Interreg NEXT Black Sea Basin

Co-funded by the European Union

Carbon Binding Blue Black Sea BlueC BSB00020

Congress/Workshop

13 – 14 November 2025,
Cahul, Republic of Moldova

Training of Trainers Activities 1: Target Group Identification Strategies and Training Activities

Developed by:
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Programme priority:
Blue and Smart Region

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Core Training Modules

Assoc. Prof. Dr. Deniz AKIN ŞAHBAZ

- The Ecological, Economic, and Climatic Importance of Seagrasses
- Threats to Seagrasses

Assoc. Prof. Dr. Can Burak ÖZKAL

- Conservation of Seagrass Ecosystems and Environmental Impact Assessment Studies in Mediterranean Countries
- Seagrass Mapping and Monitoring
- Policy and Management Options for Seagrass Ecosystems

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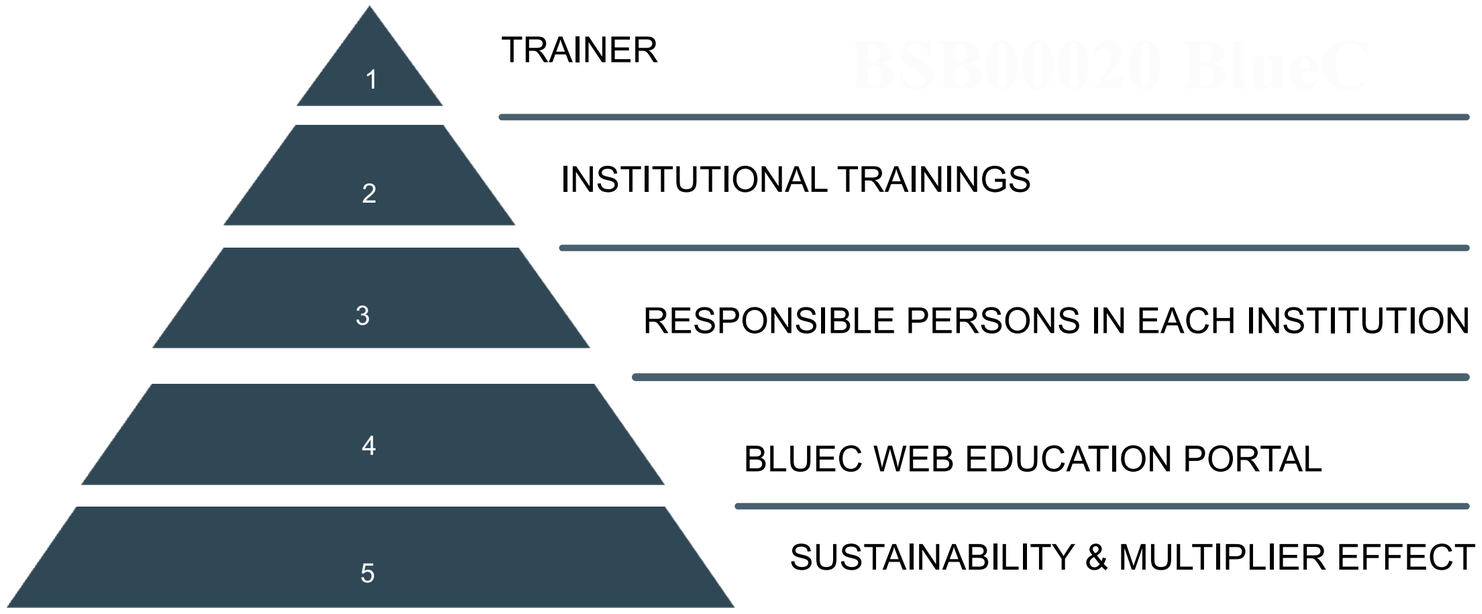
Objectives and Expected Impact

- Strengthening regional collaboration and scientific exchange
- Enhancing awareness and technical knowledge at the local governance level
- Building a network of educators and stakeholders trained in blue carbon and marine conservation
- Contributing to the protection of sensitive Black Sea marine ecosystems

Trainer Training and Multiplier Effect



The knowledge continues to spread step by step

In order to create an effective and productive domino effect and reach a wider peer audience, a series of Trainer Trainings were conducted in the regions of Tekirdağ, Edirne, and Kırklareli to establish a trainer pyramid.

Target Group Identification Strategy

Primary Groups: Teachers, students, Non-Governmental Organizations representatives, and local fishermen.

