Food and Agriculture Organization of the United Nations

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

# BLACKSEA4FISH

## Activities and achievements 2018–2019

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Production and design: Evan Jeffries and Catherine Perry,
Swim2Birds Ltd

# BLACKSEA4FISH

## Activities and achievements 2018–2019

Food and Agriculture Organization of the United Nations
Rome, 2020

**BlackSea4Fish** was established in 2016 to contribute to the sustainable management of Black Sea fisheries, by providing scientific and technical support to the work of the General Fisheries Commission for the Mediterranean (GFCM) in the region, coordinating priority activities of the GFCM Subregional Group on Stock Assessment in the Black Sea (SGSABS) and the Working Group on the Black Sea (WGBS).

The project involves Bulgaria, Georgia, Romania, the Russian Federation, Turkey ,Ukraine and the European Union, supporting them in fulfilling their objectives with regards to Black Sea fisheries, organizing activities in line with agreed workplans and in turn benefiting from their technical and, as appropriate, financial/in-kind contributions.

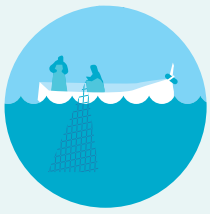
The project bridges gaps at the regional level, providing the WGBS with the necessary resources to efficiently execute its priority actions and supporting the implementation of the mid-term strategy (2017–2020) towards the sustainability of Mediterranean and Black Sea fisheries.

**BlackSea4Fish** groups its activities under five outputs:

## OUTPUT 1

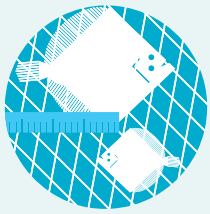
**aims to increase, through systematic stock assessment of priority species, existing scientific knowledge to support fisheries management and reverse the current overexploitation of Black Sea stocks, limiting the percentage of stocks outside biologically safe limits.**

## OUTPUT 2



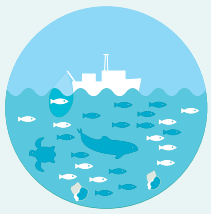
**aims to implement actions to enhance and disseminate knowledge on small-scale and recreational fisheries, with a view to supporting livelihoods in small-scale fishing communities, including by promoting decent work.**

## OUTPUT 3



**aims to assess illegal, unreported and unregulated (IUU) fishing in the Black Sea, and to take a modular approach to vessel monitoring systems (VMS) and control systems. It will help the evaluation of the Regional plan of action for the fight against illegal unreported and unregulated fishing (RPOA-IUU).**

## OUTPUT 4



**aims to implement a bycatch monitoring programme to reduce discard rates and incidental catches of vulnerable species, while also working towards strategies for adapting to climate change and dealing with non-indigenous species in the Black Sea.**

## OUTPUT 5

**aims to promote and disseminate the project results with relevant stakeholders, with a view to increasing participation as well as strengthening technical and institutional cooperation.**

**BlackSea4Fish** fulfils these objectives in a variety of ways. These include:

- recruiting external experts to address priority topics and carry out ad-hoc studies;
- supporting participation of Black Sea scientists in the SGSABS and other WGBS / GFCM meetings and activities;
- coordinating and supporting the launch and implementation of relevant mid-term strategy activities, such as surveys-at-sea, vessel monitoring and control systems, socio-economic surveys and bycatch monitoring programmes;
- organizing new ad-hoc activities in response to knowledge gaps identified by the WGBS, in particular with the aim of improving stock assessment and knowledge on Black Sea fisheries;
- promoting training opportunities and capacity-building actions; and
- managing initiatives for outreach and dissemination of project results.

BlackSea4Fish counts on a project coordinator and a team based at the GFCM Subregional Technical Unit for the Black Sea (Black Sea Unit) in Burgas, Bulgaria as well as on the support of the GFCM Secretariat in Rome, Italy. The project's work is guided by the BlackSea4Fish project document, discussed at a steering committee composed of national focal points, and reviewed by the WGBS and the GFCM annual session.

## WORKING GROUP ON THE BLACK SEA

The WGBS was created by the GFCM in 2010 as an ad hoc mechanism for scientific work and decision-making for Black Sea riparian states: the issues in the region necessitated a regionally influential, widely recognized institutional arrangement. WGBS objectives are to provide scientific advice to the GFCM on matters linked to Black Sea fisheries management and conservation, including biological, social and economic aspects.

