some of the main pressures are posed by habitat loss and degradation, overfishing and other fishing related impacts, pollution, climate change, eutrophication, and the spread of invasive species, which all affect the ecosystem and a significant number of taxonomic groups³.

2023

The State of Mediterranean and Black Sea Fisheries report⁴.

Fishing sector

84,200 **183,000**
Number of Direct jobs
Vessels

Average total annual catch

1,063,200
tonnes

Fisheries annual revenue

USD 3 billion
Annual Revenue

Fisheries impacts on stocks

58%
of commercial stocks
fished outside biologically
sustainable limits

31%
decrease of fishing
pressure in the last
decade but still **twice** the
sustainable level in average

Despite significant improvements, overfishing and other fishing related impacts like by-catch and habitat disruption are currently contributing to hinder the recovery of Mediterranean marine ecosystems, which in return impacts the livelihoods of thousands of local fishers and coastal communities.



The Marine Stewardship Council

The Marine Stewardship Council (MSC) is an international non-profit organisation whose vision is that of the world's oceans teeming with life, and seafood supplies safeguarded for this and future generations. MSC's mission is to use its ecolabel and fishery certification program to contribute to the health of the world's oceans by recognising and rewarding sustainable fishing practices, influencing the choices people make when buying seafood and working with partners to transform the seafood market to a sustainable basis. MSC's seafood certification and eco labelling program emerged on the assumption that adding value to sustainably harvested seafood, through a robust certification process and assured chain of custody, induces self-reinforcing positive interactions between consumers, market actors and fisheries. The MSC is the only wild seafood ecolabel recognised by the United Nations COP-15 in December 2022 for measuring action to safeguard biodiversity.

Independent assessment against the MSC Fisheries Standard

The MSC Fisheries Standard lies at the heart of the MSC program for sustainable fishing. To become certified as sustainable, a fishery needs to be independently assessed against all the Performance Indicators of the Standard distributed across the three MSC Principles (see page 7).

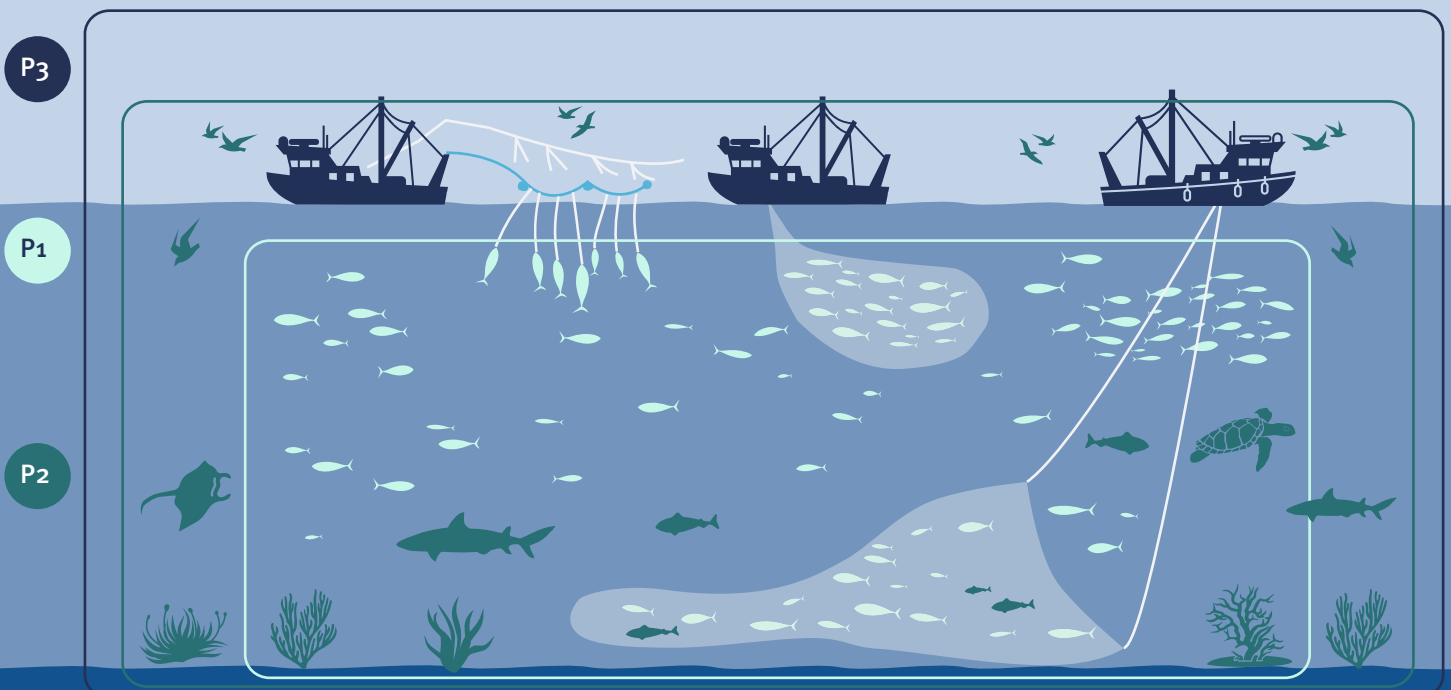
The MSC Fisheries Standard can also be used to identify potential gaps and shortcomings regarding fishery sustainability before officially entering MSC full assessment. The scores assigned during the pre-assessment will help to determine whether the fishery is fit to become MSC certified. In Pathway projects like MedPath (see page 8), pre-assessments are employed to identify gaps against the MSC Fisheries Standard and develop comprehensive action plans aiming to improve a fishery's sustainability.

The MSC Fisheries Standard

The MSC Fisheries Standard is used to assess if a fishery is sustainable and well-managed. The Standard reflects the most up-to-date understanding of internationally accepted fisheries science and management best practices. It is regularly reviewed and developed in consultation with scientists, the fishing industry and environmental organisations to ensure it remains the leading international standard for sustainable fishing. The latest version of the Standard (version 3.0) was published in October 2022, following the most comprehensive review to date.

What is assessed?

The MSC Fisheries Standard has three core principles that every certified fishery must meet:



Pathway to Sustainability

MSC has developed the Pathway to Sustainability program to support fisheries in their efforts to improve the environmental performance of their fishing practices. The program provides a collection of tools and trainings that use the MSC Fisheries Standard as a framework to enable improvements towards sustainability. These can all be used by individual fisheries, fisheries in Fishery Improvement Projects (FIPs) or as part of multi-fishery, multi-stakeholder Pathway Projects.

Pathway Projects bring together a wide range of partners – including governments, fishers, scientists, supply chain actors, NGOs and donors – to create the enabling conditions to support multiple fisheries in a specific region on their sustainability journey. They also provide a range of fishery improvement tools and a capacity building program supporting fisheries on this journey, as significant progress can be made in the pre-certification space. MSC is currently involved in running 14 Pathway Projects in 19 countries, from the United Kingdom to the Mediterranean Sea and the

Indian Ocean, involving a wide range of species and gear types.

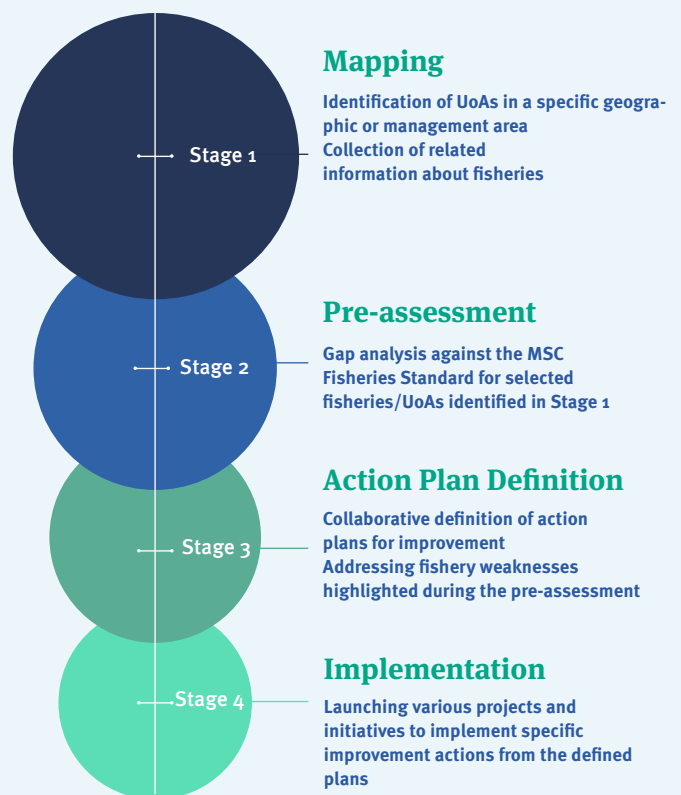
The model for a Pathway Project usually comprises four stages across which a participative approach is applied. Stage 1 or *Mapping* involves the identification of fisheries, which under the MSC Fisheries Standard are called Unit of Assessments (UoAs) and are determined by a specific species' stock, the fleet or group of fishers targeting that stock, and the type of fishing gear used. Stage 2 or *Pre-assessment* implies a gap analysis against the MSC Fisheries Standard of a selection of fisheries/UoAs identified in the previous stage. In Stage 3 or *Action Plan definition*, action plans for improvement are collaboratively defined to address all fishery weaknesses highlighted during the pre-assessment. Finally, along Stage 4 or *Action Plan implementation* different projects and initiatives are launched to enable the implementation of the specific improvement actions in the plans.