Secondary Groups: Local governments, municipal staff, researchers, and media partners.

Stakeholder Mapping:

Identification of institutions and actors directly linked to marine ecosystem protection, including public authorities, educational institutions, Non-Governmental Organizations, and fisheries cooperatives.

Group Categorization

Engagement Approach

Implementation of the Training of Trainers model to create a cascade effect.

Regional balance among partner countries (Turkey, Bulgaria, Ukraine, Moldova).

Use of multilingual digital tools via the BlueC Educational Portal.

Identified Training Locations and Stakeholders

Tekirdağ Metropolitan Municipality

Çorlu Municipality

Çerkezköy Municipality

Kapaklı Municipality

Kıyıköy Municipality

Çorlu District Governorship - Çorlu District Gendarmerie Command

Vize District Governorship – Kıyıköy Gendarmerie Command

Tekirdağ City Council

Çorlu City Council

Çerkezköy City Council

Tekirdağ Governorship – Tekirdağ Provincial Directorate of Environment, Urbanization and Climate Change

Kırklareli Governorship – Kırklareli Provincial Directorate of Environment, Urbanization and Climate Change

Edirne Governorship – Edirne Provincial Directorate of Environment, Urbanization and Climate Change

Identified Training Locations and Stakeholders

- *Trakya University*
- *Zonguldak Bülent Ecevit University*
- *Çanakkale Onsekiz Mart University*
- *Kırklareli University*

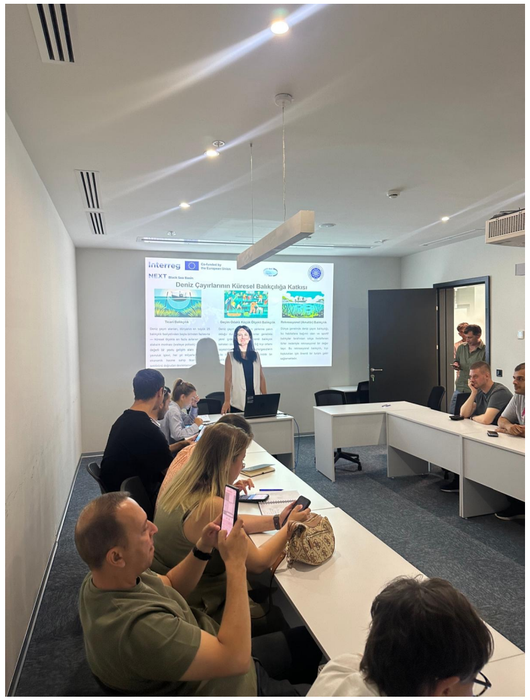
- *İğneada Port Limanköy Fisheries Cooperative*
- *Tekirdağ / Süleymanpaşa Fisheries Cooperative*
- *Kıyıköy Fisheries Cooperative (Limited Liability)*

- *Ministry of Transport and Infrastructure – Tekirdağ Regional Port Authority*

- *Tekirdağ Governorship – Tekirdağ Provincial Directorate of National Education*
- *Çorlu District Governorship – Çorlu District Directorate of National Education*
- *Çerkezköy District Governorship – Çerkezköy District Directorate of National Education*
- *Kapaklı District Governorship – Kapaklı District Directorate of National Education*
- *Vize District Governorship – Vize District Directorate of National Education*

Tekirdağ Metropolitan Municipality

July 3, 2025– Tekirdağ

Awareness of blue carbon ecosystems among municipal staff was enhanced, and the potential contributions of local governance to seagrass protection were discussed.

Çorlu Municipality

June 23, 2025– Çorlu, Tekirdağ

In Çorlu Municipality, the training was attended primarily by staff from the Directorate of Climate Change and Zero Waste.

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BlueC

Çerkezköy Municipality

June 25, 2025 – Çerkezköy, Tekirdağ

The importance of sustainable planning centered on the blue carbon approach and the protection of seagrass habitats was emphasized in coastal-related decision processes.

Kapaklı Municipality

June 18, 2025 – Kapaklı, Tekirdağ

In Kapaklı, the link between blue carbon awareness, seagrass protection, and sustainable municipal planning was highlighted.

Kıyıköy Municipality

July 16, 2025 – Kıyıköy, Kırklareli

Kıyıköy is located right on the Black Sea coast and very close to seagrass meadows, so this training was directly connected to the local ecosystem.

