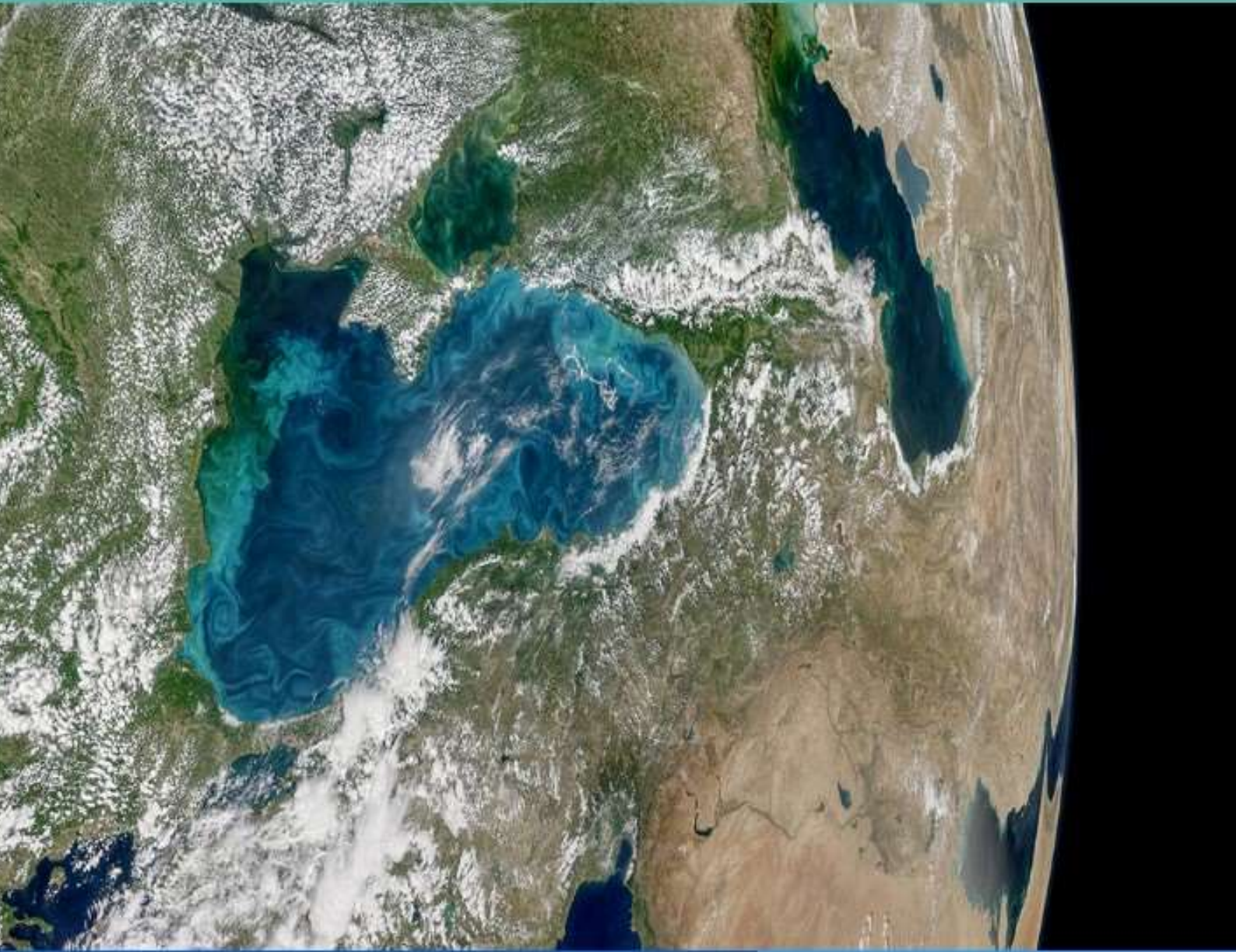


## Coordination of Marine and Maritime Research and Innovation in the Black Sea



### **D3.3 Report on joint actions and their implementation status**



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## 1. Executive summary

Black Sea CONNECT CSA has been tasked with the consolidation of Black Sea SRIA and the development of its Implementation Plan. The SRIA and its Implementation Plan will be a long-lasting guide for stakeholders that will build on concrete and implementable transnational joint actions. The CSA had a specific objective to uncover and define joint actions that are aligned with the thematic areas defined in the Burgas Vision Paper which are to provide direct input to the Implementation Plan. At the proposal stage, 3 thematic areas were identified: Innovation, Ecosystem, Education. This deliverable states the implementation status of these three joint actions.

The Innovation theme is addressed under Marine Litter Joint Action to find innovative solutions to marine litter pollution in the Black Sea. A 3-step plan was planned and implemented for this action with desk research, organization of Marine Litter Action Forum and other dissemination activities in the Black Sea countries. The Forum was a success in bringing together different actors to advance innovative and nature-based solutions for marine litter pollution in the Black Sea.

The education theme is operationalized as the Young Ambassador Programme which has brought together over 30 young people in 2 cohorts since the beginning of the CSA and contributed to their capacity building via rounds of training, and seminars (Black Tea Time Meetings) and involving them in SRIA development processes.

Finally, the Ecosystem theme first focused on assessing the positive and negative impacts of COVID-19 on the marine ecosystem. This Action is revised as Health and Safety for Black Sea Coasts, focusing on the assessment of the impact of COVID-19 on the Black Sea ecosystem, sea level rise and coastal floods – impacts and adaptations, one health approach, etc. with specific strategic joint actions underneath. It has been integrated as a separate theme to the Implementation Plan.

In line with the objective, all three joint actions addressed under the Black Sea CONNECT CSA have been integrated into the Implementation Plan as themes with specific and concrete strategic joint actions underneath them. The national and international consultations on the 1<sup>st</sup> draft of the Implementation Plan has demonstrated that there is a great need and interest for these joint actions as they were prioritized in the scoring activities conducted during the consultations.

The pilot actions have been successfully piloted and provided feedback to the Implementation Plan. In this context, the next step is to focus on the uptake and implementation of the Black Sea SRIA Implementation Plan which integrates the joint action as well as the other relevant and important actions for the region. Other strategic joint actions under the Black Sea SRIA IP have been developed with input from the stakeholders through national consultations. The CSA was only tasked to pilot the three of the actions only. The implementation of the strategic joint action remains for the Operational Network of Funders, as well as other future projects and initiatives. In version two of this deliverable, however, the status of the implementation of these pilots and plans for the others are presented reflecting the situation as of December 2023 under Section 6 Implementation Status of the Joint Actions as of December 2023. For 9 out of 12 themes of the joint actions of the Black Sea SRIA Implementation Plan including the piloted joint actions, there have been concrete steps.

Black Sea SRIA Implementation Plan is also developed in a strong synergy with the regional and international support tools, policies and initiatives such as Horizon Europe calls and partnerships such as Sustainable Blue Economy Partnership, Mission Ocean and Waters and UN Decade of Ocean. These mechanisms will be exploited for the implementation of the Black Sea SRIA Implementation Plan joint actions.

Additionally, under the Black Sea CONNECT, an Operational Network of Funders (ONF) has been established to strengthen regional cooperation among public research funders and facilitate the alignment of national priorities (such as research and innovation strategies) and prepare the ground for the focused funding of strategic joint actions. The ONF has also actively contributed to the SRIA



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Implementation Plan development process with regard to the national priorities. Joint preparation of dedicated calls for strategic joint actions.

Even though this deliverable is originally due March 2023, it is submitted deliberately later as the Black Sea SRIA Implementation Plan which is closely linked with the implementation status of the Joint Actions is finalized in May 2023.



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## The Black Sea CONNECT Joint Actions

Black Sea CONNECT CSA has been tasked with the consolidation of Black Sea SRIA and the development of its Implementation Plan. The SRIA and the Implementation Plan will be a long-lasting guide for stakeholders that will build on concrete and implementable transnational joint actions. The CSA had a specific objective to uncover and define joint actions that are aligned with the thematic areas defined in the Burgas Vision Paper. At the proposal stage, 3 thematic areas were identified: Innovation, Ecosystem, and Education. During the lifetime of the CSA, these areas are further specified with the input from the CSA and in line with the international and regional priorities. The Innovation theme is addressed under Marine Litter Joint Action to find innovative solutions to marine litter pollution in the Black Sea. The education theme is operationalized as the Black Sea Young Ambassador Programme. Finally, the Ecosystem theme first focused on assessing the positive and negative impacts of COVID-19 on the marine ecosystem. This Action is revised as Health and Safety for Black Sea Coasts, focusing on the assessment of the impact of COVID-19 on the Black Sea ecosystem, sea level rise and coastal floods – impacts and adaptations, one health approach, etc. with specific strategic joint actions underneath. It has been integrated as a separate theme to the Implementation Plan.

As a result of the success of the pilot joint actions that were carried out under the CSA, the joint actions are also added to the Black Sea SRIA Implementation Plan (IP) as themes and strategic joint actions. Other strategic joint actions under the Black Sea SRIA IP have been developed with input from the stakeholders through national consultations. The CSA was only tasked to pilot the three of the actions only. The implementation of the strategic joint action remains for the Operational Network of Funders, as well as other future projects and initiatives. In version two of this deliverable, however, the status of the implementation of these pilots and plans for the others are presented reflecting the situation as of December 2023.

