

# PROTECT-STREAMS-4-SEA

The newsletter of the Protect-Streams-4-Sea (BSB963)

Issue # 1, January 2021

Common borders. Common solutions

## “Protecting streams for a clean Black Sea by reducing sediment and litter pollution with joint innovative monitoring and control tools and nature-based practices (BSB963)”

By George N. Zaimes



This project with the acronym “Protect-Streams-4-Sea” started on July 20<sup>th</sup> 2020. The total duration of the project will be 24 months. The project is funded under the EU INTERREG IV “Black Sea Basin Joint Operational Programme 2014-2020” framework. The lead partner is the International Hellenic University (IHU) legal successor to the Technologiko Ekpedeftiko Idryma Anatolikis Makedonias kai Thrakis. Specifically, the Department of Forest and Natural Environment Sciences, the UNESCO Chair Con-E-Ect and GERi Lab are primarily involved from IHU. Four more institutions from the Black Sea Region are involved; The Buzau-Ialomita Water Administration from Romania, Young Foresters Union NGO from Armenia, Eco-TIRAS International Association of River Keepers from the Republic of Moldova, and Artvin Coruh University from Turkey.

Living along a common Sea, requires for the achievement of sustainable water management, the surrounding countries to adopt common methods and practices. This is one of the main strengths of the project since it has partners from five different countries and the activities take place in all participating countries.

The overall objective of “Protect-Streams-4-Sea” is the environmental protection and reduction of pollutants and litter in Black Sea. This will be done by focusing on the inland pollutants and litter, specifically from the rivers and their watersheds that end in the Black Sea. To achieve this, a joint monitoring program on these pollutants and litter will be established to promote the coordination of environmental protection and joint reduction of pollutants and litter through the adoption of best management practices. This will help lead to the sustainable growth and improve the welfare of the people of the region.

## Kick-Off Meeting

By Valasia Iakovoglou



Figure 1. George N. Zaimes presentation

At the end of each session there were fruitful discussions among the partners. During the second the Steering, Scientific and Financial Committee were formulated. Overall, the meeting was very successful, the conditions were very friendly and all partners were excited about it.

The Kick-Off Meeting for the “BSB963 - Protect-Streams-4-Sea” was held on September 28<sup>th</sup> - 29<sup>th</sup> 2020 online through ZOOM because of COVID-19 (Fig 1). All partners participated (Fig 2). During the first day all partners introduced their institutions and pilot areas. In addition, the Lead partner presented an overview of the project, the group of activities that need to be implemented and what

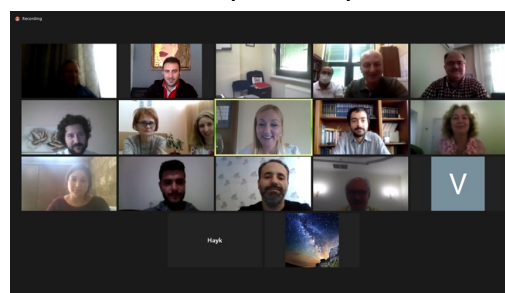


Figure 2. Team members of the partnership



This publication has been produced with the financial assistance of the European Union. The contents of this publication are the sole responsibility of Valasia Iakovoglou, Paschalis Koutalakis et Georgios Gkiatas, (IHU SARF) and can in no way be taken to reflect the views of the European Union.

## Pilot Areas

### Debed River Basin, Armenia

By Andranik Ghulijanyan

Debed River Basin (Fig 3) is a transboundary river located in the northern part of Armenia. It is bordering with Georgia and serves as a natural boundary between the two countries.

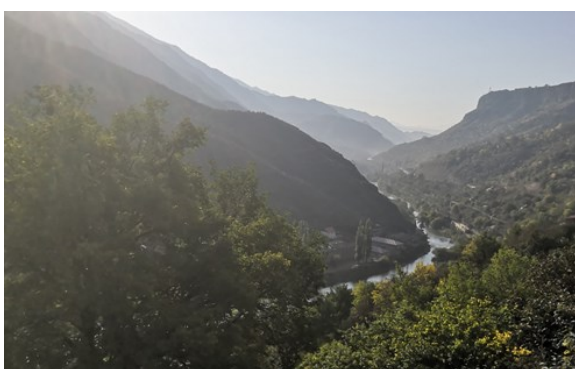


Figure 3. Debed River Basin, Armenia

The basin area is 3,790km<sup>2</sup>. Although the area of the basin is relatively small, it's complex topography creates landscape diversity in the basin which is presented by sub-alpine and alpine meadows and grasslands, forests and dry steppes. About 24% of the basin area is forested, with the most of it situated on the altitude of 2,000-2, 200m ASL. Climatic conditions in the basin are also very diverse, varying from dry sub-tropical to high-mountainous zones. The basin is one of most polluted and stressed basins in Armenia. Main sources of anthropogenic pressures in the Debed River Basin are: water abstraction, domestic and mining wastewater, agriculture, food and nonfood industry, hydropower plants, solid waste & transport.

