# BluFish Project

A JOINT PROJECT TO ASSIST FISHING COMMUNITIES ON THEIR COURSE TOWARDS SUSTAINABILITY. SUPPORTED BY:

# Stage 1.b – Deeper Mapping

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### *English*

Prepared for: Blufish Project, Marine Stewardship Council (www.msc.org/it/progetto-blufish)
Prepared by: *Malvarosa, L., Scarcella, G., Sabatella R., Cozzolino M.*
On behalf of NISEA, Via Irno, 11, 84135, Salerno, Italy
www.nisea.eu

# Summary

# 1. Introduction

This report presents the results of "Deeper Mapping", which together with the earlier "Fast Scan" makes up "Fisheries scanning and mapping", the first stage of the Blufish project.

The aim of the Fast Scan was to provide an overview of all the fishing activities – including target species and gears used – conducted by the Italian fleet in each geographical subarea (GSA) of the General Fisheries Commission for the Mediterranean (GFCM). The objective of the Deeper Mapping is to select from the Fast Scan list of fishing activities – which in the project are designated as Units of Assessment (UoAs) - a 50-strong shortlist that will be examined to identify their key distinctive features. Such distinctive elements will then be employed to select a final, shorter list of fishing activities, which in the subsequent stage of the project will undergo a pre-Assessment according to MSC standards. GSAs 9 and 17 are not included in the Deeper Mapping.

The present report includes:

1. a chapter reporting a description of the Italian fishing sector and data regarding the main features of production, the import-export balance, and the consumption of fish products (Chapter 2);
2. a chapter describing the management system, with emphasis on the main national management measures and approaches, also in relation to international agreements and EU policies (Chapter 3); and
3. a chapter describing the criteria by which the UoAs for the Deeper Mapping were selected and the main results of the work (Chapter 4). The results are reported in five annexes (I-V) which contain the description of each UoA. This information is divided into sections that address: i) the state of the stocks targeted by each UoA; ii) their ecosystem and habitats; and iii) the fishing management system regulating each UoA. The description of the 50 UoAs selected for the Deeper Mapping is thus structured according to the three tenets of the sustainable fishing standard of MSC. This section is strengthened by an outline of the chief socio-economic issues.

The same sources were employed for the Deeper Mapping and the Fast Scan except for the import, export, and consumption figures, which were supplied by Istituto di Servizi per il Mercato Agricolo Alimentare (ISMEA) and by the European Market Observatory for Fisheries and Aquaculture Products (EUMOFA).

## 2. The Italian fishing sector

Italy's annual fish production is about 340,000 tons, of which 57% come from capture fisheries and 43% from aquaculture. Italy is the fourth European producer, accounting for 11% of the value of total captures after Spain, France, and the UK, whereas it ranks tenth in terms of catch quantity. However, the average sale price of captured fish is around €4.70 / kg compared with the much lower EU average of €1.65 / kg (STECF, 2018)