### 1. Marine Litter Joint Action

As a semi-enclosed sea with high river discharge, the region hosts >171 million people in 21 countries. Pollution is one of the multiple stressors that the Black Sea is under. It's one of the most degraded ecosystems in the world due to high levels of eutrophication/pollution, overfishing, invasive species and climate change pressure. Only the Danube River carries 4.2 tonnes/day of marine litter to the Black Sea (Lechner et al., 2014). 15.3% of the floating macro waste detected in European seas is in the Black Sea (González-Fernández et al., 2021). All environmental matrices are contaminated with high levels of microplastic pollution (up to  $3.3 \cdot 10^{-3}$  par.m<sup>-3</sup>) (Aytan et al., 2016). The issue also concerns not only Black Sea but all seas and oceans as it is predicted that there will be more plastic than fish in the ocean by 2050 (Ellen MacArthur Foundation, 2016). In this context, the innovation-focused joint action (Marine Litter Joint Action) has been decided to focus on finding innovative solutions to the marine litter problem in the Black Sea.

#### 2.1 Objectives

The Marine Litter Joint Action aims to map and assess ground-breaking actions, activities and initiatives that have been done/planned on marine plastic pollution and enhance new transnational activities. Its objectives are to identify beyond-state of the art solutions, and activities and create the information that is needed to address a growing problem, having a serious threat to the environment, economy and health. To achieve these goals, the following steps were considered:

- A. Compile detailed analysis of the existing projects and initiatives in the Black Sea and Europe on marine litter, as a research to map different projects especially those with a strong focus on the innovative ideas that can be replicated or have potential in the Black Sea which will serve as the groundwork. More specifically, the identification of Marine Litter Initiatives was seen as a necessity in order to:



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- i. Establish specific activities regarding the actions on marine litter in their respective countries, targeting on the type and mapping of the activity, the main actions/actors and links of the actions,
  - ii. Develop strong partnership with an existing project in the Black Sea area, "Pilot innovative solutions for marine litter in the Black Sea" by the Black Sea CONNECT partner (BSEC),
  - iii. Recognize the main EU and International projects and initiatives that are connected to various sources, forms and impacts of marine litter,
  - iv. Address national and international activities related to companies, and NGOs, giving rise to circular economy prospects activities in the area
- B. Organize a Black Sea CONNECT event on SRIA implementation towards innovative litter solutions which will bring together all relevant actors for solutions in order to present the actions already in place, for existing and new initiatives and projects and, therefore, best coordinate all actions towards a common approach at transboundary level and pave the way for the future cutting-edge actions on marine litter pollution in the Black Sea.
- C. Create further dissemination actions in countries, in order to inform and engage, if possible, all the countries on the serious threat of plastics to natural ecosystems, food safety and quality, human health and coastal tourism, on the country's level and at Black Sea's level and involve the Young Ambassadors of the Black Sea CONNECT Project. The Young Ambassadors have had a distinct role in the Event in order to distribute and enhance the information potential of all these actions to different age groups via the activities that they normally organize.

## 2.2 Desk-research

A total of 58 projects have been identified in the Black Sea, directly or indirectly addressing the problem of marine litter issue. The partners of these projects range from local governments, non-governmental organizations and academia. These projects are built around eight thematic approaches;

- **Monitoring and Observation:** Monitoring studies carried out with the aim of understanding the situation of marine litter in the basin in different matrices,
- **R&D:** Research and development activities to be used in assessments of marine litter such as observation technologies, plastic weathering and degradation (micro-nano plastics, ecotoxicological assessments, innovative clean-up technologies,
- **Good Practice:** Developing, implementing and promoting good practices that can be exemplified in the process of reducing the marine litter problem,
- **Training and Networking:** Raising awareness about the problem of marine litter, creating an environment for scientists conducting scientific studies on the problem to meet, and creating an environment for public institutions to communicate,
- **Citizen Science:** Activities for a meeting with the contribution of the participants following the training given within the scope of the project,
- **Policy-oriented:** Outputs to convey information to decision-making authorities following due diligence carried out within the scope of the project,
- **Data-based:** Studies carried out in line with the existing and obtained information on the marine litter issue within the scope of the project,
- **Clean-up and Waste Management:** Efforts aimed at improvement in different expertise levels and fields for the solid waste problem,

With 22 of the 58 projects, the most preferred approach in the region was found to be "Training and Networking". Followed with "R&D" and "Good Practices". Moreover, efforts on monitoring and observation of pollution state and clean-up activities were other important approaches generally preferred within the scope of projects. Another important point to be mentioned is that there are initiatives



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aimed at improving waste management in the region to prevent solid waste at its source. In addition to these approaches, the evaluation of the state of marine litter pollution in the basin and approaches that can be followed to mitigate was carried out with four reports prepared.

One aspect that is observed to be lacking in the region is the lack of an innovative solution proposed to combat the problem. Instead, efforts have focused to prevent pollution at its source. Unfortunately, our current knowledge shows that this effort is insufficient in the long run due to the problems faced in waste management.

### 2.3 The Forum at a glance (need photos as well)

Based on the comprehensive desk research, the need to bring together the relevant projects and initiatives has become more important to better coordinate the existing efforts and develop further solutions. Information compiled from desk research on the activities carried out for the marine litter issue in the region was shared with the Black Sea CONNECT - Marine Litter Pilot Action Steering Group formed with the participation of scientists representing the countries in the Black Sea basin from the Black Sea CONNECT CSA (. The Marine Litter Pilot Action Steering Group convened regular meetings to work on the desk research and identify participants to take part in the event.

**Table 1** Marine Litter Pilot Action Steering Group

Country	Organization	Member
Bulgaria	IO-BAS	Petya Ivanova
		Nina Dzhebekova
Georgia	TSU	Kakhaber Bilashvili
		Nino Machitadze
		Inessa Kuzanova
		Mamuka Gvilava
Moldova	UST	Lucia Căpățînă
		Tudor CASTRAVEȚ
Romania	GEOECOMAR	Irina Stanciu
		Selma Menabit
Turkey	METU-IMS	Vangelis Papathanassiou
		Olğac Guven
		Baris Salihoglu
		Pinar Uygurer
		Ezgi Şahin Yücel
		Mustafa Yücel
		Ozgun Evrim Sayilkan
Ukraine	UKRSCES	Ulgen Aytan
		Julia Kotelnikova
		Olena Miasnikova

With the contributions of the steering group, the participant profile that will enable the representation of the knowledge and experiences of each country has been determined. The Forum with the most relevant project and initiatives and key actors is planned under the Black Sea CONNECT CSA as well as the interested scientists, policymakers and industry from the Black Sea countries and Europe and beyond.

The Forum was also attended by people from ministries, regional leaders, general secretaries for research and technology, research, funding agencies and water directors and interested companies and NGOs from all Black Sea countries in a bond to last beyond the Black Sea CONNECT project lifetime.

Based on the extensive work of the Steering Group, the Forum was designed into 3 complementary sessions, that followed after a Policy Panel discussion on European initiatives:

**Policy Panel on European Opportunities and Current Policy Tools Towards A Healthy, Plastic-Free and Resilient Black Sea:** As Marine litter pollution is a significant environmental problem that has widespread impacts on marine ecosystems, human health, and the economy, policymakers play a



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critical role in addressing this issue. The opening session of the Forum was designed to involve high-level key players at the European and regional levels to inform the existing opportunities and policy tools and to gain a better understanding of the scope and magnitude of the problem and its impacts on marine ecosystems and human societies.

**Session 1. Marine Litter Pollution in the Black Sea:** To set the stage, the Forum was designed to present the scientific approaches for marine litter mitigation, the current state of marine litter pollution in the region, actions in practice in other regional seas and the importance of raising awareness of the problem were discussed.

**Session 2. Plastic Circularity:** As plastic circularity is directly linked with marine litter pollution, the second session focused on how international institutions on plastic circularity cover the issues of sustainable plastic production, innovative waste management and recycling applications were discussed within the session.

**Session 3. Good Practices:** Based on the backdrop of the EU initiatives and the first 2 sessions, innovative approaches applied within the scope of mitigating marine litter issues both in the Black Sea basin and in other regional seas were showcased to the participants.

**Poster Session:** To complement the Forum sessions, scientific posters demonstrating relevant research and projects are invited to promote the work carried out by academia, non-governmental organizations and public institutions in the region.

**Exhibition and Networking Reception Session:** A marine plastic exhibition and reception were also planned at the end of the event in order to allow the participants to meet each other and exchange ideas about their areas of expertise.

The Forum took place on 15-16 November 2022, in Istanbul.

The Forum presented the actions already in place and featured emerging new initiatives and projects in order to best coordinate all efforts towards a common approach at the basin level. The event attracted over 200 distinct stakeholders from the private sector, academia, ministries, funding agencies, and NGOs from the Black Sea region, Europe and beyond.



**Figure 1** Marine Litter Action Forum, 15-16 November, Istanbul Türkiye



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The coordinator Prof. Baris Salihoglu, opened the event stressing the necessity of sustainable solutions and innovative actions to combat marine pollution in the Black Sea. This was followed by opening speeches from Mrs. Elizabetta Balzi, Head of Unit of the DG Research and Innovation, Mr. Christos Economou, Head of Unit, DG Maritime Affairs, and Fisheries, H.E. Ambassador Lazăr Comănescu, Secretary General, Permanent International Secretariat of the BSEC and Mrs. Iryna Makarenko, Pollution Monitoring and Assessment Officer of the Black Sea Commission.

The first session (moderated by Dr. Vangelis Papatthanassiou, IMS/METU) focused specifically on Marine Litter in the Black Sea with 3 invited speakers and representatives of the Black Sea Young Ambassadors (BSYA).

