Food and Agriculture Organization of the United Nations

General Fisheries Commission for the Mediterranean
Commission générale des pêches pour la Méditerranée

BLACKSEA4FISH PROJECT DOCUMENT

Project Title:	**Technical cooperation to support fisheries management in the Black Sea**
Participants:	Bulgaria, Georgia, European Union, Romania, Russian Federation, Turkey, Ukraine
Starting date:	2017
Donors:	Bulgaria (in-kind), European Commission, Turkey (in-kind)

Executive Summary:

Dramatic environmental changes have occurred in the Black Sea ecosystem, which have also been accompanied by changes in the abundance and distribution of commercial species. Apex pelagic predators have shown an important decline, while anchovy, a key species in the ecosystem and the stock that sustains the region's largest commercial fishery, collapsed in the late 1980s and displayed abrupt fluctuations since then. Other species, such as sturgeon, are considered to be threatened by different human activities. Beyond these, there are some evidences that illegal, unreported and unregulated fishing as well as by-catch may be noticeably high for certain fisheries in the Black Sea. It is also recognized that small-scale fisheries which play an important role in providing income and ensuring food security, particularly within economically vulnerable coastal communities in the Black Sea tend to be undervalued, potentially leading to their marginalization in the decision-making process.

On the other hand, almost all commercially exploited species are known to be a unit stock shared by the Black Sea countries. Riparian countries, in an attempt to ensure sustainability in the exploitation of the stocks have been implementing various fishing regulations. However, the noticeable decrease observed in the landings indicates that these measures may be insufficient or even may have antagonistic effects on the stocks.

All these issues at stake necessitated a regionally influential, widely recognized institutional arrangement, and eventually, the Working Group on the Black Sea (WGBS), developed as an ad hoc mechanism for scientific work and decision-making for Black Sea riparian States was created. Although some work to support the WGBS has been carried out in recent years, the tasks assigned to the WGBS work program proposed to the Commission each year continued to grow, including in terms of cooperation among riparian countries. With a view to promoting this cooperation further, a new initiative to support sustainable fisheries in the Black Sea through a scientific and technical project

[*] Document produced for the first meeting of the Steering Committee of the BlackSea4Fish Project (30 May 2018), endorsed by the GFCM Working Group for the Black Sea (WGBS) (11-13 July 2018)

(the BlackSea4Fish Project) was discussed during the fifth meeting of the WGBS (April 2016) and endorsed by the fortieth session of the Commission (May 2016).

The BlackSea4Fish cooperative regional project would therefore contribute to further bridging gaps at the regional level and to endowing the WGBS with the necessary resources to ensure that the Mid-term Strategy (2017-2020) for the sustainability of Black Sea fisheries is efficiently implemented.

The project seeks to address the problems in the Black Sea implement activities and produce solutions under five main challenges and outputs, namely: 1) Scientific advice in support of management, 2) Sustainability of small-scale fisheries and the livelihoods for coastal communities, 3) Fight against Illegal, Unreported and Unregulated fishing, 4) Mitigation of unwanted interactions between fisheries and marine ecosystems and environment, and 5) Cooperation, outreach and dissemination of project results.

CONTENTS

ACRONYMS

BSAS	Black Sea Acoustic Survey
BlackTrS	Black Sea Trawl Survey
CoC	GFCM Compliance Committee
COMECON	Council for mutual economic assistance
CPCs	Contracting parties and Cooperating non-contracting parties
CSOs	Civil Society Organizations
DCF	Data Collection Framework
DCRF	GFCM Data Collection Reference Framework
DEPM	Daily Egg Production Method
EFCA	European Fisheries Control Agency
IUU	Illegal, unreported and unregulated (fishing)
mid-term strategy	mid-term (2017-2020) strategy towards the sustainability of Mediterranean and Black Sea fisheries
MSE	Management Strategy Evaluation
MCS	Monitoring, Control and Surveillance
MoU	Memorandum of Understanding
NIS	Non-indigenous species
PSC	Project Steering Committee
RFMO	Regional Fisheries Management Organization
RPOA-SSF	Regional Plan of Action for Small-Scale Fisheries in the Mediterranean and the Black Sea
RPOA-IUU	Regional Plan of Action against Illegal, Unreported and Unregulated (fishing)
SA	Stock Assessment
SAC	GFCM Scientific Advisory Committee on Fisheries
SDG	Sustainable Development Goal
SGSABS	GFCM Subregional Group for Stock Assessment in the Black Sea
SO2	FAO's Strategic Objective 2
SSF	Small-Scale Fisheries
STECF	EU Scientific, Technical and Economic Committee for Fisheries (STECF)
VMS	Vessel Monitoring System
WGBS	GFCM Working Group on the Black Sea
WGIUU	GFCM Working Group on Illegal, Unreported and Unregulated (fishing)
WGVMS	GFCM Working Group on Vessel Monitoring System

INTRODUCTION AND RATIONALE FOR THE PROJECT

Setting aside its limited connection to the Mediterranean Sea through the narrow strait of Istanbul, the Black Sea is landlocked. Since this enclosed sea is located on a deep depression and 90% of its volume is anoxic, fish and fisheries have concentrated on the narrow continental shelf. Its hydrography is characterized by a basin scale cyclonic boundary current encircling the entire Black Sea. Despite its size, the Black Sea displays significant regional differences with regards to climatic features. The North is extremely productive, however, the surface temperature in winter may get colder than its major fish species can tolerate. At the same period, the South offers warm shelter. The majority of the fishes are therefore forced to undergo long range, transboundary feeding, spawning and overwintering migrations.

Where natural resources are confined to geographically discrete regions but spread across different political territories, integrated and internationally coordinated resources management strategies become crucial. There have been various efforts in the past to ensure cooperative and concerted management of the Black Sea marine living resources. These initiatives have played important roles in enhancing cooperation in the area, but the regional management of Black Sea fisheries remained weak until the GFCM Working Group on the Black Sea (WGBS) was established and met for the first time in Constanta, Romania, on 16-18 January 2012.

Since then, the number of stocks for which a scientific advice is provided has significantly increased and the level of cooperation towards the sustainable exploitation of the common marine living resources has boosted, especially after Georgia and Ukraine obtained the status of cooperating non-contracting parties in 2015 and the Russian Federation became more actively involved in the scientific work of the GFCM. The adoption of the Bucharest Declaration in October 2016 on occasion of the High-level meeting towards enhanced cooperation on Black Sea fisheries and aquaculture has been an important milestone towards regional cooperation.

Among others, this declaration recognized the existence of an incipient regional project manned by the GFCM, namely the BlackSea4Fish project, and called upon all riparian countries to cooperate in its implementation. Right after the adoption of the Bucharest declaration, a brainstorming meeting was held to discuss the challenges that this project needed to address. Under the aegis of the GFCM, initial challenges identified included the need to provide timely data and information, to encourage the active participation of scientists in technical work, to improve the evaluation and management of fishery resources, to protect marine biodiversity and marine ecosystems from harmful bycatch and discarding practices and to reduce the incidence of illegal, unreported and unregulated (IUU) fishing. Most importantly, there was agreement that the project had to support the work of the WGBS – which in the meantime had proven to be a very active setting to foster cooperation, seeing the tasks assigned to its workplan progressively increase each year. The need for more solid support to its work was evident in light of the alarming state of Black Sea fisheries and ecosystems and the need for strong scientific advice in support of management decisions. The BlackSea4Fish project therefore came about as the tool which would contribute to further bridging gaps at the regional level, helping the riparian countries, where needed, to overcome regional priorities and infrastructure needs and endowing the WGBS with the necessary resources to ensure that its workplan is efficiently implemented.

