**“Piloting of eco-innovative fishery supply–chains to market added–value Adriatic fish products”**

Priority Axis: Blue innovation

1.1 - Enhance the framework conditions for innovation in the relevant sectors of the blue economy within the cooperation area

# D3.3.2: Report of the pre-assessment of relevant fisheries in Italy

WP3 - Piloting of sustainable and eco-certified fishery productions/ A3.3. Piloting of selected fisheries production

OCTOBER / 2021

PARTNER IN CHARGE: PP2 – National Research Council
PARTNERS INVOLVED: PP1,PP4,PP7

Final
Public document

| | | |
|---|---|---|
| **ORDER** | **CNR – IRBIM** | |
| **TYPE OF DOCUMENT** | **PROJECT PRIZEFISH-** Piloting of eco-innovative fishery supply-chains to market added-value Adriatic fish product<br>**Deliverable 3.3.2.: Report of the pre-assessment of relevant fisheries in Italy** | |
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# 1. Introduction

This report (deliverable 3.3.2 under Work Package 3 of the Prizefish project) is aimed at presenting the results of a pre-assessment carried out according to the Adriatic Fisheries Responsible Fisheries (ARFM) standard for five Italian fisheries selected in the previous step of the project by means of consultations (Prizefish 2020a), namely:

**Table 1 – Italian Fisheries undergoing ARFM pre-assessment**

| Species | Latin name | Gear | Stock extent | Applicant |
|---|---|---|---|---|
| Striped venus clams | *Chamelea gallina* | Hydraulic dredge | Italian waters | OP Bivalvia (Veneto) |
| Common cuttlefish | *Sepia officinalis* | Fyke nets ("cogolli o bertovelli") | Adriatic but the harvesting activities are carried out in Italian waters (small-scale fisheries) | Passive gears vessels active in Marina di Ravenna (Emilia-Romagna) |
| Spottail mantis squillid | *Squilla mantis* | Small pots ("gabbiette") | | |
| Changeable nassa | *Tritia mutabilis*[1] | Baskets ("cestini o nassini") | | |
| Mediterranean mussel | *Mytilus galloprovincialis* | Hand-harvesting on gas platform with scuba divers. | Italian waters | ATI leaded by Coop. La Romagnola (Ravenna, Emilia-Romagna) |

The applicant for the striped venus clam's fishery is OP Bivalvia, based in Veneto, collaborating with Co.Ge.Vo. of Venezia and Chioggia for a sustainable management of the striped venus clam (*Chamelea gallina*) and its marketing (figure 2) in the governance section. 75% of vessels managed by the 2 Co.Ge.Vo. (around 100 fishing enterprise) are associated to PO Bivalvia. In the last years OP Bivalvia adopted several initiatives for a sustainable exploitation of the clams, such as: i) seeding in nursery areas, ii) restocking, iii) catch control, iv) rotation of exploitation areas, v) temporary closure of specific areas for reproduction, nursery or recovery purposes. On the other hand, by means of production and marketing plans tries to harmonize supply with demand (for more details see Prizefish 2020a; Prizefish 2020b; Prizefish 2020c). Because of this, in 2018, the "Venetian Wild Harvested Striped Clam fishery" became the first Italian and Mediterranean fishery to achieve an MSC certification, highlighting the strong role exerted by the PO active in the bivalve fishery in the Veneto region.

[1] Changeable nassa, *Nassarius mutabilis* (Gastropoda, Nassaridae) (Fig. 1a), recently re-classified as *Tritia mutabilis* (GALINDO et al., 2016; MARSHALL & GOFAS, 2016). From Caprioli, 2018.

According to the first consultation, OP Bivalvia highlighted a strong willingness to test the ARFM also on the **razor clam** (*Ensis minor*) fisheries (Prizefish, 2020a). In addition of being an historical resource for the dredge fisheries, the enhancement of the razor clam fisheries, through a certification process, could bring, according to the applicant, benefits to recreational fisheries, since the maggots and worms that are regularly collected during the fishing of razor clam are not recorded as by-catches, and can be re-used as fishing baits in leisure fisheries (not for longline fishing).

Along the Italian coasts, historically razor clams' fishery grounds were mainly located in the northern Adriatic Sea (Veneto and Friuli Venezia Giulia) and along the central Tyrrhenian Sea (Lazio and Campania), although in several areas artisanal collection by hand of these animals has traditionally taken place at less than 1 m depth. In the last 7 years, the Adriatic razor clams community experienced an exceptional decrease of individuals leading to a collapse of the species Ensis minor with a strong crisis of the fishing sector that turned definitively to other bivalve species (*Chamelea gallina* and *Callista chione*). Although it is not clear what caused this clam crisis, most of the attention has been paid to the building of the MOSE (Electromechanical Experimental MOdule), a series of mobile dams acting to avoid the flooding of the city of Venice (Vasapollo et al., 2020)[2].

Indeed, as reported by the applicant (Prizefish, 2020a), since the end of the first decade of this century, the Veneto ports have suffered a collapse of the resource so actually fishing for razor clam is no longer carried out (some catches appear until 2018 in the Monfalcone area). The evidence of this collapse is testified by the trend of the volume of landings of razor clams over the period 2015-2019 for the whole GSA 17 area (figure 1), leading the share on the overall volume of landings of dredgers at almost null values (0.004% in 2019).

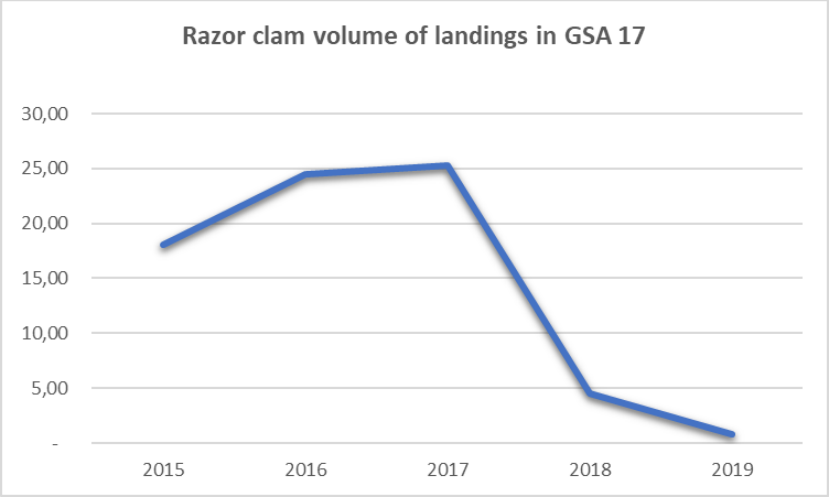


***Figure 1 – Trend for the volume of landings of razor clams by hydraulic dredges operating in GSA 17, 2015-2019.***
Source: Prizefish, 2021

[2] Nevertheless, it is worth noting that the MOSE building activities started around 15 years ago with by first dredging the areas for developing dams' basements, rebuilding of barriers for the entrances, removal and movement of bottom sediments that resulted in resuspension, chemicals to reduce fouling on the dams.

To overcome this lack, in 2018 a restocking activity (experimental) was started and carried out in the Chioggia-Venezia fishing compartments: in spring 2019,young specimens of razor clams (3-4 cm) caught by the Tyrrhenian dredgers in the Gaeta waters, have been brought to Veneto waters following a careful transport procedure: putting bivalves in baskets wrapped by tissues, time by time wet with sea water, to avoid that the air conditioning system of the refrigerator trucks would dry the specimens. Once arrived at destination, razor clams have been carefully implanted in the sandy bottoms of the Chioggia and Venice waters. A careful monitoring activity has been carried out, with the help of scientists. Unfortunately, the bad meteorological conditions of autumn 2019 occurred in the Venice lagoon (high water and the flood of the main rivers after the VAIA storm) have almost completely destroyed the razor clams experimentally brought there. According to the consultation with the applicant done with the aim of this assessment, the situation has not improved during 2020: no new experiments have been possible in the light of the Covid-19 restrictions.
In the light of this, ***being the fishery almost disappeared, a pre-assessment cannot be done*.**

Small-scale artisanal fishing is one of the excellences of Emilia-Romagna, both in quality of the product landed and in the sustainability of the activities. Among species of tip there are local snails (changeable nassa), cuttlefish and mantis shrimp, much appreciated on the markets and in restaurants, caught with so selective traps that practically arrive alive on the market. Small-scale fishing is very dynamic and in the last twenty years has unseated a profound renewal, in terms of boats, equipment and personnel. Applicant for the **cuttlefish** fisheries are around 10 boats active in Marina di Ravenna, 100% of fishing operators activein this local fishery with traps locally called “cogolli or bertovelli”. Applicant for the **mantis shrimp** fishery are around 6 boats active in Marine di Ravenna and 4 in Cervia, another small port up-north, 100% of fishing operators activein this fishery with traps locally called “gabbiette”.
As far as the fishery of **changeable nassa** with “cestini” there are no specific applicants but we consider the application of all the small-scale vessels active in this fishery and operating mainly along the coast of Emilia Romagna and Marche (Prizefish, 2021).
Finally, the applicant for the ARFM pre-assessment on the **mussel** fishery are the fishing operators active in the local hand-harvesting wild mussels’ fishery on gas platform through the cooperative. La Romagnola and its partner Nuovo Conisub, two cooperatives located in Marina di Ravenna and working in coordination through an ATI, a temporary association of enterprises according to the Italian law. The two cooperatives represent 100% of fishing operators (8 boats) practicing this fishery that is a specialty of Ravenna seamanship, started at the beginning of the ‘80s.
More details on the fisheries under assessment can be found in Prizefish 2020a, Prizefish 2020b and Prizefish 2021.

## 1.1. Governance

In this area of the Adriatic Sea, the Specific Indicator 1.1. (Legislation) is met by most of the fisheries concerned. An effective legal and administrative framework is in place, comprising international

measures adopted by the General Fisheries Commission for the Mediterranean (GFCM), which are complemented by the EU legal framework (mainly the EU Common Fisheries Policy (CFP)[3], the EU 'Mediterranean Regulation'[4])) and by national legislation and regulations adopted by the Adriatic Sea Countries, for the fisheries under assessments in the present document, by Italy.

The Italian Directorate of fisheries within the Ministry of Agriculture, Food, Forestry Policies[5] is the main administrative body with responsibility for fisheries management in Italy. Fisheries policies are implemented according to a division of powers at central, regional and local level, in line with the territorial subdivision of Italy (NUTS0) in administrative regions (NUTS2, 20 regions) and provinces (NUTS3, 110 provinces)[6] as reported in table 1.

**Table 2 – Institutional structures responsible for the implementation of fisheries policies in Italy**

| ***Responsibilities*** | ***Responsible bodies*** |
|---|---|
| *Central* | |
| • Setting guidelines<br>• Coordinating the national policy with European and international standards at the national level | Ministry of Agriculture, Food, Forestry Policies |
| *Regional* | |
| • Relationships with the Regions, the State and the European Union, and<br>• Regional plan for fisheries and related activities.<br>• Regional Administrative responsibilities for fisheries and related activities; | Administrative regions (20) |
| *Local* | |
| • Provincial authorities are responsible for inland-water and fresh-water hunting and fishing. | Provinces (110) |

As far as **fisheries policies** concerning the fisheries under assessment, the legislation framework is very well established for the *hydraulic dredge fishery for striped venus* clam as it is covered by a wide set of rules, at EU, national and local level. The legislative framework is based on the adoption of the

[3] EU Reg1380/2013: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32013R1380&qid=1625494412652
[4] EU Reg 1967/2006: https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX%3A32006R1967.
[5] https://www.politicheagricole.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/311.
[6] https://portal.cor.europa.eu/divisionpowers/Pages/Italy-Introduction.aspx.

relevant European legislation for the fishery, based on: the Mediterranean regulation (2006), the most recent Technical measures regulation (2019), the Landing obligation regulation (2013) and the rules determining the obligations for MSs for setting up Discard plans (2020). The adoption of EU regulations has been pursued by the issue of Ministerial Decrees, e.g. the National Management Plan for dredges in Italy and the National Discard Management Plan for Venus (*Chamelea gallin*a) – for details look at the pre-assessment for fishery 3.1.

The current management system of the economically most important bivalves fisheries in Italy (*Chamelea Gallina, Callista chione and Ensis minor*) is *de facto* based on a system of Territorial Use Rights for Fishing (TURF) and is the result of a long regulatory process based on a progressive decentralisation of the decision level, involving the central administration and the local operators organized in Consortia, local entities established pursuant to ministerial decrees no. 44/1995 and n. 515/1998 and recognized by the Ministry of Agriculture and Forestry. The operating methods and the prerogatives of the Consortia are identified by the Ministerial Decree of 22 December 2000 which amends the D.M. 21.7.1998, concerning the regulation of fishing for bivalve molluscs. The guiding principle of the legislation that brought about the Right-Based Management (RBM) system currently in place was to allow the introduction of a management approach capable of increasing landings value for the benefit of operators, ensuring a balance between fishing effort and stock size and maximising product quality. This approach was endorsed by the European Commission in the Communication no. 73 of 26.2.2007 on management tools based on fishing rights (EC, 2007), in an attempt to tackle the current economic crisis in many communities fishing fleets that called for a different approach to fisheries management. RBM, according to Commission's communication, may improve, indeed, the efficiency of fisheries management while facilitating the achievement of the basic objectives pursued by the Community and by Member States under the CFP, such as the conservation of fish stocks, maintenance of the "relative stability" of fishing possibilities of Member States, and a competitive fisheries sector. Indeed, it can be said that, made exception for "transferability," the TURFs and co-management system established for the clam fisheries in the Adriatic waters satisfy all RBM system attributes (MRAG, 2009)[7]. Indeed, the introduction of territorial rights, which provide for the full transfer of responsibilities in favour of the holders of the rights, is particularly suitable in cases where the resources become sedentary, as the clams; only in this case in fact there is no competition between those who enjoy the territorial right and those who fish outside the border (MIPAAF, 2020). Today all the geographical areas interested in clams and similar species fisheries are managed, in Italy, by Consortia, currently 17[8]. The powers and activities of the Consortia are defined by law, in particular, they are entitled to decide about rotation of fishing areas, restocking areas, temporary closures and any other restrictions on the limitations still set at national level.

[7] RBM attributes are namely: a) exclusivity: rights are allocated by law to consortia which are based in territories with a long fishing tradition; b) period of validity: territorial rights are allocated indefinitely to each consortium; c) security: this is a self-management approach thus it will be difficult for government to withdraw the rights; d) transferability: consortium's rights on a given territory cannot be transferred to other Consortia.

[8] CoGeMo Monfalcone, CoGeVo Venezia, CoGeVo Chioggia, CoGeMo Ravenna, CoGeMo Rimini, CoGeVo Pesaro, CoGeVo Ancona, CoGeVo Civitanova Marche, CoVoPi San Benedetto del Tronto, CoGeVo Abruzzo, CoGeVo Frentano, CoGeVo Termoli, CoGeMo Manfredonia, CoGeMo Barletta, CoGeMo Napoli, CoGeMo Gaeta, CoGeMo Roma.

At local level, in the Veneto area (the area of operativity of the applicant for the clams' fishery under assessment in the present document) the management of bivalve mollusc resources *Chamelea gallina* (together with *Callista chione* and *Ensis minor*) takes place through a form (unique in Italy) of supra-compartmental management, therefore all the choices on the quantities of collection, management of the rotation of fishing areas and voluntary stops are hired by the decision-making bodies of the two Consortia joined together(CoGeVo Venezia and CoGeVo Chioggia). This type of management has made it possible to keep the fishing fleet unchanged in the time and to ensure an economic and productive guarantee for all associated companies (MIPAAF, 2020), also thanks to the role of the local PO (applicant for this pre-assessment) –figure 2.

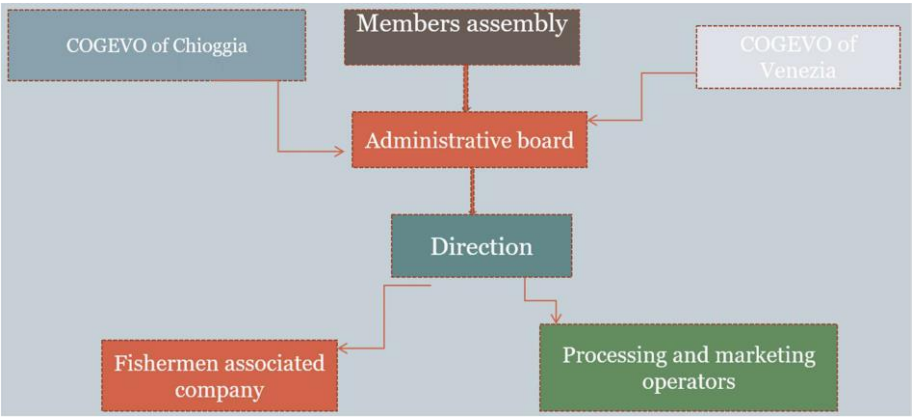


*Figure 2 - Organogram of PO Bivalvia (Source: Prizefish, 2020*

As far as the governance and management of small scale fisheries, covering the *cuttlefish, squilla mantis and changeable nassa* fisheries carried out with passive gears, it has to be said that even if the CFP was developed with large scale fleets in mind giving scarce attention to small-scale or artisanal fleets" (Percy J., 2020), at EU level specific rules are provided in the Basic Regulation (EU 1380/2013), article 5 that provides for the 12-mile derogation to the principle of free access. The expected aim behind this rule is that "Member States should endeavour to give preferential access for small-scale, artisanal or coastal fishermen". This derogation is considered as a tool for Member States to manage small-scale fisheries and to provide privileged access to inshore waters for smaller-scale fishing activities. Furthermore, the Mediterranean Regulation (EC 2006) and the Technical Measures Regulation (EC 2019) which introduced technical measures such as restrictions in mesh and gear size and fishing areas. The latter has had a positive effect on small-scale fisheries, with pressure on large-scale fisheries to operate outside the three-mile limit of coastal areas having become stronger (Raicevich et al., 2020).

In the framework of national legislation, the fishery is mainly regulated by a National plan (Directorial Decree 20/09/2011 n.6), by a subsequent national Decree disciplining small-scale fishing and small-scale artisanal fishing (Italian Ministerial Decree 7 December 2016) and by some local management plans.

Indeed, small-scale fisheries in EU waters have for many years been at the centre of the attention of the Common Fisheries Policy, and are under the particular attention into the European Maritime and

Fisheries Fund (EMFF, now EMFAF) which reserves to small-scale coastal fisheries measures for the development of the sustainability of this segment generally considered less impactful on resources and of greater social value and, in the Mediterranean, not enough competitive in the absence of public support. According to this approach, structural aid to support the small-scale coastal fishing fleet is essential to defend employment, generational renewal, safeguard local traditions and cultures, and start up new businesses because, among other things, the fishing production systems of small-scale coastal fishing are often vulnerable because they are highly dependent on both qualitative and quantitative evolution of catches, a dependence that then has repercussions on the economic level. In the Mediterranean and especially in Italy, in addition to the social dimension of artisanal coastal fishing, which is an important traditional economic activity, especially in some regions or specific localities, the cultural value must also be considered. The latter implies an evaluation of this sector not only in productive and social economic terms, but makes it necessary to consider and protect the extraordinary wealth of knowledge held by those employed in the sector considered irreplaceable and valuable. For all these reasons, Regulation 508/2014 (EMFF) pays particular attention to the situation of small-scale coastal fishing and obliges, pursuant to Article 18, paragraph 1 letter i), Member States in which more than 1,000 vessels can be considered used for small-scale coastal fishing, to draw up an action plan highlighting the need for targeted policies. Italy has pursued this objective with the adoption of a specific Action Plan for the for the development, competitiveness and sustainability of small-scale coastal fishing.
The Action Plan provides, among others, measures to strengthen the role of fishing communities in the community-based local development strategy and in the *governance* of local fisheries resources and maritime activities (ex art. 63 of EMFF) as well as for the incentive of measures to promote social well-being and the cultural and maritime heritage of fishing areas also through the Local Action Groups (FLAGs) referred to in Article 32 of Reg. (EU) 1303/2013 (CFP basic regulation).
At local level (referring to the area of operativity of the applicant for the small-scale fisheries under assessment in the present document) the FLAG Costa Emilia Romagna is active with many projects as well in supporting the local management of the artisanal fishing with the proposal of a Local management plan for small and coastal fishing (Action 4 “Networks and governance”)[9].

As far as the *mussel fishery on the gas platform* it has to be outlined that it is a hand-harvesting fisheries, hence outside the fleet management framework. Hence there is no management plan but the fishery is regulated by a contract of maintenance that fishers stipulate with the gas platforms’ owners (ENI, in the past AGIP). Indeed, the harvesting of mussels is, practically, an operation of scraping of the underwater “legs” of the gas platforms. The harvesting operation are, hence, disciplined by a set of limits imposed by the contracting authority (ENI), on whose basis the mussel fishers own a right of exclusivity: indeed, according to the Italian law, no boat can approach more than 500meters the gas platforms, exception made for those in charge of cleaning activities.
Furthermore, the harvesting and commercialization of mussel is disciplined by the Italian law (DPR n. 1639/1968) setting the minimum size for *Mytilus galloprovincialis* at 5cm.

[9] http://www.flag-costaemiliaromagna.it/il-flag/.

Furthermore, the main rules for the harvesting operations are based on a self-management granting a balance between the production units (vessel and divers) and the resources. The internal rules, set by the two cooperatives active in this fishery and organized into an ATI, set daily quota in order to avoid: a) an impoverishment of the stock present on the platforms and b) to put on the market a supply oversized compared to demand.

As far as the *enforcement* legislative framework, the EU Control Regulation requires, among others, that to all fishing vessels over 10 m in length should compile daily logbooks for control on landings (electronic logbooks for vessels over 12m) while all the vessels over 12m in length are required to have an operational Vessel Monitoring System (VMS) onboard for control on position. These measures apply mainly to hydraulic dredgers (used for the clams' fishery in GSA17) being, for the great bulk (86%) longer than 12 metres in Length Over All (LOA) - STECF FDI dataset[10]. The other fleets under assessment (passive gears fleets operating in GSA17) are represented for 94% by vessels under 12 metres (STECF FDI dataset). There some reports describing on details the fishery control system applied in Italy (Sanz, Stobberup and Blomeyer, 2020) as well as national reports (CCNP, 2021) describing in details operations conducted along the Italian coast by the bodies in charge of control (Coast guard). It has to be stressed, however, that there is no specification of the level of compliance by type of fisheries
As far as the *consultation process* inside the governance framework, with the Ministerial Decree 13453 of June 2017[11]a Permanent Consultation Table on Fisheries and Aquaculture has been set in order to study and propose strategies aimed at providing suitable intervention tools to allow the repositioning and relaunch of the Italian fishing and aquaculture sector in line with the Community and national legislation. The consultation table meets periodically and involves representatives of the Fishery Directorate, representatives of the control authorities (Coast Guard), national representatives of the fishing and aquaculture cooperatives and enterprises, representatives of trade unions more accredited at national level, representatives of the research.

According to the CFP, the EU and national fishery policies that manage the fishery have to be coherent with the EU **environmental legislation** that includes the Marine Strategy Framework Directive (which requires the Member States to "take the necessary measures to achieve or maintain good environmental status in the marine environment"), the Birds Directive (which calls for the establishment of Special Protected Areas (SPAs) for birds), the Habitats Directive (that provides the establishment of Special Areas of Conservations (SACs) and the Water Framework Directive (which purpose is to create a framework for the protection of surface waters including transitional waters and coastal waters).The body responsible for the environmental policies is the Ministry for the Ecological Transition (before Ministry of the Environment and Maritime Protection[12]).For Italy, the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention) plays a significant role in achieving the goals required by the

[10] https://stecf.jrc.ec.europa.eu/reports/fdi.
[11] https://www.politicheagricole.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/11384.
[12] https://www.mite.gov.it/.

Marine Strategy Framework Directive. An EU review of Member State implementation of environmental legislation found that Italy's program of measures substantially addresses most of the relevant pressures on its marine environment. In this report environmental measures implemented by Italy up to 2017 were reported. It emerges that substantial efforts have been made in designating Natura 2000 sites, although this is only the first step in ensuring adequate protection for their habitats and species. Several SCIs are present in the Adriatic Sea along Italian, Slovenian and Greek coasts. They are all coastal and aimed to protect coralligenous formations, seagrass meadows and maerl beds; some of the SPAs coincide with and SCIs, which are automatically included in NATURE 2000 (UNEP, 2015). Regarding Marine Protected Area in Adriatic, in 2016 they covered only 5.8% of the total sea, while the area covered by Natura 2000 sites in 2018 in the Adriatic Sea was 5.5% (European Environment Agency, 2018).

Furthermore, Italy has created specialised environmental police forces to deal with environmental crime but no information for determining if GES was expected to be achieved by 2020 were provided.[13] Most recent reports on the achievement of GES by MSs highlight that Italy has still not achieved GES by 2020;of particular interest for this report GES has not been achieved for the Mediterranean Adriatic region (MAD) for the main descriptors including the potential effect of the fishing activity, i.e. descriptor 3 (commercial species), descriptor 4 (food-webs) and descriptor 6 (Sea-floor integrity/benthic ecosystems) – (Vasilakopoulos et al, 2021; Boschetti et al, 2021a; Boschetti et al, 2021b).

Moreover, Italy has signed in 2016 a Cooperation Agreement with UNEP/MAP to develop and implement, also through transnational cooperation, important actions in the field of: marine litter, marine spatial planning, integrated coastal zone management and marine protected areas[14].

## 1.2. Environment

For the assessment of the SA 2.1 and the related SIs, the data collected and available under the main data collection system (DCF) have been used.

In Italy, a process that allows for effective data collection for management purposes is in place. Indeed, the Directorate of Fisheries, with the assistance of academic institutions such as the CNR and many other institutes, carries out the Italian Work Plan for data collection of fisheries' data, implemented in compliance with EU Regulation 1004/2017 and establishing the routine collection of data for almost all the species covered by the present pre-assessment as well as data on the activity (capacity, production, effort) of all the Italian fleets (including socio-economic data).

For the concern of the assessment of the environmental dimension (SI 2.2.2) of the fisheries covered by the present document, it can be stated that the Italian system of data collection provides for the following data (table 3):

**Table 3 – Environmental data collected under the Italian Work Plan (DCF) applied to the Italian fleet**

[13] https://ec.europa.eu/environment/eir/pdf/report_it_en.pdf
https://ec.europa.eu/environment/eir/pdf/factsheet_it_en.pdf

[14] United Nations Environment Programme/Mediterranean Action Plan.

| Species | Latin name | FAO Code | Landings | Biological data | Capacity and effort |
|---|---|---|---|---|---|
| Venus clams | *Chamelea gallina* | SVE | X | X (DRES) | X |
| Common cuttlefish | *Sepia officinalis* | CTC | X | X (Solemon, MEDITs ) | X |
| Spottail mantis squillid | *Squilla mantis* | MTS | X | X (MEDITs, Solemon ) | X |
| Changeable nassa | *T. mutabilis* | NSQ | X | | X |
| Mediterranean mussel | *Mytilus galloprovincialis* | MSM | n.a. | n.a. | n.a. |

It is worth nothing that the volume of *Mytilus galloprovincialis* is collected under the Eurostat (Regulation (EC) No 762/2008 on the submission of aquaculture statistics aquaculture production) and DCF data collection framework but Italy report catches only from the farming sector (STECF 2018). The production of mussels covered by the present pre-assessment is, instead, related to the wild-mussels for which there is no data collection in place being a very small sized fishery, almost completely carried out by-hand along the Italian coasts and sometime with supporting vessels, as in the case of the wild mussel of Marina di Ravenna, under assessment in the present document.
All the data used for the pre-assessment carried out according to the ARFM guidelines have been collected under a project financed under FEAMP, measure 1.C.B (Immaterial action) under the supervision of the FLAG Costa of the Emilia-Romagna Region[15]. The main objective of the project is the protection, through the creation of an identity brand, of the product "the wild mussel of Marina di Ravenna", for the benefit of the traceability of the supply chain, the qualification of a sustainable fishing and the promotion of a (unique) product of the territory (for details on the fishery, Prizefish 2020a and 2021).

**Stock assessment** procedures vary depending on the geographical extent of the stock. The stock assessment for species considered under this first attempt to evaluate fisheries against the ARFM are carried out under the umbrella of STECF and of GFCM.
For the concern of the assessment of the environmental dimension (SI 2.2.1 and 2.2.2) of the fisheries covered by the present document, it can be stated that the stock assessments procedure in place for Adriatic species produces the following framework (table 4):

**Table 4 – Stock-assessment in place under the institutional framework**

| Species | Latin name | Stock assessment bodies | Data poor approach | Notes |
|---|---|---|---|---|
| Venus clams | *Chamelea* | n.a. | X | Co.Ge.Vo. in charge of |

[15] http://www.flag-costaemiliaromagna.it/wp-content/uploads/Az-1Cb_graduatoria-def-DET-17599-13.10.2020.pdf.

| | | | | |
|---|---|---|---|---|
| | *gallina* | | | tentative stock assessments |
| Common cuttlefish | *Sepia officinalis* | STECF, GFCM | | |
| Spottail mantis squillid | *Squilla mantis* | STECF, GFCM | | |
| Changeable nassa | *T. mutabilis* | n.a. | n.a. | Nor stock assessment in place neither a data poor approach as the fishery is not relevant at national level |
| Mediterranean mussel | *Mytilus galloprovincialis* | n.a. | n.a. | |

The fisheries can have diverse effect on the **ecosystems**, directly, impacting on the target species or on by-catch or discards, or indirectly, having effect on the **food-web.**

As far as the first aspect it is concerned some studies have been carried out, for instance, reporting the low impact of dredges on non-target species being, the fishery, almost completely monospecific (Morello et al., 2005a). Some evidence is also provided by experimental surveys carried out from the scientific body supporting the Co.Ge.Vo during 2005, 2007, 2010 and from 2014 to 2016 (DNV GL, 2018). These surveys have shown that *Chamelea gallina* accounted for more than 73% of the total catch in weight, resulting the only target species (hence managed through reference points) or economically valuable species. A group of species only occasionally accounted as a whole for more than 5% were the hermit crabs (*Pagurus spp.*) which do not have economic value and are not managed according to target or limit reference points. These crab species are always released alive. The same occurs for the other less abundant by-catch species.

But the assessment of the ecosystem impact should also take into account the impact on other living organism and on the entire habitats, whenever possible.

The assessment of ecosystem and food web aspects into the ARFM were considered by adopting a quantitative approach based on ecosystem modelling. To this purpose, a complex ecosystem model describing the renewable resources from plankton to top predators in the Adriatic Sea (GSA17-18) was adapted to include also the disaggregated description of species/gears under assessment. The model represents the marine ecosystem with 75 functional groups, including plankton and non-living organic groups (detrital pools) integrating the best information available from stock assessment, trawl surveys, literature and experimental data (example of data input: Celic et al., 2018). All the fisheries in the area are described at a great level of detail through 34 fleets representing combination of vessel size, main gear used and country using data from all official sources (STECF, DCF, GFCM data, FishstatJ and other) integrated with estimates of discards.