### Baltata River Basin, Moldova

By Ecaterina Kuharuk

The Baltata River basin with 154 km<sup>2</sup> (Fig 4a), the Dniester River tributary from the central zone of Moldova, is selected as a project model area. Most part of the Baltata basin is located within the steppe zone (Fig 4b); a smaller northwestern part – in the forest-steppe zone (Fig 4c). The relief of the basin is predominantly flat; in the lower reaches of the river, it is low, in the upper reaches and in the watershed part—an elevated plain. The absolute marks of heights vary from 16 m to 219 m, averaging 120 m. The slopes of the territory vary from sub-horizontal to steep (about 17°). Slopes from 2° to 5° are most common, and horizontal surfaces are less than 0.1%.



Figure 4. Baltara River Basin, Moldova

The western rhumbs predominate (30%), the eastern and southern ones are slightly less (by 26% each); the even more rare rhumbs are northern & northeastern (18%). The water pollution sources are soil water erosion, communal and processing industry waste water, as well as the litter, producing by the rural communities. The most important feature of Moldova's soils is their diversity: more than 700 types. A second important feature of Moldova soils is the large percentage (about 70%) of chernozem (black soil), produced by steppes. But natural steppes now are representing only by small very fragmented peace's. The following water pollution sources were identified so far: unauthorized sites of domestic waste dumps, polluted flow from Kellers Brewery in Budesti Village, the lack of sewerage collection system, pollution by animal by-products.

# PROTECT-STREAMS-4-SEA

The newsletter of the Protect-Streams-4-Sea (BSB963)

Issue # 1, January 2021

Common borders. Common solutions

## Aggitis-Drama Basin, Greece

By Paschalis Koutalakis

The Aggitis-Drama basin occupies an area of 2707 km<sup>2</sup> along with the sub-basin of Kato Nevrokopi which is a plateau. The basin is characterized by the homonym Aggitis River (Fig 5) which originates through Maara or Aggitis Cave; as an underground caved river. The Aggitis River main confluence is in Simboli village with the local streams of Drama and Philippoi Basins (Agia Barbara, Xiropotamos and Zigaktis streams). In the whole plain area of the Aggitis-Drama basin there is an extensive surface drainage/irrigation network including the drainage ditch of the Tenaghi-Philippon marsh. As a conclusion, the entire area has a huge hydrological and hydrogeological potential but it faces shortages during summer months because of the highly increased agricultural activities in combination to the touristic domestic demand. Finally, water quality pollution due to agricultural activities, soil erosion problems and flood phenomena are present due to extreme rainfall events that arise torrential phenomena in the local streams and roads of the pilot area.



Figure 5. Aggitis River, Greece

## Buzau River Basin, Romania

By Maria Marinescu

The pilot area including Siriu reservoir is located in a mountainous area (Fig 6) of calcareous geology while land use is represented in proportion of 70% by forests and meadows, 15% water body, 10% localities and 5% agricultural land. Siriu reservoir is located at the top of the pilot area having a surface of 3.57 square km and a depth average depth of 31m. The reservoir has several uses such as: water supply for drinking water, hydropower and flood protection. Water quality is important because the reservoir is a source of drinking water but it faces many pressures that are represented by waste from human activities that take place near watercourses.

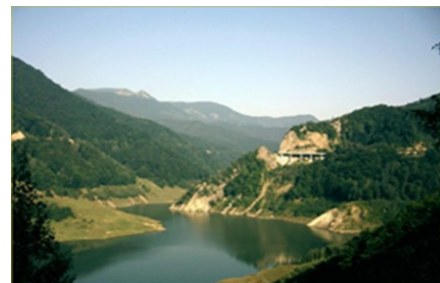


Figure 6. Buzau River, Romania

## Arhavi River Basin, Turkey

By Mehmet Yavuz & Ahmet Duman



Figure 7. Arhavi River Basin, Turkey

The Arhavi River Watershed-pilot area- (29901 ha sized) is located in Artvin Province in Northeastern, Turkey. The terrain is mountainous and the elevation ranges between 0 m & 3343 m from MSL (Fig 7). The forest covers 56.6 % of the total watershed followed by grassland & highland areas (26.5%), agriculture and residential areas (16.7 %). Elevation differences caused by the unique topographic structure exhibit a rich floristic composition of different habitats including major tree species such as Oriental beech, bearded alder, Caucasian spruce, Anatolian Chestnut, Scots pine, hornbeam, & sycamore. The major crop species in the agricultural areas include tea, hazelnut, pear, apple, kiwi and grape on the ultisol, inceptisol and podzol soils. There is no water shortage within the area during the summer. However, soil erosion & related water quality problems in response to the agricultural land-uses are important issues needing further investigation



Project funded by  
EUROPEAN UNION



Protect-Streams-4-Sea



Black Sea  
CROSS BORDER  
COOPERATION

# PROTECT-STREAMS-4-SEA

The newsletter of the Protect-Streams-4-Sea (BSB963)

Issue # 1, January 2021

Common borders. Common solutions

## Press Conference

### Press Conference Turkey—Artvin Coruh University

By Mustafa Tufekcioglu & Can Vatandaslar

The project members from Artvin Coruh University held the first press conference about the Protect-Streams-4-Sea project on November 4, 2020 in the University's campus. All project members (6 people) and 10 local journalists presented at the event. The project coordinator Dr. Mustafa Tufekcioglu briefed the media about project program (Fig 8), duration, project goals & project outcomes to the city, villages & to the Black Sea. The media asked questions related to benefits that local people might get. The benefits & other related market-based and non-market based values to the area were explained by the project members. The press conference took about 60 minutes & was published in printed & online regional & national media, including Gündem Artvin, Artvin'de Haber, Ecosystem Services Partnership's & the university's websites.