SECTION 1 – EXPECTED PROJECT OUTPUTS

OUTPUT 1: SCIENTIFIC ADVICE IN SUPPORT OF MANAGEMENT STRENGTHENED

Only 40 percent of the landings in the GFCM area of application currently come from stocks for which scientific advice is provided to the Commission, and an even smaller percentage of the landings results from fisheries that are subject to management plans. In view of this, it is recognized that there is a need to improve the coverage and quality of advice on the status of key stocks and increase the percentage of landings from fisheries regulated by specific multiannual management plans. Although the advice in the Black Sea covers a relatively higher percentage of the catches in the area, some of the assessments are based on data limited methods, and there is a need for an efficient data collection, governed by the principles of the GFCM Data Collection Reference Framework (DCRF). In addition, the advice should also be based on a thorough analysis based on models that better respond to Black Sea specificities and on the systematic integration of comprehensive information for more efficient fisheries management. The suitability of the measures within multiannual management plans in place has to be assessed and alternative scenarios tested to be able to adapt the plans accordingly, where necessary, to ensure these effectively contribute towards the restoring the state of key fisheries, maintaining populations at levels capable of producing maximum sustainable yield, and promote their sustainability. It is crucial to foster a science-policy interface towards sound scientific advice in support of management, by working on integrating all relevant elements (e.g. socio-economic and ecosystems-related aspects) in the formulation and implementation of management plans.

This output aims at increasing the existing scientific knowledge in support of fisheries management and towards the adoption of necessary decisions to revert the current overexploitation rates, limiting the percentage of stocks outside biologically safe limits.

Improved data collection and analysis on Black Sea fisheries and ecosystems

The origin of the datasets used today to structure management advice for the Black Sea dates back to the first expert groups of the EU Scientific, Technical and Economic Committee for Fisheries (STECF) that met in 2009. In these datasets, the EU part of the Black Sea was represented by the data collected under the Data Collection Framework (DCF) of the European Commission, while information for the other riparian countries was provided by independent national experts. Because of this approach, the source and the quality of data representing the non-EU side of the Black Sea remained, to a significant extent, unclear. Following the creation of the GFCM Subregional Group for Stock Assessment in the Black Sea (SGSABS) as a subsidiary body of the WGBS, and the significant improvements made with the establishment of the GFCM Data Collection Reference Framework (DCRF), the quality and traceability of the data provided by GFCM member countries has increased considerably. However, the data provided by the countries through the DCRF is not always sufficient to apply some of the stock assessment models used. An additional – and significant – amount of fishery data is also collected through fisheries surveys carried out at universities and other research institutes in the countries, and an important part of this data, which has not been made available in the stock assessment work done under SGSAS, is stored in the archives of the institutes and scientists.

Another dimension of the data deficiency problem stems from the inaccessibility to historical data. Considerable amount of fisheries data has been collected during the former Union of Soviet Socialist Republics period, and some other data collected in the countries were also published as grey literature. Such data sets are currently not accessible for stock assessment.

It has also been noted that data collected by some of the Black Sea cooperating non-contracting parties of the GFCM are not complete or exhaustive, or not in line with the requirements of the DCRF. Compatibility of the existing data collection formats used throughout the region, the kind of biological and socio-economic data collected, the correct application of requirements of the DCRF are some other critical obstacles standing in front of reliable stock assessments and of good management advice. Moreover, the importance of small-scale fisheries (SSF) and unreported fishing data has often been

disregarded in the stock assessments. Little information existing on SSF underlines the crucial importance of data collection for this activity.

Solution to the problem require the definition of a common regional ground ensuring consistency, and in connection, i) setting up of a regional database in which biological and statistical data to be rescued from their depositories, collected so far and to be collected by the the CPCs; ii) structuring stock assessment formats; iii) developing sampling methodologies related to small-scale fisheries and DCRF requirements. It is also crucial to recover, update and utilize historical information up to the inception of this project, if possible, and share it with scientists in the Black Sea riparian countries.

The objectives of this activity are expected to be achieved through:

1.1.1: Survey of literature to compile basic biological information on all priority stocks from all fisheries. The survey will also serve to address information gaps and to harmonize biological information compiled by Black Sea experts and institutes to be used in joint stock assessments

1.1.2: A data collection workshop organized to identify data deficiencies, determine areas where data collection is problematic, and recover existing but unreachable data

1.1.3: Pilot landing site surveys conducted in the problematic areas under the guidance of topic experts organized to assist countries in designing or improving their national data collection programs, in particular for the priority species

1.1.4: A database created to archive and secure existing, new and recovered data for the use of SGSABS

1.1.5: A series of tagging experiments to resolve uncertainties associated with migratory behavior of fishes, particularly stock boundaries, biology and ecology of Turbot and Atlantic Bonito.

Mark-Recapture survey conducted to obtain information about recent status of pelagic predator stocks, such as Atlantic Bonito and bluefish, which were historically important for the fishery of the all riparian states, however exploited only by few countries nowadays

1.1.6: Biological sampling carried out by a regular monitoring program involving the use of observers on board

Methodology

The project will ensure that the data collection will be consistent with the objectives of the mid-term strategy towards the sustainability of Mediterranean and Black Sea fisheries (mid-term strategy). In this context, and without prejudice to additional species, the GFCM has agreed upon a list of priority commercial species by subregion for which the production of advice is deemed crucial for addressing pressing management needs. The list of priority species agreed for the Black Sea are as follows:

	Black Sea	
Pelagic species	*Engraulis encrasicolus*	*Trachurus mediterraneus*
	Sprattus sprattus	*Sarda sarda*
Demersal species	*Merlangius merlangus*	*Scophthalmus maximus*
	*Rapana venosa**	*Mullus barbatus*
Non-indigenous species	*Rapana venosa**	
Species of conservation concern	*Squalus acanthias*	

** Potentially subject to management*

A fundamental step planned towards improved data collection and analysis on priority species, fisheries and ecosystem is to address gaps and weaknesses in available information. This issue has been elaborated in the fifth SGSABS and an inventory of available data for the major commercial

species has been tabulated by the participants (*Appendix 7/I* of the report). Initially, these inventories will guide to reach the raw data which will be archived in a regional database for the Black Sea region. The same inventory will also serve to define problematic areas and species, where systematic sampling is lacking. The priority will be given to the basic biological data required to run accurate stock assessments and to provide useful management advice, at least for priority species. At this stage the project will provide for an opportunity to contact all riparian countries and seek their cooperation in giving access to their historical data series. Previously published articles, reports and grey literature will also be included in the database. Additionally, outputs and deliverables provided by previous ad-hoc projects such as Perseus, CoCoNet and Devote will also be taken into consideration to complete the regional database.

A data collection workshop will compile, harmonize and format biological and socio-economic data on Black Sea fisheries, both at the national and regional level. Another aspect of the data collection will endeavor to identify recent alien species, in particular non-indigenous species and "Mediterranization" trends. National experts participating in this workshop will have to submit the raw data used for stock assessment for relevant species using the form prepared by the project. This step also necessitates setting up rules for data security protocol respecting any confidentiality requirements and ensuring protection of data privacy, as well as data quality control standards.

The cases proven to be problematic with regards to data collection and submission will be supported through bilateral technical assistance. The data related to SSF where they have significant impact on Black Sea ecosystems but yet go unreported, will be considered within the assistance context. With that respect, local pilot data collection surveys addressing critical species such as turbot are also foreseen both for on-site training of the technical staff and to fill the data gaps in the areas concerned.

Similarly, a mark-recapture survey for the data poor highly migratory pelagic stocks, such as those of Atlantic Bonito and Bluefish will be promoted and technically assisted to fill the data gaps of data on these species.

In addition to this, the BlackSea4Fish project will also enable to compile information on the state, distribution and biological information of sturgeons and marine mammals, and propose selected species as priority species of conservation concern, as appropriate.

Overall, the role of the BlackSea4Fish project will be to assist countries in designing or improving their national data collection programs, in particular for the priority species mentioned, consistent with the DCRF requirements and in line with the objectives of the mid-term strategy. National efforts to this end are expected to be monitored by the project. National fishing fleet characteristics, commercial catch or landing data and fishing effort statistics may be completed with relevant biological data. Furthermore, basic economic data such as price of fish, fuel, labor and variable costs will be examined and collected.

