DNV·GL

PRE-ASSESSMENT BLUEFISH PROJECT

Sardinia (GSA 11) common spiny lobster trammel net fishery

MARINE STEWARDSHIP COUNCIL

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Authors: Giuseppe Scarcella, Antonello Sala, Alessandro Ligas
Date: 2020-04-16

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Authors:	Giuseppe Scarcella, Antonello Sala, Alessandro Ligas	

Applicable contract(s) governing the provision of this Report:

Objective:

Preassessment of the Sardinia (GSA 11) common spiny lobster trammel net fishery, against MSC Fisheries Standards v2.01.

Prepared by:	Verified by:
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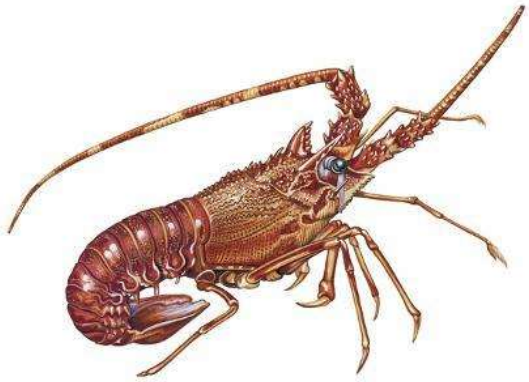
Sardinia (GSA 11) common spiny lobster trammel net fishery



Pre-Assessment Report

Conformity Assessment Body (CAB)	DNV GL Business Assurance Italia S.r.l.
Fishery client	Marine Stewardship Council
Assessment Type	Pre-assessment

Pre-Assessment Report

April 2020

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1 Introduction

The purpose of this pre-assessment is to assess whether the fishery would meet version 2.01 of MSC Certification Requirements.

This report is a pre-assessment which provides details of the MSC assessment process for the trammel net fishery targeting common spiny lobster in Sardinia (GSA 11). The process begins with the draft of the pre-assessment on 6th May 2019 and was concluded in 15th July 2019. The process begins with the draft of the pre-assessment on 6th May 2019 and was concluded in 5th August 2019, after an internal review. The report used was drafted using the 'MSC Pre-Assessment Reporting Template v3.1'.

A review of information presented by the client has been scored by the assessment team also after a site visit in Cagliari and Oristano (Su Pallosu) were most of the vessels targeting common spiny lobster with trammel net are located. Please note this report does not represent a final scoring outcome or a certification decision.

The scoring presented in this report has not been reviewed by stakeholders, peer reviewers or the client – these steps will all take place from here onwards in the case the client will decide to start a full assessment. The site visit was conducted the 5th of July 2019 in Cagliari and Oristano (Su Pallosu).

Stakeholders are encouraged to review the scoring presented in this pre-assessment and use the Stakeholder Input Form to provide evidence to the team of where changes to scoring are necessary. DNV GL accepted stakeholder submissions on the pre-assessment from 15th February 2020 for a period of 60 days. The 15th of April the final version of the pre-assessment report was finalized considering stakeholder comments (mainly from MSC).

The assessment team for this fishery assessment comprised of Giuseppe Scarcella, who acted as team leader and primary Principle 3 specialist; Alessandro Ligas, who was primarily responsible for evaluation of Principle 1 and Antonello Sala, who was primarily responsible for evaluation of Principle 2. Giuseppe Scarcella was also the traceability expert advisors.

2 Glossary

AIS Automatic identification system
CA Consequence Analysis (RBF)
CFP Common Fisheries Policy
CPU Catch per Unit of Effort
CSA Consequence Spatial Analysis (RBF)
EEZ Exclusive Economic Zone
EFCA European Fisheries Control Agency
ETP Endangered, threatened and protected species
EU European Union
FCR Fisheries Certification Requirements
GES Good Environmental Status
GFCM General Fisheries Commission for the Mediterranean
GSA Geographical Sub-Area
LTL Low Trophic Level
MCRS Minimum Conservation Reference Size
MEDAC Mediterranean Advisory Council
MIPAAF Italian Ministry of Agriculture and Forestry
MLS Minimum Landing Size
MSC Marine Stewardship Council
PI Performance indicator
PISG Performance Indicator Scoring Guidepost
PRI Point of Recruitment Impairment
PSA Productivity-Susceptibility Analysis (RBF)
RBF Risk-Based Framework
SG Scoring Guidepost
SI Scoring Issue
SIC Sites of Important Communities
SPZ Special Protection Zone
STECF Scientific, Technical and Economic Committee for Fisheries
TAC Total allowable catch
UoA Unit of Assessment
VME Vulnerable marine ecosystems

3 Executive summary

In the present pre-assessment the team used recent, publicly available information on stock status, bycatch species, and management to describe and evaluate potential MSC scoring ranges for the fishery. Main strengths and weakness of the of the fishery are summarized below. The weakness will need to be considered in Fishery Improvement Project (FIP) or full assessment.

The team did not have a specific fishery client to consult for this analysis and relied on publicly posted information to develop this assessment. However, site visit was conducted to discuss with major stakeholder interested in the certification as Legacoop Sardegna, Cabras municipality, MPA Sinis representative. The potential UoA would be represented by around 100 vessel (most of them below 12m LFT) using only passive gears in the Oristano Gulf.

Client strengths

The fishery associations based in Oristano gulf are a well-established fishery actor in Sardinia. It is well integrated in the management process in Italy.

The fishery has not a deleterious impact on other species and the habitat/ecosystem.

There is a well-established data collection system providing feedback to the decision making process.

The fishery largely takes place in the Italian waters, where the Italian Coast Guard carries out monitoring and inspections. The Italian enforcement system is generally considered to be effective.

Client weaknesses

The status of the stocks seems depleted and the rebuilding strategy does not seem to be effective. The harvest strategy and the HCRs in place are not tested because recently implemented.

There is not an analytical assessment of the status of secondary species.

The information on the UoA impact on habitat and non-target species is missing, Therefore, a precautionary approach has been used to score the P2. Review of alternative measures to minimize mortality of ETP species and impact on habitat is not completely in place.

There are not mechanisms in place to evaluate key parts of the fishery-specific management system.

Determination

On completion of the initial review of information and scoring, the assessment team conclude that principles 1 and 2 would fail, while P3 would score above 60, but conditions should be raised.

All team members listed below have completed all requisite training and signed all relevant forms for assessment team membership on this fishery.

Assessment team leader: Dr Giuseppe Scarcella
Primarily responsible for assessment under Principle 3

Giuseppe Scarcella is an experienced fishery scientist and population analyst and modeller, with wide knowledge and experience in the assessment of demersal stocks. He holds a first degree in Marine Biology and Oceanography (110/110) from the Unversità Politecnica delle Marche, and a PhD in Marine Ecology and Biology from the same university, based on a thesis 'Age and growth of two rockfish in the Adriatic Sea'. After his degree he was offered a job as project scientist in several research programs about the structure and composition of fish assemblage in artificial reefs, off-shore platform and other artificial habitats in the Italian Research Council – Institute of Marine Science of Ancona (CNR-ISMAR). During the years of employment at CNR-ISMAR he has gained experience in benthic ecology, statistical analyses of fish assemblage evolution in artificial habitats, fisheries ecology and impacts of fishing activities, stock assessment, otolith analysis, population dynamic and fisheries management. During the same years he attended courses of uni- multivariate statistics and stock assessment. He is also actively participating in the scientific advice process of FAO GFCM in the Mediterranean Sea. In this moment he is member of the Scientific, Technical and Economic Committee for Fisheries for the European Commission (STECF). Dr Scarcella is author and co-author of more than 30 scientific paper peer reviewed journals and more than 150 national and international technical reports, most of them focused on the evolution of fish assemblages in artificial habitats and stock assessment of demersal species. For some years now, he has been working in fisheries certification applying the Marine Stewardship Council standard for sustainable fisheries, currently concentrating on Principle 1 of the Standard. Furthermore, Dr Scarcella holds the credential as Fishery team leader (MSC v2.0). Giuseppe has passed MSC training and has no Conflict of Interest in relation to this fishery. Full CV available on request.

Expert team member: Dr Alessandro Ligas
Primarily responsible for assessment under Principle 1

Alessandro Ligas holds a Master Degree in Biological Sciences and a PhD in Marine Ecology (University of Pisa, Italy). He has 15 years of experience in fisheries science and international and national projects. Since 2002, he is involved in the activities carried out under the EU DCF. His research focuses on the biology and population dynamics of marine fish and shellfish stocks to provide scientific advice on stocks and fisheries of commercial and ecological importance. From 2012 to 2014, he has worked as project leader (Senior Scientific Officer) at the Agri-Food and Biosciences Institute (AFBI), Belfast, UK, responsible for the design and implementation of appropriate data collection programmes in support of the assessment and management of fisheries in the Irish Sea. Currently, he holds the position of researcher at CIBM. He is the chairman of the GFCM Working Group on Stock Assessment of Demersal species (WGSAD) in the Mediterranean Sea and has a decadal experience in participating to ICES and STECF expert working groups. His experience has allowed him to acquire thorough knowledge in the fisheries sector in both the Mediterranean and north-eastern Atlantic waters, and familiarity with European fishery legislation (e.g. CFP, MSFD).

Expert team member: Dr Antonello Sala
Primarily responsible for assessment under Principle 2

Antonello Sala is scientific researcher at the Fishing Technology Unit at the National Research Council (CNR) in Ancona, Italy. Expert in efficiency and selectivity research; fishing gear technology and fuel saving; measurements of the engineering performance of the fishing gears at sea using underwater instrumentation; fishing gear design; netting material properties; modelling and performance; physical and biological impacts produced in the marine environment by human activities. He is responsible of the Fishing Technology Unit and has over 24 years of experience of studying the wider ecosystem effects of fishing on the marine environment. Since 2010 he is member of the European “Scientific, Technical and Economic Committee for Fisheries (STECF)”. Since 2014 he has been contracted by the European Fisheries Control Agency (EFCA) as external expert for the “Assistance with the development of a methodology for the statistical and technical analysis of fisheries data”. His research interests are fishing gear technology and fuel saving, measurements of the engineering performance of the fishing gears at sea using underwater instrumentation and fishing gear design. Dr. Sala has been responsible scientist in several EU and national research projects and has worked numerous times as a scientific consultant and served on several national and international evaluation committees. He has published over 70 peer reviewed scientific papers and is on the editorial board of various scientific journals.

Using data collected during the previous stage of Bluefish project Italy, the selected fishery has been pre-assessed with regards to the MSC Standards by an independent certification body. The objective is to identify the area where improvements are needed to achieve the MSC sustainability level. During a MSC pre-assessment, certifiers and local experts evaluate, at a provisional level, a fishery’s performance against the MSC fisheries standard. This allows any potential issues in a fishery’s performance to be identified and enables potential fishery clients to improve and prepare accordingly for a full assessment.

4 Report details

4.1 Aims and constraints of the pre-assessment

The present report is a pre-assessment does not attempt to duplicate a full assessment against the MSC Fisheries Standard. A full assessment involves a group of assessment team members and public consultation stages that are not included in a pre-assessment. A pre-assessment provides a provisional assessment based on a limited set of information provided by the client.

The CAB outlines that limitations placed on this pre-assessment are inaccessibility of the fishery key data as the statics on the inspection and infractions in the area.

4.2 Version details

The report shall include a statement on the versions of the fisheries program documents used for this assessment.

Table 1 – Fisheries program documents versions

Document	Version number
MSC Fisheries Certification Process	**Version 2.1**
MSC Fisheries Standard	**Version 2.01**
MSC General Certification Requirements	**Version 2.3**
MSC Pre-Assessment Reporting Template	**Version 3.1**

5 Unit(s) of Assessment

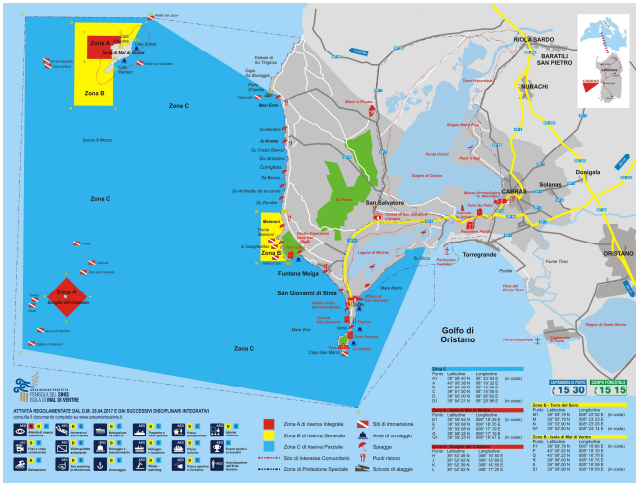
5.1 Unit(s) of Assessment

Table 2 – Unit of Assessment (UoA)

UoA 1	Description
Species	Common spiny lobster (*Palinurus elephas*)
Stock	Common spiny lobster in GSA 11
Geographical area	GSA 11
Gear	Trammel net
Client group	Bluefish project
Other eligible fishers	None
Justification for choosing the Unit of Assessment	The common spiny lobster is assessed and managed considering GSA 11.

UoA description

The UoA is composed by vessels operating mainly in the area of “Su Pallosu” fishing in close proximity of the marine protected area of the Sinis peninsula and of the island of Mal di Ventre (Figure below, see https://www.areamarinasinis.it/ for more details). The vessels of “Su Pallosu” do not have access in a proper harbour and are usually anchored in proximity of Benas beach. In the case of bad whethear condition the operators move their vessels in Oristano harbour. According to the Bluefish project fast scan report (https://www.msc.org/it/cosa-facciamo/il-nostro-contributo-al-cambiamento/progetto-Bluefish/risultati-fase-1-di-mappatura; table 14) there are 1200 vessels operating using polyvalent passive gearsin (as trammel net) in the entire GSA 11, mostly concentrated in Cagliari and Oristano ports. The potential UoA would be represented by around 100 vessel (most of them below 12m LFT) using only passive gears in the Oristano Gulf.



6 Traceability

6.1 Traceability within the fishery

Italian fishery law requires that all vessels keep detailed logbooks with real time information on the species and quantities on board. Round weight is recorded after each haul, and conversion factors for each product are applied. When the catch is brought on board, the different species are immediately separated into different boxes. Each species is stored separately in the holds. 'Fish masters' are responsible for ensuring species are marked and stored appropriately and that certified and non-certified fish are not mixed. All crew members involved in the processing of the fish are also trained to ensure segregation of species throughout the process.

The Italian Coast Guard inspects all landings by Italian vessels.

The European Union regulation (EC 1224/2009), is designed to ensure full traceability of all marine fishery products traded with the European Community. This is achieved by means of a catch certification scheme in cooperation with third countries. Fishery products can now only be imported into the European Community when accompanied by a catch certificate, issued by the competent authorities of the flag State certifying that the catches concerned have been made in accordance with applicable laws, regulations and international conservation and management measures.

The internal procedures on board the vessels as well as a high level of enforcement activities by authorities in Italy are considered sufficient to ensure fish and fish products are clearly identified and their origin is known

Table 3 – Traceability within the fishery

Factor	Description
Will the fishery use gear that are not part of the Unit of Certification (UoC)? If Yes, please describe: - If this may occur on the same trip, on the same vessels, or during the same season; - How any risks are mitigated.	*Yes. During the site visit was evidenced that the same day a fisherman can use more than one gear targeting also other species.*
Will vessels in the UoC also fish outside the UoC geographic area? If Yes, please describe: - If this may occur on the same trip; - How any risks are mitigated.	*No, the UoC vessels only fish in Sardinia (see also Principle 3 – Effective management)*
Do the fishery client members ever handle certified and non-certified products during any of the activities covered by the fishery certificate? This refers to both at-sea activities and on-land activities. - Transport - Storage - Processing - Landing - Auction If Yes, please describe how any risks are mitigated.	*Yes. The fishery target both octopus and spiny lobster, which are both involved in the pre-assessment.*
Does transhipment occur within the fishery? If Yes, please describe: - If transhipment takes place at-sea, in port, or both; - If the transhipment vessel may handle product from outside the UoC; - How any risks are mitigated.	*No.*
Are there any other risks of mixing or substitution between certified and non-certified fish? If Yes, please describe how any risks are mitigated.	*Yes. Common spiny lobster can be fished also with other gears that are currently used by the UoC using Trammel net. This may be an obstacle to product entering future CoC and the client may wish to implement appropriate mitigation before any main assessment.*

7 Pre-assessment results

7.1 Pre-assessment results overview

7.1.1 Overview

The scoring of the fishery is rather low for both principles 1and 2, which would fail for the status of the stock and related HCRs and for the lack of ETP information. While conditions related with fishery-specific objectives are observed in P3.

7.1.2 Recommendations

The CAB strongly recommends potential clients to implement a communications that may need to take place with management agencies (MIPAAFT, GFCM and Regional authority) and research units (University of Cagliari; CNR-IAS; IMC) to explain the MSC assessment process and the implications (including costs and benefits) of certification.

7.2 Summary of potential conditions by Principle

Table 4 – Summary of Performance Indicator level scores

Principle of the Fisheries Standard	Number of PIs with draft scoring ranges <60
Principle 1 – Stock status	**2**
Principle 2 – Minimising environmental impacts	**1**
Principle 3 – Effective management	**0**

7.3 Summary of Performance Indicator level scores

Table 5 – Summary of Performance Indicator level scores

Performance Indicator	Draft scoring range	Data deficient?
1.1.1 – Stock status	**≥80**	**No**
Rationale or key points		
Due to the lack of full analytical assessment of this stock, it is not possible to have a high degree of certainty that the stock has been fluctuating around a level consistent with MSY or has been above this level over recent years. However, the evaluation from Froese et al. (2018) is related to the whole GSA 11. In 1998, the creation of Su Pallosu area (Sardinian West-central coast) led, after 12 consecutive years of protection, to an increase of 550% of the target species inside the area (Follesa, 2017). However, there is no evidence the stock is at or fluctuating around MSY. Therefore, SG 80 is not met.		
1.1.2 – Stock rebuilding	**60-79**	**No**
Rationale or key points		
According to the evidences available during the site visit there is a monitoring is in place in the Sinis MPA and a potentil spill over effect would rebuild the stock (Follesa, 2017). Therefore, SG 60 is met. However, there is not clear evidence that the strategies in place are rebuilding the stock. Therefore, SG 80 is not met.		
1.2.1 – Harvest Strategy	**< 60**	**No**
Rationale or key points		

The harvest strategy is based on minimum landing size, a temporal fishing ban and the obligation of releasing females bearing eggs (See DECRETO N. 1916/DecA/46 del 29.08.2016). Several no-take zones are also implemented. However, there is no evidence the harvest strategy is working towards achieving management objectives reflected in PI 1.1.1 SG80. Furthermore, the harvest strategy is not responsive to the state of the stock. This cannot meet SG60.		
1.2.2 – Harvest control rules and tools	**60 – 79**	**No**
Rationale or key points		
The HCR in place is outlined in the regional decree (DECRETO N. 1916/DecA/46 del 29.08.2016, based on minimum landing size, a temporal fishing ban and the obligation of releasing females bearing eggs).The presence of such set of rules foreseen by the regional decree are generally understood by the fishery and they should reduce the exploitation in the case low biomass is observed. Therefore, SG 60 is met. However, the HCR are not well defined, and SG 80 is not met.		
1.2.3 – Information and monitoring	**≥80**	**No**
Rationale or key points		
Some relevant information is available from the EU-MAP. Moreover, the regional decree N. 1916/DecA/46 of 29.08.2016 establishes a scientific monitoring for the target species. This meets the requirements at SG80.		
1.2.4 – Assessment of stock status	**≥80**	**No**
Rationale or key points		
The stock size and fishing mortality rates are estimated. The fishing mortality rate is compared to the reference points. The assessment methodology and level of accuracy is sufficient to apply harvest control rule. The assessment model is CMSY. The model is suitable for the available data.		
2.1.1 – Primary Outcome	**≥80**	**No**
Rationale or key points		
There are no main primary species. Therefore, this scoring issue is not relevant.		
2.1.2 – Primary Management	**≥80**	**No**
Rationale or key points		
There are no main primary species for this gear. Therefore, following the explanation of the term ‘if necessary’ in Table GSA3, a management strategy is not be required at SG60 or SG80 and no specific rationale need be given in order to achieve the SG60 and SG80 levels. Nevertheless, minor species were not evaluated in detail and were not considered to meet SG100.		
2.1.3 – Primary Information	**≥80**	**No**
Rationale or key points		
There are no main primary species for this gear, but we have interpreted SA3.3.1 to mean that we are still required to score the SG 60 and SG80 requirements of this scoring issue. As is described in detail for scoring issue 2.1.3 (a) above, the The UoA is subject to both EU and GFCM fisheries data collection requirements. The information collected as a result of the application of the EU DCF and GFCM DCRF in the Mediterranean Sea would be adequate to support a partial strategy to manage main primary species. Moreover, the Italian management plan for demersal fisheries in GSA11 focus also on European hake (minor primary species) and constitutes a partial strategy to manage also non-target species since management measures (e.g. season and area closures) will also influence non-target species. In any case the available catch data indicates that there are in fact no main primary species caught by the UoA – SG 60 and SG 80 are met.		

There is currently no cohesive and strategic arrangement to manage species caught as by-catch by the UoA. Several data quality issues remain (STECF 16-08, 2016) and have yet to be addressed by the relevant authorities, so it would not be possible to evaluate with a high degree of certainty whether a potential future strategy is achieving its objective – SG 100 is not met.		
2.2.1 – Secondary Outcome	**≥80**	**Yes**
Rationale or key points		
According to the data reported in Table 2.2 *common cuttlefish, red scorpionfish, common octopus, and surmullet* are Secondary main species. There are not evaluations on such stocks, Therefore, a PSA analysis was applied (see section 8.3). The MSC PSA-derived score was 95.		
2.2.2 – Secondary Management	**60-79**	**No**
Rationale or key points		
The MSC PSA-derived high scores provide plausible argument that the measures are likely to work, and SG 60 is met. However, there is not objective basis on the status of the stocks that would constitute an objective basis for confidence that the measures/partial strategy will work. Therefore SG 80 is not met		
2.2.3 – Secondary Information	**≥80**	**No**
Rationale or key points		
Survey (MEDITS), catch and discard (see Mannini and Sabatella, 2015) data are available, sufficient to support a partial strategy made up of measures specific for the trap fishery SG80 is met. There is certainly no 'high degree of certainty' about stock status in this area. SG100 is not met.		
2.3.1 – ETP Outcome	**60-79**	**Yes**
Rationale or key points		
In accordance with the reporting requirements of EC Council Regulation 812/2004, in Mediterranean data describing fishing effort, monitoring/sampling effort and incidental bycatch of cetaceans only pelagic trawl must be covered. Data describing monitoring/sampling effort and incidental bycatch of all protected species (including cetaceans) recorded from any other monitored gear types (demersal trawls, lines etc.) are covered under national data collection programmes (e.g. DCF etc.). SG60 is met. However, the detrimental precise direct effects of the UoA on the ETP species are not known if they are likely to hinder recovery of ETP species – SG 80 is not met.		
2.3.2 – ETP Management	**60-79**	**No**
Rationale or key points		
The assessment team considers that measures in place (trammel net specific regulation, see Priniciple 3) are expected to ensure the UoA does not hinder the recovery of ETP species, considering evidence from similar fisheries (Pereira et al., 2019 and references within). SG 60 is met. However, there is not currently comprehensive strategy in place for managing the UoA's impact on ETP species, including measures to minimise mortality designed to achieve above national and international requirements for the protection of these species – SG 80 is not met.		
2.3.3 – ETP Information	**60-79**	**No**
Rationale or key points		
Whilst qualitative literature information on UoA related impacts is available, data which would allow for an assessment of the magnitude of these impacts at population level is lacking. Moreover, data on post-release impacts due to injuries is lacking – SG 80 is not met.		

2.4.1 – Habitats Outcome	≥80	Yes
Rationale or key points		
It is widely acknowledged that extensive areas of soft bottom habitats are present in GSA 11 (Vatova (1949; Gamulin-Brinda, 1967; Scardi et al., 1999; Jenkins, 2008, Piras et al., 2016). These soft bottoms show a general pattern of changing from sand to muddy / detritic bottoms with increasing distance from the shore (Brambati et al., 1983). Trammel nets operate in contact with benthic habitats and/or species. The fishing net is configured to interact with the seabed during the actual fishing operation. Besides, the only impact these gears may have on habitats are those caused by their small anchor. Therefore, the assessment team considers that the UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm – SG 60 and SG 80 are met. The team also consider that there is not an evidence that the UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm – SG 100 is not met.		
2.4.2 – Habitats Management	**60-79**	**No**
Rationale or key points		
Some quantitative evidence that the UoA complies with its management requirements to protect VMEs is available considering the evidence obtained during the site visit. SG60 is met. However, quantitative evidence is lacking Therefore, SG80 is not met.		
2.4.3 – Habitats Information	**60-79**	**No**
Rationale or key points		
Information on the impacts of trammel nets on benthic habitats is available from both scientific and grey literature (STECF 12-12), and the distribution of main habitats is known (for details refer to scoring issue a). SG60 is met. However, the assessment team is in a position to judge that the information is adequate to allow for identification of the main impacts of the UoA on the main habitats. SG80 is not met.		
2.5.1 – Ecosystems Outcome	**≥80**	**Yes**
Rationale or key points		
Coll et al. (2007) developed a trophic mass-balance model to characterise the food web of GSA11 and described a total of forty functional groups, including target and non-target fish, invertebrate groups and detritus groups. The model highlighted that there is important coupling between benthic and pelagic production of detritus, benthic invertebrates and plankton. Organisms characterising mainly the low and medium trophic levels, but also the upper trophic levels were important in terms of keystoneness and total effects: phytoplankton, micro and mesozooplankton, suprabenthos (amphipods, cumaceans, isopods), benthic invertebrates (echinodermata, mollusca, crustacea), anchovy and dolphins were all ranked highly. A subsequent review of functional groups acting as keystones in the Mediterranean Sea food webs confirmed this unique combination of suprabenthos, micro- and mesozooplankton, dolphins and small pelagic fish in structuring the ecosystem in GSA11, and highlighted the importance of benthic organisms as key structuring species with a relatively high proportion of biomass (Coll and Libralato, 2012). These functional groups were thus interpreted as being the features giving the ecosystem its characteristic nature and dynamics. Species which have been considered separately in this assessment (the P1 target species anchovy and sardine; ETP species striped and bottlenose dolphins) were not considered again. The assessment team considers that the UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm. Considering the amount of the catches of the UoA both in term of target species and not target it is unlikely that the UoA impacts the ecosystem structure. SG 60 and SG 80 are met.		

