



DEPARTMENT OF
SUSTAINABLE DEVELOPMENT



Minutes of the

1st International Conference on Blue Growth in the Black Sea Region: „Ecosystem Services on River-Sea Macro-ecosystems”

Date: March 9th - 10th, 2020

Place: Senate Hall, Block A, “Ovidius” University of Constanta

GENERAL ISSUES

As it is widely known, in 2015 the UN General Assembly adopted the 2030 Agenda for Sustainable Development. In this document, the heads of UN member states have committed their countries that: “Until [...] 2030, to end poverty and hunger everywhere; to combat inequalities within and among countries; to build peaceful, just and inclusive societies; to protect human rights and promote gender equality and the empowerment of women and girls; and to ensure the lasting protection of the planet and its natural resources. [...] also to create conditions for sustainable, inclusive and sustained economic growth, shared prosperity and decent work for all, taking into account different levels of national development and capacities.”.

The year 2019 closed the first cycle of the 2030 Agenda implementation and one of the main conclusions of the evaluation process is that the natural environment is still deteriorating at an alarming rate: sea levels are rising; ocean acidification is accelerating; the past four years have been the warmest on record; one million plant and animal species are at risk of extinction; and land degradation continues unchecked.

The European Green Deal is an ambitious package of measures launched by the European Commission to address the grand challenge that by 2050, Europe to become the world’s first climate-neutral continent and to enable European



DEPARTMENT OF
SUSTAINABLE DEVELOPMENT



citizens and businesses to benefit from sustainable green transition. The measures are accompanied with an initial roadmap of key policies range from ambitiously cutting emissions, to investing in cutting-edge research and innovation, to preserving Europe's natural environment.

The Blue Growth of the EU is an initiative to promote the marine and maritime contribution to achieving the Europe 2020 strategy for smart, sustainable and inclusive growth.

The Strategic Research and Innovation Agenda for the Black Sea aims to advance a shared vision for a productive, healthy, resilient and sustainable Black Sea by 2030, while considering the special and unique ecosystem characteristics of it. In particular, it's unique biodiversity, cultural heritage sites and the new local, national and transboundary policy measures. It will focus on four key areas: to address fundamental Black Sea research challenges; to boost the Black Sea Blue Economy; to develop innovative infrastructures and to enhance blue workforce through education for new marine and maritime jobs and engaging citizens.

The Common Maritime Agenda for the Black Sea is the result of a process initiated and supported by the European Commission for setting a basin-wide initiative for more, and more sustainable, economic growth. It has been adopted on 21st of May 2019, in Bucharest, by the Ministers responsible for maritime affairs of the participating countries – Republic of Bulgaria, Georgia, the Republic of Moldova, Romania, the Russian Federation, the Republic of Turkey and Ukraine.

WELCOME SPEECHES

Professor Sorin RUGINA PhD - Rector of "Ovidius" University of Constanta

It has been summarized the existing experience and the initiatives that have been developed at "Ovidius" University of Constanta to address topics on Sustainable Development in relation to the UN 2030 Agenda. The university established a Center of Excellence on Sustainable Development and there were initiated different projects in the field of infrastructure development and digitalization.



DEPARTMENT OF
SUSTAINABLE DEVELOPMENT



László BORBÉLY - State Counsellor, National Coordinator for SDGs, Head of Department of Sustainable Development - Government of Romania

It has been presented the existing framework regarding the monitoring and data processing for preparing the first country report regarding the progress on the implementation of SDGs. A special emphasis has been given to the partnership with the universities, the development of networks and the establishment of a national scientific council on sustainable development.

Amb. Michael CHRISTIDES - Secretary General, BSEC PERMIS

It has been expressed the utmost importance that the BSEC Organization is giving to the topic of sustainable development in general and the Blue Growth initiative in special. The BSEC PERMIS has been involved in different initiatives like Green Energy Network and recently is part of the consortium that is implementing the Black Sea CONNECT Project. In this context, BSEC PERMIS supported the initiatives of Black Sea Universities Network and SDSN Black Sea. In the next period, there is an intention to organize a regional observatory to follow the achievements in the field of Blue Growth from the BSEC Member Countries.