Improved scientific advice

During the fifth meeting of the SGSABS, scientific advice was provided on the status of eight stocks in the Black Sea: turbot (*Scophthalmus maximus*), Black Sea anchovy (*Engraulis encrasicolus ponticus*), European sprat (*Sprattus sprattus*), horse mackerel (*Trachurus mediterraneus ponticus*), piked dogfish (*Squalus acanthias*), whiting (*Merlangius merlangus*), red mullet (*Mullus barbatus*), rapa whelk (*Rapana venosa*) and Azov Sea anchovy (*Engraulis encrasicolus maeoticus*). Information was also analyzed for Atlantic bonito (*Sarda sarda*), but no stock status or advice was provided due to insufficient information made available to the Group. Based on the above, the advice provided covers a large percentage of the total catches in the Black Sea. Some of these stocks, however, were in fact data-limited stocks and more data required to run accurate stock assessments and provide useful management advice.

The situation described in relation to the data collection also applies to the stock assessment. Most of the assessments carried out in the Black Sea continue to use the methods, assumptions and some of

the time series used in early STECF meetings during the late 2000s. In these meetings, the stocks were assessed by experts outside the Black Sea and the assessments were based on data made available during the meetings without the possibility to assess in detail the quality of the data. With that regard, SGSABS in its fifth meeting examined the data used in the assessments and listed some important uncertainties associated with stock assessment results. The SGSABS particularly noted the following issues: i) stock identification of main commercial species, especially for red mullet, horse mackerel piked dogfish and turbot; ii) data borrowing to overcome deficiencies caused by lack of length distribution of landings for all the main commercial species, as well as age length keys; iii) direct and indirect fisheries affecting piked dogfish, including the spatial distribution of fishing effort and catches, and the existence of complementary/seasonal fisheries; iv) limited information on Rapa whelk abundance, distribution and length, and age estimations; v) the estimation of bycatch of priority species, including: estimates of bycatch of piked dogfish from the different fleets; vi) the estimates of discards of whiting, including discards by age, and further scientific evidence of the discards of turbot from the Rapa whelk beam trawl fishery, as the critical sources of uncertainty. Additionally, limited surveys at sea that provide fishery-independent indexes of abundance for the main commercial species and the need for more flexible stock assessment models, with the objective of better accommodating model assumptions, uncertainties on biological parameters and fisheries characteristics, and fragmented data were listed to be considered to improve the accuracy of the stock assessments.

The project will attempt to address information gaps and harmonization needs underlined by SGSABS to ensure to perform joint stock assessment.

The objectives of this activity are expected to be achieved through:

1.2.1: Two level training on the fundamentals of stock assessment; at first level, training of one/two experts (trainers/coaches) from each CPC; at the second level, facilitating the trainers involved in the first phase to train national technical staff in their own language (sub-activity: preparation of the course content of the stock assessment courses to be provided by the national coaches);

1.2.2: Workshops/training courses on age determination of problematic species (i.e anchovy, red mullet, Rapa Whelk, piked dogfish)

1.2.3: Otolith exchange exercise to evaluate uncertainties in the catch at age data associated with ageing

1.2.4: A workshop/collegium on the stock identification for the main commercial species, especially for red mullet, horse mackerel piked dogfish and turbot

1.2.5: Meetings of the subregional group on stock assessment in the Black Sea

1.2.6: Workshops on Management Strategy Evaluation (MSE) for turbot fishery

Methodology

The main methodology will be to organize technical workshops, working groups and training on selected issues, namely on stock assessment methodologies and age reading for anchovy, European sprat and horse mackerel, red mullet and Rapa whelk. An otolith exchange exercises among the experts involved in ageing will also be carried out regularly following relevant methodologies to estimate uncertainties associated with ageing and to evaluate the impact of the trainings on ageing.

As has already been experienced in the similar trainings offered in the Black Sea on various occasions, the language is the main obstacle for the technical staff participating in the activities. Therefore, in order to maximize the benefit to be gained by the participants, the trainings are planned to take place in successive phases. The project will prepare background information on the existing models currently used and a compilation of the key methodological issues. This information will include the type of models used/can be used in stock assessment, minimum data requirements, model limitations and assumptions with the objective to help the formulation of the content of the stock assessment training

and the training instructions. The following step will target training of one/two national experts (trainers) familiar with fisheries science (preferably from universities and with teaching experience). The purpose of the training will be to equip the national experts with the information prepared in the first phase. At the last stage, the project will lay the groundwork for the experts participating in the previous phase to train the technical staff in their own country and in their own language.

The improvement of the expertise on stock assessment is expected to have a direct impact in the quality of the work carried out annually within the context of the SGSABS, enriching the expertise, information and discussions at the Group and therefore the quality of the advice provided yearly to the WGBS.

Joint surveys-at-sea

Joint surveys are vital for scientific exchange and data collection and the WGBS and SGSABS have previously stressed the need to carry out scientific surveys at sea in order to support stock assessment work. In particular, it was concluded that a minimum set of fishery-independent surveys covering the widest possible area should be carried out regularly in order to meet requirements for assessing the main stocks in the area. To this end, the WGBS and SGSABS have already started identifying the main survey priorities and needs in the Black Sea (see table below).

Priority joint surveys for stock assessment

Priority	Period	Type of survey	Target species	Current area covered	Potential expansion
High	TBD	Hydro-acoustic	Pelagic species (anchovy)	Turkey	Turkey (with the possibility to cover Georgia)
High	TBD	Trawl	Demersal species (turbot)	Turkey, Bulgaria, Romania, Georgia, Ukraine	*To be assessed to ensure harmonization of surveys*

These planned surveys are expected to provide information on a large number of species over large areas and to serve as tuning indices for assessment purposes, as well as provide validation on the advice on the status of the main commercial stocks. Furthermore, an international survey covering the whole Black Sea area is highly recommended. However, it needs to be noted that there are some constraints linked to the execution of such an endeavor, such as, for instance, limited or unaccepted research permits, permissions to enter national waters, visa requirements and political disputes over some marine areas.

An important concern is the storage and ownership of data collected during the joint surveys. This issue needs to be planned prior to commencing the joint survey to ensure that the data is used in the most efficient way.

Moreover, there are some more constraints linked to the execution of joint surveys, such as limited or unaccepted research permits, permissions for foreign research vessels to enter National Waters, Territorial Sea, Economic Zone and on the Continental Shelf, visa requirements for scientific and technical research activities conducted by foreigners and international organizations. These hurdles standing in front of this initiative need to be cleared out by competent national authorities in accordance with the international and national law. Therefore, before undertaking any execution of joint surveys, all necessary authorization should be obtained from the competent authorities of the countries which has full sovereign rights and the authority to apply all conditions and to make all the arrangements for the foreign marine scientific researches (MSR) to be conducted in their national waters, particularly discretion intended to allow or deny MSR activities, whenever it deems necessary, even while such activities are going on.

The objectives of this activity are expected to be achieved through:

1.3.1: Inception workshop on preparation of common surveys

1.3.2: Harmonization and synchronization of the ongoing demersal trawl surveys conducted in the Black Sea, with possibility to extend the geographic range towards non-surveyed areas

1.3.3: Joint small pelagic surveys (Hydro-acoustic or DEPM) covering the entire geographical range of the species in question during the period of sampling

1.3.4: Exchange of experts among the research vessels during the ongoing fisheries surveys for the purpose of training

1.3.5: Analysis of the data collected during the joint surveys

OUTPUT 2: SUSTAINABLE SMALL-SCALE FISHERIES SUPPORTED TO IMPROVE LIVELIHOODS FOR COASTAL COMMUNITIES

It is recognized that small-scale fisheries play an important role in providing income and ensuring food security, particularly within economically vulnerable coastal communities, with an impact on both men and women, the latter being significant participants particularly in postharvest and processing activities. However, available data to measure small-scale fishing activity are limited and fragmented and the integration of this sector in formal data collection processes can also vary widely from country to country. Furthermore, only superficial data is available at the regional level on the economic vulnerability of this sector, its impact on women's empowerment, its provision of decent work or its role within the regional value chain. Due to these data and organizational limitations, small-scale fisheries tend to be undervalued, potentially leading to their marginalization in the decision-making process. In addition, information on the biological and economic dimensions of recreational fisheries at the regional level is limited. Preliminary work also indicates potential interactions, both positive and negative, between small-scale fishing and recreational fishing activities, however, more study is needed to better understand this relationship.