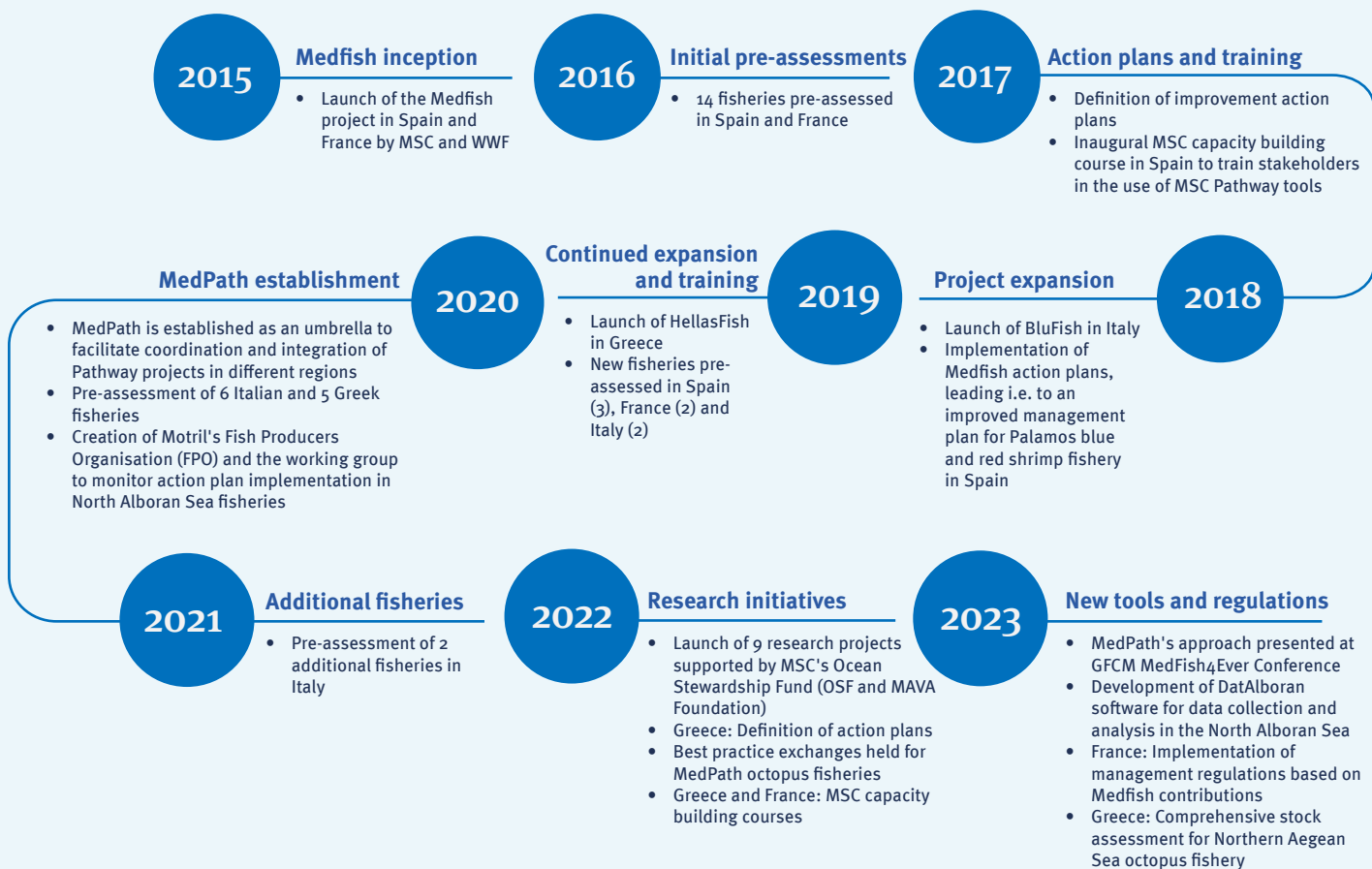
MedPath: our Pathway projects in the Mediterranean

The MSC Pathway to Sustainability program is put into practice in the form of regional projects across the globe.

To facilitate the implementation of the Pathway program in the Mediterranean, in 2020 MedPath was created as an umbrella to improve coordination and provide coherence for the different initiatives in the region. Currently, MedPath unites the following projects across 4 different Mediterranean countries: project Medfish in Spain and France, project BluFish in Italy and project HellasFish in Greece.

The overarching goal of MedPath is to foster the engagement of the most relevant stakeholders at national and regional levels to develop a structured approach that supports fisheries in the Mediterranean in their journey towards sustainability. To that end, the different projects under MedPath have provided a concise framework, as well as supporting tools, technical assistance and training, to fisheries and fishery stakeholders to enable multiple improvement processes.

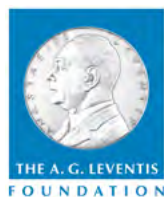




Project donors

Over the years, the Medfish, BluFish and HellasFish projects have come to life thanks to the generous support of the following private foundations: The Sustainable Fisheries Fund program of Resources Legacy Fund, Daniel and Nina Carasso Foundation, Adessium Foundation, MAVA Foundation, and the Leventis Foundation.

In 2022, the MAVA Foundation made a significant contribution (hereafter called the “MAVA OSF grant”) to MSC’s Ocean Stewardship Fund (OSF) to enable the launch and implementation of several scientific projects addressing information gaps in nine MedPath's fisheries.



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Medfish in Spain

Context

The economic activity along the 1,670 km long Spanish Mediterranean coast is of great importance. In addition to key sectors such as tourism and international maritime shipping, fishing also has a significant socio-economic impact on the Mediterranean coast, representing 6,614 direct jobs⁵ in the primary sector and a total catch of 61,060 tons in 2021. These volumes represent around 20% of EU catches in the Mediterranean and a value of EUR 278 million⁶.

There are currently 2,297 active Spanish fishing vessels of which 1,468 are small-scale, 580 are trawlers, 202 purse seiners and 43 longliners. However and in spite of its significance, the Spanish Mediterranean fishing fleet has been suffering a steady decline in the number of vessels for more than a decade. From 2008 to 2017, this reduction has been of 27%⁷. This trend still continues, representing yet another challenge for the Mediterranean fishing sector on top of already existing problems such as the lack of generational replacement or the status of marine resources.

Commercialization of seafood products starts at the 79 fish markets, the so-called *lonjas*, along the Spanish Mediterranean coast. From there, seafood products enter very short supply chains: on average up to 70% of the seafood landings are sold through various HORECA channels (hotels, restaurants and cafes)⁸.

Most of the fleet and professional fishers are organised in *cofradías* or fishers' guilds, which are official bodies with management, economic and representative functions on behalf of the fishing sector. There are 67 *cofradías* in the Spanish Mediterranean, which are proving to be key partners in the successful implementation of the Medfish project.

The General Secretariat for Fisheries, under the Ministry of Agriculture, Fisheries and Food (MAPA), is the main fisheries management authority, while the 5 regional

governments in the Spanish Mediterranean also have some delegated management responsibilities.

Medfish project to drive sustainability

Since 2015, MSC, WWF Spain and other stakeholders have been working on a comprehensive analysis of the state of key Mediterranean fisheries through the **Medfish project**, with the aim to help fisheries move towards the levels of environmental sustainability established by the MSC program.