However, the assessment team does not have any evidence that the UoA is likely to disrupt suprabenthos and benthic invertebrates – SG 100 is thus not met for these scoring elements.		
2.5.2 – Ecosystems Management	**≥80**	**No**
Rationale or key points		
The management strategy in place is comprehensive, based on a wide range of applicable management measures, considers all the potential impacts of the UoA on key elements of the ecosystem (see scoring issue a). The assessment team considers that the UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm – SG 60 and SG 80 are met. However, there is no test that supports high confidence that the strategy will work. Therefore, the SG100 is not met.		
2.5.3 – Ecosystems Information	**60-79**	**No**
Rationale or key points		
Considering that the assessment team triggered RBF for secondary species, it is not possible to conclude that the main functions of the components are known. Therefore, SG80 is not met.		
3.1.1 – Legal and customary framework	**≥80**	**No**
Rationale or key points		
The Italian and Sardinia legal systems provide recourse for the resolution of disputes resulting from the management system. This can be applied at a local and national level. Moreover, the regional authority has the power for solving all the legal disputes referencing to the regional administrative tribunal (in Italian TAR), body of first instance administrative jurisdiction, established in each regional capital, where disputes relating to administrative acts are resolved using a transparent mechanism. This meets SG80 requirements, but to date there is no evidence of this dispute resolution system being tested and proven to be effective. So SG100 is not met.		
3.1.2 – Consultation, roles and responsibilities	**≥80**	**No**
Rationale or key points		
FLAG Pescando Sardegna Centrooccidentale Association is the main regular consultation process that enables local knowledge from the sector to be considered in development of the management system. However, it is not always explained by the EC how that information is used or not used. Industry stakeholders suggest this is also the case at a national level with Ministry consultation exercises, which are ad hoc exercises associated with the development of new policies prior to the drafting of regulation. However, this is not enough to consider that the management system considers always the information and explains how it is used or not use. Therefore, SG 100 is not met.		
3.1.3 – Long term objectives	**≥80**	**No**
Rationale or key points		
CFP have clear long-term objectives that explicitly require the precautionary approach to be followed. The CFP contains clear long-term objectives that guide decision-making and are consistent with MSC principles. These are presented in section 7.6.1 of the report. The CFP is explicit in requiring the precautionary approach to guide all management policy, including the national management of vessels in the UoA. Therefore, SG 100 is met.		
3.2.1 – Fishery specific objectives	**60–79**	**No**
Rationale or key points		

The decree 1916/DecA/46 of the regional authority have defined long term specific objectives for the common spiny lobster fishery. However, these are only implicit in the Italian management plan and decree and explicit objectives solely focus on the target species and such well-defined and measurable objectives do not extend to MSC P2 aspects. SG80 is met for P1 aspects, but not for P2 and SG80 is Therefore, only partially met.		
3.2.2 – Decision making processes	**60–79**	**No**
Rationale or key points		
The decision-making process is carried out mainly by national and regional authorities. For the present fishery the decrees mentioned in 7.6.1 are clear evidence that there is a decision-making process in place that result in measures and strategies to achieve the fishery-specific objectives. Therefore, SG 60 is met. However, during the site visit was not completely clear such process is strongly established. Therefore, SG 80 is not met.		
3.2.3 – Compliance and enforcement	**60-79**	**No**
Rationale or key points		
MCS in Sardinia is a combination of technical measures such as the requirement for Vessel Monitoring Systems (VMS) on vessels over 12m (all UoA vessels) and e-logbooks, even if such measures do not affect directly the UoA. This is supported by at sea inspection, aerial surveillance and port inspection. There is also corroboration of logbook data with sales notes, under the control of the Italian coast guard. According to the information available during the site visit, control authorities have a reasonable expectation and confidence that MCS measures are effective. The resources available to and used by those authorities have demonstrated an ability to enforce the regulations applying to the fishery. The Italian Coast Guard manages monitoring control and surveillance of Italian vessels. Relevant statistics on sanctions and inspections are not available for the UoA but only for the whole Italian fleets on “Ecomafie” report 2018 (https://www.legambiente.it/rapporto-ecomafia). Therefore, is not possible to demonstrate the efficacy of the MCS mechanism but it is possible just to infer an expectation of efficacy, SG 60 is met but not 80 or 100		
3.2.4 – Management performance evaluation	**60-79**	**No**
Rationale or key points		
According to the information available during the site visit, the mechanism in place to evaluate some parts of the fishery-specific management system are in the FLAG and in the framework of the regional authority, who can involve scientific institution as the University of Cagliari. Therefore, SG 60 is met. However, key parts of the management system as the effort reduction foreseen by the Italian Management plan for demersal fishery in GSA 11 are not evaluated Therefore, SG 80 is not met.		

Table 5 – Summary of Performance Indicator level scores

Performance Indicator	Draft scoring range	Data deficient?
1.1.1 – Stock status	**≥80**	**No**
Rationale or key points		
Due to the lack of full analytical assessment of this stock, it is not possible to have a high degree of certainty that the stock has been fluctuating around a level consistent with MSY or has been above this level over recent years. However, the evaluation from Froese et al. (2018) is related to the whole GSA 11. In 1998, the creation of Su Pallosu area (Sardinian West-central coast) led, after 12 consecutive years of protection, to an increase of 550% of the target species inside the area (Follesa, 2017). However, there is no evidence the stock is at or fluctuating around MSY. Therefore, SG 80 is not met.		

1.1.2 – Stock rebuilding	**60-79**	**No**
Rationale or key points		
According to the evidences available during the site visit there is a monitoring is in place in the Sinis MPA and a potentil spill over effect would rebuild the stock (Follesa, 2017). Therefore, SG 60 is met. However, there is not clear evidence that the strategies in place are rebuilding the stock. Therefore, SG 80 is not met.		
1.2.1 – Harvest Strategy	**< 60**	**No**
Rationale or key points		
The harvest strategy is based on minimum landing size, a temporal fishing ban and the obligation of releasing females bearing eggs (See DECRETO N. 1916/DecA/46 del 29.08.2016). Several no-take zones are also implemented. However, there is no evidence the harvest strategy is working towards achieving management objectives reflected in PI 1.1.1 SG80. Furthermore, the harvest strategy is not responsive to the state of the stock. This cannot meet SG60.		
1.2.2 – Harvest control rules and tools	**60 – 79**	**No**
Rationale or key points		
The HCR in place is outlined in the regional decree (DECRETO N. 1916/DecA/46 del 29.08.2016, based on minimum landing size, a temporal fishing ban and the obligation of releasing females bearing eggs).The presence of such set of rules foreseen by the regional decree are generally understood by the fishery and they should reduce the exploitation in the case low biomass is observed. Therefore, SG 60 is met. However, the HCR are not well defined, and SG 80 is not met.		
1.2.3 – Information and monitoring	**≥80**	**No**
Rationale or key points		
Some relevant information is available from the EU-MAP. Moreover, the regional decree N. 1916/DecA/46 of 29.08.2016 establishes a scientific monitoring for the target species. This meets the requirements at SG80.		
1.2.4 – Assessment of stock status	**≥80**	**No**
Rationale or key points		
The stock size and fishing mortality rates are estimated. The fishing mortality rate is compared to the reference points. The assessment methodology and level of accuracy is sufficient to apply harvest control rule. The assessment model is CMSY. The model is suitable for the available data.		
2.1.1 – Primary Outcome	**≥80**	**No**
Rationale or key points		
There are no main primary species. Therefore, this scoring issue is not relevant.		
2.1.2 – Primary Management	**≥80**	**No**
Rationale or key points		
There are no main primary species for this gear. Therefore, following the explanation of the term ‘if necessary’ in Table GSA3, a management strategy is not be required at SG60 or SG80 and no specific rationale need be given in order to achieve the SG60 and SG80 levels. Nevertheless, minor species were not evaluated in detail and were not considered to meet SG100.		

2.1.3 – Primary Information	**≥80**	**No**
Rationale or key points		
There are no main primary species for this gear but we have interpreted SA3.3.1 to mean that we are still required to score the SG 60 and SG80 requirements of this scoring issue. As is described in detail for scoring issue 2.1.3 (a) above, the The UoA is subject to both EU and GFCM fisheries data collection requirements. The information collected as a result of the application of the EU DCF and GFCM DCRF in the Mediterranean Sea would be adequate to support a partial strategy to manage main primary species. Moreover, the Italian management plan for demersal fisheries in GSA11 focus also on European hake (minor primary species) and constitutes a partial strategy to manage also non-target species since management measures (e.g. season and area closures) will also influence non-target species. In any case the available catch data indicates that there are in fact no main primary species caught by the UoA – SG 60 and SG 80 are met. There is currently no cohesive and strategic arrangement to manage species caught as by-catch by the UoA. Several data quality issues remain (STECF 16-08, 2016) and have yet to be addressed by the relevant authorities, so it would not be possible to evaluate with a high degree of certainty whether a potential future strategy is achieving its objective – SG 100 is not met.		
2.2.1 – Secondary Outcome	**≥80**	**Yes**
Rationale or key points		
According to the data reported in Table 2.2 *common cuttlefish, red scorpionfish, common octopus, and surmullet* are Secondary main species. There are not evaluations on such stocks, Therefore, a PSA analysis was applied (see section 8.3). The MSC PSA-derived score was 95.		
2.2.2 – Secondary Management	**60-79**	**No**
Rationale or key points		
The MSC PSA-derived high scores provide plausible argument that the measures are likely to work, and SG 60 is met. However, there is not objective basis on the status of the stocks that would constitute an objective basis for confidence that the measures/partial strategy will work. Therefore SG 80 is not met		
2.2.3 – Secondary Information	**≥80**	**No**
Rationale or key points		
Survey (MEDITS), catch and discard (see Mannini and Sabatella, 2015) data are available, sufficient to support a partial strategy made up of measures specific for the trap fishery SG80 is met. There is certainly no 'high degree of certainty' about stock status in this area. SG100 is not met.		
2.3.1 – ETP Outcome	**60-79**	**Yes**
Rationale or key points		
In accordance with the reporting requirements of EC Council Regulation 812/2004, in Mediterranean data describing fishing effort, monitoring/sampling effort and incidental bycatch of cetaceans only pelagic trawl must be covered. Data describing monitoring/sampling effort and incidental bycatch of all protected species (including cetaceans) recorded from any other monitored gear types (demersal trawls, lines etc.) are covered under national data collection programmes (e.g. DCF etc.). SG60 is met. However, the detrimental precise direct effects of the UoA on the ETP species are not known if they are likely to hinder recovery of ETP species – SG 80 is not met.		
2.3.2 – ETP Management	**60-79**	**No**
Rationale or key points		

The assessment team considers that measures in place (trammel net specific regulation, see Principle 3) are expected to ensure the UoA does not hinder the recovery of ETP species, considering evidence from similar fisheries (Pereira et al., 2019 and references within). SG 60 is met. However, there is not currently comprehensive strategy in place for managing the UoA's impact on ETP species, including measures to minimise mortality designed to achieve above national and international requirements for the protection of these species – SG 80 is not met.		
2.3.3 – ETP Information	**< 60**	**No**
Rationale or key points		
Quantitative information on catch of ETP species (including loggerhead & green turtles, bottlenose & striped dolphins from only pelagic trawlers comes from the Italian monitoring programme on incidental catches of cetaceans. Unfortunately, the present UoA (purse seine) is not covered by any quali-quantitative information. Therefore, SG 60 is not met.		
2.4.1 – Habitats Outcome	**≥80**	**Yes**
Rationale or key points		
It is widely acknowledged that extensive areas of soft bottom habitats are present in GSA 11 (Vatova (1949; Gamulin-Brinda, 1967; Scardi et al., 1999; Jenkins, 2008, Piras et al., 2016). These soft bottoms show a general pattern of changing from sand to muddy / debritic bottoms with increasing distance from the shore (Brambati et al., 1983). Trammel nets operate in contact with benthic habitats and/or species. The fishing net is configured to interact with the seabed during the actual fishing operation. Besides, the only impact these gears may have on habitats are those caused by their small anchor. Therefore, the assessment team considers that the UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm – SG 60 and SG 80 are met. The team also consider that there is not an evidence that the UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm – SG 100 is not met.		
2.4.2 – Habitats Management	**60-79**	**No**
Rationale or key points		
Some quantitative evidence that the UoA complies with its management requirements to protect VMEs is available considering the evidence obtained during the site visit. SG60 is met. However, quantitative evidence is lacking Therefore, SG80 is not met.		
2.4.3 – Habitats Information	**60-79**	**No**
Rationale or key points		
Information on the impacts of trammel nets on benthic habitats is available from both scientific and grey literature (STECF 12-12), and the distribution of main habitats is known (for details refer to scoring issue a). SG60 is met. However, the assessment team is in a position to judge that the information are adequate to allow for identification of the main impacts of the UoA on the main habitats. SG80 is not met.		
2.5.1 – Ecosystems Outcome	**≥80**	**Yes**
Rationale or key points		
Coll et al. (2007) developed a trophic mass-balance model to characterise the food web of GSA11 and described a total of forty functional groups, including target and non-target fish, invertebrate groups and detritus groups. The model highlighted that there is important coupling between benthic and pelagic production of detritus, benthic invertebrates and plankton. Organisms characterising mainly the low and medium trophic levels, but also the upper trophic levels were important in terms of keystoneness and total effects: phytoplankton, micro and mesozooplankton, suprabenthos		

(amphipods, cumaceans, isopods), benthic invertebrates (echinodermata, mollusca, crustacea), anchovy and dolphins were all ranked highly.

A subsequent review of functional groups acting as keystones in the Mediterranean Sea food webs confirmed this unique combination of suprabenthos, micro- and mesozooplankton, dolphins and small pelagic fish in structuring the ecosystem in GSA11, and highlighted the importance of benthic organisms as key structuring species with a relatively high proportion of biomass (Coll and Libralato, 2012). These functional groups were thus interpreted as being the features giving the ecosystem its characteristic nature and dynamics. Species which have been considered separately in this assessment (the P1 target species anchovy and sardine; ETP species striped and bottlenose dolphins) were not considered again.

The assessment team considers that the UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm. Considering the amount of the catches of the UoA both in term of target species and not target it is unlikely that the UoA impacts the ecosystem structure. SG 60 and SG 80 are met.

However, the assessment team does not have any evidence that the UoA is likely to disrupt suprabenthos and benthic invertebrates – SG 100 is thus not met for these scoring elements.

2.5.2 – Ecosystems Management	**≥80**	**No**
Rationale or key points		
The management strategy in place is comprehensive, based on a wide range of applicable management measures, considers all the potential impacts of the UoA on key elements of the ecosystem (see scoring issue a). The assessment team considers that the UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm – SG 60 and SG 80 are met. However, there is no test that supports high confidence that the strategy will work. Therefore, the SG100 is not met.		
2.5.3 – Ecosystems Information	**60-79**	**No**
Rationale or key points		
Considering that the assessment team triggered RBF for secondary species, it is not possible to conclude that the main functions of the components are known. Therefore, SG80 is not met.		
3.1.1 – Legal and customary framework	**≥80**	**No**
Rationale or key points		
The Italian and Sardinia legal systems provide recourse for the resolution of disputes resulting from the management system. This can be applied at a local and national level. Moreover, the regional authority has the power for solving all the legal disputes referencing to the regional administrative tribunal (in Italian TAR), body of first instance administrative jurisdiction, established in each regional capital, where disputes relating to administrative acts are resolved using a transparent mechanism. This meets SG80 requirements, but to date there is no evidence of this dispute resolution system being tested and proven to be effective. So SG100 is not met.		
3.1.2 – Consultation, roles and responsibilities	**≥80**	**No**
Rationale or key points		
FLAG Pescando Sardegna Centrooccidentale Association is the main regular consultation process that enables local knowledge from the sector to be considered in development of the management system. However, it is not always explained by the EC how that information is used or not used. Industry stakeholders suggest this is also the case at a national level with Ministry consultation exercises, which are ad hoc exercises associated with the development of new policies prior to the drafting of regulation. However, this is not enough to consider that the management system considers always the information and explains how it is used or not use. Therefore, SG 100 is not met.		
3.1.3 – Long term objectives	**≥80**	**No**

Rationale or key points
CFP have clear long-term objectives that explicitly require the precautionary approach to be followed. The CFP contains clear long-term objectives that guide decision-making and are consistent with MSC principles. These are presented in section 7.6.1 of the report. The CFP is explicit in requiring the precautionary approach to guide all management policy, including the national management of vessels in the UoA. Therefore, SG 100 is met.

3.2.1 – Fishery specific objectives	**60–79**	**No**

Rationale or key points
The decree 1916/DecA/46 of the regional authority have defined long term specific objectives for the common spiny lobster fishery. However, these are only implicit in the Italian management plan and decree and explicit objectives solely focus on the target species and such well-defined and measurable objectives do not extend to MSC P2 aspects. SG80 is met for P1 aspects, but not for P2 and SG80 is Therefore, only partially met.

3.2.2 – Decision making processes	**60–79**	**No**

Rationale or key points
The decision making process is carried out mainly by national and regional authorities. In particular for the present fishery the decrees mentioned in 7.6.1 are clear evidence that there is a decision-making process in place that result in measures and strategies to achieve the fishery-specific objectives. Therefore, SG 60 is met. However, during the site visit was not completey clear such process is strongly established. Therefoe, SG 80 is not met.

3.2.3 – Compliance and enforcement	**60-79**	**No**

Rationale or key points
MCS in Sardinia is a combination of technical measures such as the requirement for Vessel Monitoring Systems (VMS) on vessels over 12m (all UoA vessels) and e-logbooks, even if such measures do not affect directly the UoA. This is supported by at sea inspection, aerial surveillance and port inspection. There is also corroboration of logbook data with sales notes, under the control of the Italian coast guard. According to the information available during the site visit, control authorities have a reasonable expectation and confidence that MCS measures are effective. The resources available to and used by those authorities have demonstrated an ability to enforce the regulations applying to the fishery. The Italian Coast Guard manages monitoring control and surveillance of Italian vessels. Relevant statistics on sanctions and inspections are not available for the UoA but only for the whole Italian fleets on “Ecomafie” report 2018 (https://www.legambiente.it/rapporto-ecomafia). Therefore, is not possible to demonstrate the efficacy of the MCS mechanism but it is possible just to infer an expectation of efficacy, SG 60 is met but not 80 or 100

3.2.4 – Management performance evaluation	**60-79**	**No**

Rationale or key points
According to the information available during the site visit, the mechanism in place to evaluate some parts of the fishery-specific management system are in the FLAG and in the framework of the regional authority, who can involve scientific institution as the University of Cagliari. Therefore, SG 60 is met. However, key parts of the management system as the effort reduction foreseen by the Italian Management plan for demersal fishery in GSA 11 are not evaluated Therefore, SG 80 is not met.

7.4 Principle 1

7.4.1 Principle 1 background

Small-scale vessels in Sardinian waters (GSA11) use trammel nets to target spiny lobster, *P. elephas*, which is one of the economically most prized species exploited by the local fisheries. Spiny lobster is listed in Annex III of the Regulation EC 1967/2006 as having a minimum conservation reference size (MCRS, 90 mm Carapace Length, CL). Furthermore, the fishing of spiny lobster is forbidden from the 1st September to the end of February. All the females bearing eggs must be released at sea.
In order to face the gradual decrease of the catches of the species, and since the available data are still insufficient for a stock assessment, in Sardinia alternative management measures were adopted, such as the creation of restocking areas. In 1998, the creation of Su Pallosu area (Sardinian West-central coasts) led, after 12 consecutive years of protection, to an increase by 550% the *P. elephas* biomass inside the area (Follesa et al., 2007). Effects of such protection were observed also in fishing zones surrounding the restocking area (Bevacqua et al., 2010). In Sardinia, in 2009, 14 additional restocking areas were created, mainly on the northern and western coasts of the Island.

In Table 7.4.1.1, the landings of spiny lobster by GTR fleets in GSA 11 are reported, while Table 7.4.1.2 shows the fishing activity (fishing days) deployed by the GTR fleets in GSA 11.

Table 7.4.1.1: Total landings of spiny lobster by GTR fleets in GSA 11. EU official data.

Year	Landings (t)
2008	50.1
2009	75.9
2010	68.1
2011	65.8
2012	35.5
2013	43.5
2014	49.2
2015	80.2
2016	70.2

Table 7.4.1.2: Fishing activity (fishing days) of the trammel net fisheries in GSA 11. EU official data.

Year	Fishing days
2008	67776
2009	84076
2010	88711
2011	90200
2012	75543
2013	110775
2014	71720
2015	62630
2016	57046

Spiny lobster is a slow-growth and a long-lived species, which lives on rocky seabed and is typical of coralligenous habitats. In Sardinian waters, spiny lobster shows a trophic spectrum characterized by echinoderms, small gastropods, and bivalves.

Table 7.4.1.3: VBGF growth parameters in GSA 11 (from Bevacqua et al., 2010).

	L_{inf} (mm)	k	t_0
Males	189.0	0.10	-0.34
Females	117.0	0.16	-0.35

In Sardinian waters, gonadal maturation is observed between May and August with a peak in July (Follesa, 2012).

A stock assessment of spiny lobster in GSA 11 was attempted using CMSY with data up to 2014. The stock resulted as being overexploited, with low biomass (F/FMSY = 1.85; B/BMSY = 0.22) (Froese et al., 2018). This analysis shows a state of suffering of the resource, characterized by a biomass lower than 50 % of BMSY and a fishing mortality greater than FMSY (Figure 7.4.1.1). It is important to stress that the analysis was conducted on the whole GSA 11; However, precautionary approach implies to use this only available stock assessment for the UoA..

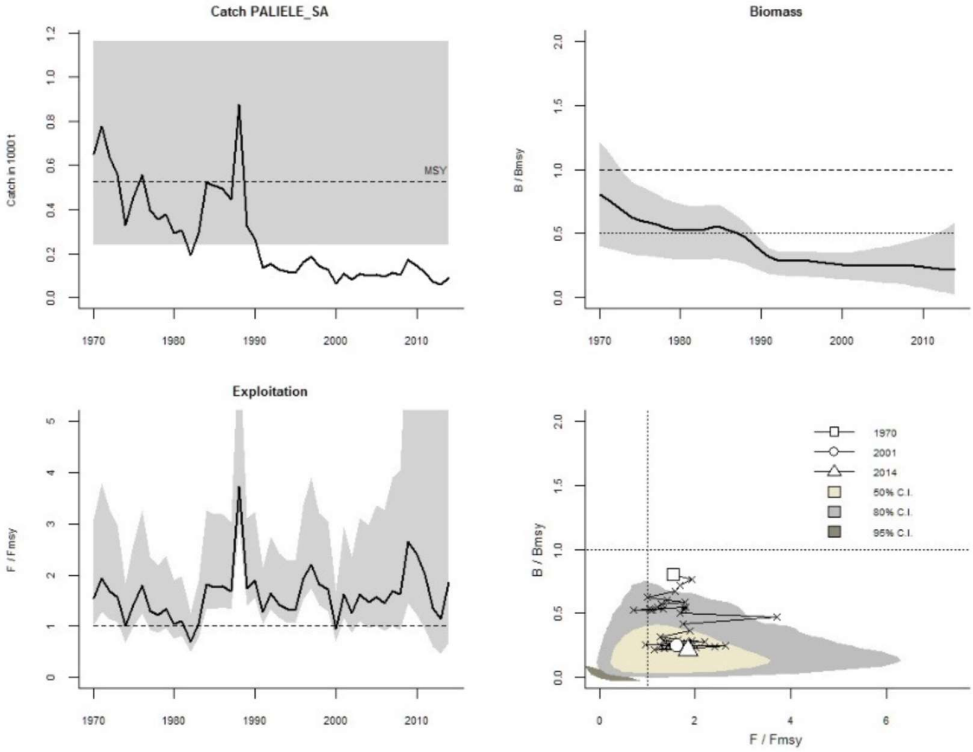


Figure 7.4.1.1. Results of the evaluation of the common spiny lobster (*Palinurus elephas*) in GSA 11 (Froese et al., 2018).

7.4.1 Catch profiles

In Table 7.4.2.1, the landings of spiny lobster by GTR fleet in GSA 11 are reported, while Table 7.4.1.2 shows the fishing activity (fishing days) deployed by the GTR fleet in GSA 11.

Table 7.4.1.1: Landings of spiny lobster by GTR fleets in GSA 11. EU official data.

Year	Landings (t)
2008	50.1
2009	75.9
2010	68.1
2011	65.8
2012	35.5
2013	43.5
2014	49.2
2015	80.2
2016	70.2

7.4.2 Total Allowable Catch (TAC) and catch data

No Total Allowable Catch (TAC) are set for this fishery; the most recent catch data are shown in Table 7.4.3.1. Those data refer to the landings of spiny lobster by GTR fleet in GSA 11.