This output aims to implement actions to enhance and disseminate the available knowledge on small-scale fisheries and recreational fisheries with a view to supporting livelihoods in small-scale fishing communities, including the promotion of decent work.

Execution of a comprehensive survey on the characteristics of small-scale fisheries, including socioeconomic aspects

SSF are the predominant fisheries in the Black Sea, representing approximately 90 percent of the region's fishing fleet, but approximately 29 percent of total landing value from the region's capture fisheries. Despite this, they play a crucial role in sustaining livelihoods in the region's coastal communities, however, more detailed data is not available on SSF activity or its socio-economic impact. This lack of data leads to an undervaluing of the role of SSF and hinders policy interventions to support this sector. While general data are available at the regional level, more detailed data is needed in order to inform management decisions to support these fisheries.

In this regard, a regional survey will be carried out for all fleet segments, allowing for appropriate comparison between small-scale fisheries and other fishing activities. The survey will serve to harmonize data collection methods (in line with the GFCM Data Collection Reference Framework) and facilitate consideration of this sector within policy interventions. Capacity development will be enabled too, in that national experts will be trained on data collection methodologies, which can be further followed through future data collection activities.

The objectives of this activity are expected to be achieved through:

2.1.1 Preparation of socio-economic survey sampling plans and training of samplers in select Black Sea riparian states where help is needed

2.1.2 Execution of socio-economic survey data collection

2.1.3 Analysis of socio-economic data

Methodology
One common difficulty with fisheries-related socio-economic data is that data collection is not always designed with fisheries management in mind and therefore there may be issues ensuring the necessary data reaches the appropriate fisheries management authorities. For this reason, it is foreseen that a socio-economic sample survey will be carried out in relevant Black Sea countries. In order to undertake the survey, national experts will be assisted in designing a survey sample, in line with the methodology guidelines which have been prepared. The survey will seek to address socio-economic data collection needs (as foreseen in the DCRF) and will serve to fill in gaps in regular ongoing data collection activities. Beyond required socio-economic data, additional variables will be collected on select topics, such as to support gender disaggregated data, to collect data on labour mobility and data to improve the subregional characterization of small-scale fisheries. The methodology will be harmonized with similar data collection underway in other GFCM subregions and will be based on input from the Mediterranean FAO Regional Projects. The survey execution will also facilitate the development of protocols for the electronic transfer of information in order to improve efficiency. The precise implementation of the sample survey in terms of, for example, the sample size and the frequency of sampling will be determined on a case-by-case basis following discussion with the national focal points and their teams.

Evaluation of the state of recreational fisheries

In order to better understand the biological and socio-economic impact of fisheries on coastal communities, there is a need to understand the role of recreational fisheries. Despite some similarities between small-scale and recreational fisheries, including potential overlap and synergies between the two, the latter deserves specific attention. Preliminary information available on recreational fisheries at the regional level indicates enormous variations among countries regarding existing data collection, management efforts and legislative frameworks for these fisheries. At the same time, individual case studies indicate potential significant impacts of this sector. Better data collection is therefore needed in order to understand the biological and socio-economic impact of recreational fisheries and to consider these impacts in management measures, ensuring they do not undermine efforts towards the sustainable exploitation of stocks.

The implementation of this activity will result in the development of a common methodology for the assessment of recreational fishing in the Black Sea, as well as the piloting of this methodology through select strategic national-level pilot studies.

The objectives of this activity are expected to be achieved through:

2.2.1 Identification of study population for pilot study on marine recreational fisheries in a country requesting help

2.2.2 Data collection for pilot study on national marine recreational fisheries in one Black Sea country

2.2.3 Data analysis and revision of recreational fisheries data collection manual

Methodology
A data collection manual will address various data collection methods, including determining appropriate target populations, designing the sample frame, various techniques for collecting data and estimation methods towards producing accurate data on fishing effort, catch, and socio-economic impact for marine recreational fisheries at the national level.

The country for the pilot study will be selected based on potential existing marine recreational fishing data collection systems and eventual constraints. As the recreational fishing data collection manual

aims to provide a harmonized methodology for data collection in the Mediterranean and Black Sea, the countries selected across both basins to participate in the pilot study should represent a range of potential challenges and scenarios for data collection. For example, the methodology is intended to be applicable for countries with and without licenses or formal registries of the recreational fishing population and allow for the collection of either off-site or on-site surveys. New approaches, including smartphone apps may also be considered for testing.

Support the establishment of regional platform(s) for professionals of the small-scale fisheries sector

The limited participation of small-scale fisheries in the decision-making process can, to a certain extent, be attributed to the need for coordination of these fisher stakeholders at the national and regional level. Important progress has been made to build platforms and associations to promote collaborative knowledge-sharing and ensure participatory approaches for the management of small-scale fisheries. However, progress to this end has been uneven throughout the region and many small-scale fishers are still not supported by mechanisms for effective participation in decision-making. Therefore, there is a need to create an enabling environment for such mechanisms. Efforts have been deployed to take stock of existing local, national and subregional platforms, however, further action is needed to ensure a bottom-up approach to addressing the needs of small-scale fishers at the regional level.

A tailored roadmap to support SSF organizations in the Black Sea is needed and consultations/workshops with existing SSF organizations, national administration and other stakeholders will be carried out in order to refine the roadmap through a bottom-up approach and through ample stakeholder consultation.

The objectives of this activity are expected to be achieved through:

2.3.1 Organization of national stakeholder capacity building workshops to support the participatory development of national strategies towards implementing the "Regional Plan of Action for small-scale fisheries in the Mediterranean and the Black Sea"

Methodology

Building on the outcomes of the First Regional Symposium on Sustainable Small-Scale Fisheries in the Mediterranean and Black Sea (Malta, 2013) and the Regional Conference on Building a Future for Sustainable Small-Scale Fisheries in the Mediterranean and the Black Sea (Algeria, 2016), and within the context of the mid-term strategy, the GFCM will hold a High-level meeting on small-scale fisheries in the Mediterranean and Black Sea (Malta, 25-26 September 2018). During this meeting, it is foreseen that a Regional Plan of Action for Small-Scale Fisheries in the Mediterranean and the Black Sea (RPOA-SSF) will be adopted, in line with the globally endorsed Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (2014).

The RPOA-SSF calls on the GFCM to support countries in implementing the actions therein. In line with the spirit of the RPOA-SSF, the identification of national priorities and the development of a national strategy for the implementation of the RPOA-SSF should be done in consultation with stakeholders. As such, the GFCM proposes carrying out national stakeholder capacity building workshops in order to support national-level processes to identify priority issues for small-scale fisheries in Black Sea countries, as well as technical assistance needs, with a view to assisting countries in developing a national strategy for the implementation of the RPOA-SSF through a participatory approach.

OUTPUT 3: ILLEGAL, UNREPORTED AND UNREGULATED FISHING COUNTERED

Illegal, unreported and unregulated (IUU) fishing is regarded as one of the most dangerous threats to the conservation and management of fisheries. Whilst vessels engaged in IUU fishing continue to operate under flag of convenience or with very weak controls from the part of the flag States concerned, the Mediterranean and the Black Sea are not beyond the grasp of illegal operators. These include vessels of riparian countries that fish in contravention of GFCM management measures, national regulations and international treaty provisions. Additionally, vessels flying the flag of countries that are currently not Members to the GFCM, including from distant water fishing nations have also been sighted in the Mediterranean and the Black Sea in recent years. This is a source of great concern, due also to the increasing linkages between IUU fishing and fisheries crime. The SDG 14.4 recognizes the imperative need to end IUU fishing by 2020 thus calling upon all RFMOs to step up their efforts. The GFCM is not a stranger to this call, and building on the early work carried out during the Joint GFCM-BSC Workshop on IUU Fishing in the Black Sea, held in BSC Headquarters Istanbul, Turkey, 25-27 February 2013 has designed a dedicated roadmap to counter IUU on the Black Sea. In this context, and against the background of its Regional Plan of Action to fight against IUU fishing (RPOA-IUU) adopted at the forty-first session of the Commission as Recommendation GFCM/41/2017/7, the GFCM is expected to tackle IUU fishing under several different angles.