Professor Nicolaos P. THEODOSSIOU PhD - Chair, SDSN Black Sea

The Black Sea Chapter of SDSN is an initiative which has been developed during the Presidency of Professor Pericles Mitkas, the former Rector of Aristotle University to the Black Sea Universities Network. The cooperation between SDSN Black Sea and BSUN is very fruitful, facilitating the initiation of several project proposals and joint conferences. Recently, it has been launched the so called Initiative of the “4 Seas” referring to Mediterranean, Black Sea, Caspian and Aral Sea.

MARCH 9th, 2020

PLENARY SESSION I ON: “Current status of implementation of SRIA and Common Maritime Agenda for the Black Sea”



DEPARTMENT OF
SUSTAINABLE DEVELOPMENT



MODERATOR

Professor Eden MAMUT PhD - *Black Sea Universities Network*

KEYNOTE SPEAKERS

Professor Adrian CURAJ PhD - *Director of The Executive Unit For Higher Finance, Research, Development And Innovation (UEFISCDI) – Romania, “2030 Quo Vadis BSR? Be Prepared, Inspired and Act”*

There were summarized the initiatives at national and EU levels pointing on opportunities offered by EU Programs like Horizon Europe, Green Deal, Strategic Research and Innovation Agenda on Blue Growth in the Black Sea, Common Maritime Agenda and other similar. There were presented the current status on ESFRI ELI Project, ERRIC, BrainMap and Laser Valley.

Dragoș VINTILĂ PhD - *Faculty of Civil Engineering, “Ovidius” University of Constanța, “Challenges and Opportunities for Maritime Spatial Planning of the Black Sea in Romania and Bulgaria”*

As a practical example, it has been presented the Mars Plan Project, the objectives, achievements and current developments on marine special planning.

Laura ALEXANDROV, PhD - *National Institute for Marine Research & Development “G.Antipa”, Constanta, “Progresses Registered in Romania and Bulgaria in the Field of Maritime Spatial Planning”*

There were summarized the achievements regarding the accumulated knowledge on Blue Growth in the Romanian Coast, the connectivity with the Mars Plan Project and the expected outcomes for regional planning activities and the decision support for local authorities.

Professor Dan Alexandru GRIGORESCU PhD - *Scientific Director, The Institute for Advanced Studies in Levant Culture and Civilization, Centre of Excellence of the World Academy of Art & Science, “Natural and Cultural*



DEPARTMENT OF
SUSTAINABLE DEVELOPMENT



Heritage – An Effective Support in the Sustainable Development of the Regions”

As part of the cultural dimension of ecosystems services, it has been presented the initiative to organize the process of inventory, documentation and concept development for the UNESCO Geopark in Dobrogea.

CONCLUSIONS OF THE DISCUSSIONS

- The basic knowledge regarding the observation of the Black Sea coastal ecosystem has been tested and validated by the implementation of numerous projects. Now it is the time to use the existing knowledge for addressing the main challenges from the perspective of local authorities, marine special spatial planning, business projects, involvement of the civil society and many others.
- Using the model that has been conceived for the Laser Valley in Romania, it may be developed a similar approach for a possible “**Blue Bay**” concept located on the Black Sea coast between Eforie, Ovidiu, Navodari and Cernavoda that could facilitate an intensive cooperation on innovation for Blue Growth and Blue Economy. In the “**Blue Bay**” region, the existing municipalities could develop science parks and industrial parks, facilitating the cooperation and knowledge transfer between the universities, research institutes and innovative companies.
- It has been discussed the problem of the blockage existing for the development of aquafarming activities in the Romanian Black Sea coastal waters, that is blocking the production of mussels. There were presented the barriers and it has been proposed the establishment of a task force to unlock the existing barriers and proposed a coherent action plan.