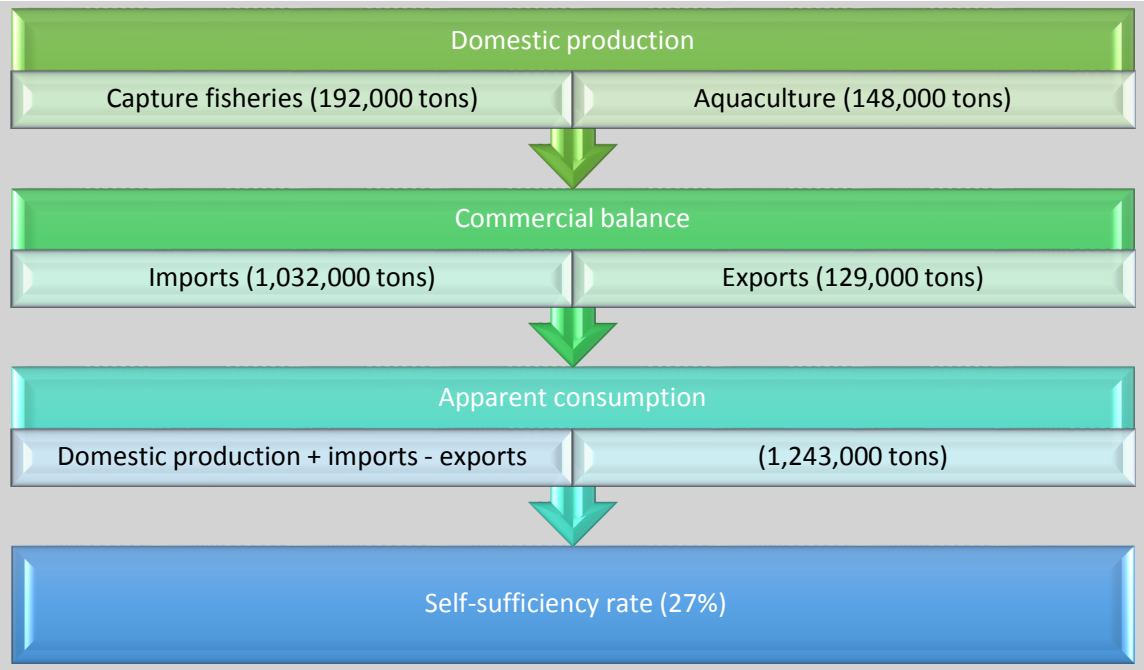


**Figure 1 - Main indicators of the Italian fishing sector and commercial balance in 2016. Sources: MIPAAFT / National Fisheries Data Collection Programme, Istat.**

Italy is a net importer of fish and seafood; imports account for about 83% of the volume of fish and seafoodfish and seafood sales. The propensity to import, which has characterised the sector for the past two decades, is due substantially to poor domestic production (Malvarosa, 2013). At about 1,032,000 tons, imports vastly exceed exports (129,000 tons); the negative trade balance (roughly 900,000 tons) is worth nearly three times the value of domestic production. In 2016 the self-sufficiency rate, *i.e.* the ratio of domestic production to apparent consumption, was estimated at 27%, down from 33% in 2012 (Mannini and Sabatella, 2015; Malvarosa, 2013). Imports are from EU Member States (Spain, The Netherlands,

Greece, France, and Denmark) as well as non-EU countries, chiefly Vietnam, Thailand, India, China, Argentina, and Ecuador (Malvarosa, 2013).

The low self-sufficiency rate and the consequently high imports are due to the strong (and increasing) propensity of Italian consumers to purchase fish and seafood, on which in 2015 they spent € 10.3 billion, the highest figure in Europe in absolute terms (EUMOFA, 2016). According to the latest FAO data (FAO, 2018), *per capita* fish consumption in Italy in 2013 was nearly 25.5 kg, higher both than the world average (19.8 kg) and the EU average (21.8 kg).

In 2017, consumption seems to have risen further: by 2.3% compared with 2016 for fish and sefood in general, and by 3.3% for fresh and thawed products. In particular, fish and mollusc sales appeared to be increasing (respectively by 3.5% and 2.3%), whereas the sale of crustaceans declined by 1.4% (ISMEA, 2018).

As regards the harvesting sector, the volume of production decreased by 41% from 2004 to 2013 (Mannini and Sabatella, 2015), as a consequence of a general reduction in fishing capacity. Employment figures have also declined. However, in the past few years signs of recovery have begun to emerge (NISEA, 2017). The main factors that have contributed to this change include:

- ✓ a slight increase in sale prices (3%) in 2016 compared with 2015;
- ✓ increased daily revenues, since intake *per* fishing day increased from an average of €560 in 2013 to slightly more than €620 in 2016;
- ✓ a strong reduction in fuel prices, the item affecting total costs most heavily (Italian average, 53%), which has increased the value added of products.

Altogether, these factors have resulted in an increase in the mean cost of labour *per* operator and of total gross profit. In 2016 the total gross profit of the Italian fishery sector has been estimated at €285 million (NISEA, 2018).

## 3. The Italian fisheries management system

The Italian fisheries management system is largely based on fishing effort control through input measures.

The fishing effort is managed through:

a) fishing licenses: fish resources can be exploited only by subjects holding a regular license (law no. 41/1982);
b) control of fishing capacity: capacity cannot exceed at any time the limits set by Regulation (EU) No 1380/2013 (Annex II: for Italy, 173,506 GT and 1,070,028 kW). Vessel scrapping and entry of new capacity is managed so that new capacity added to the fleet without public aid is compensated for by the prior withdrawal without public aid of at least the same amount in terms of tonnage and kilowatts. The European Commission (EC) is due to update the entry/exit scheme by 30 December 2018 (art. 23 of the Regulation).