This output aims at assessing IUU fishing rates in the Black Sea and operationalizing a modular approach to Vessel Monitoring System (VMS) and control systems. This approach will ultimately contribute to the evaluation of the implementation of the RPOA-IUU.

Actions towards the assessment of IUU fishing

A methodology for the assessment of IUU fishing in the Black Sea needs to be devel. This activity will focus on reporting about the ongoing work within FAO, including the preliminary development of an applicable methodology, to relevant GFCM subsidiary bodies, including the WGBS. This will trigger progress in the work towards the estimation of IUU fishing, which could be jump-started and tested in the context of the EFCA-GFCM pilot project in the Black Sea on turbot fishery. Overall, the activity will be developed following the actions outlined by the RPOA-IUU adopted in 2017, and it will allow to gain a better understanding of the requirements for estimating IUU fishing in the Black Sea.

The objectives of this activity are expected to be achieved through:

3.1.1 Regional review on IUU issues

3.1.2 Quantitative survey on IUU issues

3.1.3 Case study for the assessment of IUU fishing for turbot fishery

Methodology

A number of the littoral countries have research efforts ongoing on IUU related issues and in combination with reports to the GFCM Working Group on IUU fishing (WGIUU), these records form a useful picture of the current state of knowledge on IUU issues in the region. This information will provide a picture of Black Sea countries' progress in addressing IUU and could be used to evaluate overall trends as well as to address specific questions, such as shifts in IUU effort in the region in response to increased interdictions in some countries. Quantitative surveys covering IUU related issues across littoral countries could also provide information on both key targets for estimation by country, and useful data for making those estimates. One key outcome of the survey would be a clear picture, by country, of the relative priorities in tackling the various components of IUU fishing: strictly illegal behaviors, those related to issues with reporting, and those related to a lack of regulation on particular activities. Finally, based on the survey method identified by subactivity 3.1.2, upon the request of riparian States of the Black Sea, a case study on turbot to assess IUU fishing may be developed to enhance the data quality to be collected in their EEZ of countries.

Support to the implementation of Vessel Monitoring System (VMS) and related control systems in connection with small-scale fisheries and scientific assessment

An effective regional VMS has been increasingly recognized by all RFMOs as a must-have tool in the fight against IUU fishing. Many RFMOs have progressively shifted from a decentralized VMS towards a regional one. In 2009, when the GFCM adopted Recommendation GFCM/33/2009/7 on minimum technical standards for the establishment of VMS, the Commission agreed that this instrument would have served as a cornerstone for the development of a regional VMS in due course. Nonetheless, the main challenge that the GFCM has been facing in the process remains the uneven level of capacity among its Contracting parties and Cooperating non- contracting parties (CPCs) in terms of Monitoring, Control and Surveillance (MCS) and the imperative necessity to also encompass SSF. Painstaking analysis has been carried out to identify gaps and priorities relating to the establishment of VMS and this has revealed, among others, a need for a modular approach towards a regional control system taking into consideration the composition of the national fleet, including small-scale vessels. Progress on the implementation of VMS and control systems, including the provision of technical assistance, has started four years ago through the Working Group on VMS and related control systems (WGVMS). Work is expected to follow through the deployment of a regional VMS and control system, including in the Black Sea. To this end, the project will support in particular the running of tests upon request of countries in support to the establishment by them of national control systems fully-encompassing and inclusive of e-inspection reports related features and integration of controls-related data (e.g. AIS, GPRS, VMS, etc.).

The objectives of this activity are expected to be achieved through:

3.2.1 Technical assistance to Black Sea riparian countries in the context of MCS

Methodology

The implementation of this activity upon the request of Black Sea riparian States will revolve around the provision of technical assistance by the BlackSea4Fish project to CPCs in light of their needs. Furthermore, with the operationalization of the regional VMS and control system, the BlackSea4Fish project is expected to steer efforts by CPCs in a harmonized fashion. Testing of transponders, including for small-scale fisheries, and assessment of national VMS will be performed in close coordination with select CPCs. Exchange of VMS data between national systems in place in some CPCs and the regional system will also be tested.

OUTPUT 4: UNWANTED INTERACTIONS BETWEEN FISHERIES AND MARINE ECOSYSTEMS AND ENVIRONMENT MONITORED

Healthy and productive marine ecosystems are key to supporting maximum sustainable yield and facilitating Blue Growth. Fisheries is one of the main direct and indirect drivers of Blue Growth on coastal communities, and while fishing activities have some negative impacts on the ecosystem, changes in the ecosystem conditions and/or the negative effect of non-fisheries related human activities on the ecosystem also negatively affect fisheries. Bycatch (discards and incidental catches of vulnerable species) is considered an important threat both to the fish stocks and ecosystems and to the profitability and sustainability of fisheries and the current lack of comprehensive data on discard rates hampers the adoption of effective management measures. In addition to bycatch, non-indigenous species (NIS) and climate change are modifying the Black Sea ecosystem, creating at the same time new stressors and in some cases new opportunities for fisheries, and requiring countries to discuss adaptation strategies to address these issues.

In addition to protecting biodiversity, MPAs have proven to be beneficial in the recovery of species, habitats and populations, and are recognized for their role in strengthening the resilience of ecosystems. In addition, small-scale fisheries can contribute to sustainable development. Although not very common, Fisheries Restricted Areas are one of the fishing management tools used in the Black Sea, requiring further elaboration through cooperation among riparian states. The project will consider this option, which has the potential to improve the state of the stocks, to contribute socio-economic benefits to the region, and to tackle conflicts among different segments of the fleet, namely industrial and artisanal.

This output aims at implementing a bycatch monitoring programme, and working towards the compilation of information in support of the adoption of adaptation strategies for climate change and non-indigenous species in the Black Sea.

Implementation of a bycatch monitoring programme

Usually discarding constitutes a reduction of future harvesting opportunities and it may have negative consequences for the environment and ecosystem. Data on the total catch and bycatch rates (for both discards and incidental catches of vulnerable species) have the potential to inform us of the need for and the effects of technical measures, as well as to provide us with information on the ecological and economic aspects of fisheries management. In the Black Sea, however, studies on bycatch cover only a small proportion of the total fishing activity, indicating a shortage of information. The issue of discards in particular has been acknowledged as an important constraint to performing reliable stock assessments. Considering that a monitoring system for discards and incidental catches of vulnerable species is lacking in most riparian countries, bycatch rates are often uncertain and/or not based on empirical direct observations. In such cases, discards may represent a major source of uncertainty about the real fishing mortality rates exerted on stocks. On the basis of the standard methodologies developed by the GFCM on the collection of data on discards and incidental catches of vulnerable species, such as sturgeons and picked dogfish a bycatch monitoring programme will be supported with a view to expanding discard/bycatch surveys and standardizing practices in order to address knowledge gaps, compare fisheries, test potential methods, and eventually develop tools aiming at their mitigation.

The objectives of this activity are expected to be achieved through:

4.1.1 Training of onboard observers

4.1.2 Data acquisition through observers at sea, self-sampling and questionnaires at landing points

4.1.3 Analysis of collected data, including through dedicated expert meetings

Methodology

Bycatch data are expected to be monitored mainly by organizing on-board observations, to be complemented by information obtained through direct dialogues with fishers and/or provided directly by fishers through self-sampling. The objective is to obtain representative data on discards for at least the main fishing activity responsible for the bulk of discards (i.e. trawling is usually characterized by high discard values in the area). The programme will take into account spatial and temporal variability in order to detect seasonal differences in the volume and demographic structure of the discards in trawler activities. In addition to representative data on the discard component of total bycatch from Black Sea fisheries, the programme is expected to also obtain information on the incidental catch of vulnerable species that could occur during sampled fishing operations, with a view to facilitating the adoption of required management measures towards the reduction of bycatch rates.