Kıyıköy Municipality

July 16, 2025 – Kıyıköy, Kırklareli

Many of the municipal council members are closely linked to local fisheries, which made the discussion especially relevant and practical. It was important to raise awareness here where the impacts can be seen firsthand.

Identified Training Locations and Stakeholders

Tekirdağ Governorship – Tekirdağ Provincial Directorate of Environment, Urbanization and Climate Change

Kırklareli Governorship – Kırklareli Provincial Directorate of Environment, Urbanization and Climate Change

Edirne Governorship – Edirne Provincial Directorate of Environment, Urbanization and Climate Change

Key Environmental Units Involved:

- *Environmental Management Division*
- *Environmental Inspection / Field Control Teams*
- *Waste Management and Recycling Division*
- *Environmental Impact Assessment Division*
- *Climate Change and Sustainability Division*

Tekirdağ Governorship –
Tekirdağ Provincial Directorate of Environment, Urbanization and Climate Change

July 4, 2025– Tekirdağ

Institutional awareness were strengthened regarding the ecological and climate importance of blue carbon ecosystems, and collaboration pathways for integrating seagrass protection into local and regional governance practices were discussed.

Kırklareli Governorship – Kırklareli Provincial Directorate of Environment, Urbanization and Climate Change

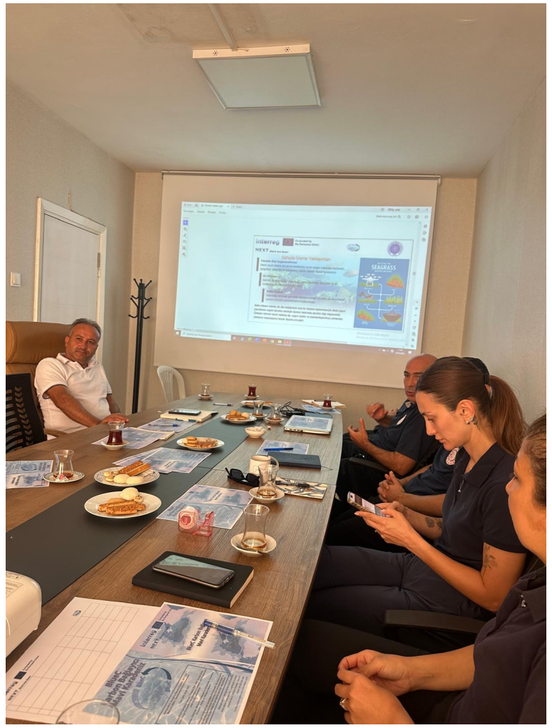
October 8, 2025 – Kırklareli

Edirne Governorship –
Edirne Provincial Directorate of Environment, Urbanization and Climate Change

November 7, 2025 – Edirne

Ministry of Transport and Infrastructure – Tekirdağ Regional Port Authority

September 9, 2025, Tekirdağ



Awareness was enhanced, and approaches for integrating seagrass protection into port and coastal management practices were discussed.

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Identified Training Locations and Stakeholders

Tekirdağ Governorship – Tekirdağ Provincial Directorate of National Education

Çorlu District Governorship – Çorlu District Directorate of National Education

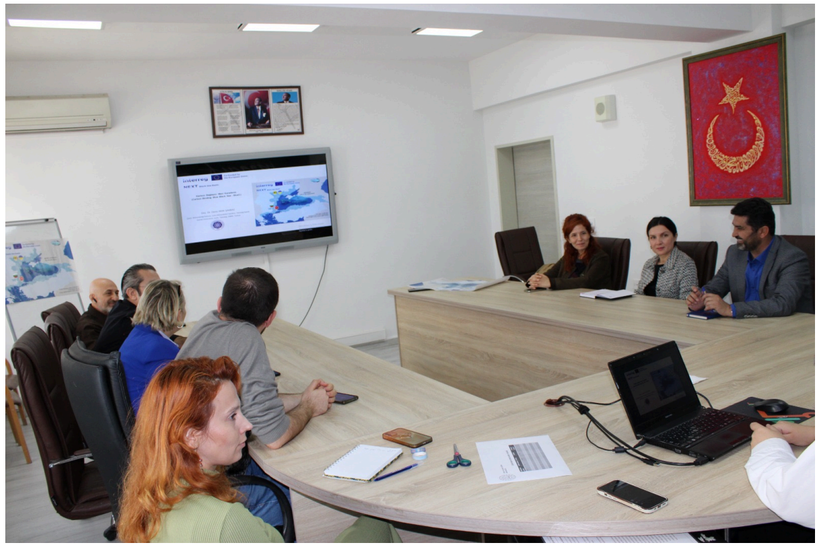
Çerkezköy District Governorship – Çerkezköy District Directorate of National Education

Kapaklı District Governorship – Kapaklı District Directorate of National Education

Vize District Governorship – Vize District Directorate of National Education

Çorlu District Governorship –
Çorlu District Directorate of National Education

October 31, 2025 – Çorlu, Tekirdağ



These collaborations aimed to integrate blue carbon awareness into school-level education frameworks.