The ecosystem model developed with the software Ecopath with Ecosim (version 6.6.5; www.ecopath.org; Christensen and Walters, 2004) is using primary production changes (from Copernicus; Di Biagio et al., 2019) and effort dynamics (from combination of information from DCF, VMS analysis and Fleet register) as main forcings, and it is calibrated over data from 2004 to 2018 using trawl survey and stock assessment data. This model represents the state of the art of the ecosystem description calibrated for the whole GSA17 and 18 including data for Croatia, Italy,

Slovenia, Albania, Montenegro and Bosnia and Hercegovina.
The model outputs are, therefore, the best estimates of biomass, flows of matter in the ecosystem (including catches) dynamically changing over time. These flows were used as a basis to carry on an input-output analysis that represent a sort of sensitivity (Libralato et al., 2006) of each node of the ecosystem model (species or fleet) to the changes on each other node (species or fleet). The input-output analysis generates for each year a matrix of effect of each node of the food web on any other node (species or fleet): the mean values of this trophic impacts (positive or negative) are resulting from propagation of direct (e.g., predation mortality, fishing mortality) and indirect (e.g., trophic cascading impacts; indirect fishing impacts) mediated by the food web (see Agnetta et al., 2019).

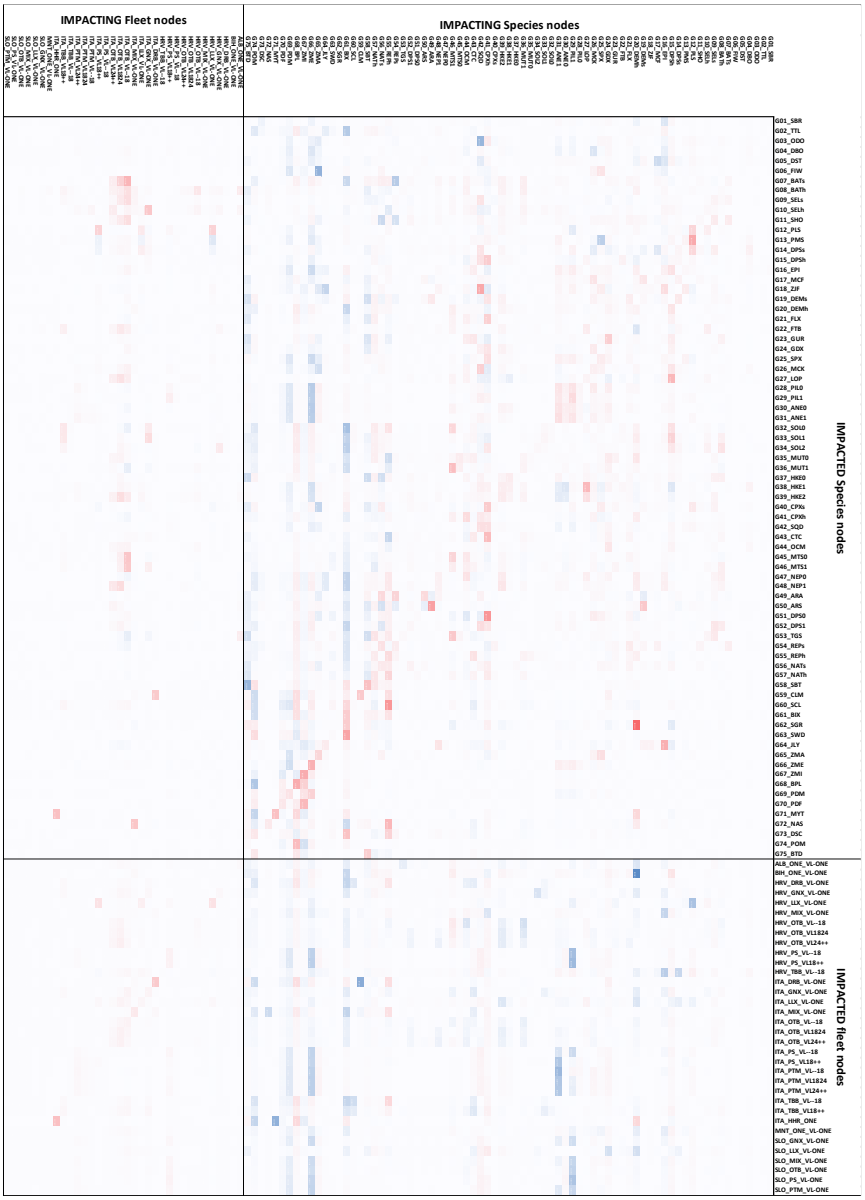


*Figure 3. Extended mixed trophic impact matrix including functional living and non living nodes and fleets of the food web ecosystem model for the Adriatic Sea (GSA17 and 18). Blue positive impacts, red negative impacts.*

As far as the SI 2.4.1 - Ecosystem (adverse) impacts of a fisheries - the following approach has been adopted: the sum of all negative impacts produced by a fleet (*total ecosystem impact by fleet*) on the living nodes of the food web (i.e., excluding impacts on detrital forms) is considered *the overall negative impact of the fleet on the ecosystem*. The calculation of this value for each fleet allows ranking all the fleets in the model and to identify the relative position of the ones under assessment in relation to the whole exploitations undergoing in the ecosystem. Notably positive effects (e.g., because of reduction of competitions) are not considered, remarkably the ecosystem impacts calculated in this way are resulting from a combination of magnitude of the flows of matter (i.e., catches) and importance of impacts. The ranking order of the total impacts of fisheries are used as an objective way to score the fleets' impact (SI 2.4.1).
As far as the SI 2.4.2 - Food web role of a target species - the following approach has been adopted: the mixed trophic impact elements can also be useful to determine the role of a species in the ecosystem. Basically, species with high impacts (positive or negative) on the food web are considered key elements: small changes of their biomass will have large effects on the ecosystem (Libralato et al., 2006). The sum of positive and negative impacts produced by a species node on all other living nodes of the food web (using absolute values to avoid eliciting negative and positive effects) is considered a measure of the *overall impact of a species in the food web* and can be used to define the central role of it in the food web. The ranking of species overall impacts allows for a quantitative and objective scoring of the species role and thus on the criticality of its exploitation. Given that nodes were also defined to describe target species under assessment it is possible to use the indicator for scoring the article 2.4.2.

Turning to the fisheries at CoA level, there are some actions already put in place by some of the applicants, or in progress to start, aimed at reducing the impact of the fisheries on the species, by reducing, e.g. undersized individuals or by-catches. These are those implemented, since some years, in Marina di Ravenna, by *small-scale fishers* that have been trained and ecologically educated over the time by local scientists (CESTHA staff) now feeling responsible of the impact of their activity.
In the light of this, they are implementing different actions, one of which is the cuttlefishes' eggs recovery. It is common, somewhere, to clean pots by using quick but strong procedures: fishers generally use a strong water flush with chemical additives. This is necessary because cuttlefishes lay eggs during their stay in the pots. By cleaning pots from eggs, large amounts of eggs were destroyed, with a clear impact on the stock. By mean of a project funded under the EMFF 2014-2020, it has been possible to provide financial support for the acquisition and testing of "collectors" to catch cuttlefish eggs. The eggs, treated as non-target species, hatch in recovery tanks and are then put back into the sea. [16]There is also another project, still in progress, followed by the CESTHA staff, aimed at studying the deposition and development of the eggs and growth of the juveniles of *Sepia officinalis*, a specie in decline in the Adriatic Sea. The aim of the project was also to find solutions with fishers for the recovery of eggs laid on fishing gear. One of the ways to reconcile the use of passive fishing gears

[16]https://cooperativalaromagnola.it/progetto-seppia/.

(pots) and the spawning of cuttlefish is to use collectors, placed between the fishing gears as alternative structures for spawning. The collectors consisted of a long hemp rope with vertical segments that featured corks to allow the eggs to be kept in the water column. Collectors have also been used by other species for spawning, e.g. squid and changeable nassa, and by seahorses as a support system (SEPOline project).
It is also worth to note that in the case of bad sea condition, fishers using fyke nets (not rigid) usually remove the gears from the sea to avoid damages and gear losses, with a high risk of cuttlefish eggs destruction. Differently the rigid pots used in other areas for cuttlefish, are kept at sea even with heavy storms because such gear is heavier and there is not risk of losing them. Moreover, it is well known that rigid pots usually are more selective than fyke nets (Scarcella et al., 2001). The Prizefish project has tested with some local fishers (2-3 of the applicants) the use of rigid pots (around 50) during the cuttlefish fishing season to understand if such gear is effective and can reduce the amount of eggs loss.
As far as *Squilla mantis, s*ince *Squilla mantis* fishery with small pots can potentially have a non-selective fishing impact, due to the catches of other non-target species as gobies (e.g. *Gobius niger*), during the Prizefish project local fishers (2-3 of the applicants) have also tested the use of modified traps (around 150) to understand if such gear is effective and can reduce the amount non target species in the catches. The results show a positive effect on non-target species[17].

As far as mussel, it can be said that this fishery is a low impact fishery considering its high selectivity (done by hand) and by limits imposed by the self-management, aimed to preserve the survival of the fishery itself, and by the exclusivity of the access. In this sense, the gas platforms are considered by fishers as their own vegetable garden where they take care if mussels collecting them only when they have reached the right size and avoiding to collect more mussels than necessary, hence impacting on the health and survival of the entire “crop”. Furthermore, the limit sets as far as the maximum depth that divers can reach (12 metres) ensure that the impact, already low, on the overall ecosystems, is limited to a very circumscribed area along the water column. To reach higher depths a hyperbaric room should be available on the supporting unit (boat).

## 1.3. Socio-economic aspects

As far as the **economic relevance** of the fishery under assessment, it can be stated that some of them are economically relevant for the overall Adriatic fishery sector but also at national level, e.g. the clams fishery. Others are more relevant at local level because are traditional fisheries or iconic for local consumers. This is the case, for instance, of the changeable nassa fishery. This gastropod mollusc is the product of coastal fishing, which is practiced all year round from five hundred meters from the shore up to several miles, provided that the seabed is shallow and sandy, just as it happens in the stretch of sea of the Middle Adriatic. And changeable nassa in “porchetta” represent some of the most popular dishes of the Marche maritime tradition and can be considered the true traditional street food. Or, similarly, the case of the wild mussels, particularly appreciated by local consumers;

[17] 6th Project and Steering Committee Meeting, WP3 presentation.

indeed, the wild mussels caught on gas platforms out of the Emilia Romagna coast are the subject of local summer fairs finalised to the promotion of this product on a wider touristic and gastronomic context.

For the assessment of SI 3.1.1 (The economic conditions under which fishing industries operate shall contribute to a fair standard of living for those who depend on fishing activities. Fisheries under assessment shall promote sustained and sustainable economic growth, full and productive employment) an evaluation as objective as possible has been attempted.
One aspect considered is the existence of the evidence of the economic relevance of the fishery under assessment. To assess about the economic value of the resources target of the fisheries under assessment and the related benefit for fishermen and coastal communities the main official sources of information have been consulted (socio-economic data for the Italian Fleet are, indeed, collected under the Italian Work Plan for data collection of fisheries' data, implemented in compliance with EU Regulation 1004/2017 - DCF framework – and processed by STECF). For the hand-harvesting of mussels on gas platforms the socio-economic data ad-hoc collected for the Prizefish project have been considered (Prizefish, 2021).

To provide an evaluation about the existence of a long-term attention to the use of the resources trying to ensure the right balance between the environmental and socio-economic sustainability, two socio-economic indicators have been used. These indicators are those provided by the Fleet report on the assessment of the balance between the fishing capacity of the Italian fleet and the fishing opportunities elaborated by the Italian Authority in compliance with art. 22 of Regulation (EC) No. 1380/2013 of the European Commission. The last publicly available is the Fleet report 2020(MIPAAF, 2021) and the data used for the calculation of the indicators come from the National Data Collection Program updated to 2019. The two socio-economic indicators used for the current pre-assessment are the CR/BER (Current Revenue/Break Even Revenue) and the RoFTA (Return on Fixed Tangible Assets). RoFTA represents the unit return on capital invested in the fisheries sector. The RoFTA was compared to the arithmetic average of the long-term harmonised interest rate of the previous five years (2015-2019). In 2019, out of an Italian total of 102 segments, 30 show an indicator value lower than the TRP, of which 4 in the GSA 17.
As far as CR/BER is concerned, break-even revenues (BER) correspond to the revenues necessary to cover both fixed and variable costs, such as neither to result in losses nor to generate profits. Current revenues (CR) are the total operating revenues of the fleet segment, which consists of profits from landings and non-fishing activities. In 2019, out of a total of 102 fleet segments examined, 31 show an indicator value of less than 1, of which 2 in GSA 17, while 7 have a negative CR/BER ratio, of which 2 in GSA 17.
Moreover, in order to assess about the ability of the fishery (and the related management) to provide full and productive employment, the Labour productivity indicator (GVA per FTE) has been used, in line with the STECF approach.
The scheme used for the evaluation of SI 3.1.1 is the following:

| Socio-economic Indicators | Unbalanced in 2019 | Balanced in 2019 | Balanced in 2019 with a decreasing trend | Balanced in 2019 with an increasing trend |
|---|---|---|---|---|
| CR/BER | 2 | 3 | 2 | 4 |
| RoFTA | 2 | 3 | 2 | 4 |
| *Intermediate score* | average between score CR/BER and RoFTA | | | |
| GVA/FTE | +1 if GVA/FTE of the fishery in GSA17 is above the GVA/FTE of the fishery at national level | | | |
| **Final score** | Final score: a value ranging from 2 to 5 | | | |

At local level (CoA) it is evident the role of some of the applicants in promoting the valorisation of the target resources by mean of appropriate marketing strategies. This is the case of the clams' fishery where OP Bivalvia plays a fundamental role, acting in strict coordination with the 2 Co.Ge.Vo. and putting in place a) a marketing strategy focused on the harmonisation of supply with demand b) a product valorisation based on the pursue of sustainability certification. As far as the latest, in 2018, indeed, the "Venetian Wild Harvested Striped Clam fishery" became the first Italian and Mediterranean fishery to achieve an MSC certification, highlighting the strong role exerted by the PO active in the bivalve fishery in the Veneto region. And it's also the case of the ATI (Associazione Temporanea di Imprese) in charge of the wild mussels' fisheries on gas platforms, based in Marina di Ravenna (Emilia Romagna). As it is not so uncommon that some fishmongers sell farmed mussels with a "wild" etiquette, creating distortion on the market and negative economic effects on fishing operators, a process aimed to the creation of a label for the wild mussel focusing on the wilderness of the mollusc in comparison with the farmed one is in progress, coordinated by the FLAG "Costa dell' Emilia Romagna" and financed by FEAMP.[18] The goal is to qualify this product with an undisputed qualitative value, arriving at the creation of an identity brand that is also a driving force for the attractiveness of the territory.

The socio-economic dimension should be evaluated also taking into account how the fisheries are managed in terms of balance between the productive structures, hence **capacity**, and resources. Beside general consideration on the management of capacity, the main source of information is, again, indicators provided by Fleet report (MIPAAF, 2021) providing for the annual assessment of the capacity of the national fleet, and for each fleet segment, the possible structural overcapacity.

The *SHI (Sustainable Harvest Indicator)* index is used to identify fleet segments in excess capacity[19]. For the purpose of selecting fleet segments showing an imbalance, segments with SHI indicator values

[18] http://www.flag-costaemiliaromagna.it/la-romagnola-soc-coop-la-cozza-selvatica-di-marina-di-ravenna/.

[19] According the 2014 Balance Indicator Guidelines (COM 2014, 545 final), the Sustainable Harvest Indicator is a measure of how much a fleet segment relies on stocks that are overfished. Here, "overfished" is assessed with reference to FMSY values over time (F / Fmsy > 1), and reliance is calculated in economic terms (landed value). Where FMSY is defined as a range, exceeding the upper end of the range is interpreted as "overfishing". Values of the indicator above 1 indicate that a fleet segment is, on average, relying for its income on fishing opportunities which are structurally set above levels corresponding to exploitation at levels corresponding to MSY. A detailed description and discussion of the methodology can be found in the STECF report 15-02. According to the 2014 Balance Indicator Guidelines the SHI is calculated for each national fleet segment (or cluster of segments dependent on the information provided by Member States via the economic data call), using the following formula:

above 1 and threshold above 40% for at least two out of three years in the period 2017 - 2019 are generally considered. The assessments of the state of resources for the Italian GSAs reported are those carried out in the GFCM, STECF and ICCAT working groups.
In order to assess fleet utilization intensity, hence overcapacity, the Guidelines for Balance Indicators (COM 2014, 545), propose other two different indicators aimed at measuring respectively the Inactive Vessel Indicator (IVI)and the Vessel Use Indicator (VUI).
The first indicator (IVI) describes the percentage of inactive ships in the total fleet, as regards the number of ships, tons (GT) and engine power (kW) but this is not available, under the Fleet report, by fleet segments (only by vessel length). Hence it has not been used for this assessment.
The second indicator (VUI) takes into account the activity levels of vessels that have fished at least once during the year, taking into account the seasonal nature of fishing activities and other restrictions. It is given, for each fleet segment, by the ratio between the observed fishing effort (the average of the days at sea per vessel) and the maximum effort found (the maximum days at sea observed in a fleet segment). According to the "traffic light" system, an indicator above 0.9 is observed only for fleet segments with a broadly homogeneous activity level, which can be assigned a green light. Values below 0.7 were considered potentially as indicators of under-utilisation which in turn may indicate technical overcapacity (red light). The indicators included among the limit values indicated are highlighted in yellow and indicate a situation of relative stability, underlining that the technical capacity available is overall moderately exploited. As these indicators are based on the number of vessels in the Fleet register, in the Fleet report they are updated at the year 2020.
The negative effects of the Covid 19 pandemic emerge significantly from the value of the VUI indicator in the Italian Fleet report: while remaining below the threshold value of 20% for all fleet segments, records marked increases especially in the lower length classes.
The scheme used for the evaluation of SI 3.1.2 is the following:

| **Capacity Indicators** | **Unbalanced in 2019** | **Balanced in 2019** | **Balanced in 2019 with a decreasing trend** | **Balanced in 2019 with an increasing trend** |
|---|---|---|---|---|
| SHI | 2 | 3 | 2 | 4 |
| VUI | 2 | 3 | 2 | 4 |
| *Intermediate score* | average between score SHI and VUI | | | |
| capacity containment | +1 if there is clear evidence of capacity containment policies | | | |
| **Final score** | Final score: a value ranging from 2 to 5 | | | |

$$\frac{\sum_{i=1}^{i=n} V_i \frac{F_i}{Fmsy_i}}{\sum_{i=1}^{i=n} \sum V_i}$$

In which, Fi is the fishing mortality available for stock i from scientific assessments (e.g. ICES, STECF, GFCM, ICCAT, IOTC advice) and Vi is the value of landings from stock i.

**Safety and working conditions** on board of ships are an important part of the socio-economic dimension in the fisheries and maritime fields and, in Italy, the general framework is well established. Organizations acting for the protection of workers at sea are many, such as:

- the harbour authorities register the boarding of the workers requesting different documentation such as the regular medical examination;
- the Ministry of Labour and Social Policies which receives communication via the online portal UNIMARE for the boarding and landing of employees at the harbour;
- the metropolitan city of Venice that receives the same boarding and landing notice;
- INAIL and INPS control there's medical insurance for all the operators.

Through the UNIMARE portal other authorities receive communications:

- employment offices of the seafarers;
- social security and health institutions (INAIL and INPS);
- territorial government offices.

Moreover, the Ministry of Labour and Social Policies provides information related to working relationships communicated through the Unimare system to the Provincial Labor Directorates, the Labor Inspectorates and the Regions (OP Bivalvia, 2019).
The relevant international conventions that aim to ensure decent working and living conditions for seafarers have been largely ratified and transposed into EU law (EU Council, 2018). They are the main ILO (International Labour Organisation) conventions on e.g. forced labour (ILO 29), discrimination of collective bargaining (ILO 98), discrimination (ILO 111), minimum age (ILO 138), equal remuneration (ILO 100), worst form of child labour (ILO 182).
According to most recent work of STECF, on the potential revision of marketing standards in the light of a wider concept of sustainability (including the social dimension) within the EU Farm to Fork strategy, the ratification of the ILO conventions by a country should be considered the *conditio sine-qua non* allowing a fishery or aquaculture product to be "marked" as sustainable, also in socio-economic terms (STECF, 2020c). All these conventions have been ratified by EU Member States, including Italy (as well as by many more countries around the world), as reported on the ILO website[20].
A different case is the ILO 'Work in Fishing' Convention 188. In 2010 the Council of Ministers has already agreed (Council decision 2010/321) that EU MSs are allowed to ratify ILO Convention 188 (necessary decision on EU level) and this shows the commitment of the MS to implement the convention. However, as of today only 7 EU MSs have ratified the convention. In the meantime, however, there is an EU Council directive (2017/159) which requires all MS to follow the ILO rules from Convention 188 except of two specific articles (one on control and enforcement and the other on remuneration of the crew) – STECF, 2020c.

[20] https://www.ilo.org/dyn/normlex/en/f?p=1000:11200:0::NO:11200:P11200_COUNTRY_ID:102709

Italy has not yet ratified the ILO 188 convention even if there has been a strong request from the sector for its ratification. A number of communications can be found on the web highlighting the importance, for the main trade associations, of the ratification of the ILO convention no. 188. Actually, the ratification of the ILO convention no.188 will not change so much the legal framework as the rights provided for by the Convention are already largely guaranteed by the CCNL Maritime Fishing (national collective work agreement) signed by the main trade unions and by the existing social legislation and legal framework, with the exception of the theme "social security", with respect to which ILO convention no. 188 provides that "all fishermen should benefit from social security under conditions equal to those that applies to other workers" and commits states "to take measures to progressively ensure this social security" (FLAI, 2016).
Indeed, the Convention is important because it introduces into international law the figure of the employee, other than the ship owner and the master; recognises the value and strength of collective labour agreements and the role of workers' representative organisations, which must be consulted by the competent national authority before legislating on many of the matters covered by the Convention (FAI CISL, 2020). The fishing sector is one of the most dangerous for workers. In Italy, 70% of all fatal events in the shipping sector occur in the fisheries sector. Those employed in this high-risk sector are increasingly subject to technopathies. For the Italian Ministries the ratification of the Convention marks a very first step in achieving essential levels of workers' rights in the sector and for this reason they have presented a draft law to the Italian Parliament on 19th February 2020 (Senato della Repubblica, 2020).

## 2. ARFM Marking system

The evaluation of a fishery within the ARFM process is organized at two levels. Taking into account each Specific Indicator separately, a first assessment of the fishery is carried-out at the level of the entire fleet operating in the area (CoE: Component of Evaluation). A second, separate assessment is made at the level of the single actor (individual or producer organization) applying for the ARFM certification programme (CoA: Component of Accreditation).

An overall mark between 4 and 10 is assigned to the fishery, by summing the scores given for the CoE and for the CoA, according the following grid:

**Table 5–ARFM Marking system**

| ARFM marking grid | | | | |
|---|---|---|---|---|
| **CoE** | 2 | 3 | 4 | 5 |
| **CoA** | 2 | 3 | 4 | 5 |
| **Final mark (CoE+CoA)** | 4 | 6 | 8 | 10 |
| **Level of compliance** | Low Confidence Rating | Medium Confidence Rating | Medium/High Confidence Rating | High Confidence Rating |

For each Specific Indicator, the final mark shall be based on the sum of the two individual scores given separately for the CoE and for the CoA.
In order to be certified, a fishery must score ≥ 6 (CoE + CoA) for each of the 14 Specific Indicators as well as an average of 8 out of 10 (CoE + CoA) across all Specific Indicators under each of the three key components. Indeed, a Specific Indicator can score, for instance:
3 (CoE level) + 2 (CoA level) = 5 (Final mark). 5<6so the fishery fails in this Specific Indicator.
or
4 (CoE level) + 3 (CoA level) = 7 (Final mark). 7 > 6 so the minimum threshold is achieved in this Specific Indicator.
If the fishery is scored between 6 and 7 for any Specific Indicator, the Applicant is required to improve the fishery's performance against that Indicator by means of an action plan, so that it will get 8 or above within 5 years. This leads the fishery being certified ARFM 'subject to an action plan' (see paragraph 2.4. above).
Whenever a Specific Indicator needs to be scored only al level of CoE or CoA and not at both, it is scored directly on the scale 4, 6, 8, 10.

## 2.1 Main outputs of the scoring by fishery

Table 6 below summarizes the scoring of each fishery at CoE and CoA level and average scores for each main area of governance, environment and socioeconomics. Details for each indicator are given in the scoring tables in section 3.

**Table 6 - Summary of pre-assessment scoring for the five Italian fisheries**

| Dimension&Supporting Indicators | Evaluation level | *Fishery 1* Dredgers_ Venus clam | *Fishery 2* Fyke nets_cuttlefish | *Fishery 3* Small pots_Mantis shrimp | *Fishery 4* Baskets_Changeable nassa | *Fishery 5* Hand-harvesting_ Mussel |
|---|---|---|---|---|---|---|
| Governance | | | | | | |
| **1.1.1 Legislation** | CoE | 5 | 5 | 5 | 5 | |
| | CoA | 5 | 3 | 3 | 3 | 8 |
| | Total | 10 | 8 | 8 | 8 | 8 |
| **1.1.2 Cooperation** | CoE | n/a | 8 | n/a | n/a | |
| | CoA | n/a | n/a | n/a | n/a | n/a |
| | Total | n/a | 8 | n/a | n/a | n/a |
| **1.2.1 Environmental policies** | CoE | 3 | 4 | 4 | 4 | |
| | CoA | 4 | 4 | 4 | 4 | 8 |
| | Total | 7 | 8 | 8 | 8 | 8 |
| **1.2.2 Management plan or a set of** | CoE | 4 | 3 | 3 | 3 | |
| | CoA | 5 | 4 | 4 | 4 | 7 |
| | Total | 9 | 7 | 7 | 7 | 7 |
| **Average for Governance** | | **8,7** | **7,8** | **7,7** | **7,7** | **7,7** |
| Environment | | | | | | |
| **2.1.1 Data collection and statistics** | CoE | 4 | 4 | 4 | 3 | |
| | CoA | 5 | 5 | 5 | 4 | 7 |
| | Total | 9 | 9 | 9 | 7 | 7 |
| **2.2.1 Institutional framework** | CoE | 3 | 8 | 8 | n/a | |
| | CoA | 4 | | | n/a | n/a |
| | Total | 7 | 8 | 8 | n/a | n/a |
| **2.2.2 Data limited approach** | CoE | 4 | n/a | n/a | 4 | |
| | CoA | 4 | n/a | n/a | 5 | 8 |
| | Total | 8 | n/a | n/a | 9 | 8 |
| **2.3.1 Precautionary approach** | CoE | 3 | 6 | 7 | 4 | |
| | CoA | 5 | | | | n/a |
| | Total | 8 | 6 | 7 | 4 | |
| **2.3.2 Absence of information** | CoE | 3 | n/a | n/a | n/a | |
| | CoA | 4 | n/a | n/a | n/a | 8 |
| | Total | 7 | n/a | n/a | n/a | 8 |
| **2.4.1 Ecosystem impacts** | CoE | 4 | 3 | 3 | 3 | |
| | CoA | 4 | 5 | 5 | 3 | 8 |
| | Total | 8 | 8 | 8 | 6 | 8 |
| **2.4.2 Food web** | CoE | 10 | 6 | 6 | 10 | 10 |
| | Total | 10 | 6 | 6 | 10 | 10 |
| **Average for Environment** | | **8,1** | **7,4** | **7,6** | **7,2** | **8,3** |
| Socio-economics | | | | | | |
| **3.1.1 Economic conditions** | CoE | 5 | 5 | 5 | 5 | |
| | CoA | 5 | 4 | 4 | 4 | 10 |
| | Total | 10 | 9 | 9 | 9 | 10 |
| **3.2.1 Fishing capacity** | CoE | 8 | 8 | 8 | 8 | |
| | CoA | | | | | 8 |
| | Total | 8 | 8 | 8 | 8 | 8 |
| **3.3.1 Human rights and safety on board** | CoE | 4 | 4 | 4 | 4 | |
| | CoA | 4 | 4 | 4 | 4 | 8 |
| | Total | 8 | 8 | 8 | 8 | 8 |
| **Average for Socio-economics** | | **8,7** | **8,3** | **8,3** | **8,3** | **8,7** |

Clams' fishery with dredges has an average score of 8 or above across all main components and currently passes the ARFM standard, even if with some conditionality for some SIs.

Only the changeable nassa fishery with basket traps completely fails the pre-assessment for a specific indicator (2.3.1., precautionary). However, three of the other selected fisheries (traps for cuttlefish and mantis shrimp and hand-harvesting of mussels) would require some additional actions before they can be certified under the ARFM standard as they do not achieve an average score of 8 or above under some of the main components. One of the fisheries (hand-harvesting of mussels) has been assessed only at CoA level as the fishery is a unique case on the national panorama and it is carried out only by the applicant.

A summary of the scoring for each fishery is given in the sections below, with full scoring tables provided in the Annex 3. Actions are proposed to enable the fisheries to address the shortcomings identified.

### 2.1.1 Striped venus clam fished by hydraulic dredges

The clams' fishery by hydraulic dredgers in GSA17 shows a good level of compliance with all the aspects dealt with the ARFM, hence passing the assessment. Indeed, the co-management in place for this fishery has resulted in a rather good balance between capacity and resources and, as a result, in a good socio-economic performance of the fleet concerned. At CoA level the applicant shows additional capabilities to improve the evaluation, considering that some actions have been put in place or are in progress to overcome some weaknesses highlighted at CoE level.

Nevertheless, the management of fishery needs to be improved by putting in place a systematic stock assessment for Venus clam and exploring the feasibility of defining reference points related to the biological sustainability of the resources under the National management plans are in accordance with MSY principles.

Furthermore, even if the fishery has a low impact on ecosystem (highly selective fishery and low impact on the food web), there is need for improvement of environmental policies, with a deeper consideration, under the main management instruments (national plan) of those environmental aspects that can have an impact on the stocks (e.g. water temperatures).

The tables below give the overall score obtained by the fishery, whether passing the ARFM assessment (table 7). Table 8 indicates areas of improvement for those SIs where overall score <=7).

**Table 7 – Synthetic score for clam's fishery by dredgers**

| Fishery | Components | Average score | Overall result |
|---|---|---|---|
| *Clams' fishery with hydraulic dredges* | **GOVERNANCE (1)** | 8.7 | **Passing ARFMpre-assessment** with conditionality for 3 SIs (1.2.1, 2.2.1, 2.3.2) |
| | **ENVIRONMENT (2)** | 8.1 | |
| | **SOCIO-ECONOMIC (3)** | 8.7 | |

**Table 8 – Scores for SIs scoring <=7 and general action to improve the score of clam's fishery by dredgers**

| Supporting Articles (SA) | Specific Indicators (SI) | Score | Need of actions (to be defined under the action plan) |
|---|---|---|---|
| 1.2. A clear decision-making process is part of the management system to achieve the objectives foreseen by international, national, and local fishery laws and has an appropriate approach to avoid conflicts. | 1.2.1. Environmental policies | 7 | include **more environmental aspects into management strategies** |
| 2.2. To support its optimum utilization, there shall be regular stock assessment activities appropriate for the fishery resource—its range, the species biology, and the ecosystem—all | 2.2.1. Institutional framework | 7 | enhance the institutional framework in order to **set a systematic system of stock assessment** |

| Supporting Articles (SA) | Specific Indicators (SI) | Score | Need of actions (to be defined under the action plan) |
|---|---|---|---|
| undertaken in accordance with acknowledged scientific standards. | | | |
| 2.3. Management actions and measures for the conservation of stock and the aquatic environment shall be based on the precautionary approach. Where information is deficient, a suitable method using risk assessment shall be adopted to take into account uncertainty. | 2.3.2. Absence of information | 7 | **put in place research and studies** to explore the feasibility of defining reference points related to the biological sustainability of the resources or to support that the reference points used under the National management plans are in accordance with MSY principles |

## 2.1.2 Cuttlefish fished by fyke nets

The cuttlefish fishery by fyke nets is a small-scale fishery and, as such, has great rooms for sustainability certification. Indeed, most of indicators report a good score, most importantly in relation to the existence of a systematic data collection and of an institutional framework for the assessment of the stock that is performed by GFCM/SAC with Italian, Croatian and Slovenia data considering that the stock is shared by countries fishing in GSA17.The fishery scores at high levels also for the socio-economic dimension, both in terms of economic performance and in terms of balance between capacity and resources. Nevertheless, the national management framework for the Italian small-scale fishery is old (the last national plan dates back to 2011) and, most importantly, even if limit and target reference points were fixed for biological, economic and social objectives and a monitoring plan was foreseen, it has not been amended to include the requirements of the new CFP and to include the precautionary approach, as recommended by STECF (2020).