The Medfish analysis identified 233 target species, 11 types of fishing gear used, and 370 fisheries (UoAs) in the Spanish Mediterranean coast. In 2016 and 2019, 10 of those 370 fisheries were pre-assessed to highlight strengths and weaknesses using the MSC Fisheries Standard as a benchmark for sustainability. In collaboration with multiple stakeholders, action plans were subsequently defined for each fishery to serve as roadmaps for improvements. Since 2018, with the strong involvement of fishers, scientists, national and regional management organisations, as well as NGOs, 6 of the 10 initially pre-assessed fisheries are implementing initiatives and projects to achieve the improvements detailed in their action plans (see the fisheries listed below).



Fisheries involved in Medfish Spain

1. Palamos blue and red shrimp trawl
2. Motril striped soldier shrimp traps and trawl
3. Caleta de Velez anchovy purse seine
4. Castellon anchovy and sardine purse seine
5. Majorca dolphinfish seine
6. Central coast of Catalonia octopus traps and pots

Palamos blue and red shrimp



Species

Blue and red shrimp
(*Aristeus antennatus*)



Gear

Bottom trawl



Area

Mediterranean Sea
GSA 6



Annual catches

73,7 tonnes (2021)

Reducing the environmental impact of an important Catalan fishery

Commercial fishing of *la gamba roja* in Palamos, on the northern coast of Catalonia, started around 1930. This highly appreciated species represents more than 50% of the total annual revenue for the local *cofradía*. Most of the Palamos' *gamba roja* is consumed locally or in high-end restaurants in Barcelona.

First initiative for participative management in a trawl fishery

In 2005, fishers detected an alarming decline in sizes and catch volumes of blue and red shrimp. Thus, Palamos' fishers in collaboration with scientists from Barcelona's Marine Sciences Institute (ICM-CSIC), the Spanish General Fisheries Secretariat, the Catalan government, WWF, and other members of the civil society, started to define a set of measures to regulate fishing effort and reduce negative environmental impacts. In 2013, the so-called Palamos' blue and red shrimp management plan was approved - becoming the first initiative for participative management in a trawl fishery in the Spanish Mediterranean coast. The Medfish pre-assessment carried out in 2016 highlighted many strengths with regards to management, but also identified some challenges that needed to be addressed, in particular concerning the status of the target species, the impact on the seabed and the catches of juvenile shrimps.

Reducing fishing mortality, habitat impact, and fishing effort

Following the pre-assessment under Medfish, an action plan was developed in collaboration with key stakeholders detailing measures to reduce fishing mortality, reduce juvenile catches and minimise impacts on seabed habitats. This action plan also served as a roadmap for updating the existing management plan for the fishery in 2018. New measures included a decrease in the number of vessels from 22 to 16 and a reduction of fishing hours.

This combined with a two-month seasonal closure, progressive spatial restrictions, and improved gear selectivity (through larger mesh sizes, 5-10 mm above the size required by EU regulations) has led to a reduction in fishing effort and resulted in 60% less catches on the smallest sizes of blue and red shrimp. Additionally, the whole local fleet has adopted semi-pelagic otter trawl doors, meaning that the heaviest part of the gear is no longer in contact with the seabed. This minimises the impacts on the habitat of the submarine canyons where the fishery operates.

Further research into stock status for continuous improvement

Despite the significant progress highlighted above, there are still some areas of improvement for the fishery such as the current delicate status of the blue and red shrimp stock at the level of the whole geographical sub-area 6 (GSA 6; the Eastern coast of Spain's mainland). To address this, researchers at the ICM-CSIC have carried out **Project Aristock** to update the stock status results and identify zones within GSA 6 (e.g., the Catalan Sea and Palamos' fishing grounds) where the stock may be in a healthier state.

Because of the outstanding commitment of Palamos fishers and other stakeholders in improving the fishery against the MSC Fisheries Standard, the Palamos' blue and red shrimp fishery stands out as a positive example for other bottom trawl fisheries in the Mediterranean.

Motril striped soldier shrimp in the North Alboran Sea



Species

Striped soldier shrimp;
(*Plesionika edwardsii*)



Gear

Traps and bottom trawl



Area

Mediterranean Sea
GSA 1



Annual catches

35 tonnes (2021)

Towards a responsible fishery management based on stakeholder involvement and improved data collection

The port of Motril in the Mediterranean coast of the Spanish southernmost region of Andalusia is famous for its *quisquilla*, the striped soldier shrimp. This valued crustacean is fished by local vessels using both traps and trawl nets on submarine mountains, the so-called *secos*, along the North Alboran Sea (GSA 1). In 2021, first sales of striped soldier shrimp in Motril represented a 27,4% in volume (34 t) and a 34,2% in value (around EUR 750,000) of the overall sales for the species in Andalusia.

Multi-stakeholder initiative to improve fishery sustainability

Since the inception of Medfish, *quisquilla* fishers and the local *cofradía* have been among the most committed project stakeholders. In 2017, they launched the **COFRAREDMED** project in collaboration with two other *cofradías* to develop a data sharing network to address common issues in Spanish Mediterranean fisheries. Due to complexity growing under the Medfish action plan, the need for a stronger structure and additional capacity became obvious - resulting in the creation of the Motril's Fish Producer Organisation (FPO) in 2020, with the support of MSC and WWF.

The FPO has led the way in establishing a working group for the sustainability of North Alboran Sea fisheries. Key stakeholders participating in the working group include Motril's *cofradía* and FPO, the *cofradía* of the nearby port of Caleta de Velez, national and regional management administrations, research and academic institutions, local NGOs such as SoldeCocos⁹, local city councils, as well as MSC and WWF. Among other areas of responsibility, the working group coordinates the implementation of the improvement action plans for Motril striped soldier shrimp and Caleta de Velez anchovy, another Medfish fishery in the Alboran Sea.

Addressing information gaps to improve fishery management

In 2022, Motril's FPO and NGO SoldeCocos launched a project to deepen the participatory process for the ecological transition of North Alboran Sea fisheries. One of the main project's objectives is to develop DatAlboran, a software tool and an associated database intended to address information gaps regarding fisheries impacts to the environment and the status of striped soldier shrimp's stock. This initiative is bringing together fishers, scientists, NGOs and both national and regional administrations to strengthen data collection and scientific analysis regarding the activity of local fisheries and the status and development of the natural resources they rely on. This includes, for instance, undertaking new stock assessments for target species, characterising bycatch and discards as well as endangered, threatened and protected (ETP) species and sensitive habitats.

Thanks to the support of Medfish, the technical capacity and empowerment of Motril's fishers guild to lead its own improvement process has increased significantly. With the establishment of the FPO, Motril's fishers have become a central pillar for the efforts towards adaptive and efficient fisheries management in the North Alboran Sea.

Progress & results

The participatory and structured work fostered by the Medfish project in Spain is contributing to drive tangible improvements and enabling an effective ecosystem in support of Mediterranean fisheries moving to sustainability. Key improvements that have been achieved include:

Improved selectivity, reduced fishing effort and habitat impacts

The update of the Palamos management plan for the blue and red shrimp in 2018 was an opportunity to adopt and implement improvements defined within the Medfish action plan for the fishery. The approved larger mesh size helped to improve gear selectivity and reduce catches of juvenile shrimps by 60%. The downsizing of vessels within the management plan has contributed to reduce fishing effort in the fishery by 24%. Additionally, the adoption of mid-water otter trawl doors by the whole Palamos' fleet is contributing to minimise fishery impacts on the seabed.

Improved science towards better informed management

Medfish engaged the three main Spanish Mediterranean research institutions for marine and fishery science in addressing information gaps in Medfish fisheries:

1. The Spanish Oceanographic Institute (IEO-CSIC) and the Mediterranean Institute of Advanced Research (IMEDEA-CSIC) has implemented the **Cory-track Project** to improve knowledge on dolphinfish (*Coryphaena hippurus*) movements within the species fishery in the Balearic Islands, as well as to identify dolphinfish migratory patterns across the Mediterranean.
2. Through the **Aristock Project**, the Marine Sciences Institute (ICM-CSIC) have undertaken an update of blue and red shrimp stock assessments in GSA 6 (including Palamos' fishing grounds) to highlight changes in the status of the stock along its geographical distribution.
3. The ICM-CSIC has also carried out the **SEINE-ETP Project** to gather data on interactions between the Castellon purse seine fishery and endangered, threatened or protected species, marine mammals and seabirds.
4. The **DatAlboran Project** implemented by Motril's FPO and SoldeCocos is aiming to address data gaps and scientific analysis in North Alboran fisheries to enable effective management.