The definitive decommissioning of vessels with public aid has been set out in the Action Plan enclosed in the annual Report describing the effort made by Italy in 2016 to find a sustainable balance between fishing capacity and resources, as envisaged by Regulation (EU) No 1380/2013 (art. 22). The Action Plan envisaged an 8% reduction of current capacity for the trawler fleet, to be achieved by the end of 2017. The names of the fishermen who are entitled to financial compensation for decommissioning vessels, in line with Ministerial decree no. 3879 of 29.11.2016, have been published in the Italian Official Gazette of 20.11.2017.

The management system also includes a number of important technical measures, which were introduced by Regulation (EU) No 1967/2006 (Mediterranean Regulation). These measures came into force only in 2010 The most important involve:

a) a minimum landing size (MLS) for some fish species, listed in Annex III;
b) codend mesh size: since 01.06.2010, the 40 mm diamond mesh has been replaced by the 40 mm square mesh or, at the duly justified request of the ship owner, a diamond-meshed net of 50 mm;
c) no-trawling areas within 3 nm of the coast or within the 50 m isobaths, where this depth is reached at a shorter distance from the coast;
d) a fishing ban above seagrass beds, particularly *Posidonia oceanica* and marine phanerogams;
e) a fishing ban over maërl and coralligenous habitats for vessels using trawls, dredges, beach and boat seines, and similar gear;
f) temporary closed areas, where trawling is banned within a certain distance of the coast or at a given depth, which are different in the different GSAs.

For several years, input control has been considered as the only possible approach to fishing management in the Mediterranean. Yet, this strategy has not achieved the objectives of the Common Fisheries Policy (CFP) (Vielmini et al., 2017; Colloca

et al., 2017). Other measures – such as output control, bycatch reduction, and an ecosystem-based management – have thus become necessary if the CFP objectives for the Mediterranean are to be achieved by 2020 (Cardinale et al., 2017). More effective management tools, such as long-term Management Plans and the inclusion in National Management Plans of Maximum Sustaible Yield (MSY) goals and harvest control rules are required to tackle the critical state of Mediterranean stocks and ensure the long-term biological as well as economic sustainability of the fishing sector (Sabatella et al., 2017).

*Management Plans*

Besides the technical measures, the Mediterranean Regulation also envisages Management Plans (art. 19), which member States are required to adopt for a number of fishing activities in their territorial waters. The goal of the EC in this case was to introduce an approach to fisheries management that was based on a diffuse decision-making process and on the adoption of multi-year management plans combining effort management and technical measures both at the national and the EU level (Sabatella et al., 2017). These plans are however being re-evaluated in order to assess their consistency with the CFP, which envisages the achievement of sustainable management of fish stocks by 2020 at the latest.

In 2011, Italy adopted six Management Plans for the trawler fleets and four for small pelagic species for the different GSAs (Director decree no. 6/2011).[1]

*Management Plans for demersal species*

In 2018, the Management Plans for demersal species were updated (Ministerial decree of 30.1.2018, concerning the adoption of National Management Plans directed at fishing fleets exploiting demersal species).[2] In the case of these species, the Plans aim at improving spawning stock biomass (SSB) through a reduction in the exploitation rate (calculated for each GSA by weighting a pool of representative species) from the current level to one consistent with the sustainability standards envisaged by the new CFP (art. 2, Regulation (EU) No 1380/2013).

The chief technical management measure included in the Plans is effort regulation through a reduction in fishing days for all GSAs, as follows:

- 2018 – no change and count of fishing days;
- 2019 – 5% reduction compared to the fishing days counted in 2018;
- 2020 –10% reduction compared with the fishing days counted in 2018.

Besides the reduction of the fishing effort, the new Management Plans provide for its "spatial" management through the identification of nursery and spawning areas, where fishing is banned.

The Management Plans apply to the fishing vessels which are registered in the compartments of the GSAs that are affected by the plans. The fleet segments

[1] https://www.politicheagricole.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/6896
[2] https://www.politicheagricole.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/12478

involved by the Management Plans in each GSA are those which provide at least 2% of total landings of at least one of the species listed in Table 1.

**Table 1 - List of the species that identify the segments involved by the Management Plans for demersal species in each GSA**

| Species | GSA 10 | GSA 11 | GSA 16 | GSA 18(*) | GSA 19 |
|---|---|---|---|---|---|
| European hake (*Merluccius merluccius*) | **X** | **X** | **X** | **X** | **X** |
| Red mullet (*Mullus barbatus*) | **X** | **X** | | **X** | |
| Deep-water rose shrimp (*Parapenaeus longirostris*) | **X** | | **X** | **X** | **X** |
| Giant red shrimp (*Aristaeomorpha foliacea*) | | **X** | | | **X** |
| Common sole (*Solea solea*) | | | | **X** | |

(*) one element included in the Management Plan is the exploitation of demersal stocks in GSAs 17 and 18

It should however be stressed that the implementation of the technical measures envisaged by the Management Plans is quite likely to entail effects or consequences on other species, which do not identify the segments (and are therefore not listed in Table 1).