## PRIORITY SPECIES

After consultation with experts and managers and based on a combination of criteria, including socio-economic importance and conservation concern, the GFCM agreed upon a list of Black Sea priority species for which advice should be produced.

| BLACK SEA | |
|---|---|
| **Pelagic species** | European anchovy (*Engraulis encrasicolus*) |
| | European sprat (*Sprattus sprattus*) |
| | Horse mackerel (*Trachurus mediterraneus*) |
| **Demersal species** | Turbot (*Scophthalmus maximus*) |
| | Whiting (*Merlangius merlangus*) |
| | Red mullet (*Mullus barbatus*) |
| **Non-indigenous species** | Rapa whelk (*Rapana venosa*) |
| **Species of conservation concern** | Piked dogfish (*Squalus acanthias*) |

# EXECUTIVE SUMMARY

Between 2018 and 2019, **BlackSea4Fish** focused on increasing scientific knowledge to support fisheries management, by improving data collection and scientific advice for priority species through scientific surveys, enhanced stock assessment and capacity-building. It also launched mid-term strategy activities in specific countries, in response to needs identified over the years by the SGSABS and in line with the recommendations and workplan of the WGBS.

Notably, the project organized data preparation meetings for **sprat** and **turbot** (two for each species, as well as bilateral consultations) and provided technical assistance to the benchmark sessions. For **anchovy**, efforts concentrated on age reading (the project organized an otolith exchange and a dedicated expert meeting) and stock assessment (trials were conducted with a statistical catch-at-age assessment model, the state-space assessment model [SAM]). In line with the research programme for **rapa whelk** adopted by the GFCM (Recommendation GFCM/42/2018/9 on a regional research programme for rapa whelk fisheries in the Black Sea [geographical subarea 29]), BlackSea4Fish organized a coordination meeting for its implementation, harmonized data collection, planned ad hoc surveys-at-sea (defining a survey protocol and performing an experimental trawl survey) and organized a workshop to define an age reading protocol for future use. For the first time, training of scientists from all riparian countries on pelagic acoustic surveys and a transnational acoustic survey-at-sea in Georgia were organized with the use of a Turkish research vessel.

Work carried out in support of **mid-term strategy** activities included i) an increased focus on **small-scale fisheries** (output 2), for which a comprehensive socio-economic survey was launched in select Black Sea countries; and ii) the improvement of **bycatch monitoring** (output 4), for which data collection for discards through observers on board was launched in select countries.

Finally, the project launched a number of initiatives under output 5 to target the irregular regional expertise in stock assessment and models, to improve **technical capacity** in the Black Sea (a need frequently highlighted by the WGBS), and to disseminate the project results.

The project launched a number of initiatives to target the irregular regional expertise in stock assessment and improve the technical capacity in the Black Sea:

- 4 data preparation meetings;
- 2 benchmark assessments;
- 2 technical workshops;
- 2 scientific surveys-at-sea;
- 4 training opportunities;
- 1 socio-economic survey;
- 2 bycatch monitoring programmes.

Recording data from a rapa whelk survey-at-sea in Romania

# OUTPUT 1

## Scientific advice in support of fisheries management

In order to overcome the data gaps and harmonization needs identified by the SGSABS, and thus to work towards more accurate stock assessment of Black Sea priority species, in 2018–2019 BlackSea4Fish contributed to two benchmark sessions of the SGSABS, and organized three data preparation meetings (for sprat, turbot and multi-species), two benchmark sessions (for sprat and turbot), an age-reading workshop, and other ad hoc initiatives. In addition, to meet the need for fishery-independent data for stock assessment requirements, BlackSea4Fish oversaw the execution of scientific surveys-at-sea. It also launched a research programme for rapa whelk.

European sprat (*Sprattus sprattus*)

# STOCK ASSESSMENT INPUT DATA FOR EUROPEAN SPRAT COLLECTED

Technical meetings were organized to address deficiencies affecting the quality of the advice provided on the status of European sprat *(Sprattus sprattus)* in the Black sea, namely:

- the lack of survey data;
- a need for standardization of commercial catch-per-unit effort (CPUE) used for tuning; and
- concerns about the consistency of age readings.