Improved capacity in fishers organisations

The participation and leadership of fishers and fishers' organisations in the improvement processes are essential. As part of Medfish, technical staff at 3 *cofradías* has been trained to lead in the implementation of four fisheries'

action plan, being this instrumental in the creation of Motril's FPO.

In general, Medfish is fostering fishers' empowerment, capacity, and participation by providing technical assistance to *cofradías* and facilitating their engagement with research institutions and management administrations.

Establishment of multi-stakeholder working groups

Medfish has helped to the set-up a multi-stakeholder working group to coordinate and monitor the implementation of the action plans for the two fisheries in North Alboran Sea. The working group has a shared vision and is committed to progress into establishing participatory approaches to decision making.



Action plans

Defined: 9
Being implemented: 6



Improvement actions

Implemented: 14



Supply chains characterized

4



Stakeholder capacity building

+70 stakeholders trained in the use of the MSC Fisheries Standard and other improvement tools

Main challenges & opportunities



Increase market actors' involvement

Although big Spanish retailers such as Makro or El Corte Inglés have participated in the project's Advisory Group, it should be advisable to increase the engagement of market actors in the improvement processes of Medfish fisheries.



Address climate change and other overlapping threats

From overfishing to rising temperatures, pollution and lack of generational replacement among fishers, Mediterranean fisheries face many threats to their long term survival. This reflects the urgency of improving fishing practices in the region.



Link fishery management to the state of resources

The recent approval by the European Commission of a new management plan for the Spanish Mediterranean purse seine fishery and the implementation of the multiannual plan for demersal fisheries are steps towards more integrated fisheries management. However, there is significant work ahead to achieve a fisheries management responsive to stock status and consistent with the ecosystem approach in the Mediterranean.



Involve FPOs as action plan implementation accelerators

The creation of additional FPOs, as established in the ports of Motril and Palamos, could strengthen the structure and technical capacity within the sector and ultimately lead to further fishery improvements.

Next steps:

1

2

3

4

Develop a platform for market engagement

Facilitate market actors' active involvement in improvement processes

Foster additional multi-stakeholder working groups

Expand collaboration for comprehensive impact

Application of new scientific insights

Ensure practical application of enhanced scientific insights into effective management measures and plans

Share successes and learnings

Share project successes and best practices widely

Medfish in France

Context

France's Mediterranean coastline stretches over 900 km from Spain to Monaco. The fishing sector is mainly constituted of small scale fishing boats, with a total of 1,351 fishing vessels in 2022⁴. Fishing has a significant socio-economic impact in all areas of the Mediterranean coast, representing 1,731 direct jobs for a total annual revenue of 96 millions dollars in 2021⁴.

In 2022, total Mediterranean landings represented 12,177 tons⁴. Landings have strongly declined between 2000 and 2010 due to restrictions on bluefin tuna and the collapse of sardine and anchovy populations. In 2022, 53% of French Mediterranean landings come from non-assessed stocks.

Fisheries management and market

In France, fisheries management relies on regional committees that are in charge of representing the fishing sector and drafting fishing regulations together with the administration. In the Mediterranean, there are three fishing committees – one in Occitanie, one in PACA (the Provenza-Alpes-Costa Azul region) and one in Corsica. These committees are the main contacts in the Medfish project, together with the three Mediterranean Fish Producer Organisations (FPO) [SATHOAN](#), [Organisation de Producteurs du Sud](#) and [Organisation de Producteurs du Levant](#).

Locally, there exist distinctive structures specific to the Mediterranean Sea known as the *Prud'homies*, denoting traditional fishing communities. These institutions trace their origins back to the 15th century, with their prerogatives having undergone evolution over time. Today, the *Prud'homies* are spread out along the coastline extending from Port-Vendres to Menton, including Corsica. Their primary goal is to engage in the governance of local resources and ensure the long term survival of fishing activities. The *Prud'homies* are responsible for addressing conflicts and hold regulatory powers within the region.

Medfish in France

Medfish was launched in France in 2015, in collaboration with WWF France. The project commenced with the assessment of 96 fisheries, encompassing 42 species and 13 gear types. Following this extensive scanning, 9 fisheries underwent pre-assessment against the MSC Fisheries Standard. An action plan was developed for 8 of them. In 2023, 4 fisheries were implementing their action plan:

- Gulf of Lion wedge clam dredge fishery
- Gulf of Lion mutable dog whelk fishery
- Corsica common dentex longline fishery
- Gulf of Lion sea urchin diving (free and scuba diving) fishery.



Fisheries involved in Medfish France

1. Corsica common dentex longline
2. Mutable dog whelk trap
3. Wedge clam hand dredge
4. Sea urchin diving

Corsica common dentex longline fishery



Species

Common dentex
(*Dentex dentex*)



Area

Corsica waters (GSA 8)



Gear

Longline gear

Making an iconic small-scale fishery more sustainable.

In the Mediterranean, and Corsica in particular, the common dentex (*Dentex dentex*) is an iconic coastal fish. With its considerable size (reaching lengths of up to 1 meter and weighing up to 14 kilograms) and a lifespan of up to 30 years, the dentex stands as a species of significant economic importance within Corsica's small-scale fisheries sector.

The UoA defined by Medfish is the dentex fishery employing longline gear operating in Corsican waters (GSA 8). The dentex fishery entered the Medfish project in 2016, after a pre-assessment against the MSC Fisheries Standard.

Improvement areas identified by the pre-assessment

The initial pre-assessment found that the gear was selective and had low impact on benthic habitats. However, it highlighted several areas to improve, including:

- the dentex species being classified as "vulnerable" on the Red List of The International Union for Conservation of Nature (IUCN);
- the need for monitoring stock biomass;
- the absence of an established harvest strategy and harvest control rules;
- the lack of data on landings by gear type and for recreational fishers;
- the lack of a well defined strategy to mitigate the impact of the fishery on ETP species.

Progress: action plan and regulatory milestones

Following the pre-assessment, a collaborative action plan for the dentex fishery was formalized in 2019, with implementation overseen by the regional fishery committee and the University of Corsica. As part of the action plan, the University of Corsica is currently finalising the inaugural dentex stock assessment, based on data collected by fishers. This stock assessment is partially

funded through the OSF MAVA grant, further emphasising Medfish's commitment to advancing scientific knowledge.

A significant outcome arising from Medfish is the inception of a pivotal fishing management regulation, known as an *arrêt*. This regulatory framework, applicable to both professional and recreational fisheries, is firmly grounded in the dentex fishery action plan developed under the Medfish framework. Medfish contributions have gained explicit recognition, with the project being acknowledged in the preamble of the regulation.

Key aspects of the fishing management regulation include:

- implementation of a seasonal fishing closure from March 15th to April 15th for both recreational and professional fishing;
- establishment of a minimum landing size requirement of 40 cm, applicable to both recreational and professional fishing;
- enforcement of a daily quota limit of 1 fish per day for recreational fishing.

This regulatory framework stands as an instrumental milestone, aligned with the overarching objectives delineated in the fishery action plan. It serves as a tangible outcome of the Medfish approach, emphasising the pivotal role of collaboration and evidence-based decision-making in fisheries management.

Gulf of Lion sea urchin fishery



Species

Sea urchins
(*Paracentrotus lividus*)



Gear

Free diving



Area

Mediterranean Sea
GSA 1



Annual catches

250 tonnes

A highly selective fishery lacking stock monitoring and a collaborative approach

Professional fishing of the sea urchin (*Paracentrotus lividus*) in the Mediterranean provides catches of around 250 tonnes annually, for an estimated value of EUR 3 million¹¹. The Gulf of Lion sea urchin fishery predominantly employs free diving techniques along the Gulf's coastline, with the exception of the Bouches-du-Rhône department, where scuba diving takes place. Free diving typically occurs at depths of up to 10 meters, while scuba diving extends to depths of around 20 meters.

Part of Medfish since 2019, the sea urchin fishery underwent a pre-assessment against the MSC Fisheries Standard in the same year. A key aspect of the fishery's sustainability lies in the high selectivity of harvesting the sea urchins by hand, that minimizes interactions with other ecosystem components.