Table 7.4.3.1 – Total Allowable Catch (TAC) and catch data in GSA 11

TAC	Year	**2016**	Amount	**-**
UoA share of TAC	Year	**2016**	Amount	**-**
UoA share of total TAC	Year	**2016**	Amount	**-**
Total green weight catch by UoA	Year (most recent)	**2016**	Amount	**70.2 t**
Total green weight catch by UoA	Year (second most recent)	**2015**	Amount	**80.2 t**

7.4.3 Principle 1 Performance Indicator scores and rationales

PI 1.1.1 – Stock status

PI 1.1.1		The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing		
Scoring Issue		SG 60	SG 80	SG 100
a	Stock status relative to recruitment impairment			
	Guidepost	It is **likely** that the stock is above the point where recruitment would be impaired (PRI).	It is **highly likely** that the stock is above the PRI.	There is a **high degree of certainty** that the stock is above the PRI.
	Met?	**No**	**No**	**No**
Rationale				
The biomass is lower than the reference point (B/B_{msy} = 0.22). There is no evidence the stock is above the point where recruitment would be impaired (PRI). (SG60 cannot be met).				
b	Stock status in relation to achievement of Maximum Sustainable Yield (MSY)			
	Guidepost		The stock is at or fluctuating around a level consistent with MSY.	There is **a high degree of certainty** that the stock has been fluctuating around a level consistent with MSY or has been above this level over recent years.
	Met?		**No**	**No**
Rationale				
Due to the lack of full analytical assessment of this stock, it is not possible to have a high degree of certainty that the stock has been fluctuating around a level consistent with MSY or has been above this level over recent years. However, the evaluation from Froese et al. (2018) is related to the whole GSA 11.. In 1998, the creation of Su Pallosu area (Sardinian West-central coast) led, after 12 consecutive years of protection, to an increase of 550% of the target species inside the area (Follesa, 2017). However, there is no evidence the stock is at or fluctuating around MSY. Therefore, SG 80 is not met.				
References				
Bevacqua D., Melià P., Follesa M.C., De Leo G.A., Gatto M., Cau A. (2010) - Body growth and mortality of the spiny lobster Palinurus elephas within and outside a small marine protected area. Fish. Res., 106: 543-549. Follesa M.C. (2017) - Palinurus elephas. In: Sartor P., Mannini A., Carlucci R., Massaro E., Queirolo S., Sabatini A., Scarcella G., Simoni R. (eds), Sintesi delle conoscenze di biologia, ecologia e pesca delle specie ittiche dei mari italiani. Biol. Mar. Mediterr., 22 (Suppl.): 34-43. Follesa M.C., Cannas R., Cau A., Cuccu D., Gastoni A., Ortu A., Pedoni C., Porcu C. Cau An. (2011) - Spillover effects of a Mediterranean marine protected area on the European spiny lobster *Palinurus elephas* (Fabricius, 1787) resource. Aquatic Conserv: Mar. Freshw. Ecosyst. 21: 564-572. Froese R., Winker H., Coro G., Demirel N., Tsikliras A.C., Dimarchopoulou D., Scarcella G., Quaas M., Matz-Lück N. (2018) - Status and rebuilding of European fisheries. Mar. Pol., 93: 159-170. STECF 2018. Mediterranean Stock Assessments - Part 2 (STECF-18-16). Publications Office of the European Union, Luxembourg, 2018, ISBN 978-92-79-79399-8, doi:10.2760/598716, JRC114787.				

Stock status relative to reference points			
	Type of reference point	Value of reference point	Current stock status relative to reference point
Reference point used in scoring stock relative to PRI (SIa)	B_{MSY}	*NA*	*0.22*

Reference point used in scoring stock relative to MSY (SIb)			

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	**<60**
Information gap indicator	**More information sought**
Data-deficient? (Risk-Based Framework needed)	**No**

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	**-**
Condition number (if relevant)	**-**

PI 1.1.2 – Stock rebuilding

PI 1.1.2		Where the stock is reduced, there is evidence of stock rebuilding within a specified timeframe		
Scoring Issue		SG 60	SG 80	SG 100
a	Rebuilding timeframes			
	Guide post	A rebuilding timeframe is specified for the stock that is the **shorter of 20 years or 2 times its generation time**. For cases where 2 generations is less than 5 years, the rebuilding timeframe is up to 5 years.		The shortest practicable rebuilding timeframe is specified which does not exceed **one generation time** for the stock.
	Met?	**Yes**		**No**
Rationale				
The stock is depleted. In 1998, the creation of Su Pallosu area (Sardinian West-central coast) led, after 12 consecutive years of protection, to an increase of 550% of the target species inside the area (Follesa, 2017). Therefore, SG 60 is met. However, the rebuilding timeframe is not specified which does not exceed one generation time for the stock. Therefore, SG 100 is not met..				
b	Rebuilding evaluation			
	Guide post	Monitoring is in place to determine whether the rebuilding strategies are effective in rebuilding the stock within the specified timeframe.	There is **evidence** that the rebuilding strategies are rebuilding stocks, **or it is likely** based on simulation modelling, exploitation rates or previous performance that they will be able to rebuild the stock within the **specified timeframe**.	There is **strong evidence** that the rebuilding strategies are rebuilding stocks, **or it is highly likely** based on simulation modelling, exploitation rates or previous performance that they will be able to rebuild the stock within the **specified timeframe**.
	Met?	**Yes**	**No**	**No**
Rationale				
According to the evidences available during the site visit there is a monitoring is in place in the Sinis MPA and a potential spill over effect would rebuild the stock (Follesa, 2017). Therefore, SG 60 is met. However, there is not clear evidence that the strategies in place are rebuilding the stock. Therefore, SG 80 is not met.				
References				
Follesa M.C., Cannas R., Cau A., Cuccu D., Gastoni A., Ortu A., Pedoni C., Porcu C. Cau An. (2011) - Spillover effects of a Mediterranean marine protected area on the European spiny lobster *Palinurus elephas* (Fabricius, 1787) resource. Aquatic Conserv: Mar. Freshw. Ecosyst. 21: 564-572.				

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	**< 60**
Information gap indicator	**More information sought**

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	
Condition number (if relevant)	

PI 1.2.1 – Harvest strategy

PI 1.2.1		There is a robust and precautionary harvest strategy in place		
Scoring Issue		SG 60	SG 80	SG 100
a	Harvest strategy design			
	Guide post	The harvest strategy is **expected** to achieve stock management objectives reflected in PI 1.1.1 SG80.	The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy **work together** towards achieving stock management objectives reflected in PI 1.1.1 SG80.	The harvest strategy is responsive to the state of the stock and is **designed** to achieve stock management objectives reflected in PI 1.1.1 SG80.
	Met?	**No**	**No**	**No**
Rationale				
The harvest strategy is based on minimum landing size, a temporal fishing ban and the obligation of releasing females bearing eggs (See DECRETO N. 1916/DecA/46 del 29.08.2016). Several no-take zones are also implemented. However, there is no evidence the harvest strategy is working towards achieving management objectives reflected in PI 1.1.1 SG80. Furthermore, the harvest strategy is not responsive to the state of the stock. This cannot meet SG60.				
b	Harvest strategy evaluation			
	Guide post	The harvest strategy is **likely** to work based on prior experience or plausible argument.	The harvest strategy may not have been fully **tested** but evidence exists that it is achieving its objectives.	The performance of the harvest strategy has been **fully evaluated** and evidence exists to show that it is achieving its objectives including being clearly able to maintain stocks at target levels.
	Met?	**No**	**No**	**No**
Rationale				
In 1998, the creation of Su Pallosu area (Sardinian West-central coast) led, after 12 consecutive years of protection, to an increase of 550% of the target species inside the area (Follesa, 2017). However, there is no evidence the harvest strategy is working. SG60 is not met.				
c	Harvest strategy monitoring			
	Guide post	Monitoring is in place that is expected to determine whether the harvest strategy is working.		
	Met?	**Yes**		
Rationale				
The monitoring in place is based on the collection of biological data from the commercial fisheries performed under the EU DCF (now EU MAP).				
d	Harvest strategy review			
	Guide post			The harvest strategy is periodically reviewed and improved as necessary.
	Met?			**No**

Rationale				
The harvest strategy is not periodically reviewed and improved if necessary.				
e	Shark finning			
	Guide post	It is **likely** that shark finning is not taking place.	It is **highly likely** that shark finning is not taking place.	There is a **high degree of certainty** that shark finning is not taking place.
	Met?	**NA**	**NA**	**NA**
Rationale				
NA				
f	Review of alternative measures			
	Guide post	There has been a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock.	There is a **regular** review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock and they are implemented as appropriate.	There is a **biennial** review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of the target stock, and they are implemented, as appropriate.
	Met?	**NA**	**NA**	**NA**
Rationale				
Discards are negligible.				
References				
http://www.confcooperativesardegna.it/wp-content/uploads/2017/08/Decreto-Assessore-Agricoltura-n.1916_DecA_46-del-29.08.2016-deroga-pesca-aragosta.pdf				

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	**60-79**
Information gap indicator	**More information sought**

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	
Condition number (if relevant)	

PI 1.2.2 – Harvest control rules and tools

PI 1.2.2		There are well defined and effective harvest control rules (HCRs) in place		
Scoring Issue		SG 60	SG 80	SG 100
a	HCRs design and application			
	Guide post	**Generally understood** HCRs are in place **or available** that are **expected** to reduce the exploitation rate as the point of recruitment impairment (PRI) is approached.	**Well defined** HCRs are **in place** that **ensure** that the exploitation rate is reduced as the PRI is approached, are expected to keep the stock **fluctuating around** a target level consistent with (or above) MSY, or for key LTL species a level consistent with ecosystem needs.	The HCRs are expected to keep the stock **fluctuating at or above** a target level consistent with MSY, or another more appropriate level considering the ecological role of the stock, **most** of the time.
	Met?	**Yes**	**No**	**No**
Rationale				
The HCR in place is outlined in the regional decree (DECRETO N. 1916/DecA/46 del 29.08.2016, based on minimum landing size, a temporal fishing ban and the obligation of releasing females bearing eggs).The presence of such set of rules foreseen by the regional decree are generally understood by the fishery and they should reduce the exploitation in the case low biomass is observed. Therefore, SG 60 is met. However, the HCR are not well defined and SG 80 is not met.				
b	HCRs robustness to uncertainty			
	Guide post		The HCRs are likely to be robust to the main uncertainties.	The HCRs take account of a **wide** range of uncertainties including the ecological role of the stock, and there is **evidence** that the HCRs are robust to the main uncertainties.
	Met?		**No**	**No**
Rationale				
The measures based on minimum landing size, temporal fishing ban and the obligation of releasing females bearing eggs are not robust enough and do not consider uncertainties. The SG80 is not met.				
c	HCRs evaluation			
	Guide post	There is **some evidence** that tools used **or available** to implement HCRs are appropriate and effective in controlling exploitation.	**Available evidence indicates** that the tools in use are appropriate and effective in achieving the exploitation levels required under the HCRs.	**Evidence clearly shows** that the tools in use are effective in achieving the exploitation levels required under the HCRs.
	Met?	**Yes**	**No**	**No**
Rationale				
The evidence available (stable catches) indicates that the HCR summarized in the Regional decree are effective and SG 60 is met. However, there is no any other available evidence that indicates that the tools in use are appropriate and effective. Therefore, the SG80 in not met.				
References				

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	**60-79**
Information gap indicator	**Information sufficient to score PI**

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	
Condition number (if relevant)	

PI 1.2.3 – Information and monitoring

PI 1.2.3		Relevant information is collected to support the harvest strategy		
Scoring Issue		SG 60	SG 80	SG 100
a	Range of information			
	Guide post	**Some** relevant information related to stock structure, stock productivity and fleet composition is available to support the harvest strategy.	**Sufficient** relevant information related to stock structure, stock productivity, fleet composition and other data are available to support the harvest strategy.	A **comprehensive range** of information (on stock structure, stock productivity, fleet composition, stock abundance, UoA removals and other information such as environmental information), including some that may not be directly related to the current harvest strategy, is available.
	Met?	**Yes**	**No**	No
Rationale				
Some relevant information is available from the EU-MAP. Moreover, the regional decree N. 1916/DecA/46 of 29.08.2016 establishes a scientific monitoring for the target species. This meets the requirements at SG80.				
b	Monitoring			
	Guide post	Stock abundance and UoA removals are monitored and **at least one indicator** is available and monitored with sufficient frequency to support the harvest control rule.	Stock abundance and UoA removals are **regularly monitored at a level of accuracy and coverage consistent with the harvest control rule**, and **one or more indicators** are available and monitored with sufficient frequency to support the harvest control rule.	**All information** required by the harvest control rule is monitored with high frequency and a high degree of certainty, and there is a good understanding of inherent **uncertainties** in the information [data] and the robustness of assessment and management to this uncertainty.
	Met?	**Yes**	**Yes**	**No**
Rationale				
The main information required to support the stock assessment are the total catches and LPUE. Indicators such as F/F_{msy} and B/B_{msy} are available, but not regularly monitored. Therefore, SG80 is met.				
c	Comprehensiveness of information			
	Guide post		There is good information on all other fishery removals from the stock.	
	Met?		**Yes**	
Rationale				
Spiny lobster is mostly exploited by trammel net fishery, while is a commercial by catch of trawling and other fisheries, despite catches are almost negligible compared to targeted fisheries. Information on the removals from those fisheries is available.				
References				

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	**60-79**
Information gap indicator	**Information sufficient to score PI**
Data-deficient? (Risk-Based Framework needed)	**No**

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	
Condition number (if relevant)	

PI 1.2.4 – Assessment of stock status

PI 1.2.4		There is an adequate assessment of the stock status		
Scoring Issue		SG 60	SG 80	SG 100
a	Appropriateness of assessment to stock under consideration			
	Guide post		The assessment is appropriate for the stock and for the harvest control rule.	The assessment considers the major features relevant to the biology of the species and the nature of the UoA.
	Met?		**Yes**	**No**
Rationale				
The stock size and fishing mortality rates are estimated. The fishing mortality rate is compared to the reference points. The assessment methodology and level of accuracy is sufficient to apply harvest control rule. The assessment model is CMSY. The model is suitable for the available data.				
b	Assessment approach			
	Guide post	The assessment estimates stock status relative to generic reference points appropriate to the species category.	The assessment estimates stock status relative to reference points that are appropriate to the stock and can be estimated.	
	Met?	**Yes**	**Yes**	
Rationale				
The assessment estimates current fishing mortality and biomass, and these estimates are directly comparable against the reference points (F_{MSY} and B_{MSY}).				
c	Uncertainty in the assessment			
	Guide post	The assessment **identifies major sources** of uncertainty.	The assessment **takes uncertainty into account**.	The assessment considers uncertainty and is evaluating stock status relative to reference points in a **probabilistic** way.
	Met?	**Yes**	**Yes**	**No**
Rationale				
The assessment model (CMSY) does consider uncertainty in the input data derived from sampling. Therefore, SG80 can be only met.				
d	Evaluation of assessment			
	Guide post			The assessment has been tested and shown to be robust. Alternative hypotheses and assessment approaches have been rigorously explored.
	Met?			**No**
Rationale				
The assessment was not tested by a working group through an internal evaluation procedure where all input data and relevant assumptions are reviewed, and some alternative assessment approaches are tested.				
e	Peer review of assessment			

	Guide post		The assessment of stock status is subject to peer review.	The assessment has been **internally and externally** peer reviewed.
	Met?		**Yes**	**No**

Rationale
The assessment was internally peer reviewed by the authors of the paper as well as by the editorial board of Marine Policy. This meets SG 80.

References
Froese R., Winker H., Coro G., Demirel N., Tsikliras A.C., Dimarchopoulou D., Scarcella G., Quaas M., Matz-Lück N. (2018) - Status and rebuilding of European fisheries. Mar. Pol., 93: 159-170.

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	**>80**
Information gap indicator	**Information sufficient to score PI**

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	
Condition number (if relevant)	

7.5 Principle 2

7.5.1 Principle 2 background

MSC puts **bycatch species** into two categories for the purposes of evaluation under Principle 2: 'primary' and 'secondary', and evaluates each category under a different set of PIs. CR v2.0 defines **primary bycatch species** in this context as those: *where management tools and measures are in place that aim to regulate fishing in relation to some biologically based limit and/or target reference levels;* ***secondary species*** *are all the others*.

MSC also makes a distinction between 'main' bycatch species and others. **Main species** are defined as those which exceed 5 % of the total catch (including unwanted species), or 2 % if the species is considered to be vulnerable to fishing pressure (e.g. if the stock is known to be depleted or if the life history makes it vulnerable); assessment teams can also use their discretion to designate species as main if they feel it is necessary.

The electronic logbooks on fishing vessels allow for recording of catch other than main species (in MSC terms). The trammel net fishery is a mixed fishery targeting Common cuttlefish, red scorpionfish, common octopus, surmullets, and common spiny lobster, but with other demersal species taken as bycatch (hake, black scorpionfish, picarel. Thornback ray, common Pandora, European squid).

In 2015-16, common cuttlefish represented ~10 % of the catch, while common spiny lobster landings have fluctuated in the range of 5-6 % of the total (Table 2.2). Cumulative landings of other species of the demersal reached ~40 % of the total. The dataset presented in Table 2.2 was provided by the BLUEFISH PROJECT (Stage 1.b) and it presents a summary of the main and minor species considered within Principle 2. In MSC terms, common cuttlefish, and common octopus, would be considered as main primary species for this fishery. While the minor species European hake is another primary species. For the other species, since there is no direct management via reference points, they would have been considered secondary species, However, they are all currently managed through the MPs implemented by the Italian Ministry, and consequently all these species fall under the definition of Primary species.

Italian vessels operating trammel nets in GSA 11 are understood to have relatively low discard levels (Tsagarakis et al., 2014), particularly for shallow water fisheries). However, according to other views the discard fraction may be affected by several factors, including catch quantity and composition as well as market prices (Keller, 2005). The MSC Fishery Certification Requirements (FCR) v2 defines primary species within Principle 2 as those that have management measures and tools in place intended to achieve stock management objectives reflected in either limit or target reference points. If management limit or reference points are not in place, then the species is classified as a secondary species (regardless of whether it is retained or discarded).

7.5.1.1. Primary species

Outcome

Scientific advice on stock status for a number of species caught as by-catch by trammel nets operating in GSA 11 is available from two sources:

(i) European Commission Scientific, Technical and Economic Committee for Fisheries (STECF);
(ii) General Fisheries Commission for the Mediterranean (GFCM) Scientific Advisory Council (SAC).

A recent review of the state of Mediterranean fisheries describes ongoing efforts by the GFCM to apply multiannual management plans aimed at managing fish stocks in the Mediterranean Sea (FAO, 2018). The Italian Minsitry also implemented Management plans for demersal fisheries (see for details https://www.politicheagricole.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/6896), Therefore, all the demersal species can be considered covered by these MPs, and in MSC terms counted as Primary.

Management

There are a number of management measures in place to regulate fisheries in the Mediterranean Sea, and the demersal species are managed under the auspicies of both GFCM and EU. In particular, date management has been primarily based on technical measures in order to conform to the provisions outlined in the Mediterranean Fisheries Regulation EC 1967/2006 (as amended by EC 1343/2011), as well as the applicable GFCM Recommendations. Such measures include for instance effort limitation, minimum conservation reference sizes for a number of species, time/area closures, technical conditions for maximum fishing gear dimensions and characteristics, minimum mesh sizes, requirements for fishing licenses etc.

Information

The UoA is subject to both EU and GFCM quantitative fisheries data collection requirements. In the EU Regulation EC 199/2008 concerning the establishment of a Community framework for the collection, management and use of data in

the fisheries sector and support for scientific advice regarding the Common Fisheries Policy sets out the fisheries data collection requirements for EU Member States. The Regulation outlines requirements related to the:

- Collection, management and use of data in the framework of multi-national programmes;
- Data management process;
- Use of data collected in the framework of the Common Fisheries Policy;
- Use of data to support scientific advice.

Commission Regulation (EC) No 665/2008 establishes the detailed rules for the application of Council Regulation (EC) No 199/2008, concerning the establishment of a Community framework for the collection, management and use of data in the fisheries sector and support for scientific advice regarding the Common Fisheries Policy. The subsequent Commission Decision 2010/93/EU sets out the data collection requirements for 2011-13, and Commission implementing Decision C(2013)5243 extended the application of this decision to 2014-2016. Under the EU fisheries Data Collection Framework (DCF), Member States are required to compile a wide range of biological and economic data, including:

- Biological data, including stock-related data;
- Data on fleet size and fishing activity analysed by fishing season, fleet segment, areas fished and by stock;
- Economic data relating to the fishing, aquaculture and fish processing industries;
- Fisheries independent research surveys at sea;
- Data to evaluate the effects of the fisheries sector on the marine ecosystem.

This data is collected based on National Programmes in which Member States indicate which data is collected, how data is collected, and what resources are allocated to the data collection process. Member States are required to report annually on the implementation of their National Programmes, and these annual reports are evaluated by the European Commission's Scientific, Technical and Economic Committee for Fisheries (STECF).

In addition to the requirements of the EU DCF outlined above, the UoA is also subject to the requirements of the GFCM Data Collection Reference Framework (DCRF), which is GFCM's framework for the collection and submission of the fisheries-related data (Table 2.1). A number of GFCM Recommendations request data from GFCM contracting parties, which is then used by the relevant GFCM subsidiary bodies to formulate scientific advice. The DCFR is based on seven different tasks:

- T1 – Global figures of national fisheries
- T2 – Catch (landing data, catch data per species)
- T3 – Incidental catch of vulnerable species
- T4 – Fleet
- T5 – Effort
- T6 – Socioeconomics
- T7 – Biological information (stock assessment, length data, other biological data, dolphin fish, red coral, European eel, ecosystem indicators)

7.5.1.2. Secondary Species

Official Italian catch data for trammel net operating in Sardinia GSA 11 made available by the Italian ministry for the purpose of this assessment shows that numerous other species are landed besides main species, albeit some in very small volumes (Table 2.2). The species listed in table 2.2 in the group "other" constituted less than 2% of the catches and were not out of scope or less resilient, Therefore, were not considered in the following evaluations.

Table 2.1. GFCM-DCRF tasks: data and purposes. Source: GFCM (2016).

DCRF TASKS (T)			DATA	RELATED RECOMMENDATIONS
ID	TASK	SUBTASK		
T. I	GLOBAL FIGURES OF NATIONAL FISHERIES	-	Annual data on total landing, number of vessels, total capacity and total engine power by country.	–
T. II	CATCH	II.1) Landing data	Annual data on total national captures (i.e. landing) by country, area and fleet segment.	–Rec. GFCM/33/2009/3
		II.2) Catch data per species	Annual data on total catch (i.e. landing and discards) for the main commercial species reported by country, area and fleet segment.	–Rec. GFCM/33/2009/3
T. III	INCIDENTAL CATCH OF VULNERABLE SPECIES	-	Annual data (i.e. number of individuals) on incidental catch of vulnerable species (i.e. seabirds, turtles, marine mammals and shark species) by area, country and fishing gear.	–Rec. GFCM/35/2011/5 –Rec. GFCM/36/2012/3 –Rec. GFCM/35/2011/4 –Rec. GFCM/36/2012/2
T. IV	FLEET	-	Register of fishing vessels with identification features (i.e. vessel name, registration number, port, fishing gear, geographical subarea, etc.) and information on technical features (i.e. gross tonnage, kilowatt, overall length etc.) of fleets operating in the GFCM area.	–Res. GFCM/35/2011/1 –Rec. GFCM/33/2009/5 –Rec. GFCM/33/2009/6 –Rec. GFCM/33/2009/2 –Rec. GFCM33/2009/1 –Rec. GFCM/33/2009/3 –Rec. GFCM/30/2006/3
T. V	EFFORT	-	Fishing effort data calculated as a combination of capacity and activity by country, area, fleet segment and fishing gear. Information on catch per unit effort (CPUE) for the main commercial species.	–Rec. GFCM/33/2009/3
T. VI	SOCIO-ECONOMICS	-	Data related to economic and social variables of fishery by country, area and fleet segment.	–Rec. GFCM/33/2009/3

DCRF TASKS (T)			DATA	RELATED RECOMMENDATIONS
ID	TASK	SUBTASK		
T. VII	BIOLOGICAL INFORMATION	VII.1) Stock assessment	Annual data on stock identification and stock biological information on priority species: growth parameters, length/weight relationships, recruitment, biomass. Information on environmental factors that may affect population dynamics.	– Rec. GFCM/33/2009/3
		VII.2) Length data	Data related to the observed size distribution, in the landing, of identified priority species per area and fleet segment.	– Rec. GFCM/33/2009/3
		VII.3) Other biological data	Information on some biological variables (i.e. sex and maturity) of identified priority species per area and fleet segment.	– Rec. GFCM/33/2009/3
		VII.4) Dolphin fish	Annual data on total landing, fishing period and the area of fishing operations regarding dolphin fish *Coryphaena hyppurus*.	– Rec. GFCM/30/2006/2
		VII.5) Red coral	Information on red coral harvesting, weight, effort and average diameter	– Rec. GFCM/35/2011/2 – Rec. GFCM/36/2012/1
		VII.6) European eel	Annual data on total catch, gear types and fishing days, by country and for the different life stages.	-
		VII.7) Ecosystem indicators	The selected common indicators will refer to spawning stock biomass, total landings, fishing mortality, effort and incidental catch of vulnerable and non-target species	-

Table 2.2. List of species detected for the UoA using trammel nets (GTR) for common spiny lobster, *Palinurus elephas* (SLO), in GSA 11 and scoring elements. The species underlined is the species detected for the selected UoA. Mean landing refers to landed weights in 2015-2016.