## SPRAT DATA PREPARATION MEETING – TURKISH DATA

**Date:** 27–29 September 2018

**Location:** Trabzon, Turkey

The meeting was coordinated by BlackSea4Fish and attended by experts from the Turkish Central Fisheries Research Centre (SUMAE) and the General Directorate of Fisheries and Aquaculture of Turkey. Its objective was to gather and prepare all relevant data and information ahead of the benchmark session for the species.

## RESULTS

- A roadmap was produced to improve the stock assessment of European sprat.
- The Turkish commercial CPUE used in the former assessments was reanalysed (Fig.1), with the support of the General Directorate of Fisheries and Aquaculture of Turkey.
- Two sets of abundance indices (July and November) were estimated for the species.

## OBJECTIVE

**Gather and prepare all relevant data and information ahead of the sprat benchmark assessment session**

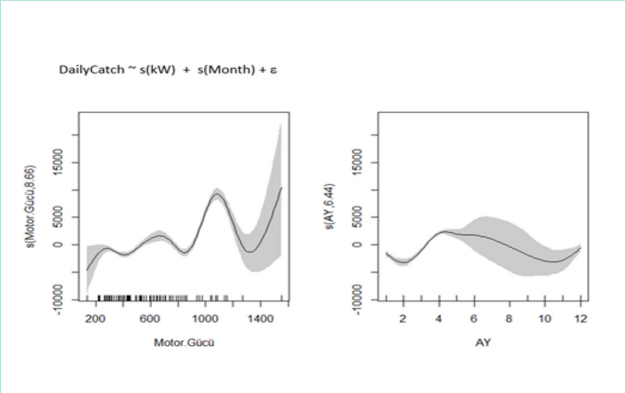



Figure. 1. Standardization of Turkish CPUE data

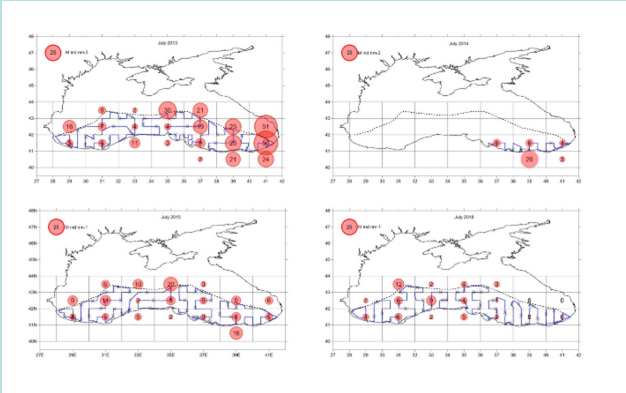


Figure. 2. Sprat hydroacoustic survey data (2011–2018), Turkish Black Sea

- A new tuning index of standardized CPUE was prepared considering the possible differences associated with the power of the fishing vessels and the timing of the fishing season.
- Hydroacoustic survey data (2011–2018) collected mainly for anchovy in the Turkish exclusive economic zone (EEZ) was reanalysed for sprat (Fig. 2). Work continued after the meeting with the technical support of BlackSea4Fish.

## DATA PREPARATION MEETING – BULGARIAN AND ROMANIAN DATA

**Date:** 13–15 November 2018

**Location:** Burgas, Bulgaria

The meeting was coordinated by BlackSea4Fish and attended by experts from the Institute of Oceanography – Bulgarian Academy of Sciences (IO-BAS), the Institute of Biodiversity and Ecosystem Research – Bulgarian Academy of Sciences (IBER-BAS) and the Bulgarian Institute of Fishery Resources (IFR), as well as experts from the Romanian National Institute for Marine Research Development (NIMRD). Its objective was to gather and prepare all relevant data and information, with a specific focus on sprat, ahead of the SGSABS and the sprat benchmark session.

## RESULTS

- Bulgarian and Romanian data for all commercially exploited species were compiled.
- An otolith exchange exercise was initiated to analyse whether the ages of sprat determined by different Black Sea experts were consistent. The exercise, now involving experts from three countries, is still in progress.