This effort will also continue through the BlueC web portal, where the training materials will be shared with middle and high school teachers and students under the Tekirdağ Provincial Directorate of National Education.

Identified Training Locations and Stakeholders

Çorlu District Governorship - Çorlu District Gendarmerie Command

Kıyıköy Gendarmerie Command

Primary Focus Unit: Environmental, Nature and Animal Protection Team

Çorlu District Governorship –
Çorlu District Gendarmerie Command

November 5, 2025, 2025 – Çorlu, Tekirdağ

In Çorlu, the key role of the gendarmerie in preventing harm to coastal and marine ecosystems was highlighted, and awareness of seagrass habitats and blue carbon was increased.

This session was especially important as it included the province's only environmental protection unit, which operates across Tekirdağ.

Thank you for your attention!

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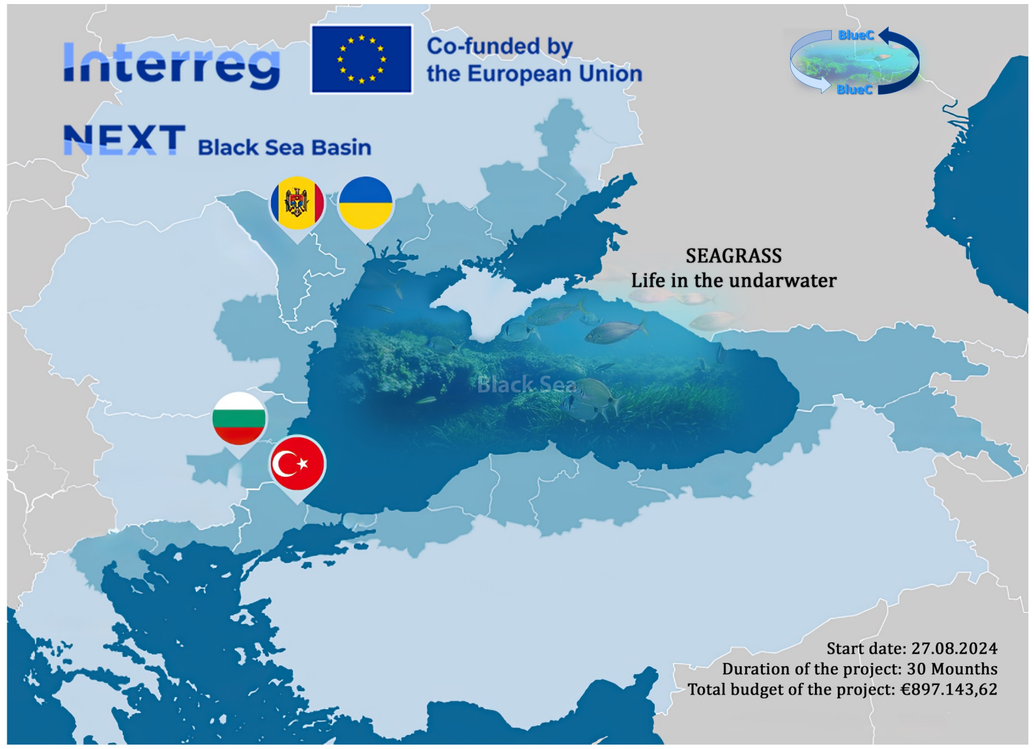


NO	LOCATION	DATES
1	Çerkezköy Municipality	25/06/2025
2	Çorlu Municipality	23/06/2025
3	Kapaklı Municipality	18/06/2025
4	Kırklareli Ministry of Environment, Urbanization and Climate Change	08/10/2025
5	Kıyıköy Municipality	16/07/2025
6	Tekirdağ Metropolitan Municipality	03/07/2025
7	Tekirdağ Ministry of Environment, Urbanization and Climate Change	04/07/2025
8	Tekirdağ regional port	09/09/2025
9	Çorlu District Directorate of National Education	31/10/2025
10	Edirne Ministry of Environment, Urbanization and Climate Change	07/11/2025

Training of Trainers Activities
Target Group Identification Strategies and Training Activities

1. Introduction

This report provides an extensive and academically structured overview of the training and educational outreach activities carried out in Türkiye within the scope of the BlueC – Carbon Binding Blue Black Sea (BSB00020) Project. These activities were coordinated by Tekirdağ Namık Kemal University, focusing on capacity building, environmental awareness, and the protection of marine ecosystems, especially seagrass meadows—one of the most critical blue carbon sinks in the Black Sea basin.