Italian name	English name	Mean landing [tons]	Percentage (%)	Component	Scoring elements	Designation	Data-deficient
Seppia mediterranea o comune	Common cuttlefish	128.667	10.172	Secondary	*Sepia officinalis*	Main	Yes
Scorfano rosso	Red scorpionfish	108.286	8.561	Secondary	*Scorpaena scrofa*	Main	Yes
Polpo comune o di scoglio	Common octopus	97.599	7.716	Secondary	*Octopus vulgaris*	Main	Yes
Triglie di scoglio	Surmullet	85.113	6.729	Primary	*Mullus surmuletus*	Main	Yes
Aragosta	Common spiny lobster	75.205	5.946	P1	*Palinurus elephas*	Main	Yes
Nasello	European hake	47.073	3.722	Primary	*Merluccius merluccius*	Minor	No
Scorfano nero	Black scorpionfish	45.890	3.628	Secondary	*Scorpaena porcus*	Minor	Yes
Zerro, menola	Picarel	44.140	3.490	Secondary	*Spicara smaris*	Minor	Yes
Mendola, mennola	Blotched picarel	42.190	3.336	Secondary	*Spicara maena*	Minor	Yes
Razza chiodata	Thornback ray	32.770	2.591	Secondary	*Raja clavata*	Minor	Yes
Pagello fragolino	Common pandora	31.226	2.469	Secondary	*Pagellus erythrinus*	Minor	Yes
Calamaro mediterraneo	European squid	25.520	2.018	Secondary	*Loligo vulgaris*	Minor	Yes
Other species		522.752	39.622		-	*Negligible (percentage <2%)*	

Source: estimates from MIPAAFT/National Fisheries Data Collection Programme and reported in the BLUEFISH PROJECT Stage 1.b (Deeper mapping/Annex II – GSA 11).

7.5.1.3. ETP species

Neither the Italian Ministry nor scientists reported any significant interactions between the trammel nets fishery and any ETP species. It is reported that cetaceans (bottlenose dolphin), turtles (loggerhead) and birds (various) are present in the area, but do not interact particularly with the trammel net fishery or the fishing vessels. No seals are present in the area.

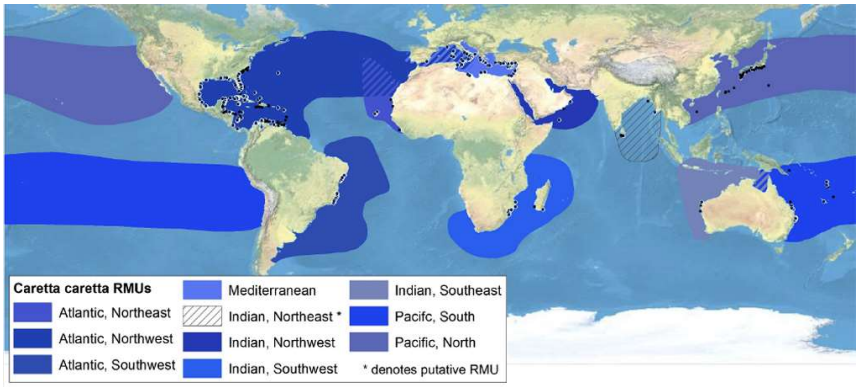


Figure 2.2 Regional management units for loggerhead turtles; nesting sites are represented by black squares. Source: Wallace et al. (2010).

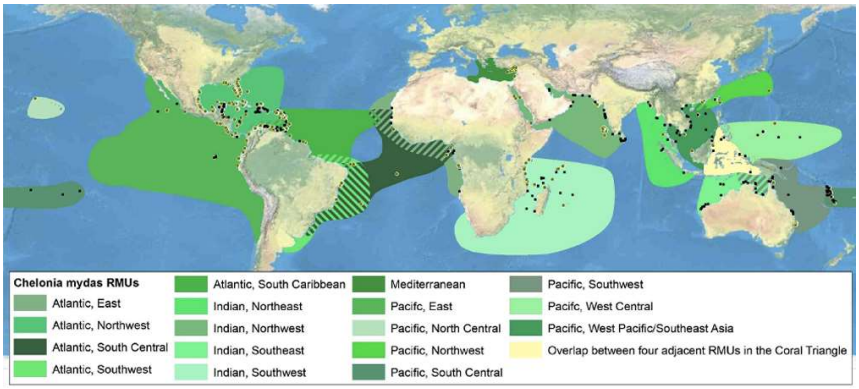


Figure 2.3 Regional management units for green turtles; nesting sites are represented by black squares. Source: Wallace et al. (2010).

Figure 2.4 Distribution of the Mediterranean bottlenose dolphin population in the Mediterranean Sea (hatched area on map). Source: IUCN (2012).

Figure 2.5 Distribution of the Mediterranean striped dolphin population in the Mediterranean Sea (hatched area on map). Source: IUCN (2012).

7.5.1.4. Habitats

The geographic sub-area 11 includes the totality of the seas surrounding Sardinia. The depths surrounding the island and potentially exploitable are estimated at around 23.700 km^2; their displacement along the coasts (1,846 km) is not homogeneous both in extension and in oceanographic, geomorphological and bionomic characteristics.

From an oceanographic point of view, this area belongs to two different basins, the Algero-Provençal basin and the Tyrrhenian basin, connected to each other by the Sardinian Channel. From a bati-morphological point of view the funds in front of Sardinia can be divided into four main areas:

1. the west coast (Sardinia Sea) characterized by a vast extension of both the platform and escarpment bottoms. The stalls in fact end between 150 and 200 meters, with a slightly marked slope followed by the slightly sloping continental slope. The interest of the funds of the continental plateau, in addition to their considerable extension, is given by the scarcity of funds made up of slime and the abundance of coarse sand funds. This condition, combined with the great transparency of the water, allows a very marked development of the vegetation; between 0 and 40 meters there are in fact extensive prairies of marine Phanerogams (Posidonia oceanica). Unlike the other areas, on the west coast alternate coastal detritus Algal and coralligenous. The coastal hard waters present the typical biocenosis of the vertical walls. There are some of the most interesting gorgonaceous facies (Paramuricea clavata) and red coral (Corallium rubrum). The margin of the continental shelf is characterized by the presence of detrital bottoms on which the crinoid Leptometra phalangium reaches high concentrations. This area is exposed to winds from the third and fourth quadrant.
2. the northern coast is characterized by the presence of the Gulf of Asinara and the Bocche di Bonifacio, which divide Sardinia from Corsica. The continental shelf is moderately extended while the escarpment is reduced and steep;
3. the east coast is characterized by reduced and steep fishing grounds, with the 1000 m bathymetric that runs very close to the coast. Moreover, from Capo Carbonara to the Bocche di Bonifacio, the continental shelf is very narrow and irregular, with the presence of underwater valleys, lifts and canyons as in the Gulf of Orosei;
4. the southern coast is characterized by the presence of the Gulf of Cagliari. The platform is much wider (11 km) in the western portion (40 km of coast) rather than in the eastern part where its extension is very limited and steep (the 500 m isobath runs less than 3 km from the coast).

The subdivision by bathymetric layers of the entire GSA 11 shows that most of them (about 67%) are over 100 meters deep. The masses of water involved in fishing activities are above all superficial and intermediate ones. The circulation of the surface water masses of the seas around Sardinia is mainly due to the Atlantic water vein (AW) that feeds the Algerian stream. This current flow east along the African continental slope, normally affecting an area of about 10 km and 100 m of depth. To the Algerian current vortices of various dimensions and duration are often associated. Some of them, consisting exclusively of AW and characterized by anticyclonic circulation, can have diameters of 100-200 km and affect the entire water column (up to 3,000 m depth). These vortices can last for long times and can be removed from the Algerian coast accumulating between the Balearics and Sardinia. The eastward advancement of these open sea vortices is in fact topographically limited by the Sardinian Channel, and the vortices are forced to move northwards (contributing to the instability of the flow of current west of Sardinia and Corsica) before turning west finally to return to the Algerian basin.

A part of the AW flows through the Sardinian Channel in the Strait of Sicily. Another part enters the southern Tyrrhenian Sea and circulates in a cyclonic direction along the escarpment of northern Sicily and the Italian continental coasts. A

vein of AW passes through the Capraia Channel in the Ligurian Sea, another continues to travel south along the coasts of Corsica and Sardinia.

The southern Tyrrhenian Sea, in particular the Sardinia-Sicily section, is a key part of the hydrological dynamics between the western and eastern Mediterranean basin. As regards intermediate and deep waters, intermediate levantine water (LIW) and a small fraction of Levantine deep water (EMDW) enters the Tyrrhenian Sea from the Strait of Sicily and then circulates, above all the LIW, in a cyclonic sense, between 200-600 m depth. A vein of LIW enters the Ligurian Sea through the Capraia Channel (saddle to ~ 400 m), another and more consistent vein of LIW flows south along Corsica and Sardinia, mixing in part with the deep Tyrrhenian water (TDW), which with the LIW forms the outflow from the Tyrrhenian basin towards the Sardinian Channel.

Along the south-western coasts of Sardinia, the LIW and the TDW, which flow north along the Sardinian escarpment and run, showing a variation of pattern from south to north attributed to the interaction with the Algerian sea vortexes. Furthermore, in accordance with the Convention on Biological Diversity (CHM, 2017), the northern coasts of Sardinia fall into one of the significant areas EBSA (EBSA: Ecologically or Biologically Significant Areas). The area is representative of the peculiarities of the western Mediterranean basin in terms of oceanographic conditions, geomorphology and contains ecosystems that host unique trophic networks. With its wide variety of characteristics of the seabed, the area is home to a unique diversity of habitats from the mediolittoral zone to the batial zone, and also contains a large amount of biodiversity, characterized by bio-constructive species. Most species and habitats in this area are vulnerable and characterized by low resilience. The northern coasts of Sardinia also fall within the significant EBSA area of the pelagic ecosystem of the north-west Mediterranean. The area is characterized by a series of geomorphological and oceanographic features that allow it to host species of marine mammals with exceptional levels of diversity and abundance of species. The oceanography of the water masses in the area is at the base of its productivity and its extraordinary biological and ecological significance. For some large pelagic groups, including tuna, this region represents an important breeding and feeding area also for sea turtles (*Caretta caretta* and *Dermochelys coriacea*).

All the coasts of Sardinia are characterized by the important presence of prairies of *P. oceanica*, while *Halophila stipulacea* and *Cymodocea nodosa* are less abundant (Figure 2.6, GSA 10). The prairies of *P. oceanica* along the coasts of Sardinia are very well studied and mapped. Distribution maps are currently available for the entire coastal area.

In Sardinia, the presence of coralligenous and mäerl bottoms is most recently reported for the northern portion of the island's coasts (Figure 2.7). In particular, R.O.V. performed in different areas of the northern coasts of Sardinia have confirmed in a timely manner the presence of circulatory biocenosis of hard substrate indicated in multibeam prospecting. There was also a substantial difference between the superficial and deep coralligene formations. To this result is added the confirmation of a well-structured upper and middle coralligenous with facies at *Eunicella cavolinii* and *P. clavata* (Cossu and De Luca, 2016). The coralligenous of northern Sardinia is considered a key ecosystem, as are the mäerl funds located near the island of Tavolara, which are the result of coral algae construction activities as well as biological erosion processes. This habitat develops in low light conditions and in relatively calm waters. Mäerl beds are biodiversity "hot spots" because they improve the biological and functional diversity of coastal sediments.

In the North of Sardinia there are underwater caves characterized by the presence of endemic species of corals and other deep habitats important for the diversity of the sea floor, such as the funds characterized by the presence of C. rubrum. This species has been fishing for many decades and since 1979, the red coral harvest in Sardinia has been regulated by regional laws. To the south of the island has recently been identified a new area with the presence of deep corals of cold water (Figure 2.8) near the canyon system Spartivento off the southern coast of Sardinia. These colonies are characterized by a spectacular growth of corals, and are characterized by the dominance of *Madrepora oculata* at a depth of 380 - 460 m. In addition, *Desmophyllum dianthus* and occasionally Lophelia pertusa are also present. As documented by the prospecting with ROV, this area is a hotspot of megafaunal diversity that also hosts specimens *Neopycnodonte zibrowii* (Taviani et al., 2016).

7.5.1.5. Ecosystem

The GSA 11, as well as GSA 10, is located entirely in the western Mediterranean ecoregion. In this area, based on the analyzes conducted by Piroddi et al. (2016), the trend of the biomass of the different functional groups (Figure 2.9) shows that sardine has undergone a decline since the beginning of the study period (1950), which became more pronounced in the last years of the series. A similar result was also observed for demersal fish and pinnipeds, although the model was not able to capture the strong decline of these marine mammals in the 1970s. As for sharks and rays, the model has confirmed a decrease until the end of the 90s and a slight increase in the decade of the 2000s. For anchovy and hake, the model was unable to define the decreasing trend observed. Similarly,, benthos and deep sea fishes are also not well described by the madell, mainly due to the limited data available.

A good replicate of the time series of biomass was found for crustaceans and bentopelagic cephalopods, where the model was able to follow most of the fluctuations over time. When analyzes were performed using a biogeochemical model as a driver of alternative primary production, an improvement in model outputs was observed.

From the analyzes carried out, it is expected that the western Mediterranean basin will become more oligotrophic, due to the decrease in surface density influenced by the waters of the Atlantic.

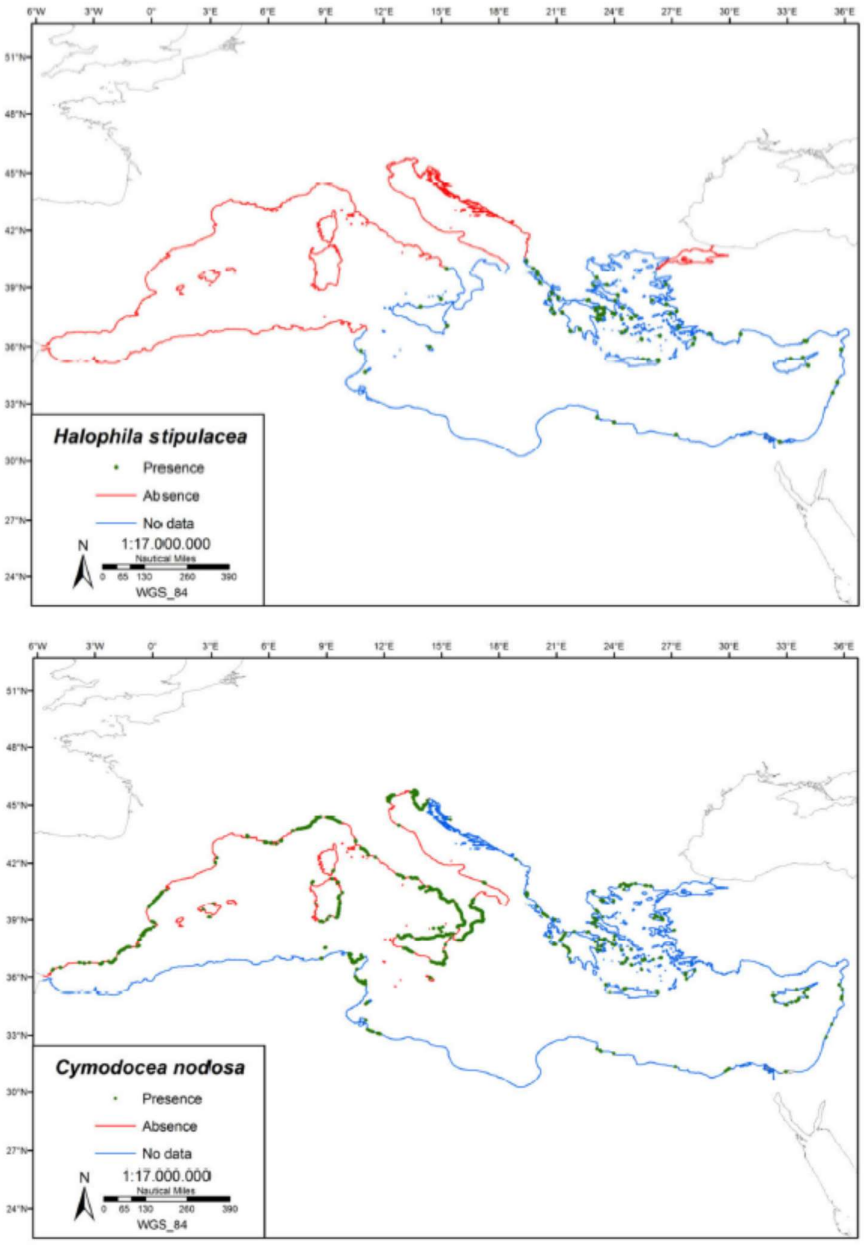


Figure 2.6. Maps of the distribution of the main marine phanerogams in Mediterranean Sea (Giannoulaki et al., 2013).

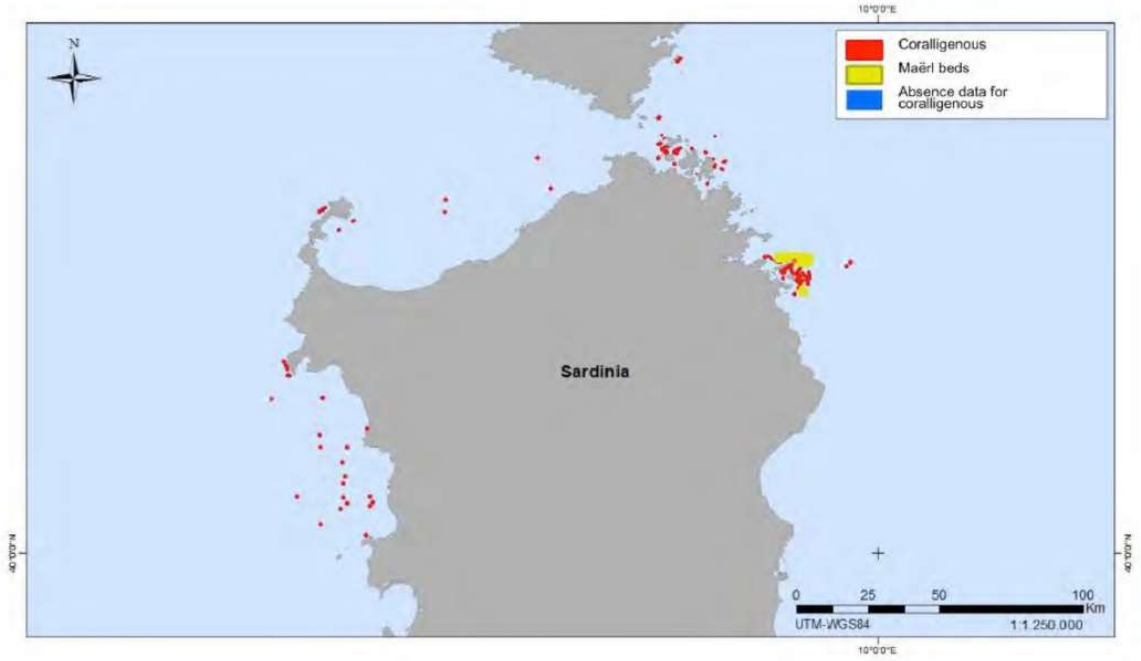


Figure 2.7. Map of the distribution of coralligenous bottoms (Giannoulaki et al., 2013).

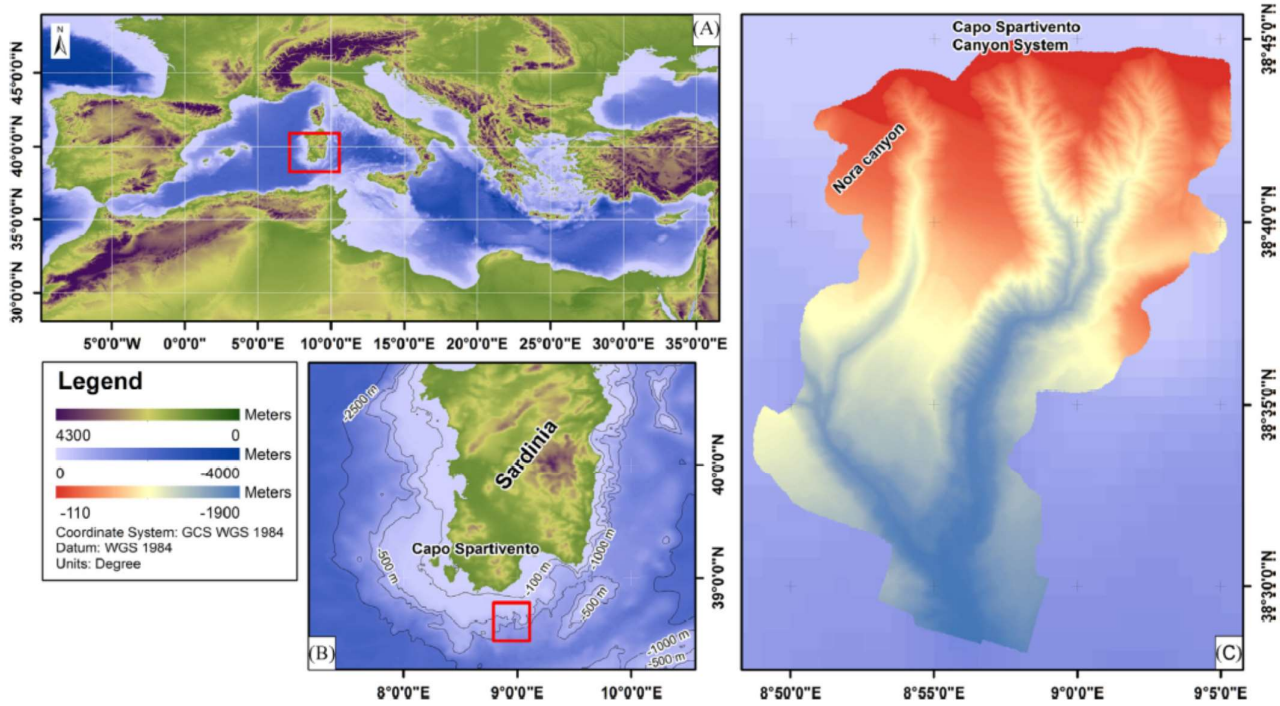


Figure 2.8. Map of the distribution of deep coral bottoms in southern Sardinia (Taviani et al., 2016).

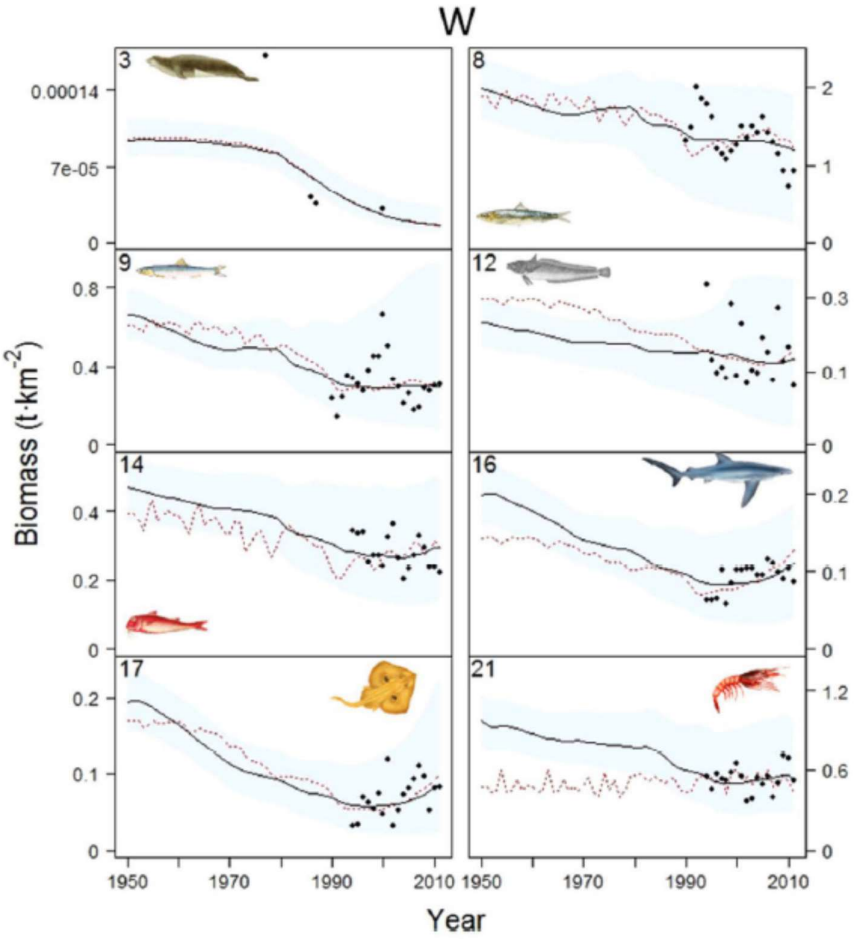


Figure 2.9. Representation of the results of the ecosystem model for some functional groups that are observed in the western Mediterranean for the period 1950-2011 (Piroddi et al., 2016).