## OBJECTIVE

**Gather and prepare all relevant data and information, with a specific focus on sprat, ahead of the SGSABS and the sprat benchmark assessment session**

## LINK

**Report available at** *www.fao.org/gfcm/reports/technical-meetings/detail/en/c/1206472/*

## BENCHMARK SESSION FOR SPRAT

**Date:** 26–29 November 2018

**Location:** Constanta, Romania

The session was organized within the remit of the SGSABS and benefited from the data preparation meetings summarized above. BlackSea4Fish also facilitated the presence of one external reviewer and one external expert during the benchmarking.

## RESULTS

- All assumptions to be employed in the assessment were agreed upon and a number of different methodologies to determine stock status were used, moving away from the use of integrated catch-at-age (ICA).
- Based on the contrasting information provided by the alternative models tested, and given the expert perception of the stock (i.e. a decrease in spawning stock biomass [SSB] and length structure), the results of the Extended Survivor Analysis (XSA) model were agreed upon.
- Temporary precautionary advice was provided and participants agreed that benchmark work would be completed at a later date.

## OBJECTIVE

**Determine current sprat stock status and agree on future methodologies**

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Black Sea anchovy (*Engraulis encrasicolus ponticus*)

# AGE READING OF BLACK SEA ANCHOVY DEVELOPED

BlackSea4Fish work on Black Sea anchovy (*Engraulis encrasicolus ponticus*) focused on age reading. In fact, multiple issues linked to the ages used in the anchovy stock assessment had been highlighted by the SGSABS in recent years, in particular in relation to a very low internal consistency of catch-at-age data, which suggested methodological differences in the ages estimated by different specialists.

**WORKSHOP ON AGE READING OF SELECTED BLACK SEA SPECIES**

**Date:** 28 January – 1 February 2019

**Location:** Trabzon, Turkey

The meeting, organized by BlackSea4Fish, focused on anchovy and rapa whelk, with experts from all six Black Sea countries in attendance. One of the objectives was to review the anchovy ageing procedures and sample processing techniques and agree on standardized ageing schemes in order to increase expertise at Black Sea level. This was preceded by an anchovy otolith exchange exercise coordinated by BlackSea4Fish, the results of which were also analysed during the workshop.

## RESULTS

- The sources of inconsistency in the age of Black Sea anchovy used for stock assessment were identified after a series of practical exercises.
- A common protocol for anchovy age determination was prepared.

## OBJECTIVE

**Review the anchovy ageing procedures and sample processing techniques**

## LINK

**Report available at**
*www.fao.org/gfcm/technical-meetings/detail/en/c/1195227/*

Experts onboard Turkish research vessel Sürat Arastırma during survey-at-sea

# STOCK ASSESSMENT INPUT DATA FOR BLACK SEA TURBOT COLLECTED

In order to address the main discrepancies identified by the SGSABS in the stock assessment of turbot (*Scophthalmus maximus*), in particular the standardization of abundance indices estimated through bottom trawl surveys, BlackSea4Fish coordinated a number of initiatives.

**TURBOT DATA PREPARATION MEETING**
**Date:** 27–30 May 2019
**Location:** Burgas, Bulgaria

BlackSea4Fish coordinated this meeting, which was attended by experts from all Black Sea countries and the European Union. Select national experts holding fisheries-independent turbot data were contracted to compile the disaggregated (haul-by-haul) data gathered from all possible sources. An external expert on the analysis and standardization of survey data (from COISPA Tecnologia e Ricerca, Italy) was invited to help Black Sea experts analyse the resulting data.

## RESULTS

- The disaggregated raw data were compiled in a new data entry format compatible with the MEDITS protocol and reanalysed utilizing tools developed for the spatiotemporal analysis and standardization of such data.

One critical issue raised during the meeting regarded the abrupt fluctuations in landings, coinciding with the periods when the Black Sea ecosystem experienced drastic changes due to a combination of factors such as distrophication in the major river mouths, invasion of exotic species, and changes in the climatic regime.