Mrs. Sigi Gruber, Active Senior Adviser of the European Commission, gave emphasis to the importance of science to tackle the plastic problem, and the funding opportunities under “Mission Ocean”; Prof. Ulgen Aytan of Recep Tayyip Erdoğan University introduced the term “Plaston” from PLAStic and plankton as an inseparable component of marine life; Mr. Christos Ioakeimidis of UNEP/MAP, has presented the marine litter Action Plan in place for litter-free Mediterranean. Finally, the 3 BSYA, Salome Kobaidze (Georgia), Elena Culighin (Moldova), and Selma Menabit (Romania) were pitching their actions, awareness-raising campaigns, and activities in their countries.

The second session focused on Plastic Circularity (moderated by Dr. Olgac Guven of Akdeniz University). The invited speakers were: Prof. Nilgun Kiran Ciliz of Bogazici University, underlining the possibility of having more plastics than fish by 2050; Dr. George Triantafyllou from the Hellenic Centre for Marine Research (HCMR) addressing the collection of recycled plastic in the EU Project “CLAIM”; Mr. Feng Wang of the UNEP conveyed the scientific and public interest in plastic pollution and concerns to human and environmental health and; Mr. Shardul Agrawala of OECD addressed the potential solutions to eliminate problematic and unnecessary plastic, including hazardous additives.

During the first day, a poster session was organised, having 21 scientific posters. (Figure 2)



**Figure 2** Scientific Poster Session of the Marine Litter Action Forum

Two exceptional side events have been assigned to Forum (Figure 3):

- i. A very interesting art exhibition where attendees had a chance to see stunning art pieces from the waste collected from the seas in the marine litter awareness-raising exhibition “Yüzleşme/Confrontation” by Şinasi Yelkenci and
- ii. A photograph exhibition comprised of the winners and selected photographs from the Photo Contest “Visual Storytelling of the Black Sea: Different Shores, Different Reflections, and One Sea”, driven as part of the awareness-raising campaign of the Black Sea Young Ambassadors, with the participation of one of the winners, Tolga Taymaz.





**Figure 3** “Confrontation” by Şinasi Yelkenci and Photo Exhibition by Tolga Taymaz

The second day (15 November), started with the presentation of the summary of the first day (made by Mr. Mamuka Gvilava and Dr. Nina Dzhebekova).

The third session (moderated by Irina Stanciu from GeoEcoMar) was on Good Practices session. The invited speakers were: Mrs. Rositsa Stoeva of BSEC PERMIS, presented the “Black Sea React!” project and showing the project’s contribution to the regional dialogue on mitigating and effectively tackling marine pollution and marine litter; Mrs. Fedra Francocci of CNR, presented the “BlueMed Initiative” highlighting its priority of countries’ cooperation to tackle marine litter; Mr. Luis Vieira from CIIMAR presented the “MAELSTROM” project, focusing on smart technologies for sustainable removal and management of marine litter; Prof. Fatma Telli Karakoç from Karadeniz Technical University presented “LitOUTer” proposed as another good practice engaging different groups of stakeholders; Dr. George Triantaphyllidis from MINDS Start-up Company introduced their works for the sustainable blue economy and marine litter depollution; Prof. Milen Baltov of Burgas Free University, introduced the citizen science project Plastic Pirates to encourage young generations to support scientists and shared the activities of the “Go Europe: European Research Area funded pilot citizen science campaign” engaging young people (7-16 years) on plastic pollution in European rivers, oceans, and seas and; Mr. Kamel Labibes from Ayam Sailing Europe, who presented the Erasmus Maris, which could help students to learn more about the marine environment and understand how to preserve it, through different activities.

The final session was a roundtable panel consisting of the newly established Operational Network of Funders (ONF) on the implementation of SRIA in the Black Sea (moderated by Black Sea CONNECT Co-Coordinator Mustafa Yucel). ONF representatives from 4 countries (Türkiye, Georgia, Bulgaria, and Moldova), and Dr. Viktor Komorin, a Ukrainian representative from the scientific community, gave valuable insights on the implementation of Litter solutions in their countries. The discussion has been made in two rounds: In the first round, the national initiatives, regulations, and experiences were discussed where the participants in this round table have outlined how the marine litter (ML) issue is currently affecting their communities, business sectors, and what efforts are in place for making the Black Sea healthier. The second round was about the proposals for each of the country’s specific needs, and current national programs and/or plans that address directly or indirectly the ML issue.

### Questionnaire

The forum provided the opportunity for both online and onsite participants to be informed about how the marine litter issue is perceived on a regional and national scale. Moreover, information was given about the innovative approaches developed and followed in the process of coping with the issue. After the event, a survey was conducted in order to get the opinions of the participants and experts, on the adequacy of the current mitigation approaches and possible future approaches which would lead to more effective results to cope with the problem. The main objective of this survey, which was conducted after the event, is to evaluate the awareness created by the event and to get expert opinions for future initiatives.



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The questionnaire was anonymous and had 22 questions under three sections with the first section containing information of the participants, such as age group, education level and professional experience. In the other two sections the participants requested to give an opinion a) on current mitigation approaches and innovative solutions for the marine litter problem in the region and b) on recommendations for the future.

## 2.5 Main conclusions and recommendations to support Marine litter Actions

The forum has achieved several significant accomplishments:

- a) It has identified the current state of our seas regarding litter as not very promising. There is an urgent need for immediate action to change our vision and to invert the trend for 2050-2060. Furthermore, we need to take immediate action to address marine litter issues before it's too late.
- b) The forum clearly showed that certain policies already exist to support efforts to combat marine litter. This means that there are already established rules and regulations in place that can be leveraged to support new initiatives. It has been highlighted that support tools are indeed available from various countries and international organizations, for example, Mission Oceans, the Sustainable Blue Economy Partnership (SBEP), and the UN's Sustainable Development Goals (SDG).
- c) It has also pointed out that technologies exist to reduce, mitigate, and clean up litter. Additionally, through ongoing projects, these technologies can be further developed in the future.
- d) The forum has identified and demonstrated the next steps that need to be taken to address issues that go beyond the current state-of-the-art.
- e) The forum recognizes the need to change our lifestyle, policies, and legislation to tackle this issue effectively. This means that we need to make changes to the way we live our lives, as well as the policies and legislation that govern our actions.
- f) Lastly, the forum has stressed the importance of policy players understanding the scientific evidence and establishing a two-way connection. This means that policy players need to be informed about the scientific evidence and communicate with experts in the field to develop effective solutions.

The above list has to be revisited, enhanced and updated whenever possible and at least every 2 years as their implementation can change our policies and lives in the future.

## 2.4 Dissemination Activities

Black Sea Young Ambassadors organized bottom-up and local activities in their communities. Some of these activities were parallel to the Marine Litter Joint Action to raise awareness of the problem. Elena Culighin of Moldova conducted her campaign called "Love your rivers to protect Black Sea" including three field trips (Field trip on the Raut riverbank and Oxentea village, Dubasari district, Dniester river, and Slobozia and Văleni villages, Cahul district, Prutul de Jos (Lower Prut) Natural Reserve) on important rivers days as Dniester day and Danube Day, Moldova as well as social media campaign (<https://www.facebook.com/CentrulNationaldeMediu>). With these events, the campaign aims to bring the necessary information to the young people of Moldova regarding the intense pollution of the rivers. (See more in Section 3)

Additionally, BSEC has conducted various activities

- During June-October 2021 four (4) tonnes of old fishing nets and marine litter were collected with the help of the Fishermen Association of Fener district in Istanbul and have been sent for recycling to the Gama Recycle A.S factory in Gümüşova. Collected materials were transformed into useful items for daily life like child's toys, t-shirts and blankets (Figure 4).



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**Figure 4** Clean-up activity that took place on June-October 2021 in Istanbul Turkey



**Figure 5** A special kit “Atto and the Clean Sea” is produced and distributed in cooperation with BSEC

- awareness raising campaigns about the issue of marine litter and specifically the recycling of plastic litter among the younger generations (age 6 to 8) have been organized from January till December 2022, as follows: 18 January in Sariyer, Istanbul; 23 April in Besiktas, Istanbul; 10 June 2022 in Maslak, Istanbul. At the same time, on June 1<sup>st</sup> (World Children’s Day) a donation of t-shirts and blankets, produced from the collected materials, has been arranged for kids in need in Sariyer Municipality’s Youth Center in Ayazağa.
- a special kit “Atto and the Clean Sea” has been created for the project’s purposes. 500 school kit sets were printed: 250 sets in Turkish and 250 sets in English language. During the implementation process and upon request by some Black Sea municipalities, “Atto and the Clean Sea” story has been translated into Bulgarian, Georgian and Greek languages. 40 books in Turkish language have been sent to METU for awareness-raising purposes to local school children in Mersin.



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## 2. Black Sea Young Ambassadors

Launched under the Black Sea CONNECT Joint Action titled education, the Black Sea Young Ambassador Programme (BSYAP) has been a flagship program. Since 2020, the first cohort of BSYAP, who were equipped with the necessary theoretical and practical skills through a series of trainings and awareness-raising workshops, has conducted a variety of activities, including local and bottom-up activities, to drive change in their communities. With the training they have received, they are able to successfully carry out a variety of activities.

### 3.1 Objectives

With the aim of uniting youth for the future of the Black Sea, for a healthy, resilient and sustainable Black Sea, in September 2020, Black Sea Young Ambassadors Programme was developed under the Black Sea CONNECT CSA.