Compilation of relevant information relating to non-indigenous species (NIS) and the potential impacts of climate change on fisheries and ecosystems, towards the establishment of an adaptation strategy

Due to its enclosed nature and its geographical characteristics, the Black Sea is especially sensitive to the challenges created by the introduction of NIS and the expected effects of climate change. In recognizing these expected challenges, it is crucial to compile information, assess the current knowledge and provide advice on the risks, vulnerabilities and opportunities generated by these two interlinked phenomena, towards the establishment of an adequate adaptation strategy, which should include improved monitoring programmes, increased understanding of ecological mechanisms and socio-economic impacts as well as the valuation of fisheries products.

Within the framework of the BlackSea4Fish project, the implementation of this activity will ensure the necessary follow-up on the results of the above-mentioned expert meetings in the Black Sea subregion.

The objectives of this activity are expected to be achieved through:

3.1.1 Assess vulnerability to climate change in selected case studies

3.1.2 Implement a monitoring plan for NIS

Methodology

A dedicated Expert meeting on the potential Climate Change Implications for Fisheries in Mediterranean and Black Sea (December 2017, Italy) produced a methodology and a matrix for the assessment of vulnerability to climate change that are expected to be tested in select case studies. Similarly, a joint GFCM UN Environment/MAP Sub-Regional Pilot Study Meeting for the Eastern Mediterranean on Non-Indigenous Species in Relation to Fisheries met twice and produced elements for a monitoring plan for NIS that was revised by and will be put in place in other Mediterranean subregions. The same effort could be done in the Black Sea, in order to consolidate knowledge on major NIS species, including relevant information (volume and tonnes of main species, etc.) and interactions with relevant fisheries and subsequently develop and implement a pilot monitoring plan inclusive of i) the sources of data, ii) the main observation platforms; iii) proposed indicators; and iv) a roadmap on the next steps, including towards the potential management of the resource.

OUTPUT 5: COOPERATION, OUTREACH AND WELL DISSEMINATED RESULTS

Supporting and reinforcing the actors taking part in the process of producing scientific advice and tackling priorities at the national and regional levels is crucial towards successfully reaching the project's objectives. Capacity-building, staff training and cooperation among the different stakeholders needs to be promoted at all levels in order to ensure increased participation in relevant activities and awareness of achievements and opportunities. Reaching all relevant stakeholders will reinforce the role of the project and allow for a tailored design of future actions, that is in line with national needs and fits regional priorities in support of the work of the WGBS. In parallel, sharing the outputs of the project to as large a part of the Black Sea coastal community is important for the project to reach its primary goal, provided that the security and privacy of the data collected within the framework of the project is ensured.

This output aims at promoting and disseminating project results to relevant stakeholders, with a view to attracting participation in its endeavors and supporting its progress, as well as strengthening cooperation among stakeholders.

Outreach and dissemination

Multinational cooperation in the management of the marine living resources and regulating the fishery under one roof is a rather new concept for the Black Sea fisheries stakeholders, and the administrations of some of the riparian countries. Therefore, it is natural that such an undertaking requires a dedicated effort towards the dissemination of information on the objectives of the WGBS and of the project and its role in the Black Sea. Also, the implementation of the decisions taken by the GFCM in the Black Sea depends largely on the how well the facts behind the decisions taken are communicated to the stakeholders. Having regard to the significant impact of IUU activities in the Black Sea, the need to raise awareness in the region on the threats posed by IUU fishing is evident.

The objectives of this activity are expected to be achieved through:

5.1.1: A dedicated webpage within the official GFCM website to: i) communicate the results and the news about the project; ii) to broaden and diversify pool of Black Sea fish and fisheries experts; iii) to provide an efficient tool for communication and discussion among the experts;

5.1.2: A regional web-based platform (possibly in connection with FishForum 2018) created to facilitate Black Sea experts to communicate (the networking platform will enable scientists, fisher organizations and other stakeholders of the region to interact more frequently and efficiently with each other)

5.1.3: Participation of project experts to relevant international/regional/national events.

5.1.4: Organization of and/or participation in nationally/regionally organized initiatives to raise public awareness

5.1.5: Preparation and dissemination of dedicated communication products on the project and its outputs

Methodology

The promotion of the BlackSea4Fish project will be ensured through relevant websites, social networks, posters, brochures, videos and educational materials in local languages. The cooperation of local partners/NGOs for the dissemination of the project's result will also be sought.

Institutional regional cooperation and staff training

Institutional strengthening is important to ensure that national entities dealing with fisheries in the Black Sea have an adequate structure, capacity and technical competence to undertake fundamental tasks in connection with fisheries management, collect fisheries statistics and perform assessment on the status of stocks and fisheries.

Increasing the participation and involvement of experts from Black Sea riparian countries in the work of the GFCM is a prerequisite and can be considered as part of the capacity-building program established in the context of the mid-term strategy. A pool of Black Sea experts in fisheries and fisheries-related sciences is crucially needed in order to jumpstart many of the activities to be performed within the BlackSea4Fish project. In this respect, enhanced regional cooperation would also be crucial to facilitate the exchange information and samples as well as collaboration between staff and scientists from different countries and institutions. Furthermore, cooperation restricted to institutes is dull, it also needs to involve civil society organizations, national coast guards, fisheries cooperatives and harbor masters who are responsible for port state control and fishing vessels. Staff training activities, such as training of inspectors, are needed to develop capacities of national administrative staff in addressing multi-disciplinary issues related to fisheries management in the Black Sea.

Methodology

In addition to the training activities and workshops given above under other outputs, which would also serve to improve institutional regional cooperation, cooperation between research institutes will be enhanced by supporting bilateral exchange of experts. With that respect, ongoing fisheries surveys conducted by the countries and/or the surveys organized by the project, such as pilot landing site surveys will be considered.

SECTION 2 – RELEVANCE

ALIGNMENT AND STRATEGIC FIT

As a UN specialized agency, the FAO contributes to the global implementation of the sustainable development goals (SDGs) through a strategic framework, of which Strategic Objective 2 specifically aims to increase and improve the provision of goods and services from fisheries in a sustainable manner, addressing in particular multi-sectoral approaches for ecosystem management, capacity building, governance frameworks and the like. The GFCM is an FAO Article XIV body and regional fisheries management organization (RFMO) part of the Fisheries and Aquaculture Department, supports the achievement of UN targets, as well as the international obligations stemming therefrom, including the FAO Strategic Objectives.

COMPARATIVE ADVANTAGES

As FAO decided back in 1949 to establish the GFCM (under Article XIV of the FAO Constitution), there is a long-standing recognition as to the need to defer to this commission the responsibility to tailor global sector policies on fisheries and aquaculture of FAO to the specificities of the Mediterranean and the Black Sea. FAO, through the GFCM, is the best placed to execute the project and deliver quality results, more specifically FAO comparative advantages and strengths Numbers 1 (Authority and status as a global intergovernmental organization); 3 (Unparalleled information source and institutional memory); and 8 (Responsible financial and administrative management), because of its constitutional structure.

The GFCM is key to tailoring the implementation of FAO-developed instruments setting global standards for fisheries management to regional needs and priorities. In this regard, it has been producing technical guidelines, measures and decisions related to the sustainability of fisheries. Furthermore, the GFCM fosters dialogue among organizations sharing similar goals, thanks in particular to memoranda of understanding (MoU) adopted by FAO on behalf of GFCM with multiple partner organizations (some of which have been entered into with CSOs, according with the 2013 FAO Framework Policy on Cooperation with CSOs) operating in the region. The partner organizations with which the GFCM has a MoU in place are either partners in the project itself or have expressed their specific interest in collaborating towards the project's execution within the context of the different outputs and activities.