PLENARY SESSION II: „Global, European and Regional Issues concerning the implementation of UN 2030 Agenda on Sustainable Development”



DEPARTMENT OF
SUSTAINABLE DEVELOPMENT



KEYNOTE SPEECHES

Professor Jeffrey SACHS PhD - *Director, Sustainable Development Solutions Network*

The complexity of the World today is highlighted by the level of digitalization with impacts on many different aspects of life, the Global scale of human interconnectivity and the divide between expertise and politics.

To address such a complexity it is a great need for interdisciplinary approaches, bridging the political differences, coordinated actions oriented towards problem solving.

The required approaches for the Black Sea Region have to assure the viability of the regional ecosystems, the development of regional cooperation mechanisms and to prepare future ambitious undertakings.

Very important opportunities for the region could have the Green Deal strategy of the EU and the Belt & Road Initiative of China.

The proposals for future actions might be summarised as the establishment of a Regional Scientific panel that could prepare periodic reports regarding the evolutions and trends on sustainable development of the Black Sea Region, the development of an inventory of measurement and monitoring data of the various aspects of the ecosystems, the processing of data in synthetic maps and indexes and establishment of a systematic dialog of the knowledge providers as Black Sea Universities Network and SDSN Black Sea with the European Commission and appropriate bodies for promoting knowledge based decision support on policy development and high impact transformative actions.

Jesus GALLARDO - *LifeWatch ERIC, “Tackling Sustainable Growth through Ecosystem Services Directed Research”*

As an Expert in the field of Environmental and Sustainability projects there were summarized the lessons learned from the management of large environmental projects implemented in Australia and Europe. A summary of the fundamental issues on ecosystem services and the methodology for implementing them has been made. The LifeWatch ERIC Facility as a large European e-Science



DEPARTMENT OF
SUSTAINABLE DEVELOPMENT



Research Infrastructure has been presented including the architecture, products and services and possibilities for cooperation.

PLENARY SESSION III EDUCATION & INNOVATION FOR BLUE GROWTH: Innovating on Learning and Teaching for Enhancing the Knowledge Based Evolution of the European Regions for Sustainable Blue Growth

MODERATOR

Simion NICOLAEV PhD - 3D-BS Innovation Cluster, Romania

KEYNOTE SPEAKERS

Simion NICOLAEV PhD - 3D-BS Innovation Cluster, Romania, “Danube – Danube Delta – Black Sea - 3D-BS Innovation Cluster”

The Danube – Danube Delta – Black Sea - 3D-BS Innovation Cluster has been established to support, use and capitalize on the results of the scientific research activities carried out within the Danubius RI TM International Advanced Study Center, in order to increase the competitiveness and productivity of the cluster member companies which are active in the production and service industries relevant to the sustainable development of the regions adjacent to the Danube River Basin, the Lower Danube Basin and the Maritime Danube, the Danube Delta, the Danube-Black Sea Canal, the Black Sea Coast, as well as other adjacent areas.

Professor Maria LEKAKOU - University of the Aegean, Greece, “The Blue Growth Challenge! For the University of the Aegean. An Inclusive Approach”

University of the Aegean is a research oriented multidisciplinary with strong european and international focus and is organized as an academic network of “ports and knowledge” in six campuses. A summary of the projects on blue growth has been presented with an emphasis on desalination, green island, maritime spatial planning, renewable energy, geospatial applications, marine



DEPARTMENT OF
SUSTAINABLE DEVELOPMENT



biodiversity and other similar. A very interesting experience consists on the organization of blue hackathons on subjects like island attractiveness, multimodal transportation, coastal and maritime tourism and living labs.

Ilze ATANASOVA - Maritime Cluster Bulgaria, “International Cluster – Cooperation in Education”

It has been summarized the activities developed by the Maritime Cluster Bulgaria, the training projects that have been implemented and the cooperation with the universities on topics related to the maritime sector.