Black Sea Young Ambassadors will both play an important role in advocating for Blue Growth in the Black Sea and promote the goals of the Strategic Research and Innovation Agenda (SRIA). The engagement of the Young Ambassadors will enhance the visibility and actions of the Blue Growth Initiative in the Black Sea, increase the countries' potential and spread the output of projects and activities related to the Blue Growth Initiative in the region. Specific objectives are

- using their talent to increase awareness about marine science and blue growth activities for promoting the actions of the Black Sea Blue Growth Initiative
- engaging in workshops, community service activities, team building exercises, meetings with community leaders
- engaging with young people to contribute to building a generation that protects seas and oceans
- promoting and communicating specific and foresight activities related to the SRIA pillars of the Black Sea Blue growth
- developing campaigns and driving change in their own communities
- advocating for marine science outputs to be used for policy and industry
- creating opportunities for further cooperation collaboration and follow-up activities between the Black Sea and the EU sea basins

### 3.2 Main Activities

Considering the success of the programme, not only to increase the impact of the program and its visibility but also to ensure its sustainability, a second cohort has been selected in late 2022. From 6 Black Sea countries (Bulgaria, Georgia, Moldova, Romania, Türkiye and Ukraine), 15 young ambassadors joined the programme. The active members of the previous cohort continue as mentors/senior ambassadors.

Although more detail on the BSYA activities will be provided in D4.5 Report on Black Sea Young Ambassadors' Activities due M45, general information on the activities carried out by/for the young ambassadors since the beginning of the programme can be summarized as follows:

#### 3.2.1 National SRIA Consultations Meetings (2020 and 2022)

Both cohorts participated in their respective national SRIA consultations and shared ideas and opinions that will assist in defining country priorities through a healthier and more valuable Black Sea. Not only these but also some young ambassadors who have a direct link with partner organisations have contributed to the development of updated SRIA.



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### 3.2.2 Black Sea SRIA Implementation Plan Consultations (Late 2022 – Early 2023)

Both cohorts participated in implementation plan consultations as Black Sea youth representatives. Not only these but also some young ambassadors who have a direct link with partner organisations have contributed to the SRIA Implementation Plan writing process.

### 3.2.3 Autumn School (Virtual, 2-3 November 2021)

The objective of the Autumn School was to equip Black Sea Young Ambassadors with theoretical and practical skills that will aid them in establishing awareness-raising activities and campaigns that will effect change in their communities. The training was held with the participation of communication experts, blue economy and marine science representatives as well as the youth of different basins. <http://connect2blacksea.org/black-sea-young-ambassadors-autumn-school-2021/>

### 3.2.4 Awareness Raising Campaign Development Workshop (Virtual, 01 February 2022)

A workshop was organized to equip BSYAP both theoretically and practically for the creation of an awareness-raising campaign. The development of a logical framework for designing and executing the BSYA's own campaigns was the topic of a discussion on how to generate impact through awareness-raising.

### 3.2.5 Awareness Raising Campaigns:

Based on the rounds of training they received, Black Sea Young Ambassadors conducted bottom-up outreach activities in their local communities.

*Romania:* Selma Menabit of Geocomar organized a campaign including two events; Black Sea Journey Event 1: “Youth Power – Towards a healthy Black Sea”, Event 2: “Discovering together the beauties of the Black Sea”. She organized a workshop at “Decebal” Theoretical High School Constanta, Romania targeting High school students. With the aim of raising awareness on Black Sea issues and help the young generation to understand the importance of protecting our seas and oceans she reached 50 students at this workshop. The main objectives of this event were to raise awareness regarding the Black Sea's unique features, biodiversity, cultural heritage and major environmental problems the region is facing with a focus on marine litter; to help children understand why it is important to protect the Black Sea region, in order to ensure a sustainable future; to encourage young generation to adopt an environmentally responsible behaviour; to create a new generation that will help us promote and protect the Black Sea. As well as a workshop, she conducted a beach activity at “Reyna” Beach Constanta, Romania with secondary school children. With the aim of improving students' awareness regarding the native and invasive alien mollusc species populating the Black and their ecological role in the marine ecosystem; encouraging children to adopt environmentally responsible behaviour; to actively involve children in the scientific process, she reached 30 students.

*Georgia:* Salome Kobaidze of TSU, also organized a series of activities under her awareness raising campaign called “Educated and sensitized Georgian youth for the sustainable development of the Black Sea”. In her first activity as a part of the “Black Sea Blue Policy” held at Batumi Shota Rustaveli University in Batumi. At the “Black Sea Blue Policy” event that aims to raise public awareness, promote scientific research and innovation and disseminate the relevant information on achievements to the general public, she reached different target groups such as scientists, university students and K12 students. She conducted different activities under this event as presentations on Black Sea CONNECT and blue growth, a scientific cognitive quiz and a contest of thematic paintings related to the Black Sea for the wide range of event attendees. As her second activity, she conducted a physical workshop/meeting with “young rangers” on the 9th of July in Georgian that was attended by 15 local public school students, teachers and the representatives of the Kolkhetti National Park (the head of the administration and the rangers of the park). The workshop had an interactive character, and featured informative and experience-sharing practices and competition-based tasks. The workshop has been



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completed by special event of cleaning the area near the Poti Black Sea coast and the nearby beach located in Maltakva. As her last activity; she conducted a meeting with the students from Ivane Javakishvili Tbilisi State University in Kobuleti on 11th of July 2022. The meeting was in Georgian language, there was general information about the blue economy in the Black Sea presented at the workshop and the discussion about current stressors existing in the Black Sea was prevalent as well. The students were presented by the research and its preliminary consequences done by me on the Blue Economy Development in Georgia.

*Moldova:* Elena Culighin conducted her campaign called “Love your rivers to protect Black Sea” including three field trips (Field trip on the Raut riverbank and Oxentea village, Dubasari district, Dniester river, and Slobozia and Văleni villages, Cahul district, Prutul de Jos (Lower Prut) Natural Reserve) on important rivers days as Dniester day and Danube Day, Moldova as well as social media campaign (<https://www.facebook.com/CentrulNationaldeMediu>). With these events, the campaign aims to bring the necessary information to the young people of Moldova regarding the intense pollution of the rivers. The Republic of Moldova does not have direct access to the sea, but through its two big rivers and several small rivers, it makes the connection to the water of the Black Sea. It is extremely important to understand that water pollution created here has an immense impact on the water ecosystem of the Black Sea. Activities implemented within the awareness campaign have contributed to a better understanding of what is the state of the environment close to the rivers, water quality, and quantity that influences biodiversity and human well-being. As a result of the information campaign, a logical chain of messages related to the Dniester and Danube rivers was produced.

*Turkey:* Gizem Akkus of METU IMS conducted an interview series with young professionals, scientists, and senior researchers working in different fields of the marine and maritime sectors such as fisheries, management, policy, ecosystem, and biodiversity. With this series of videos, Gizem aimed to reflect the knowledge about how marine scientists work and how they evaluate the main stressors of the Black Sea.

*Black Sea basin-wide activity:* Additionally, one basin-wide photo contest is conducted by Oana Poana from Romania. The contest named “Visual Storytelling of The Black Sea: Different Shores, Different Reflections, and One Sea” received photographs from a great number of professional and non-professional photographers of all ages from all over the world, who aim to reflect the different perceptions of the coastal and marine environment of the Black Sea. The entries were evaluated under five categories including Black Sea Identity and Connection, Sustainable Blue Economy, Marine, and Maritime Professions, and Stressors on the Black Sea categories as well as social media. The winners were announced on 24 October. <http://connect2blacksea.org/photo-contest-visual-storytelling-of-the-black-sea-different-shores-different-reflections-and-one-sea-winners-announcement/>

### 3.2.6 Black Tea Time Series (Virtual, Regular Meetings)

Regular meetings with young ambassadors. The meeting series where young ambassadors and experts come together to discuss challenges and Blue economy opportunities in the Black Sea, awareness raising and take action by inspiration of these topics (i.e. EU Beach Clean Up campaign, Ocean Decade, EU Mission Ocean, SRIA Implementation Plan).

### 3.2.7 Representing the Black Sea in different platforms/events

Black Sea Young Ambassadors took part in different events as a team or individually to raise awareness on the Black Sea, including [EU Research and Innovation Days, Brussels](#), September 2022, [How to engage with the Mission “Restore our Ocean and Waters by 2030](#), Marseille/France, June 2022, Black Sea CONNECT [Marine Litter Action Forum](#), November 2022.

### 3.2.8 Visibility Activities on Digital Media



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Black Sea Young Ambassadors have dedicated social media accounts and a page on the Black Sea CONNECT website that enables them to practice science communication and public outreach which also contributes to their career as young researchers (**Error! Reference source not found.**) Additionally, through Young Ambassador-dedicated accounts, the visibility of the Black Sea and the Black Sea CONNECT significantly increases. Last but not least, having gained social media management, Young Ambassadors develops tailor-made social media campaigns to raise awareness on topics such as Black Sea Action Day, Marine Litter, the impact of other stressors, and more.

**Table 2** Black Sea Young Ambassadors on Digital Media

Channel	Link
TWITTER	<a href="#">@BlackSeaYouth</a>
FACEBOOK	<a href="#">@BlackSeaYouth</a>
INSTAGRAM	<a href="#">@blackseayouth</a>
WEBPAGE	<a href="#">Black Sea Young Ambassadors</a>

#### 4. One Health Approach

It is important to note that the main goal of Black Sea CONNECT joint actions is to address high-priority issues in the perspective of Black Sea CONNECT by means of liaising with the relevant contact persons and networking through the broader Black Sea CONNECT network and joining and aligning efforts regarding Blue Economy and its dimensions in the Black Sea.