Improvement areas identified by the pre-assessment

The critical concern within the sea urchin fishery is the lack of stock monitoring. The overarching issue is the absence of a comprehensive monitoring system for assessing the abundance of sea urchin. Furthermore, collaboration among those engaged in management is limited, which has impeded the successful execution of co-management strategies. Additionally, robust management objectives for the fishery need to be defined.

A new fishing regulation for the sea urchin fishery

To address these concerns, two workshops were convened in 2021 and 2023 within the Medfish framework. The workshops gathered a diverse range of key stakeholders, including fishers, fishery representatives, scientists, administrative bodies and NGOs.

Furthermore, since the pre-assessment, the Medfish initiative supported by the MSC's Ocean Stewardship Fund and the MAVA Foundation, has enabled the University of Perpignan to undertake an extensive study to compare sea urchin densities across various Mediterranean Marine Protected Areas (MPAs).

These initiatives have led to the successful enactment of a landmark fishing regulation for the sea urchin fishery. This regulation marks a significant achievement, being the first of its kind within the French Mediterranean region. Notably, it is one of the few fishing regulations in France that comprehensively manages both recreational and professional fishing activities.

Moreover, Medfish is expressly acknowledged in the *considérants* of this regulation, highlighting its pivotal role in its development.

Progress & results



Fostering multi-stakeholder discussions towards more effective fisheries management

Medfish has brought together participants from fisheries, fishing committees, *prud'homies*, scientists, fishing management authorities and NGOs. The project Medfish has successfully established a strong network for knowledge exchange and discussions on fisheries management measures. Through a series of workshops, meetings and the project's advisory groups, Medfish has been a catalyst for positive changes in fisheries management across France.

Thanks to close collaboration, new fishing regulations were brought in that were directly inspired by the Medfish action plans for the dentex fishery and sea urchin fisheries.



Improving data collection and analysis in Mediterranean fisheries

The OSF MAVA grant, a component of the Medfish framework, is currently funding research in three fisheries:

1. Mediterranean sea urchin fishery: under this initiative, the University of Perpignan has analysed a decade's worth of data to study samples of violet sea urchins across 5 MPAs in the French Mediterranean. The aim of this research is to comprehensively evaluate how the population density of violet urchins changes over both space and time, with a focus on understanding if their location within Marine Protected Areas (MPAs) makes a positive difference. This study seeks to assess the effectiveness of different sampling methods, aiming to standardize monitoring techniques for improved efficiency and consistency. Initial findings from this research have already played a pivotal role in shaping important fishing regulations relevant to sea urchin fisheries.

2. Dentex fishery in Corsica: the fishery aims to improve the availability of data concerning its catches on the target species. A research, conducted in collaboration with the University of Corsica, concentrates on various essential components. These include the management of logbook data, estimating longline catches, and evaluating recreational fishing activities conducted from shore, spearfishing, and boats utilizing various techniques. The collected data will be instrumental in enhancing the dentex stock assessment model currently being developed by the University of Corsica. This data complements another project named DENTALE 2021-2023¹², funded by the industry association *France Filière Pêche*. This project, supported by Medfish, will apply data-poor stock

assessment methods and its results will likely contribute to more accurate and reliable information on the status of the dentex stock in Corsica. These findings will also be integrated with diverse stock assessment models employed in the Project DENTALE. The final goal is to establish well-defined reference points that enable an efficient management of both professional and recreational dentex fisheries.

3. Gulf of Lion wedge clam dredge fishery: in response to concerning trends indicating a decline in both the size and abundance of wedge clam catches, the Gulf of Lion wedge clam dredge fishery has initiated a research project to conduct a comprehensive assessment of the Grau-du-Roi fishery, involving a bibliographical study, collection, and analysis of historical fishery data, and interviews with professional fishers, fishmongers, and scientists. A crucial component of this project entails the testing and validation of a scientific monitoring protocol specifically designed for the wedge clam stock. The ultimate goal of this research is to provide the initial comprehensive assessment of the wedge clam stock targeted by the fishermen of Grau-du-Roi, thereby addressing significant data deficiencies within the fishery. This project stands as a pioneering endeavor, potentially sparking similar research initiatives.



Action plans

Defined: 9
Being implemented: 4



Improvement actions

Implemented: 17



Stakeholder capacity building

30 stakeholders trained in the use of the MSC Fisheries Standard and other improvement tools

Main challenges & opportunities

⊖ Structure of the fishing sector

A primary challenge in the development of Medfish in France revolves around the structure of the fishing sector. The main points of contact are the fishing committees and producers' organisations. However, these entities often face challenges in decision-making due to the vast areas under their jurisdiction, which can complicate fisheries management decisions.

⊖ Long-term engagement of fisheries

Since its inception in France in 2015, maintaining dynamic and sustained engagement with partners has been an ongoing challenge for Medfish. Moving forward, the aim

is to expand engagement with additional fisheries, while exploring interest of those previously involved and potentially keen to rejoin the project. Medfish will continue to support fisheries in effectively implementing and monitoring their action plans.

✓ Fostering relationships

The conservation pressures in the French Mediterranean require collective action. Medfish has achieved significant gains and provided the MSC and WWF with the opportunity to build on these successes. Lasting relationships are critical to leverage stakeholders' strengths, share knowledge and best practice and coordinate efforts to achieve greater impact in the region's waters.

Next Steps:



Ensuring support in the action plan implementation



Improving participation and leadership from fishers



Fostering commercial engagement



WWF: Partner in Medfish Spain and France

WWF is one of the world's largest and most experienced independent conservation organisations, whose mission includes preserving the world's biological diversity, ensuring that the use of renewable natural resources is sustainable, and promoting the reduction of pollution and wasteful consumption. To help fisheries that want to improve their sustainability, and seafood buyers who want to work on more sustainable sourcing, WWF engages in multi-stakeholder initiatives called Fishery Improvement Projects (FIPs). The ultimate goal of a FIP is to create measurable change and ensure the long-term sustainability of a fishery.

BluFish in Italy

Context

Italy's coastline spans 9,136 km, comprising 8.75% of the EU coastline. The coastal regions cover 181,289 km², which is equivalent to 10% of the total EU territory and 60% of the national territory. Apparent consumption of fish and seafood products amount to 28.4 kg per capita. Molluscs, cephalopods, sea bass and sea bream are commonly consumed products and fresh fish is the most frequently consumed product (84%). This share is significantly higher than the EU average (20%)¹³.

Fisheries management and market

The fishery sector's contribution to Italy's gross domestic product (GDP) is just a little over 0.5% , but it plays a more significant role in certain regions, particularly in the South.

The fishing sector is characterized by fishing enterprises large industrial companies representing the 'modern' segment, alongside numerous traditional family-run fishing enterprises. The size of the Italian fleet has been steadily decreasing over the last decade, however, numbers have levelled out recently. In 2020, Italy was the fourth largest EU country in terms of aquaculture production, while it ranked 11th in terms of fishery production. 94% of landings in Italy included fresh whole/gutted products and 6% included frozen products. With use, 96% of landings were for human consumption and 4% for industrial use¹⁴.

Italy is one of the largest markets for fisheries and aquaculture products in Europe, and the country covers the majority of

demand through imports (approximately 7 times higher than exports during recent years). It is the seventh largest market for imported fish and seafood in the world, and the third largest among the EU countries, behind Spain and France.

Italy wild-capture and aquaculture sector possesses vast coastal resources and market potential. However, declining landings, import dependence, and inefficient distribution are challenges. To ensure future growth is sustainable, coordinating bodies and more strategic intervention in the industry is imperative. The role of FPOs should be enhanced to developing collective actions with a focus on the added value that FPOs can bring to the supply chain¹³.

The BluFish project

The **BluFish project** was launched in 2018 as a key tool to facilitate partnerships and establish networks throughout the sector, including local and national administrations, commercial operators, research institutes and NGOs. Collaborative decision-making with these groups is key to define and implement improvements in BluFish fisheries, to improve ecological performance or even to aim towards achieving MSC certification. The initial mapping identified over 3,800 potential UoAs. After further analysis of 50 of these groups, we identified the 10 fisheries to be pre-assessed between 2019 and 2021. Action plans were developed for 6 of these fisheries. In 2024, 3 fisheries are implementing the action plans, namely:

- Southern Adriatic deep-water rose shrimp bottom trawling fishery
- Western Sardinia octopus trap fishery
- Strait of Sicily anchovy purse seine fishery.