## OBJECTIVE

**Compile the disaggregated (haul-by-haul) survey data for turbot**

## LINK

**Report available at**
*www.fao.org/gfcm/technical-meetings/detail/en/c/1234784/*

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Plate 1. Turbot data preparation meeting (Bulgaria, May 2019)

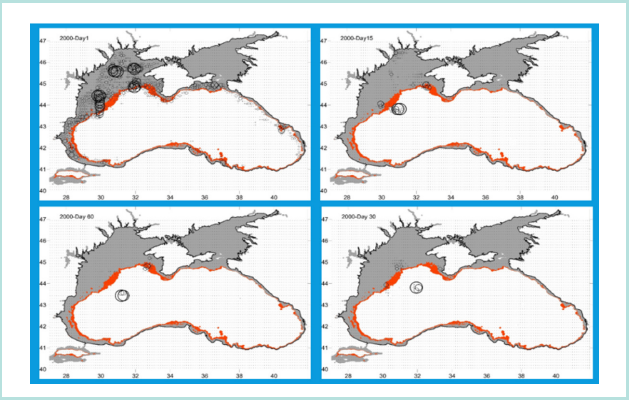

Figure. 3. Larval transport model for the Black Sea turbot

Given that non-fishery factors were identified as major drivers in landings fluctuations, participants agreed to investigate which environmental proxies could cause such changes. BlackSea4Fish investigated possible sources of data. Satellite-driven particulate organic matter (POM) (as a quantitative surrogate of eutrophication) and changes in the mesoscale circulation patterns as inferred from satellite-based sea level height (as the main driver of larval transport) were considered appropriate proxies. Two sets of long time series were prepared for each of these parameters and presented during the turbot benchmark assessment session.

## COORDINATION MEETING ON TURKISH TURBOT DATA

**Date:** 15 May 2018

**Location:** Ankara, Turkey

The meeting was organized with Turkish turbot experts to improve the quality and completeness of the turbot data to be used by the SGSABS.

## RESULTS

- The data used in previous SGSABS turbot stock assessments were reviewed and their sources investigated.
- A roadmap was prepared to access the data in the archives of institutes and universities.
- A very long data set (1991–2018) of length frequency distributions of Turkish turbot landings data was compiled with the support of SUMAE and the General Directorate of Fisheries and Aquaculture of Turkey. This new data replaced the Turkish catch-at-age matrix synthetically produced during previous stock assessments.
- The creation and reanalysis of a data set from the results of a SUMAE turbot mark-recapture experiment carried out between 1999 and 2002 was supported. The data consisted of the true ages of 570 marked and recaptured turbots along with their total lengths. A new age-length key was derived from this new data source, with the aim of finding a practical solution to the possible mismatches arising from the age-reading problem.

## OBJECTIVE

**Compile and improve the quality of Turkish turbot data**

Turbot (*Scophthalmus maximus*)

## BENCHMARK SESSION FOR BLACK SEA TURBOT

**Date:** 8–12 July 2019
**Location:** Burgas, Bulgaria

**Date:** 16–17 September 2019
**Location:** Trabzon, Turkey

## OBJECTIVE

**Determine current turbot stock status and agree on future methodologies**

The session was organized in two parts within the remit of the SGSABS. It benefited from the data preparation meetings organized by BlackSea4Fish, which also facilitated the presence of two external reviewers during the benchmark.

## RESULTS

- All assumptions to be employed in the assessment were agreed upon and two different methodologies (SAM and assessment for all [a4a] model) were used to determine stock status.
- The outcomes of both models were compared and an agreement was reached on formulating future advice using the SAM.
- The current fishing mortality and spawning stock biomass were estimated.
- The need to revise and estimate new reference points for fishing mortality and biomass was underlined.
- A list of issues to be tackled before the next benchmark was drafted, including further improvement of data quality (surveys, in particular) and an estimation of IUU fishing.

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Rapa whelk (*Rapana venosa*)

# KNOWLEDGE ON RAPA WHELK IMPROVED

Following the adoption of Recommendation GFCM/42/2018/9 on a regional research programme for rapa whelk (*Rapana venosa*) fisheries in the Black Sea, BlackSea4Fish led the launch and implementation of the programme for 2019–2020, in line with the roadmap approved and included in the recommendation.

**Coordination meetings – identification of research programme needs**

Three meetings for Black Sea specialists were organized between December 2018 and January 2019 to identify necessities for implementing the WGBS workplan on rapa whelk and running preliminary tests. These included:

- the need to eliminate differences in landings data collection programmes currently carried out by most Black Sea riparian countries;
- the importance of age determination in this species, the difficulties involved, and the (related) need for training; and
- fundamental requirements for conducting a harmonized scientific survey-at-sea, such as sampling gear, protocol and sampling period.