The COVID-19 pandemic has affected the Black Sea ecosystem in various ways. On the one hand, marine research and innovation have slowed down. Research cruises and specific research activities were halted during the lockdown periods. Additionally, some research and development funds were reallocated to COVID--19-related domains leaving an impact on allocations for marine research both in national and international funds. On the other hand, environmental inputs have increased due to the litter, such as masks, gloves, and other protective gear and equipment that came in after the COVID-19 pandemic.

However, many economic and anthropogenic activities normally affecting the ecosystem have also been on hold at the same time, decreasing the pressure on the ecosystem. Therefore, the positive and negative repercussions of these developments on the Black Sea Ecosystem are crucial to observe and take into consideration when working for a healthy and resilient Black Sea. Therefore, this joint action on the ecosystem has been specified to focus on assessing the impact of COVID-19 on the ecosystem in the Black Sea.

A high-level panel on the impact of COVID-19 was held with officials from DG Research and Innovation, DG Maritime Affairs and Fisheries, and European External Action Service together with the Black Sea WG- GSO and CSA members as a part of the “Research and Innovation in the Black Sea: Empowering the next generation for a healthy, resilient and productive Black Sea” event that took place on 29-30 October 2020.

In this panel, the need to assess the impact of COVID-19 on research and innovation activities and the Black Sea ecosystem was discussed. Additionally, the importance of global as well as regional cooperation in the post-COVID-19 era was highlighted. Broad public support, including the youth, is planned with a multi-stakeholder and participatory approach.

This Action is revised as Health and Safety for Black Sea Coasts to follow a more holistic and comprehensive approach. It focuses on the assessment of the impact of pandemic-type risks on the



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Black Sea ecosystem, sea level rise, extreme weather, harmful algal blooms – impacts and adaptations, one health approach, that considers both human health and the ecosystem health and resilience with specific strategic joint actions underneath. It has been integrated as a separate theme to the Implementation Plan. The impact of military activities are also added as part of this joint action, especially after the unjustified war on Ukraine this impact is expected to increase. Available monitoring activities need to be upgraded to better understand these impacts.

#### 4.1 Objectives

Adopting the One Health Approach to marine systems, this implementation theme will emphasize that the health and well-being of coastal populations cannot be separated from the resilience and health of the marine and coastal ecosystems. Current disruptive events in the Black Sea include the impact of COVID-19 on the ecosystem, long-term and episodic sea level rise and coastal floods, pollution accidents, armed conflict-related activities, and hazards such as mines. The specific objectives are

- Link the broad range of science and innovation included in the Implementation Plan with the health and well-being of communities and citizens living around the Black Sea.
- Consider the impact of climate-driven extreme events, as well as disruptive activities that affect the resilience of coastal communities, such as socioeconomic and psychological factors which came to front with the COVID-19 pandemic.
- Mobilize Available monitoring, research and innovation tools to better understand and predict these disruptive hazards for the well-being of citizens.

### 5. Joint Actions and Implementation Plan

The joint actions are designed to provide direct input to the Implementation Plan and based on the success of the pilots that have been implemented under the CSA, the joint actions are integrated into the Implementation Plan as separate themes with specific and concrete joint actions, relevant time-frame for actions to be implemented and necessary funding mechanisms and policy and programmes for their implementation.

Based on the success of the pilots, all three joint actions are integrated into the Black Sea SRIA Implementation as a Theme with 2 concrete Strategic Joint Actions underneath. (Figure 6; Figure 7; Figure 8).



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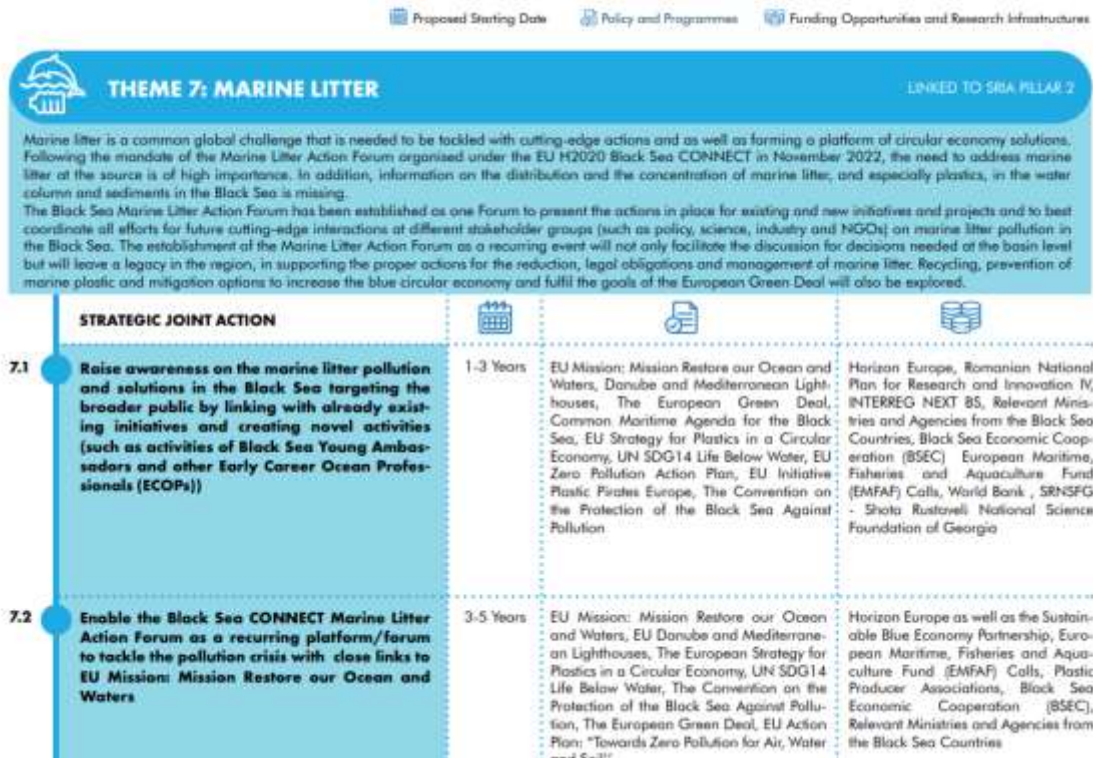


Figure 6 Black Sea SRIA Implementation Plan Theme 7 Marine Litter and its Strategic Joint Actions



Figure 7 Black Sea SRIA Implementation Plan Theme 12 Blue Skills and Capacity Building On Marine Sciences



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Figure 8 Black Sea SRIA Implementation Plan Theme 6 One Health Approach and Improved Safety for Black Sea Coasts and its Strategic Joint Actions

In the national consultations that took place on the first draft of the Black Sea SRIA IP, all strategic joint actions were scored by the national stakeholders. To complement the national-level input, an international-level consultation was also organized with the linked projects and initiatives to get further feedback on the first draft of the IP.

In the national consultations held in the Black Sea Countries, and internationally, two questions are asked to the stakeholders. The first question (Q1) asked stakeholders to score the feasibility of the SJAs of the IP on a scale of 1 to 5 (5 being the most feasible). The second question was targeted at the importance and necessity of the SJAs (Q2).

Although detailed analyses of the national and international consultations will be provided in the D2.4 Final Version of SRIA and D2.6 Final Version of the Implementation Plan, some preliminary outputs in terms of the joint actions that are piloted under the CSA are provided here.

As mentioned above, all three joint actions under the CSA have been integrated into the Implementation Plan as themes under which 2 to 3 concrete and feasible strategic joint actions are provided.

The analyses show that Strategic Joint Actions under these themes scored quite high among the top three actions. (Figure 9). In the national consultations, the top-rating actions for Q1 (Feasibility) are as below on a scale of 1 to 5.

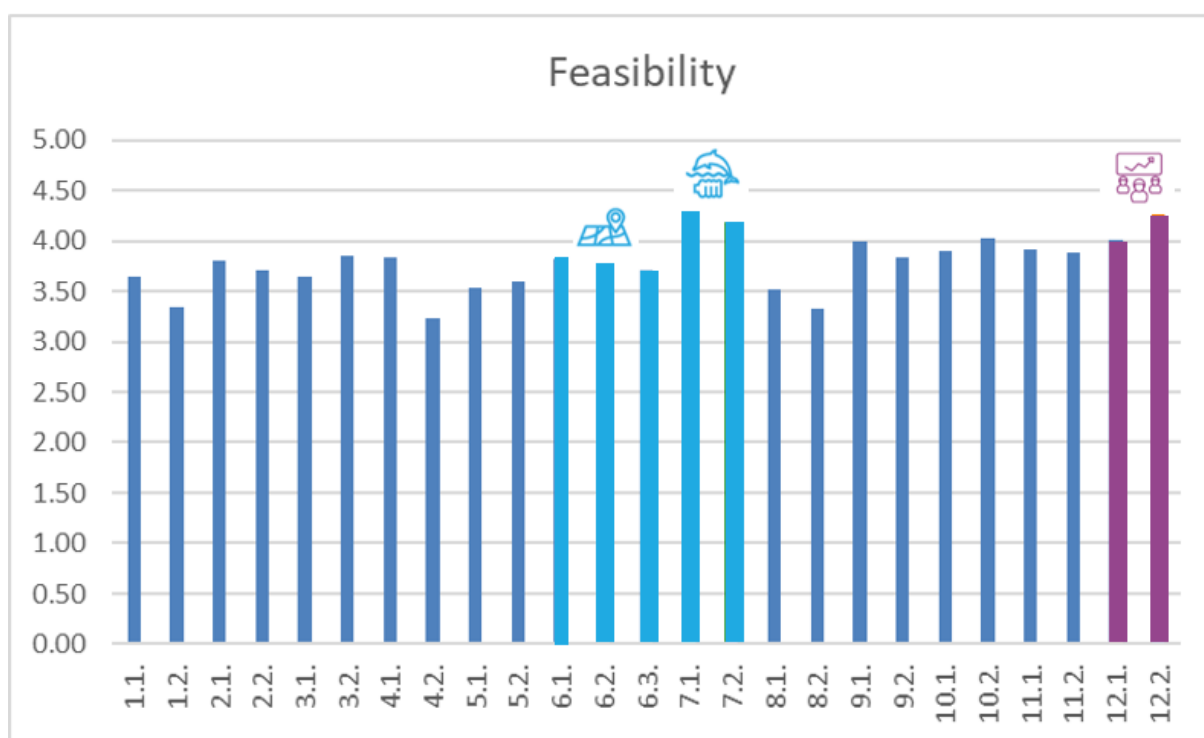
- 1. 7.1 Raise awareness on the marine litter pollution and solutions in the Black Sea targeting the broader public by linking with already existing initiatives and creating novel activities (such