Professor Nicolaos THEODOSSIOU PhD - Aristotel University of Thessaloniki, Greece, “The Role of SDSNs in the Implementation of the SDGs”

It has been presented a summary of the structure and activities of Sustainable Development Solutions Network. There were described the types of activities, cooperation models and global representation of SDSN. The establishment of the Black Sea Chapter of SDSN has been initiated in partnership with Black Sea Universities Network in 2018 and is hosted by the Aristotle University in Thessaloniki. There were presented the main initiatives of SDSN Black Sea pointing on “4 Seas” initiative dedicated to the bridging of communities from Mediterranean, Black Sea, Caspian and Aral Sea.

Tomi ILJAŠ, Urška STARC PECENY PhD - Arctur, Slovenia, “Tourism 4.0 for the Black Sea”

The unprecedented development of IT & C Solutions offer new opportunities for tourism services. The concept Tourism 4.0 has been presented and it has been made an overview regarding the project that is coordinated by Arctur and is involving also “Ovidius” University of Constanta as a partner.

CONCLUSIONS OF THE SESSION



DEPARTMENT OF
SUSTAINABLE DEVELOPMENT



- The various models that have been presented in the session regarding the cooperation between universities and socio-economic community as innovation clusters, networks, project consortia have many complementarities and could be excellent examples of best practices in the region.
- IT & C Solutions including artificial intelligence and other tools may be applied successfully in all aspects and sectors of blue growth.
- There is a special need for defining guidelines on the accessibility of various types of data sets and data sources that are fundamental for developing smart technologies for blue growth.

MARCH 10th , 2020

PLENARY SECTION IV ON: „Ecosystem services in Fisheries and Aquaculture in River-Sea Macro-ecosystems”

MODERATOR

Stelian MATEI - Advisor Department of Sustainable Development, Government of Romania

KEYNOTE SPEAKERS

Simion NICOLAEV PhD - Institute for Marine Research Studies, Romania, “State of the Black Sea Fisheries Opportunities for Sustainable Development”

It has been summarized the current situation of fisheries and aquaculture in the Black Sea, with an identification of the most important threats and the proposed measures. There were also analyzed the main categories of fish species like Turbot, pike dock fish, anchovy. There were presented aspects of integrated fisheries management and the integration in the maritime spatial planning.



DEPARTMENT OF
SUSTAINABLE DEVELOPMENT



Cristina SANDU PhD - President, International Association for Danube Research, Viena, Austria, “Establishing Fish Stock Recovery Areas – A Sustainable Way to Manage Fishery Resources in the Marine Environment”

It has been presented a summary of the current situation of fisheries in the Black Sea, with the most important conclusions and lessons learned. Based on the accumulated experience it has been proposed a possible approach to save the most important species by defining fish stock recovery areas. There were presented the arguments to support the proposed approach.

Simona BARA PhD. - Senior Researcher, Associate Prof. within Agrifood and Environmental Economics, Academy of Economic Studies, Bucharest, “Requirements for Achieving a Sustainable Future in the Rural Area of the Danube and Black Sea Region”

It has been presented the results of a study that was carried out for the identification of the factors that contribute to the achievement of sustainability in the rural area of the Danube and the Black Sea Region in Romania. There were analyzed the barriers and threats for the proper evolution of rural areas and there were proposed specific actions that may contribute to the achievement of the sustainability as the design of a national programme dedicated to young partners, redefining the level of subsidies, proposing new criteria for accessing European funds, promotion of digital technologies and knowledge based decision making.

Elena PREDA PhD. - Senior Lecturer, Bucharest University of Economic Studies/ Department of Agrifood and Environmental Economics, “Presentation of Danube Floodplain Ecosystem Services Assessment”

It has been presented the results of a study on the evaluation of benefits and ecosystem services in the wetlands along the Danube Valley. Specific case studies was presented on the community Greaca with the detailed analysis of the specific conditions and the implementation of an approach based on ecosystem services. Several other results were presented on communities Cascioarele, Chirnogi and Gostinu.