The report synthesizes the content presented in the official congress presentation and transforms it into a comprehensive narrative suitable for academic, administrative, and project-level documentation. The activities described herein were conducted between Spring–Autumn 2025, involving multiple stakeholders, including public authorities, local governments, civil society, educators, and technical personnel.

2. Objectives of the Training Programme

The training activities in Türkiye were designed to contribute to the broader objectives of the BlueC project, aligning with the mission of enhancing environmental resilience and knowledge transfer across Black Sea countries. The specific objectives include:

- Strengthening Regional Collaboration and Scientific Exchange
- Increasing Awareness and Technical Knowledge at the Local Governance Level
- Building a Network of Educators and Stakeholders Trained in Blue Carbon Conservation
- Enhancing Protection of Sensitive Black Sea Ecosystems

3. Core Training Modules

The training programme consisted of five interconnected thematic modules, delivered by subject experts Assoc. Prof. Dr. Can Burak Özkal and Assoc. Prof. Dr. Deniz Akın Şahbaz from Namık Kemal University. The modules were as follows:

- The Ecological, Economic, and Climatic Importance of Seagrasses
- Threats to Seagrasses
- Conservation of Seagrass Ecosystems and Environmental Impact Assessment Studies in Mediterranean Countries
- Seagrass Mapping and Monitoring
- Policy and Management Options for Seagrass Ecosystems

4. Target Group Identification Strategy

An essential component of the training programme was the systematic identification, classification, and engagement of relevant stakeholder groups to ensure the effectiveness and long-term impact of the educational activities.

4.1 Stakeholder Mapping

A comprehensive stakeholder mapping process was conducted to identify institutions and actors directly involved in marine ecosystem protection. This included ministries, municipal administrations, provincial and district education directorates, non-governmental organizations, and fisheries cooperatives. These stakeholders were strategically selected and invited based on their direct or potential role in environmental governance and community-level outreach.

4.2 Group Categorisation

Based on their functions and expected contributions, target groups were categorised into two main clusters:

Primary Target Groups

- Teachers

- Students
- NGO representatives
- Local fishermen

These groups were prioritized due to their immediate influence on community awareness, grassroots engagement, and environmental education.

Secondary Target Groups

- Local governments
- Municipal and provincial staff
- Researchers
- Media representatives

This secondary cluster includes stakeholders responsible for environmental policy implementation, public communication, and scientific support.

4.3 Engagement Approach

To ensure scalability and sustainable knowledge dissemination, a Training of Trainers (ToT) model was adopted. This approach enabled trained participants to replicate the educational activities within their own institutions and networks, creating a multiplier effect across the region. Furthermore, the engagement strategy incorporated multilingual digital tools and instructional materials provided through the BlueC Educational Portal, ensuring accessible, inclusive, and standardized learning opportunities for all participant groups.

5. Training Locations and Institutional Stakeholders

The Training of Trainers (ToT) activities were carried out across multiple municipalities, provincial directorates, and sector-specific institutions in the Thrace region, including Tekirdağ, Kırklareli, and Edirne. Each institutional visit involved tailored thematic discussions based on the BlueC project's core modules, focusing primarily on blue carbon ecosystems, seagrass conservation, ecosystem-based governance, and integrated coastal management. The engagement of diverse institutional actors contributed to strengthening local environmental governance capacity and expanding the programme's multiplier effect.

5.1 Municipal-Level Trainings

- Tekirdağ Metropolitan Municipality – 25 participants

  Date: 3 July 2025 – Tekirdağ

The session focused on enhancing awareness of blue carbon ecosystems among municipal departments and discussing the potential role of metropolitan authorities in integrating seagrass protection into coastal planning and sustainability strategies.