The GFCM has an established network of national focal points, which is constantly updated also thanks to the involvement of FAO representations through their direct links with national authorities. Relevant FAO field offices are often involved by national authorities when informing the GFCM of national experts' nominations to GFCM activities and can play an active role in ensuring a follow up is given to GFCM activities at national level, in coordination with the GFCM. Relevant FAO regional offices are always copied in e-mail announcements related to GFCM meetings/activities and are also informed of the date and venue of the annual session of the Commission, where the work plan for the following year is adopted, being therefore aware of the work being carried out. Relevant FAO regional offices are also informed/consulted when the GFCM holds bilateral meetings with national authorities and take part as appropriate. Over the years, FAO regional offices in the Mediterranean have always shown support to GFCM activities.

Furthermore, internally, the GFCM enjoys strong cooperation with the FAO Fisheries Department and, in particular, the FAO Regional Projects operating in the Mediterranean Sea (AdriaMed, CopeMed, EastMed, MedSudMed). This is an additional element underlying the FAO comparative advantage.

Mandate to Act

The FAO is the United Nations Specialized Agency on agriculture related issues, including fisheries. In order to achieve food security, the Organization relies, at the regional level, on the work of those

commissions and bodies created within its constitutional remit. These include Article XIV bodies mandated to act by FAO in the interest of neighboring countries managing common fisheries. As explained in the previous section, the comparative advantage of the FAO in executing this project is the role of the GFCM in tailoring FAO global policies to the regional specificities of the Mediterranean Sea. The project is conceived in response to the priorities of GFCM Members keen to halt the pernicious effects of by-catch, an issue which is prominent on the FAO agenda. This is fully in line with FAO's Strategic Objective 2 (SO2): Increase production in agriculture, fisheries and forestry in an economic, social and environmentally sustainable manner, Outcome 1 (OO1): Producers and natural resource managers adopt practices that increase and improve the provision of goods and services in agriculture production systems in a sustainable manner; and Outcome 2 (OO2): Stakeholders in member countries strengthen governance – the policies, laws, management frameworks and institutions that are needed to support producers and resource managers in the transition to sustainable agriculture production systems. Moreover, the project is coherent with the goals, objectives and binding recommendations adopted by the GFCM at the regional level to ensure the rational management of living marine resources.

Capacity to Act

FAO capacity to act against the background of this project is enhanced by the technical expertise available at the GFCM Secretariat which can be tapped to respond to the needs of beneficiary countries. The unique role that the GFCM plays in the Mediterranean and Black Sea region brings to the fishery sector of its Members significant benefits in terms of knowledge and management which emanate from binding recommendations adopted, guidelines and regional plans in place and tools and practices developed over the years. These, together with the experience gained and lessons learnt by GFCM over the decades, gives FAO a sense of direction in terms of technical competence to select together with stakeholders priority areas of intervention where efforts can realize maximum impacts through this project.

Position to Act

Because the GFCM is the only regional organization mandated to manage fisheries in the Mediterranean and Black Sea with the power to adopt binding recommendations on all the riparian countries, no other organizations established under international law can compare. This warrants the FAO position to act in the Black Sea region in relation with the actions being pursued through this project.

CONTEXT ANALYSIS

The GFCM's recently released assessment The State of Mediterranean and Black Sea fisheries (SoMFi 2016) highlights the impact of fisheries providing jobs for over 40 thousand people, and in particular the small-scale fisheries sector. Indeed, almost 90% of the fishery of the region is of small-scale nature, but the share of this fishery is less than one-tenth of the total landings. This is partly due to the fact that the resource is dominated by the schooling anchovy that can only be fished on an industrial scale. Moreover, a large percentage of the fish caught by industrial fishing is used for industrial purposes, and processed in the fishmeal and fish oil factories. For this reason, in addition to its importance for the fishery, the anchovy stock that fished over half a million tonnes in the past, also supports industry-based economy in the region. It is worth stressing that currently not all six riparian countries are members to the GFCM and this is a factor that in the past prevented the availability of adequate data an information on the status of the stocks and the fishing activities being conducted.

Stakeholder Engagement

Regional cooperation in the management of fishery through a RFMO is a fairly new concept for the Black Sea fisheries stakeholders. In order to prevent possible negative reactions that may arise from

misperception, and to ensure recognition of the project, the stakeholders will be involved in the project through awareness activities. These activities will aim to accurately describe the role of the WGBS and the objectives of the project to the stakeholders throughout the project cycle.

Partnerships

The project will be implemented by the GFCM Secretariat in coordination with relevant organizations that have entered into a memorandum of understanding with the GFCM (e.g. ACCOBAMS, Black Sea Commission, BSEC) and in line with the priorities set by the WGBS. The implementation and results of the project will periodically be examined and monitored, in particular on the occasion of WGBS sessions.

Knowledge Management and Communication

Taking account the expected project impact, one of the main challenges is to ensure that the project contributes to enhancing the capacity of CPCs for policy making by improving the access to and the use of relevant information. This will be pursued by using the existing GFCM channels, such as putting all information collected to the disposal of experts through the organization of open expert meetings, serving the objectives designed by the WGBS. In particular information on status of resources will be discussed through the SGSABS and the main conclusions will be put forward to CPCs first in the WGBS and then at the level of the annual meeting of the Commission. In addition to that, dedicated knowledge management tools are been developed at the Secretariat, including through interactive tools to make information available to a variety of users through online services.

Knowledge Sharing

Data and information collected through various channels, including workshops, surveys, questionnaires, stock assessment formed filled by the experts, will be stored in and shared through a regional database as well as through the tools available at the GFCM (sharepoint, webpage). These tools will ensure security and privacy of the information provided by the countries.

In order to ensure the effective participation, dialogue and the dissemination of knowledge and good practices among the Black Sea riparian countries will be asked to appoint a focal point responsible for overseeing the implementation of project activities and ensuring follow-up at the national level (e.g. appointment of experts to meetings, submission of data and information, support to regional initiatives, etc.).

Communication

Communication will rely on GFCM IT tools (sharepoint, webpage) as well as new dedicated tools to be developed by the project (see Output 5). In addition, communication with CPCs and partners will be facilitated through the regular work of the WGBS and the active communication between the GFCM Secretariat and Black Sea riparian states.

SECTION 3 – FEASIBILITY

IMPLEMENTATION ARRANGEMENTS

FAO, through the GFCM, will be responsible the provision of technical guidance during project implementation. In addition, it will act as financial and operational agency and will be responsible for the financial and operational execution of the project. According to the workplan and budget of the project, contracting services will be delivered on the basis of FAO rules and procedures, as well as financial services. A Project Steering Committee (PSC) is set up to provide oversight and coordinate project implementation, composed of nominated focal points of the six Black Sea riparian countries.

Institutional Framework and Coordination

The project, being interregional, will be implemented from the BlackSea4Fish project HQ (Burgas, Bulgaria) and will be germane to FAO policies in place, as applicable to the work of the GFCM and consistent with the practice of previous and ongoing grants. The GFCM Secretariat will oversee the project's execution by backstopping all activities foreseen, in strong coordination with national focal points in Black Sea countries (located in the Fisheries Department of relevant Ministries – agriculture, food or environment/climate change, depending on countries) and relevant partner organizations. This oversight and coordination will entail substantial work by the GFCM Secretariat, including through dedicated experts allocated to oversee the activities of the BlackSea4Fish project to tackle all interrelated aspects of the project as well as the involvement of stakeholders concerned and the constant liaison with relevant partner organizations, with a view to avoid overlaps, promote synergies and exploit complementarities where mandates and strategies in place have common objectives. In line with GFCM's framework for cooperation, there will also be an interdisciplinary partnership made of those relevant organizations with a mandate over the Black Sea that entered into a MoU with the GFCM. GFCM's coordination will also ensure positive interactions with similar activities organized across the competence area (Mediterranean and Black Sea), as launched in the context of the mid-term strategy.