*Management Plans for shared demersal stocks*

In 2016, the GFCM approved a multi-annual management plan for trawling activities that exploit European hake (*Merluccius merluccius*) and deep-water rose shrimp (*Parapenaeus longirostris*) in the Strait of Sicily (from GSA 12 to GSA 16). The plan involves the creation of three Fisheries Restricted Areas (FRAs), a gradual reduction of the fishing effort, and international monitoring, control, and surveillance of fishing activities (Recommendation CM-CFCM/40/2016/4 integrated by Recommendation CM-CFCM 42/2018/5). FRAs aim at improving the management of areas where European hake and deep-water rose shrimp are overexploited and to allow the recovery of their stocks to levels that are in line with MSY goals. The plan bans trawling with any gear in FRAs. It should have been adopted on 1 October 2016 and should have been implemented by the Member States by this date[3]. Yet, FRAs have not yet been set up, and several vessels are consistently exploiting these areas (Greenpeace, 2018; Oceana, 2018).

The EU has recently submitted to the CFCM a proposal for a multi-annual management plan for trawling activities targeting giant red shrimp (*Aristeomorpha*

[3] Art. 13, Basic texts of the General Fisheries Commission for the Mediterranean of the FAO.

*foliacea*) and blue and red shrimp (*Aristeus antennatus*) in the Ionian Sea (GSAs 19, 20, and 21). The proposal, which was accepted by the CFCM with Recommendation CM-CGPM/42/2018/4, will only come into force at the end of April 2019. The multi-annual management plan aims at achieving trawling sustainability in the Ionian Sea and lays the basis for the future management of the two species in this area, which, as stressed in the proposal, has considerable economic and social importance. The recommendation also provides for transitional measures, to be applied until the adoption of the definitive measures, which will be based on the scientific opinion provided by CFCM Scientific Advisory Committee (SAC). The multi-annual management plan will be in line with the precautionary approach and the MSY goals and will aim at preventing stock collapse while at the same time ensuring fishery sustainability and stability. While awaiting the definition of the biological reference points consistent with the MSY goals, the general objectives of the plan shall be pursued by maintaining the fleet capacity / fishing effort, employed for the exploitation of the key Ionian Sea species, at the levels authorised or adopted in 2014-2017. An identical proposal is included in the multi-annual management plan for trawling activities targeting giant red shrimp (*A. foliacea*) and blue and red shrimp (*A. antennatus*) in GSAs 24, 25, 26 and 27.

These plans will also apply to the other Italian vessels targeting the two species in the GSAs involved.

*Management plans for small pelagics*

The exploitation of small pelagics with purse seines and pelagic pair trawls is currently subject to a number of provisions that include both technical measures and effort restrictions (Ministerial decrees of 25.12.2016 and 10.08.2017).
The current regulations implement Recommendation GFCM 37/2013/1 regarding a multi-annual management plan for the exploitation of small pelagic stocks in GSA 17 (Northern Adriatic) and transitional conservation measures for the exploitation of small pelagics in GSA 18 (Southern Adriatic). Council Regulation (EU) No 127/2017 has set a total allowable catch (TAC) quota of 112,700 tons and a maximum number of 180 fishing days a year for the fleets operating in these two GSAs, which are shared by Italy, Croatia, and Slovenia. For 2017, it established fishing opportunities for some fish stocks and groups thereof, applicable in EU waters and, for EU vessels, in certain non-EU waters, and introduced a list of authorised vessels (Ministerial decree of 30.03.2018).
A multi-annual plan for the management of small pelagic stocks (anchovy, sardine, mackerel, and horse mackerel) in the Adriatic, proposed by the EC in 2016[4], has substantially been modified in its objectives by the European Parliament by a vote taken on 13.11.2018[5], and now needs to be examined by the Council.

[4] Proposal for regulation of the European Parliament and of the Council, instituting a multi-annual plan for small pelagic stocks in the Adriatic Sea and for the fisheries exploiting these stocks COM(2017) 97 final
[5] https://oeil.secure.europarl.europa.eu/oeil/popups/ficheprocedure.do?lang=&reference=2017/0043(COD)

*Management plans for highly migratory species*

The current management approach to highly migratory species in the Mediterranean concerns bluefin tuna (*Thunnus thynnus*), swordfish (*Xiphias gladius*), and albacore (*Thunnus alalunga*).