7.5.2 Principle 2 Performance Indicator scores and rationales – delete if not applicable

PI 2.1.1 – Primary species outcome

PI 2.1.1		The UoA aims to maintain primary species above the point where recruitment would be impaired (PRI) and does not hinder recovery of primary species if they are below the PRI		
Scoring Issue		SG 60	SG 80	SG 100
a	Main primary species stock status			
	Guide post	Main primary species are **likely** to be above the PRI. OR If the species is below the PRI, the UoA has measures in place that are **expected** to ensure that the UoA does not hinder recovery and rebuilding.	Main primary species are **highly likely** to be above the PRI. OR If the species is below the PRI, there is either **evidence of recovery** or a demonstrably effective strategy in place **between all MSC UoAs which categorise this species as main**, to ensure that they collectively do not hinder recovery and rebuilding.	There is a **high degree of certainty** that main primary species are above the PRI **and are** fluctuating around a level consistent with MSY.
	Met?	**NA**	**NA**	**NA**
Rationale				
There are no main primary species. Therefore, this scoring issue is not relevant.				
b	Minor primary species stock status			
	Guide post			Minor primary species are highly likely to be above the PRI. OR If below the PRI, there is evidence that the UoA does not hinder the recovery and rebuilding of minor primary species.
	Met?			**NA**
Rationale				
Not scored				
References				

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	**≥ 80**
Information gap indicator	**More information sought**

Data-deficient? (Risk-Based Framework needed)	**No**

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	
Condition number (if relevant)	

PI 2.1.2 – Primary species management strategy

PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of unwanted catch		
Scoring Issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guide post	There are **measures** in place for the UoA, if necessary, that are expected to maintain or to not hinder rebuilding of the main primary species at/to levels which are likely to be above the PRI.	There is a **partial strategy** in place for the UoA, if necessary, that is expected to maintain or to not hinder rebuilding of the main primary species at/to levels which are highly likely to be above the PRI.	There is a **strategy** in place for the UoA for managing main and minor primary species.
	Met?	**Yes**	**Yes**	**No**
Rationale				
There are no main primary species for this gear. Therefore, following the explanation of the term 'if necessary' in Table GSA3, a management strategy is not be required at SG60 or SG80 and no specific rationale need be given in order to achieve the SG60 and SG80 levels. Nevertheless, minor species were not evaluated in detail and were not considered to meet SG100.				
b	Management strategy evaluation			
	Guide post	The measures are considered **likely** to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/species).	There is some **objective basis for confidence** that the measures/partial strategy will work, based on some information directly about the fishery and/or species involved.	**Testing** supports **high confidence** that the partial strategy/strategy will work, based on information directly about the fishery and/or species involved.
	Met?	**Yes**	**Yes**	**No**
Rationale				
There are no main primary species for this gear and, consistent with the requirements under scoring issue a, and the low levels of catch of minor primary species, as neither measures nor a partial strategy are considered necessary, the SG 60 and SG 80 requirements are considered to be met. There has been no testing support there being a high level of confidence about the measures that are in place for some of the minor primary species, and these have not been evaluated in detail, so SG100 requirements are not met.				
c	Management strategy implementation			
	Guide post		There is **some evidence** that the measures/partial strategy is being **implemented successfully**.	There is **clear evidence** that the partial strategy/strategy is being **implemented successfully and is achieving its overall objective as set out in scoring issue (a).**
	Met?		**Yes**	**No**
Rationale				
There are no main primary species and consistent with the requirements under scoring issue a, and the low levels of catch of both the minor primary species, as neither measures nor a partial strategy are considered necessary, SG80 requirements are met for this scoring issue. The data from the data collection program does not provide clear evidence that there continues to be such a low level of catch of all primary species that fishing by UoA vessels is not causing overfishing or hindering the recovery of any species Therefore, SG 100 is not met.				

d	Shark finning			
	Guide post	It is **likely** that shark finning is not taking place.	It is **highly likely** that shark finning is not taking place.	There is a **high degree of certainty** that shark finning is not taking place.
	Met?	**NA**	**NA**	**NA**
Rationale				
SA3.5.2 of the MSC Fisheries Certification – Requirements v2.0 states: 'If the primary species is a shark, the team shall score scoring issue (d)'. Since there are no shark species caught by the UoA for which management tools and measures are in place, and hence no primary species which are sharks, the team did not score issue (d).				
e	Review of alternative measures			
	Guide post	There is a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of main primary species.	There is a **regular** review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of main primary species and they are implemented as appropriate.	There is a **biennial** review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of all primary species, and they are implemented, as appropriate.
	Met?	**NA**	**NA**	**NA**
Rationale				
Scoring issue (e) was not scored in line with GSA 3.5.3 of the MSC Fisheries Certification – Requirements v2.0: 'If there is no unwanted catch of primary species (see Mannini and Sabatella, 2015), or no primary species at all, then the 'Review of alternative measures' scoring issue (e) is not scored.'				
References				
Mannini A., Sabatella R.F. (eds) (2015) - Annuario sullo stato delle risorse e sulle strutture produttive dei mari italiani. Biol. Mar. Mediterr., 22 (Suppl. 1): 358 pp.				

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	**≥ 80**
Information gap indicator	**More information sought**

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	
Condition number (if relevant)	

PI 2.1.3 – Primary species information

PI 2.1.3		Information on the nature and extent of primary species is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage primary species		
Scoring Issue		SG 60	SG 80	SG 100
a	Information adequacy for assessment of impact on main primary species			
	Guide post	Qualitative information is **adequate to estimate** the impact of the UoA on the main primary species with respect to status. **OR** **If RBF is used to score PI 2.1.1 for the UoA:** Qualitative information is adequate to estimate productivity and susceptibility attributes for main primary species.	Some quantitative information is available and is **adequate to assess** the impact of the UoA on the main primary species with respect to status. **OR** **If RBF is used to score PI 2.1.1 for the UoA:** Some quantitative information is adequate to assess productivity and susceptibility attributes for main primary species.	Quantitative information is available and is **adequate to assess with a high degree of certainty** the impact of the UoA on main primary species with respect to status.
	Met?	**Yes**	**Yes**	**No**

Rationale

There are no main primary species for this gear but following SA3.3.1 this scoring issue is still required to be scored. The UoA is subject to both EU and GFCM fisheries data collection requirements.

- Under the EU fisheries Data Collection Framework (DCF) established by Council Regulation (EC) No 199/2008, Commission Regulation (EC) No 665/2008, and Commission Decision 2010/93/EU, Member States are required to compile a wide range of biological and economic data, including:
- Biological data, including stock-related data;
- Data on fleet size and fishing activity analysed by fishing season, fleet segment, areas fished and by stock;
- Economic data relating to the fishing, aquaculture and fish processing industries;
- Fisheries independent research surveys at sea;
- Data to evaluate the effects of the fisheries sector on the marine ecosystem.

Moreover, the UoA is also subject to the requirements of the GFCM Data Collection Reference Framework (DCRF), which is GFCM's framework for the collection and submission of the fisheries-related data. A number of GFCM Recommendations request data from GFCM contracting parties, which is then used by the relevant GFCM subsidiary bodies to formulate scientific advice. The DCFR is based on seven different tasks:

- T1 – Global figures of national fisheries
- T2 – Catch (landing data, catch data per species)
- T3 – Incidental catch of vulnerable species
- T4 – Fleet
- T5 – Effort
- T6 – Socioeconomics
- T7 – Biological information (stock assessment, length data, other biological data, dolphin fish, red coral, European eel, ecosystem indicators)
- Both qualitative and quantitative information is available to assess the impact of the UoA on non-target species as a result of the application of the EU DCF and GFCM DCRF in GSA11. The available catch data indicates that there are in fact no main primary species caught by this fishery – SG 60 and 80 are met.
- The required quantitative information to assess the impact of the UoA on non-target species with a high degree of certainty is However, not available. Data quality issues reported by the last STECF expert

working group performing stock assessments for species caught as by-catch by the UoA (STECF 16-08, 2016) for instance included:

- Issues with the time series of landings data and size structure data for some species;
- A lack of length composition information in discards data;

SG 100 is not met.

b	Information adequacy for assessment of impact on minor primary species			
	Guide post			Some quantitative information is adequate to estimate the impact of the UoA on minor primary species with respect to status.
	Met?			**No**

Rationale

There is not quantitative information to estimate the impact of the UoA on minor primary species with respect to status. Therefore, SG 100 is not met.

c	Information adequacy for management strategy			
	Guide post	Information is adequate to support **measures** to manage **main** primary species.	Information is adequate to support a **partial strategy** to manage **main** primary species.	Information is adequate to support a **strategy** to manage **all** primary species and evaluate with a **high degree of certainty** whether the strategy is achieving its objective.
	Met?	**Yes**	**Yes**	**No**

Rationale

There are no main primary species for this gear, but we have interpreted SA3.3.1 to mean that we are still required to score the SG 60 and SG80 requirements of this scoring issue. As is described in detail for scoring issue 2.1.3 (a) above, the The UoA is subject to both EU and GFCM fisheries data collection requirements. The information collected as a result of the application of the EU DCF and GFCM DCRF in the Mediterranean Sea would be adequate to support a partial strategy to manage main primary species. Moreover, the Italian management plan for demersal fisheries in GSA11 focus also on European hake (minor primary species) and constitutes a partial strategy to manage also non-target species since management measures (e.g. season and area closures) will also influence non-target species. In any case the available catch data indicates that there are in fact no main primary species caught by the UoA – SG 60 and SG 80 are met.
There is currently no cohesive and strategic arrangement to manage species caught as by-catch by the UoA. Several data quality issues remain (STECF 16-08, 2016) and have yet to be addressed by the relevant authorities, so it would not be possible to evaluate with a high degree of certainty whether a potential future strategy is achieving its objective – SG 100 is not met.

References

STECF 16-08 (2016). Scientific, Technical and Economic Committee for Fisheries (STECF) – Mediterranean assessments part 2. Publications Office of the European Union, Luxembourg, EUR 27758 EN, 483 pp.

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	**≥ 80**
Information gap indicator	**More information sought**

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	
Condition number (if relevant)	

PI 2.2.1 – Secondary species outcome

PI 2.2.1		The UoA aims to maintain secondary species above a biologically based limit and does not hinder recovery of secondary species if they are below a biological based limit		
Scoring Issue		SG 60	SG 80	SG 100
a	Main secondary species stock status			
	Guide post	Main secondary species are **likely** to be above biologically based limits. OR If below biologically based limits, there are **measures** in place expected to ensure that the UoA does not hinder recovery and rebuilding.	Main secondary species are **highly likely** to be above biologically based limits. OR If below biologically based limits, there is either **evidence of recovery** or a **demonstrably effective partial strategy** in place such that the UoA does not hinder recovery and rebuilding. AND Where catches of a main secondary species outside of biological limits are **considerable**, there is either **evidence of recovery** or a, **demonstrably effective strategy in place between those MSC UoAs that have considerable catches of the species**, to ensure that they collectively do not hinder recovery and rebuilding.	There is a **high degree of certainty** that main secondary species are above biologically based limits.
	Met?	**NA**	**NA**	**NA**
Rationale				
According to the data reported in Table 2.2 *common cuttlefish, red scorpionfish, common octopus, and surmullet* are Secondary main species. There are not evaluations on such stocks, Therefore, a PSA analysis was applied (see section 8.3). The MSC PSA-derived score was 95.				
b	Minor secondary species stock status			
	Guide post			Minor secondary species are highly likely to be above biologically based limits. OR If below biologically based limits', there is evidence that the UoA does not hinder the recovery and rebuilding of secondary species
	Met?			**NA**
Rationale				
Not scored				
References				

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	**≥ 80**
Information gap indicator	**More information sought**
Data-deficient? (Risk-Based Framework needed)	**Yes**

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	
Condition number (if relevant)	

PI 2.2.2 – Secondary species management strategy

PI 2.2.2		There is a strategy in place for managing secondary species that is designed to maintain or to not hinder rebuilding of secondary species and the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of unwanted catch		
Scoring Issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guide post	There are **measures** in place, if necessary, which are expected to maintain or not hinder rebuilding of main secondary species at/to levels which are highly likely to be above biologically based limits or to ensure that the UoA does not hinder their recovery.	There is a **partial strategy** in place, if necessary, for the UoA that is expected to maintain or not hinder rebuilding of main secondary species at/to levels which are highly likely to be above biologically based limits or to ensure that the UoA does not hinder their recovery.	There is a **strategy** in place for the UoA for managing main and minor secondary species.
	Met?	**Yes**	**Yes**	**No**
Rationale				
The measures in place for the management of trammel net fishery (see Med Reg. 1967/2006 and department decree N. 1916/DecA/46 of the 29.08.2016 in Principle 3) which foreseen a specific measures for the use of trammel net, as well as the Italian management plan for demersal species in GSA 11, represent a partial strategy also for secondary species, thus SG 80 is met. However, is not possible to conclude that there is a strategy in place. SG 100 is not met. Based on 2.2.1a, the assessment team determined that there are no Secondary species being impacted by the UoA – SG 100 is met.				
b	Management strategy evaluation			
	Guide post	The measures are considered **likely** to work, based on plausible argument (e.g. general experience, theory or comparison with similar UoAs/species).	There is **some objective basis for confidence** that the measures/partial strategy will work, based on some information directly about the UoA and/or species involved.	**Testing** supports **high confidence** that the partial strategy/strategy will work, based on information directly about the UoA and/or species involved.
	Met?	**Yes**	**No**	**No**
Rationale				
The MSC PSA-derived high scores provide plausible argument that the measures are likely to work and SG 60 is met. However, there is not objective basis on the status of the stocks that would constitute an objective basis for confidence that the measures/partial strategy will work. Therefore, SG 80 is not met				
c	Management strategy implementation			
	Guide post		There is **some evidence** that the measures/partial strategy is being **implemented successfully**.	There is **clear evidence** that the partial strategy/strategy is being **implemented successfully and is achieving its objective as set out in scoring issue (a).**
	Met?		**No**	**No**
Rationale				
There is not evidence that the measures are being implemented successfully.				
d	Shark finning			
	Guide post	It is **likely** that shark finning is not taking place.	It is **highly likely** that shark finning is not taking place.	There is a **high degree of certainty** that shark finning is not taking place.

	Met?	**NA**	**NA**	**NA**
Rationale				
SA3.5.2 of the MSC Fisheries Certification – Requirements v2.01 states: 'If the secondary species is a shark, the team shall score scoring issue (d)'. Since there are no species caught by the UoA for which management tools and measures are in place, and hence no primary species which are sharks, the team did not score issue (d) (see deep mapping report Annex II for the complete list).				
e	Review of alternative measures to minimise mortality of unwanted catch			
	Guidepost	There is a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of **unwanted** catch of main secondary species.	There is a **regular** review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of **unwanted** catch of main secondary species and they are implemented as appropriate.	There is a **biennial** review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of **unwanted** catch of all secondary species, and they are implemented, as appropriate.
	Met?	**NA**	**NA**	**NA**
Rationale				
Scoring issue (e) was not scored in line with GSA 3.5.3 of the MSC Fisheries Certification – Requirements v2.0: 'If there is no unwanted catch of primary species (see Mannini and Sabatella, 2015), or no primary species at all, then the 'Review of alternative measures' scoring issue (e) is not scored.'				
References				
Mannini A., Sabatella R.F. (eds) (2015) - Annuario sullo stato delle risorse e sulle strutture produttive dei mari italiani. Biol. Mar. Mediterr., 22 (Suppl. 1): 358 pp.				

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	**60-79**
Information gap indicator	**More information sought**

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	
Condition number (if relevant)	

PI 2.2.3 – Secondary species information

PI 2.2.3		Information on the nature and amount of secondary species taken is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage secondary species		
Scoring Issue		SG 60	SG 80	SG 100
a	Information adequacy for assessment of impacts on main secondary species			
	Guide post	Qualitative information is **adequate to estimate** the impact of the UoA on the main secondary species with respect to status. OR **If RBF is used to score PI 2.2.1 for the UoA:** Qualitative information is adequate to estimate productivity and susceptibility attributes for main secondary species.	Some quantitative information is available and **adequate to assess** the impact of the UoA on main secondary species with respect to status. OR **If RBF is used to score PI 2.2.1 for the UoA:** Some quantitative information is adequate to assess productivity and susceptibility attributes for main secondary species.	Quantitative information is available and **adequate to assess with a high degree of certainty** the impact of the UoA on main secondary species with respect to status.
	Met?	**Yes**	**Yes**	**No**
Rationale				
Sufficient biological information was available to score productivity and susceptibility with reasonable certainty – see references in Appendix 8.3.				
b	Information adequacy for assessment of impacts on minor secondary species			
	Guide post			Some quantitative information is adequate to estimate the impact of the UoA on minor secondary species with respect to status.
	Met?			**No**
Rationale				
The information is not adequate to estimate the impact on minor species.				
c	Information adequacy for management strategy			
	Guide post	Information is adequate to support **measures** to manage **main** secondary species.	Information is adequate to support a **partial strategy** to manage **main** secondary species.	Information is adequate to support a **strategy** to manage **all** secondary species and **evaluate** with a **high degree of certainty** whether the strategy is **achieving its objective**.
	Met?	**Yes**	**Yes**	**No**
Rationale				
Survey (MEDITS), catch and discard (see Mannini and Sabatella, 2015) data are available, sufficient to support a partial strategy made up of measures specific for the trap fishery SG80 is met. There is certainly no ‘high degree of certainty’ about stock status in this area. SG100 is not met.				
References				
Mannini A., Sabatella R.F. (eds) (2015) - Annuario sullo stato delle risorse e sulle strutture produttive dei mari italiani. Biol. Mar. Mediterr., 22 (Suppl. 1): 358 pp.				

Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	**≥ 80**
Information gap indicator	**More information sought**

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	
Condition number (if relevant)	

PI 2.3.1 – ETP species outcome

PI 2.3.1		The UoA meets national and international requirements for the protection of ETP species The UoA does not hinder recovery of ETP species		
Scoring Issue		SG 60	SG 80	SG 100
a	Effects of the UoA on population/stock within national or international limits, where applicable			
	Guide post	Where national and/or international requirements set limits for ETP species, the **effects of the UoA** on the population/ stock are known and **likely** to be within these limits.	Where national and/or international requirements set limits for ETP species, the **combined effects of the MSC UoAs** on the population /stock are known and **highly likely** to be within these limits.	Where national and/or international requirements set limits for ETP species, there is a **high degree of certainty** that the **combined effects of the MSC UoAs** are within these limits.
	Met?	**NA**	**NA**	**NA**
Rationale				
Scientific data indicates that the populations of all ETP species - loggerhead turtle (Caretta caretta), green turtle (Chelonia mydas), bottlenose dolphin (Tursiops truncatus), and striped dolphin (Stenella coeruleoalba) - are part of Mediterranean populations, which are recognised as distinct regional management units (Wallace et al., 2010; IUCN, 2012). Similarly, there is evidence for distinct twaite shad populations in the Atlantic and Mediterranean Seas (Faria et al., 2012). With regards to turtles, scientific advances have recently been made to estimate the impact of fisheries bycatch on Mediterranean populations of loggerhead and green sea turtles (Casale and Heppell, 2016), but there are no set bycatch limits for protection and rebuilding of these populations in force at present. Similarly, there are no set limits for the capture of twaite shad in the Mediterranean Sea. Since there are currently no national or international set limits for catches of the Mediterranean populations of the relevant ETP species scoring issue (a) was not scored.				
b	Direct effects			
	Guide post	Known direct effects of the UoA are likely to not **hinder recovery** of ETP species.	Known direct effects of the UoA are likely to not **hinder recovery** of ETP species.	There is a **high degree of confidence** that there are no **significant detrimental direct effects** of the UoA on ETP species.
	Met?	**Yes**	**No**	**No**
Rationale				
According to the evidences collected during the site visit, the UoA are likely to not hinder recovery of ETP species. SG 60 is met. However, the detrimental precise direct effects of the UoA on the ETP species are not known if they are likely to hinder recovery of ETP species – SG 80 is not met.				
c	Indirect effects			
	Guide post		Indirect effects have been considered for the UoA and are thought to be **highly likely** to not create unacceptable impacts.	There is a **high degree of confidence** that there are no **significant detrimental indirect effects** of the UoA on ETP species.
	Met?		**No**	**No**
Rationale				
The detrimental precise indirect effects are unknown for the UoA and cannot be considered to not create unacceptable impacts – SG 80 is not met.				
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Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	**60-79**
Information gap indicator	**More information sought**
Data-deficient? (Risk-Based Framework needed)	**No**

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	

Condition number (if relevant)	

PI 2.3.2 – ETP species management strategy

PI 2.3.2		The UoA has in place precautionary management strategies designed to: - meet national and international requirements; - ensure the UoA does not hinder recovery of ETP species. Also, the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of ETP species		
Scoring Issue		SG 60	SG 80	SG 100
a	Management strategy in place (national and international requirements)			
	Guide post	There are **measures** in place that minimise the UoA-related mortality of ETP species and are expected to be **highly likely to achieve** national and international requirements for the protection of ETP species.	There is a **strategy** in place for managing the UoA's impact on ETP species, including measures to minimise mortality, which is designed to be **highly likely to achieve** national and international requirements for the protection of ETP species.	There is a **comprehensive strategy** in place for managing the UoA's impact on ETP species, including measures to minimise mortality, which is designed to **achieve above** national and international requirements for the protection of ETP species.
	Met?	**NA**	**NA**	**NA**
Rationale				
Not relevant - there are requirements for protection or rebuilding provided through national ETP legislation or international agreements.				
b	Management strategy in place (alternative)			
	Guide post	There are **measures** in place that are expected to ensure the UoA does not hinder the recovery of ETP species.	There is a **strategy** in place that is expected to ensure the UoA does not hinder the recovery of ETP species.	There is a **comprehensive strategy** in place for managing ETP species, to ensure the UoA does not hinder the recovery of ETP species.
	Met?	**Yes**	**No**	**No**
Rationale				
The assessment team considers that measures in place (trammel net specific regulation, see Priniciple 3) are expected to ensure the UoA does not hinder the recovery of ETP species, considering evidence from similar fisheries (Pereira et al., 2019 and references within). SG 60 is met. However, there is not currently comprehensive strategy in place for managing the UoA's impact on ETP species, including measures to minimise mortality designed to achieve above national and international requirements for the protection of these species – SG 80 is not met.				
c	Management strategy evaluation			
	Guide post	The measures are **considered likely** to work, based on **plausible argument** (e.g., general experience, theory or comparison with similar fisheries/species).	There is an **objective basis for confidence** that the measures/strategy will work, based on **information** directly about the fishery and/or the species involved.	The strategy/comprehensive strategy is mainly based on information directly about the fishery and/or species involved, and a **quantitative analysis** supports **high confidence** that the strategy will work.
	Met?	**Yes**	**Yes**	**No**
Rationale				
To date no detailed quantitative analysis has been carried out to assess the impact of fishery-related mortality on turtles and cetaceans (FAO, 2016). The most comprehensive review of the impact of incidental catches on Mediterranean Sea turtle populations is that carried out by Casale (2011). A quantitative analysis of the effectiveness of the strategy has thus yet to be carried out – SG 100 is not met.				

d	Management strategy implementation			
	Guide post		There is some **evidence** that the measures/strategy is being implemented successfully.	There is **clear evidence** that the strategy/comprehensive strategy is being implemented successfully and **is achieving its objective as set out in scoring issue (a) or (b).**
	Met?		**No**	**No**
Rationale				
There is no evidence that the strategies are being implemented successfully – SG 80 is not met.				
e	Review of alternative measures to minimize mortality of ETP species			
	Guide post	There is a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of ETP species.	There is a **regular** review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of ETP species and they are implemented as appropriate.	There is a **biennial** review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality ETP species, and they are implemented, as appropriate.
	Met?	**Yes**	**No**	**No**
Rationale				
GFCM Recommendation 35/2011/4 on incidental bycatch of sea turtles in fisheries in the GFCM Competence Area states that 'Upon receipt of advice from the SAC, the GFCM shall consider, if necessary, additional measures to mitigate sea turtle bycatch in those fisheries which have been considered most relevant', but no additional GFCM Decisions on management of sea turtle by-catch have been published since 2011 – SG 80 is not met.				
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Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	**60-79**
Information gap indicator	**More information sought**

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	
Condition number (if relevant)	

PI 2.3.3 – ETP species information

PI 2.3.3		**Relevant information is collected to support the management of UoA impacts on ETP species, including:** - **Information for the development of the management strategy;** - **Information to assess the effectiveness of the management strategy; and** - **Information to determine the outcome status of ETP species**		
Scoring Issue		SG 60	SG 80	SG 100
a	Information adequacy for assessment of impacts			
	Guide post	Qualitative information is **adequate to estimate** the UoA related mortality on ETP species. **OR** **If RBF is used to score PI 2.3.1 for the UoA:** Qualitative information is **adequate to estimate productivity and susceptibility** attributes for ETP species.	Some quantitative information is **adequate to assess** the UoA related mortality and impact and to determine whether the UoA may be a threat to protection and recovery of the ETP species. **OR** **If RBF is used to score PI 2.3.1 for the UoA:** Some quantitative information is **adequate to assess productivity and susceptibility attributes** for ETP species.	Quantitative information is available to assess with a high degree of certainty the **magnitude of UoA-related impacts, mortalities and injuries and the consequences for the status** of ETP species.
	Met?	**No**	**No**	**No**
Rationale				
Quantitative information on catch of ETP species (including loggerhead & green turtles, bottlenose & striped dolphins from only pelagic trawlers comes from the Italian monitoring programme on incidental catches of cetaceans. Unfortunately, the present UoA (purse seine) is not covered by any quali-quantitative information. Therefore, SG 60 is not met.				
b	Information adequacy for management strategy			
	Guide post	Information is adequate to support **measures** to manage the impacts on ETP species.	Information is adequate to measure trends and support a **strategy** to manage impacts on ETP species.	Information is adequate to support a **comprehensive strategy** to manage impacts, minimize mortality and injury of ETP species, and evaluate with a **high degree of certainty** whether a strategy is achieving its objectives.
	Met?	**Yes**	**Yes**	**No**
Rationale				
Overall the information is adequate to support a comprehensive strategy to manage impacts, minimize mortality and injury of ETP species, considering the information available for the most impacting gear on ETP species (i.e.: pelagic trawls). Therefore, SG 60 and 80 are met. However, the evaluation with a high degree of certainty whether a strategy is achieving its objectives is lacking – SG 100 is not met.				
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Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	**< 60**
Information gap indicator	**More information sought**

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	
Condition number (if relevant)	

PI 2.4.1 – Habitats outcome

PI 2.4.1		The UoA does not cause serious or irreversible harm to habitat structure and function, considered on the basis of the area covered by the governance body(s) responsible for fisheries management in the area(s) where the UoA operates		
Scoring Issue		SG 60	SG 80	SG 100
a	Commonly encountered habitat status			
	Guide post	The UoA is **unlikely** to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm.	The UoA is **highly unlikely** to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm.	There is **evidence** that the UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm.
	Met?	**Yes**	**Yes**	**No**

Rationale

It is widely acknowledged that extensive areas of soft bottom habitats are present in GSA 11 (Vatova (1949; Gamulin-Brinda, 1967; Scardi et al., 1999; Jenkins, 2008, Piras et al., 2016). These soft bottoms show a general pattern of changing from sand to muddy / detritic bottoms with increasing distance from the shore (Brambati et al., 1983).