The lack of an updated and practically implemented management plan at national level creates, at CoA level, the conditions for not full compliance. On the other hand, the applicants show additional capabilities to improve the evaluation, for instance, as far the ecosystem impact of the fishery: they are, indeed, responsible of some actions aimed at improving the status of the stock recovery, by the adoption of practices for cuttlefish's eggs recovery.

The tables below give the overall score obtained by the fishery, whether passing the ARFM assessment (table 9). Table 10 indicates areas of improvement for those SIs where overall score <=7).

**Table 9 – Synthetic score for cuttlefish fishery by fyke nets**

| Fishery | Components | Average score | Overall result |
|---|---|---|---|
| *Cuttlefish by fyke nets* | **GOVERNANCE (1)** | 7.8 | **Failing ARFMpre-assessment** with conditionality for |
| | **ENVIRONMENT (2)** | 7.4 | |
| | **SOCIO-ECONOMIC (3)** | 8.3 | |

| | | | |
|---|---|---|---|
| | | | 3 SIs (1.2.2, 2.3.1, 2.4.2) |

**Table 10 – Scores for SIs scoring <=7 and general action to improve the score of cuttlefish fishery by fyke nets**

| Supporting Articles (SA) | Specific Indicators (SI) | Score | Need of actions (to be defined under the action plan) |
|---|---|---|---|
| 1.2. A clear decision-making process is part of the management system to achieve the objectives foreseen by international, national, and local fishery laws and has an appropriate approach to avoid conflicts. | 1.2.2 Management plan or a set of management measures | 7 | **amend the last available national management plan** to include the requirements of the new CFP |
| 2.3. Management actions and measures for the conservation of stock and the aquatic environment shall be based on the precautionary approach. Where information is deficient, a suitable method using risk assessment shall be adopted to take into account uncertainty. | 2.3.1 Precautionary approach | 6 | **include the precautionary approach** into the management of cuttlefish fishery as recommended by STECF (2020) that considered the results of the assessments and the short lifecycles highly dependent on environmental factors and on management measures. |
| 2.4 Considerations of fishery interactions and their effects on the ecosystem shall be based on best available science, local knowledge where it can be objectively verified, and a risk-based management approach to determine the most probable adverse impacts. Adverse impacts on the fishery on the ecosystem shall be appropriately assessed and effectively addressed. | 2.4.2 Food web | 6 | considering the medium high role of cuttlefish in the food web (ranked at the 24th place of the impacting species in the Adriatic Sea)and the absence of a specific management measure to deal with this aspect, **promote actions** aimed to **minimize the impacts** of the fishery on dependent preys and/or predators. |

## 2.1.3 Mantis shrimp fished by small pots

As for the cuttlefish fishery, also the mantis shrimp fishery is a small-scale activity and, as such, has great rooms for sustainability certification. Indeed, most of indicators report a good score, most importantly in relation to the existence of a systematic data collection and of an institutional framework for the assessment of the stock. The fishery scores at high levels also for the socio-economic dimension, both in terms of economic performance and in terms of balance between capacity and resources. Nevertheless, as already mentioned above for cuttlefish, the national management framework for the Italian small-scale fishery ruling passive gears fishery is old (the last national plan dates back to 2011) and, most importantly, even if limit and target reference points were fixed for biological, economic and social objectives and a monitoring plan was foreseen, it has not been amended to include the requirements of the new CFP and a set of Harvest Control Rules (HCR) for the fishery.

The lack of an updated and practically implemented management plan at national level creates, at CoA level, the conditions for not full compliance. On the other hand, the applicants show additional capabilities to improve the evaluation, for instance, as far the ecosystem impact of the fishery: they are, indeed, responsible of some actions aimed at improving the environmental impact of the fishery by testing, for instance, the use of more selective gears.

The tables below give the overall score obtained by the fishery, whether passing the ARFM assessment (table

11). Table 12 indicates areas of improvement for those SIs where overall score <=7).

**Table 11 – Synthetic score for mantis shrimp fishery by small pots**

| Fishery | Components | Average score | Overall result |
|---|---|---|---|
| *Mantis shrimp by small pots* | GOVERNANCE (1) | 7.7 | **Failing ARFM pre-assessment** with conditionality for 3 SIs (1.2.2, 2.3.1, 2.4.2) |
| | ENVIRONMENT (2) | 7.4 | |
| | SOCIO-ECONOMIC (3) | 8.3 | |

**Table 12 – Scores for SIs scoring <=7 and general action to improve the score of the mantis shrimp fishery by small pots**

| Supporting Articles (SA) | Specific Indicators (SI) | Score | Need of actions (to be defined under the action plan) |
|---|---|---|---|
| 1.2. A clear decision-making process is part of the management system to achieve the objectives foreseen by international, national, and local fishery laws and has an appropriate approach to avoid conflicts. | 1.2.2 Management plan or a set of management measures | 7 | **amend the last available national management** plan to include the requirements of the new CFP |
| 2.3. Management actions and measures for the conservation of stock and the aquatic environment shall be based on the precautionary approach. Where information is deficient, a suitable method using risk assessment shall be adopted to take into account uncertainty. | 2.3.1 Precautionary approach | 7 | **promote the adoption ofHCR** for the mantis shrimp fishery |
| 2.4 Considerations of fishery interactions and their effects on the ecosystem shall be based on best available science, local knowledge where it can be objectively verified, and a risk-based management approach to determine the most probable adverse impacts. Adverse impacts on the fishery on the ecosystem shall be appropriately assessed and effectively addressed. | 2.4.2 Food web | 6 | Considering the medium high role of mantis shrimp (ranked at the 14th place of the impacting species in the Adriatic Sea) in the food web and the absence of a specific management measure to deal with this aspect, **promote actions** aimed to **minimize the impacts** of the fishery on dependent preys and/or predators. |

## 2.1.4 Changeable nassa by basket traps

As for the previous two fisheries (cuttlefish and mantis shrimp), also the changeable nassa fishery has great room for sustainability certification, considering it is carried out by passive gears on a species not impacting in

the food web. Indeed, most of indicators report a good score, most importantly in relation to the existence of a systematic data collection and of an institutional framework for the assessment of the stock. The fishery scores at high levels also for the socio-economic dimension, both in terms of economic performance and in terms of balance between capacity and resources. Nevertheless, as already mentioned above for cuttlefish, the national management framework for the Italian small-scale fishery ruing passive gears fishery is old (the last national plan dates back to 2011) and, most importantly, even if limit and target reference points were fixed for biological, economic and social objectives and a monitoring plan was foreseen, it has not been amended to include the requirements of the new CFP and a set of Harvest Control Rules (HCR) for the fishery. The lack of an updated and practically implemented management plan at national level creates, at CoA level, the conditions for not full compliance. On the other hand, the applicants show additional capabilities to improve the evaluation, for instance, as far the ecosystem impact of the fishery: they are, indeed, responsible of some actions aimed at improving the environmental impact of the fishery by testing, for instance, the use of more selective gears.
The tables below give the overall score obtained by the fishery, whether passing the ARFM assessment (table 13). Table 14 indicates areas of improvement for those SIs where overall score <=7).

**Table 13 – Synthetic score for changeable nassa by basket traps**

| Fishery | Components | Average score | Overall result |
|---|---|---|---|
| *Changeable nassa by basket traps* | GOVERNANCE (1) | 7.7 | Failing ARFM pre-assessment **2.3.1 direct fail** with conditionality for 4 SIs (1.2.2, 2.1.1, 2.3.1, 2.4.2) |
| | ENVIRONMENT (2) | 7.2 | |
| | SOCIO-ECONOMIC (3) | 8.3 | |

**Table 14 – Scores for SIs scoring <=7 and general action to improve the score of the changeable nassa fishery by small pots**

| Supporting Articles (SA) | Specific Indicators (SI) | Score | Need of actions (to be defined under the action plan) |
|---|---|---|---|
| 1.2. A clear decision-making process is part of the management system to achieve the objectives foreseen by international, national, and local fishery laws and has an appropriate approach to avoid conflicts. | 1.2.2 Management plan or a set of management measures | 7 | **amend the last available national management plan** to include the requirements of the new CFP |
| 2.1 There shall be an effective fishery data (dependent and independent) collection and analysis system for stock management purposes. | 2.1.1 Data collection and statistics | 7 | **improve the data collection system** to cover also the collection of biological data, in order to set an institutional framework of stock assessment |

| | | | |
|---|---|---|---|
| 2.3. Management actions and measures for the conservation of stock and the aquatic environment shall be based on the precautionary approach. Where information is deficient, a suitable method using risk assessment shall be adopted to take into account uncertainty. | 2.3.1 Precautionary approach | 4 | taking into account the scientific evidence provided by the literature (Grati et al., 2010; Polidori at al., 2015; Caprioli et al. (2018) **promote the adoption of the precautionary approach** in the management of the changeable nassa fishery |
| 2.4 Considerations of fishery interactions and their effects on the ecosystem shall be based on best available science, local knowledge where it can be objectively verified, and a risk-based management approach to determine the most probable adverse impacts. Adverse impacts on the fishery on the ecosystem shall be appropriately assessed and effectively addressed. | 2.4.2 Ecosystem impact | 6 | **Reduce** direct catches (e.g. implementing catch limits by fishing season) on this stock and improve information to better inform ecosystem assessment. |

## 2.1.5 Hand-harvesting of mussels on gas platforms

Even if not directly passing the ARFM evaluation at this first attempt, the hand-harvesting of Mediterranean mussel has great room for sustainability certification. It is a quite interesting fishery, as it shows good performances in all the three dimensions of evaluation.
It is an economically sustainable fishery as it provides good remuneration to fishing enterprises and to fishers. The ARFM could create further benefit to the fishery in economic terms as it would allow the applicant to really differentiate the wild mussel from the farmed ones on the market.
It is, at the same time, a fishery with a good environmental evaluation.

The tables below give the overall score obtained by the fishery, whether passing the ARFM assessment (table15). Table 16 indicates areas of improvement for those SIs where overall score <=7).

**Table 15 – Synthetic score for hand-harvesting of wild mussels on gas paltforms**

| Fishery | Components | Average score | Overall result |
|---|---|---|---|
| *Hand-harvesting of wild mussel on gas platforms* | GOVERNANCE (1) | 7.7 | **Failing ARFM pre-assessment** with conditionality for 2 SIs (1.2.2, 2.1.1) |
| | ENVIRONMENT (2) | 8.3 | |
| | SOCIO-ECONOMIC (3) | 8.3 | |

**Table 16 – Scores for SIs scoring <=7 and general action to improve the score of the hand-harvesting of wild mussels on gas platforms**

| Supporting Articles (SA) | Specific Indicators (SI) | Score | Need of actions (to be defined under the action plan) |
|---|---|---|---|
| 1.2. A clear decision-making process is part of the management system to achieve the objectives foreseen by international, national, and local fishery laws and has an appropriate approach to avoid conflicts. | 1.2.2 Management plan or a set of management measures | 7 | considering the economic relevance of the fishery at regional level and local actions supported by the local FLAG for the valorisation of the wild mussel, promote the proposal of regulatory framework for this fishery, even if at local level (eg-FLAG) |
| 2.1 There shall be an effective fishery data (dependent and independent) collection and analysis system for stock management purposes. | 2.1.1 Data collection and statistics | 7 | promote a systematic data collection of data on capacity, landings and effort |

# 3. Annexes

## 3.1. Marking Grid - Striped venus clam fished by hydraulic dredges

| ARFM marking grid_Governance | | | | | |
|---|---|---|---|---|---|
| | Evaluation level | Level of compliance | | | |
| | | Low confidence rating | Medium Confidence Rating | Medium/High Confidence Rating | High Confidence Rating |
| **Supporting article 1.1** | **There shall be a structured and legally mandated management system based upon and respecting international, national, and local fishery laws, for the responsible utilization of the target stock and conservation of the marine environment. FAO CCRF3 (1995) 7.1.3/7.1.4/7.1.9/7.3.1/7.3.2/7.3.4/7.6.8/7.7.1/** | | | | |
| **1.1.1 Legislation** There shall be an effective legal and administrative framework established at international, European, national and local levels appropriate for fishery resource conservation and management. The management system and the fishery operate in compliance with the requirements of international, national, and local laws and | **CoE 1.1.1 evaluation** | An effective legal system is in place (table X in the background text). The clam's fishery is regulated through a comprehensive regulatory framework which includes:<br>*EU level*<br>- The EC Reg. 1967/2006 (MedReg) which recognizes 4 basic types of dredges (art. 2) and prohibits the use of hydraulic dredges within a distance of 0.3 nautical miles from the coast, on *Posidonia oceanica* or other marine phanerogams, on coral habitats and *maërl beds* (art.4).<br>- The EU Reg. 2019/1241 on the conservation of fisheries resources and the protection of marine ecosystems through technical measures which fixes restrictions on the use of dredges (maximum breadth of dredges set at 3 m)<br>- The EU Reg. 1380/2013 (CFP) which regulates the landing obligation for bivalve molluscs (art. 15).<br>- The Commission Delegated Regulation (EU) 2020/3 (as amended by Commission Delegated Regulation (EU) 2020/2237) which establishes a discard plan for Venus shells (*Venus spp.*) in certain Italian territorial waters allowing for: i) survivability exemption for Venus shells (art. 2) and ii) minimum conservation reference size (MCRS) for Venus shells (Venus spp.) at a total length of 22 mm, by way of derogation from the minimum conservation reference size established in Annex IX to Regulation (EU) 2019/1241 (art.3).<br>*National level* | | | |

| | | | | | |
|---|---|---|---|---|---|
| regulations, including the requirements of any regional and/or international fisheries management agreement. | | - Decree 23 January 2020 which adopts the National Discard Management Plan for Venus spp (*Chamelea gallina*) amending the Directorial Decree n. 21946 of 27 December 2016<br>- Directorial Decree 9913, of June 17th 2019 which adopts the National Management Plan for dredges in Italy<br>The management arrangements are governed by the above decrees following the relevant European legislation. The main measures (among others) refer to: technical characteristics and limitation for hydraulic dredges, including the sieves to be used to sort the catches; geographical limitation to the territorial waters of the district of registration of the vessel; number of vessels authorised to fish using hydraulic dredges; maximum of fishing days a week and amount of fish per kg/vessel/day; mandatory system for monitoring vessel position; mandatory system of certification of minimum conservation reference size (MCRS); requirement to identity restocking areas to re-transfer products below the required size.<br><br>*Local (compartmental level)*<br>- Concerning the *bodies responsible for the conservation and management of the fishery*, the management is de facto based on a system of Territorial Use Rights for Fishing (TURF). The management of the fishery is entrusted to the consortia established pursuant to ministerial decrees no. 44/1995 and n. 515/1998 and recognized by the Ministry of Agriculture and Forestry; the operating methods and the prerogatives of the Consortia are identified by the Ministerial Decree of 22 December 2000 which amends the D.M. 21.7.1998, concerning the regulation of fishing for bivalve molluscs. The guiding principle of this legislation, introduced in the 1990s by national policy, was to allow the possibility of introducing management systems capable of increasing the added value produced by the resource in favour of operators through actions concerning the management of areas of fishing entrusted directly to specific consortia so as to ensure a balance between fishing effort, size of stocks and cultivation activities and regulation of the levy.<br>In the light of all the above, a score of 5 is given at CoE level. | | | |
| | **CoE 1.1.1 score** | | | | 5 |
| | **CoA level 1.1.1 evaluation** | According to the MSC full assessment of Striped Venus clams' fishery carried out by fishers associated to OP Bivalvia (the applicant), the level of potential non-compliances at CoA level is very low. Based on information collected from the Italian Coast Guard reports, in 2015 from, only 6 non-compliances (out of 125 inspections) were identified; in 2016 only 4 non-compliances out of 135 inspections (DNV GL, 2018). The clam fishery is continuously subject to controls at different levels (health, administrative, management, etc.) which are carried out both by external components (veterinary service, police, EU commissioners, etc.) and internally, under the umbrella of the two Co.GE.VO. of Chioggia and Venice. According to the most recent MSC audit (DNV GL, 2021) carried out to verify that all the conditions that led to the MSC certification are still valid in the last two years (2018-2019) only one sanction was raised against one fishing vessel, which had violated for three times the obligations regarding the recording and reporting of data relating to catches and landings. A score of 5 is given at CoA level. | | | |
| | **CoA 1.1.1 score** | | | | 5 |

| | | | | | |
|---|---|---|---|---|---|
| | **Final mark 1.1.1 (CoE+CoA)** | | | | 10 |
| **1.1.2 Cooperation** Where transboundary, shared, straddling, highly migratory, or high seas fish stocks are exploited by two or more countries (neighboring or not), the applicant and appropriate management organizations concerned shall cooperate and take part in the formal fishery commission or arrangements appointed to ensure effective conservation and management of the stock(s) in question and their environment. | **CoE 1.1.2 evaluation** | Not applicable, Striped Venus is a sedentary species. Because of this the assessment of age population structure for management purposes must be (and is) performed on the local scale (Bargione et al., 2020). | | | |
| | **CoE 1.1.2 score** | | | | |
| | **CoA level 1.1.2 evaluation** | Not applicable, Striped Venus is a sedentary species. | | | |
| | **CoA 1.1.2 score** | | | | |
| | **Final mark 1.1.2 (CoE+CoA)** | | | | |
| **Supporting article 1.2** | **A clear decision-making process is part of the management system to achieve the objectives foreseen by international, national, and local fishery laws and has an appropriate approach to avoid conflicts.**<br>**FAO CCRF (1995) 10.1.1, 10.1.2, 10.1.4, 10.2.1, 10.2.2, 10.2.4** | | | | |
| **SI 1.2.1 Environmental policies** Within the fisheries management organization's jurisdiction, an appropriate policy, legal, and institutional framework shall be adopted in order to achieve sustainable and integrated use of living marine | **CoE 1.2.1 evaluation** | An EU review of Member State implementation of environmental legislation found that Italy's program of measures substantially addresses most of the relevant pressures on its marine environment. It emerges that substantial efforts have been made in designating Natura 2000 sites, although this is only the first step in ensuring adequate protection for their habitats and species.[21] Most recent reports on the achievement of the Good Environmental Status by MSs highlight that Italy has still not achieved GES by 2020; of particular interest for this report GES has not been achieved for the Mediterranean Adriatic region (MAD) for the main descriptors concerning the impact of fisheries on environment (more details can be found in the background section).<br>As far as the clam's fishery it is concerned the establishment of the consortia (Ministerial Decree of 22 December 2000 which amends the D.M. 21.7.1998) led to the adoption of effective self-regulation codes with measures that include: restocking actions, monitoring of catches, protection of resources, establishment of biological rest areas, rotation of the vessels involved in fisheries, collaboration with | | | |

[21] https://ec.europa.eu/environment/eir/pdf/report_it_en.pdf
https://ec.europa.eu/environment/eir/pdf/factsheet_it_en.pdf

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|---|---|---|---|---|---|
| resources, allowing for determination of the possible uses of resources and governing access to them. | | research institutes for studies and research on the marine environment, promotion of training and professional qualification of those involved in bivalve molluscs fisheries and enhancement of product quality. The experience of self-management in the bivalve mollusc sector has without doubt been positive: the decentralisation of decision-making, with the specification of rights of use within the territory, produced effects with regard to the improvement of environmental conditions, improvement of catch quality, increase in production value, containment of costs, and definition of appropriate marketing strategies, with a consequent rational management of resources and of the market (Sabatella R.F., 2012).<br>An issue to be considered is that ecological considerations and environmental conditions (e.g. water temperature) are not currently incorporated in the HCRs proposed by the National Management Plans. This inclusion could be appropriate in the specific fishery where the abundance is cyclical and for species particularly suffering from environmental shocks (Kvamsdal S. F., 2016).<br><br>Hence, a score of 3 is given. | | | |
| | **CoE 1.2.1 score** | | 3 | | |
| | **CoA level 1.2.1 evaluation** | The applicant is directly involved in the decision-making process, at local level and, as such, in the determination of the possible uses of resources and in governing the access to them. In fact, Op Bivalvia works closely with the two Consortia in charge of the management of clam's fishery in Veneto (Co.Ge.Vo. of Chioggia and Venezia) for a sustainable management of the Venus clams (*Chamelea gallina*) and its marketing.<br>75% of vessels managed by the 2 Co.Ge.Vo. (around 100 fishing enterprise) are associated to PO Bivalvia. In the last years OP Bivalvia adopted several initiatives for a sustainable exploitation of the clams, such as: i) seeding in nursery areas, ii) restocking (with juveniles of the same stock), iii) catch control, iv) rotation of exploitation areas, v) temporary closure of specific areas for reproduction, nursery or recovery purposes(for more details see Prizefish 2020b).<br>In line with what allowed by the national legislation, OP Bivalvia, in synergy with the two Co.Ge.Vo., adopts, when needed, a more precautionary approach, evidence of a high confidence in the level of determination of the possible uses of resources and in governing access to them (as reported for SI 2.3.1).<br>Hence, a score of 4 is given. | | | |
| | **CoA 1.2.1 score** | | | 4 | |
| | **Final mark 1.2.1 (CoE+CoA)** | | 7 | | |

| | | | | | |
|---|---|---|---|---|---|
| **SI 1.2.2 Management plan or a set of management measures**<br>Long-term management objectives shall be translated into a plan or other management document and be subscribed to by all interested parties. | **CoE 1.2.2 evaluation** | Management objectives and measures are reported in the National Management Plan and in the Discard management plan for hydraulic dredges. Both plans have been recently updated through the Directorial Decree 9913, of June 17th, 2019 and the Decree 23 January 2020, respectively.<br>The National Management Plan specifies that the main objective is to maintain and develop fishing activities and management of bivalve molluscs implemented by management Consortia at district level (Mipaaf, 2019)<br>The Directorate General for Maritime Fisheries, in collaboration with the regional administrations, oversees the execution of the Plan acting as an intermediary with the competent offices of the European Commission. To this end, the plan provides that monitoring is carried out at two levels: compartmental and national. The continuous monitoring of fishing activities at the Maritime Compartment level is entrusted to a scientific institute which collaborates with the same Consortium for all the necessary technical and scientific aspects.<br>Reference points (RPs) are set for GSA17 in the National Management Plan and are expressed as density of commercial individuals. RPs are determined by linking the biological aspects with the socio-economic ones and are defined as both as limit values below which not to allow fishing, and as an optimal value to achieve optimal fishing yield. These reference points are not intended to be objectives to be achieved in the medium/long term but as threshold quantities to decide on the implementation of HCRs.<br>An adaptive management is foreseen (changes to the daily quota; closure if biomass falls below threshold). It has to be noticed that STECF (2019) recommended exploring the feasibility of defining reference points related to the biological sustainability of the resources, not based only on the potential profits, as indicated in the MP.<br>In addition to this the national law sets out the conditions for ensuring the appropriate control of compliance: indeed, Consortia are required to provide the local Coast Guard Authority with catch data no later than the fifth day of each month.<br>As a result, a score of 4 is given for SI 1.2.2 at CoE level. | | | |
| | **CoE 1.2.2 score** | | | 4 | |
| | **CoA level 1.2.2 evaluation** | As far as clams caught in the area of competence of OP Bivalvia, according to ISPRA (2012) the water circulation in such areas determines that the striped clam stock targeted in the Chioggia and Venice compartments can be regarded as a single stock unit. There is a flow of water from the south-east to the west-north in littoral area above Po river's mouth in opposite direction of the off-shore currents thus a possible connection to the wider distribution of striped clams outside the Chioggia and Venice maritime districts is very limited (DNV GL, 2018). This represents the *conditio* sine qua non for a management focused on a local level, as that carried out by Co.Ge.Vo. of Venezia and Chioggia, in synergy with OP Bivalvia, on the fishery activities exerted by hydraulic dredgers targeting clams in the waters off Venice and Chioggia.<br>There is large evidence of compliance of the local management (via the Co.Ge.Vo) with the national plans. Even better, there is evidence of more restrictive measures adopted by the local Co.Ge.Vo. decided in synergy with OP Bivalvia, as one-more month of voluntary stops in recent years (SI or the most recent restriction of the weekly fishing days from 4 (national limit) to 3 (set out by Co.Ge.Vo. of Chioggia and Venezia) - SI 2.3.1. | | | |

| | | | | | |
|---|---|---|---|---|---|
| | | As reported in the text for the evaluation of SI 1.1.1, a high level of compliance emerges from the information reported by the Italian Coast Guard.<br>As a result, a score of 5 is given for SI 1.2.2 at CoA level. | | | |
| | CoA 1.2.2 score | | | | 5 |
| | Final mark 1.2.2 (CoE+CoA) | | | 9 | |

| ARFM marking grid_Environment | | | | | |
|---|---|---|---|---|---|
| | Evaluation level | Level of compliance | | | |
| | | Low confidence rating | Medium Confidence Rating | Medium/High Confidence Rating | High Confidence Rating |
| **Supporting article 2.1** | **There shall be an effective fishery data (dependent and independent) collection and analysis system for stock management purposes.** | | | | |

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| **2.1.1 Data collection and statistics**<br>All significant fishery removals and mortality of the target species shall be considered by management. Specifically, reliable and accurate data required for assessing the status of fishery and ecosystems, including data on retained catch and discards shall be collected. These data shall be collected, at an appropriate time and level of aggregation, by relevant management organizations and provided to relevant fisheries organizations.<br><br>FAO CCRF (1995) 7.3.1, 7.4.6, 7.4.7, 12.4<br>FAO Eco (2009) 29.1-29.3 | **CoE 2.1.1 evaluation** | A process that allows for effective data collection (including data on retained catch, bycatch, discards and waste) for management purposes is in place. The Italian Work Plan for data collection, implemented in compliance with EU Regulation 1004/2017, establishes the routine collection of biological data, by catch fractionand detailed data on the activity (capacity, production, effort) of hydraulic dredges.<br>An ad-hoc survey (DRES) is implemented annually within the Italian DCF Work Plan since 2018. This standardized annual scientific survey is aimed at assessing the state of the resource, the spatial distribution of the species and the effectiveness of the technical measures adopted by the national management plan. The survey covers biometric measurements (length and weight) and biological information (sex ratio, maturity, length-weight relationship etc.) for *Chamelea gallina* and biometric measurements for Ensis minor<br>STECF (2019) considered that since the monitoring is based on DCF standards it is likely to be adequate to evaluate the effects of the National Discard Management Plan (MIpaaf, 2020). However, STEFC (2019) also reported that "The collected information from logbooks about the fishing activity is incomplete (position, fishing hours, catch), but is necessary for an adaptive management of the fishery. The dredge fishery is managed at district level. Since the abundance of the target species is not homogenous across all districts, data on catches, fishing effort and abundance should be available at that level e.g. annual CPUE is not informative about the situation of the stocks in all districts were the species are exploited."<br>The data collection activities are reported in the Italian work plan and in the protocols of the DRES survey, both available in the official website (https://dcf-italia.cnr.it/).<br>A score of 4 is given at CoE level. | | | |
| | **CoE 2.1.1 score** | | | 4 | |
| | **CoA level 2.1.1 evaluation** | Evidence of a systematic monitoring of biomass data (g/m$^2$) of striped clam in Venice and Chioggia maritime districts, by size classes for the period 2005-2016 is available in DNV GL (2018), updated to 2019 in DNV GL (2021). Biomass data are used for checks against the limit management trigger point set at 5 g/m2. Quantities below the limit value determine the closure of the area or sub-area to the fishing activity. Values slightly above this value (5-7.5 g/m2) may be compatible with fishing activity but cause a state of attention that requires more frequent controls. For precautionary reasons it has also been considered appropriate to include a definite "attention" limit which involves periodic (two months) monitoring of the resource status.<br>In each sub area (the Co-Ge.Vo. competence area), two types of monitoring are performed:<br>- annual coordinated monitoring with standardized methodology, uniform for all compartments, carried out by a recognized scientific institute (University of Bologna and University of Trieste)-<br>- continuous monitoring by individual consortia for the planning of normal fishing activities with the support of a scientific institute chosen by the Consortium, with the methodologies considered most appropriate (AGRITECO).<br>The result of monitoring is sent to the Maritime Authority.<br>Evidence of the Spatial distribution of fishing effort of hydraulic dredges targeting striped clams within the maritime districts of Chioggia and Venice is also provided in DNV GL (2018) for the years 2015 and 2016, updated up to 2019 in DNV GL (2021).<br>A score of 5 is given at CoA level. | | | |

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| | CoA 2.1.1 score | | | | 5 |
| | Final mark 1.1.1 (CoE+CoA) | | | 9 | |
| **Supporting article 2.2** | **To support its optimum utilization, there shall be regular stock assessment activities appropriate for the fishery resource—its range, the species biology, and the ecosystem—all undertaken in accordance with acknowledged scientific standards.** | | | | |
| **2.2.1 Institutional framework** An appropriate institutional framework shall be established to determine the applied research required and its proper use (i.e., assess/evaluate stock assessment model/practices) for fishery management purposes. FAO CCRF 12.2, 12.6 | **CoE 2.2.1 evaluation** | There is an established institutional framework for data collection for fishery management purposes (see SI 2.1.1) that complements the scientific monitoring of the management Consortia. Management reference points reported in the management plan are based on population densities collected through systematic surveys, where these index densities are established based on the species population dynamics and the inherent productivity of the habitat and environmental conditions. However, there are no regular stock assessment activities undertaken in accordance with acknowledged scientific standards (indeed, yield is calculated on a proportion of the observed biomass and the harvested fraction determined on empirical evidence from historical catches and their consequences) and actions aimed to identify the most proper modelling approaches to support that the reference point used under the National management plans are in accordance with MSY principles are still on-going in the most relevant areas for this fishery (DNV GL, 2021). In the light of this, a score of 3 is given. | | | |
| | **CoE 2.2.1 score** | | 3 | | |
| | **CoA level 2.2.1 evaluation** | The direct involvement of the applicant within the co-management system of the bivalves' fisheries (collaboration with the two Co.Ge.Vo. of Chioggia and Venice) places the applicant itself in the position to have a key role in contributing to the research and its proper use for fishery management purposes. The applicant is systematically involved (every year) in research activities led by the scientific institutes in charge of monitoring the status of the stocks (SI 2.1.1). Moreover, it is worth noting that the Co.Ge.Vo. of Venice and the Co.Ge.Vo. of | | | |