Fisheries involved in BluFish

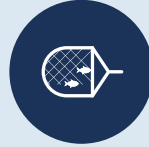
1. Southern Adriatic (Molfetta) deep-water rose shrimp bottom trawling
2. Western Sardinia octopus trap
3. Southern Adriatic Sea European anchovy and sardine purse seine
4. Western Sicilian San Vito Lo Capo dolphinfish purse seine FAD fishery
5. Eastern Sicilian Alalunga longline fishery
6. Eastern Sicilian Swordfish longline fishery
7. Strait of Sicily anchovy purse seine fishery

Adriatic deep-water rose shrimp fishery from Molfetta (Puglia)



Species

Deep-water rose shrimp
(*Parapenaeus longirostris*)



Gear

Bottom trawling



Area

Mediterranean Sea
GSA 18



Annual Catches

800 tonnes

Promoting international collaboration to improve the status of the stock and the harvest strategy

The deep-water rose shrimp fishery, targeting *Parapenaeus longirostris*, operates from Molfetta. It holds a significant position within the Southern Adriatic Sea's fishing industry: Manfredonia, Molfetta and Monopoli ports represent around 70% of landing reported for all the trawlers registered in GSA 18 ports for deep-water rose shrimp. Also, it is deeply integrated into Italy's management processes. The fishery utilizes bottom trawl nets to catch mixed demersal and deep-water species and it has a robust data collection system. Primarily, it operates within Italian waters, with Italian fishing vessels in GSA 18 using bottom trawl nets. This species is shared between Italy, Croatia, Montenegro, and Albania. Over 400 trawlers are concentrated mainly in Molfetta, Manfredonia, and Bari ports on the Italian side of GSA 18, highlighting the fishery's significance in the region.

Improvement areas identified by the pre-assessment

Since 2021, despite the fallout from the COVID-19 pandemic, the fishers from Molfetta have been working on the implementation of an action plan for their deep-water rose shrimp fishery under the BluFish framework, following the results of an MSC pre-assessment which identified 20 areas of improvement. In two of these areas, related to the status of the target stock and the harvest strategy, the fishery scored below the limit of 60 points when assessed against the MSC Fisheries Standard.

International collaboration for a sustainable management

The latest 2023 stock assessment of the deep-water rose shrimp in the Adriatic Sea found that the biomass is within safe biological limits but the fishing pressure is exceeding the levels required to be within maximum sustainable yield (MSY). To consider this situation and act accordingly, the

Molfetta fishers (represented by fishery associations [GAL Ponte Lama](#), [Assopesca Molfetta](#) and [the Italian Federation of Fishing Companies Federpesca](#)) organised a meeting under the BluFish framework on the 9th of May, 2023 in Rome with delegations from Croatia, Albania, and Montenegro. During this international forum, several aspects of the sustainable management of the deep-water rose shrimp in the Adriatic Sea were on the agenda. The priority was to formulate a shared multi-lateral management strategy of this important resource, for which Italy represents the largest fishing effort.

Several scenarios for the sustainable management of deep-water rose shrimp by 2026 were presented at the meeting, based on the current management plan promoted by the GFCM, which envisages a gradual reduction in fishing effort over the next few years to reach the desired MSY level. The socio-economic aspects of different models, encompassing factors such as landed product prices and fuel costs, were also taken into account within these scenarios. These scenarios were presented to the GFCM during the Adriatic Sub Regional Committee meeting in Split in May 2023.

Western Sardinian octopus trap fishery



Species

Common Octopus
(*Octopus vulgaris*)



Gear

Traps



Area

Mediterranean Sea
GSA 11



Annual Catches

600 tonnes

Data collection and first stock assessment in the Gulf of Oristano region

The fishery in the Oristano Gulf, in Western Sardinia, targets the European octopus (*Octopus vulgaris*) using passive gears such as traps. Despite challenges, like limited harbor access and occasional weather-related relocations, the fishery has a minimal environmental impact with approximately 100 vessels, predominantly under 12 meters in length.

Areas of improvement identified by the pre-assessment

The pre-assessment of the fishery conducted in 2020 identified two main areas of improvement, regarding Harvest Control Rules and the Harvest Strategy. The pre-assessment also found a lack of analytical assessment regarding the status of the target stock and main secondary species.

A new methodology for stock assessment

After completing the pre-assessment, the fishery has been working on the implementation of several of the measures detailed in its BluFish action plan. A significant milestone

was the implementation of a methodology specifically tailored for assessing the status of octopus stocks in data-poor contexts like the one for the small-scale fishery in Oristano. This approach, made possible through OSF MAVA grant funding, has enabled the first assessment of octopus abundance in the region. The first results of this stock assessment, led by the Department of Life and Environmental Sciences from the University of Cagliari, are due in 2024, with a second assessment to follow later this year. Both stock assessments will be presented to the GFCM for validation when required. In addition to conducting the octopus stock assessment, comprehensive data on the fishery's impact on other species, including those categorised as ETP species, as well as its effects on habitats and ecosystems, have been systematically gathered in the field.

Progress & results



Sector-wide commitment for greater sustainability.

The BluFish approach helps engage relevant stakeholders to work collaboratively to address gaps in fishery management, governance, and data collection and enhance knowledge on potential environmental impacts of fishing. As part of this approach, a partnership was developed with the [Italian Federation of Fishing Companies Federpesca](#). Our aim is to establish a strong and enduring collaboration between the MSC and Federpesca, aligning the goals of both organisations to expand the project's reach and therefore maximise our collective impact. Our shared goal include the continuation of the successful BluFish project, which, since its inception in 2018, has played a pivotal role in promoting sustainability, engaging new fisheries in Italy and supporting sustainable growth in the country's fishing industry.



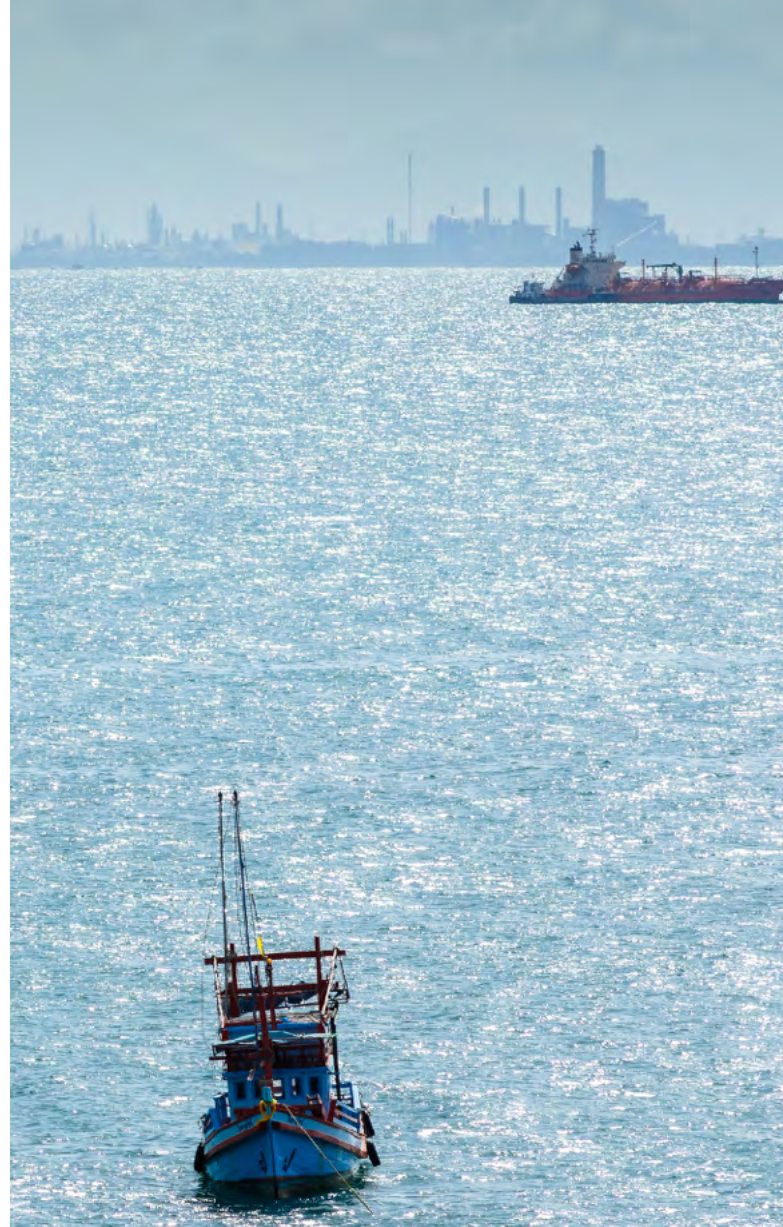
Towards a sustainable management of Adriatic deep-water rose shrimp

The stakeholder meeting held in Rome in 2023 (see page 21) on the sustainable management of the Adriatic deep-water rose shrimp led to the presentation of various bio-economic models and scenarios simulations. These scenarios took into account socio-economic considerations, through the involvement of the small scale fishery as a key partner in the project. These scenarios were presented to the GFCM with the COISPA Research Institute during the Adriatic Sub Regional Committee meeting in Split at the end of May 2023, where the significance and effectiveness of the Blufish approach were highlighted to the commission.