- Çorlu Municipality – 16 participants

  Date: 23 June 2025 – Çorlu, Tekirdağ

Training participants primarily included staff from the Directorate of Climate Change and Zero Waste. Discussions emphasized the ecological functions of seagrass habitats and municipal responsibilities related to waste management, urban environmental planning, and climate governance.

- Çerkezköy Municipality – 26 participants

Date: 25 June 2025 – Çerkezköy, Tekirdağ

The training session highlighted the role of blue carbon ecosystems in sustainable municipal planning, with a particular focus on ensuring that coastal-related decisions align with seagrass conservation principles.

- Kapaklı Municipality – 14 participants

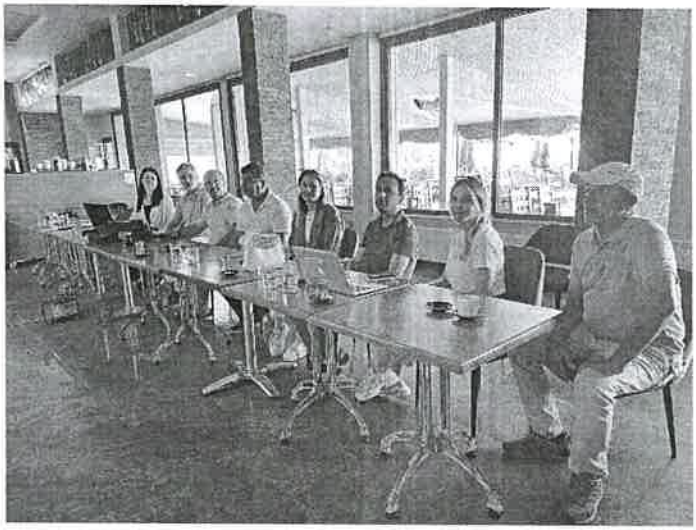
  Date: 18 June 2025 – Kapaklı, Tekirdağ

Participants explored the interconnections between blue carbon awareness, seagrass protection, and municipal-level environmental policy implementation, emphasizing long-term ecological sustainability.

- Kıyıköy Municipality – 6 participants

  Date: 16 July 2025 – Kıyıköy, Kırklareli

Situated directly on the Black Sea coast, Kıyıköy hosts seagrass meadows in close proximity. The training therefore focused on locally observable ecosystem impacts, fisheries-related interactions, and community-level conservation measures.



5.2 Provincial Directorates of Environment, Urbanization and Climate Change

- Tekirdağ Provincial Directorate – 12 participants
  Date: 4 July 2025 – Tekirdağ

Institutional awareness related to blue carbon ecosystems was strengthened, and opportunities for integrating seagrass protection into provincial environmental governance were discussed.

- Kırklareli Provincial Directorate – 32 participants
  Date: 8 October 2025 – Kırklareli

Discussions emphasized ecosystem-based management approaches and improving coordination between provincial units and municipal actors for coastal protection.

- Edirne Provincial Directorate – 19 participants
  Date: 7 November 2025 – Edirne

The training highlighted cross-border environmental challenges affecting the Black Sea basin and explored options for harmonizing regional conservation practices.

5.3 National Education Directorates

- Çorlu District Directorate of National Education – 8 participants
  Date: 31 October 2025 – Çorlu, Tekirdağ

The session focused on integrating blue carbon knowledge into primary and secondary education frameworks. Training materials will continue to be disseminated through the BlueC Web Education Portal.

5.4 Security Forces (Gendarmerie)

- Çorlu District Gendarmerie Command – 23 participants
  Date: 5 November 2025 – Çorlu, Tekirdağ

This training emphasized the operational responsibilities of the Gendarmerie, particularly the Environmental, Nature and Animal Protection Team, in safeguarding marine and coastal ecosystems. Their enforcement role makes them key actors in protecting seagrass habitats from illegal fishing, pollution, and physical disturbance.

5.5 Maritime Authorities

- Tekirdağ Regional Port Authority (Ministry of Transport and Infrastructure) – 10 participants
  Date: 9 September 2025 – Tekirdağ

Discussions focused on integrating seagrass-sensitive approaches into port operations, anchoring practices, dredging management, and coastal infrastructure planning.

6. Impact Assessment of the Training Programme

6.1 Institutional Strengthening

The Training of Trainers (ToT) activities significantly enhanced the institutional capacities of municipalities, provincial environmental authorities, national education directorates, port authorities, and security forces across Tekirdağ, Kırklareli, and Edirne. Participants developed a deeper understanding of the ecological and climatic significance of seagrass meadows and blue carbon ecosystems, which in turn strengthened their ability to integrate ecosystem-sensitive perspectives into local governance, environmental planning, and regulatory enforcement. The training particularly supported units such as environmental management divisions, environmental inspection teams, waste management departments, and climate change units, all of which play a critical role in regional environmental governance.