This fishery uses fixed gear, which is less damaging to habitats than towed gears, but since the nets are set in contact with the bottom, there is inevitably some impact. Evaluations of the relative impact of different fishing gears (Chuenpagdee et al., 2003) rank bottom-set gillnets as 'medium' in terms of physical damage to habitats – similar to pots and traps and lower than trawls and dredges but higher (obviously) than pelagic gear or hook and line. The most likely form of damage to occur would be damage to emergent epifauna (corals, sponges, sea pens etc.), which might be uprooted, broken or crushed by contact with the bottom of the net or the anchors. These sorts of habitats can thus be considered sensitive as far as this gear is concerned.
The target species occur mainly on rocky habitats, and the impacts of the gear are likely to most significant on emergent epifauna (corals, sponges etc.), which are not common in the fishing area. Moreover the net is usually set in proximity of rocky bottom often of sand bottom to avoid potential damages to the gears. Impacts of bottom-trammel nets on habitats are mainly restricted to issues around gear loss. All gear is marked according to Italian regulation (D.M 26/07/1995) including flags and luminous markings; according to the evidences gathered during the site visits gear loss is quite infrequent.
On this basis, the team considered that it is at least 'highly unlikely' (<30% probability) that the fishery does serious or irreversible harm to habitat structure and function in the areas where it operates. There is, However, no direct evidence in the form of before/after studies or open/close area comparisons as to the long-term impacts on, for example, benthic invertebrates. Therefore, SG80 is met but SG100 is not met.

b	VME habitat status			
	Guide post	The UoA is **unlikely** to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.	The UoA is **highly unlikely** to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.	There is **evidence** that the UoA is highly unlikely to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm.
	Met?	**Yes**	**Yes**	**No**

Rationale

Since the location of VMEs is well known, (see Figure 2.7) and considering that the fisheries is carried out in coastal waters, it is highly unlikely that the UoA can impact the VME habitats Therefore, SG60 and SG80 are met. However, precise information on the location of fishing grounds based on data from satellite-based Vessel Monitoring System (VMS) or logbook were not available to the assessment team. There is thus no evidence that the UoA is highly unlikely to reduce structure and function of the VME habitats to a point where there would be serious or irreversible harm – SG 100 is not met.

c	Minor habitat status

	Guide post			There is **evidence** that the UoA is highly unlikely to reduce structure and function of the minor habitats to a point where there would be serious or irreversible harm.
	Met?			**No**

Rationale

Hard bottom rocky substrata were identified to be minor habitats since they are not common in GSA11 in general, and thus not commonly encountered by the UoA. Although there is some evidence that rocky areas / reefs are in some cases included in Marine Protected Areas or temporal closure areas (a map of MPAs is available in Bastari et al., 2016), precise information on the location of fishing grounds based on data from satellite-based Vessel Monitoring System (VMS) was not available to the assessment team. There is thus no evidence that the UoA is highly unlikely to reduce structure and function of minor habitats to a point where there would be serious or irreversible harm – SG 100 is not met.

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Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	**≥ 80**
Information gap indicator	**More information sought**
Data-deficient? (Risk-Based Framework needed)	**No**

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	
Condition number (if relevant)	

PI 2.4.2		There is a strategy in place that is designed to ensure the UoA does not pose a risk of serious or irreversible harm to the habitats		
Scoring Issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guide post	There are **measures** in place, if necessary, that are expected to achieve the Habitat Outcome 80 level of performance.	There is a **partial strategy** in place, if necessary, that is expected to achieve the Habitat Outcome 80 level of performance or above.	There is a **strategy** in place for managing the impact of all MSC UoAs/non-MSC fisheries on habitats.
	Met?	**Yes**	**Yes**	**Yes**
Rationale				
Benthic habitats in general, and sensitive habitats are protected from the impact of fishing gears by EU legislation: - Directive (EC) 2008/56 on establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive). The over-arching goal of the Directive is to achieve 'Good Environmental Status' by 2020 across Europe's marine environment. Good environmental status shall be determined at the level of the marine regions or sub-regions and based on a series of qualitative descriptors. Descriptor 6 requires that: 'Sea-floor integrity is at a level that ensures that the structure and functions of the ecosystems are safeguarded, and benthic ecosystems are not adversely affected'. - Council Directive (EEC) 92/43 of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (often referred to as the 'Habitats Directive'): the main aim of the Habitats Directive is to promote the maintenance of biodiversity by requiring EU Member States to take measures to maintain or restore natural habitats as well as the populations of wild species listed in the Directive's Annexes, and to maintain habitats and species at a favourable conservation status. - Council Regulation (EC) No 1967/2006 (as amended by EC 1343/2011) concerning management measures for the sustainable exploitation of fishery resources in the Mediterranean Sea. Besides the coastal areas which are protected from fishing, there are at present 25 Marine Protected Areas (MPAs) as well as numerous temporal closure areas designed to reduce the impact of fishing activities on the marine environment in general (Bastari et al., 2016). These protected / temporal closure areas as well as fishing gear restrictions are enforced by the Italian coastguard, who monitor the location and movement of fishing vessels through satellite-based Vessel Monitoring System, which is compulsory on fishing vessels of 12 metres' length overall or more (EC 1224/2009). Fishing vessels of the UoC are aware of the location of protected areas, which are highlighted on their on-board navigation system. Ongoing monitoring is required under the Marine Strategy Framework Directive, which requires that EU Member States establish environmental targets and monitoring programmes for ongoing assessment, enabling the state of the marine waters concerned to be evaluated on a regular basis. Since there is active management which reduces the impacts of fishing on benthic habitats, includes special provisions for the protection of critical habitats such as nursery areas as well as VMEs, as well as for continuous monitoring and enforcement, the assessment team considers that SG 100 is met.				
b	Management strategy evaluation			
	Guide post	The measures are **considered likely** to work, based on plausible argument (e.g. general experience, theory or comparison with similar UoAs/habitats).	There is some **objective basis for confidence** that the measures/partial strategy will work, based on **information directly about the UoA and/or habitats** involved.	**Testing** supports **high confidence** that the partial strategy/strategy will work, based on **information directly about the UoA and/or habitats** involved.
	Met?	**Yes**	**Yes**	**No**
Rationale				
Based on (i) the variety of measures in place to reduce the impact of fisheries in general, and trammel net fisheries in particular on the benthic habitats (see scoring issue (a) above for details), and (ii) available studies assessing the habitat impacts of fishing (e.g. Lucchetti and Sala, 2012; Lucchetti et al., 2018), there is some objective basis for confidence that the measures / partial strategy will work – SG 60 and SG 80 are met.				

Testing to support high confidence that the strategy will work has yet to be carried out, so SG 100 is not met.

c	Management strategy implementation			
	Guide post		There is **some quantitative evidence** that the measures/partial strategy is being implemented successfully.	There is **clear quantitative evidence** that the partial strategy/strategy is being implemented successfully and is achieving its objective, as outlined in scoring issue (a).
	Met?		**Yes**	**No**

Rationale

There is some quantitative evidence that the measures/partial strategy is being implemented successfully, for example:

- Several coastal / marine Natura 2000 sites have been established in the Mediterranean Sea in line with the EEC 92/43;
- Protected areas, temporal closures and fishing gear restrictions are being enforced by the Italian coastguard, who monitor the location and movement of fishing vessels through satellite-based Vessel Monitoring System, which is compulsory on fishing vessels of 12 metres' length overall or more (EC 1224/2009). The UoA has a good compliance record, with regards to respecting areas and seasons closed to fishing.

The assessment team thus considers that SG 80 is met.

Clear quantitative evidence that the strategy is being implemented successfully and is achieving its objective is lacking – SG 100 is not met.

d	Compliance with management requirements and other MSC UoAs'/non-MSC fisheries' measures to protect VMEs			
	Guide post	There is **qualitative evidence** that the UoA complies with its management requirements to protect VMEs.	There is **some quantitative evidence** that the UoA complies with both its management requirements and with protection measures afforded to VMEs by other MSC UoAs/non-MSC fisheries, where relevant.	There is **clear quantitative evidence** that the UoA complies with both its management requirements and with protection measures afforded to VMEs by other MSC UoAs/non-MSC fisheries, where relevant.
	Met?	**Yes**	**No**	**No**

Rationale

Some quantitative evidence that the UoA complies with its management requirements to protect VMEs is available considering the evidence obtained during the site visit. SG60 is met. However, quantitative evidence is lacking Therefore, SG80 is not met.

References

Bastari, A., Micheli, F., Ferretti, F., Pusceddu, A., & Cerrano, C. (2016). Large marine protected areas (LMPAs) in the Mediterranean Sea: The opportunity of the Adriatic Sea. Marine Policy, 68, 165-177.

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Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	**60-79**
Information gap indicator	**More information sought**

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	
Condition number (if relevant)	

PI 2.4.3 – Habitats information

PI 2.4.3		Information is adequate to determine the risk posed to the habitat by the UoA and the effectiveness of the strategy to manage impacts on the habitat		
Scoring Issue		SG 60	SG 80	SG 100
a	Information quality			
	Guide post	The types and distribution of the main habitats are **broadly understood**. **OR** **If CSA is used to score PI 2.4.1 for the UoA:** Qualitative information is adequate to estimate the types and distribution of the main habitats.	The nature, distribution and **vulnerability** of the main habitats in the UoA area are known at a level of detail relevant to the scale and intensity of the UoA. **OR** **If CSA is used to score PI 2.4.1 for the UoA:** Some quantitative information is available and is adequate to estimate the types and distribution of the main habitats.	The distribution of all habitats is known over their range, with attention to the occurrence of vulnerable habitats.
	Met?	**Yes**	**No**	**No**

Rationale

GSA11 supports a wide diversity of habitats, including coralligenous communities, maerl bottoms, seagrass meadows, rocky reef areas, and extensive areas of soft bottoms (Jenkins, 2008; MEDISEH, 2013; Bastari et al., 2016). Based on the available information the assessment team identified the following European Nature Information System (EUNIS) habitat categories to be relevant for the assessment:

Minor habitats
- A3: Infralittoral rock and other hard substrata
- A4: Circalittoral rock and other hard substrata

Main habitats:
- A5.1: Sublittoral coarse sediment
- A5.2: Sublittoral sand
- A5.3: Sublittoral mud
- A5.4: Sublittoral mixed sediments
- A5.5: Sublittoral macrophyte-dominated sediment => A5.51: Maerl beds
- A5.5: Sublittoral macrophyte-dominated sediment => A5.53: Sublittoral seagrass beds (Posidonia, Cymodocea, Zostera etc.)
- A5.5: Sublittoral macrophyte-dominated sediment => A5.54: Angiosperm communities in reduced salinity (vegetation in brackish water, Zostera in reduced salinity etc.)
- A5.6: Sublittoral biogenic reefs (mussel beds, Lophelia reefs, polychaete reefs)

A map of soft bottom habitats in GSA11 is available from Jenkins (2008); data on the benthic assemblages found in these soft bottom habitats was first compiled by Vatova (1949), and subsequently studied by a number of authors (e.g. Gamulin-Brinda, 1967; Scardi et al., 1999; Piras et al., 2016). A thorough review of existing spatial datasets showing the distribution of coralligenous, maërl and seagrass habitats across the entire Mediterranean, including GSA11, was undertaken by the MEDISEH (Mediterranean Sensitive Habitats) project (MEDISEH, 2013), whose results are available online on the MAREA (Mediterranean hAlieutic Resources Evaluation and Advice) online map viewer (https://ec.europa.eu/fisheries/sites/fisheries/files/docs/body/scientific-advice-mediterranean-specific-project-2-summary_en.pdf), and have been published in scientific journals (e.g. Martin et al., 2014; Telesca et al., 2015). The assessment team thus considers that the nature, types and distribution of the main habitats are broadly understood – SG 60 is met.

The assessment team did not find any evidence that the area exploited by the current fisheries is known at a level of detail relevant to the scale and intensity of the UoA – SG 80 is not met.

b	Information adequacy for assessment of impacts			
	Guide post	Information is adequate to broadly understand the nature of the main impacts of gear use on the main habitats, including spatial overlap of habitat with fishing gear. OR **If CSA is used to score PI 2.4.1 for the UoA:** Qualitative information is adequate to estimate the consequence and spatial attributes of the main habitats.	Information is adequate to allow for identification of the main impacts of the UoA on the main habitats, and there is reliable information on the spatial extent of interaction and on the timing and location of use of the fishing gear. OR **If CSA is used to score PI 2.4.1 for the UoA:** Some quantitative information is available and is adequate to estimate the consequence and spatial attributes of the main habitats.	The physical impacts of the gear on all habitats have been quantified fully.
	Met?	**Yes**	**No**	**No**

Rationale

Information on the impacts of trammel nets on benthic habitats is available from both scientific and grey literature (STECF 12-12), and the distribution of main habitats is known (for details refer to scoring issue a). SG60 is met.

However, the assessment team is in a position to judge that the information are adequate to allow for identification of the main impacts of the UoA on the main habitats. SG80 is not met.

c	Monitoring			
	Guide post		Adequate information continues to be collected to detect any increase in risk to the main habitats.	Changes in all habitat distributions over time are measured.
	Met?		**Yes**	**No**

Rationale

EU Member States have obligations to monitor any increase in risk to benthic habitats in general and sensitive habitats under the Marine Strategy Framework Directive (EC 2008/56) as well as the Habitats Directive (EEC 94/43). Furthermore, under the MSFD Member States are required to implement 'programmes of measures for the protection and management of the marine environment', and to present interim reports describing progress in the implementation of these programmes to the Commission. The assessment team during site visit judged that adequate information are collected to detect any increase in risk to the main habitats – SG 80 is met.

Although Member States have an obligation to measure changes in habitat distributions over time under the MSFD and Habitats Directive, the assessment team considers that sufficiently detailed habitat maps are currently not available for all marine habitats in GSA11 – SG 100 is not met.

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Bastari, A., Micheli, F., Ferretti, F., Pusceddu, A., & Cerrano, C. (2016). Large marine protected areas (LMPAs) in the Mediterranean Sea: The opportunity of the Adriatic Sea. Marine Policy, 68, 165-177.

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Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	**60-79**
Information gap indicator	**More information sought**

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	
Condition number (if relevant)	

PI 2.5.1 – Ecosystem outcome

PI 2.5.1		The UoA does not cause serious or irreversible harm to the key elements of ecosystem structure and function		
Scoring Issue		SG 60	SG 80	SG 100
a	Ecosystem status			
	Guide post	The UoA is **unlikely** to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.	The UoA is **highly unlikely** to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.	There is **evidence** that the UoA is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.
	Met?	**Yes**	**Yes**	**No**

Rationale

Coll et al. (2007) developed a trophic mass-balance model to characterise the food web of GSA11 and described a total of forty functional groups, including target and non-target fish, invertebrate groups and detritus groups. The model highlighted that there is important coupling between benthic and pelagic production of detritus, benthic invertebrates and plankton. Organisms characterising mainly the low and medium trophic levels, but also the upper trophic levels were important in terms of keystoneness and total effects: phytoplankton, micro and mesozooplankton, suprabenthos (amphipods, cumaceans, isopods), benthic invertebrates (echinodermata, mollusca, crustacea), anchovy and dolphins were all ranked highly.

A subsequent review of functional groups acting as keystones in the Mediterranean Sea food webs confirmed this unique combination of suprabenthos, micro- and mesozooplankton, dolphins and small pelagic fish in structuring the ecosystem in GSA11, and highlighted the importance of benthic organisms as key structuring species with a relatively high proportion of biomass (Coll and Libralato, 2012). These functional groups were thus interpreted as being the features giving the ecosystem its characteristic nature and dynamics. Species which have been considered separately in this assessment (the P1 target species anchovy and sardine; ETP species striped and bottlenose dolphins) were not considered again.

The assessment team considers that the UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm. Considering the amount of the catches of the UoA both in term of target species and not target it is unlikely that the UoA impacts the ecosystem structure. SG 60 and SG 80 are met.

However, the assessment team does not have any evidence that the UoA is likely to disrupt suprabenthos and benthic invertebrates – SG 100 is thus not met for these scoring elements.

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Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	**≥ 80**
Information gap indicator	**More information sought**
Data-deficient? (Risk-Based Framework needed)	**No**

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	
Condition number (if relevant)	

PI 2.5.2 – Ecosystem management strategy

PI 2.5.2		There are measures in place to ensure the UoA does not pose a risk of serious or irreversible harm to ecosystem structure and function		
Scoring Issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guide post	There are **measures** in place, if necessary, which take into account the **potential impacts** of the UoA on key elements of the ecosystem.	There is a **partial strategy** in place, if necessary, which considers **available information and is expected to restrain impacts** of the UoA on the ecosystem so as to achieve the Ecosystem Outcome 80 level of performance.	There is a **strategy** that consists of a **plan**, in place which contains measures to **address all main impacts of the UoA** on the ecosystem, and at least some of these measures are in place.
	Met?	**Yes**	**Yes**	**No**

Rationale

The potential impacts of the UoA on the key elements of the ecosystem are constrained by a number of relevant measures, including:

- Regulation (EU) No 1380/2013 on the Common Fisheries Policy (CFP) outlining a set of rules for managing European fishing fleets and for conserving fish stocks. Under the CFP an ecosystem-based approach to fisheries management needs to be implemented, and environmental impacts of fishing activities should be limited.
- Commission Delegated Regulation (EU) No 1392/2014 of 20 October 2014 establishing a discard plan for certain small pelagic fisheries in the Mediterranean Sea, which specifies the details for implementing the landing obligation specified in the new Common Fisheries Policy (CFP).
- Regulation (EC) No 1967/2006 (as amended by EC 1343/2011) concerning management measures for the sustainable exploitation of fishery resources in the Mediterranean Sea. This regulation outlines a number of measures to protect Mediterranean marine ecosystems from the effects of fishing, including requirements to ban fishing in coastal waters, to protect sensitive habitats and to establish fishing protected areas.
- Directive 2008/56/EC on establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive - MSFD). The MSFD outlines a legislative framework for an ecosystem-based approach to the management of human activities which supports the sustainable use of marine goods and services. The overarching goal of the Directive is to achieve 'Good Environmental Status' (GES) by 2020 across Europe's marine environment. Descriptors 1 and 4 of the MSFD include requirements that "the distribution and abundance of species are in line with prevailing physiographic, geographic and climatic conditions" and that "all elements of the marine food webs, to the extent that they are known, occur at normal abundance and diversity and levels capable of ensuring the long-term abundance of the species and the retention of their full reproductive capacity".

Achieving GES under the MSFD requires Member States to follow a plan of action stipulated by the Directive as follows:

- Preparation of an 'initial assessment' of the environmental status of marine waters by July 2012;
- Determination of GES, and establishment of associated environmental targets and indicators by July 2012;
- Implementation of a monitoring programme for the ongoing assessment of GES and targets by July 2014;
- Development of a programme of measures designed to achieve GES by 2015, which will be made operational by 2016.
- A review process to reassess the effectiveness of national action plans every six years.

There is a strategy that contains measures to address all main impacts of the UoA on the ecosystem, However, it is not clear to the assessment team that this plan is not in place, SG100 is not met.

b	Management strategy evaluation			
	Guide post	The **measures** are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar UoAs/ ecosystems).	There is **some objective basis for confidence** that the measures/ partial strategy will work, based on some information directly about the	**Testing** supports **high confidence** that the partial strategy/ strategy will work, based on information directly about the UoA and/or ecosystem involved.

			UoA and/or the ecosystem involved.	
	Met?	**Yes**	**Yes**	**No**

Rationale

The management strategy in place is comprehensive, based on a wide range of applicable management measures, considers all the potential impacts of the UoA on key elements of the ecosystem (see scoring issue a). The assessment team considers that the UoA is highly unlikely to reduce structure and function of the commonly encountered habitats to a point where there would be serious or irreversible harm – SG 60 and SG 80 are met. However, there is no test that supports high confidence that the strategy will work. Therefore, the SG100 is not met.

c	Management strategy implementation			
	Guide post		There is **some evidence** that the measures/partial strategy is being **implemented successfully**.	There is **clear evidence** that the partial strategy/strategy is being **implemented successfully and is achieving its objective as set out in scoring issue (a).**
	Met?		**Yes**	**No**

Rationale

Evidence that the strategy is being implemented successfully comes from a number of sources, such as for example:

- The information collected and processed by the Italian authorities to comply with the EU DCF and GFCM DCRF
- The available reports provide a detailed analysis of the ecological characteristics and status of the marine environment in Sardinia (https://deims.org/28407ba7-6efe-45f4-8ecf-efb514e9182b).

The assessment team thus considers that there is some evidence that the management strategy is being implemented successfully – SG 80 is met. Evidence that the strategy is achieving its objectives is However, not yet available for GSA11 – SG 100 is not met.

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Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	**≥ 80**
Information gap indicator	**More information sought**

Overall Performance Indicator scores added from Client and Peer Review Draft Report

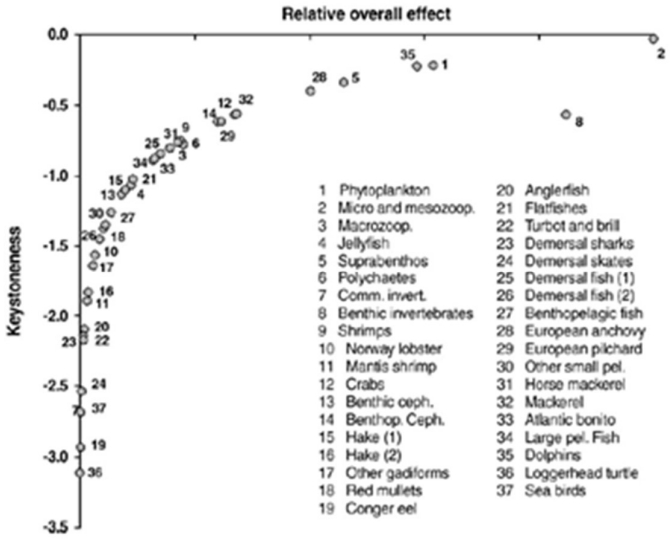
Overall Performance Indicator score	

Condition number (if relevant)	

PI 2.5.3		There is adequate knowledge of the impacts of the UoA on the ecosystem		
Scoring Issue		SG 60	SG 80	SG 100
a	Information quality			
	Guide post	Information is adequate to **identify** the key elements of the ecosystem.	Information is adequate to **broadly understand** the key elements of the ecosystem.	
	Met?	**Yes**	**Yes**	

Rationale

Coll et al. (2007) developed a trophic mass-balance model to characterise the food web of the Mediterranean and described a total of forty functional groups, including target and non-target fish, invertebrate groups and detritus groups. Key elements of the ecosystem were identified by ranking functional groups according to (1) relative overall effect) and (2) a keystoneness index. Phytoplankton, micro and mesozooplankton, suprabenthos (amphipods, cumaceans, isopods), benthic invertebrates (echinodermata, mollusca, crustacea), and dolphins were identified to be key ecosystem elements.



Relative overall effect (εi) and keystoneness index (KSi) of functional groups in the ecosystem of GSA11. Keystone groups are those with higher εi and higher KSi (Coll et al., 2007).
This result was substantiated by subsequent work (Coll et al., 2008d; Coll et al., 2009c); a review of functional groups acting as keystones in the Mediterranean Sea food webs compiled by Coll and Libralato (2012) confirmed that suprabenthos, micro- and mesozooplankton, dolphins and small pelagic fish are the most important functional groups in structuring the ecosystem in GSA11.
Besides identifying these functional groups as key elements, these studies also describe their role in the ecosystem og GSA11. The assessment team thus considers that information is adequate to broadly understand the key elements of the ecosystem – SG 80 is met.

b	Investigation of UoA impacts			
	Guide post	Main impacts of the UoA on these key ecosystem elements can be inferred from existing information but **have not been investigated** in detail.	Main impacts of the UoA on these key ecosystem elements can be inferred from existing information, and **some have been investigated in detail**.	Main interactions between the UoA and these ecosystem elements can be inferred from existing information and **have been investigated in detail**.
	Met?	**Yes**	**No**	**No**

Rationale

The assessment team considers that the main impacts of the UoA on the key ecosystem elements can be inferred from existing information, such as the BENTHIS project (Rijnsdorp et al., 2017). Therefore, SG60 is met.

However, such elements have not been investigated in detail, Therefore, SG80 is not me.

c	Understanding of component functions			
	Guide post		The main functions of the components (i.e., P1 target species, primary, secondary and ETP species and Habitats) in the ecosystem are **known**.	The impacts of the UoA on P1 target species, primary, secondary and ETP species and Habitats are identified and the main functions of these components in the ecosystem are **understood**.
	Met?		**No**	**No**

Rationale

Considering that the assessment team triggered RBF for the secondary species, it is not possible to conclude that the main functions of the components are known. Therefore, SG80 is not met.

d	Information relevance			
	Guide post		Adequate information is available on the impacts of the UoA on these components to allow some of the main consequences for the ecosystem to be inferred.	Adequate information is available on the impacts of the UoA on the components **and elements** to allow the main consequences for the ecosystem to be inferred.
	Met?		**No**	**No**

Rationale

Considering the lacking of information evidenced above SG80 is not met.

e	Monitoring			
	Guide post		Adequate data continue to be collected to detect any increase in risk level.	Information is adequate to support the development of strategies to manage ecosystem impacts.
	Met?		**Yes**	**Yes**

Rationale

Monitoring data which would allow to detect any increase in risk level comes from a number of sources:

- Monitoring strategies and programmes being implemented by EU Member States as part of obligations arising from the implementation of the Marine Strategy Framework Directive. Member States are obliged to implement the monitoring activities for ongoing assessment and regular updating of environmental targets, including on the maintenance of biological diversity, marine food-webs and sea-floor integrity.
- Scientific research activities in GSA11 is ongoing and will complement information coming from fisheries and environmental monitoring activities by providing further information on best practices to manage impacts.

The assessment team thus considers that adequate data continue to be collected to detect any increase in risk level, and that the available information is adequate to support the development of strategies to manage ecosystem impacts – SG 80 and SG 100 are met.