**WORKSHOP ON AGE READING OF SELECTED BLACK SEA SPECIES**

**Date:** 28 January–1 February 2019

**Location:** Trabzon, Turkey

The meeting, organized by BlackSea4Fish, focused on anchovy and rapa whelk, with experts from all six Black Sea countries in attendance. One of the objectives was to address the issues identified in the preparatory meetings, in particular in relation to the biology and growth of the species, so to increase expertise at Black Sea level.

**OBJECTIVE**

**Address the issues identified in the preparatory meetings, in particular in relation to the biology and growth of the species**

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Plate 2. Experts cutting rapa whelk shells to read their age at the workshop on age reading of selected Black Sea species

© Konstantin Petrov

Plate 3. Workshop on the harmonization of data collection at landing sites and in scientific surveys-at-sea

## RESULTS

- Age reading for rapa whelk was successfully achieved; the most accurate reading was taken from a statolith – however, this was not deemed practical for use in the field.
- The importance of conducting an additional comparative study targeting standardization of a more practical method was underlined, with a preference for the use of external spawning marks.
- An additional comparative study, using the accuracy of statoliths to rectify the uncertainties encountered in the external spawning marks method was suggested.

The suggested additional comparative studies were carried out by external experts; they are currently being edited and are available through the BlackSea4Fish webpage.

## LINK

**Report available at**
*www.fao.org/gfcm/technical-meetings/detail/en/c/1195227/*

### WORKSHOP ON THE HARMONIZATION OF DATA COLLECTION AT LANDING SITES AND IN SCIENTIFIC SURVEYS-AT-SEA

**Date:** 3–5 April 2019
**Location:** Burgas, Bulgaria

As a follow-up to the issues identified during the age-reading workshop and an initial meeting during the GFCM Forum on Fisheries Science (FAO headquarters, December 2018), this workshop was attended by all four Black Sea countries exploiting the rapa whelk stock. Experts discussed similarities and dissimilarities in national methodologies for collecting fisheries-dependent data.

## RESULTS

- The technical, administrative and financial aspects of the joint rapa whelk survey (to be conducted synchronously in all Black Sea countries) were discussed and agreed.
- The appropriateness of the GFCM *Technical guidelines for scientific surveys in the Mediterranean and the Black Sea. Procedures and sampling for demersal (bottom and beam) trawl surveys and pelagic acoustic surveys* were evaluated; the guidelines were modified according to the specific features of the Black Sea and the species.

## LINK

**Report available at**
*www.fao.org/gfcm/technical-meetings/detail/en/c/1196000/*

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Plate 4. Sorting beam trawl catch from the experimental rapa whelk scientific survey, Trabzon

© Murat Dagtekin

Plate 5. Measuring catch from the experimental rapa whelk scientific survey, Trabzon

# SURVEYS-AT-SEA

## SURVEYS-AT-SEA FOR RAPA WHELK

An experimental survey was organized in Trabzon on 22–26 July 2019. Experts tasked with coordinating future rapa whelk beam trawl surveys met onboard two commercial beam trawl vessels and tested the applicability of the newly developed age-reading methodology and beam trawl protocol. The guidelines of the beam trawl survey for rapa whelk were revised based on the field experience.

The draft protocol "Beam trawl surveys for Black Sea rapa whelk: guidelines and methodologies", including the field experience-based revisions, is available on the BlackSea4Fish project webpage.

Two joint research surveys for rapa whelk, as envisaged in the dedicated research programme, are planned for 2020 in coordination with the research institutes of the five countries involved.

## FIRST TRANSNATIONAL SURVEY-AT-SEA

Following a request from the Ministry of Environmental Protection and Agriculture of Georgia, the first transnational survey-at-sea was organized in December 2018 under the stewardship of BlackSea4Fish. It was made possible thanks to the Turkish Ministry of Agriculture and Forestry, which made available the research vessel Sürat Arastırma 1 and its crew. The hydroacoustic survey obtained information to support estimates of the status of pelagic resources in Georgia. The survey also facilitated the scientific exchange of up-to-date practices on the assessment of pelagic resources, thus empowering Georgian scientists to perform these duties in the future.