Increased collaboration with the GFCM

Through BluFish, MSC was able to increase its collaboration with the GFCM in recent years. Our joint approach secured our presence in discussion forums focused on ongoing advancements in the effective management of both Italian and Adriatic fisheries.



Action Plans

Defined: 6
Being implemented: 3



Improvement Actions

Implemented: 13



Supply Chains Characterized

5



Stakeholder Capacity Building

+60 stakeholders trained in the use of the MSC Fisheries Standard and other improvement tools

Main challenges & opportunities



Need of a decisive leadership

The primary challenge for the Italian sector is achieving greater organisation and cohesion among fisher's groups. The lack of structural capacity to apply for fisheries EU funds (i.e. the European Maritime Fisheries and Aquaculture Fund, EMFAF), hinders the program's ability to engage and retain new fisheries.



Long term partnerships will engage fisheries

In terms of opportunities, the partnership with Federpesca will contribute to reinforce the reach of the BluFish approach, mobilising more Italian fisheries in improvement processes and facilitating the collaboration with management administrations.

Next Steps:

1

Expand the geographical reach of the BluFish project by actively engaging new fisheries

2

Engage with key stakeholders to maintain a robust presence in GFCM meetings, which is a key platform for showcasing MSC's regional initiatives, while strengthening the MSC's engagement in other regional forums like MEDAC



HellasFish in Greece

Context

Greece boasts a rich tradition and historical legacy in the fisheries and maritime sector. Despite contributing less than 3.1% to the gross domestic product (GDP), the Greek fisheries sector holds paramount socio-economic significance, especially in coastal regions with deep-rooted reliance on fishing. In 2019, Greece boasted a staggering 14,018 vessels, representing 18% of the total EU fishing fleet. A significant proportion of these (94%) comprises small-scale coastal fishing vessels measuring less than 12 meters. These vessels exhibit relatively low average and total gross tonnage, an average age of 27 years, and modest catch volumes.

The Greek fishing sector

According to data from the Greek Data Collection Framework (DCF) and the Hellenic Statistical Authority (ELSTAT), Greece's marine capture fisheries delivered average volumes of around 66,000 tons or 79,000 tons during 2018-2019^{15,16}. Furthermore, there has been a declining trend in the number of vessels, due to the cessation of fishing activities, with or without economic compensation. Between 2003 and 2019, the number of vessels decreased by 17.56%, equivalent to 3,330 vessels, while total tonnage (GT) and power (KW) declined by 31.26% and 28.32%, respectively¹⁷. Additionally, the sector grapples with an aging population without sufficient incentives for the younger generation to take up roles in the business¹⁸.



Challenging fishing grounds in Greece

The features of Greek fishing grounds present distinct challenges for the sector, including:

- the extensive coastline spanning over 13,676 km;
- the narrow continental shelf and slope;
- the generally low biological productivity of waters in most regions;
- the abundance of exploitable species;
- the predominantly rocky seabed in coastal areas;
- the limited availability of grounds suitable for bottom trawling¹⁹.

These characteristics, coupled with various socioeconomic factors that have influenced rural populations since the latter half of the 20th century, have fostered the development of coastal fisheries that use multiple fishing gears¹⁹.

Noteworthy commercial Greek harbors include Piraeus, Thessaloniki, Patras, Kavala, Volos, and Alexandroupolis. Fish auctions also play a significant role in wholesale fisheries marketing, with 11 auction sites serving this purpose^{20,21}.

The HellasFish project

HellasFish was launched in 2019 and is funded by MAVA Foundation and A.G. Leventis Foundation. The project uses the MSC Fisheries Standard as a tool to conduct a rigorous and comprehensive analysis of the state of Greek fisheries in the Aegean and Ionian Seas. The initial mapping conducted in the Geographical sub-areas (GSAs) 20 (Eastern Ionian Sea) and 22 (Aegean Sea), identified 686 UoAs. Of these, 5 were selected for deeper mapping and pre-assessment.

Fisheries involved in HellasFish

1. Northern Aegean Sea Common Octopus pots and traps
2. Ionian Sea purse seine sardine
3. Ionian Sea purse seine European anchovy
4. Aegean Sea drifting longlines Mediterranean swordfish
5. Aegean Sea drifting longlines albacore tuna

Common octopus pots and traps fishery in Northern Aegean Sea



Species

Common octopus
(*Octopus vulgaris*)



Gear

Pots and fyke nets



Area

Mediterranean Sea
GSA 22



Annual Catches

850 tonnes

Making a selective small-scale fishery more sustainable

In the early '80s, Greece's total landings of common octopus (*Octopus vulgaris*) were relatively modest, averaging around 470 tons with both small-scale and bottom trawl fisheries contributing equally to the catch^{22 23}. However, a sudden increase was observed from 1989 onwards, peaking at about 3,500 tons in 1992. During this period, significant advancements occurred in small-scale fisheries targeting octopus, particularly in the north-eastern Aegean Sea, where fyke-nets and plastic pots were introduced and utilized in 1982 and 1992 respectively.

Subsequently, driven by escalating demand, octopus became the primary species targeted by local fishing communities, accounting for 91.5% of total landings volume and 92% of its value in the pots and traps fisheries in the GSA 22. The product's versatility allows for processing and preservation during periods of increased demand, resulting in higher market prices. However, while wholesalers, retailers, and restaurant owners benefit from these price fluctuations, the fishers themselves face uncertainty. The absence of formal agreements between producers and first buyers regarding pricing leaves the livelihoods of fishers vulnerable²⁴.

Despite encountering various challenges, the octopus fishery in northern Greece stands out for its use of selective fishing gears, resulting in minimal impact on the marine ecosystem.

Areas of improvement identified by the pre-assessment

The areas of improvement identified during the pre-assessment carried out in December 2023 concern the lack of systematic stock assessments coupled with regular onboard observations, inadequate monitoring, control and surveillance leading to low compliance with the management in place, and the absence of long-term objectives informing fishery management.

Enhancing scientific research and data collection towards better management

Through HellasFish, MSC initiated a collaborative effort to tackle the key challenges identified by the pre assessment. The participation of scientists, fishers, government officials, and Fisheries Local Action Groups (FLAGs) was crucial not only for crafting an octopus improvement action plan but also to secure its initial implementation. Subsequently, a research project funded by the OSF

MAVA grant commenced in October 2022 to address data deficiencies and information gaps. Coordinated by the Fisheries Research Institute (FRI) and in partnership with the Aristotle University of Thessaloniki (AUTH), research activities include scientific observations on board octopus fishing vessels, the collection of biological data about the target and by-catch species, as well as underwater video recording, using drones to monitor gear interactions with potential co-existing species and habitats. HellasFish supported the Fisheries Research Institute to secure funding for another year of data collection through the engagement of the FLAGs. This scientific information contributed to a robust assessment of the octopus stock, as well as to an evaluation of the fishery's impact on the wider ecosystem, enabling future management improvements to ensure long-term sustainability for the fishery. Additionally, FLAGs organized and supported the knowledge exchange visit to Asturias, Spain, described on page 29. Last but not least, as part of the improvement action plan, stakeholders committed to forming a steering committee to enable and monitor action plan implementation and address fishery-related issues.

Progress & results



Building trust and engagement among stakeholders

Since its inception in 2019, HellasFish has promoted a multi-stakeholder approach to support Greek fisheries in their path towards sustainability. In this framework, long term engagement of stakeholders is based on the participation, empowerment, ownership over the decisions made through consultation, shared responsibility and the exchange of information and know-how. This approach was key for the successful definition of the fisheries improvement action plans and will be decisive in their implementation.