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| | | Chioggia have been the first Italian consortium to voluntarily engage in a ministerial pilot project aimed at improving selectivity of dredgers in the light of the National discards plan (COGEVO Venezia, 2018).<br>For further details see SI 2.3.1.<br>All these elements provide evidence of the existence, also at local level, of a framework appropriately established and able to implement and use scientific data for fishery management purposes.<br>In the light of this, a score of 4 is given. | | | |
| | **CoA 2.2.1 score** | | | 4 | |
| | **Final mark 2.2.1 (CoE+CoA)** | | 7 | | |
| **2.2.2 Data limited approach**<br>Less elaborate stock assessment methods are frequently used for small-scale, data poor stocks or low-value capture fisheries resulting in greater uncertainty about the status of the stock under consideration. A more precautionary approach to managing fisheries on such resources shall be | **CoE 2.2.2 evaluation** | As indicated in the national management plan and as commented by STECF_PLEN-19-01, the reference pointsare expressed in terms of population densities and are based on the potential profits or economic terms and not on biologically sustainable exploitation in the frame of MSY objectives.<br>According to the management plan (Mipaaf, 2019), for each species and for each GSA where there are non-uniform environmental conditions, commercial product density values are defined as reference points. Average density per surface unit has been identified as an abundance index. This indicator is independent from fishing and is based on standard samplings, aimed at determining the average density of the resource on samples taken on transepts and equidistant stations. Currently, the reference points for smooth clams in GSA 17 are: Good management (> 10 g/m2), Attention interval (5 - 7.5 g/m2) and Fishing ban (5 - 7.5 g/m2).<br>Consequently, the achievements of the objectives of the CFP (art.2) cannot be quantified as no assessment of the fishing mortality rate associated with the achieving maximum sustainable yield is available.<br>Nevertheless, well defined HCRs are in place that are expected to keep the stock fluctuating around a target level consistent with (or above) MSY(DNV GL, 2021).<br>For this reason, a score of 4 is given at CoE level. | | | |
| | **CoE 2.2.2 score** | | | 4 | |

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| required, including, where appropriate, a lower level of resource utilization. A record of good management performance may be considered as supporting evidence of the adequacy of the management system. | **CoA level 2.2.2 evaluation** | In line with the approach used at CoE level, at CoA level evidence of the use of density indicators to fill the gap of missing data on stock assessment is detected. Furthemore, according to the MSC Final assessment, the applicant (OP Bivalvia) is committed, within 4 years from the release of the certification (hence for the end of 2022) to fill the gaps existing in the stock assessment at national level by 1) demonstrating - according to scientific parameters - that the stock is managed at levels equal to or above MSY and 2) implementing regular monitoring of all catches (quantity per season, spatial distribution, impact ...) with the aim of provide evidence of the impact of fishing on target species (DNV GL, 2018).<br>There is evidence of ongoing actions taken by the applicant aimed at filling these gaps (DNV GL, 2021). As far as actions to give evidence that the management is in line with the MSY, historical data on catches, effort and fishery independent data were collected during the first year of implementation of the action plan.<br>For this reason, a score of 4 is given at CoA level. | | | |
| | **CoA 2.2.2 score** | | | 4 | |
| | **Final mark 2.2.2 (CoE+CoA)** | | | 8 | |
| **Supporting article 2.3** | **Management actions and measures for the conservation of stock and the aquatic environment shall be based on the precautionary approach. Where information is deficient, a suitable method using risk assessment shall be adopted to take into account uncertainty** | | | | |
| **2.3.1 Precautionary approach**<br>The precautionary approach shall be applied widely to conservation, management, and | **CoE 2.3.1 evaluation** | In the current national management plan, it is stated that the reference points have to be considered as a precautionary approach because they have been used since the late 1970s; therefore, the limit of 5g/m2 can be used as the Limits Reference Point (LRP) and higher than 10g/m2 as the Target Reference Point (TRP). When clam densities drop below 10g /m2, management consortia activate measures to reduce fishing effort in areas identified as being in difficulty. In addition to the limit below which to close fishing and the optimal value to aim for, it was considered appropriate to insert, as a precaution, an additional intermediate "attention" limit which involves periodic checks on the state of the resource (bi-monthly monitoring) and that it can foresee the continuation of the fishing activity with possible modifications of the daily quota that can be fished, or alternatively, the closure if the biomass continues to decrease despite the measures taken. | | | |

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| exploitation of ecosystems to protect and preserve them. This should take due account of fishery enhancement procedures, where appropriate. Absence of scientific information shall not be used as a reason for postponing or failing to take conservation and management measures**.** Relevant uncertainties shall be taken into account through a suitable method of risk management, including those associated with the use of introduced or translocated species. FAO CCRF (1995) 7.5.2 | | Considering the overall management framework, it could be concluded that his approach has at least 3 weakness points: 1) reference points are expressed in terms of population densities, but it is recognized that biological reference points remain key components of harvest control rules (HCRs) and concepts in precautionary fisheries management (Kvamsdal S. F., 2016, STECF, 2019), 2) the distribution of clams within each Maritime Compartment presents a considerable spatial variability and in all compartments can be found areas with very low commercial clam densities and other areas with more densities high (Mipaaf, 2019); 3) enforcement provisions of HCRs are not identified in the management plan and they are actually demanded only to the local consortia (Mipaaf, 2019)(this is a gap to be overcome because HCRs are subject to conflicting objectives of conservation and exploitation).<br>As a consequence, a score of 3 is given. | | | |
| | **CoE 2.3.1 score** | | 3 | | |
| | **CoA level 2.3.1 evaluation** | All management decisions for the hydraulic dredge fishery are based on the assumption that the stock is isolated. The fact that the stock is isolated creates the perfect conditions for a proper application of the precautionary approach to management at local level (DNV GL. 2018), as in the case of clams' fisheries managed by Co.Ge.Vo. of Venice and the Co.Ge.Vo. of Chioggia in synergy with OP Bivalvia.<br>The trend of monthly landings of *Chamelea gallina* for the Veneto region over the period 2002-2017 shows in recent years voluntary technical stops of at least 3 months / year, in order to allow the rebuilding of the clams' stocks (DGPEMAC, 2019).<br>The precautionary approach taken by the local management entities, including OP Bivalvia, is detected also in the occurence of natural adverse events, such as the recent VAIA storm (2018) and the high tide in 2019 both influencing the value of catches observed in 2019. In the light of this, in 2019 the two COGEVO, in synergy with OP Bivalvia, decided to further and voluntarily reduce the fishing days (after the biological stop/seasonal closure) allowed by the national law, setting 3 instead of 4 days per week, modifying their HCR. This strategy was endorsed at the end of 2019 on an experimental basis and then from 01 September 2020 it was enforced by an Ordinance of the Coast Guard, also to tackle the negative effects caused on fishing activity and landings by the COVID19 pandemic (DNV GL, 2021).<br>All the above elements provide evidence of a real willingness of the applicant of adopting and implementing a precautionary approach to management, when needed, even if national law is less binding.<br>As a consequence, a score of 5 is given. | | | |
| | **CoA 2.3.1 score** | | | | 5 |
| | **Final mark 2.3.1 (CoE+CoA)** | | | 8 | |
| **2.3.2 Absence of information**<br>In the absence of adequate scientific | **CoE 2.3.2 evaluation** | Within the Italian EMFF operative programs 2014-2020, 16 actions have been approved under the measure 39 (Innovation linked to the conservation of marine biological resources), most of them related to pilot studies to increase the selectivity of hydraulic dredgers. Nevertheless, as already highlighted in the evaluation of SI 1.2.2, additional research and studies have been requested to explore the feasibility of defining reference points related to thebiological sustainability of the resources or to support that the reference points used under the National management plans are in accordance with MSY principles. | | | |

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| information, appropriate research shall be initiated in a timely fashion. FAO CCRF (1995) 7.5.1, 12.3 | | A score of 3 is given at CoE level. | | | |
| | CoE 2.3.2 score | | 3 | | |
| | CoA level 2.3.2 evaluation | There is large evidence of effort deployed by the applicant in contributing to cover the lack of information of important data needed for fishery management purposes. As already reported under SI 2.2.1, the Co.Ge.Vo. of Venice and the Co.Ge.Vo. of Chioggia have been the first Italian consortia to voluntarily engage in a ministerial pilot project aimed at improving selectivity of dredgers in the light of the National discards plan (COGEVO Venezia, 2018).<br>Furthermore, according to the MSC Final assessment, the applicant (OP Bivalvia) is committed, within 4 years from the release of the certification (hence for the end of 2022) to fill some gaps existing at national level by 1) demonstrating - according to scientific parameters - that the stock is managed at levels equal to or above MSY and 2) implementing regular monitoring of all catches (quantity per season, spatial distribution, impact ...) with the aim of provide evidence of the impact of fishing on target species (DNV GL, 2018).<br>There is evidence of ongoing actions taken by the applicant aimed at filling these gaps (DNV GL, 2021). As far as actions to give evidence that the management is in line with the MSY, historical data on catches, effort and fishery independent date were collected during the first year of implementation of the action plan.<br>Moreover, also in line with the STECF opinion on the matter (STECF, 2019) meetings were held with the leaders of the Consortia and of the PO Bivalvia Veneto, focusing on the determination of the MSY index. Agriteco, on behalf of the two consortia and OP Bivalvia, is still in progress of providing clear analyses based on modelling approaches or on empirical evidence supporting that the reference point used are in accordance with MSY principles.<br>Considering the real commitment of the applicant to fill the gaps still existing at national level but also that some gaps still remain (DNV GL, 2021) a score of 4 is given. | | | |
| | CoA 2.3.2 score | | | 4 | |
| | Final mark 2.3.2 (CoE+CoA) | | 7 | | |
| **Supporting Article 2.4** | **Considerations of fishery interactions and their effects on the ecosystem shall be based on best available science, local knowledge where it can be objectively verified, and a risk-based management approach to determine the most probable adverse impacts. Adverse impacts on the fishery on the ecosystem shall be appropriately assessed and effectively addressed.** | | | | |
| **2.4.1 Ecosystem impacts** | **CoE 2.4.1 evaluation** | According to the most recent literature (Morello et al., 2005a) and Final assessment for the MSC certification (DNV GL, 2018), the clam fishery under this assessment is agreed to be an almost mono specific fishery. Some evidence is provided by experimental surveys carried | | | |

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| The most probable adverse impacts of fishery on the ecosystem/environment, shall be assessed and, where appropriate, addressed and/or corrected, taking into account available scientific information. This may take the form of an immediate | | out from the scientific body supporting the Co.Ge.Vo during 2005, 2007, 2010 and from 2014 to 2016 (DNV GL, 2018). These surveys have shown that *Chamelea gallina* accounted for more than 73% of the total catch in weight, resulting the only target species (hence managed through reference points) or economically valuable species. A group of species only occasionally accounted as a whole for more than 5% were the hermit crabs (*Pagurus* spp.) which do not have economic value and are not managed according to target or limit reference points. These crab species are always released alive. The same occurs for the other less abundant by-catch species.<br>In addition to this, the information about the fishing effort distribution, technological selectivity in the fishing gear and the distribution of ETP species (e.g. turtles, dolphins and birds) within the area of competence of the applicant provides a high degree of confidence that there are no significant detrimental effects (direct and indirect) on ETP species (DNV GL, 2018).<br>Furthermore, as again reported in the report for the Final assessment for the MSC certification (DNV GL, 2018), vulnerable marine ecosystems (VME) and habitats protected (SIC and SPZ *sensu* Natura 2000) are not involved in fishing with hydraulic dredges, in compliance with national regulations of European Union.<br>Moreover, according to the approach adopted by Libralato and Celic, it can be stated that the Italian hydraulic dredges for striped venus clam (ITA_DRB) has a total negative impact on the ecosystem equal to -0.33 (2.98% of total negative impact of all fisheries) ranking 12 in terms of contribution to the fishery impacts in the Adriatic Sea (Figure 1.1.). This fishery has substantial catches but with low discards and it could be classified as low impacting fishing fleet, although has a high impact of the fishing gear on the seabottom and its epifauna. |

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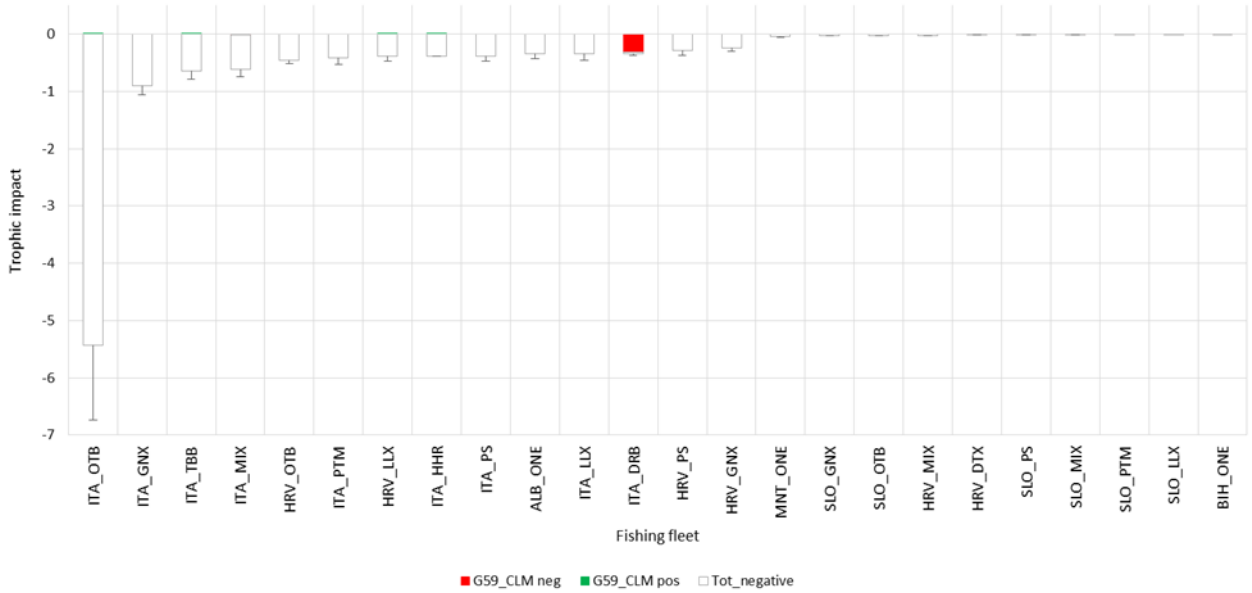
| management response or a further analysis of the identified risk. In the absence of specific information on the ecosystem impacts of fishery under assessment, generic evidence based on similar fishery situations can be used for fisheries with low risk of severe adverse impact. However, the greater the risk, the more specific evidence shall be necessary to ascertain the adequacy of mitigation measures. FAO Eco (2009) 30.4, 31, 31.4 FAO Eco (2011) 41.4 | |  <br>*Figure 1.1: Total ecosystem impact by fleet in the Adriatic highlighting the contribution Italian hydraulic dredge (ITA_DRB; highlighted in grey). Negative and positive Impacts on the target specie striped venus clam (G59_CLM) are highlighted in red and green, respectively, for all fleets.* | | | |
| | | In the light of all the above,a score of 4 is given at CoE level. | | | |
| | **CoE 2.4.1 score** | | | 4 | |
| | **CoA level 2.4.1 evaluation** | According to the approach adopted by Libralato and Celic, it can be stated that the fleet has the most negative impact on the striped venus clam (92.79% of the total) (G59_CLM) (Figure 1.1. under CoE level). However, the fishery is highly selective<br>As a result, a score of 4 is given for SI 2.4.1 at CoA level. | | | |
| | **CoA 2.4.1 score** | | | 4 | |

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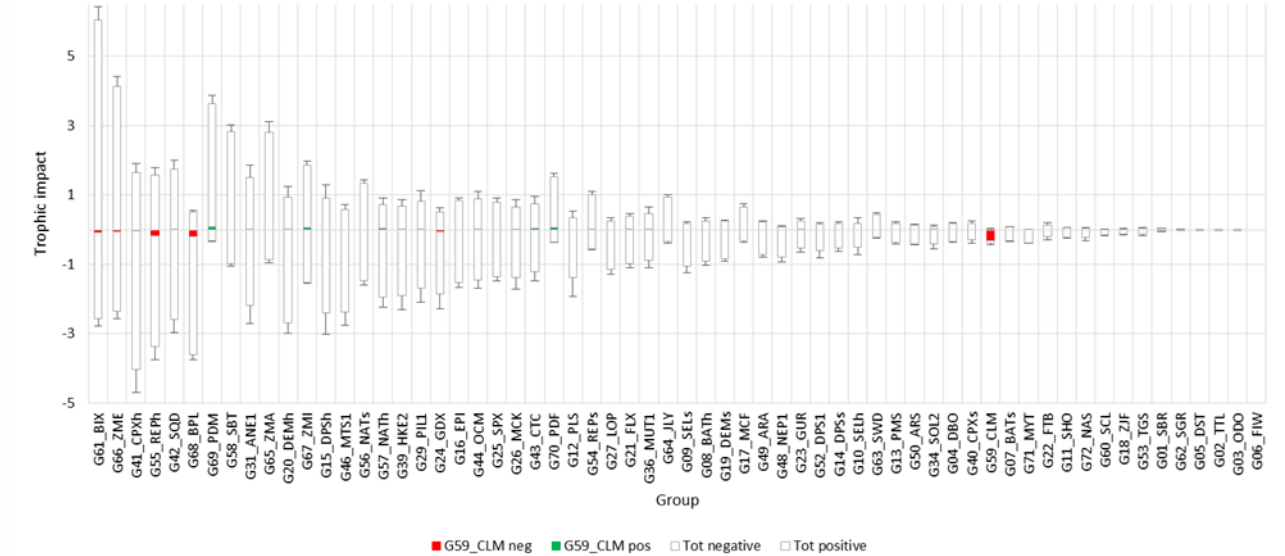
| | **Final mark 2.4.1 (CoE+CoA)** | | | | 8 |
| **2.4.2 Food web**<br>The role of the stock under consideration in the food web shall be considered, and if it is a key prey species in the ecosystem, management objectives and measures shall be in place to avoid severe adverse impacts on dependent preys and predators.<br>FAO Eco (2009) 31.2 | **CoE 2.4.2 evaluation** | The striped venus clam (G59_CLM) is ranked at the 48th place of the impacting species in the Adriatic Sea (overall impact = 0.42; 0.38 % of all impacts), and it is responsible for 0.61 % of negative and 0.05 % of positive impacts (Figure 1.2). The intraspecific competition is high (80.91 % of its negative impact). The species has low overall impact on the food web.<br>  <br><br>*Figure 1.2: Representation of trophic impact of trophic groups on the ecosystem. Trophic groups' total negative and positive impacts (white bars) are represented and the ratio of impact they have on the target specie (negative in red, positive in green). The assessed trophic group is highlighted in grey.*<br><br>Given the above a score of 10 is given (the scoring system is adapted as the evaluation for this indicator can be provided only at CoE level) | | | |

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| | CoE 2.4.2 score | | | | 10 |
| | CoA level 2.4.2 evaluation | *Not assessed at CoA level* | | | |
| | CoA 2.4.2 score | | | | |
| | Final mark 2.4.2 (CoE+CoA) | | | | 10 |

| ARFM marking grid_Socio-economic aspects | | | | | |
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| | Evaluation level | Level of compliance | | | |
| | | Low confidence rating | Medium Confidence Rating | Medium/High Confidence Rating | High Confidence Rating |

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| **Supporting article 3.1** | **Economic, social, and cultural value of resources shall be assessed by the appropriate fisheries management organization in order to assist decision making on their use and the fishing activities should be managed in coherence with the objectives of achieving economic, social and employment benefits.**<br>FAO CCRF (1995) 10.2.2<br>Art. 2, point 1 of the EU Common Fishery Policy Basic Regulation – Reg. (EU) No 1380/2013 | | | | |
| **3.1.1 Economic conditions**<br>The economic conditions under which fishing industries operate shall contribute to a fair standard of living for those who depend on fishing activities. Fisheries under assessment shall promote sustained and sustainable economic growth, full and productive employment.<br><br>Art. 2, point 5 f) of the EU Common Fishery Policy Basic Regulation – Reg. (EU) No 1380/2013 | **CoE 3.1.1 evaluation** | The system of data collection in place at national level allows the availability of socio-economic data at GSA 17 level (Maiorano et. al, 2019) as well as at administrative regional level, i.e. NUTS2 (NISEA, 2020) for the dredges fleet.<br>The large majority of the Italian dredges fleet operate in Northern Adriatic Sea ((594 out of 703 hydraulic dredges operating inGSA17) and predominantly in the Adriatic administrative Regions of Marche, Veneto and Abruzzo (STECF, 2020a; Prizefish, 2021). Hydraulic dredgers in GSA 17 predominately target striped venus, representing 89% of the overall value of landings of the fleet (Prizefish, 2021) and according to the most recent data on the economic value of species landed in GSA 17, Striped venus is the top species landed in value, providing around 43 million to the GSA 17 hydraulic dredges fishing fleet, in 2019 (Prizefish, 2021).Evidence of socio-economic sustainability of the fishery, at CoE level, can be found also in terms of remuneration of the crewmember. The average wage provided to crewmembers working on-board of hydraulic dredgers amounted, in 2019, at around 14.22 thousand € per year, in line with the average wage registered for the overall fishery sector in the regions belonging to the GSA17 but higher than the average wage registered for the fishery sector at national level (around 10 thousand €) – Prizefish, 2021.<br>Evidence of the existence of a long-term attention to the use of the resources trying to ensure the right balance between the environmental and socio-economic sustainability, is provided by the trend of the socio-economic balance indicators: the value of the CR/BER (Current Revenue/Break Even Revenue) and of RoFTA (Return on Fixed Tangible Assets) for the DRB1218 fishing in GSA17 are in balance for the year 2019 (MIPAAF, 2021[22]) and an improvement trend since 2018 for both indicators.<br>The evidence of the fact that the management of clams' fisheries is achieving good results in terms of socio-economic sustainability at CoE level is provided also by statistics of the main socio-economic indicators. The labour productivity (GVA per FTE) for this fishery in GSA 17 accounts, in 2019, at 80,214 € (Prizefish, 2021) against a value of 66,282 detected for the dredgers fleet at national level in 2018 (STECF, 2020a).<br>In the light of all the above, a score of 5 is given. | | | |
| | **CoE 3.1.1 score** | | | | 5 |

[22]https://www.politicheagricole.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/17190

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| | **CoA level 3.1.1 evaluation** | In the Veneto area, the management of bivalve mollusc resources *Chamelea gallina* (together with *Callista chione* and *Ensis minor*) takes place through a form (unique in Italy) of supra-compartmental management, therefore all the choices on the quantities of collection, management of the rotation of fishing areas and voluntary stops are hired by the decision-making bodies of the two Consortia joined together. This type of management has made it possible to keep the fishing fleet unchanged in the time and to ensure an economic and productive guarantee for all associated companies (MIPAAF, 2020).<br>The fishing of bivalve with hydraulic dredges is a strong point of the Venetian fishing fleet: from the Venetian dredges derives 18% of the clams caught at national level (NISEA, 2020).The bivalves' fishery in the Veneto region (carried out by OP Bivalvia and Op Fasolari) is considered one of the best examplesof co-management and supra-compartmental cooperation unique, within the whole panorama of Italian fishing, able to achieve a constant socio-economic sustainability over time and the reduction of fluctuations of the product both on a spatial and temporal scale, allowing a profitable and long-lived fishing activity (MIPAAF, 2020).<br>In the most recent analysis of economic data at regional level, in 2018 the value of landings has increased (+46%), compared to 2017, exceeding 12 million euros, the highest value in the last five years (2014-2018), to be attributed to an increase in the number of daily landings (+22%) and the increase in the average price of clams (+ 38%). The trend is in line with the product enhancement actions put in place by the local PO, OP Bivalvia, able to obtain the first sustainability certification - MSC - on fresh product, Chamelea Gallina, in the Mediterranean In 2018, the stability of fuel costs together with the reduction of marketing costs (-85%) gave rise to a significant increase in value added (+56%) which made it possible to sustain an increase in the average remuneration per embarked equal, in 2018, to about 13 thousand euros (+38%), despite the 12% increase in work units on board (NISEA, 2020).<br>Currently the Co.Ge.Vo. of Venice and Chioggia, in synergy with OP Bivalvia, control the fishing of C. Gallina managing the system through the organization of the fishing day set on a process of *conferring product already sold* (booked in advance by buyers). In this way, on the evening before the fishing day, the Consortia communicate to the associated companies the following: 1) Fishing companies interested in harvesting clams; 2) Start time; 3) Fishing area; 4) Quantity (kg) per day of fishing; 5) Active landing points<br>During each fishing day, the companies interested collect the quantity of clams communicated and, after having screened it, stores it in net bags of 10 kg / each marked with a label complete with all the data useful for the *traceability* of the product. With this procedure all the bags of clams caught are identifiable and subject to the fishing company and the fishing vessel that collected them and to the person in charge who self-certified their suitability for sale (COGEVO Venezia, 2018). This system ensures the stabilisation of price and a fair allocation of fishing possibilities to all the fishers associated to the PO, as the system is done in such a way that at the end of the year fishers have caught more or less the same quantity of clams.<br>In the light of the above, a score of 5 is given. | | | |
| | **CoA 3.1.1 score** | | | | 5 |
| | **Final mark 3.1.1 (CoE+CoA)** | | | **9** | |

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| **Supporting article 3.2** | **Excess fishing capacity shall be avoided and exploitation of the stocks shall remain economically viable.**<br>Art. 22 of the EU Common Fishery Policy Basic Regulation – Reg. (EU) No 1380/2013 | | | | |
| **3.2.1 Fishing capacity** Based on the data available and the most recent assessments and advice from relevant scientific bodies on stock status and their exploitation rates, estimates indicators to judge about fleet overcapacity. | **CoE 3.2.1 evaluation** | The management of bivalve molluscs in Italy is based on territorial fishing rights similar to those in other Member States (TURF, Territorial Use Rights for Fishing). The introduction of territorial rights, which provide for the full transfer of responsibilities in favour of rightholders, is particularly suitable in cases where resources take on a sedentary nature. Only in this case, indeed, there is no competition between those who enjoy territorial law and those who fish outside the border. The management of hydraulic dredges is very close to this type of system, in which each fishing compartment operates and has fishing rights exclusively on its own territory - maritime compartment (MIPAAF, 2020).<br>Rights-based management (RBM), as reported in the Commission Communication (EC, 2007), can improve the efficiency of fisheries management, while facilitating the achievement of the basic objectives pursued by the Community and the Member States under the Common Fisheries Policy (CFP), such as the conservation of fish stocks, maintaining the "relative stability" of Member States' fishing opportunities and a competitive fisheries sector (MRAG, 2009).<br>The right balance of capacity with the available level of resources has also been achieved through an appropriate policy of limiting the number of vessels fishing for clams. The first Adriatic hydraulic dredges were launched in the early 70s and within a few years these new tools replaced the traditional hand-operated dredges (Gaudenzi, 2008) because the catches and economic yields were much higher. The dredges peaked at 778 in 1993 and then the fleet began to decline. Under the EU-funded reduction plans, fishing capacity (with reference only to dredges fishing for clams) fell to 665 in 1998 and 585 in 2002, before remaining almost unchanged (MIPAAF, 2020).<br>Futhermore, the results in terms of balancing capacity against resources expressed by the balance indicators reflecting the utilisation of capacity are almost satisfying. The Vessel Use Indicator estimated at GSA17 level by the National authority (MIPAAF, 2020b) shows an increase an improvement from a situation of unbalance (VUI=0.6) to that of balance (VUI=0.7). SHI is not provided for the lack of stock assessment for clams.<br>In the light of the above, a score of 9 is given (the scoring system is adapted as the evaluation for this indicator can be provided only at CoE level). | | | |
| | **CoE 3.2.1 score** | | | | |
| | **CoA level 3.2.1 evaluation** | Not assessed at CoA level. | | | |

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| | **CoA 3.2.1 score** | | | n.a. | |
| | **Final mark 3.2.1 (CoE+CoA)** | | | **9** | |
| **Supporting article 3.3.** | **The fishery activity shall work in full compliance with international laws on labor, human rights and safety.** | | | | |
| **3.3.1 Human rights and safety on board** International norm shall clearly be followed in fishing fleet under assessment, such as fisheries should not participate in slavery or other human rights abuses and shall promote decent work for all. | **CoE 3.3.1 evaluation** | Safety and working conditions on board of ships are an important part of the social dimension in the fisheries and maritime fields.<br>In Italy, the general framework is well established.<br>The relevant international conventions that aim to ensure decent working and living conditions for seafarers have been largely ratified and transposed into EU law (EU Council, 2018). They are the main ILO (International Labour Organisation) conventions on e.g. forced labour (ILO 29), discrimination of collective bargaining (ILO 98), discrimination (ILO 111), minimum age (ILO 138), equal remuneration (ILO 100), worst form of child labour (ILO 182) exception made for the ILO 'Work in Fishing' Convention 188 even if there has been a strong request from the sector for its ratification(more details can be found in the background section).<br>In the light of all the above a score of 5 is not given, because of the lack of ratification of ILO convention no. 188. A score of 4 is deemed to be appropriate as the process of ratification is in progress and the overall legislation framework guarantees the respect of the most important huma rights and safety on board. | | | |
| | **CoE 3.3.1 score** | | | 4 | |

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| | **CoA level 3.3.1 evaluation** | The evidence of elements necessary to evaluate SI at CoA level is provided by the self-declaration provided by OP Bivalvia to comply with the MSC requirements after obtaining the certification (OP Bivalvia, 2019). The self-declaration describes the main policies and measures, including regulatory requirements and procedures that are in place for the applicant, to protect fishing crew from forced labour or child labour, as well as any efforts by the private sector. The objective is to require certificate holders to communicate how government, industry, or other relevant entities protect against forced or child labour.<br>Besides providing the main information on the national framework for the protection of rights of people working on-board (included in the assessment for the CoE level), the self-declaration provides some information on the compliance with labour standards. In 2018 there was an inspection by the Labour Inspectorate at the premises of OP Bivalvia (offices of Caorle) and they did not find any violations of labour standards. It must be stressed, however, that OP Bivalvia is not the employer of sailors as it just groups some fishing or individual company, the reason why it is not directly in charge of their obligations in terms of labour.<br>As far as any potential issue arising from discrimination on the geographical origin of crewmembers, the applicant declared that the fishery activity on-board of the hydraulic dredges is not an industrial one and the fisherman profession is handed down from father to son. Automatically when they need staff, they directly hire someone from their family. This is the reason why the staff is principally from the Veneto region, specifically from the neighbouring areas. The fact of not having non-EU workers is, in any case, not caused by discrimination but just by opportunities linked with the features of the fishery activity.<br>In the light of the above, a score of 4 is given. A score of 5 could be reached by providing information on the fishers or companies forming the applicant (associated to OP Bivalvia). | | | |
| | **CoA 3.3.1 score** | | | 4 | |
| | **Final mark 3.3.1 (CoE+CoA)** | | | 8 | |