Turkish and Georgian experts onboard Turkish research vessel Sürat Arastırma after trawl operation

# SGSABS FURTHER SUPPORTED

The SGSABS benefited from work related to the data preparation meetings organized by BlackSea4Fish (summarized above), as well as from financial support for expert participation.

Furthermore, in response to a request made at the seventh WGBS session in 2018, BlackSea4Fish experimented, during the fifth SGSABS meeting (Romania, November 2018), with the use of SAM to assess Black Sea anchovy. Problems were identified, with a view to improving the quality of the assessment in the future.

© Madalina Galatchi

BlackSea4Fish Coordinator introducing the project at the age-reading workshop

# OUTPUT 5
# COOPERATION, OUTREACH AND WELL DISSEMINATED RESULTS

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 through the BlackSea4Fish project. A number of initiatives were launched to target the irregular regional expertise in stock assessment and models, and in response to the need to level up technical capacity in the Black Sea – a requirement often underlined by the WGBS.

## STOCK ASSESSMENT TRAINING

A hands-on training session for scientists from Black Sea countries was organized during an ichthyoplankton/hydroacoustic survey conducted by a Turkish research vessel in the southern Black Sea in July 2018. It allowed the scientists to share their experience and learn from others on various aspects of surveying at sea, including handling and processing of samples, identification of fish aggregations on the echograms, age readings and the like. On the same occasion, a series of lectures on the theory behind fisheries acoustics and on the application of of post-processing tools (e.g. EchoView) were presented by a hydroacoustic expert from Wageningen Marine Research (the Netherlands).

BlackSea4Fish supported the participation and contribution of several Black Sea experts to the GFCM Forum on Fisheries Science, which proved an opportunity for the exchange of expertise and the presentation of Black Sea work during the thematic sessions and poster sessions.

Black Sea experts were sponsored to take part in external training, such as the AMARE-MED advanced school on quantitative methods for ecosystem approach to fisheries, which took place in July 2019. These focused on data-limited stocks.

## TRAINING OF TRAINERS

As had already been identified during the inception of the BlackSea4Fish project, the desired level of expertise is difficult to reach with one or even with a series of short training courses. To identify the topics for which training was most needed in the region, a questionnaire was prepared. This showed that experts had already participated in many training courses, but their impact on real needs had been limited. On this basis, BlackSea4Fish focused on offering one-to-one training to selected scientists from the region by a well-known expert on stock assessment and stock assessment models. These scientists could then pass on their experience to colleagues in their home country in their own language.

In this context, a training session on the SAM stock assessment model was arranged in June 2019 for a Turkish scientist at Wageningen Marine Research, Ijmuiden, the Netherlands. A training session was also organized in the same period for one Ukrainian expert to practise the Stock Synthesis (SS3) model with Black Sea turbot data, at the Marine Research Institute of the Swedish University of Agricultural Sciences, Department of Aquatic Resources, Lysekil, Sweden. A consultation meeting was then organized by the General Directorate of Agricultural Research and Policy of Turkey, and facilitated by BlackSea4Fish, to transfer the experience to eight Turkish Ministry staff involved in fisheries. On that same occasion, a supplementary session on basic population dynamics and fundamentals of stock assessment models was organized.

## OUTREACH AND DISSEMINATION

The BlackSea4Fish project, its goals and role within the GFCM were presented in the roundtable on management and sustainable utilization of marine resources held at the Global Fishery Forum and Seafood Expo 2018 (Russian Federation, September 2018), as well as at the Ministerial Conference on a Common Maritime Agenda for the Black Sea (Romania, May 2019).

Various actions were put in place to enhance communications around BlackSea4Fish:

- The project's visual identity was developed, and roll-up banners were produced to present BlackSea4Fish at various meetings and conferences.
- A portal dedicated to the project was created on the GFCM extranet for experts to consult documentation and share information.
- A page was added to the GFCM website to present the project and its achievements.
- A video was created – "Not closed, not black but a living sea" – to provide a general profile of the Black Sea and to present the potential of its fisheries and aquaculture sectors, not only for food security but for social and economic aspects.
- A press release was issued on World Fisheries Day (21 November) in all Black Sea countries to present BlackSea4Fish and its first results.
- The project hashtag – #BlackSea4Fish – has been used by various regional stakeholders to communicate on the project.