Capacity building

HellasFish has organised training to build stakeholders' capacity on the MSC Fisheries Standard and related improvement tools. An online workshop aimed at staff from research institutes and universities took place last year, while two exchange visits with the participation of fishers, researchers, government officials and FLAGs staff were held since the beginning of the project, providing the opportunity for the participants to discuss any challenges involved in meeting the MSC Fisheries Standard criteria as well as insights on the benefits of MSC certification.



Towards sustainable management of the octopus fishery

Significant advancements within the HellasFish project are exemplified in the common octopus pots and traps fishery located in the Northern Aegean Sea, as detailed in the case study on page 26. The scientific data acquired through research activities have served as a cornerstone for conducting robust assessments of octopus stocks and evaluating ecosystem impacts. Future management strategies to secure long-term sustainability of stocks will be informed by this research. Furthermore, engagement with FLAGs presents a crucial avenue for accessing European Maritime and Fisheries Fund (EMFF) to execute the action plan and progress further towards sustainability.



Increase knowledge of the market

To better understand the market potential for the region, a value chain study was conducted for three fisheries (octopus, sardine, and anchovy) in partnership with APC in January 2022. The study highlighted:

- the absence of official agreements between fishers and traders leads to highly volatile prices, which can fluctuate within the same day;
- traders serving as intermediaries between fishers and final buyers (retailers), frustrates the fishers and hinders investment in innovation;
- the interest of local and regional processors in sourcing certified sustainable seafood for export to environmentally conscious countries;
- the need to raise awareness about the MSC Program in Greece to incentivise sustainable consumption practices.



Action plans

Defined: 5



Improvement actions

Implemented: 3



Supply chains characterized

3



Stakeholder capacity building

13 stakeholders trained in the use of the MSC Fisheries Standard and other improvement tools

Main challenges & opportunities

☐ Sector related challenges

Sector-specific challenges include:

- competition among fishers using different gears and lack of trust, usually leading to their unwillingness to organize themselves into cooperatives or producers' organisations, thus occasionally causing delays in the project developments;
- the segmentation within the Greek small-scale fisheries sector and the lack of representation of small-scale fishers across governance tiers, making it difficult to identify local leaders who can challenge the *status quo*;
- the fishers' frustration and unwillingness to commit to new initiatives, stemming from the general uncertainty of the fisheries sector, the long financial crisis and the difficulties brought by the COVID pandemic.

their involvement in decision making through the establishment of steering committees and participatory processes. The project also support the establishment of organisational structures aimed at enhancing the marketability of their products and livelihoods, especially in light of the increasing demand for certified sustainable seafood in the Greek market and abroad. Through the best practice examples of other certified fisheries and the interaction with the FLAGs and the fisheries management authorities fishers have realized that concerted action can provide benefits such as access to EMFF funds. This vision transcends Northern Greece, with ambitions to extend the project's reach to other areas and regions, both domestically and internationally. Through collaborative efforts, scientific insights, and a steadfast dedication to sustainability, fishers and stakeholders are forging pathways towards a thriving future for marine ecosystems.

☑ Opportunities arising from HellasFish

The project provides fishers with a framework and incentives to enhance collaboration and information exchange. It also gives them the chance to amplify

Next Steps:

1

Building ownership

Establishing steering committees to expedite and oversee the implementation of improvement actions through a collaborative approach

2

Market incentives

Generating synergies with relevant market actors to provide incentives for fishing communities to enhance their practices

3

Access to funds

Providing technical assistance to fishery stakeholders in developing project proposals to allow for action plan implementation

4

Expanding

Expand the project onto other areas and regions in Greece and abroad

Country best practice exchanges

MedPath promoted several activities to foster transnational discussion and synergies, and share best practice between fisheries of different countries.

Sharing learnings across Mediterranean octopus fisheries

Octopus fisheries across the Mediterranean face common issues in their paths towards sustainability. To support them, the MedPath team organized initiatives and exchanges of best practice to provide octopus fisheries and stakeholders with technical assistance, case studies and tools to progress the implementation of improvement actions.

The unique aspects of octopus life cycles and population behaviors pose significant challenges in conducting accurate abundance assessments and establishing consistent biological reference points aligned with the MSY. This represents a constraint for the development of harvest strategies and harvest control rules.

A scientific workshop was organised by the MedPath team in Madrid in March 2022 to analyse the information gathered from Iberian octopus fisheries. Following the mentioned analysis, a tool is being designed to visualise and interconnect different options for data collection, stock assessment and management objectives. This remarkable

result could guide the development of more integrated harvest strategies.

In July 2022, the MedPath team organised a workshop in Rome to facilitate the exchange of best practice among common octopus Mediterranean fisheries. Scientific researchers and public authority representatives, as well as other technical stakeholders from Italy, Spain and Greece met for two days to discuss common challenges and identify solutions within their respective fisheries. This was followed by two site visits — in October 2022 and September 2023 — to the Western Asturias octopus fishery, which was the first octopus fishery to achieve the MSC certification in the world. Italian, French, Greek and Spanish fishers and fishery representatives from Sardinia, Gulf of Lion, Greece and Asturias met with local government officials and technical staff from FLAGs to share experiences and discuss approaches to address common challenges.



What's next?

Over the nine years since the start of Medfish, the different Pathway projects included in MedPath have achieved many of their initial objectives. From identifying gaps in fisheries and fostering subsequent multi-stakeholder improvement processes, to providing technical assistance and capacity building, MedPath has helped to foster a more unified ecosystem of stakeholders that can support Mediterranean fisheries in their journey towards sustainability.

Nowadays, the project is still regarded as a valuable tool for structuring engagement with fisheries in the area and fostering the development and implementation of action plans. MedPath is expected to continue strengthening the ongoing improvement processes in the region for the years to come, empowering fishers and fishery stakeholders in their pathway to sustainability.

Key learnings and achievements from MedPath include:

- pre-assessments against the MSC Fisheries Standard and involving stakeholders in developing action plans has proved to be a useful framework for establishing clear pathways toward fisheries sustainability. This approach helps to identify areas that need improvement and propose strategies for sustainable practices;
 - the establishment of fishery-specific, multi-stakeholder working groups is pivotal in driving progress and greater synergies, and monitoring the implementation of action plans. By bringing together diverse perspectives and expertise, these groups foster trust and facilitate improvements;
 - MedPath also aimed to strengthen the organisational and technical skills of fisheries stakeholders through the delivery of relevant workshops and training courses. As a result, new Fishers Producer Organisations (FPOs) have emerged, playing a crucial role in driving positive changes and advancements;
 - MedPath's action plans have inspired new management regulations across the Mediterranean.
- For instance, in France new regulations have been developed for the dentex fishery in Corsica and the sea urchin fishery in the Gulf of Lion, inspired by the action plans developed within Medfish. In Palamos, Spain, Medfish action plan has served as a roadmap for the enhancement of the management plan for the blue and red shrimp fishery;
- close collaboration between research institutions and fishers has led to innovative solutions to address data deficiencies. Examples include the DatAlboran software tool in Spain, which aims to improve data collection and analysis for North Alboran Sea fisheries; and a tailored methodology for stock assessment devised for the common octopus in Italy. In Greece, comprehensive data gathered through onboard monitoring and underwater video recording helps to generate the information required for the sustainable management of data-limited fisheries.



Glossary

- **CPUE**
Catch per unit of effort
- **EMFAF**
European Maritime Fisheries and Aquaculture Fund
- **ETP**
Endangered, Threatened or Protected species
- **FAD**
Fish Aggregating Device
- **FIP**
Fishery Improvement Project
- **FAO**
UN Food and Agriculture Organisation
- **FPO**
Fish Producer Organisation
- **GDP**
Gross Domestic Product
- **GFCM**
FAO General Fisheries Commission for the Mediterranean
- **GSA**
GFCM Geographical Subarea
- **HCR**
Harvest Control Rule
- **ITM**
In-Transition to MSC Program
- **MEDAC**
EU Mediterranean Advisory Council
- **MPA**
Marine Protected Area
- **MSY**
Maximum Sustainable Yield
- **OSF**
MSC's Ocean Stewardship Fund
- **OSF MAVA grant**
MAVA Foundation's financial contribution administered by the OSF to fund improvement actions in Mediterranean, and West African fisheries included in MSC's Pathway projects.
- **RFMO**
Regional Fisheries Management Organisation
- **UoA**
Under the MSC Fisheries Standard, an Unit of Assessment (UoA) is determined by (a) a specific species' stock, (b) the fleet or group of fishers targeting that stock, and (c) the type of fishing gear used.

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