## 3.3.Marking Grid – Cuttlefish fished by mean of fyke nets

| ARFM marking grid_Governance | | | | | |
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| | Evaluation level | Level of compliance | | | |
| | | Low confidence rating | Medium Confidence Rating | Medium/High Confidence Rating | High Confidence Rating |
| **Supporting article 1.1** | **There shall be a structured and legally mandated management system based upon and respecting international, national, and local fishery laws, for the responsible utilization of the target stock and conservation of the marine environment. FAO CCRF3 (1995) 7.1.3/7.1.4/7.1.9/7.3.1/7.3.2/7.3.4/7.6.8/7.7.1/** | | | | |
| **1.1.1 Legislation** There shall be an effective legal and administrative framework established at international, European, national and local levels appropriate for fishery resource conservation and management. The management system and the fishery operate in compliance with the requirements of international, national, and local laws and regulations, including the | **CoE 1.1.1 evaluation** | The fishery is covered by a Fishery policy developed at the EU and national level.<br>In the framework of **EU legislation**, even if "the CFP was developed with large scale fleets in mind giving scarce attention to small-scale or artisanal fleets" (Percy J., 2020), specific rules are provided in:<br>• Basic Regulation (EU 1380/2013), article 5 that provides for the 12-mile derogation to the principle of free access. The expected aim behind this rule is that "Member States should endeavour to give preferential access for small-scale, artisanal or coastal fishermen". This derogation is considered as a tool for Member States to manage small-scale fisheries and to provide privileged access to inshore waters for smaller-scale fishing activities;<br>• the Mediterranean Regulation (EC 2006) and the Technical Measures Regulation (EC 2019) which introduced technical measures such as restrictions in mesh and gear size and fishing areas. The latter has had a positive effect on small-scale fisheries, with pressure on large-scale fisheries to operate outside the three-mile limit of coastal areas having become stronger (Raicevich et al., 2020)<br>In the framework of **national legislation**, the fishery is mainly regulated by:<br>• the Italian Ministerial Decree 7 December 2016 - Discipline of small-scale fishing and small-scale artisanal fishing. This decree differentiates the "artisanal fisheries" from the "small scale fisheries". The latter category incudes the "artisanal | | | |

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| requirements of any regional and/or international fisheries management agreement. | | fisheries" plus driftnets and set longlines. Art. 2 allows for the establishment of "management consortia between small artisanal fishing companies". Up to now, the following consortia have been settled in the Adriatic Sea: Co.Ge.P.A. San Benedetto del Tronto, Co.Ge.P.A. Termoli and Co.Ge.P.A. Monfalcone & Trieste.<br>• The fishery is also covered by a National Management Plan , adopted by the Directorial Decree 20/09/2011 n.6. This management plan applies to fishing vessels registered in maritime compartments of Friuli Venezia Giulia, Veneto, Emilia Romagna, Marche, Abruzzo and Molise authorized to "other fishing systems" (passive gear, hydraulic dredges and longlines).<br>• A local management plan (PDGL – "piano di gestione locale") is in force in Friuli Venezia Giulia as adopted by the Ministry in August 2012. The tool of the local management plan has been introduced by Regulation (EC) 1198/2006 (EFF) and it provide for the assignment of specific responsibilities concerning the exploitation of resources and territorial use to the fishing companies registered in a specific area, adopting a co-management approach, or even one of full self-management.<br>• The management of the fishery is also integrated by some ordinances of the local Port Authorities which establish several technical measures: maximum number of fishing gears, minimum distance from the coast and maximum daily catches.<br><br>The fishery is also regulated by several **conservation and management measures agreed at international level**:<br>• the Food and Agriculture Organization (FAO) released the 'FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication' (FAO 2015). These guidelines represent the first international agreement that provides consensus principles and guidance on addressing small-scale fisheries;<br>• the GFCM organised three regional conferences dedicated to small-scale fisheries that culminated in the adoption from high-level representatives from 18 Mediterranean and Black Sea countries as well as the EU of a Ministerial Declaration aimed at implementing a "Regional Plan of Action for Small-Scale Fisheries in the Mediterranean and the Black Sea" (GFCM 2018);<br>• in addition, GFCM also amended art. 5 of its legal framework (GFCM 2015), introducing a legally binding obligation to consider the impact of its recommendations on the small-scale fishery sector. On these bases and considering the general aims of the reformed CFP to promote small-scale fisheries, increased collaboration among Mediterranean countries, institutions and stakeholders, could prevent the decline of small-scale fisheries and allow them to reach their full, unexploited potential (Raicevich, 2018).<br>An important role in the management of the fishery is represented by the cooperative fisher associations. Their role in contributing to establishing fisheries management is consultative and defined by the Italian Law 41/1982. These associations have a hierarchical geographical structure with fishers generally joining a local cooperative belonging to a national fisher association. The Italian cooperatives also join the Low Impact Fisheries of Europe (LIFE) an European body aimed at providing a clear and coherent voice at EU |

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| | | level for the small scale fishers.<br>*In the light of all the above, a score of 5 is given at CoE level.* | | | |
| | CoE 1.1.1 score | | | | *5* |
| | **CoA level 1.1.1 evaluation** | The fishers are aware of the general rules managing the fishery but it has not been possible to find official sources where the level of compliance for this specific fishery (use of traps) in this specific area (Emilia-Romagna or generally Adriatic) is reported (e.g. reports). Being the fishery a small-scale one it can be argued that potential infringements have not a large impact in terms of conservation. However,based on the judgment of local scientists and as largely recognised by most locals, it can be concluded that fishers are generally not compliant with some management rules, e.g. limits on the number of pots and traps per boat. The evidence has to be found in the landings volume which could not be obtained by a number of traps on pots in line with the maximum sets by law.<br>Considering the lack of evidence of compliance and the perceptions from locals, a score of 3 is given at CoA level. | | | |
| | CoA 1.1.1 score | | 3 | | |
| | **Final mark 1.1.1 (CoE+CoA)** | | 8 | | |
| **1.1.2 Cooperation** Where transboundary, shared, straddling, highly migratory, or high seas fish stocks are exploited by two or more countries (neighboring or not), the applicant and appropriate management organizations concerned shall cooperate and take part in the formal fishery commission or arrangements appointed to ensure effective conservation and management of the stock(s) in question and their environment. | **CoE 1.1.2 evaluation** | Sepia officinalis is classified by GFCM as a “shared stock” in the Adriatic Sea.The GFCM recommends that when scientific evidence of shared stocks exists, joint stock assessments should be attempted. Indeed, the stock assessment is performed by GFCM/SAC with Italian, Croatian and Slovenia data.<br>Hence a score of 10 is given (as the assessment is provided only at CoE level) | | | |
| | CoE 1.1.2 score | | | | 10 |
| | **CoA level 1.1.2 evaluation** | Not applicable. | | | |
| | CoA 1.1.2 score | | | | |
| | **Final mark 1.1.2 (CoE+CoA)** | | | | |

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| **Supporting article 1.2** | **A clear decision-making process is part of the management system to achieve the objectives foreseen by international, national, and local fishery laws and has an appropriate approach to avoid conflicts.**<br>**FAO CCRF (1995) 10.1.1, 10.1.2, 10.1.4, 10.2.1, 10.2.2, 10.2.4** | | | | |
| **SI 1.2.1 Environmental policies**<br>Within the fisheries management organization's jurisdiction, an appropriate policy, legal, and institutional framework shall be adopted in order to achieve sustainable and integrated use of living marine resources, allowing for determination of the possible uses of resources and governing access to them. | **CoE 1.2.1 evaluation** | An EU review of Member State implementation of environmental legislation found that Italy's program of measures substantially addresses most of the relevant pressures on its marine environment. It emerges that substantial efforts have been made in designating Natura 2000 sites, although this is only the first step in ensuring adequate protection for their habitats and species.[23] Most recent reports on the achievement of the Good Environmental Status by MSs highlight that Italy has still not achieved GES by 2020; of particular interest for this report GES has not been achieved for the Mediterranean Adriatic region (MAD) for the main descriptors concerning the impact of fisheries on environment (more details can be found in the background section).<br>Nevertheless, it is important to specify that the fishery is a small-scale fishery and the use of fyke nets ore, generally traps, allows to consider it a low impact fishery in environmental terms.<br>Hence, a score of 4 is given. | | | |
| | **CoE 1.2.1 score** | | | 4 | |
| | **CoA level 1.2.1 evaluation** | There is evidence of some actions and investments undertaken from the applicant to contribute to the achievement of environmental objectives, in particular to contribute to the safeguard of resources<br>Since some years, *small-scale fishers* in Marina di Ravenna have been trained and ecologically educated over the time by local scientists (CESTHA[24]) and now they feel responsible of the impact of their activity.<br>In the light of this, they are implementing different actions, one of which is the cuttlefishes' eggs recovery, commonly lost when fishing cuttlefish by mean of traps. (for details see the background section).<br>Hence, a score of 4 is given | | | |
| | **CoA 1.2.1 score** | | | 4 | |

[23] https://ec.europa.eu/environment/eir/pdf/report_it_en.pdf
https://ec.europa.eu/environment/eir/pdf/factsheet_it_en.pdf
[24] https://www.cestha.it/prj02.html

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| | **Final mark 1.2.1 (CoE+CoA)** | | 7 | | |
| **SI 1.2.2 Management plan or a set of management measures**<br>Long-term management objectives shall be translated into a plan or other management document and be subscribed to by all interested parties. | **CoE 1.2.2 evaluation** | A National Management Plan was adopted by the Directorial Decree 20/09/2011 n.6. This management plan applies to fishing vessels registered in maritime compartments of Adriatic regions authorized to “other fishing systems” (passive gear, hydraulic dredges and longlines).<br>The objective of the management plan was the recovery of stocks within safe biological limits. The plan included the following management measures: adjustment of the fishing effort though the implementation of a decommissioning plan which covered 5% of the corresponding fleet in terms of GT and Kw; technical stop in line with the provisions of the national collective labour agreement with regard to weekly rest; minimum reference sizes; minimum mesh size (the size of the gillnet lowered to the bottom is not less than 20 mm); areas closed or limited to fishing (biological protection zones (ZTB), marine protected areas (AMP), areas of particular value, identified in the Sites of Community Importance (SIC) and in the Special Protection Areas (SPA), as well as areas subject to military servitude.<br>Limit and target reference points were fixed for biological, economic and social objectives and a monitoring plan was foreseen. However, the management plan has not been amended to include the requirements of the new CFP and the achievement of the objectives have not been estimated nor reported.<br>As a result, a score of 3 is given for SI 1.2.2 at CoE level. | | | |
| | **CoE 1.2.2 score** | | 3 | | |
| | **CoA level 1.2.2 evaluation** | In the light of the need to harmonize the ordinances that regulate, at compartmental level, fishing with traps in the coastal strip of Emilia-Romagna and in line with the Community indications, a proposal for a "Local management plan for small-scale artisanal fishing" was drawn up[25], in terms of environmental and economic sustainability by the local FLAG “Costa dell’Emilia-Romagna”. The Plan is in accordance with the general criterion of more restrictive "rules" laid down in the legislation.<br>In view of the importance at local level, the measures concern the number of maximum gear that each boat can drop, in relation to the number of embarked, and the technical stop limited to fishing with traps for cuttlefish, sea snails and mantis squillid.<br>Hence, a score of 4 is given. | | | |
| | **CoA 1.2.2 score** | | | 4 | |
| | **Final mark 1.2.2 (CoE+CoA)** | | | | |

[25]http://www.flag-costaemiliaromagna.it/wp-content/uploads/Allegato7_Proposta_Piano_Gestione.pdf

| ARFM marking grid_Environment | | | | | |
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| | **Evaluation level** | **Level of compliance** | | | |
| | | **Low confidence rating** | **Medium Confidence Rating** | **Medium/High Confidence Rating** | **High Confidence Rating** |
| **Supporting article 2.1** | **There shall be an effective fishery data (dependent and independent) collection and analysis system for stock management purposes.** | | | | |
| **2.1.1 Data collection and statistics**<br>All significant fishery removals and mortality of the target species shall be considered by management. Specifically, reliable and accurate data required for assessing the status of fishery and ecosystems, including | **CoE 2.1.1 evaluation** | A process that allows for effective data collection for management purposes is in place. The Italian Work Plan for data collection, implemented in compliance with EU Regulation 1004/2017, establishes the routine collection of biological data, by catch fraction for *Sepia officinalis*. The planned minimum no of individuals to be measured in GSA 17 is set at 4 thousand for length measurements and one thousand for other biological parameters. Additionally, around 30 daily trips of the concerned metier (GSA 17_FPO_DEF_0_0_0) have to be monitored with a temporal coverage of all the quarters of the year. Fishery independent data for *Sepia officinalis* are also collected in the framework of SoleMon survey.<br>Detailed data on the activity (capacity, production, effort) are collected by fleet segment, by metier (GSA 17_FPO_DEF) and by month.<br>The data collection activities are reported in the Italian work plan available in the official website (https://dcf-italia.cnr.it/).<br>A score of 4 is given at CoE level | | | |
| | **CoE 2.1.1 score** | | | 4 | |

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| data on retained catch and discards shall be collected. These data shall be collected, at an appropriate time and level of aggregation, by relevant management organizations and provided to relevant fisheries organizations.<br><br>FAO CCRF (1995) 7.3.1, 7.4.6, 7.4.7, 12.4<br>FAO Eco (2009) 29.1-29.3 | **CoA level 2.1.1 evaluation** | Because of their strict involvement in pilot actions and projects aimed at the environmental sustainability of the fisheries, the applicants are evidently contributing to the collection of specific data by allowing scientists (Cestha staff) to interact with them during fishery operations allowing access on-board.[26]<br>Hence, a score of 5 is given | | | |
| | **CoA 2.1.1 score** | | | | 5 |
| | **Final mark 1.1.1 (CoE+CoA)** | | | 9 | |
| **Supporting article 2.2** | **To support its optimum utilization, there shall be regular stock assessment activities appropriate for the fishery resource—its range, the species biology, and the ecosystem—all undertaken in accordance with acknowledged scientific standards.** | | | | |
| **2.2.1 Institutional framework**<br>An appropriate institutional framework shall be established to determine the applied research required and its proper use (i.e., assess/evaluate stock assessment | **CoE 2.2.1 evaluation** | The stock has been regularly assessed by STECF. The more recent assessment (STECF 2020) indicates a recent recovery of common cuttlefish stock with negative trends in exploitation rate and fisheries mortality and with biomass at the level of BMSY.<br>The GFCM assessment performed in 2018 also showed that the exploitation is below FMSY and the biomass is below safe biological limits (BMSY). Analytical reference point and current value for fishing mortality and stock abundance are also estimated (https://gfcmsitestorage.blob.core.windows.net/documents/SAC/SAFs/DemersalSpecies/2017/CTC_GSA_17_2017_ITA_HRV_SVN.pdf).<br>A score of 8 is given at CoE level (as no assessment is provided at CoA level). | | | |
| | **CoE 2.2.1 score** | | | 8 | |

[26]https://www.cestha.it/prj02.html

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| model/practices) for fishery management purposes.<br>FAO CCRF 12.2, 12.6 | | | | | |
| | **CoA level 2.2.1 evaluation** | The small-scale fisheries under assessment are not still managed by well-organised local entities (as Co.Ge.Vo for clams) able to contribute or enhance the institutional framework as far as the stock assessment is concerned. Hence no assessment is provided at CoA level. | | | |
| | **CoA 2.2.1 score** | | | | |
| | **Final mark 2.2.1 (CoE+CoA)** | | | 8 | |
| **2.2.2 Data limited approach**<br>Less elaborate stock assessment methods are frequently used for small-scale, data poor stocks or low-value capture fisheries resulting in greater uncertainty about the status of the stock under consideration. A more precautionary | **CoE 2.2.2 evaluation** | not assessed | | | |
| | **CoE 2.2.2 score** | | | | |
| | **CoA level 2.2.2 evaluation** | not assessed | | | |
| | **CoA 2.2.2 score** | | | | 5 |

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| approach to managing fisheries on such resources shall be required, including, where appropriate, a lower level of resource utilization. A record of good management performance may be considered as supporting evidence of the adequacy of the management system. | **Final mark 2.2.2 (CoE+CoA)** | | | | |
| **Supporting article 2.3** | **Management actions and measures for the conservation of stock and the aquatic environment shall be based on the precautionary approach. Where information is deficient, a suitable method using risk assessment shall be adopted to take into account uncertainty** | | | | |
| **2.3.1 Precautionary approach**<br>The precautionary approach shall be applied widely to conservation, management, and exploitation of ecosystems to protect and preserve them. This should take due account of fishery enhancement | **CoE 2.3.1 evaluation** | The precautionary approach for management is recommended by STECF (2020) considering the results of the assessments and the short lifecycles that is highly dependent on environmental factors.<br>STECF 2019 also argued that the major factor that can affect the recovery is complex population dynamics which highly depend on environmental factors. It is usual that individuals which belong to same population of common cuttlefish have different growth parameters, one with shorter and another with longer life cycles. Furthermore, all the cuttlefish appear to die immediately after breeding leaving significantly reduced spawning stock. Due to that, instability of environmental factors can rapidly affect the status of the stock regarding the management measures conducted by authorities.<br>However, this recommendation seems not to be included in management measures as no HCRs are in place or documented in management plans for the concerned fishery.<br>Hence, a total score of 6is given (as no assessment is provided at CoA level). | | | |
| | **CoE 2.3.1 score** | 6 | | | |

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| procedures, where appropriate. Absence of scientific information shall not be used as a reason for postponing or failing to take conservation and management measures**.** Relevant uncertainties shall be taken into account through a suitable method of risk management, including those associated with the use of introduced or translocated species. FAO CCRF (1995) 7.5.2 | **CoA level 2.3.1 evaluation** | Not assessed (the existing management plan is old and not revised according to the CFP objectives and that no HCRs are in place hence the compliance with a precautionary approach cannot be assessed at CoA level). | | | |
| | **CoA 2.3.1 score** | | | | |
| | **Final mark 2.3.1 (CoE+CoA)** | 6 | | | |
| **2.3.2 Absence of information** In the absence of adequate scientific information, appropriate research shall be initiated in a timely fashion. FAO CCRF (1995) 7.5.1, 12.3 | **CoE 2.3.2 evaluation** | not assessed | | | |
| | **CoE 2.3.2 score** | | | | |
| | **CoA level 2.3.2 evaluation** | | | | |
| | **CoA 2.3.2 score** | | | 4 | |
| | **Final mark 2.3.2 (CoE+CoA)** | | | | |

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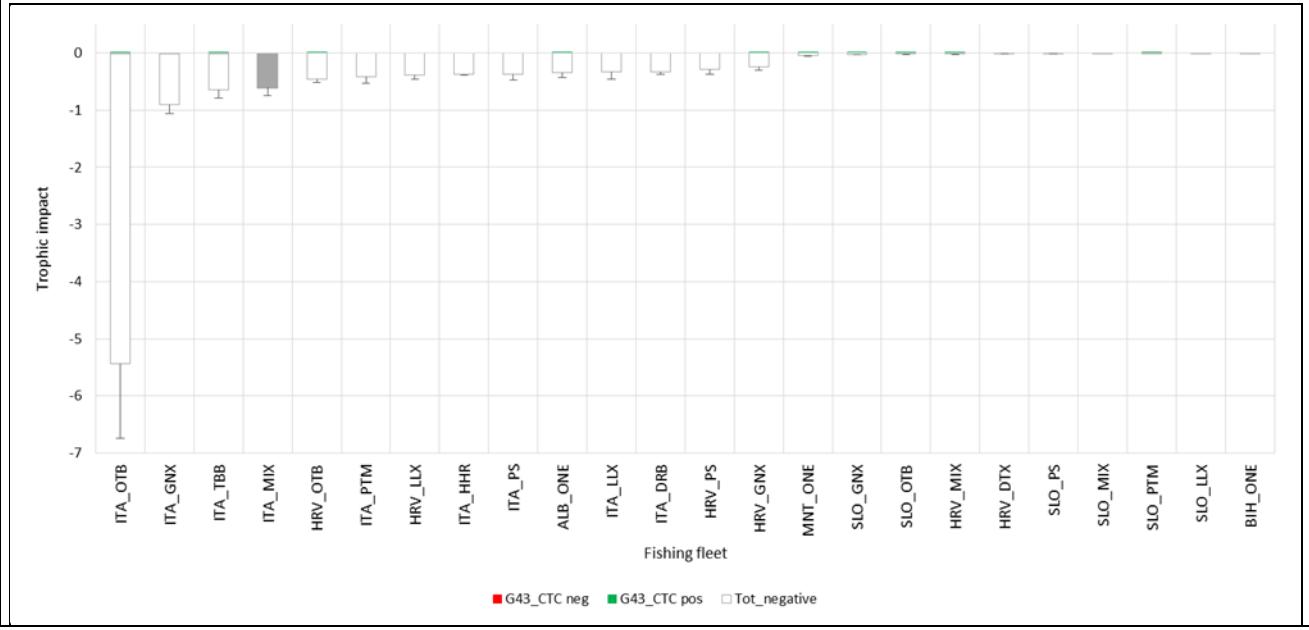
| **Supporting Article 2.4** | **Considerations of fishery interactions and their effects on the ecosystem shall be based on best available science, local knowledge where it can be objectively verified, and a risk-based management approach to determine the most probable adverse impacts. Adverse impacts on the fishery on the ecosystem shall be appropriately assessed and effectively addressed.** | |
| **2.4.1 Ecosystem impacts**<br>The most probable adverse impacts of fishery on the ecosystem/environment, shall be assessed and, where appropriate, addressed and/or corrected, taking into account available scientific information. This may take the form of an immediate management response or a further analysis of the identified risk. In the absence of specific information on the ecosystem impacts of fishery under assessment, generic evidence based on | **CoE 2.4.1 evaluation** | According to the approach adopted by Libralato and Celic, it can be stated that The Italian traps for common cuttlefish (ITA_MIX) has a total negative impact on the ecosystem equal to -0.60 (5.40% of total negative impact of all fisheries) ranking 4 in terms of contribution to the fishery impacts in the Adriatic Sea (Figure 2.1.). The catches of this fishery are remarkable and diversified for different species, it could be classified as **moderately impacting fishing fleets** compared to other Adriatic fleets, but it has a benefit of a low discard rate and good gear selectivity for the target specie.<br>  <br> |

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| similar fishery situations can be used for fisheries with low risk of severe adverse impact. However, the greater the risk, the more specific evidence shall be necessary to ascertain the adequacy of mitigation measures. FAO Eco (2009) 30.4, 31, 31.4 FAO Eco (2011) 41.4 | | *Figure 2.1.: Total ecosystem impact by fleet in the Adriatic highlighting the contribution Italian traps (ITA_MIX; highlighted in grey). Negative and positive Impacts on the target specie common cuttlefish (G43_CTC) are highlighted in red and green, respectively, for all fleets.*<br>In the light of all the above,a score of 3 is given at CoE level. | | | |
| | **CoE 2.4.1 score** | | 3 | | |
| | **CoA level 2.4.1 evaluation** | According to the approach adopted by Libralato and Celic, it can be stated that the fleethas a small overall impact on the common cuttlefish (G43_CTC) and it contributes moderately to impact resulting from all fleets (22.41 % of the total) (Figure 2.1. under CoE level).<br>As a result, a score of 5 is given for SI 2.4.1 at CoA level. | | | |
| | **CoA 2.4.1 score** | | | | 5 |
| | **Final mark 2.4.1 (CoE+CoA)** | | | 8 | |
| **2.4.2 Food web** | **CoE 2.4.2 evaluation** | According to Libralato and Celic, the common cuttlefish (G43_CTC) is ranked at the 24th place of the impacting species in the Adriatic Sea (overall impact = 1.98; 1.77 % of total impact), and it is responsible for 1.90 % of negative and 1.59 % of positive impacts (Figure 2.2.). The intraspecific competition is low (9.38 % of its negative impact). The species has a **moderately high role** in the food web. | | | |

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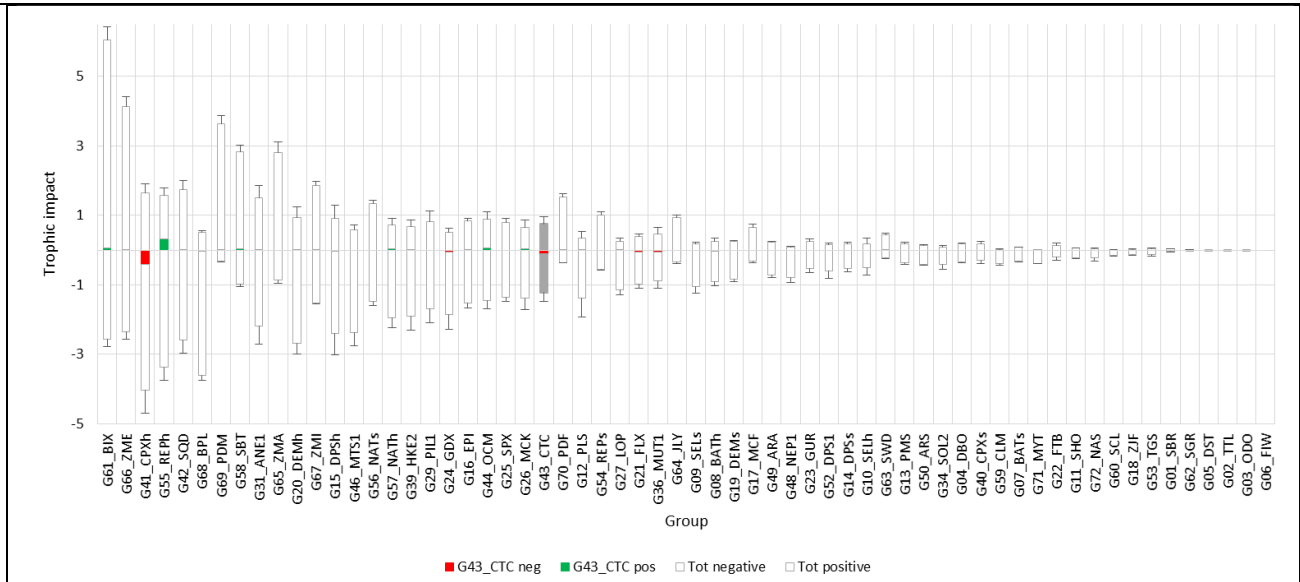
| The role of the stock under consideration in the food web shall be considered, and if it is a key prey species in the ecosystem, management objectives and measures shall be in place to avoid severe adverse impacts on dependent preys and predators.<br>FAO Eco (2009) 31.2 | |  <br>*Figure 2.2.: Representation of trophic impact of trophic groups on the ecosystem. Trophic groups' total negative and positive impacts (white bars) are represented and the ratio of impact they have on the target specie (negative in red, positive in green). The assessed trophic group is highlighted in grey.*<br><br>Given the above a score of 6 is given (the scoring system is adapted as the evaluation for this indicator can be provided only at CoE level). | | | |
| | **CoE 2.4.2 score** | | 6 | | |
| | **CoA level 2.4.2 evaluation** | *Not assessed at CoA level* | | | |
| | **CoA 2.4.2 score** | | | | |

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| | **Final mark 2.4.2 (CoE+CoA)** | | 6 | | |

| **ARFM marking grid_Socio-economic aspects** | | | | | |
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| | **Evaluation level** | **Level of compliance** | | | |
| | | **Low confidence rating** | **Medium Confidence Rating** | **Medium/High Confidence Rating** | **High Confidence Rating** |
| **Supporting article 3.1** | **Economic, social, and cultural value of resources shall be assessed by the appropriate fisheries management organization in order to assist decision making on their use and the fishing activities should be managed in coherence with the objectives of achieving economic, social and employment benefits.**<br>FAO CCRF (1995) 10.2.2<br>Art. 2, point 1 of the EU Common Fishery Policy Basic Regulation – Reg. (EU) No 1380/2013 | | | | |
| **3.1.1 Economic conditions**<br>The economic conditions under which fishing industries operate shall contribute to a fair standard of living for | **CoE 3.1.1 evaluation** | The system of data collection in place at national level allows the availability of socio-economic data at GSA 17 level (Maiorano et. al, 2019) as well as at administrative regional level, i.e. NUTS2 (NISEA, 2020) for the passive gears fleet.<br>In GSA17 vessels using passive gears represent 53 % in terms of numbers.<br>Pots and traps and fyke nets together account for the 37% of effort deployed by the passive gears fleet. Cuttlefish is the 5$^{th}$ species in volume and 4$^{th}$ in value at GSA level, independently from the gears used, evidence of the relevance of the species while it represents23% of the passive gears landings, in value terms. Indeed, cuttlefish caught by passive gears is a high-valued valued species with a price around 11 €/kg.In 2019, this fleet segment generated a gross profit of EUR 21 million. With a net profit margin of around | | | |

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| those who depend on fishing activities. Fisheries under assessment shall promote sustained and sustainable economic growth, full and productive employment.<br><br>Art. 2, point 5 f) of the EU Common Fishery Policy Basic Regulation – Reg. (EU) No 1380/2013 | | EUR 11 thousand, profitability was quite high. Net profit margin was estimated at 30% and RoFTA (the return on fixed tangible asset) at 69%, highlighting a good performance of the sector(Prizefish, 2021).<br>Evidence of the existence of a long-term attention to the use of the resources trying to ensure the right balance between the environmental and socio-economic sustainability, is provided by thesocio-economic balance indicatorsfor the last two years available (2018-2019): the value of the CR/BER (Current Revenue/Break Even Revenue) and of RoFTA (Return on Fixed Tangible Assets) for the PGP (average of PGP_VL0006 and PGP_VL0612[27]) fishing in GSA17 are in balance for the year 2019and show an improvement trend (Rapporto flotta, 2021[28]).<br>The general economic sustainability of the passive gears fleet in GSA 17 is testified also by the labour productivity (GVA per FTE) that for this fishery in GSA 17 accounts, in 2019, at 37,681 € (Prizefish, 2021) against a value of around 15,000 detected at national level in 2018 (STECF, 2020a).<br>Hence, a score of 5 is given | | | |
| | **CoE 3.1.1 score** | | | | 5 |
| | **CoA level 3.1.1 evaluation** | There is no evidence of the economic relevance of the fishery activity exerted by the applicants but evidence of the economic relevance of the small-scale fishery at regional level (Emilia-Romagna) is provided by the socio-economic data collected under the DCF system and available by NUTS 2 (www.nisea.eu). Both indicators of Gross profit and Net profit show positive value and an increasing trend in the last years, highlighting the capacity to operate in economic conditions that promote a viable fishery.<br>Furthermore, there is evidence of many activities carried out by the local FLAG and by the applicants, supported by local scientist (Cestha) of project aimed at the valorisation of species caught by the local small-scale fisheries.<br>Hence, a score of 4 is given | | | |
| | **CoA 3.1.1 score** | | | 4 | |
| | **Final mark 3.1.1 (CoE+CoA)** | | | **9** | |

[27] 96% of vessels using passive gears in GSA 17 fall under these 2 segments.
[28]https://www.politicheagricole.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/17190