**LINK**

**Report available at**
*www.fao.org/gfcm/activities/fisheries/blacksea4fish/activities*

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Mr Konstantin Petrov, Ms Yoana Georgieva and Mr Ali Cemal Gücü at the Black Sea Unit © Saba Baskir

# OTHER DEVELOPMENTS

## INCREASED FOCUS ON SMALL-SCALE FISHERIES (OUTPUT 2)

A comprehensive socio-economic survey, including on small-scale fisheries, is underway in select Black Sea countries. To this end, data collection was carried out in Ukraine at the end of 2018, while work is ongoing to launch the survey in Turkey.

To support ongoing efforts on small-scale and recreational fisheries in the context of the GFCM mid-term strategy, BlackSea4Fish helped Black Sea experts attend and contribute to the Working Group on Small-Scale Fisheries (Montenegro, March 2019). Similarly, the support of BlackSea4Fish facilitated the participation of experts from the Black Sea region in the Workshop on advancing social development for the future of small-scale fisheries in the Mediterranean and the Black Sea (Morocco, June 2019).

## DISCARDS AND BYCATCH OF VULNERABLE SPECIES BETTER MONITORED (OUTPUT 4)

Data collection under the discards monitoring programme is being implemented in Turkey and Ukraine.

Support is expected to be provided in the context of the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area (ACCOBAMS) project, CeNoBS, on the implementation of cetacean monitoring indicators in the Black Sea.

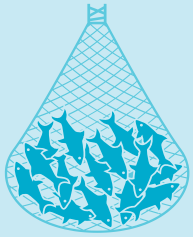
## THE TEAM

At the Black Sea Unit between 2018 and 2019 , under the leadership of the BlackSea4Fish project coordinator Mr Ali Cemal Gücü, Ms Yoana Georgieva and Mr Konstantin Petrov provided, respectively, expert support in technical matters linked to fisheries and expert advice in technical cooperation matters. One intern, Ms Saba Baskir, assisted in the overall implementation of the BlackSea4Fish workplan. The Black Sea Unit also benefited from ad hoc support from colleagues of the Black Sea Unit host, the Executive Agency for Fisheries and Aquaculture.

# Black Sea fisheries overview

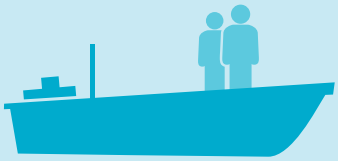
Fisheries play an important social and economic role in the Black Sea, and the small-scale fleet dominates activities. BlackSea4Fish works with national fisheries institutes across the region to strengthen the sector's long-term social and environmental sustainability.

### Landings from capture fisheries

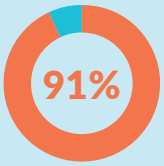


**390 000 TONNES**
(2016)

### Black Sea fleet



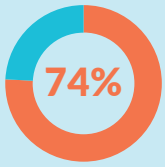
**11 539 VESSELS**




**91% IN SMALL-SCALE FISHERIES**

### Employment onboard vessels

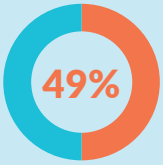
**20 768 PEOPLE**
**EMPLOYED ONBOARD**




**74% IN SMALL-SCALE FISHERIES**

### Revenue from capture fisheries

**USD 350 MILLION**
**TOTAL REVENUE**




**49% FROM SMALL-SCALE FISHERIES**

# BLACKSEA4FISH
## 2018–2019

The **BlackSea4Fish** project was established in 2016 to contribute to the sustainable management of Black Sea fisheries, by providing scientific and technical support to the work of the GFCM in the region.

Between 2018 and 2019, the **BlackSea4Fish** project focused on increasing scientific knowledge to support fisheries management, by improving data collection and scientific advice for priority species through scientific surveys and enhanced stock assessment, as well as through capacity-building. It also launched select mid-term strategy activities in specific countries, in response to needs identified over the years by the Subregional Group on Stock Assessment in the Black Sea and in line with the recommendations and workplan of the Working Group on the Black Sea.

With the contribution of

With the financial support of

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