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Draft scoring range and information gap indicator added at Announcement Comment Draft Report

Draft scoring range	**60-79**
Information gap indicator	**More information sought**

Overall Performance Indicator scores added from Client and Peer Review Draft Report

Overall Performance Indicator score	
Condition number (if relevant)	

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7.6 Principle 3

7.6.1 Principle 3 background

The UoA consists of stock common spiny lobster fished with trammel net in GSA 11. The stock is not considered shared between EU Member States and third countries.

The fishery area of operation is FAO Major fishing Area 37 – FAO Division Sardinia (Division 37.1.3); Geographical Sub-Area 11.1 (Western Sardinia).

The UoA vessels are Italian-registered and so fish under Italian licences, are members of Italian POs and report (via electronic logbooks) to the Italian management authorities.

The main management body for the UoA is Therefore, the Italian central government, which operates in accordance with its commitments as a Member State of the European Union and as a contracting party of the regional fishery management organisation, the UN FAO's General Fisheries Commission of the Mediterranean and Black Sea (GFCM). How each organisation works to manage the fishery is described in the sections below. Moreover, in the case of Sardinia also the regional authority has the power to implement specific regulations. The Sardinian Special Statute, approved by a constitutional law in 1948, is provided by the Italian constitutional order, where the art. 116, c. 1, establishes specific forms and conditions of autonomy for five regions, including Sardinia. For those dealing with Sardinian, the special conditions of autonomy are the recognition of a highly detailed historical, historical, social, ethnic and linguistic situation. Therefore, the regional authority (Regione Autonoma della Sardegna) has specific competencies in term of management of local fisheries and has emitted a specfic decree for the lobster fishery (see DECRETO N. 1916/DecA/46 del 29.08.2016 www.confcooperativesardegna.it/wp-content/uploads/2017/08/Decreto-Assessore-Agricoltura-n.1916_DecA_46-del-29.08.2016-deroga-pesca-aragosta.pdf).

EUROPEAN UNION

As Italy is an EU Member State, the key legal framework for the management of the UoA is set out at European level by the Common Fisheries Policy (CFP; European Regulation 1380/2013). The CFP provides a framework under which shared stocks in European waters (stocks where the geographic distribution covers more than one European EEZ, or stocks fished outside 12 miles in a given EEZ) are managed on a common European basis.

EU vessels are all bound by the same rules and regulations as defined under the EU Common Fisheries Policy (CFP) (EC reg. 1380/2013). These rules continue to apply to vessels fishing outside EU waters, including outside the EEZs of the Member States.

The CFP also defines common objectives and requirements that the Italian operators in the fishery must adhere to. These are implemented in each Member State; in the case of Italy via presidential decrees.

The objective of the CFP is to ensure that fisheries and aquaculture are ecologically, economically and socially sustainable. It is also concerned with maintaining employment and the sector's economic viability.

Following the 2002 CFP reform, a new system for limiting the fishing capacity of the EU fleet entered into force on 1 January 2003. This system gave more responsibility to the Member States in achieving a better balance between the fishing capacity of their fleets and the available resources. An Italian Ministerial Circular of 07 October 2004 laid down a plan that aims at reducing fishing effort, particularly by encouraging a reduction in fishing vessels operating within 6 nautical miles of the baseline and using trawl nets.

The CFP is reviewed every 10 years and its most recent revision (EU Reg. 1308/2013) sought to make fisheries more sustainable. The new policy came into force in 2014, including commitments to:

- Fish stocks exploited at Maximum sustainable yield (MSY),
- Greater regionalization (through increased roles for Regional Advisory Councils, including the North Sea Advisory Council (North Sea AC),
- An ecosystem approach to fisheries by ensuring fishing capacity is in line with fishing opportunities and moving more stocks under Long Term Management Plans,
- An obligation to land the fish that is caught (discard ban).

The EC's DG Maritime Affairs and Fisheries has recently published its strategic plan 2016-2020[1], which sets out fisheries management objectives and targets as well as those for marine environmental management.

For Monitoring, Control and Surveillance activities, the EU Member States are required to comply with the agreed control regulations within the CFP framework. Since 2007 these have been coordinated at an EU level by the European Fisheries Control Agency (EFCA). Its goal is to coordinate the fisheries inspection and control operational activities of Member States and provide assistance to the Member States in their application of the CFP.

The CFP includes requirements for fishing vessels longer than 12 metres to report their logbook data, including catch data, electronically and to have an approved satellite-based vessel monitoring system (VMS) on board. Fishing vessels longer than 18 metres are also required to have an automatic identification system (AIS) on board. From 1 May 2014, AIS must be on board all vessels over 15 metres in length.

As a European Union Member State, Italy has a responsibility to monitor fishing activities and catches, and to share such information via the Data Collection Framework (DCF), which is consistent with commitments under the GFCM.

The vessels are required to report the location and quantity of species retained daily via an electronic logbook that is transmitted to control authorities. Skippers must also notify authorities ahead of landing their fish and only into designated ports.

European fisheries management also involves taking decisions based on the best available scientific data. The European Commission receives advice from the STECF and various other scientific organizations. In the event of data gaps, the EU has the means to fund studies and projects in the short, medium, and long term with the aim of rectifying the lack of data.

STECF can be consulted for the annual stock assessment results and STECF reports and recommendations are publicly available. The outcomes of the deliberations of the EU Fisheries Commission are also publicly available via their communications and regulations.

Management plan under the Mediterranean regulation 1976/2006

The basic EC regulation for the fishing activity in the Mediterranean Sea is Council Regulation (EC) No 1967/2006 of 21 December 2006 concerning management measures for the sustainable exploitation of fishery resources in the Mediterranean Sea, amending Regulation (EEC) No 2847/93 and repealing Regulation (EC) No 1626/94.

The Regulation's aim is to establish an effective management framework, through an appropriate sharing of responsibilities between the Community and the Member States. It also extends to the Mediterranean High Sea the strict protection of certain marine species already afforded by Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, which was previously only applicable to marine waters under Member States' sovereignty.

This regulation introduces for the first time the concept of management plans for Mediterranean fisheries, which was present in the basic CFP regulation since 2002. A reference to those plans can be found in the preamble of the regulation, both at community level and national level:

> "*In view of the specific characteristics of many Mediterranean fisheries, which are restricted to certain geographical sub-zones, and considering the tradition of applying effort management system at sub-regional level, it is appropriate to provide for the establishment of Community and national management plans, combining in particular effort management with specific technical measures*."

It also introduces a procedure to deal with new fishing protected areas:

> "*By Decision 98/392/EC2 the Council has concluded the United Nations Convention on the Law of the Sea, which contains principles and rules relating to the conservation and management of the living resources of the high seas. In accordance with the rules of that Convention, the Community endeavours to coordinate the management and conservation of living aquatic resources with other coastal States.*"

Chapter VII of Regulation 1967/2006 includes provisions for Management Plans.

Article 18 refers to Community-level management plans that should be deployed to manage specific Mediterranean fisheries in areas totally or partially beyond the territorial waters of Member States. Until now, there have not been any such plans at Community level.

Management plans may include measures which go beyond the provisions of this Regulation for the purpose of increasing the selectivity of fishing gear; reducing discards and limiting the fishing effort. The measures to be included in the management plans had to be proportionate to the objectives, the targets and the expected time frame.

Landing obligation

[1] http://ec.europa.eu/atwork/synthesis/amp/doc/mare_sp_2016-2020_en.pdf

The European MS exploiting demersal stocks in the Tyrrhenian Sea is mainly Italy. In such country the CFP regulation (EU) No 1380/2013 aims to progressively eliminate discards in all Union fisheries through the introduction of a landing obligation. Article 15(6) empowers the Commission to adopt discard plans by means of a delegated act for a period of no more than three years based on joint recommendations developed by Member States in consultation with the relevant Advisory Councils. A survivability exemption has been approved by EU for the lobster fishery in the area. However, discards of common spiny lobster is negligible in GSA 11.

GENERAL FISHERIES COMMISSION FOR THE MEDITERRANEAN (GFCM)

The fishery advisory body in the Mediterranean is the General Fisheries Commission for the Mediterranean and Black Sea (hereafter GFCM). GFCM is a regional fisheries management organization (RFMO) established under the provisions of Article XIV of the FAO Constitution. The GFCM was established as a Council in 1952 and became a Commission with greater powers in 1997.

The main objective of the GFCM is to promote the development, conservation, rational management and best utilization of living marine resources as well as the sustainable development of aquaculture in the Mediterranean, the Black Sea and connecting waters (GFCM area of application).

The GFCM is currently composed of 23 member countries, including Italy, (and also the European Union) who contribute to its autonomous budget to finance its functioning. Membership is open to Mediterranean coastal States and regional economic organizations as well as to United Nations member States whose vessels engage in fishing in its area of application.

The GFCM implements its policy and activities through its Secretariat, based at its headquarters in Rome, Italy. The Commission holds its regular sessions annually and operates during the intersession by means of its committees:

- Scientific Advisory Committee (SAC),
- Committee on Aquaculture (CAQ),
- Compliance Committee (CoC),
- Committee of Administration and Finance (CAF) and their subsidiary bodies, including the ad hoc Working Group for the Black Sea (WGBS),
- GFCM Bureau steers strategic orientations to the Commission and the Secretariat.

The Commission has the authority to adopt binding recommendations for fisheries conservation and management in its area of application and plays a critical role in fisheries governance in the region. Its measures can relate to the regulation of fishing methods, fishing gear and minimum landing size, the establishment of open and closed fishing seasons and areas, and fishing effort control. GFCM Resolution GFCM/37/2013/2 establishes guidelines on the management of fishing capacity in the GFCM area to be followed by contracting parties. The GFCM is one of the few RFMOs worldwide entitled to adopt spatial management measures that regulate or restrict human activities in the high seas, e.g. by introducing closures or prohibiting the use of certain gears.

In cooperation with other RFMOs, the GFCM coordinates efforts by governments to effectively manage fisheries at the regional level following the FAO Code of Conduct for Responsible Fisheries (CCRF). Moreover, it closely cooperates with other international organizations in matters of mutual interest and it benefits from the support of cooperation projects and program at the regional and sub regional level in order to enhance scientific cooperation and capacity-building among its members. The GFCM also manages a database of national fisheries legislation of member countries[2].

The GFCM has recently amended its legal framework and the Agreement for its establishment with a view to enhancing its efficiency and thus better responding to current and future challenges in the whole region[3].

The decision-making process can be well developed using the GFCM – Scientific Advisory Committee (SAC) and its integrated advisory structure comprised of the STECF/MEDAC/European Commission, as well as the different interested parties having the option to participate in the decision-making. Advice to the GFCM can only be given by the SAC with other groups able to advise the SAC, but not the GFCM directly (GFCM Fishery Officer, pers comm.). The outcomes of the technical meetings and scientific councils are considered when taking decisions on fisheries management and made available on the GFCM website.

As with the CFP, National management plans must be consistent with GFCM plans, and can only be more restrictive, not less. The Compliance Committee meets years to assess how the contracting parties have enforced the agreed plans.

[2] http://nationallegislation.gfcmsecretariat.org/index
[3] http://www.fao.org/gfcm/background/about/en/

Proposed developments for 2016 include an on-board observer programme (as set out in the GFCM mid-term strategy 2016-2020), which will be GFCM-wide complementing the EU's existing observer and reporting activities under the EU's Data Collection Framework.

ITALIAN MANAGEMENT

The "*Ministero delle politiche agricole alimentari, forestali e del turismo*" (hereafter MIPAAFT) is the Central Government Ministry that is responsible for managing fishing activity in Italy. The "*Direzione generale della pesca marittima e dell'acquacoltura*" (hereater PEMAC) is part of this ministry and is responsible for carrying out this task.

In Italy no legal or natural persons are allowed to engage in commercial fishing without the preliminary registration in the Fishing Company Register. Crew members are also registered in the Seamen Register and ships are recorded in apposite Vessels Register. This obligatory recording regime came from the Navigation Code, Presidential Decree No. 328/1952 of 1952, Law No. 963/1965 of 1965, and Presidential Decree No. 1639/1968 of 1968.

MIPAAF is the competent authority for Monitoring, Control and Surveillance (hereafter MCS).

In order to register, professional seamen must satisfy the following statutory requirements:

a) they must show that fishing is their sole or principal source of income; and

b) they must demonstrate that they have acquired adequate professional knowledge and skills to conduct commercial fishing operations (training course).

Currently this regime is confirmed by the context of the new Legislative Decree 153/2004. The registers are kept by the local offices of the Ministry of Transport (Comando Generale delle Capitanerie di Porto or Coast Guard Authorities) located along the Italian coastline.

The Italian Coast Guard is delegated responsibility by MIPAAFT for fisheries control at sea and on land. It works with the local and national agencies to apply these controls (e.g. with the financial ministry and police to progress prosecutions). On MCS, the Coastguard works with EFCA, Croatian and Slovenian control authorities to implement joint deployment plans such as those for specific fisheries (e.g. Blue Fin Tuna) or more generally (Mediterranean).

It operates the National Fishery Control Centre (Centro Controllo Nazionale Pesca - CCNP); in Rome and 15 regional offices, each with their own assets for aerial, sea and land-based inspections. For fisheries in GSA 11, the Italian Coastguard carries out aerial surveillance, sea-based inspections and port inspections with resources targeted using a risk analysis approach. Statistics on inspections and infringement are not available for the present UoA but only for the whole Italian fleet (see Ecomafie Report 2018 - https://www.legambiente.it/rapporto-ecomafia/). However, from the interaction with stakeholder during the site visit was clear that the level of inspection is quite high, and the number of infringements is relatively low.

In recent years inspectors have remained on board to contribute to the scientific information for the fishery. By inspectors also observing hauls, this has improved the sampling levels in the quantification of discards as per DCF commitments.

The Italian Government regularly convenes the sector to inform them of the resolutions and changes that affect or may affect the fishery, and they work hand in hand to find the best solution. This also means that the Government has first-hand knowledge of the sector's issues and concerns (MIPAAFT officer pers. comm.).

The fisheries sector participates in the Mediterranean Advisory Council (MEDAC[4]). The MEDAC is made up of European and national organizations representing the fisheries sector (including the industrial fleet, small-scale fisheries, the processing sector and trade unions) and other interest groups (such as environmental organizations, consumer groups and sports/recreational fishery associations) which operate in the Mediterranean area in the framework of the CFP.

The role of MEDAC includes the preparation of opinions on fisheries management and socio-economic aspects in support of the fisheries sector in the Mediterranean, to be submitted to the Member States and the European institutions in order to facilitate the achievement of the objectives of the CFP; MEDAC also proposes technical solutions and suggestions, such as joint recommendations (ex. Art. 18 Reg.1380 / 2013) at the request of the Member States. MEDAC consists of an executive committee and a number of thematic working groups (including Management Plans and GFCM issues) and regional focus groups, (including Sardinia).

The Italian fishery sector itself is organized within co-operatives, many of which are also Producer Organizations (an EU-recognized marketing body that often also acts as a representative of its members). Federpesca[5] and Federcoopesca[6] are umbrella bodies that represent these numerous sector organisations at a national level and are members of MEDAC.

[4] http://en.med-ac.eu/index.php
[5] http://www.federpesca.it
[6] http://www.federcoopesca.it

The Italian ministerial decree of 30th January 2018 adopts new management plans for demersal stocks in GSA 11 (MIPAAFT, 2018a). The decree clearly defines the objective to recover the staus of the demersal stocks within biological limits. In December 2018 the Italian administration (MIPAAFT, 2018b) with a specific directorial decree (Prot. 26510 of 28.12.2018) modified the previous management plans for demersal species in GSA 11. The modified management plan adopts a reduction of fishing effort in 2019 and 2020 of 8% in relation to the mean fishing days observed in the period 2015-2017. Moreover, the modified plan foreseen further changes in fishing effort in the period 2021-2023 in accordance with the evaluation of the stock status observed in 2020. Although the reduction is relevant only for the trawl fishery the MP also consider specific rule to be implemented also for set gear as trammel net. Therefore, the specific objectives of the MP are relevant also for the present UoA.

THE REGIONAL AUTHORITY

The Sardinian Special Statute, approved by a constitutional law in 1948, is provided by the Italian constitutional order, where the art. 116, c. 1, establishes specific forms and conditions of autonomy for five regions, including Sardinia. The special conditions of autonomy are the recognition of a highly detailed historical, historical, social, ethnic and linguistic situation.

The functions attributed by Italy to Sardinia are attributable to three levels: legislative function, administrative function, political function and are exercised by the following bodies, established in 1948:

- the President of the region or the governor, who has been directly voted on by the Sardinian voters, leads the Regional Council composed of councilors appointed by him and on which he has the power to revoke the proxies. In addition to organizing the work of the regional executive body, the President is the representative of the region in various national and international contexts, as well as guarantor of its autonomy.
- The Regional Council, chosen by the President of the Region (who heads it), has been the governing body of the Island since 1949 and holds executive power at regional level. In addition to the President of the Region, 12 Councilors are part of the Executive Committee, having authority over a specific sector of activity and leading an equal number of departments (i.e.: Assessorati), the department of Agriculture and Agro-pastoral reform, is relevant one for fishery management.
- The Regional Council corresponds to the local parliament, as the assembly has legislative power in the regional system. Since 2013 it has 60 councilors, and each term has a five-year term.

Common spiny lobster fishery is regionally regulated by the department decree N. 1916/DecA/46 of the 29.08.2016. The decree aims to protect the stocks of *Palinurus elephas*, *Palinurus mauritanicus*, *Hommarus gammarus* and *Maja squinado*. The decree establishes closed season, minimum landing size and the obligation to release spawning females. Moreover, the decree obliges to report data on catches in a specific logbook and implement a traceability protocol for the target species.

CO-OPERATION IN FISHERIES MANAGEMENT

Shared management for key stocks has been developed in recent years. The Adriatic Fishing District was founded by the Ministerial Decrees in 2010 and 2012, in accordance with EC legislation enabling the identification of fishing areas which apply rules of common governance. Cross-border projects are ongoing between Italian districts and Croatian and Slovenian fishing communities targeting shared Northern Adriatic resources.

From 2012 the District activities are coordinated by a Management Committee, composed of three Regional Councilors for Fisheries and Aquaculture and a representative of MIPAAFT. A support committee there is a Technical Working Group, under the supervision of an advisory committee; the first is composed of the three regional managers of fisheries and aquaculture, a MIPAAFT representative and observes of Assopesca Molfetta and Cooperativa Santa Lucia in Manfredonia.

The Fishing District has expertise in several areas, including the definition of annual and multi-annual projects; the preparation of Local Management Plans, co-ordination with coastal Institutions, the application of guidelines and monitoring and review of the Local Management Plans. Legacoop Sardegna is actively involved in the fishery managemnt. In particular, since 1998 Lega coopsardegna was involved in the establishment of Sinis MPA. These remarkable results would not have been achieved without the full collaboration of the Su Pallosu Small Fishermen's Cooperative, which has promoted and defended it since its inception and is now struggling to preserve it. To make the European institutions aware of good fishing practices.

FISHERY-SPECIFIC MANAGEMENT

For the Sardinia demersal fisheries, GFCM, EU and Italian Ministry has developed a number of measures, which together should be considered the Management Plan for the fishery:

- GFCM defined mesh size regulation for trawl fishery;
- EU Med Reg 1976 defined an MLS for the species;
- Italian Ministry established a management plan for demersal species in place in December 2018, characterized by both technical measures (area closure), effort and capacity reduction.
- Regional authority.

7.6.2 Principle 3 Performance Indicator scores and rationales

PI 3.1.1 – Legal and/or customary framework

PI 3.1.1		The management system exists within an appropriate legal and/or customary framework which ensures that it: - Can deliver sustainability in the UoA(s); - Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and - Incorporates an appropriate dispute resolution framework		
Scoring Issue		SG 60	SG 80	SG 100
a	Compatibility of laws or standards with effective management			
	Guide post	There is an effective national legal system **and a framework for cooperation** with other parties, where necessary, to deliver management outcomes consistent with MSC Principles 1 and 2	There is an effective national legal system and **organised and effective cooperation** with other parties, where necessary, to deliver management outcomes consistent with MSC Principles 1 and 2.	There is an effective national legal system and **binding procedures governing cooperation with other parties** which delivers management outcomes consistent with MSC Principles 1 and 2.
	Met?	**Yes**	**Yes**	**Yes**
Rationale				

Italy and Sardinia have an effective national legal system and binding procedures listed within comprehensive suite of fisheries legislation that is updated to implement commitments under the EU's CFP and the under the GFCM.
A summary of this legislation is available at:
http://nationallegislation.gfcmsecretariat.org/index.php?title=Italy

In relation to a: Membership of the EU requires co-operation with other parties to deliver such management outcomes under the Common Fisheries Policy.
In relation to b: Membership of the GFCM also has binding procedures governing co-operation with other parties. General Agreement on Establishment of the GFCM: "Further recognizing that, under international law, States are required to cooperate in the conservation and management of living marine resources and the protection of their ecosystems"
In relation to c: General Agreement on Establishment of the GFCM: Further recalling the Agreement for the Implementation of the Provisions of the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks of 4 December 1995, the Agreement to promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas of 24 November 1993, as well as other relevant international instruments concerning the conservation and management of living marine resources, SG 100 is Therefore, met.

b	Resolution of disputes			
	Guide post	The management system incorporates or is subject by law to a **mechanism** for the resolution of legal disputes arising within the system.	The management system incorporates or is subject by law to a **transparent mechanism** for the resolution of legal disputes which is **effective** in dealing with most issues and that is appropriate to the context of the UoA.	The management system incorporates or is subject by law to a **transparent mechanism** for the resolution of legal disputes that is appropriate to the context of the fishery and has been **tested and proven to be effective**.
	Met?	**Yes**	**Yes**	**No**
Rationale				

The Italian and Sardinia legal systems provide recourse for the resolution of disputes resulting from the management system. This can be applied at a local and national level. Moreover, the regional authority has the power for solving all

the legal disputes referencing to the regional administrative tribunal (in Italian TAR), body of first instance administrative jurisdiction, established in each regional capital, where disputes relating to administrative acts are resolved using a transparent mechanism. This meets SG80 requirements, but to date there is no evidence of this dispute resolution system being tested and proven to be effective. So SG100 is not met.

c	Respect for rights			
	Guide post	The management system has a mechanism to **generally respect** the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.	The management system has a mechanism to **observe** the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.	The management system has a mechanism to **formally commit** to the legal rights created explicitly or established by custom of people dependent on fishing for food and livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.
	Met?	**Yes**	**Yes**	**No**

Rationale

The Italian and Sardinia management systems are required to observe, but does not formally commit to, the rights of those dependent on fisheries.
The team shall interpret “formally commit” in scoring issue (c) at SG100 to mean that the UoA involved in the fishery can demonstrate a mandated legal basis where rights are fully codified within the fishery management system and/or its policies and procedures for managing fisheries under a legal framework. Such evidence has not been provided and Therefore, SG100 is not met.

References

GFCM general agreement
Common Fisheries Policy Regulation (EU) no. 1380/2013 (the “Basic Regulation”)
Italian general fisheries laws:
D.P.R. 2 October 1968, n. 1639 - Executive Regulation of the L. 963/1965.
L 41/1982 - Plane for rationalization and develop of maritime fishery (repealed).
D.Lgs. 153/2004 - Application of L. 38/2003 on maritime fisheries.
D.Lgs. 154/2004 - Fisheries and aquaculture modernization.
https://www.regione.sardegna.it/j/v/68?s=1&v=9&c=10003&na=1&n=10

Overall Performance Indicator (PI) Rationale

Considering the rationales reported for the SI a, b and c the overall performance should be 85.

Draft scoring range	**≥80**
Information gap indicator	**Information sufficient to score PI**

PI 3.1.2 – Consultation, roles and responsibilities

PI 3.1.2		The management system has effective consultation processes that are open to interested and affected parties The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties		
Scoring Issue		SG 60	SG 80	SG 100
a	Roles and responsibilities			
	Guide post	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are **generally understood**.	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are **explicitly defined and well understood for key areas** of responsibility and interaction.	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are **explicitly defined and well understood for all areas** of responsibility and interaction.
	Met?	**Yes**	**Yes**	**Yes**
Rationale				

Section 7.6.1 describes the various management, industry and scientific organisations involved in fisheries management.
The European Union, through the EMFF (European Fund for Maritime Affairs and Fisheries), supports the implementation of participatory local development strategies (CLLD: Community Led Local Development), implemented through the FLAG (Fisheries Local Action Group). The FLAG *Pescando Sardegna Centrooccidentale* Association was formed in September 2016 as a Local Action Group in the Fisheries Sector. It has the task of designing and implementing concrete interventions for the improvement of the fishing sector and related sectors in the reference territory, through a participatory local development approach. The association is supported by the Autonomous Region of Sardinia in the context of Priority 4 of the PO EMFF (European Fund for Maritime Affairs and Fisheries). FLAGs must develop a Local Development Strategy and the related Action Plan, to translate the objectives into concrete actions by acquiring a technical structure capable of performing these tasks. The Action Plans, as indicated in the Partnership Agreement, focus on a reduced number of areas of intervention on which to set up the local planning 2014-2020.
Moreover, Sardinia regional authority has its own consultation process within the department of agriculture and agro-pastoral reform (see https://www.regione.sardegna.it/j/v/68?s=1&v=9&c=10003&na=1&n=10). Therefore, SG 60, 80 and 100 are met.

b	Consultation processes			
	Guide post	The management system includes consultation processes that **obtain relevant information** from the main affected parties, including local knowledge, to inform the management system.	The management system includes consultation processes that **regularly seek and accept** relevant information, including local knowledge. The management system demonstrates consideration of the information obtained.	The management system includes consultation processes that **regularly seek and accept** relevant information, including local knowledge. The management system demonstrates consideration of the information and **explains how it is used or not used**.
	Met?	**Yes**	**Yes**	**No**
Rationale				

FLAG Pescando Sardegna Centro-occidentale Association is the main regular consultation process that enables local knowledge from the sector to be considered in development of the management system. However, it is not always explained by the EC how that information is used or not used. Industry stakeholders suggest this is also the case at a national level with Ministry consultation exercises, which are ad hoc exercises associated with the development of new policies prior to the drafting of regulation. In some cases, was evidenced during the site visit how some rules (e.g. length of nets to be used) are drafted considering the input of relevant stakeholders. Therefore, SG 80 is met.