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| **Supporting article 3.2** | **Excess fishing capacity shall be avoided and exploitation of the stocks shall remain economically viable.**<br>Art. 22 of the EU Common Fishery Policy Basic Regulation – Reg. (EU) No 1380/2013 | | | | |
| **3.2.1 Fishing capacity** Based on the data available and the most recent assessments and advice from relevant scientific bodies on stock status and their exploitation rates, estimates indicators to judge about fleet overcapacity. | **CoE 3.2.1 evaluation** | The results in terms of balancing capacity against resources expressed by the two balance indicators reflecting the utilisation of capacity are almost satisfying. SHI estimated at GSA17 or passive gears (PGP) by the National authority (Rapporto flotta, 2021) evidences a situation of balance for this fleet segment in 2019 (SHI=0.9) (an average over the different length classes has been estimated) but stable from 2018 to 2019.<br>The Vessel Use Indicator) shows an improvement from a situation of unbalance (VUI=0.4) to that of balance (VUI=0.76) from 2019 to 2020.<br>Furthermore, according to FDI data, the overall capacity of PGP in GSA 17 shows a decrease over the period 2015-2019: -2% in terms of number of vessel; -4% in terms of GT:<br>In the light of the above, a score of 8 is given (the scoring system is adapted as the evaluation for this indicator can be provided only at CoE level). | | | |
| | **CoE 3.2.1 score** | | | 8 | |
| | **CoA level 3.2.1 evaluation** | n.a. | | | |
| | **CoA 3.2.1 score** | | | | |
| | **Final mark 3.2.1 (CoE+CoA)** | | | **8** | |

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| **Supporting article 3.3.** | **The fishery activity shall work in full compliance with international laws on labor, human rights and safety.** | | | | |
| **3.3.1 Human rights and safety on board** International norm shall clearly be followed in fishing fleet under assessment, such as fisheries should not participate in slavery or other human rights abuses and shall promote decent work for all. | **CoE 3.3.1 evaluation** | Safety and working conditions on board of ships are an important part of the social dimension in the fisheries and maritime fields.<br>In Italy, the general framework is well established.<br>The relevant international conventions that aim to ensure decent working and living conditions for seafarers have been largely ratified and transposed into EU law (EU Council, 2018). They are the main ILO (International Labour Organisation) conventions on e.g. forced labour (ILO 29), discrimination of collective bargaining (ILO 98), discrimination (ILO 111), minimum age (ILO 138), equal remuneration (ILO 100), worst form of child labour (ILO 182) exception made for the ILO 'Work in Fishing' Convention 188 even if there has been a strong request from the sector for its ratification(more details can be found in the background section).<br>In the light of all the above a score of 5 is not given, because of the lack of ratification of ILO convention no. 188. A score of 4 is deemed to be appropriate as the process of ratification is in progress and the overall legislation framework guarantees the respect of the most important huma rights and safety on board. | | | |
| | **CoE 3.3.1 score** | | | 4 | |
| | **CoA level 3.3.1 evaluation** | Applicant reports a compliance with all the security and health rules. Indeed, controls are made by national inspectors on a systematic basis and fishers have to store official documents testifying compliance with rules on-board.<br>Nevertheless, because of Covid restriction was not possible to check documents.<br>Hence, a score of 3 is given. | | | |
| | **CoA 3.3.1 score** | | | 4 | |

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| | **Final mark 3.3.1 (CoE+CoA)** | | | 8 | |

## 3.4.Marking Grid – Mantis shrimpfished by small pots

| ARFM marking grid_Governance | | | | | |
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| | Evaluation level | Level of compliance | | | |
| | | Low confidence rating | Medium Confidence Rating | Medium/High Confidence Rating | High Confidence Rating |
| **Supporting article 1.1** | **There shall be a structured and legally mandated management system based upon and respecting international, national, and local fishery laws, for the responsible utilization of the target stock and conservation of the marine environment. FAO CCRF3 (1995) 7.1.3/7.1.4/7.1.9/7.3.1/7.3.2/7.3.4/7.6.8/7.7.1/** | | | | |
| **1.1.1 Legislation** There shall be an effective legal and administrative framework established at international, European, national and local levels appropriate for fishery resource conservation and management. The management system and the fishery operate in compliance with the requirements of international, national, and local laws and regulations, including the requirements of any | **CoE 1.1.1 evaluation** | The fishery is covered by a Fishery policy developed at the EU and national level.<br>In the framework of **EU legislation**, even if "the CFP was developed with large scale fleets in mind giving scarce attention to small-scale or artisanal fleets" (Percy J., 2020), specific rules are provided in:<br>• Basic Regulation (EU 1380/2013), article 5 that provides for the 12-mile derogation to the principle of free access. The expected aim behind this rule is that "Member States should endeavour to give preferential access for small-scale, artisanal or coastal fishermen". This derogation is considered as a tool for Member States to manage small-scale fisheries and to provide privileged access to inshore waters for smaller-scale fishing activities;<br>• the Mediterranean Regulation (EC 2006) and the Technical Measures Regulation (EC 2019) which introduced technical measures such as restrictions in mesh and gear size and fishing areas. The latter has had a positive effect on small-scale fisheries, with pressure on large-scale fisheries to operate outside the three-mile limit of coastal areas having become stronger (Raicevich et al., 2020)<br>In the framework of **national legislation**, the fishery is mainly regulated by:<br>• the Italian Ministerial Decree 7 December 2016 - Discipline of small-scale fishing and small-scale artisanal fishing. This decree differentiates the "artisanal fisheries" from the "small scale fisheries". The latter category includes the "artisanal fisheries" plus driftnets and set longlines. Art. 2 allows for the establishment of "management consortia between small | | | |

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| regional and/or international fisheries management agreement. | | artisanal fishing companies". Up to now, the following consortia have been settled in the Adriatic Sea: Co.Ge.P.A. San Benedetto del Tronto, Co.Ge.P.A. Termoli and Co.Ge.P.A. Monfalcone & Trieste.<br>• The fishery is also covered by a National Management Plan , adopted by the Directorial Decree 20/09/2011 n.6. This management plan applies to fishing vessels registered in maritime compartments of Friuli Venezia Giulia, Veneto, Emilia Romagna, Marche, Abruzzo and Molise authorized to "other fishing systems" (passive gear, hydraulic dredges and longlines).<br>• A local management plan (PDGL – "piano di gestione locale") is in force in Friuli Venezia Giulia as adopted by the Ministry in August 2012. The tool of the local management plan has been introduced by Regulation (EC) 1198/2006 (EFF) and it provide for the assignment of specific responsibilities concerning the exploitation of resources and territorial use to the fishing companies registered in a specific area, adopting a co-management approach, or even one of full self-management.<br>The fishery is also regulated by several **conservation and management measures agreed at international level**:<br>• the Food and Agriculture Organization (FAO) released the 'FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication' (FAO 2015). These guidelines represent the first international agreement that provides consensus principles and guidance on addressing small-scale fisheries;<br>• the GFCM organised three regional conferences dedicated to small-scale fisheries that culminated in the adoption from high-level representatives from 18 Mediterranean and Black Sea countries as well as the EU of a Ministerial Declaration aimed at implementing a "Regional Plan of Action for Small-Scale Fisheries in the Mediterranean and the Black Sea" (GFCM 2018);<br>• in addition, GFCM also amended art. 5 of its legal framework (GFCM 2015), introducing a legally binding obligation to consider the impact of its recommendations on the small-scale fishery sector. On these bases and considering the general aims of the reformed CFP to promote small-scale fisheries, increased collaboration among Mediterranean countries, institutions and stakeholders, could prevent the decline of small-scale fisheries and allow them to reach their full, unexploited potential (Raicevich, 2018).<br>An important role in the management of the fishery is represented by the cooperative fisher associations. Their role in contributing to establishing fisheries management is consultative and defined by the Italian Law 41/1982. These associations have a hierarchical geographical structure with fishers generally joining a local cooperative belonging to a national fisher association. The Italian cooperatives also join the Low Impact Fisheries of Europe (LIFE) an European body aimed at providing a clear and coherent voice at EU level for the small scale fishers.<br>*In the light of all the above, a score of 5 is given at CoE level.* |

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| | CoE 1.1.1 score | | | | 5 |
| | CoA level 1.1.1 evaluation | The fishers are aware of the general rules managing the fishery but it has not been possible to find official sources where the level of compliance for this specific fishery (use of traps) in this specific area (Emilia-Romagna or generally Adriatic) is reported (e.g. reports). Being the fishery a small-scale one it can be argued that potential infringements have not a large impact in terms of conservation. However, based on the judgment of local scientists and as largely recognised by most locals, it can be concluded that fishers are generally not compliant with some management rules, e.g. limits on the number of pots and traps per boat. The evidence has to be found in the landings volume which could not be obtained by a number of traps on pots in line with the maximum sets by law.<br>Considering the lack of evidence of compliance and the perceptions from locals, a score of 3 is given at CoA level. | | | |
| | CoA 1.1.1 score | | 3 | | |
| | Final mark 1.1.1 (CoE+CoA) | | 8 | | |
| **1.1.2 Cooperation** Where transboundary, shared, straddling, highly migratory, or high seas fish stocks are exploited by two or more countries (neighboring or not), the applicant and appropriate management organizations concerned shall cooperate and take part in the formal fishery commission or arrangements appointed to ensure effective conservation and management of the stock(s) in question and their environment. | **CoE 1.1.2 evaluation** | Not applicable. Even if the stock is shared, the fishery is artisanal and conducted in local waters. | | | |
| | CoE 1.1.2 score | | | | |
| | **CoA level 1.1.2 evaluation** | Not applicable. Even if the stock is shared, the fishery is artisanal and conducted in local waters. | | | |
| | CoA 1.1.2 score | | | | |
| | Final mark 1.1.2 (CoE+CoA) | | | | |
| **Supporting article 1.2** | **A clear decision-making process is part of the management system to achieve the objectives foreseen by international, national, and local fishery laws and has an appropriate approach to avoid conflicts.**<br>**FAO CCRF (1995) 10.1.1, 10.1.2, 10.1.4, 10.2.1, 10.2.2, 10.2.4** | | | | |

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| **SI 1.2.1 Environmental policies**<br>Within the fisheries management organization's jurisdiction, an appropriate policy, legal, and institutional framework shall be adopted in order to achieve sustainable and integrated use of living marine resources, allowing for determination of the possible uses of resources and governing access to them. | **CoE 1.2.1 evaluation** | An EU review of Member State implementation of environmental legislation found that Italy's program of measures substantially addresses most of the relevant pressures on its marine environment. It emerges that substantial efforts have been made in designating Natura 2000 sites, although this is only the first step in ensuring adequate protection for their habitats and species.[29] Most recent reports on the achievement of the Good Environmental Status by MSs highlight that Italy has still not achieved GES by 2020; of particular interest for this report GES has not been achieved for the Mediterranean Adriatic region (MAD) for the main descriptors concerning the impact of fisheries on environment (more details can be found in the background section).<br>Nevertheless, it is important to specify that the fishery is a small-scale fishery and the use of fyke nets ore, generally traps, allows to consider it a low impact fishery in environmental terms.<br>Hence, a score of 4 is given. | | | |
| | **CoE 1.2.1 score** | | | 4 | |
| | **CoA level 1.2.1 evaluation** | There is evidence of some actions and investments undertaken from the applicant to contribute to the achievement of environmental objectives, in particular to contribute to the safeguard of resources<br>Since some years, *small-scale fishers* in Marina di Ravenna have been trained and ecologically educated over the time by local scientists (CESTHA[30]) and now they feel responsible of the impact of their activity.<br>In the light of this, they are implementing different actions, one of which is the use of more selective traps for catching *Squilla mantis*(for details see the background section).<br>Hence, a score of 4 is given | | | |
| | **CoA 1.2.1 score** | | | 4 | |
| | **Final mark 1.2.1 (CoE+CoA)** | | 7 | | |
| **SI 1.2.2 Management plan or a set of management measures** | **CoE 1.2.2 evaluation** | A National Management Plan was adopted by the Directorial Decree 20/09/2011 n.6. This management plan applies to fishing vessels registered in maritime compartments of Adriatic regions authorized to "other fishing systems" (passive gear, hydraulic dredges and longlines). | | | |

[29] https://ec.europa.eu/environment/eir/pdf/report_it_en.pdf
https://ec.europa.eu/environment/eir/pdf/factsheet_it_en.pdf
[30] https://www.cestha.it/prj02.html

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| Long-term management objectives shall be translated into a plan or other management document and be subscribed to by all interested parties. | | The objective of the management plan was the recovery of stocks within safe biological limits. The plan included the following management measures: adjustment of the fishing effort though the implementation of a decommissioning plan which covered 5% of the corresponding fleet in terms of GT and Kw; technical stop in line with the provisions of the national collective labour agreement with regard to weekly rest; minimum reference sizes; minimum mesh size (the size of the gillnet lowered to the bottom is not less than 20 mm); areas closed or limited to fishing (biological protection zones (ZTB), marine protected areas (AMP), areas of particular value, identified in the Sites of Community Importance (SIC) and in the Special Protection Areas (SPA), as well as areas subject to military servitude.<br>Limit and target reference points were fixed for biological, economic and social objectives and a monitoring plan was foreseen. However, the management plan has not been amended to include the requirements of the new CFP and the achievement of the objectives have not been estimated nor reported.<br>As a result, a score of 3 is given for SI 1.2.2 at CoE level. | | | |
| | **CoE 1.2.2 score** | | 3 | | |
| | **CoA level 1.2.2 evaluation** | In the light of the need to harmonize the ordinances that regulate, at compartmental level, fishing with traps in the coastal strip of Emilia-Romagna and in line with the Community indications, a proposal for a "Local management plan for small-scale artisanal fishing" was drawn up[31], in terms of environmental and economic sustainability by the local FLAG “Costa dell’Emilia-Romagna”. The Plan is in accordance with the general criterion of more restrictive "rules" laid down in the legislation.<br>In view of the importance at local level, the measures concern the number of maximum gear that each boat can drop, in relation to the number of embarked, and the technical stop limited to fishing with traps for cuttlefish, sea snails and mantis squillid.<br>Hence, a score of 4 is given. | | | |
| | **CoA 1.2.2 score** | | | 4 | |
| | **Final mark 1.2.2 (CoE+CoA)** | | | | |

## ARFM marking grid_Environment

[31]http://www.flag-costaemiliaromagna.it/wp-content/uploads/Allegato7_Proposta_Piano_Gestione.pdf

| | Evaluation level | Level of compliance | | | |
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| | | Low confidence rating | Medium Confidence Rating | Medium/High Confidence Rating | High Confidence Rating |
| **Supporting article 2.1** | **There shall be an effective fishery data (dependent and independent) collection and analysis system for stock management purposes.** | | | | |
| **2.1.1 Data collection and statistics**<br>All significant fishery removals and mortality of the target species shall be considered by management. Specifically, reliable and accurate data required for assessing the status of fishery and ecosystems, including data on retained catch and discards shall be collected. These data shall be collected, at an appropriate time and level of aggregation, by | **CoE 2.1.1 evaluation** | A process that allows for effective data collection for management purposes is in place. The Italian Work Plan for data collection, implemented in compliance with EU Regulation 1004/2017, establishes the routine collection of biological data, by catch fraction for *spottail mantis squillid*. The planned minimum no of individuals to be measured in GSA 17 is set at 9.2 thousand for length measurements and 200 for other biological parameters. Additionally, around 30 daily trips of the concerned metier (GSA 17_FPO_DEF_0_0_0) have to be monitored with a temporal coverage of all the quarters of the year. Fishery independent data for *spottail mantis squillid* are also collected in the framework of SoleMon and MEDITs surveys.<br>Detailed data on the activity (capacity, production, effort) are collected by fleet segment, by metier (GSA 17_FPO_DEF) and by month.<br>The data collection activities are reported in the Italian work plan available in the official website (https://dcf-italia.cnr.it/).<br>A score of 4 is given at CoE level | | | |
| | **CoE 2.1.1 score** | | | 4 | |
| | **CoA level 2.1.1 evaluation** | Because of their strict involvement in pilot actions and projects aimed at the environmental sustainability of the fisheries, the applicants are evidently contributing to the collection of specific data by allowing scientists (Cestha staff) to interact with them during fishery operations allowing access on-board.[32]<br>Hence, a score of 5 is given | | | |

[32]https://www.cestha.it/prj02.html

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| relevant management organizations and provided to relevant fisheries organizations.<br><br>FAO CCRF (1995) 7.3.1, 7.4.6, 7.4.7, 12.4<br>FAO Eco (2009) 29.1-29.3 | **CoA 2.1.1 score** | | | | 5 |
| | **Final mark 1.1.1 (CoE+CoA)** | | | 9 | |
| **Supporting article 2.2** | **To support its optimum utilization, there shall be regular stock assessment activities appropriate for the fishery resource—its range, the species biology, and the ecosystem—all undertaken in accordance with acknowledged scientific standards.** | | | | |
| **2.2.1 Institutional framework**<br>An appropriate institutional framework shall be established to determine the applied research required and its proper use (i.e., assess/evaluate stock assessment model/practices) for fishery management purposes.<br>FAO CCRF 12.2, 12.6 | **CoE 2.2.1 evaluation** | The stock has been regularly assessed by STECF. The more recent assessment (STECF 2020) indicates that the current level of fishing mortality is above the reference point F0.1, used as proxy of FMSY (=0.43).<br>The GFCM assessment performed in 2018 also showed that "the mantis shrimp in GSA 17 is subjected to low overfishing being the current F(1-2) estimates with SS3 model of 0.66, higher than the proposed reference point (F0.1 = 0.43). The reported scientific advice is that a reduction of fishing mortality towards F0.1 would be recommended. (https://gfcmsitestorage.blob.core.windows.net/documents/SAC/SAFs/DemersalSpecies/2017/MTS_GSA_17_2017_ITA_SVN.pdf).<br>A score of 8 is given at CoE level (as this indicator is not assessed at CoA level) | | | |
| | **CoE 2.2.1 score** | | | 8 | |
| | **CoA level 2.2.1 evaluation** | The small-scale fisheries under assessment are not still managed by well-organised local entities (as Co.Ge.Vo for clams) able to contribute or enhance the institutional framework as far as the stock assessment is concerned. Hence no assessment is provided at CoA level. | | | |

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| | **CoA 2.2.1 score** | | | | |
| | **Final mark 2.2.1 (CoE+CoA)** | | | 8 | |
| **2.2.2 Data limited approach** Less elaborate stock assessment methods are frequently used for small-scale, data poor stocks or low-value capture fisheries resulting in greater uncertainty about the status of the stock under consideration. A more precautionary approach to managing fisheries on such resources shall be required, including, where appropriate, a lower level of resource utilization. A record of good management performance may be considered as supporting evidence of | **CoE 2.2.2 evaluation** | Not assessed | | | |
| | **CoE 2.2.2 score** | | | | |
| | **CoA level 2.2.2 evaluation** | Not assessed. | | | |
| | **CoA 2.2.2 score** | | | | 5 |
| | **Final mark 2.2.2 (CoE+CoA)** | | | | |

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| the adequacy of the management system. | | | | | |
| **Supporting article 2.3** | **Management actions and measures for the conservation of stock and the aquatic environment shall be based on the precautionary approach. Where information is deficient, a suitable method using risk assessment shall be adopted to take into account uncertainty** | | | | |
| **2.3.1 Precautionary approach** The precautionary approach shall be applied widely to conservation, management, and exploitation of ecosystems to protect and preserve them. This should take due account of fishery enhancement procedures, where appropriate. Absence of scientific information shall not be used as a reason for postponing or failing to take conservation and management measures. Relevant | **CoE 2.3.1 evaluation** | The precautionary approach for management is not recommended by STECF or by GFCM since uncertainties is included in assessment methods and diagnostics are considered acceptable (STECF 2020).<br>However, no HCRs are in place or documented in management plans for the concerned fishery.<br>Hence, a total score of 7 is given (assessd only at CoE level). | | | |
| | **CoE 2.3.1 score** | | 7 | | |
| | **CoA level 2.3.1 evaluation** | Not assessed (the existing management plan is old and not revised according to the CFP objectives and HCRs are not in place hence the compliance with a precautionary approach cannot be assessed at CoA level). | | | |
| | **CoA 2.3.1 score** | | | | |
| | **Final mark 2.3.1 (CoE+CoA)** | | 7 | | |

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| uncertainties shall be taken into account through a suitable method of risk management, including those associated with the use of introduced or translocated species. FAO CCRF (1995) 7.5.2 | | | | | |
| **2.3.2 Absence of information** In the absence of adequate scientific information, appropriate research shall be initiated in a timely fashion. FAO CCRF (1995) 7.5.1, 12.3 | **CoE 2.3.2 evaluation** | Not assessed | | | |
| | **CoE 2.3.2 score** | | | | |
| | **CoA level 2.3.2 evaluation** | Not assessed | | | |
| | **CoA 2.3.2 score** | | | 4 | |
| | **Final mark 2.3.2 (CoE+CoA)** | | | | |
| **Supporting Article 2.4** | **Considerations of fishery interactions and their effects on the ecosystem shall be based on best available science, local knowledge where it can be objectively verified, and a risk-based management approach to determine the most probable adverse impacts. Adverse impacts on the fishery on the ecosystem shall be appropriately assessed and effectively addressed.** | | | | |
| **2.4.1 Ecosystem impacts** The most probable adverse impacts of | **CoE 2.4.1 evaluation** | According to the approach adopted by Libralato and Celic, it can be stated that Italian small pots for spottail mantis squillid (ITA_MIX) has a total negative impact on the ecosystem equal to -0.60 (5.40% of total negative impact of all fisheries), ranking 4$^{th}$ in terms of contribution to total fleets impacts in the Adriatic Sea (Figure 3.1). The catches of this fishery are remarkable and diversified for different species, it could be classified as **moderately impacting fishing fleets** compared to other Adriatic fleets, but it has a benefit of a low discard rate and good gear selectivity for the target species. | | | |

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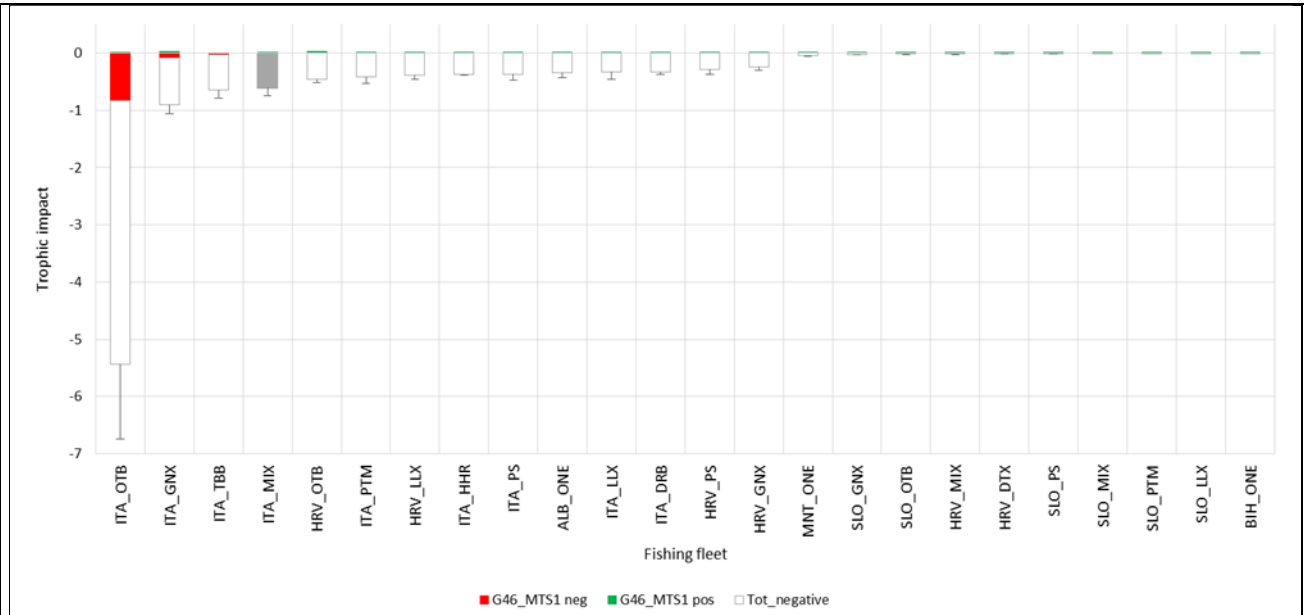
| fishery on the ecosystem/environment, shall be assessed and, where appropriate, addressed and/or corrected, taking into account available scientific information. This may take the form of an immediate management response or a further analysis of the identified risk. In the absence of specific information on the ecosystem impacts of fishery under assessment, generic evidence based on similar fishery situations can be used for fisheries with low risk of severe adverse impact. However, the greater the risk, the more specific evidence shall be necessary to ascertain the adequacy | |  <br>*Figure 3.1.: Total ecosystem impact by fleet in the Adriatic highlighting the contribution Italian traps (ITA_MIX; highlighted in grey). Negative and positive Impacts on the target specie spottail mantis squillid (G46_MTS1) are highlighted in red and green, respectively, for all fleets.*<br>In the light of all the above,a score of 3 is given at CoE level. | | | |
| | **CoE 2.4.1 score** | | 3 | | |
| | **CoA level 2.4.1 evaluation** | According to the approach adopted by Libralato and Celic, it can be stated that the fleet has minimal contribution (0.55 %) to the fleets negative impacts on the spottail mantis squillid<br>As a result, a score of 5 is given for SI 2.4.1 at CoA level. | | | |
| | **CoA 2.4.1 score** | | | | 5 |

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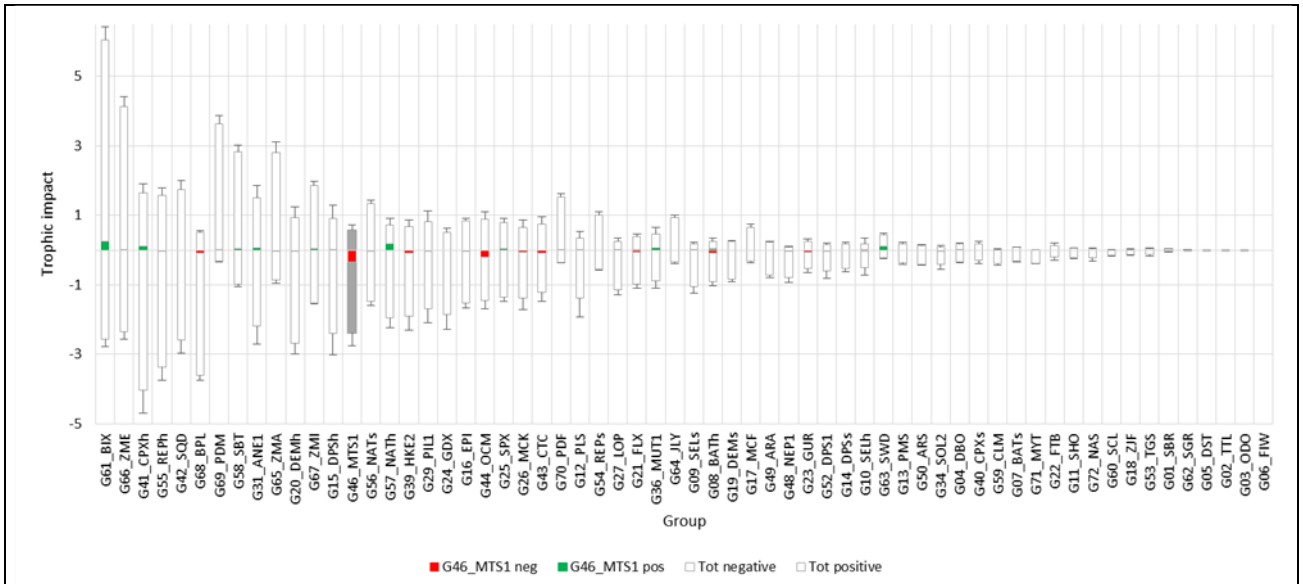
| of mitigation measures. FAO Eco (2009) 30.4, 31, 31.4 FAO Eco (2011) 41.4 | **Final mark 2.4.1 (CoE+CoA)** | | | 8 | |
| **2.4.2 Food web** The role of the stock under consideration in the food web shall be considered, and if it is a key prey species in the ecosystem, management objectives and measures shall be in place to avoid severe adverse impacts on dependent preys and predators. FAO Eco (2009) 31.2 | **CoE 2.4.2 evaluation** | According to Libralato and Celic, the spottail mantis squillid(G46_MTS1) is ranked at the 14th place of the impacting species in the Adriatic Sea (overall impact = -2.96; 2.64 % of total impacts), and it is responsible for 3.07 % of negative and 1.21 % of positive impacts (Figure 3.2). The species has a minor intraspecific trophic competition (14.89 % of its negative impact) and has a **moderately high role** in the food web.<br>  <br><br>*Figure 3.2.: Representation of trophic impact of trophic groups on the ecosystem. Trophic groups' total negative and positive impacts (white bars) are represented and the ratio of impact they have on the target specie (negative in red, positive in green). The assessed trophic group is highlighted in grey.*<br><br>Given the above a score of 6 is given (the scoring system is adapted as the evaluation for this indicator can be provided only at CoE level). | |

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| | CoE 2.4.2 score | | 6 | | |
| | CoA level 2.4.2 evaluation | *Not assessed at CoA level* | | | |
| | CoA 2.4.2 score | | | | |
| | Final mark 2.4.2 (CoE+CoA) | | 6 | | |

| ARFM marking grid_Socio-economic aspects | | | | | |
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| | Evaluation level | Level of compliance | | | |
| | | Low confidence rating | Medium Confidence Rating | Medium/High Confidence Rating | High Confidence Rating |

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| **Supporting article 3.1** | **Economic, social, and cultural value of resources shall be assessed by the appropriate fisheries management organization in order to assist decision making on their use and the fishing activities should be managed in coherence with the objectives of achieving economic, social and employment benefits.**<br>FAO CCRF (1995) 10.2.2<br>Art. 2, point 1 of the EU Common Fishery Policy Basic Regulation – Reg. (EU) No 1380/2013 | | | | |
| **3.1.1 Economic conditions**<br>The economic conditions under which fishing industries operate shall contribute to a fair standard of living for those who depend on fishing activities. Fisheries under assessment shall promote sustained and sustainable economic growth, full and productive employment.<br><br>Art. 2, point 5 f) of the EU Common Fishery Policy Basic Regulation – Reg. (EU) No 1380/2013 | **CoE 3.1.1 evaluation** | The system of data collection in place at national level allows the availability of socio-economic data at GSA 17 level (Maiorano et. al, 2019) as well as at administrative regional level, i.e. NUTS2 (NISEA, 2020) for the passive gears fleet.<br>In GSA17 vessels using passive gears represent 53 % in terms of numbers.<br>Pots and traps and fyke nets together account for the 37% of effort deployed by the passive gears fleet. Mantis shrimp is the 4th species in volume and 6th in value at GSA level, independently from the gears used, evidence of the relevance of the species while it represents9% of the passive gears landings, in value terms. Indeed, cuttlefish caught by passive gears is a high-valued valued species with a price around 9 €/kg. In 2019, this fleet segment generated a gross profit of EUR 21 million. With a net profit margin of around EUR 11 thousand, profitability was quite high. Net profit margin was estimated at 30% and RoFTA (the return on fixed tangible asset) at 69%, highlighting a good performance of the sector (Prizefish, 2021).<br>Evidence of the existence of a long-term attention to the use of the resources trying to ensure the right balance between the environmental and socio-economic sustainability, is provided by the socio-economic balance indicators for the last two years available (2018-2019): the value of the CR/BER (Current Revenue/Break Even Revenue) and of RoFTA (Return on Fixed Tangible Assets) for the PGP (average of PGP_VL0006 and PGP_VL0612[33]) fishing in GSA17 are in balance for the year 2019 and show an improvement trend (Rapporto flotta, 2021[34]).<br>The general economic sustainability of the passive gears fleet in GSA 17 is testified also by the labour productivity (GVA per FTE) that for this fishery in GSA 17 accounts, in 2019, at 37,681 € (Prizefish, 2021) against a value of around 15,000 detected at national level in 2018 (STECF, 2020a).<br>Hence, a score of 5 is given. | | | |
| | **CoE 3.1.1 score** | | | | 5 |