Since these species are shared highly migratory stocks, they are managed by the International Commission for the Conservation of Atlantic tunas (ICCAT), which issues management recommendations that can regard, for instance, catch quotas and technical measures, MLS, fishing areas, closed areas, effort restrictions, and monitoring, control, and surveillance of fishing activities. Italy is a member of the EU delegation, which participates in the annual ICCAT meeting and negotiates on behalf of the Member States and the Council.

The reduction of bluefin tuna stock biomass in the Eastern Atlantic and the Mediterranean has led the ICCAT to adopt in 2010 a multi-annual recovery plan that is subject to continuous revision based on stock status data. The current 2018-2020 recovery plan (Recommendation 2017-07) involves for 2018 a TAC of 28,200 tons (an increment to 36,000 tons, envisaged for 2020, will be shared among ICCAT members) and an electronic monitoring and control plan for captures.

Regulation (EU) No 120/2018 has set for Italy a TAC of 3,894 tons for 2018. It is divided into purse seines (74.1% of the whole quota), longlines (13.5%), tuna purse seines (8.4%), a quota set aside for compensations (slightly less than 3.5%), and recreational fishing (0.5%); the Regulation involves an individual quota system that is defined annually by decree (Director decree no. 8876 of 20.4.2018). In 2000 the purse seiner fleet consisted of 72 vessels authorised to exploit bluefin tuna; in 2011 the fleet had shrunk to 12, also due to the adoption of a transferable individual quota system. The majority of vessels were scrapped in the framework of Operative Programme 2006/2013 of the European Maritime and Fisheries Fund (EMFF). A total number of 30 longliners can exploit bluefin tuna, and only one tuna fixed net (Carloforte, Sardinia) is authorised.

Given the poor state of swordfish stocks, fishing with longlines is regulated by a plan that aims at stock recovery by 2022 through effort restrictions, TACs, MLS, temporary fishing closures, and control, monitoring and surveillance of catches and fishing activities. Other gears, especially swordfish nets, have been banned by an international moratorium since 2010.

ICCAT's Recommendation 2016-05, which supersedes Recommendation 2013-04, bearing measures for the management of swordfish fisheries in the Mediterranean, requires Member States to provide ICCAT with a list of authorised vessels by 15 January each year. The recommendation introduced a TAC of 10,500 tons for 2017. The TAC should be reduced by 3% a year starting in 2018, to achieve a reduction of 15% in 5 years. It also envisages a number of measures such as bans in some

periods of the year, MLS, technical gear specifications, the gradual reduction of fishing capacity, and a control and monitoring plan.

The provisions of EC decision no. C (2013) 8635 of 6.12.2013, which introduced an Action Plan agreed with the Italian administration, have been transposed in Ministerial decree 3.6.2015, which concerns the implementation of measures 14, 15, and 16 of the Action Plan (management of Mediterranean swordfish fisheries). The decree was integrated by Ministerial decree 23.2.2018, which adopted the swordfish recovery plan and the relevant technical measures (including bycatch and recreational fishing) in line with ICCAT Recommendation 2016-05.

Italy has also drawn up the national list of authorised vessels (Director decree no. 3992 of 29.02.2016), which also reports the European vessel identification number of each ship authorised to catch swordfish with longlines (849 vessels, 351 operating in GSA 10 and 180 operating in GSA 19).

Regulation (EU) No 120/2018 has granted Italy a total quota of 3,624 tons for 2018 (to be subdivided).

Although no management plan has been devised specifically for albacore (*T. alalunga*), the species is indirectly affected by some measures of the swordfish management plan. In particular, temporary albacore fishing closures have been established, to reduce the bycatch of juvenile swordfish. The next stock assessment, which is due in 2021, is expected to be followed by a new management plan.

*Minimum size*

A minimum conservation reference size (MCRS) has been set for several of the above-mentioned species involved by management plans. Their list is reported below. The MCRS for several species is established in the Mediterranean Regulation and is used as a reference for the implementation of the landing obligation in the Mediterranean.