6.2 Knowledge Transfer and Educational Multiplier Effect

A key impact of the programme was the establishment of a structured Trainer Pyramid, designed to create a cascading educational effect across the region. Through the ToT model, one central trainer trained institutional representatives, who then assumed responsibility for

disseminating knowledge within their respective departments. These trained individuals are now positioned to pass on their expertise to additional personnel, supported by the BlueC Web Education Portal, which serves as a repository for multilingual training materials and digital content. This framework generated a multiplier effect, ensuring that knowledge continues to expand step by step across municipal, educational, and governmental institutions.

6.3 Integration into Local Environmental Governance

The programme's broader impact is reflected in its contribution to harmonized environmental governance across multiple institutional levels. Municipalities were able to directly link seagrass protection to sustainable urban planning; provincial environmental directorates strengthened collaborative practices for integrating blue carbon considerations into routine operations; and the Gendarmerie's Environmental, Nature and Animal Protection Teams expanded their operational readiness for addressing coastal and marine environmental threats. The Tekirdağ Regional Port Authority similarly increased its awareness regarding the integration of seagrass-sensitive approaches into port management, anchoring practices, and coastal activity regulation.

Through these localized shifts in institutional awareness and practice, the training programme facilitated long-term alignment with ecosystem-based management principles, thereby reinforcing the Black Sea Basin's environmental resilience.

7. Conclusions

The 2025 Training of Trainers activities conducted under the BlueC Project in Türkiye were comprehensive, impactful, and closely aligned with the programme's overarching objective of advancing blue carbon awareness and seagrass conservation across the Black Sea Basin. The training successfully:

- Strengthened interinstitutional cooperation among municipalities, universities, provincial directorates, fisheries cooperatives, and security forces.
- Built a capable educator and facilitator network through the ToT model, enabling sustainable and scalable knowledge dissemination.

- Increased the readiness of local authorities to integrate seagrass conservation and blue carbon considerations into urban planning, environmental inspection, coastal management, and educational frameworks.
- Promoted evidence-based and ecosystem-oriented governance practices, directly supporting provincial and municipal environmental units.
- Elevated public-sector awareness of blue carbon ecosystems, especially among actors with direct influence on coastal decision-making, enforcement, and community engagement.

With sustained support, the institutional capacities developed through the programme will continue contributing to the long-term conservation of the Black Sea's marine ecosystems. The cumulative impact of municipal, educational, environmental, and enforcement agencies working in coordination is expected to enhance ecological resilience, improve cross-border environmental cooperation, and strengthen the region's ability to address future challenges related to climate change and coastal degradation.

8. Outcomes of Training of Trainers Activities & Questionnaire Findings

Prior to training of trainers activities, a questionnaire study was conducted on a sample of 1572 individuals (n=1572), primarily in the Tekirdağ province (73.0%). The objective was to assess the perception, knowledge, and attitudes regarding the integration of seagrasses into Environmental Impact Assessment (EIA) processes. The target groups involved were; Academicians/researchers, Environmental Engineers, Public Institution Employees, Fisherman/Cooperative members, Private sector - EIA Professionals, Students / Public.
Regarding the general evaluation of "Knowledge Level Regarding Seagrass Ecosystem Services" the most commonly known ecosystem service across all groups is "Supporting biodiversity" (73%). However, significant variations emerge when comparing professional knowledge: Academicians/Researchers • "Carbon sequestration" are aware of the Carbon sequesteration service (75%) among all options, followed closely by "Supporting biodiversity Environmental Engineers know the "Supporting biodiversity" service at the highest rate (82.8%). The knowledge level of Environmental Engineers regarding "Providing habitat for fisheries" (48%) is at comparable level with the Fishermen/Fishermen Cooperative Members (50.8%). Public Institution Employees have the highest knowledge level regarding the services "Improving water quality" (62.5%), "Supporting biodiversity" (65.6%), but "Preventing coastal

erosion", "Providing habitat for fisheries" are below < 50%. Private sector / EIA Specialist have the highest knowledge level regarding the services "Improving water quality" (85.7%), "Supporting biodiversity" (71.4%), and "Preventing coastal erosion" by (71.4%) besides, "Providing habitat for fisheries" is very low < 20%.