[33] 96% of vessels using passive gears in GSA 17 fall under these 2 segments.
[34]https://www.politicheagricole.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/17190

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| | **CoA level 3.1.1 evaluation** | There is no evidence of the economic relevance of the fishery activity exerted by the applicants but evidence of the economic relevance of the small-scale fishery at regional level (Emilia-Romagna) is provided by the socio-economic data collected under the DCF system and available by NUTS 2 (www.nisea.eu). Both indicators of Gross profit and Net profit show positive value and an increasing trend in the last years, highlighting the capacity to operate in economic conditions that promote a viable fishery.<br>Furthermore, there is evidence of many activities carried out by the local FLAG and by the applicants, supported by local scientist (Cestha) of project aimed at the valorisation of species caught by the local small-scale fisheries.<br>Hence, a score of 4 is given | | | |
| | **CoA 3.1.1 score** | | | 4 | |
| | **Final mark 3.1.1 (CoE+CoA)** | | | **9** | |
| **Supporting article 3.2** | **Excess fishing capacity shall be avoided and exploitation of the stocks shall remain economically viable.**<br>Art. 22 of the EU Common Fishery Policy Basic Regulation – Reg. (EU) No 1380/2013 | | | | |
| **3.2.1 Fishing capacity** Based on the data available and the most recent assessments and advice from relevant scientific bodies on stock status and their exploitation rates, estimates indicators to judge about fleet overcapacity. | **CoE 3.2.1 evaluation** | The results in terms of balancing capacity against resources expressed by the two balance indicators reflecting the utilisation of capacity are almost satisfying. SHI estimated at GSA17 or passive gears (PGP) by the National authority (Rapporto flotta, 2021) evidences a situation of balance for this fleet segment in 2019 (SHI=0.9) (an average over the different length classes has been estimated) but stable from 2018 to 2019.<br>The Vessel Use Indicator) shows an improvement from a situation of unbalance (VUI=0.4) to that of balance (VUI=0.76) from 2019 to 2020.<br>Furthermore, according to FDI data, the overall capacity of PGP in GSA 17 shows a decrease over the period 2015-2019: -2% in terms of number of vessel; -4% in terms of GT:<br>In the light of the above, a score of 8 is given (the scoring system is adapted as the evaluation for this indicator can be provided only at CoE level). | | | |
| | **CoE 3.2.1 score** | | | 8 | |

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| | **CoA level 3.2.1 evaluation** | n.a. | | | |
| | **CoA 3.2.1 score** | | | | |
| | **Final mark 3.2.1 (CoE+CoA)** | | | **8** | |
| **Supporting article 3.3.** | **The fishery activity shall work in full compliance with international laws on labor, human rights and safety.** | | | | |
| **3.3.1 Human rights and safety on board** International norm shall clearly be followed in fishing fleet under assessment, such as fisheries should not participate in slavery or other human rights abuses and shall promote decent work for all. | **CoE 3.3.1 evaluation** | Safety and working conditions on board of ships are an important part of the social dimension in the fisheries and maritime fields.<br>In Italy, the general framework is well established.<br>The relevant international conventions that aim to ensure decent working and living conditions for seafarers have been largely ratified and transposed into EU law (EU Council, 2018). They are the main ILO (International Labour Organisation) conventions on e.g. forced labour (ILO 29), discrimination of collective bargaining (ILO 98), discrimination (ILO 111), minimum age (ILO 138), equal remuneration (ILO 100), worst form of child labour (ILO 182) exception made for the ILO 'Work in Fishing' Convention 188 even if there has been a strong request from the sector for its ratification(more details can be found in the background section).<br>In the light of all the above a score of 5 is not given, because of the lack of ratification of ILO convention no. 188. A score of 4 is deemed to be appropriate as the process of ratification is in progress and the overall legislation framework guarantees the respect of the most important huma rights and safety on board. | | | |
| | **CoE 3.3.1 score** | | | 4 | |

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| | **CoA level 3.3.1 evaluation** | Applicant reports a compliance with all the security and health rules. Indeed, controls are made by national inspectors on a systematic basis and fishers have to store official documents testifying compliance with rules on-board.<br>Nevertheless, because of Covid restriction was not possible to check documents.<br>Hence, a score of 3 is given. | | | |
| | **CoA 3.3.1 score** | | | 4 | |
| | **Final mark 3.3.1 (CoE+CoA)** | | | 8 | |

## 3.5.Marking Grid – Changeable nassa fished by basket traps

| ARFM marking grid_Governance | | | | | |
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| | Evaluation level | Level of compliance | | | |
| | | Low confidence rating | Medium Confidence Rating | Medium/High Confidence Rating | High Confidence Rating |
| **Supporting article 1.1** | **There shall be a structured and legally mandated management system based upon and respecting international, national, and local fishery laws, for the responsible utilization of the target stock and conservation of the marine environment. FAO CCRF3 (1995) 7.1.3/7.1.4/7.1.9/7.3.1/7.3.2/7.3.4/7.6.8/7.7.1/** | | | | |
| **1.1.1 Legislation** There shall be an effective legal and administrative framework established at international, European, national and local levels appropriate for fishery resource conservation and management. The management system and the fishery operate in compliance with the requirements of international, national, and local laws and regulations, including the requirements of any | **CoE 1.1.1 evaluation** | The fishery is covered by a Fishery policy developed at the EU and national level.<br>In the framework of **EU legislation**, even if "the CFP was developed with large scale fleets in mind giving scarce attention to small-scale or artisanal fleets" (Percy J., 2020), specific rules are provided in:<br>• Basic Regulation (EU 1380/2013), article 5 that provides for the 12-mile derogation to the principle of free access. The expected aim behind this rule is that "Member States should endeavour to give preferential access for small-scale, artisanal or coastal fishermen". This derogation is considered as a tool for Member States to manage small-scale fisheries and to provide privileged access to inshore waters for smaller-scale fishing activities;<br>• the Mediterranean Regulation (EC 2006) and the Technical Measures Regulation (EC 2019) which introduced technical measures such as restrictions in mesh and gear size and fishing areas. The latter has had a positive effect on small-scale fisheries, with pressure on large-scale fisheries to operate outside the three-mile limit of coastal areas having become stronger (Raicevich et al., 2020)<br>In the framework of **national legislation**, the fishery is mainly regulated by:<br>• the Italian Ministerial Decree 7 December 2016 - Discipline of small-scale fishing and small-scale artisanal fishing. This decree differentiates the "artisanal fisheries" from the "small scale fisheries". The latter category incudes the "artisanal fisheries" plus driftnets and set longlines. Art. 2 allows for the establishment of "management consortia between small | | | |

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| regional and/or international fisheries management agreement. | | artisanal fishing companies". Up to now, the following consortia have been settled in the Adriatic Sea: Co.Ge.P.A. San Benedetto del Tronto, Co.Ge.P.A. Termoli and Co.Ge.P.A. Monfalcone & Trieste.<br>• The fishery is also covered by a National Management Plan , adopted by the Directorial Decree 20/09/2011 n.6. This management plan applies to fishing vessels registered in maritime compartments of Friuli Venezia Giulia, Veneto, Emilia Romagna, Marche, Abruzzo and Molise authorized to "other fishing systems" (passive gear, hydraulic dredges and longlines).<br>• Small-scale *T. mutabilis* fishery is currently governed by the Ministerial Decree of 11/30/1996 integrated by some ordinances of the local Port Authorities which establish several technical measures: minimum landing size at 20 mm SH, daily quota per vessel from 100 kg to 180 kg depending on the crew size, maximum of 500 fishing baskets for each vessel and fishing season from November to May. The fishery is also regulated in terms of sanitary classification of the catching sea areas in accordance with Regulation 854/2004 / EC (EUROPEAN COMMISSION, 2004)<br>The fishery is also regulated by several **conservation and management measures agreed at international level**:<br>• the Food and Agriculture Organization (FAO) released the 'FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication' (FAO 2015). These guidelines represent the first international agreement that provides consensus principles and guidance on addressing small-scale fisheries;<br>• the GFCM organised three regional conferences dedicated to small-scale fisheries that culminated in the adoption from high-level representatives from 18 Mediterranean and Black Sea countries as well as the EU of a Ministerial Declaration aimed at implementing a "Regional Plan of Action for Small-Scale Fisheries in the Mediterranean and the Black Sea" (GFCM 2018);<br>• in addition, GFCM also amended art. 5 of its legal framework (GFCM 2015), introducing a legally binding obligation to consider the impact of its recommendations on the small-scale fishery sector. On these bases and considering the general aims of the reformed CFP to promote small-scale fisheries, increased collaboration among Mediterranean countries, institutions and stakeholders, could prevent the decline of small-scale fisheries and allow them to reach their full, unexploited potential (Raicevich, 2018).<br>An important role in the management of the fishery is represented by the cooperative fisher associations. Their role in contributing to establishing fisheries management is consultative and defined by the Italian Law 41/1982. These associations have a hierarchical geographical structure with fishers generally joining a local cooperative belonging to a national fisher association. The Italian cooperatives also join the Low Impact Fisheries of Europe (LIFE) an European body aimed at providing a clear and coherent voice at EU level for the small scale fishers.<br>*In the light of all the above, a score of 5 is given at CoE level.* |

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| | CoE 1.1.1 score | | | | 5 |
| | CoA level 1.1.1 evaluation | The fishers are aware of the general rules managing the fishery but it has not been possible to find official sources where the level of compliance for this specific fishery (use of traps) in this specific area (Emilia-Romagna or generally Adriatic) is reported (e.g. reports). Being the fishery a small-scale one it can be argued that potential infringements have not a large impact in terms of conservation. However, based on the judgment of local scientists and as largely recognised by most locals, it can be concluded that fishers are generally not compliant with some management rules, e.g. limits on the number of pots and traps per boat. The evidence has to be found in the landings volume which could not be obtained by a number of traps on pots in line with the maximum sets by law.<br>Considering the lack of evidence of compliance and the perceptions from locals, a score of 3 is given at CoA level. | | | |
| | CoA 1.1.1 score | | 3 | | |
| | Final mark 1.1.1 (CoE+CoA) | | 8 | | |
| **1.1.2 Cooperation** Where transboundary, shared, straddling, highly migratory, or high seas fish stocks are exploited by two or more countries (neighboring or not), the applicant and appropriate management organizations concerned shall cooperate and take part in the formal fishery commission or arrangements appointed to ensure effective conservation and management of the stock(s) in question and their environment. | CoE 1.1.2 evaluation | Not applicable | | | |
| | CoE 1.1.2 score | | | | |
| | CoA level 1.1.2 evaluation | Not applicable. | | | |
| | CoA 1.1.2 score | | | | |
| | Final mark 1.1.2 (CoE+CoA) | | | | |
| **Supporting article 1.2** | **A clear decision-making process is part of the management system to achieve the objectives foreseen by international, national, and local fishery laws and has an appropriate approach to avoid conflicts.**<br>**FAO CCRF (1995) 10.1.1, 10.1.2, 10.1.4, 10.2.1, 10.2.2, 10.2.4** | | | | |

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| **SI 1.2.1 Environmental policies**<br>Within the fisheries management organization's jurisdiction, an appropriate policy, legal, and institutional framework shall be adopted in order to achieve sustainable and integrated use of living marine resources, allowing for determination of the possible uses of resources and governing access to them. | **CoE 1.2.1 evaluation** | An EU review of Member State implementation of environmental legislation found that Italy's program of measures substantially addresses most of the relevant pressures on its marine environment. It emerges that substantial efforts have been made in designating Natura 2000 sites, although this is only the first step in ensuring adequate protection for their habitats and species.[35] Most recent reports on the achievement of the Good Environmental Status by MSs highlight that Italy has still not achieved GES by 2020; of particular interest for this report GES has not been achieved for the Mediterranean Adriatic region (MAD) for the main descriptors concerning the impact of fisheries on environment (more details can be found in the background section).<br>Nevertheless, it is important to specify that the fishery is a small-scale fishery and the use of fyke nets ore, generally traps, allows to consider it a low impact fishery in environmental terms.<br>Hence, a score of 4 is given. | | | |
| | **CoE 1.2.1 score** | | | 4 | |
| | **CoA level 1.2.1 evaluation** | There is evidence of some actions and investments undertaken from the applicant to contribute to the achievement of environmental objectives, in particular to contribute to the safeguard of resources<br>(FLAG) "Marche Sud" within the Action Plan: 2.A.2 – Risorsa ittica, promoted a study in the Southern Adriatic coastal area of the Marche region between the cities of San Benedetto del Tronto and Cupra Marittima using specific artificial substrates. The study (Cocci et al., 2021) has demonstrated the high efficiency of these pyramids as egg collectors suggesting that additions of such structures to nearshore environments may contribute to improve spawning possibilities for *T. mutabilis* and favor restocking interventions. Given cost-effectiveness, easy handling and reduced maintenance of the proposed structures, this approach can be continually implemented with the direct involvement of local fishermen. In this regard, the Fisheries Local Action Group "Marche Sud" is taking action to provide free of charge these artificial structures to local small-scale fishermen in order to promote co-management approaches to natural resources.<br>Hence, a score of 4 is given | | | |
| | **CoA 1.2.1 score** | | | 4 | |
| | **Final mark 1.2.1 (CoE+CoA)** | | | 4 | |
| **SI 1.2.2 Management plan or a set of management measures** | **CoE 1.2.2 evaluation** | A National Management Plan was adopted by the Directorial Decree 20/09/2011 n.6. This management plan applies to fishing vessels registered in maritime compartments of Adriatic regions authorized to "other fishing systems" (passive gear, hydraulic dredges and longlines). | | | |

[35] https://ec.europa.eu/environment/eir/pdf/report_it_en.pdf
https://ec.europa.eu/environment/eir/pdf/factsheet_it_en.pdf

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| Long-term management objectives shall be translated into a plan or other management document and be subscribed to by all interested parties. | | The objective of the management plan was the recovery of stocks within safe biological limits. The plan included the following management measures: adjustment of the fishing effort though the implementation of a decommissioning plan which covered 5% of the corresponding fleet in terms of GT and Kw; technical stop in line with the provisions of the national collective labour agreement with regard to weekly rest; minimum reference sizes; minimum mesh size (the size of the gillnet lowered to the bottom is not less than 20 mm); areas closed or limited to fishing (biological protection zones (ZTB), marine protected areas (AMP), areas of particular value, identified in the Sites of Community Importance (SIC) and in the Special Protection Areas (SPA), as well as areas subject to military servitude.<br>Limit and target reference points were fixed for biological, economic and social objectives and a monitoring plan was foreseen. However, the management plan has not been amended to include the requirements of the new CFP and the achievement of the objectives have not been estimated nor reported.<br>As a result, a score of 3 is given for SI 1.2.2 at CoE level. | | | |
| | **CoE 1.2.2 score** | | 3 | | |
| | **CoA level 1.2.2 evaluation** | In the light of the need to harmonize the ordinances that regulate, at compartmental level, fishing with traps in the coastal strip of Emilia-Romagna and in line with the Community indications, a proposal for a "Local management plan for small-scale artisanal fishing" was drawn up[36], in terms of environmental and economic sustainability by the local FLAG “Costa dell’Emilia-Romagna”. The Plan is in accordance with the general criterion of more restrictive "rules" laid down in the legislation.<br>In view of the importance at local level, the measures concern the number of maximum gear that each boat can drop, in relation to the number of embarked, and the technical stop limited to fishing with traps for cuttlefish, changeable nassa and mantis squillid.<br>Hence, a score of 4 is given. | | | |
| | **CoA 1.2.2 score** | | | 4 | |
| | **Final mark 1.2.2 (CoE+CoA)** | | 7 | | |

## ARFM marking grid_Environment

[36]http://www.flag-costaemiliaromagna.it/wp-content/uploads/Allegato7_Proposta_Piano_Gestione.pdf

| | Evaluation level | Level of compliance | | | |
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| | | **Low confidence rating** | **Medium Confidence Rating** | **Medium/High Confidence Rating** | **High Confidence Rating** |
| **Supporting article 2.1** | **There shall be an effective fishery data (dependent and independent) collection and analysis system for stock management purposes.** | | | | |
| **2.1.1 Data collection and statistics**<br>All significant fishery removals and mortality of the target species shall be considered by management. Specifically, reliable and accurate data required for assessing the status of fishery and ecosystems, including data on retained catch and discards shall be collected. These data shall be collected, at an appropriate time and level of aggregation, by | **CoE 2.1.1 evaluation** | A process that allows for effective data collection for management purposes is in place. The Italian Work Plan for data collection, implemented in compliance with EU Regulation 1004/2017, establishes the routine collection of biological data. However, *Tritia mutabilis*, formerly classified as *Nassarius mutabilis*, is not includedinTable 1A of the EUMAP which lists the stocks in Union waters for which a routine biological data collection should be implemented. This specie is neither included in the MEDITs list of reference species.<br>Landings data are reported by month, GSA and metier and around 30 daily trips of the concerned metier (GSA 17_FPO_DEF_0_0_0) have to be monitored with a temporal coverage of all the quarters of the year.<br>Detailed data on the activity (capacity, production, effort) are collected by fleet segment, by metier (GSA 17_FPO_DEF) and by month.<br>The data collection activities are reported in the Italian work plan available in the official website (https://dcf-italia.cnr.it/).<br>A score of 3 is given at CoE level as the data collection cover only partially what need for management purposes (no biological data) | | | |
| | **CoE 2.1.1 score** | | *3* | | |
| | **CoA level 2.1.1 evaluation** | Because of their strict involvement in pilot actions and projects aimed at the environmental sustainability of the fisheries, the applicants are evidently contributing, by mean of FLAGs active in Emilia-Romagna and Marche, to the collection of specific data.<br>Hence, a score of 3 is given | | | |

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| relevant management organizations and provided to relevant fisheries organizations.<br><br>FAO CCRF (1995) 7.3.1, 7.4.6, 7.4.7, 12.4<br>FAO Eco (2009) 29.1-29.3 | CoA 2.1.1 score | | | 4 | |
| | Final mark 1.1.1 (CoE+CoA) | | 7 | | |
| **Supporting article 2.2** | **To support its optimum utilization, there shall be regular stock assessment activities appropriate for the fishery resource—its range, the species biology, and the ecosystem—all undertaken in accordance with acknowledged scientific standards.** | | | | |
| **2.2.1 Institutional framework**<br>An appropriate institutional framework shall be established to determine the applied research required and its proper use (i.e., assess/evaluate stock assessment model/practices) for fishery management purposes.<br>FAO CCRF 12.2, 12.6 | CoE 2.2.1 evaluation | Not assessed | | | |
| | CoE 2.2.1 score | | | 8 | |
| | CoA level 2.2.1 evaluation | Not assessed | | | |
| | CoA 2.2.1 score | | | | |
| | Final mark 2.2.1 (CoE+CoA) | | | 8 | |

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| **2.2.2 Data limited approach**<br>Less elaborate stock assessment methods are frequently used for small-scale, data poor stocks or low-value capture fisheries resulting in greater uncertainty about the status of the stock under consideration. A more precautionary approach to managing fisheries on such resources shall be required, including, where appropriate, a lower level of resource utilization. A record of good management performance may be considered as supporting evidence of the adequacy of the management system. | **CoE 2.2.2 evaluation** | The stock in not regularly assessed by STECF or GFCM/SAC but there is evidence of studies aimed to cover lack of knowledge for *T. mutabilis.*A relatively recent study carried out in a Central Adriatic Sea area facing the Abruzzi region (R. Caprioli et al., 2018), reported that, despite a detailed regulatory framework, *T. mutabilis* resource has undergone a constant decrease in the last decade in the central Adriatic Sea, probably due to overfishing. These considerations are mainly based on trend analysis of the landings because, despite its importance under a socio-economic point of view, the scientific studies on the biology and ecology of *T. mutabilis* are very scarce and dated (Polidori et al., 2015).<br>A recent study (Mallet et al., 2021) provided new insights on the reproductive biology of Tritia mutabilis. The modeling approach allowed to determine the size at first maturity for both sexes. Those data are highly relevant for reassessing the implementation basis for sustainable management plans of the resource. This study also concluded that the currently used management measures in Italy recommend a minimum capture size of 20 mm, therefore, females that did not reproduce are currently targeted by fishermen and this could be a reason why the resource is still declining despite efforts and measures to protect it.<br>For this reason, a score of 4 is given at CoE level. | | | |
| | **CoE 2.2.2 score** | | | 4 | |
| | **CoA level 2.2.2 evaluation** | Because of their strict involvement in pilot actions and projects aimed at the environmental sustainability of the fisheries, the applicants are evidently contributing, by mean of FLAGs active in Emilia-Romagna and Marche, to the collection of specific data.<br>Hence a score of 5 is given. | | | |
| | **CoA 2.2.2 score** | | | | 5 |
| | **Final mark 2.2.2 (CoE+CoA)** | | | 9 | |

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| **Supporting article 2.3** | **Management actions and measures for the conservation of stock and the aquatic environment shall be based on the precautionary approach. Where information is deficient, a suitable method using risk assessment shall be adopted to take into account uncertainty** | | | | |
| **2.3.1 Precautionary approach** The precautionary approach shall be applied widely to conservation, management, and exploitation of ecosystems to protect and preserve them. This should take due account of fishery enhancement procedures, where appropriate. Absence of scientific information shall not be used as a reason for postponing or failing to take conservation and management measures**.** Relevant uncertainties shall be taken into account through a suitable method of risk | **CoE 2.3.1 evaluation** | There is no evidence that the precautionary approach is applied to conservation and management. According to the most recent studies (Grati et al., 2010 and Polidori at al., 2015), the management measure of MLS leads to the selective retention of females and, hence, to a sexual gap between the two sexes with possible consequences on the biology of the species and the resilience of the stock. The study confirmed that the spawning season of this gastropod occurs in late winter – early spring, according to the abundant presence of egg capsules attached to submerged substrates in that period at sea. Consequently, from a management point of view, the study suggested to shorten the fishing season that at present extends from fall to later spring.<br>Another possible approach to contribute to maintenance and enhancement of *T. mutabilis* stocks is suggested by R. Caprioli et al. (2018) through the adoption of measures to support the reproduction of the species in the area with the use of artificial substrates.<br>Hence, a total score of 4 is given (assessed only at CoE level). | | | |
| | **CoE 2.3.1 score** | 4 | | | |
| | **CoA level 2.3.1 evaluation** | Not assessed (the existing management plan is old and not revised according to the CFP objectives and HCRs are not in place hence the compliance with a precautionary approach cannot be assessed at CoA level). | | | |
| | **CoA 2.3.1 score** | | | | |
| | **Final mark 2.3.1 (CoE+CoA)** | | 7 | | |

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| management, including those associated with the use of introduced or translocated species. FAO CCRF (1995) 7.5.2 | | | | | |
| **2.3.2 Absence of information** In the absence of adequate scientific information, appropriate research shall be initiated in a timely fashion. FAO CCRF (1995) 7.5.1, 12.3 | **CoE 2.3.2 evaluation** | Not applicable | | | |
| | **CoE 2.3.2 score** | | | | |
| | **CoA level 2.3.2 evaluation** | Not applicable | | | |
| | **CoA 2.3.2 score** | | | 4 | |
| | **Final mark 2.3.2 (CoE+CoA)** | | | | |
| **Supporting Article 2.4** | **Considerations of fishery interactions and their effects on the ecosystem shall be based on best available science, local knowledge where it can be objectively verified, and a risk-based management approach to determine the most probable adverse impacts. Adverse impacts on the fishery on the ecosystem shall be appropriately assessed and effectively addressed.** | | | | |
| **2.4.1 Ecosystem impacts** The most probable adverse impacts of | **CoE 2.4.1 evaluation** | According to the approach adopted by Libralato and Celic, it can be stated that the Italian small pots for changeable nassa (ITA_MIX) has a total negative impact on the ecosystem equal to -0.60 (5.40% of total negative impact of all fisheries), ranking 4$^{th}$ in terms of contribution to total fleets impacts in the Adriatic Sea (Figure 4.1). The catches of this fishery are remarkable and diversified for different species, it could be classified as **moderately impacting fishing fleets** compared to other Adriatic fleets, but it has a benefit of a low discard rate and good gear selectivity for the target specie. | | | |

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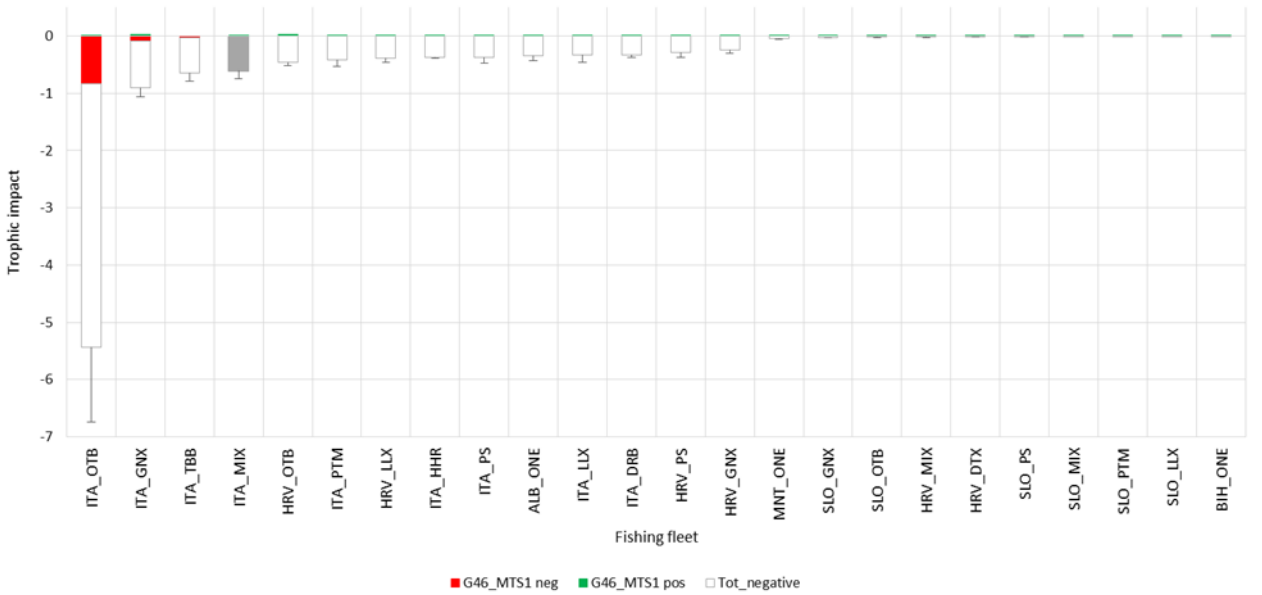
| fishery on the ecosystem/environment, shall be assessed and, where appropriate, addressed and/or corrected, taking into account available scientific information. This may take the form of an immediate management response or a further analysis of the identified risk. In the absence of specific information on the ecosystem impacts of fishery under assessment, generic evidence based on similar fishery situations can be used for fisheries with low risk of severe adverse impact. However, the greater the risk, the more specific evidence shall be necessary to ascertain the adequacy | |  <br>*Figure 4.1.: Total ecosystem impact by fleet in the Adriatic highlighting the contribution Italian small pots (ITA_MIX, highlighted in grey). Negative and positive impacts on the changeable nassa (G72_NAS) are highlighted in red and green, respectively, for all fleets.*<br>In the light of all the above,a score of 3 is given at CoE level. | | | |
| | **CoE 2.4.1 score** | | 3 | | |
| | **CoA level 2.4.1 evaluation** | The fleet has a **major contribution to the total negative impact** of fleets (96.73 %) on the changeable nassa (G72_NAS).<br>As a result, a score of 3 is given for SI 2.4.1 at CoA level. | | | |
| | **CoA 2.4.1 score** | | 3 | | |

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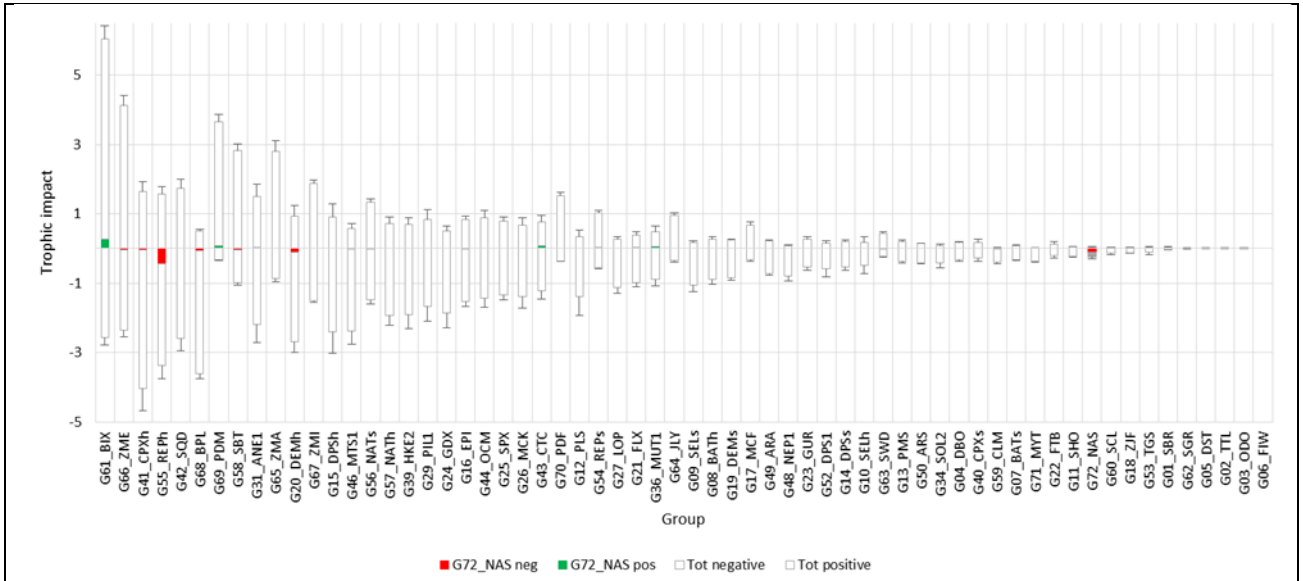
| of mitigation measures. FAO Eco (2009) 30.4, 31, 31.4 FAO Eco (2011) 41.4 | **Final mark 2.4.1 (CoE+CoA)** | | 6 | | |
| **2.4.2 Food web** The role of the stock under consideration in the food web shall be considered, and if it is a key prey species in the ecosystem, management objectives and measures shall be in place to avoid severe adverse impacts on dependent preys and predators. FAO Eco (2009) 31.2 | **CoE 2.4.2 evaluation** | According to Libralato and Celic, the The changeable nassa (G72_NAS) is ranked at the 53rd place of the impacting species in the Adriatic Sea (overall impact = 0.27; 0.24 % of all impacts), and it is responsible for 0.36 % of negative and 0.09 % of positive impacts (Figure 4.2.). The specie has an important intraspecific competition (50.98 % of its negative impact). **The species has very low overall impact on the food web.**<br>.<br>  <br><br>*Figure 4.2.: Representation of trophic impact of trophic groups on the ecosystem. Trophic groups' total negative and positive impacts (white bars) are represented and the ratio of impact they have on the target specie (negative in red, positive in green). The assessed trophic group is highlighted in grey.*<br><br>Given the above a score of 10 is given (the scoring system is adapted as the evaluation for this indicator can be provided only at CoE | | |