*Landing obligation*

The implementation of the landing obligation (introduced by art. 14 of Regulation (EU) No 1380/2013) by the Italian fleets envisages three discard plans[6] based chiefly on exemptions. In the Mediterranean, its provisions are applied exclusively to the species for which Annex III of Regulation (EU) No 1967/2006 sets an MLS. Two types of exemptions from the landing obligation are envisaged: i) for Annex III species and/or the fishing activities for which scientific evidence demonstrates high

[6] Commission delegated regulation (EU) No. 1392/2014 (small pelagics)
Commission delegated regulation (EU) No. 2016/2376 (for molluscs)
Commission delegated regulation (EU) No. 2017/86 (for cod, mullet, sole, and deep-water rose shrimp)

survival rates of discarded individuals; ii) up to 5% of the total catch of Annex III species can be discarded if improvements in selectivity are considered to be very difficult to achieve or if bycatch handling is disproportionately onerous (*de minimis* exemption).

The implementation of the landing obligation has been hampered by a number of problems. In particular, i) the discard plan for small pelagics entails real-time monitoring of the *de minimis* exemption, and ii) the discard plan regarding demersal species is based on a list, to be provided by the Member States involved, of the vessels that are subject to the landing obligation for each individual fishing activity. All the vessels whose hake, mullet, common sole, and deep-water rose shrimp catch in 2014 and 2015 accounted for 25% of captures are to be included in such list. Since the vessel list has not been compiled by the Italian administration, the regulation has not been implemented either for demersal species or for the transitional period (until the end of 2018) (Sabatella et al., 2018). Full implementation of the obligation for all Annex III species is envisaged from 1 January 2019; implementation plans are being discussed and approved.

*Data collection and management*

The Data Collection Framework (DCF) was adopted by the EC in 2000 (Commission Regulation No 1543/2000, Regulation (EU) No 199/08, Regulation (EU) No 2017/1004), to improve the scientific advice required to support the CFP. Its regulatory apparatus is continuously evolving. Its field of application has been expanded to address the increasingly complex fisheries issues. Data collection thus includes all the information that may be useful for the assessment of fish stocks and of the economic consequences of the adoption of different resource exploitation and management strategies. In particular, the data collected allow evaluating:

- the status of marine biological resources;
- the level of catches and the impact of fishing activities on marine biological resources and ecosystems;
- the socio-economic results of capture fisheries, aquaculture, and fish processing.

The collection of data on fish stocks and production structures aims chiefly to supply national and EU administrators with tools to plan and implement management measures, which are essential to ensure a rational and sustainable use of marine resources both in biological and economic terms.

The classification of fishing vessels according to gear, fishing technique, and size class, employed in the present Report, are based on the DCF, Appendices III and IV (see the Fast Scan for additional information on the procedure).

*Habitat Directive and Marine Strategy Framework Directive*

The Italian government has defined its long-term marine resource exploitation and environmental protection objectives based on the goals of the Habitat directive (Council Directive 92/43/EEC) and the earlier Birds directive (Directive 2009/147/EC), whose long-term objective is to promote the conservation of biodiversity throughout the EU.

In particular, the Habitat directive aims to promote the maintenance of biodiversity through the conservation of natural and semi-natural habitats and of wild flora and fauna in Europe. To do this, it has identified a number of habitats of EU interest that are actively protected in Special Conservation Zones (SCZs), which derive from earlier Sites of Community Importance (SICs). The latter make up the EU-wide ecological network of Natura 2000 protected areas. The Habitat directive thus aims to protect a wide range of animal and plants that are rare, threatened, or play a key role in ecosystems.

Other environmental regulations like the Water Framework Directive (Directive 2000/60/EC) and the Marine Strategy Framework Directive (Directive 2008/56/EC), also set clear objectives (Directive 2008/56/EC) such as the achievement of a "good ecological status" by 2020 (Good Environmental Status, GES). Italy has already adopted them in the management activity of several ministries. In particular, according to the Marine Strategy Framework Directive, Member States should develop a national marine strategy which, albeit specifically tailored for their own exclusive economic zone or territorial waters, should also take into account the general situation of the wider marine region (in the case of Italy three ecoregions: Adriatic, western Mediterranean, and Ionian-central Mediterranean Sea). The marine strategies should lead to the adoption of measures aimed at GES achievement or maintenance.

Finally, Italy has adopted Directive 2014/89/EU, which institutes a maritime spatial planning framework. Its aim is to promote the sustainable growth of maritime economies, the sustainable development of marine areas, and the sustainable utilisation of marine resources (blue economy). A key goal is to ensure the use of resources and of space while protecting marine and coastal habitats through an ecosystem approach, *i.e.* a strategy for the integrated management of the environment and of living resources that enables their conservation and sustainable use.