DEPARTMENT OF
SUSTAINABLE DEVELOPMENT



PLENARY SECTION V ON: „Modelling, Data Processing and Knowledge Based Decision Making on Ecosystem Services in River-Sea Macro-ecosystems”

MODERATOR

Matthew VILJOEN - EGI, The Netherlands

KEYNOTE SPEAKERS

Matthew VILJOEN - EGI, The Netherlands, “EGI Enabling Open Science”

The presentation has been focused on the implementation of the principles of Open Science using the facilities of EGI. An overview of the EGI Federation and the National E-Infrastructures has been made. There were presented the EGI services that could be used on blue growth projects consisting on computation services, data storage, security, training and applications. The key areas for collaboration with EGI may be defined as integration of AAI with check-in, data interoperability, service maturity and discoverability, publishing and policy alignment.

Professor Jozsef BENEDEK PhD - Babeş-Bolyai University of Cluj, “Geospatial Technologies for Monitoring Sustainable Development Goals”

As an example of the activities that are carried at the Babeş-Bolyai University on Sustainable Development, it has been presented the results of a study on NLDI index calculated on the basis of Night-Light Satellite Images that proved to be a good proxy for measuring regional inequalities, having an important role in monitoring the progress of the direction of SDG 10 at county level in Romania.

Professor Valentina POMAZAN PhD - “Ovidius” University of Constanta, “Digital Asset Ecosystem Network – Enabling a New Generation of Advanced Predictive Analytics”



DEPARTMENT OF
SUSTAINABLE DEVELOPMENT



It has been presented a concept of a system of data acquisition for predictive analytics on ecosystem services. The concept is centered on digital twin technologies and digital integrated systems.

Tomi ILJAŠ, Urška STARC PECENY PhD - Arctur, Slovenia, “Tourism 4.0 for the Black Sea”

There were introduced the concepts of Tourism 4.0 and the objectives as well as the activities of the project Tourism 4.0 for the Black Sea – co-creating tourism for the future with data analytics. There were also summarized the automated assessment tool and different modules that shall be included in the future platform that will be developed during the implementation of the project.

Laurentiu OANCEA PhD - MEDGreen Innovation Cluster, Romania, “Digital Platform for Decision Support on Sustainable Mobility in Port Cities”

There were presented the achievements in the implementation of PORTIS Project dedicated to the promotion of sustainability in the port cities. The main tool that has been developed consists on a decision support system in the format of a digital platform including various tools for data processing, traffic modeling, scenario building and optimization algorithms.

PLENARY SESSION VI ON: „Evolutions and Challenges on the implementation of Ecosystem Services Approach in the River-Sea Macroecosystems”

MODERATOR

Prof. Marius SKOLKA PhD - Dean, Faculty of Natural Sciences, “Ovidius” University of Constanta

KEYNOTE SPEAKERS



DEPARTMENT OF
SUSTAINABLE DEVELOPMENT



Manuela SIDOROFF PhD - *National Institute of Research and Development for Biological Sciences, Bucharest, “Sinergies and Compliance between Romanian and UN / UE Strategic Agendas for Sustainability in Advanced Research for River-Sea Systems”*

Detailed analyses of 2030 Agenda for Sustainable Development and the European Strategic Priorities have been presented. The concept of integrated approach to river, delta and sea systems has been summarized and there were presented the basic approach to the Danubius RI super-site in Murighiol. There were also presented the partners and the possibilities for cooperation.

Ion MUNTEANU - *Governor, Danube Delta Reservation, “Use of Danube Delta Biosphere Reserve Natural Resources and Impact on Danube-Black Sea Macroecosystems”*

It has been presented the Danube Delta Biosphere Reserve with a special emphasis on land zonation, biodiversity, population, natural resources and main economic activities. There were also presented aspects related to the use of ecosystem services approach in the administration of the Biosphere Reserve.