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| | | level). | | | |
| | CoE 2.4.2 score | | | | 10 |
| | CoA level 2.4.2 evaluation | *Not assessed at CoA level* | | | |
| | CoA 2.4.2 score | | | | |
| | Final mark 2.4.2 (CoE+CoA) | | 6 | | |

| ARFM marking grid_Socio-economic aspects | | | | | |
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| | Evaluation level | Level of compliance | | | |
| | | Low confidence rating | Medium Confidence Rating | Medium/High Confidence Rating | High Confidence Rating |

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| **Supporting article 3.1** | **Economic, social, and cultural value of resources shall be assessed by the appropriate fisheries management organization in order to assist decision making on their use and the fishing activities should be managed in coherence with the objectives of achieving economic, social and employment benefits.**<br>FAO CCRF (1995) 10.2.2<br>Art. 2, point 1 of the EU Common Fishery Policy Basic Regulation – Reg. (EU) No 1380/2013 | | | | |
| **3.1.1 Economic conditions**<br>The economic conditions under which fishing industries operate shall contribute to a fair standard of living for those who depend on fishing activities. Fisheries under assessment shall promote sustained and sustainable economic growth, full and productive employment.<br><br>Art. 2, point 5 f) of the EU Common Fishery Policy Basic Regulation – Reg. (EU) No 1380/2013 | **CoE 3.1.1 evaluation** | The system of data collection in place at national level allows the availability of socio-economic data at GSA 17 level (Maiorano et. al, 2019) as well as at administrative regional level, i.e. NUTS2 (NISEA, 2020) for the passive gears fleet.<br>In GSA17 vessels using passive gears represent 53 % in terms of numbers.<br>Pots and traps and fyke nets together account for the 37% of effort deployed by the passive gears fleet. Changeable nassa represent 9% of the passive gears landings, in value terms.<br>In 2019, the passive gear fleet segment generated a gross profit of EUR 21 million. With a net profit margin of around EUR 11 thousand, profitability was quite high. Net profit margin was estimated at 30% and RoFTA (the return on fixed tangible asset) at 69%, highlighting a good performance of the sector (Prizefish, 2021).<br>Evidence of the existence of a long-term attention to the use of the resources trying to ensure the right balance between the environmental and socio-economic sustainability, is provided by the socio-economic balance indicators for the last two years available (2018-2019): the value of the CR/BER (Current Revenue/Break Even Revenue) and of RoFTA (Return on Fixed Tangible Assets) for the PGP (average of PGP_VL0006 and PGP_VL0612[37]) fishing in GSA17 are in balance for the year 2019 and show an improvement trend (Rapporto flotta, 2021[38]).<br>The general economic sustainability of the passive gears fleet in GSA 17 is testified also by the labour productivity (GVA per FTE) that for this fishery in GSA 17 accounts, in 2019, at 37,681 € (Prizefish, 2021) against a value of around 15,000 detected at national level in 2018 (STECF, 2020a).<br>Hence, a score of 5 is given | | | |
| | **CoE 3.1.1 score** | | | | 5 |

[37] 96% of vessels using passive gears in GSA 17 fall under these 2 segments.
[38] https://www.politicheagricole.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/17190

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| | **CoA level 3.1.1 evaluation** | There is no evidence of the economic relevance of the fishery activity exerted by the applicants but evidence of the economic relevance of the small-scale fishery at regional level (Emilia-Romagna) is provided by the socio-economic data collected under the DCF system and available by NUTS 2 (www.nisea.eu). Both indicators of Gross profit and Net profit show positive value and an increasing trend in the last years, highlighting the capacity to operate in economic conditions that promote a viable fishery.<br>Furthermore, there is evidence of many activities carried out by the local FLAG and by the applicants, supported by local scientist (Cestha) of project aimed at the valorisation of species caught by the local small-scale fisheries.<br>Hence, a score of 4 is given | | | |
| | **CoA 3.1.1 score** | | | 4 | |
| | **Final mark 3.1.1 (CoE+CoA)** | | | **9** | |
| **Supporting article 3.2** | **Excess fishing capacity shall be avoided and exploitation of the stocks shall remain economically viable.**<br>Art. 22 of the EU Common Fishery Policy Basic Regulation – Reg. (EU) No 1380/2013 | | | | |
| **3.2.1 Fishing capacity** Based on the data available and the most recent assessments and advice from relevant scientific bodies on stock status and their exploitation rates, estimates indicators to judge about fleet overcapacity. | **CoE 3.2.1 evaluation** | The results in terms of balancing capacity against resources expressed by the two balance indicators reflecting the utilisation of capacity are almost satisfying. SHI estimated at GSA17 or passive gears (PGP) by the National authority (Rapporto flotta, 2021) evidences a situation of balance for this fleet segment in 2019 (SHI=0.9) (an average over the different length classes has been estimated) but stable from 2018 to 2019.<br>The Vessel Use Indicator) shows an improvement from a situation of unbalance (VUI=0.4) to that of balance (VUI=0.76) from 2019 to 2020.<br>Furthermore, according to FDI data, the overall capacity of PGP in GSA 17 shows a decrease over the period 2015-2019: -2% in terms of number of vessel; -4% in terms of GT:<br>In the light of the above, a score of 8 is given (the scoring system is adapted as the evaluation for this indicator can be provided only at CoE level). | | | |
| | **CoE 3.2.1 score** | | | 8 | |

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| | **CoA level 3.2.1 evaluation** | n.a. | | | |
| | **CoA 3.2.1 score** | | | | |
| | **Final mark 3.2.1 (CoE+CoA)** | | | **8** | |
| **Supporting article 3.3.** | **The fishery activity shall work in full compliance with international laws on labor, human rights and safety.** | | | | |
| **3.3.1 Human rights and safety on board** International norm shall clearly be followed in fishing fleet under assessment, such as fisheries should not participate in slavery or other human rights abuses and shall promote decent work for all. | **CoE 3.3.1 evaluation** | Safety and working conditions on board of ships are an important part of the social dimension in the fisheries and maritime fields.<br>In Italy, the general framework is well established.<br>The relevant international conventions that aim to ensure decent working and living conditions for seafarers have been largely ratified and transposed into EU law (EU Council, 2018). They are the main ILO (International Labour Organisation) conventions on e.g. forced labour (ILO 29), discrimination of collective bargaining (ILO 98), discrimination (ILO 111), minimum age (ILO 138), equal remuneration (ILO 100), worst form of child labour (ILO 182) exception made for the ILO 'Work in Fishing' Convention 188 even if there has been a strong request from the sector for its ratification(more details can be found in the background section).<br>In the light of all the above a score of 5 is not given, because of the lack of ratification of ILO convention no. 188. A score of 4 is deemed to be appropriate as the process of ratification is in progress and the overall legislation framework guarantees the respect of the most important huma rights and safety on board. | | | |
| | **CoE 3.3.1 score** | | | 4 | |

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| | **CoA level 3.3.1 evaluation** | Applicant reports a compliance with all the security and health rules. Indeed, controls are made by national inspectors on a systematic basis and fishers have to store official documents testifying compliance with rules on-board.<br>Nevertheless, because of Covid restriction was not possible to check documents.<br>Hence, a score of 3 is given. | | | |
| | **CoA 3.3.1 score** | | | 4 | |
| | **Final mark 3.3.1 (CoE+CoA)** | | | 8 | |

## 3.6.Marking Grid – Wild mussel fished by divers on gas platforms

***Note: the fishery is a unique case on the national panorama as it is exerted only by the applicant. As a consequence, it has not been assessed at CoE level:***

| ARFM marking grid_Governance | | | | | |
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| | **Evaluation level** | **Level of compliance** | | | |
| | | **Low confidence rating** | **Medium Confidence Rating** | **Medium/High Confidence Rating** | **High Confidence Rating** |
| **Supporting article 1.1** | **There shall be a structured and legally mandated management system based upon and respecting international, national, and local fishery laws, for the responsible utilization of the target stock and conservation of the marine environment. FAO CCRF3 (1995) 7.1.3/7.1.4/7.1.9/7.3.1/7.3.2/7.3.4/7.6.8/7.7.1/** | | | | |
| **1.1.1 Legislation** There shall be an effective legal and administrative framework established at international, European, national and local levels appropriate for fishery resource conservation and management. The management system and the fishery operate in compliance with the requirements of | **CoE 1.1.1 evaluation** | | | | |
| | CoE 1.1.1 score | | | | |
| | **CoA level 1.1.1 evaluation** | The main norms ruling this fishery are related to the MCRS (5 cm), the safety standards and he maximum depth that divers can reach (12 metres). To reach higher depths a hyperbaric room should be available on the supporting unit (boat). Applicant reports a compliance with all the security and health rules. Indeed, controls are made by national inspectors on a systematic basis and fishers have to store official documents testifying compliance with rules on-board.<br>Nevertheless, because of Covid restriction was not possible to check documents.<br>Hence, a score of 8 is given (evaluation only at CoA level) | | | |
| | CoA 1.1.1 score | | | 8 | |

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| international, national, and local laws and regulations, including the requirements of any regional and/or international fisheries management agreement. | **Final mark 1.1.1 (CoE+CoA)** | | | **8** | |
| **1.1.2 Cooperation** Where transboundary, shared, straddling, highly migratory, or high seas fish stocks are exploited by two or more countries (neighboring or not), the applicant and appropriate management organizations concerned shall cooperate and take part in the formal fishery commission or arrangements appointed to ensure effective conservation and management of the stock(s) in question and their environment. | **CoE 1.1.2 evaluation** | | | | |
| | CoE 1.1.2 score | | | | |
| | **CoA level 1.1.2 evaluation** | Not applicable | | | |
| | CoA 1.1.2 score | | | | |
| | **Final mark 1.1.2 (CoE+CoA)** | | | | |
| **Supporting article 1.2** | **A clear decision-making process is part of the management system to achieve the objectives foreseen by international, national, and local fishery laws and has an appropriate approach to avoid conflicts.**<br>**FAO CCRF (1995) 10.1.1, 10.1.2, 10.1.4, 10.2.1, 10.2.2, 10.2.4** | | | | |
| **SI 1.2.1 Environmental policies** Within the fisheries management organization's jurisdiction, an appropriate policy, legal, and institutional framework shall be adopted | **CoE 1.2.1 evaluation** | | | | |
| | CoE 1.2.1 score | | | | |

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| in order to achieve sustainable and integrated use of living marine resources, allowing for determination of the possible uses of resources and governing access to them. | **CoA level 1.2.1 evaluation** | It can be asserted that this fishery is a low impact fishery considering its high selectivity (done by hand) and by limits imposed by the self-management, aimed to preserve the survival of the fishery itself, and by the exclusivity of the access. In this sense, the gas platforms are considered by fishers as their own vegetable garden where they take care if mussels collecting them only when they have reached the right size and avoiding to collect more mussels than necessary, hence impacting on the health and survival of the entire "crop". Furthermore, the limit sets as far as the maximum depth that divers can reach (12 metres) ensure that the impact, already low, on the overall ecosystems, is limited to a very circumscribed area along the water column.<br>Hence, a score of 8 is given | | | |
| | **CoA 1.2.1 score** | | | 8 | |
| | **Final mark 1.2.1 (CoE+CoA)** | | | 8 | |
| **SI 1.2.2 Management plan or a set of management measures**<br>Long-term management objectives shall be translated into a plan or other management document and be subscribed to by all interested parties. | **CoE 1.2.2 evaluation** | | | | |
| | **CoE 1.2.2 score** | | 3 | | |
| | **CoA level 1.2.2 evaluation** | There is no management plan in place neither at local/regional level but the fishery is regulated by a contract of maintenance that fishers stipulate with the gas platforms' owners (ENI, in the past AGIP). Indeed, the harvesting of mussels is, practically, an operation of scraping of the underwater "legs" of the gas platforms. The harvesting operation are, hence, disciplined by a set of limits imposed by the contracting authority (ENI), on whose basis the mussel fishers own a right of exclusivity: indeed, according to the Italian law, no boat can approach more than 500 meters the gas platforms, exception made for those in charge of cleaning activities.<br>Furthermore, the harvesting and commercialization of mussel is disciplined by the Italian law (DPR n. 1639/1968) setting the minimum size for Mytilus galloprovincialis at 5 cm.<br>Furthermore, the main rules for the harvesting operations are based on a self-management granting a balance between the production units (vessel and divers) and the resources. The internal rules, set by the two cooperatives active in this fishery and organized into an ATI, set daily quota in order to avoid: a) an impoverishment of the stock present on the platforms and b) to put on the market a supply oversized compared to demand.<br>Nevertheless, considering the economic relevance at regional level, the lack of a management plan, even if proposed and pursued by the local FLAG, is deemed to be relevant.<br>Hence, a score of 7 is given | | | |
| | **CoA 1.2.2 score** | | 7 | | |
| | **Final mark 1.2.2 (CoE+CoA)** | | **7** | | |

| ARFM marking grid_Environment | | | | | |
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| | Evaluation level | Level of compliance | | | |
| | | Low confidence rating | Medium Confidence Rating | Medium/High Confidence Rating | High Confidence Rating |
| **Supporting article 2.1** | **There shall be an effective fishery data (dependent and independent) collection and analysis system for stock management purposes.** | | | | |
| **2.1.1 Data collection and statistics** All significant fishery removals and mortality of the target species shall be considered by management. Specifically, reliable and accurate data required for assessing the status of fishery and ecosystems, including data on retained catch and discards shall be | **CoE 2.1.1 evaluation** | | | | |
| | **CoE 2.1.1 score** | | | 4 | |
| | **CoA level 2.1.1 evaluation** | There is high evidence of the applicants' contribution to gather data on this fishery, considering the lack of a systematic data collection in place. With the support of the local FLAG "Costa dell'Emilia-Romagna", the applicant is carrying out a study finalised to the creation and promotion of the trademark for the wild mussel of Ravenna. Among the different tasks, the study has allowed the collection of detailed data on monthly landings by boat and platform, for the last 4 years (2017-2019). Aggregated data are reported in the various Prizefish deliverables.<br>Nevertheless, considering that the data collection is carried out by the applicant on a voluntary basis, a score of 7 is given | | | |

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| collected. These data shall be collected, at an appropriate time and level of aggregation, by relevant management organizations and provided to relevant fisheries organizations.<br><br>FAO CCRF (1995) 7.3.1, 7.4.6, 7.4.7, 12.4<br>FAO Eco (2009) 29.1-29.3 | CoA 2.1.1 score | | 7 | | 5 |
| | Final mark 1.1.1 (CoE+CoA) | | **7** | 9 | |
| **Supporting article 2.2** | **To support its optimum utilization, there shall be regular stock assessment activities appropriate for the fishery resource—its range, the species biology, and the ecosystem—all undertaken in accordance with acknowledged scientific standards.** | | | | |
| **2.2.1 Institutional framework**<br>An appropriate institutional framework shall be established to determine the applied research required and its proper use (i.e., assess/evaluate stock assessment model/practices) for fishery management purposes.<br>FAO CCRF 12.2, 12.6 | CoE 2.2.1 evaluation | | | | |
| | CoE 2.2.1 score | | | 8 | |

| | | | | | |
|---|---|---|---|---|---|
| | **CoA level 2.2.1 evaluation** | Not applicable | | | |
| | **CoA 2.2.1 score** | | | | |
| | **Final mark 2.2.1 (CoE+CoA)** | | | | |
| **2.2.2 Data limited approach** Less elaborate stock assessment methods are frequently used for small-scale, data poor stocks or low-value capture fisheries resulting in greater uncertainty about the status of the stock under consideration. A more precautionary approach to managing fisheries on such resources shall be required, including, where appropriate, a lower level of resource utilization. A record of | **CoE 2.2.2 evaluation** | | | | |
| | **CoE 2.2.2 score** | | | | |
| | **CoA level 2.2.2 evaluation** | There is evidence that the applicants monitor the overall catches of wild mussel and pursue a precautionary approach. The fishery is based on a self-management (monitored by the applicant) granting a balance between the production units (vessel and divers) and the resources. The internal rules, set by the two cooperatives active in this fishery and organized into an ATI, set daily quota in order to avoid: a) an impoverishment of the stock present on the platforms and b) to put on the market a supply oversized compared to demand. In this sense, the gas platforms are considered by fishers as their own vegetable garden where they take care if mussels collecting them only when they have reached the right size and avoiding to collect more mussels than necessary, hence impacting on the health and survival of the entire "crop".<br>Hence a score of 8 is given | | | |
| | **CoA 2.2.2 score** | | | 8 | |
| | **Final mark 2.2.2 (CoE+CoA)** | | | **8** | |

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| good management performance may be considered as supporting evidence of the adequacy of the management system. | | | | | |
| **Supporting article 2.3** | **Management actions and measures for the conservation of stock and the aquatic environment shall be based on the precautionary approach. Where information is deficient, a suitable method using risk assessment shall be adopted to take into account uncertainty** | | | | |
| **2.3.1 Precautionary approach** The precautionary approach shall be applied widely to conservation, management, and exploitation of ecosystems to protect and preserve them. This should take due account of fishery enhancement procedures, where appropriate. Absence of scientific information shall not be used as a reason for postponing or failing to take conservation and | **CoE 2.3.1 evaluation** | | | | |
| | **CoE 2.3.1 score** | | 7 | | |
| | **CoA level 2.3.1 evaluation** | not applicable | | | |
| | **CoA 2.3.1 score** | | | | |
| | **Final mark 2.3.1 (CoE+CoA)** | | 7 | | |

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| management measures. Relevant uncertainties shall be taken into account through a suitable method of risk management, including those associated with the use of introduced or translocated species. FAO CCRF (1995) 7.5.2 | | | | | |
| **2.3.2 Absence of information** In the absence of adequate scientific information, appropriate research shall be initiated in a timely fashion. FAO CCRF (1995) 7.5.1, 12.3 | **CoE 2.3.2 evaluation** | | | | |
| | **CoE 2.3.2 score** | | | | |
| | **CoA level 2.3.2 evaluation** | There is evidence of active collaboration/participation of the applicant in research efforts. Hence a score of 8 is given. | | | |
| | **CoA 2.3.2 score** | | | 8 | |
| | **Final mark 2.3.2 (CoE+CoA)** | | | **8** | |
| **Supporting Article 2.4** | **Considerations of fishery interactions and their effects on the ecosystem shall be based on best available science, local knowledge where it can be objectively verified, and a risk-based management approach to determine the most probable adverse impacts. Adverse impacts on the fishery on the ecosystem shall be appropriately assessed and effectively addressed.** | | | | |
| **2.4.1 Ecosystem impacts** The most probable | **CoE 2.4.1 evaluation** | has a total negative impact on the ecosystem equal to -0.37 (3.69% of total negative impact of all fisheries), ranking 8th in terms of contribution to the fishery impacts in the Adriatic Sea, Figure 5.1). The impact of this fishery is mainly due to its highly selective catches from a single resource without physical contacts with the sea bottom, thus resulting in **low-medium impacting fleet**. | | | |

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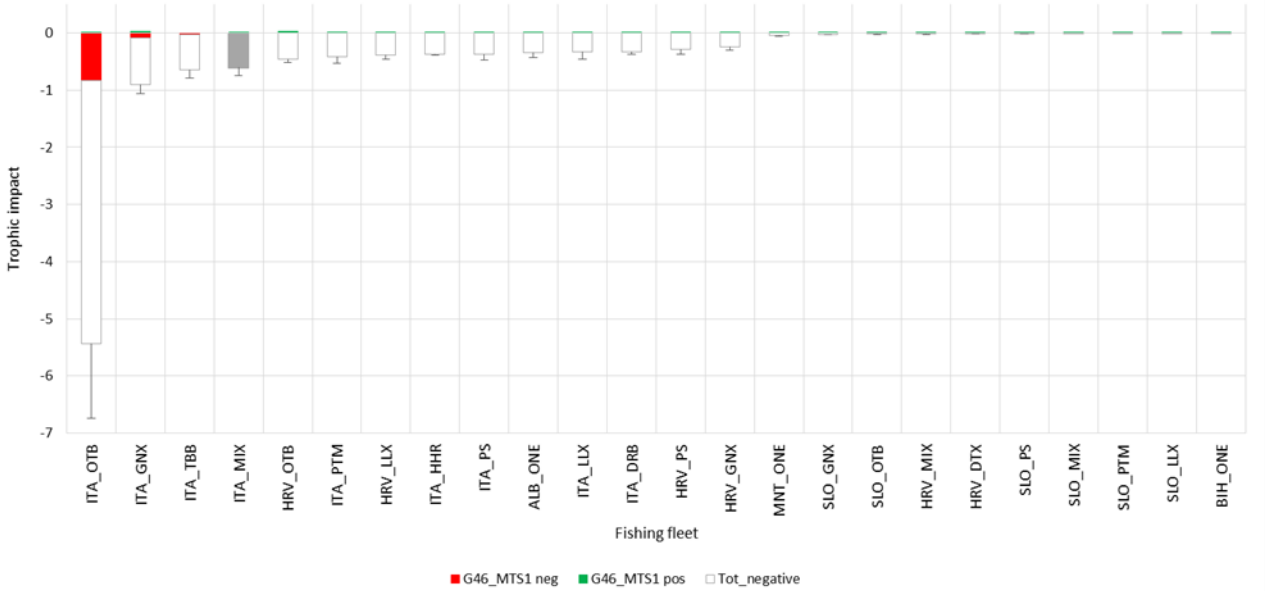
| adverse impacts of fishery on the ecosystem/environment, shall be assessed and, where appropriate, addressed and/or corrected, taking into account available scientific information. This may take the form of an immediate management response or a further analysis of the identified risk. In the absence of specific information on the ecosystem impacts of fishery under assessment, generic evidence based on similar fishery situations can be used for fisheries with low risk of severe adverse impact. However, the greater the risk, the more specific evidence shall be necessary to ascertain the adequacy | **CoE 2.4.1 score** | | | | |
| | **CoA level 2.4.1 evaluation** | According to the approach adopted by Libralato and Celic, it can be stated that thevessels and divers hand-harvesting Mediterranean mussel on gas platforms' (ITA_HHR) has an exclusive impact (98.01 %) on the species (G52_DPS1; Figure 5.1).<br>  <br><br>*Figure 5.1.: Total ecosystem impact by fleet in the Adriatic highlighting the contribution Italian hand-harvesting (ITA_HHR, highlighted in grey). Negative and positive Impacts on the mediterranean mussel (G71_MYT) are highlighted in red and green, respectively, for all fleets.*<br><br>As a result, a score of 8 is given for SI 2.4.1 at CoA level. | | | |
| | **CoA 2.4.1 score** | | | 8 | |

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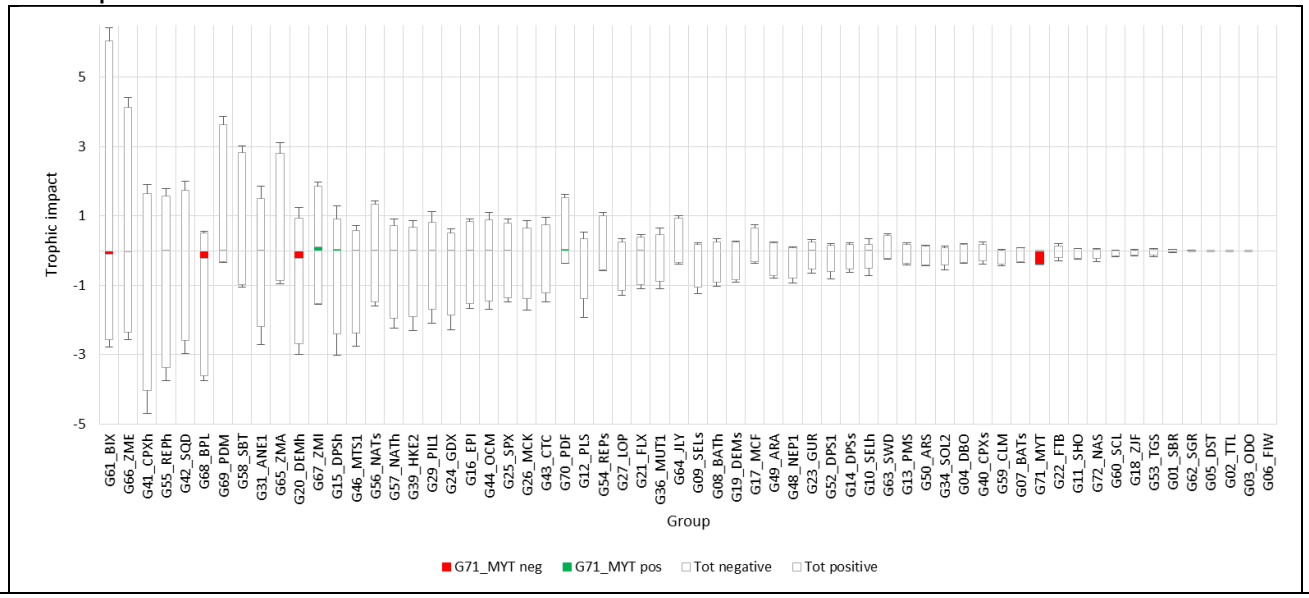
|---|---|---|---|---|---|
| of mitigation measures. FAO Eco (2009) 30.4, 31, 31.4 FAO Eco (2011) 41.4 | **Final mark 2.4.1 (CoE+CoA)** | | | **8** | |
| **2.4.2 Food web** The role of the stock under consideration in the food web shall be considered, and if it is a key prey species in the ecosystem, management objectives and measures shall be in place to avoid severe adverse impacts on dependent preys and predators. FAO Eco (2009) 31.2 | **CoE 2.4.2 evaluation** | | | | |
| | **CoE 2.4.2 score** | | | | |
| | **CoA level 2.4.2 evaluation** | According to Libralato and Celic, the Mediterranean mussel(G71_MYT) is ranked at the 50th place of the least impacting species in the Adriatic Sea (overall impact = 0.38; 0.34 % of all impacts), and it is responsible for 0.59 % of negative and 0.34 % of positive impacts (Figure 5.2). The species has strong intraspecific trophic competition (99.60 % of its negative impact) **but the species has very low overall impact on the food web**.   |

| | | | | | |
|---|---|---|---|---|---|
| | | *Figure 5.2.: Representation of trophic impact of trophic groups on the ecosystem. Trophic groups' total negative and positive impacts (white bars) are represented and the ratio of impact they have on the target specie (negative in red, positive in green). The assessed trophic group is highlighted in grey.*<br><br>Given the above a score of 10 is given (the scoring system is adapted as the evaluation for this indicator can be provided only at CoE level). | | | |
| | **CoA 2.4.2 score** | | | | 10 |
| | **Final mark 2.4.2 (CoE+CoA)** | | | | **10** |

| **ARFM marking grid_Socio-economic aspects** | | | | | |
|---|---|---|---|---|---|
| | **Evaluation level** | **Level of compliance** | | | |
| | | **Low confidence rating** | **Medium Confidence Rating** | **Medium/High Confidence Rating** | **High Confidence Rating** |

| | | | | | |
|---|---|---|---|---|---|
| **Supporting article 3.1** | **Economic, social, and cultural value of resources shall be assessed by the appropriate fisheries management organization in order to assist decision making on their use and the fishing activities should be managed in coherence with the objectives of achieving economic, social and employment benefits.**<br>FAO CCRF (1995) 10.2.2<br>Art. 2, point 1 of the EU Common Fishery Policy Basic Regulation – Reg. (EU) No 1380/2013 | | | | |
| **3.1.1 Economic conditions**<br>The economic conditions under which fishing industries operate shall contribute to a fair standard of living for those who depend on fishing activities. Fisheries under assessment shall promote sustained and sustainable economic growth, full and productive employment.<br><br>Art. 2, point 5 f) of the EU Common Fishery Policy Basic Regulation – Reg. (EU) No 1380/2013 | **CoE 3.1.1 evaluation** | | | | |
| | **CoE 3.1.1 score** | | | | 5 |
| | **CoA level 3.1.1 evaluation** | Wild mussels from Ravenna are highly appreciated and requested from the market (mainly local consumers and restaurants) and, as a consequence, the retail price is generally higher (around € 4.5/kg, even more than 2 times the farmed mussels). Ther is evidence of the role played by ATI (the applicant) in promoting the valorisation of the target resources by mean of appropriate marketing strategies: e.g. label and supply adapted to the request of the market.<br>Furthermore, economic indicators estimated for the first time for the Prizefish project (Prizefish, 2021) highlight a good profitability and viability of the fishery. The GVA generated by the fishery is estimated to be, in 2019, around EUR 1.2million (average of EUR 155,000 per vessel) while the Labour productivity (GVA per FTE, EUR) can be estimated in EUR 117,000, both indicators far above the average value registered for other commercial fisheries.<br>Hence, a score of 10 is given | | | |
| | **CoA 3.1.1 score** | | | | 10 |
| | **Final mark 3.1.1 (CoE+CoA)** | | | | **10** |
| **Supporting article 3.2** | **Excess fishing capacity shall be avoided and exploitation of the stocks shall remain economically viable.**<br>Art. 22 of the EU Common Fishery Policy Basic Regulation – Reg. (EU) No 1380/2013 | | | | |

| | | | | | |
|---|---|---|---|---|---|
| **3.2.1 Fishing capacity** Based on the data available and the most recent assessments and advice from relevant scientific bodies on stock status and their exploitation rates, estimates indicators to judge about fleet overcapacity. | **CoE 3.2.1 evaluation** | | | | |
| | **CoE 3.2.1 score** | | | 8 | |
| | **CoA level 3.2.1 evaluation** | The fishery is based on a self-management granting a balance between the production units (vessel and divers) and the resources. The internal rules, set by the two cooperatives active in this fishery and organized into an ATI, create a system where if another vessel or divers enter, the quota attributed to each vessel should be reduced. The aim is twofold: a) avoid an impoverishment of the stock present on the platforms and b) avoid collocating on the market a supply oversized compared to demand. Furthermore, a clear evidence of the number of platform (65) of vessel (8) and divers (around 32, 4 per vessel) is provided by the applicant and reported (Prizefish, 2021). Hence, a score of 8 is given | | | |
| | **CoA 3.2.1 score** | | | 8 | |
| | **Final mark 3.2.1 (CoE+CoA)** | | | **8** | |
| **Supporting article 3.3.** | **The fishery activity shall work in full compliance with international laws on labor, human rights and safety.** | | | | |
| **3.3.1 Human rights and safety on board** | **CoE 3.3.1 evaluation** | | | | |

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|---|---|---|---|---|---|
| International norm shall clearly be followed in fishing fleet under assessment, such as fisheries should not participate in slavery or other human rights abuses and shall promote decent work for all. | **CoE 3.3.1 score** | | | 4 | |
| | **CoA level 3.3.1 evaluation** | ENI, the public company managing the gas platforms, obliges to comply with UNI 11366:2010 which involves a series of certifications of inspection bodies and equipment. The last level of control is at the Port authorities that, once checked, issues the authorization to underwater fishing (annual sheet to be kept on-board). In addition, each diver must pass medical examinations and courses whose evidence should be reported in a personal booklet, also checked ultimately by Port authorities.<br>Hence a score of 8 is given | | | |
| | **CoA 3.3.1 score** | | | 8 | |
| | **Final mark 3.3.1 (CoE+CoA)** | | | **8** | |

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