The regional authority has a consultation framework, but according to some stakeholders is not active. Therefore, is not enough to consider that the management system at regional level considers always the information and explains how it is used or not use. Therefore, SG 100 is not met.

c	Participation			
	Guide post		The consultation process **provides opportunity** for all interested and affected parties to be involved.	The consultation process provides **opportunity and encouragement** for all interested and affected parties to be involved and **facilitates** their effective engagement.
	Met?		**Yes**	**Yes**

Rationale

The reform of the CFP with a greater emphasis on regionalization and sea basin-level management (enhancing the role of the FLAG), along with the development of the Better Regulation Guidelines ensures more effective consultation and is a recent improvement in performance that meets SG100.

References

Common Fisheries Policy Regulation (EU) no. 1380/2013 (the “Basic Regulation”)

Overall Performance Indicator (PI) Rationale

Considering the rationales reported for the SI a, b and c the overall performance should be 95.

Draft scoring range	**≥80**
Information gap indicator	**Information sufficient to score PI**

PI 3.1.3 – Long term objectives

PI 3.1.3		The management policy has clear long-term objectives to guide decision-making that are consistent with MSC Fisheries Standard, and incorporates the precautionary approach		
Scoring Issue		SG 60	SG 80	SG 100
a	Objectives			
	Guide post	Long-term objectives to guide decision-making, consistent with the MSC Fisheries Standard and the precautionary approach, are **implicit** within management policy.	**Clear** long-term objectives that guide decision-making, consistent with MSC Fisheries Standard and the precautionary approach are **explicit** within management policy.	**Clear** long-term objectives that guide decision-making, consistent with MSC Fisheries Standard and the precautionary approach, are **explicit** within **and required by** management policy.
	Met?	**Yes**	**Yes**	**Yes**

Rationale

CFP have clear long-term objectives that explicitly require the precautionary approach to be followed.
The CFP contains clear long-term objectives that guide decision-making and are consistent with MSC principles. These are presented in section 7.6.1 of the report.
The CFP is explicit in requiring the precautionary approach to guide all management policy, including the national management of vessels in the UoA. Therefore, SG 100 is met.

References

GFCM General Agreement
Common Fisheries Policy Regulation (EU) no. 1380/2013 (the “Basic Regulation”)

Overall Performance Indicator (PI) Rationale

See previous rationale.

Draft scoring range	**≥80**
Information gap indicator	**Information sufficient to score PI**

PI 3.2.1 – Fishery-specific objectives

PI 3.2.1		The fishery-specific management system has clear, specific objectives designed to achieve the outcomes expressed by MSC's Principles 1 and 2		
Scoring Issue		SG 60	SG 80	SG 100
a	Objectives			
	Guide post	**Objectives**, which are broadly consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are **implicit** within the fishery-specific management system.	**Short and long-term objectives**, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are **explicit** within the fishery-specific management system.	**Well defined and measurable short and long-term objectives**, which are demonstrably consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are **explicit** within the fishery-specific management system.
	Met?	**Yes**	**Partial**	**Partial**

Rationale

The decree 1916/DecA/46 of the regional authority have defined long term specific objectives for the common spiny lobster fishery. However, these are only implicit in the Italian management plan and decree and explicit objectives solely focus on the target species and such well-defined and measurable objectives do not extend to MSC P2 aspects. SG80 is met for P1 aspects, but not for P2 and SG80 is Therefore, only partially met.

References

Regione autonoma della Sardegna assessorato dell'agricoltura e riforma agro-pastorale - DECRETO N. 1916/DecA /46 del 29.08.2016 (see http://www.confcooperativesardegna.it/wp-content/uploads/2017/08/Decreto-Assessore-Agricoltura-n.1916_DecA_46-del-29.08.2016-deroga-pesca-aragosta.pdf)

Overall Performance Indicator (PI) Rationale

According to the rationale explained above the PI should score less than 80 and a condition should be considered here.

Draft scoring range	**60-79**
Information gap indicator	**Information sufficient to score PI**

PI 3.2.2 – Decision-making processes

PI 3.2.2		The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery		
Scoring Issue		SG 60	SG 80	SG 100
a	Decision-making processes			
	Guide post	There are **some** decision-making processes in place that result in measures and strategies to achieve the fishery-specific objectives.	There are **established** decision-making processes that result in measures and strategies to achieve the fishery-specific objectives.	
	Met?	**Yes**	**No**	
Rationale				

The decision-making process is carried out mainly by national and regional authorities. For the present fishery the decrees mentioned in 7.6.1 are clear evidence that there is a decision-making process in place that result in measures and strategies to achieve the fishery-specific objectives. Therefore, SG 60 is met. However, during the site visit was not completely clear such process is strongly established. Therefore, SG 80 is not met.

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b	Responsiveness of decision-making processes			
	Guide post	Decision-making processes respond to **serious issues** identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take some account of the wider implications of decisions.	Decision-making processes respond to **serious and other important issues** identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.	Decision-making processes respond to **all issues** identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.
	Met?	**Yes**	**No**	**No**
Rationale				

According to the decrees mentioned in 7.6.1, it is evident that to date amendments have occurred in order to respond to serious issues in the fishery (SG60 is met), but there is no evidence that serious and other important issues identified in relevant research, monitoring, evaluation and consultation are taken into account. Therefore, SG80 is not met.

c	Use of precautionary approach			
	Guide post		Decision-making processes use the precautionary approach and are based on best available information.	
	Met?		**Yes**	
Rationale				

The precautionary approach is used within the advice received from the SAC and STECF, using the best available data collected in the EU-MAP.

	Accountability and transparency of management system and decision-making process			
d	Guide post	Some information on the fishery's performance and management action is generally available on request to stakeholders.	**Information on the fishery's performance and management action is available on request**, and explanations are provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.	Formal reporting to all interested stakeholders **provides comprehensive information on the fishery's performance and management actions** and describes how the management system responded to findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.
	Met?	**Yes**	**Yes**	**Yes**
Rationale				

Information on the fishery's performance and management action is available from the regional authority website, which is an example of comprehensive information on fishery performance and management actions that are readily available. Therefore, SG 60, 80 and 100 are met.

	Approach to disputes			
e	Guide post	Although the management authority or fishery may be subject to continuing court challenges, it is not indicating a disrespect or defiance of the law by repeatedly violating the same law or regulation necessary for the sustainability for the fishery.	The management system or fishery is attempting to comply in a timely fashion with judicial decisions arising from any legal challenges.	The management system or fishery acts proactively to avoid legal disputes or rapidly implements judicial decisions arising from legal challenges.
	Met?	**Yes**	**Yes**	**No**
Rationale				

The regional author, along with the establishment of specific groups (e.g. FLAGS) that involve most of the stakeholders, are proactively attempting to avoid legal disputes through the agreement of advice and resulting decisions. For the specific fishery, as observed also during the site visit, there is no evidence that the management authorities are subject to continuing court challenges. Therefore, SG 60 and 80 are met. However, the management system does not act proactively to avoid legal disputes or rapidly implements judicial decisions arising from legal challenges. Therefore, SG 100 is not met.

References

Overall Performance Indicator (PI) Rationale

According to the rationales reported above the PI should score less than 80 and a condition should be considered here.

Draft scoring range	**60-79**
Information gap indicator	**More information sought**

PI 3.2.3 – Compliance and enforcement

PI 3.2.3		Monitoring, control and surveillance mechanisms ensure the management measures in the fishery are enforced and complied with		
Scoring Issue		SG 60	SG 80	SG 100
a	MCS implementation			
	Guidepost	Monitoring, control and surveillance **mechanisms** exist, and are implemented in the fishery and there is a reasonable expectation that they are effective.	A monitoring, control and surveillance **system** has been implemented in the fishery and has demonstrated an ability to enforce relevant management measures, strategies and/or rules.	A **comprehensive** monitoring, control and surveillance system has been implemented in the fishery and has demonstrated a consistent ability to enforce relevant management measures, strategies and/or rules.
	Met?	**Yes**	**No**	**No**
Rationale				

MCS in Sardinia is a combination of technical measures such as the requirement for Vessel Monitoring Systems (VMS) on vessels over 12m (all UoA vessels) and e-logbooks, even if such measures do not affect directly the UoA. This is supported by at sea inspection, aerial surveillance and port inspection. There is also corroboration of logbook data with sales notes, under the control of the Italian coast guard.
According to the information available during the site visit, control authorities have a reasonable expectation and confidence that MCS measures are effective. The resources available to and used by those authorities have demonstrated an ability to enforce the regulations applying to the fishery.
The Italian Coast Guard manages monitoring control and surveillance of Italian vessels.
Relevant statistics on sanctions and inspections are not available for the UoA but only for the whole Italian fleets on "Ecomafie" report 2018 (https://www.legambiente.it/rapporto-ecomafia). Therefore, is not possible to demonstrate the efficacy of the MCS mechanism but it is possible just to infer an expectation of efficacy, SG 60 is met but not 80 or 100

b	Sanctions			
	Guidepost	Sanctions to deal with non-compliance exist and there is some evidence that they are applied.	Sanctions to deal with non-compliance exist, **are consistently applied** and thought to provide effective deterrence.	Sanctions to deal with non-compliance exist, are consistently applied and **demonstrably** provide effective deterrence.
	Met?	**Yes**	**Yes**	**No**
Rationale				

According to the information available during the site visit, sanctions are reported to be consistently applied and are thought to provide effective deterrence. However, this has not been clearly demonstrated and SG100 is not met.

c	Compliance			
	Guidepost	Fishers are **generally thought** to comply with the management system for the fishery under assessment, including, when required, providing information of importance to the effective management of the fishery.	**Some evidence exists** to demonstrate fishers comply with the management system under assessment, including, when required, providing information of importance to the effective management of the fishery.	There is a **high degree of confidence** that fishers comply with the management system under assessment, including, providing information of importance to the effective management of the fishery.
	Met?	**Yes**	**No**	**No**
Rationale				

The statistics on inspection and infringements are not directly available for the present UoA. However, during site visit was evidenced by the stakeholder that fishers generally comply with the management system, but there is not any evidence about this conclusion. Therefore, SG 80 is not met.

	Systematic non-compliance			
d	Guidepost		There is no evidence of systematic non-compliance.	
	Met?		**Yes**	

Rationale

Some stakeholders during the site visit did report non-compliance (i.e. illegal fishery of trawlers within 3 nautical miles or in shallow waters), but this was recognized as an occasional occurrence and not indicative of systematic non-compliance

References

EFCA Mediterranean Deployment Plan 2014 http://www.efca.europa.eu/en/content/mediterranean-reports-2014.

Overall Performance Indicator (PI) Rationale

According to the rationales reported above the PI should score above 80.

Draft scoring range	**60-79**
Information gap indicator	**More information sought:** Availability of statistics related to the UoA about penalties and non-compliance

PI 3.2.4 – Monitoring and management performance evaluation

PI 3.2.4		There is a system of monitoring and evaluating the performance of the fishery-specific management system against its objectives There is effective and timely review of the fishery-specific management system		
Scoring Issue		SG 60	SG 80	SG 100
a	Evaluation coverage			
	Guidepost	There are mechanisms in place to evaluate **some** parts of the fishery-specific management system.	There are mechanisms in place to evaluate **key** parts of the fishery-specific management system.	There are mechanisms in place to evaluate **all** parts of the fishery-specific management system.
	Met?	**Yes**	**No**	**No**
Rationale				

According to the information available during the site visit, the mechanism in place to evaluate some parts of the fishery-specific management system are in the FLAG and in the framework of the regional authority, who can involve scientific institution as the University of Cagliari. Therefore, SG 60 is met. However, key parts of the management system as the effort reduction foreseen by the Italian Management plan for demersal fishery in GSA 11 are not evaluated Therefore, SG 80 is not met.

b	Internal and/or external review			
	Guidepost	The fishery-specific management system is subject to **occasional internal** review.	The fishery-specific management system is subject to **regular internal** and **occasional external** review.	The fishery-specific management system is subject to **regular internal and external** review.
	Met?	**Yes**	**No**	**No**
Rationale				

According to the information available during the site visit, the fishery-specific management system is subject occasional internal review by the Regional authority. Therefore, SG 60 is met. However, is not clear if such review is carried out in regular basis.

References

Overall Performance Indicator (PI) Rationale

According to the rationales reported above the PI should score above 80.

Draft scoring range	**60-79**
Information gap indicator	**More information sought**

8 Appendices

8.1 Assessment information

8.1.1 Small-scale fisheries

Considering the information gathered during the site visit is possible to conclude that the UoA can be defined as small-scale fishery. During the site visit was evidenced that the potential UoA is composed by vessels active in the gulf of Oristano are smaller than 12 m LFT and are using mainly passive gears within 12 nm of shore.

Table 8.1.1 – Small-scale fisheries

Unit of Assessment (UoA)	Percentage of vessels with length <15m	Percentage of fishing activity completed within 12 nautical miles of shore
UoA – Trammel net in Gulf of Oristano	100	100

8.2 Evaluation processes and techniques

8.2.1 Site visits

The following site visit were and engagement with stakeholder were carried out:

- 23/05/2019 – Engagement with stakeholder of MIPAAFT and GFCM.
- 07/06/2019 – Site visit at MEDAC headquarter Rome.
- 05/07/2019 – Site visit in Legacooppesca Sardinia (Cagliari) and Su palloso.

8.2.2 Recommendations for stakeholder participation in full assessment

The following stakeholder should be involved in the full assessment:

- MIPAAFT.
- GFCM.
- MEDAC.
- NGOs (Oceanan, WWF, GreenPeace, MedReact, etc.).
- COISPA scientists.
- CNR-IRBIM scientists.
- UNICA (University of Cagliari).
- CNR-IAS Oristano.
- IMC Oristano.

8.3 Risk-Based Framework outputs – delete if not applicable

8.3.1 Productivity Susceptibility Analysis (PSA)

Table X – PSA productivity attributes and scores		
Performance Indicator	2.2.1	
Productivity		
Scoring element (species)	1, *Sepia officinalis*	
Attribute	Rationale	Score
Average age at maturity	The common cuttlefish mature at the end of their first year of life	**1**
Average maximum age	Life span is known to be between 12 and 20 months.	**1**
Fecundity	Females produce from 20000 to 800000 oocytes between 12 and 14 mm, and spawn according to the simultaneous “end strategy”	**1**
Average maximum size Not scored for invertebrates	NA	**NA**
Average size at maturity Not scored for invertebrates	NA	**NA**
Reproductive strategy	Common cuttlefish is a demersal egg layer.	**2**
Trophic level	Trophic level around 4 (https://www.sealifebase.ca/TrophicEco/DietCompoList.php?ID=57474&GenusName=Sepia&SpeciesName=officinalis&fc=1897&StockCode=3953)	**3**
Density dependence Invertebrates only	There is no scientific evidence of depensatory or compensatory dynamics on population size.	**2**
Susceptibility		
Fishery Only where the scoring element is scored cumulatively	*Trammel net*	
Attribute	Rationale	Score
Areal Overlap	The species is distributed on rocky and muddy bottoms up to 200 m depth. The fishery is occurring on a limited area of the stock distribution.	**2**
Encounterability	By default, should score 3	**3**
Selectivity of gear type	Small individuals are not caught by nets (see Belcari and Lucchetti, 2017).	**2**
Post capture mortality	There is evidence of high released post-capture and survival (see Belcari and Lucchetti, 2017).	**1**
Catch (weight) Only where the scoring element is scored cumulatively	128 tons of catches in 2015-2016 by trammel net.	

Table X – PSA productivity attributes and scores		
Performance Indicator	2.2.1	
Productivity		
Scoring element (species)	2, *Red scorpionfish*	
Attribute	Rationale	Score
Average age at maturity	The red scorpionfish mature at age of 7-8 years (https://www.fishbase.se/summary/Scorpaena-scrofa)	**2**
Average maximum age	Average maximum age is about 25 years (https://www.fishbase.se/popdyn/PopCharList.php?ID=1759&GenusName=Scorpaena&SpeciesName=scrofa&fc=264).	**2**
Fecundity	Females produce more than 30000 eggs oer year (https://books.google.com.cy/books?id=J6WmBz3rWisC&pg=PA703&lpg=PA703&dq=Fecundity+scorpaena+scrofa&source=bl&ots=lWuP_p4481&sig=ACfU3U1UK8pBOkgDjSPrO6WOguis898SSQ&hl=it&sa=X&ved=2ahUKEwipvJnOp-XoAhUKy6QKHaqxDYoQ6AEwA3oECAoQAQ#v=onepage&q=Fecundity%20scorpaena%20scrofa&f=false) ”	**1**
Average maximum size	The avarage maximum size is 53 cm (https://www.fishbase.se/popdyn/PopCharList.php?ID=1759&GenusName=Scorpaena&SpeciesName=scrofa&fc=26)	**1**
Average size at maturity	Average size at maturity is 25 cm (https://www.fishbase.se/summary/Scorpaena-scrofa)	**1**
Reproductive strategy	The species is a Broadcast spawner (https://www.fishbase.se/summary/Scorpaena-scrofa)	**1**
Trophic level	Trophic Level: 4.3 ±0.5 se; Based on diet studies. (https://www.fishbase.se/summary/Scorpaena-scrofa)	**3**
Density dependence	NA	
Susceptibility		
Fishery	*Trammel net*	
Attribute	Rationale	Score
Areal Overlap	The species is distributed on rocky and muddy bottoms up to 500 m depth. The fishery is occurring on a limited area of the stock distribution.	**2**
Encounterability	By default, should score 3	**3**
Selectivity of gear type	Small individuals are regularly caught by nets.	**2**

Post capture mortality	There is no evidence of high released post-capture and survival.	**3**
Catch (weight)	108 tons of catches in 2015-2016 by trammel net.	

Table X – PSA productivity attributes and scores		
Performance Indicator	2.2.1	
Productivity		
Scoring element (species)	3, *Octopus vulgaris*	
Attribute	Rationale	Score
Average age at maturity	The common octopus mature at the end of their first year of life	**1**
Average maximum age	Life span is known to be between 12 and 18 months.	**1**
Fecundity	Females produce from 100000 to 500000 oocytes between 0.1 and 4 mm, and spawn according to the simultaneous “end strategy”	**1**
Average maximum size Not scored for invertebrates	NA	**NA**
Average size at maturity Not scored for invertebrates	NA	**NA**
Reproductive strategy	Common octopus is a demersal egg layer.	**2**
Trophic level	It is a predatory and carnivorous species. Both in the Mediterranean and in the Atlantic, its diet is composed of decapod crustaceans, bivalves and fish. The strong mimetic qualities typical of the species are used both to catch prey and to escape from predation by other fishes and marine mammals	**2**
Density dependence Invertebrates only	There is no scientific evidence of depensatory or compensatory dynamics on population size.	**2**
Susceptibility		
Fishery Only where the scoring element is scored cumulatively	*Trammel net*	
Attribute	Rationale	Score
Areal Overlap	The species is exploited by trawl fisheries and small-scale fisheries using set nets and traps. The species is distributed on rocky and muddy bottoms up to 200 m depth. The fishery is occurring on a limited area of the stock distribution.	**2**
Encounterability	By default, should score 3	**3**
Selectivity of gear type	Small individuals are not caught by nets.	**2**
Post capture mortality	There is evidence of high released post-capture and survival.	**1**

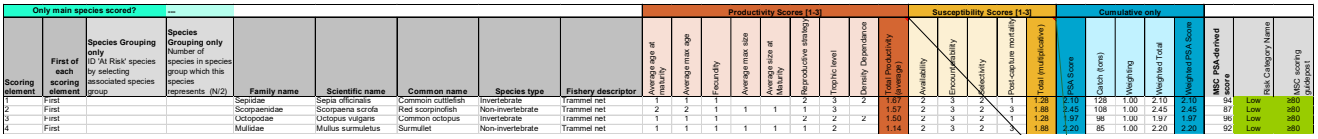
Catch (weight) Only where the scoring element is scored cumulatively	98 tons of catches in 2015-2016 by trammel net.	

Reference

BELCARI P., CUCCU D. (2017) – *Octopus vulgaris*. In: Sartor P., Mannini A., Carlucci R., Massaro E., Queirolo S., Sabatini A., Scarcella G., Simoni R. (eds), Sintesi delle conoscenze di biologia, ecologia e pesca delle specie ittiche dei mari italiani. Biol. Mar. Mediterr., 24: 106-113.

Table X – PSA productivity attributes and scores		
Performance Indicator	2.2.1	
Productivity		
Scoring element (species)	4, *Surmullet*	
Attribute	Rationale	Score
Average age at maturity	The Surmullet mature at age of 2-4 years (https://www.fishbase.se/Reproduction/MaturityList.php?ID=1327&GenusName=Mullus&SpeciesName=surmuletus&fc=332)	**1**
Average maximum age	Average maximum age is about 8 years (https://www.fishbase.se/popdyn/PopCharList.php?ID=1327&GenusName=Mullus&SpeciesName=surmuletus&fc=332).	**1**
Fecundity	Females produce more than 60000 eggs oer year (https://www.fishbase.se/Reproduction/FishEggInfoSummary.php?ID=1327&GenusName=Mullus&SpeciesName=surmuletus&fc=332&StockCode=1345) ”	**1**
Average maximum size	The avarage maximum size is 40 cm (https://www.fishbase.se/popdyn/PopCharList.php?ID=1327&GenusName=Mullus&SpeciesName=surmuletus&fc=332)	**1**
Average size at maturity	Average size at maturity is 20 cm (https://www.fishbase.se/Reproduction/MaturityList.php?ID=1327&GenusName=Mullus&SpeciesName=surmuletus&fc=332)	**1**
Reproductive strategy	The species is a Broadcast spawner (https://www.fishbase.se/summary/Mullus-surmuletus.html)	**1**
Trophic level	Trophic Level: 3.5 ±0.3 se; Based on diet studies. (https://www.fishbase.se/summary/ Mullus-surmuletus.html)	**2**
Density dependence	NA	
Susceptibility		
Fishery	*Trammel net*	
Attribute	Rationale	Score
Areal Overlap	The species is distributed on rocky and muddy bottoms up to 400 m depth. The fishery is occurring on a limited area of the stock distribution.	**2**

Encounterability	By default, should score 3	**3**
Selectivity of gear type	Small individuals are regularly caught by nets.	**2**
Post capture mortality	There is no evidence of high released post-capture and survival.	**3**
Catch (weight)	85 tons of catches in 2015-2016 by trammel net.	



Only main species scored?	---								Productivity Scores [1-3]								Susceptibility Scores [1-3]				Cumulative only							
Scoring element	First of each scoring element	Species Grouping only ID 'At Risk' species by selecting associated species group	Species Grouping only Number of species in species group which this species represents (N/2)	Family name	Scientific name	Common name	Species type	Fishery descriptor	Average age at maturity	Average max age	Fecundity	Average max size	Average size at Maturity	Reproductive strategy	Trophic level	Density Dependance	Total Productivity (average)	Availability	Encounterability	Selectivity	Post-capture mortality	Total (multiplicative)	PSA Score	Catch (tons)	Weighting	Weighted Total	Weighted PSA Score	MSC* PSA-derived score	Risk Category Name	MSC scoring guidepost
1	First			Sepiidae	Sepia officinalis	Commoin cuttlefish	Invertebrate	Trammel net	1	1	1			2	3	2	1.67	2	3	2	1	1.28	2.10	128	1.00	2.10	2.10	94	Low	≥80
2	First			Scorpaenidae	Scorpaena scrofa	Red scorpionfish	Non-invertebrate	Trammel net	2	2	1	1	1	1	3		1.57	2	3	2	3	1.88	2.45	108	1.00	2.45	2.45	87	Low	≥80
3	First			Octopodae	Octopus vulgaris	Common octopus	Invertebrate	Trammel net	1	1	1			2	2	2	1.50	2	3	2	1	1.28	1.97	98	1.00	1.97	1.97	96	Low	≥80
4	First			Mullidae	Mullus surmuletus	Surmullet	Non-invertebrate	Trammel net	1	1	1	1	1	1	2		1.14	2	3	2	3	1.88	2.20	85	1.00	2.20	2.20	92	Low	≥80

8.4 Harmonised fishery assessments – delete if not applicable

No other certified fisheries are present in the area. However, cumulative impacts of common octopus and spiny lobster fisheries have to be considered.

9 Corporate branding

This template may be formatted to comply with the Conformity Assessment Body (CAB) corporate identity. The CAB shall ensure that content and structure follow the template.

Examples of appropriate amendments are:

a. A title page with the company logo;
b. A company header and footer used throughout the report;
c. Replacement of font styles;
d. Inclusion of contact details for the CAB in relation to consultation
e. Deletion of any sections that are not applicable, though CABs should leave any sections that will be populated later in the assessment; and,

Deletion of introductory text or instructions.

10 Template information and copyright

This document was drafted using the 'MSC Pre-Assessment Reporting Template v3.1'.

Template version control

Version	Date of publication	Description of amendment
1.0	15 August 2011	Date of first release
1.1	31 October 2013	Updated in line with changes to CR v1.3
2.0	08 October 2014	Confirmed background sections (Section 3) as optional (use of 'may' statements) Modified Table 6.3 to create a simplified scoring sheet to be completed in place of full evaluation tables Made amendments to PIs based on Fishery Standard Review changes (e.g. removed original PIs 1.1.2, 3.1.4 and 3.2.4).
2.1	9 October 2017	Inclusion of optional full evaluation tables
3.0	17 December 2018	Release alongside Fisheries Certification Process v2.1
3.1	29 March 2019	Minor document changes for usability

A controlled document list of MSC program documents is available on the MSC website (msc.org)

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