Government inputs

The project objective, outputs and activities all entail the direct involvement of the six Black Sea riparian countries. Each riparian state and the European Union will be part of the project steering committee, through an officially nominated national focal point. Contracting Parties and Cooperating non-Contracting Parties are expected, per the practice of the Commission and in light of their obligations stemming from the GFCM constitutive agreement, to provide technical inputs in the context of the implementation of the project and throughout its execution, as they will be consulted regularly through GFCM scientific subsidiary bodies. In particular, this means in kind contributions to the project execution (e.g. time of the national experts involved in the various activities as well as any resources that might be needed in connection with the facilitation of field-activities, organization of meetings or other activities by hosting countries). It is hoped that the same level of involvement will also be displayed by the Russian Federation, the only GFCM non-Contracting Party of the area.

National research institutes are expected to be directly involved in the execution of activities, by providing support, experts and assisting national focal points in the development of project activities.

A GFCM subregional technical unit is established in Burgas, Bulgaria, at the offer of the Bulgarian Government, to backstop the operations of the Project – an opportunity to directly take action for the region from within the region and to create a supporting space from where project operations can effectively thrive. The technical unit comprises of two fully equipped offices and the use of a meeting room and is meant to host relevant staff entirely dedicated to the implementation of project activities.

Project inputs

The GFCM Secretariat, which will provide in-kind inputs, is expected to be supported by the Project Coordinator, (re-)appointed annually as well as, in due time as the subregional technical unit becomes operational, selected national and international professional and support staff (including consultants, temporary administrative support staff, interns, etc.) for the implementation of this project. The above resources will assist in the different outputs of the project through their varying levels of experience (junior vs senior consultants).

Funding is expected to cover the following:

a. national experts to coordinate/implement the various activities at national level;
b. technical consultants, including ad-hoc support on specific scientific issues, publications and translation, communication-related issues, etc.;
c. travel costs for national experts' participation in meetings and capacity building activities, as appropriate;
d. technical equipment, including in support to scientific surveys at sea;
e. expendable Procurement, for the printing of publications, miscellaneous office equipment;
f. interpretation and translation costs in the languages of the region, as relevant to the project for meetings and activities as appropriate;
g. contracts to support the smooth execution of project's meetings and activities, e.g. SharePoint licenses, Azure resources and visualisation tools, technical tools to support the set-up of relevant databases;
h. administrative costs

RISK MANAGEMENT

Potential risks to the project

The most significant assumption in the project is that all Black Sea riparian states agrees that the marine living resources are in jeopardy, and that there is an urgent need for cooperative action to ensure their sustainability. This assumption is rooted from Bucharest declaration signed by all riparian states after the GFCM High-level conference towards enhanced cooperation on Black Sea fisheries. On the other hand, geopolitical instability in the region, and quickly changing political winds, which can easily influence the willingness of the countries to cooperate, stands as a potential risk to the project.

MONITORING AND REPORTING

Monitoring Arrangements

Project monitoring arrangements are integrated into the GFCM existing institutional setting whereby various expert groups of scientific nature report to the WGBS (and Scientific Advisory Committee – SAC-, if appropriate) which validates the scientific advice and submits it to the GFCM for the adoption of potential measures based thereon. This means that, in reviewing the scientific work emanating from project activities, the WGBS will advise accordingly whether additional work is required or if the advice is solid enough to be submitted to the GFCM to support the decision-making process. In turn, yearly, the Steering Committee will revise the workplan proposed by the WGBS and stemming from other relevant sources, allocating the necessary resources, thus agreeing on regional priorities for the next year(s).

Reporting

Regular contact with beneficiary countries will be maintained, through the steering committee (online and face to face meetings) and the meetings of the WGBS, in order to monitor progress and take into account any factor that may affect the implementation of the project and its activities. The national focal points will also be requested to report, as appropriate, on advancement at national level.

Project advancement and results will be reported to the WGBS as well as through the relevant GFCM subsidiary bodies to keep the whole membership, partner organizations and relevant stakeholders informed at all levels. This information will thus be included in background documentation for the WGBS technical workshops and working group, the annual session of the WGBS and subsequently the annual session of the GFCM.

Annex I: Workplan

	2018				2019				2020			
Activities	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**
OUTPUT 1. Scientific advice in support of fisheries management												
1.1.1 Extensive literature survey												
1.1.2 Data collection workshop												
1.1.3 Pilot landing site surveys												
1.1.4 Production of project database												
1.1.5 Tagging survey												
1.1.6 Biological sampling carried out by observers on board.												
1.2.1 Training on the fundamentals of SA												
1.2.2 Workshops/training courses on age determination												
1.2.3 Otolith exchange exercise												
1.2.4 A collegium on the stock identification for the main commercial species												
1.2.5 meetings of the SGSABS												
1.2.6 A workshop on MSE for turbot fishery in the Black Sea												
1.3.1 Workshop on common survey protocols												
1.3.2 Joint small pelagic surveys (Hydro-acoustic or DEPM)												
1.3.3 Harmonized / synchronized demersal trawl surveys												
1.3.4 Exchange of experts among the research vessels during the ongoing fisheries surveys for the purpose of training												
1.3.5: Analysis of the data collected during the joint surveys.												

	2018				2019				2020			
Activities	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**
OUTPUT 2. Sustainable small-scale fisheries to improve livelihoods												
2.1.1 Preparation of socio-economic survey sampling plans and training of samplers in select Black Sea riparian states												
2.1.2 Execution of socio-economic survey data collection												
2.1.3 Analysis of socio-economic data												
2.2.1 Identification of study population for pilot study on national marine recreational fisheries in one Black Sea country												
2.2.2 Data collection for pilot study on national marine recreational fisheries in one Black Sea country												
2.2.3 Data analysis and revision of recreational fisheries data collection manual												
2.3.1 National stakeholder capacity building workshops												
OUTPUT 3. RPOA and modular MCS to assess and counter IUU fishing												
3.1.1 Regional review on IUU issues												
3.1.2 Quantitative survey on IUU issues												
3.1.3 Case study to test IUU fishing estimation methods for turbot fishery (voluntary basis)												
3.2.1 Technical assistance for the use of VMS (voluntary basis)												
OUTPUT 4. Interactions between fisheries and marine ecosystems and environment												
4.1.1 Training of observers for the bycatch monitoring programme												
4.1.2 Bycatch data collection												
4.1.3 Analysis of bycatch data												
4.2.1 Assessment of vulnerability to climate change in select case studies												

	2018				2019				2020			
Activities	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**
4.2.2 Implementation of NIS monitoring plan												
OUTPUT 5. Cooperation, outreach and dissemination of results												
5.1.1: A project webpage within the official GFCM website												
5.1.2: Web-based exchange platform												
5.1.3: Participation in relevant events												
5.1.4: Public awareness campaigns												
5.1.5: Production of communication materials												

Annex II Budget

	Estimated budget per year
OUTPUT 1. Scientific advice in support of fisheries management	
1.1 Improved data collection and analysis on fisheries and ecosystems	**82,000**
1.2 Improved scientific advice	**40,000**
1.3 Surveys at sea	**396,000**
OUTPUT 2. Sustainable small-scale fisheries to improve livelihoods	
2.1 Execution of a comprehensive regional survey on the characteristics of small-scale fisheries, including socioeconomic aspects	**50,000**
2.2 Evaluation of the state of recreational fisheries	**25,000**
2.3 Support the establishment of regional platform(s) for professionals of the small-scale fisheries sector	**20,000**
OUTPUT 3. IUU fishing countered	
3.1 Actions towards the assessment of IUU fishing	**50,000**
3.2 Support to the implementation of Vessel Monitoring System (VMS) and related control systems in connection with small-scale fisheries and scientific assessment (voluntary basis)	**57,000**
OUTPUT 4. Interactions between fisheries and marine ecosystems and environment	
4.1 Implementation of a bycatch monitoring programme	**70,000**
4.2 Compilation of relevant information relating to non-indigenous species and potential impacts of climate change	**25,000**
OUTPUT 5. Capacity-building and technical assistance for fisheries and aquaculture	
5.1 Institutional regional cooperation	**15,000**
5.2 Outreach and dissemination	**59,000**
Human resources (coordinator, administrative assistance, other)	**150,000**
Admin and other support costs	**90,000**

The estimated total expected budget for BlackSea4Fish project activities amounts to around 1.100.000 Euros per year