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as activities of Black Sea Young Ambassadors and other Early Career Ocean Professionals (ECOPs)) **(4.27)**

- **2. 12.2** Develop a training series (including summer school-type activities) for ECOPs and LATE COPS (peer training, involving late careers as mentors). Adopt a "Train the Trainer" Programme Approach (through staff exchanges, secondments, mobility programmes etc.) in order to increase the capacity of mentors/researchers who can act as mentors to younger researchers. **(4.26)**
- **3. 7.2** Enable the Black Sea CONNECT Marine Litter Action Forum as a recurring platform/forum to tackle the pollution crisis in close links to Mission Restore our Ocean and Waters **(4.01)**



**Figure 9** Scoring results for the regional average of Question 1: The most feasible actions within the current infrastructure on a scale of 1 to 5 at the **national level**.

In the national consultations, the top-rating actions for Q2 (Importance) are as below on a scale of 1 to 5.

- **6.3** Identification of the ecosystem impact of civil and military disruptive activities (hazardous pollution, unexploded ordnance etc.) affecting the resilience of coastal communities, integrating coastal scientific, socioeconomic and psychological angles **(4.05)**
- **9.1** Designing of an integrated joint observing system, including regular sea expeditions, standardized fixed observing systems supported by mobile platform. **(4.04)**
- **3.1** Cost-effective mapping of the Black Sea biodiversity via emerging tools (such as the e-DNA) at genetic, species and ecosystem levels. **(4.01)**



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**Figure 10** Scoring results for the regional average of Question 2: The most important and necessary actions within the current infrastructure on a scale of 1 to 5 at the **national level**.

The same trend is also observed in the consultation held with linked projects and initiatives at the international level (Figure 10 Error! Reference source not found.). In the international consultations, the top-rating actions for Q1 (Feasibility) are as below on a scale of 1 to 5.

- **1. 7.1** Raise awareness on the marine litter pollution and solutions in the Black Sea targeting the broader public by linking with already existing initiatives and creating novel activities (such as activities of Black Sea Young Ambassadors and other Early Career Ocean Professionals (ECOPs)) **(4.70)**
- **2. 7.2** Enable the Black Sea CONNECT Marine Litter Action Forum as a recurring platform/forum to tackle the pollution crisis in close links to Mission Restore our Ocean and Waters **(4.50)**
- **3. 12.1** Building on the momentum of the existing Black Sea Young Ambassadors Programme, new approaches for all ECOPs will be developed in order to engage the general public such as the Citizen Science initiatives – actively involve citizens in science-related processes using innovative tools for learning by doing (water quality, biodiversity monitoring) **(4.50)**

As for Q2 (Importance), top-rating actions are as below on a scale of 1 to 5.

- **1. 9.1** Designing of an integrated joint observing system, including regular sea expeditions, standardized fixed observing systems supported by mobile platforms **(4.80)**
- **2. 2.1** Organizing synoptic/joint oceanographic expeditions to identify synergistic and individual effects of each stressor (such as climate change, deoxygenation, acidification, sulphide build-up) on the entire ecosystem **(4.70)**



- **3. 12.1** Develop a training series (including summer school-type activities) for ECOPs and LATE COPS (peer training, involving late careers as mentors). Adopt a "Train the Trainer" Programme Approach (through staff exchanges, secondments, mobility programmes etc.) in order to increase the capacity of mentors/researchers who can act as mentors to younger researchers **(4.60)**

These preliminary analyses demonstrate that the Joint Actions addressed under the Black Sea CONNECT CSA have indeed been priority issues for the region as well as internationally. The pilot actions conducted under the project, more specifically joint action on Marine Litter and Young Ambassadors, have proved to be relevant to the national context.

During the consultations, suggestions useful suggestions to these actions are also made. For the Marine Litter Theme, it was suggested that the Forum could be organized as a rotating event, taking place on Black Sea Day in a different Black Sea city each year. Additionally, making a link with the Blue Skills and Capacity Building Theme, the development of a curriculum dedicated to the marine litter issue was recommended.

The Forum that was organized before the consultations was already designed as not at the end of the chain nor a one-off event. Talks had already started between IMS/METU, as coordinator of Black Sea CONNECT and BRIDGE-BS, with BSEC-PERMISS (partner in both projects) to have a follow up and organize an annual or biannual Forum. With the interest from the stakeholders, the Forum can be used as a monitoring tool to address the existing situation and be used as a guide of good practice in all related aspects to marine litter issues i.e., projects, initiatives, education, awareness, policy and industry, looking always at the benefits that Blue Economy can bring to the region.

As for the One Health Approach and Improved Safety for Black Sea Coasts, it was prioritized and encouraged not only by the Ukrainian stakeholders but also regionally.

In this context, the next step is to focus on the uptake and implementation of the Black Sea SRIA Implementation Plan which integrates the joint action as well as the other relevant and important actions for the region. Black Sea SRIA Implementation Plan is also developed in a strong synergy with the regional and international support tools, policies and initiatives such as Horizon Europe calls and partnerships such as Sustainable Blue Economy Partnership, Mission Ocean and Waters and UN Decade of Ocean.

Under the Black Sea CONNECT, an Operational Network of Funders (ONF) has been established to strengthen regional cooperation among public research funders and facilitate the alignment of national priorities (such as research and innovation strategies) and prepare the ground for the focused funding of strategic joint actions. The ONF has also actively contributed to the SRIA Implementation Plan development process with regard to the national priorities. Joint preparation of dedicated calls for strategic joint actions.

## 6. Implementation Status of the Joint Actions as of December 2023

As mentioned earlier, Black Sea CONNECT CSA has been tasked with the consolidation of Black Sea SRIA and the development of its Implementation Plan. Additionally, the CSA had a specific objective to uncover and define joint actions that are aligned with the thematic areas defined in the Burgas Vision Paper. At the proposal stage, 3 thematic areas were identified: Innovation, Ecosystem, and Education. During the lifetime of the CSA, these areas are further specified with the input from the CSA and in line with the international and regional priorities. The Innovation theme is addressed under Marine Litter Joint Action to find innovative solutions to marine litter pollution in the Black Sea. The education theme is operationalized as the Young Ambassador Programme. Finally, the Ecosystem theme first focused on assessing the positive and negative impacts of COVID-19 on the marine ecosystem. This Action is revised as Health and Safety for Black Sea Coasts, focusing on assessment of the impact of COVID-19



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on the Black Sea ecosystem, sea level rise and coastal floods – impacts and adaptations, one health approach, etc. with specific strategic joint actions underneath. It has been integrated as a separate theme to the Implementation Plan.

As a result of the success of the pilot joint actions that were carried out under the CSA, the joint actions are also added to the Black Sea SRIA Implementation Plan as themes and strategic joint actions. Other strategic joint actions under the Black Sea SRIA IP have been developed with input from the stakeholders through national consultations. The CSA was only tasked to pilot the three of the actions only.

The implementation of the strategic joint action remains for the Operational Network of Funders which has contributed to the development of the SRIA Implementation Plan, as well as other future projects and initiatives. SRIA Implementation Plan has also been developed in close synergy with the regional and international support tools, policies and initiatives such as Horizon Europe calls and partnerships such as Sustainable Blue Economy Partnership, Mission Ocean and Waters and UN Decade of Ocean. These mechanisms will also be exploited for the implementation of joint actions.

As of December 2023, there have been good developments for the implementation of the joint actions including the three that have been piloted under the CSA even though the project has officially ended. The ONF met on 22 November in Bucharest where they further discussed the future actions towards the implementation of the Black Sea SRIA IP joint actions. To pave the way for further collaboration, bilateral memorandums of understanding have been signed with some of the countries and with more to be signed as the next steps.