# 4. Synthesis of results

A total number of 2,606 UoAs were identified by the Fast Scan in the GSAs that would be included in the Deeper Mapping stage (GSA 11, 16, 18, and 19).

The shortlist of 50 UoAs was compiled both by applying objective criteria and by taking into account the stakeholders' views, which were solicited in various ways and situations in the different GSAs.

UoA selection was based on their importance, which was determined according to two objective criteria:

1. their being characterised by fisheries where the relevant species was a target species (approach based on the 75% threshold of the cumulative value and volume of landings) and
2. the fact that the target species was among the 20 most important species in the relevant GSA by volume and value.

The former criterion was illustrated in the Fast Scan, where it was employed to describe the UoAs. It is based on the adoption of a recent and validated scientific approach, the CSTEP/EWG 15-14 (STECF, 2015), which has been applied to identify the main demersal fishing activities in EU Mediterranean waters. The approach – which was originally developed by the STECF to meet the request by the EC to provide support for the implementation of the landing obligation – considers the 75% threshold of cumulative landings by volume and value. In the Fast Scan, the 75% threshold of the cumulative value and volume of landings, which used the mean values of 2015 and 2016, the two years for which data were available, was applied to each UoA and gear combination and allowed identifying the most represented taxa, thus characterising each UoA. These data were summarised by GSA in a number of diagrams, which were included in the Fast Scan.

Application of the objective criteria described above provided a first shortlist of 174 UoAs in GSAs 10, 11, 16, 18, and 19.

Since stakeholder participation and involvement is a cornerstone of the Blufish project, the final shortlist – which was to include about 10 UoAs *per* GSA, *i.e.* a total number of 50 UoAs – was compiled with the involvement of the main stakeholders (fishermen, producer associations, researchers, and local policy makers). The process involved meetings in their own area and face to face consultations that were organised in different ways on different dates, based on area and circumstances, in September and October 2018 (Table 2).

**Table 2 – Summary of the stakeholder consultations conducted in September and October 2018 to identify the 50 UoAs to be analysed in the Deeper Mapping stage**

| GSA | Consultation | Date |
|---|---|---|
| *GSA 10* | Sicily: Workshop at Flott SpA (Aspra)<br><br>Campania: face to face consultation<br><br>Calabria: Phone consultation | 4th October<br><br>1-3 October |
| *GSA 11* | Phone consultation | |
| *GSA 16* | Sicily: Workshop on the occasion of the "BlueSeaLand" (Mazara del Vallo) | 5th October |
| *GSA 18* | Workshop (Bisceglie)<br><br>Workshop (Manfredonia) | 26th September<br><br>27th September |
| *GSA 19* | Calabria: Phone consultation<br><br>Apulia: Phone consultation<br><br>Sicily: Workshop on the occasion of the "BlueSeaLand" (Mazara del Vallo) | <br><br><br><br>5th October |

The 50 UoAs, which were selected on the basis of the most important local species and fishing activities, are reported in Table 3 by GSA and by species, with the relevant gears used to catch them.

The Annexes to this chapter report a detailed description of the 50 UoAs by GSA.

For each UoA, the description details the state of stock exploitation, bycatch species, and the environmental context in terms of the distribution of marine phanerogams, coralligenous assemblages, biocenoses, and ecosystems.

The description is further enriched by an overview of the main socio-economic issues in terms of capacity, employment, value of production and value added; average production and market prices (as available); and consumption and import-export figures.

**Table 3 – UoAs selected for the Deeper Mapping**

| ***Species*** | ***GSA 10*** | ***GSA 16*** | ***GSA 18*** | ***GSA 19*** | ***GSA 11*** | ***Total by species*** |
|---|---|---|---|---|---|---|
| *Albacore* | *Drifting longline* | | | *Drifting longline* | | ***2*** |
| *European anchovy* | *Surrounding net* | | | | | ***4*** |