Considering the respondents/participants views on EIA process;

Participants generally stated that the inclusion of seagrasses in EIA processes should be mandatory for "All coastal and marine projects" (73.8%). A large majority of participants believe that the greatest benefit of integrating seagrass meadows into the EIA process will be better protection of marine ecosystems. The majority of participants believe that it will not have a negative impact on project costs and schedule, will be neutral, or will provide savings in the medium-long term. Participants believe that more educational programs, legal regulations, media campaigns, and incentives for fishing will yield more effective results in publicly promoting seagrass conservation. When we look at the relationship between the level of knowledge about EIA processes and those who find the legal regulations on the protection of seagrass meadows sufficient, the rate of those who say they have no knowledge or have a moderate level of knowledge finding the regulations sufficient is close to 55%. The total rate of those who said "I strongly support" and "I support" the inclusion of seagrass meadows in the EIA processes is over 80%. According to participants, the most important stakeholders in the inclusion of seagrass meadows in EIA processes are CAM institutions, the fishing industry and its representatives, academia and researchers, and NGOs. However, the public makes up around 25% of these stakeholders.

During the Training of Trainers Program Activites, the following subjects were handled and Conveyed;

I. Ecological, economic, and climatic importance: Definition of seagrasses, Critical Habitat & Biodiversity Support, Global distribution of seagrasses, types of

seagrasses, Ecosystem Services, Climate Change Mitigation (Blue Carbon), Coastal Resilience

II. Threats and loss of seagrasses

III. Polic and Management options

IV. Mapping and Monitoring Methodologies

V. Polic and Management options for seagrass ecosystems

Contributions & Suggestions

The contributions of the participants through discussions, questions and suggestions during and at the end of the training can be summarized as follows;

Regarding the Muinicipalities; of Çorlu, Çerkezköy, Kapaklı of TEKİRDAG and Kıyıköy of Kırklaareli that has a coastline to blacksea. Mostly the following questions were received;

- How can municipal zoning plans incorporate seagrass protection zones?

Some ideas/contributions are;

- Suggestions for integrating "Blue Carbon" concepts into municipal environmental awareness campaigns.

- Cooperation proposals for future educational outreach.

Regarding the provincial directorates of environment;

Mostly received questions are;

- How can existing EIA processes better account for seagrass ecosystem services?

- What data gaps exist in marine habitat monitoring, and how can academic or citizen-science initiatives fill them?

Ideas&Contributions;

- Share best practices or gaps identified in previous EIA cases..

A specific seagrass protection scenario in Saros Gulf – Edirne, was detailly analysed during the training of trainers meeting held at Edirne Provincal Directorate of Environment, Urban and Climate Change. The seagrass meadows (Posidonia oceanica and Cymodocea

nodosa) located in the project area were transported to the designated area prior to construction activities by the organization, the first of their kind in Türkiye. The transport was carried out under the coordination of marine biologists and/or hydrobiologists. The work, which began on December 16, 2020, was completed in approximately two months on February 18, 2021. As a result of the work, 6,000 m2 of seagrass meadows were transported 860 meters away, achieving 100% compatibility with the planted area (BOTAS – Floating Storage and Regasification Unit-FSRU)" yanaşabilmeleri için Saros FSRU Terminal and Onshore Pipeline Connection Project).

Regarding the regional port authority;

How do port activities impact seagrass meadows, and what mitigation measures can be taken? What environmental monitoring requirements currently exist for ports, and how can BlueC data help?

- Can port sediment management align with seagrass protection measures?"

Ideas & Contribution

- Suggest joint awareness programs for fishermen, port workers, or shipping companies.
- Share experience with sustainable port management or environmental certification programs (e.g., EcoPorts).
- Offer data or collaboration for monitoring coastal sedimentation and water quality.

Regarding the provincal sdirectorates of national education;

Questions;

- How can seagrass and blue carbon topics be adapted for primary, secondary, and vocational education levels?

Ideas & Contributions;

- Propose collaboration between educators and local NGOs/universities.

- Suggest a "Seagrass in the Classroom" pilot module.

- Identify training needs of teachers for environmental topics beyond the project scope (e.g., climate literacy, ocean literacy).

It is planned that the educational content related to the Project will be delivered to students and teachers in biology and geography departments throughout the province through the provincial national education organization.

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Assoc. Prof. Dr. Deniz AKIN SAHBAZ