In this ONF meeting, BSEC re-iterated their interest in the organization of the event which is a good step towards the implementation of **Theme 7: Marine Litter**. Moreover, the Black Sea Young Ambassador Programme (BSYAP) (in support of **Theme 12: Blue Skills and Capacity Building on Marine Sciences** and also again **Theme 7: Marine Litter**) is also in full swing with the BRIDGE-BS project and the BSYAs are actively meeting and organizing campaigns and taking part in the events. Synergy with the Plastic Pirates has been long established and in a recent meeting, European Solidarity Corps funds are being considered for supporting the BSYA actions even beyond BRIDGE-BS with the support from partners in the Black Sea. In support of Theme 12, BRIDGE-BS and DOORS projects are also tasked to organize summer schools, training and seminars for the Black Sea Youth with some of them already taking place.

One Health Approach (**Theme 6: One Health Approach and Improved Safety for Black Sea Coasts**) is relatively less mature compared to the other joint actions. It started as a COVID-19 impact assessment on the marine ecosystem during the course of the CSA. However, it has proved that when it comes to disruptive activities as such (also including military activities), marine research structures are fragile and dedicated methodologies need to be developed. The action however made sure that this issue is addressed at the national scale and this is why it is important that the action is integrated as concrete actions into the Black Sea SRIA Implementation.

In addition to these piloted actions, there are concrete steps for the operationalization of other Implementation Plan Joint Actions already less than 5 months after the IP is launched.

Firstly, both BRIDGE-BS and DOORS projects are paving the way for the Digital Twin of the Black Sea and therefore already implementing **Theme 1: Digital Twin of The Black Sea**. DOORS with the System of Systems that offer access to the data which will support a better understanding of the complex composition and dynamics of the human-induced impacts and climate change from river mouths to its deeper parts. BRIDGE-BS on the other hand is already developing advanced AI-powered decision support tools (DSTs) building on innovative models at regional and basin scales that simulate climate change and multiple stressors and integrate them with socioeconomic trends, blue economy scenarios and system of systems approaches. The work on these projects also feeds into the European Digital



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Twin. Further projects and initiatives on these will be ensured by the CSA and ONF members to ensure the implementation of the Black Sea SRIA IP.

Secondly, an [innovation tender](#) was launched in November 2023 with a focus on resilience and biodiversity under the Green Deal ARSINOE project. The tender offers up to 50.000 EUR for solutions in and for the region focusing on digital solutions for Monitoring and Conserving Biodiversity such as acoustic monitoring technologies, autonomous devices, new identification techniques such as eDNA, and other data processing techniques to improve and conserve biodiversity in the area, Decision Support Tools for Holistic and Integrated Planning such as AI-fed monitoring and forecasting and other data processing techniques and Smart, Harmonized Monitoring such as Interoperable, smart monitoring technologies with a particular emphasis on identification/monitoring of marine pollution source(s) using remote sensing and other data processing technologies, autonomous submarines to monitor pollution sources, current fish stocks and biogeochemical cycles. This tender, therefore, combines multiple IP themes and Joint Actions such as **Theme 2: Effect of Multiple Stressors on the Black Sea Ecosystem**, **Theme 3: Changing Black Sea Biodiversity and Ecosystem Resilience Under Climate Change and Multistressors** and **Theme 9: Innovative Observing Systems**.

Thirdly, the Common Maritime Agenda for the Black Sea and its national hubs have created a technical group on Sustainable Aquaculture which aims to foster and promote sustainable aquaculture in the Black Sea region. The group will streamline funding opportunities identified to support knowledge and technology transfer in the region. METU team as the national hub of the CMA is supporting the technical group to align the activities with the joint actions of **Theme 4: Ecosystem-Based Fisheries, High-Tech Aqua and Mariculture**. Currently, plans are in place to organize aquaculture local events in the countries.

Finally, **Theme 11: Innovative Approaches to Connect Scientists, Policymakers, Industry and Society** are also making good progress with BRIDGE-BS and DOORS projects implementing Living Labs and Multi Actor Forums. Additionally, both BRIDGE-BS and DOORS align closely with the Mission Lighthouse CSA for the Danube and Black Sea (EcoDaLLi) which also implements the Living Labs in the region. In the recent ONF meeting to which, representatives from EcoDaLLi, BRIDGE-BS and DOORS took part, ties have been reinforced.

This would mean that within 6 months of the launch of the document, there have been already concrete steps towards the implementation of 9 out of 12 themes of the SRIA IP. As mentioned in D2.5 countries have also already integrated SRIA and SRIA IP priorities and themes into their national research and innovation agendas and dedicated calls are in progress. The continuation of the ONF will ensure that the steps are taken for the implementation of the rest of the themes and joint actions.



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## 8. Annexes

Joint Actions and the Implementation Plan and Black Sea CONNECT CSA, how they fed each other and next steps

### Questionnaire

A Questionnaire was distributed to the participants after the event in order to collect information on the countries activities, measures to be taken and policies to be followed etc. The questionnaire can be found in the following link (in Google Forms):

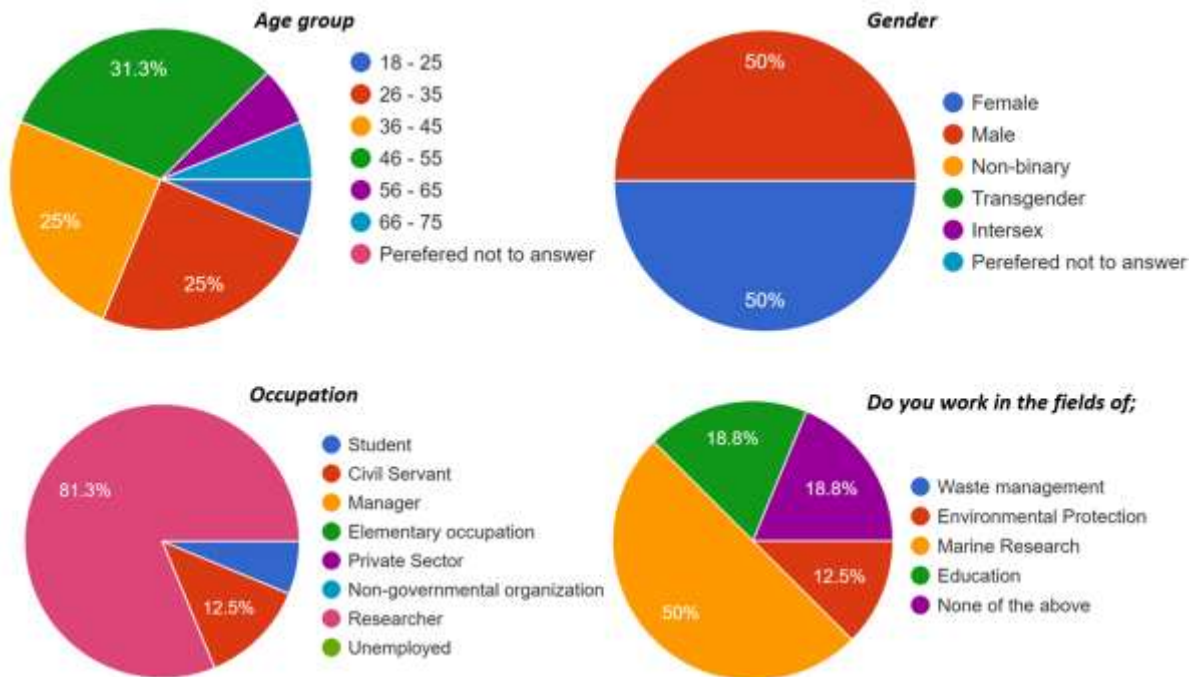
(<https://forms.gle/YKad7zy7yQnZnVFr9>)

The responses of the 17 participants, together with their comments regarding the Marine Litter Forum can be found below



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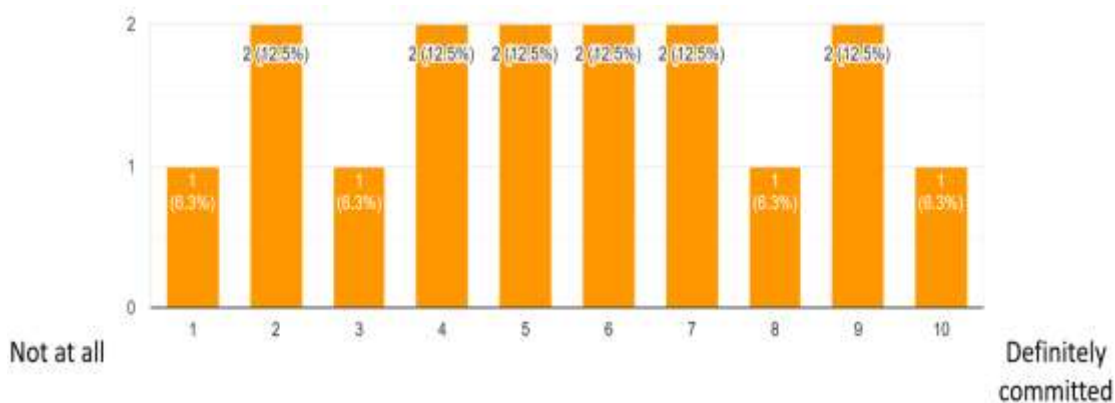
Demographic status of the questionnaire participants:



Responses to the questions:

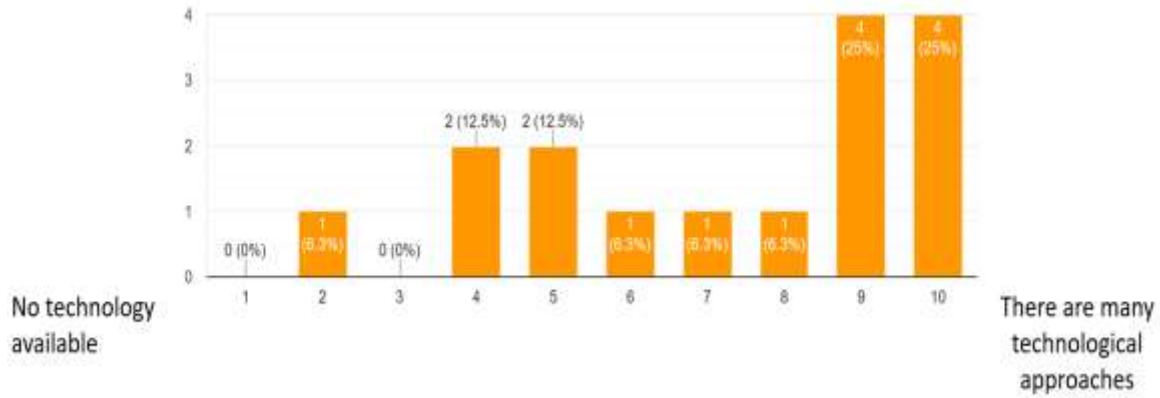
Present

- Do you think that the local/national institutions in the Black Sea countries are committed to reducing marine plastic pollution?