György DEÁK Phd Habil. Eng - *General Manager of the National Institute for Research and Development for Environmental Protection – Romania, “Methods, Techniques and Results for Sturgeon Monitoring on the Lower Danube River (2011 – 2019)”*

It has been made an overview of the activities of the National Institute for Research and Development for Environmental Protection. A special emphasis was put on the methods, techniques and results for sturgeon monitoring using tags and ultrasonic monitoring system. Detailed results of the monitoring process have been presented with conclusions and recommendations.

Igor SIRODOEV PhD - *Assistant Prof., “Ovidius” University of Constanta, “Assessment of Ecosystem Services in Tourism in the Black Sea Region: A Preliminary Analysis”*



DEPARTMENT OF
SUSTAINABLE DEVELOPMENT



There were summarized the principles and methods used on ecosystem services and there were evaluated the possibilities to use this approach on two dissimilated aspects in the Black Sea Region.

PLENARY SECTION VII ON: „Management of Water & Renewable Energy resources in River, Delta and Coastal Areas”

MODERATOR

Professor Ioan BICĂ PhD - *Technical University of Constructions of Bucharest*

KEYNOTE SPEAKERS

Professor Ioan BICĂ PhD - *Technical University of Constructions of Bucharest, “Green Infrastructure Implementation in Urban Area”*

It has been made a summary of the main challenges in urban agglomerations and it has been an introduction to the concept of Green Infrastructures. A key study that was carried out under project URBRAIN was presented for the Bucharest Municipality, consisting on an integrated model of hydronic, precipitations, drainage and appropriate management measures.

Professor Nicolaos THEODOSSIOU - *Aristotel University of Thessaloniki, Greece, “Water Management – Flood Risk and Flood Hazard”*

There were defined the terms “flood risk” and “flood hazard” and there were summarized the approaches that are followed under the European Union. Key studies related to the situation in Greece and Romania were presented. The European Flood Awareness System was summarized introducing aspects of best practices in different countries.



DEPARTMENT OF
SUSTAINABLE DEVELOPMENT



Aleksandr ARAKELYAN - GIS and Hydrology Expert, Project manager, American University of Armenia, “Lake Sevan Basin: An Ecosystem Services Approach”

Armenia is an Eastern Partner Country and signed the comprehensive and enhanced Partnership Agreement in 2017. In the process of harmonization with the EU Directives related to water, it has been presented a detailed analysis of the Lake Sevan Basin. There were summarized the main challenges and there were presented the solutions that are taken into consideration, for promotion of Sustainable Development of the region.

Professor Eden MAMUT PhD - “Ovidius” University of Constanta, “Ecosystem Services Approach for Developing Renewable Energy Projects”

It has been introduced the ecosystem service approach in addressing the issues related to water management and renewable energy and the implementation of methodologies based on ecosystem services for the assessment and implementation of projects dedicated to the use of renewable energy sources in the coastal areas.

CONCLUSIONS OF THE FINAL DEBATES

- There is large volume of data and knowledge that has been accumulated in the systematic investigation of the ecosystems on the Danube river, Danube Delta and the Black Sea.
- In the region, there are many achievements in promoting tools and methodologies based on ecosystem services that could be further promoted and extended to different other applications.
- Based on the existing experience on organizing hackathons at the University of the Aegean, it has been proposed to organize a dedicated event on September 11th and 12th, 2020, on Lake Sevan, Armenia, as a related event to the BSUN 2020 Congress.



DEPARTMENT OF
SUSTAINABLE DEVELOPMENT



- The participants have agreed to contribute to a Special Volume on “Ecosystem Services in the Black Sea Region”, as an outcome of the Conference.
- The second edition of the Conference on Blue Growth in the Black Sea Region shall be organized in Ukraine, in 2022.