| Species | GSA 10 | GSA 16 | GSA 18 | GSA 19 | GSA 11 | Total by species |
|---|---|---|---|---|---|---|
| Common spiny lobster | | | | | Trammel net | 1 |
| Deep-water rose shrimp | Trawl | | | | | 4 |
| Giant red shrimp | | Trawl | | Trawl | | 3 |
| Blue and red shrimp | | Trawl | | Trawl | | 2 |
| Common dolphinfish | Surrounding net | | | | | 1 |
| Horned octopus | | | Trawl | | | 1 |
| Musky octopus | | Trawl | | | Trawl | 2 |
| European hake | Fixed gillnet / Trammel net | Trawl | Bottom longline / Trawl | | | 5 |
| Spottail mantis squillid | | | Trawl | | | 1 |
| Silver scabbardfish | Bottom longline | | | | | 1 |
| Swordfish | Drifting longline | | | Drifting longline | | 4 |
| Common octopus | | | | Trammel net | Trammel net / trap, pot | 3 |
| European pilchard (sardine) | | Surrounding net | | | | 1 |
| Norway lobster | | | Trawl | | | 1 |
| Red scorpionfish | | | | | Trammel net | 1 |
| Common cuttlefish | Trammel net | | Trammel net / Trawl | Trammel net | | 5 |
| Bluefin tuna | | Drifting longline | | | | 1 |
| Broadtail shortfin squid | Handline | | | | | 1 |
| Red mullet | | Trawl | Trawl | | | 2 |
| Surmullet | | | | Fixed gillnet / Trammel net | Trammel net / Trawl | 4 |
| **Total by GSA** | **10** | **10** | **10** | **10** | **10** | **50** |

Notably, import-export and consumption data are available only as national aggregate figures and only for the major species. The data trends highlight the greater attractiveness of some products (species) with respect to others both for domestic consumption (trend of consumption of fresh and imported products) and for foreign consumption (trends of exports).

# 5. Conclusions

Examination of the 50 UoAs selected for the Deeper Mapping provided an exhaustive overview of the management, production, and commercial issues characterising the ports of the southern Italian GSAs. In turn, stakeholder involvement supplied critical insight into a number of vital aspects, whose knowledge is essential for the Pre-assessment. The information thus gained allows some conclusions to be drawn on a number of issues.

First of all, **data availability**. It is incorrect to surmise that data are always available for all species, at all disaggregation levels, or for all the elements of the value chain. In fact, this analysis found a lack of some critical stock abundance information, because not all the species landed along the Italian coasts are subject to stock assessment; in other cases, it was the consumption data that were not available, likely due to the limited geographical distribution of the relevant species. Therefore, data are not consistently available at the same level of temporal or spatial aggregation. Moreover, some information, *e.g.* consumption data, is available only for some species and at the national level, whereas for other species data, such as those relating to wholesale markets in some GSAs, have failed to be collected at all.

An essential element emerging from the stakeholder interviews was their **awareness** of the need for **enhancing product value**, because the traditional distribution method and the several intermediaries acting along the value chain prevent producers from maximising the profit that can be obtained from some species.

Analysis of the data from the various sections indicated that in most cases the chief problem was related to **distribution channel inefficiency,** due to the scarce presence of local wholesale markets, which were often either inactive or not wholly efficient. In the vast majority of cases, the product is sold to local wholesalers and traders, who operate in near-monopoly conditions and thus set prices unilaterally. In addition, in some areas the presence of several landing sites (which are often not controlled) results in strong supply fragmentation, which adversely influences price formation.

The analysis determined that a critical problem was the absence of local **bodies capable of concentrating and co-ordinating product supply**, such as producer organisations (POs) and, in the case of small-scale fisheries, artisanal fisheries management consortia (Co.Ge.Pa.). As demonstrated by some recent experiences in Italy (like bivalve certification in the Adriatic Sea; also see Malvarosa and Cozzolino, 2016), POs have been capable of mustering the collective force that is required to devise management and marketing strategies. In fact POs, which are also financed by the EMFF, are required to draw up Production Plans, which could well make the difference in terms of long/medium-term commercial/sales planning.

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**Legal framework**

Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

Council Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

Council Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy

Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive)

Directive 2014/89/EC of the European Parliament and of the Council of 23 July 2014, establishing a framework for the marine spatial planning.

Ministerial Decree 30.1.2018 concerning the Adoption of the National Managament Plans for the fishing fleets targeting demersal species

Council Regulation (EC) No 1543/2000 of 29 June 2000 establishing a Community framework for the collection and management of the data needed to conduct the common fisheries policy

Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy

Regulation (EU) 2017/1004 of the European Parliament and of the Council of 17 May 2017 on the establishment of a Union framework for the collection, management and use of data in the fisheries sector and support for scientific advice

regarding the common fisheries policy and repealing Council Regulation (EC) No 199/2008

Council Regulation (EU) 2018/120 of 23 January 2018 fixing for 2018 the fishing opportunities for certain fish stocks and groups of fish stocks, applicable in Union waters and, for Union fishing vessels, in certain non-Union waters, and amending Regulation (EU) 2017/127