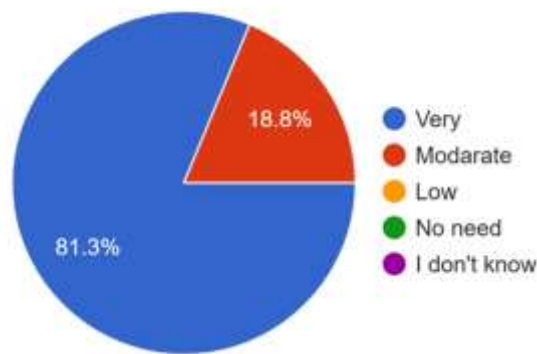


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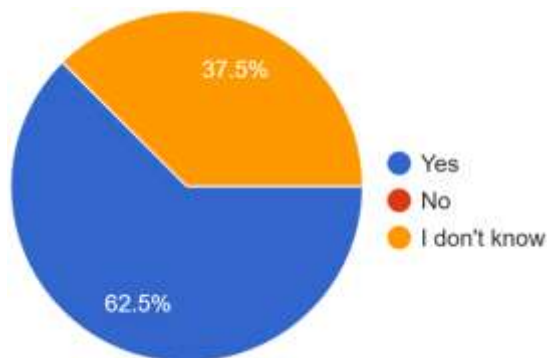
- Do you think there are technologies in the world that are able to remove marine plastic pollution?



- How important is it to invest in technologies that are able to reuse/recycle marine plastic waste in the Black Sea?



- Is there a plastic recycling facility in your area/country in the Black Sea? Would you support the construction of innovative waste plastic recycling facilities in your area?



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- Which existing measures are presently taken to avoid or to mitigate marine litter problem in your country - in the Black Sea area?

<b>Existing measures</b>	<b>Participant</b>	<b>%</b>
Waste Management Measures and Applications	3	17.6
Public awareness and Education	5	29.4
Technologic solutions for waste collection	2	11.8
Legislation-based solutions	3	17.6
No Idea	4	23.5

#### Future

- Which possible NEW measures could be taken?

<b>New Measures</b>	<b>Participant</b>	<b>%</b>
Legislation-based measures	4	22.2
Monitoring efforts	2	11.1
Technology-based solutions	3	16.7
No comment	1	5.6
Education	3	16.7
Clean-up and prevention efforts	5	27.8

- How we can best inform the public and the relevant stakeholders about the marine litter problem?

<b>Suggested approach to awareness raising</b>	<b>Participant</b>	<b>%</b>
Informational meetings/Education/Training	6	33.3
Public involvement	2	11.1
Media/Social media	5	27.8
Digital Platforms	1	5.6
Best practices	4	22.2



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- Which groups should be working together to prevent/mitigate marine litter issue at sea?

<i>Stakeholders</i>	<i>Participant</i>	<i>%</i>	
Governmental bodies	Academics	5	12.2
	Public	6	14.6
	NGOs	3	7.3
	Private sector	7	17.1
Academics	Public	5	12.2
	NGOs	2	4.9
	Private sector	5	12.2
Public	NGOs	1	2.4
	Private sector	3	7.3
NGOs	Private sector	2	4.9
Governmental bodies		1	2.4
Private sector		1	2.4

- How can we find the resources to reduce marine litter in the Black Sea?

<i>Possible Sources</i>	<i>Participant</i>	<i>%</i>
Fines and Taxes (for contaminants)	4	25.0
Governmental funds and International bodies	6	37.5
Donations	2	12.5
Private sector	3	18.8
No comment	1	6.3

- What actions should we make in order to be able to show a reduction trend in 5 years from now?

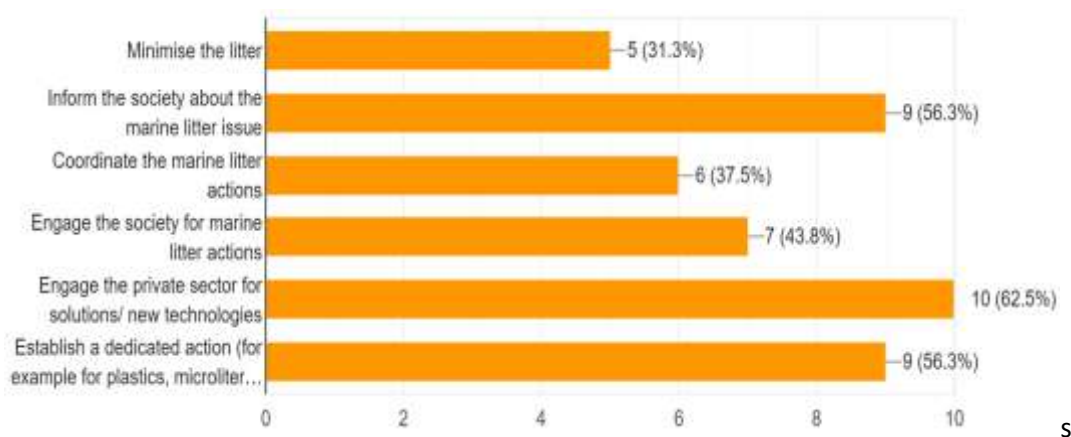
<i>Actions</i>	<i>%</i>	<i>Participant</i>
Monitoring Activities	2	12.5
Clean-up efforts	2	12.5
Legislation-based solutions (Fines, Taxes and Bans)	1	6.3
Awareness Raising	3	18.8
R&D	4	25.0
Waste Management	4	25.0



- Which Institutes/Agencies/NGOs should be involved in the process to avoid or to mitigate marine litter problem in your country?

<b>Bodies</b>	<b>Participant</b>	<b>%</b>
International and Governmental Bodies	11	37.9
Academics	7	24.1
Public	1	3.4
NGOs	6	20.7
Private sector	2	6.9
No Comment	2	6.9

- What do you expect from the Marine Litter Project running in the Black Sea?



- What do you think the next step should be for marine litter activities in the Black Sea?

<b>Activities</b>	<b>Participant</b>	<b>%</b>
Monitoring Activities	3	17.6
Clean-up Efforts	4	23.5
Promotional activities for the region	2	11.8
Awareness Raising	3	17.6
R&D	3	17.6
Waste Management	2	11.8



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- How do you think Black Sea CONNECT should do more, for marine litter prevention in the Black Sea?

<b>Future Expectations from Black Sea CONNECT</b>	<b>Participant</b>	<b>%</b>
Active Contribution to Creating Guidance Outputs and Technical Information on Marine Litter Problem	8	50
Increase Visibility	1	6.25
Including Marine Litter Problem to SIRIA	2	12.5
Networking	2	12.5
Awareness Raising	1	6.25
No Comment	2	12.5

#### **Comments from Participants:**

- I hope we can engage more individuals and community to take action to reduce marine litter in the Black Sea and achieving a clean and healthy black sea ecosystem
- Create strong regulations that forces all users of the sea and rivers to eliminate pollution of any type (zero emission engines, no plastic at sea, no sewage at sea, etc.).
- Let us use Bucharest Convention and Black Sea Commission as the framework to address ML and beach litter issues, including macro and micro plastics.
- Good luck in your studies
- Thank you. Let's continue the actions.

## Marine Litter Forum Agenda and Related Digital Content

Black Sea CONNECT Marine Litter Action Forum Organized by the EU H2020-funded Black Sea CONNECT CSA, Marine Litter Action Forum took place on 14-15 November 2022 in İstanbul, Türkiye. To provide a better public access to the forum, two-day event has been streamed live online. The links to the video recordings are given below (**Connect Black Sea YouTube Account**).

- **Black Sea CONNECT Marine Litter Action Forum - Event Film**  
([https://www.youtube.com/watch?v=Zfdn0w\\_xZVs](https://www.youtube.com/watch?v=Zfdn0w_xZVs))
  - **Day 1 Opening Session and Session 1**  
(<https://www.youtube.com/watch?v=lfhR9bcRO6Y>)
  - **Session 2** (<https://www.youtube.com/watch?v=2SEHxmIErLU&t=2s>)
  - **Day 2 Opening Session and Session 3 First Half**  
(<https://www.youtube.com/watch?v=o9Shwauc4-4>)
  - **Session 3 Second Half and Round Table Discussion**  
(<https://www.youtube.com/watch?v=IFApPSD02dl>)

**Visuals from the meeting (Twitter)** (<https://twitter.com/ConnectBlackSea>)



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