Figure 8. Press Conf. Turkey

### Press Conference Romania—Buzau-Ialomita Water Basin Administration

By Oana Ristea

The first press conference took place at Buzau-Ialomita River Basin Water Administration headquarters on 27.11.2020 at 11:00. The event was hosted by Maria Marinescu, project manager and Oana Ristea, assistant of project manager (Fig 9). Representatives of local TV channels information and newspaper from "Opinia", "Viata Buzaului" & "Campus TV" were invited to participate. The event started with a short presentation of the project held by Oana Ristea followed by a questions and answers session. The questions focused on the purpose and objectives of the project and its expected results. An important topic for the press was the one related to the awareness of the population and of the ecological education activities within the project. Also, an interesting aspect was the one regarding the purchase of the waste collection equipment from the Siriu Reservoir. The media representatives stated that they are looking forward to the press conference in which the results of the project will be presented. The BIWA representatives mentioned that the results can be applied at the regional level and it is a way to increase the involvement of the population in waste management. This will help lead to improve the welfare of the people of the region.



Figure 9. Press Conf. Romania

### Press Conference Moldova—International Association of River Keepers

By Ilya Trombitsky

International Association of River Keepers on November 17, 2020, a press conference was held at IPN Press Agency (Fig 10) on the project BSB963. Uniting partners 5 countries (Greece, Romania, Armenia, Turkey and Rep. of Moldova), aiming to achieve positive changes of ecological situation in the Black Sea basin. The research will be carried out jointly with the local authorities & local residents to improve the environment in the Baltata River's basin. The harmful chemical impact on the environment from unauthorized dumps & various kinds of pollutants was stated. Also underlined that the health of the population depends on the ecological situation of the environment and the quality of water. In addition to the IPN Press Agency itself, which published press-releases in three languages, the information was published in local news outlets, social networks, as well as on national radio stations.



Figure 10. Press Conf. Moldova



# PROTECT-STREAMS-4-SEA

The newsletter of the Protect-Streams-4-Sea (BSB963)

Issue # 1, January 2021

Common borders. Common solutions

## Press Conference Greece - International Hellenic University

By Georgios Gkiatas



Figure 11. Press Conf. Greece

The 1<sup>st</sup> press conference for the Greek media was hosted by the International Hellenic University (IHU-SARF) to introduce the new project “Protect-Streams-4-Sea” Project (Fig 11). The meeting took place through ZOOM on December 16<sup>th</sup> 2020 due to the COVID-19 restrictions. George Zaimes, Valasia Iakovoglou, Paschalis Koutalakis and Georgios Gkiatas presented the objective of the project, that is to mitigate the inland pollutants and litter, from the rivers and their watersheds that end in the Black Sea (Fig 12). In addition, the partners that are from Armenia, Greece, Moldova, Romania and Turkey,

were introduced that will collaborate with each other to implement a joint monitoring program on pollutants & litter and adopt best management practices based on nature-based solutions. The above activities will lead decrease the degradation of Black Sea that should promote the sustainable growth and improve the welfare of the people of the region. After the presentation a fruitful discussion was conducted with the media, where their importance for the dissemination of the project’s results was highlighted. Finally, a video was developed with the highlights of the press conference that was posted on the YouTube channel for further dissemination.



Figure 12. George N Zaimes Presentation

## Press Conference Armenia—“Young Foresters Union” NGO

By Luiza Gevorgyan

Press Conference for the BSB963 “Protect-Streams-4-Sea” Project of the Armenian partner was organized in “Armenpress” Armenian news agency on 18<sup>th</sup>



Figure 13. Press Conf. Armenia

of November 2020 with three participants of the Armenian project partner (Fig 13). Namely, Andranik Ghulijanyan, Luiza Gevorgyan and Vardan Karyan who introduced the project and the activities envisaged. The presenters made detailed presentations concerning the project, its steps, activities, outputs, innovative approaches to be used. Andranik Ghulijanyan made a general presentation of the project and the Armenian project partner “Young foresters union”. Luiza Gevorgyan presented the innovative approaches used, envisaged activities, outputs and the results obtained. Vardan Karyan presented the hydrological models to be used in the project.



Project funded by  
EUROPEAN UNION



Protect-Streams-4-Sea



# PROTECT-STREAMS-4-SEA

The newsletter of the Protect-Streams-4-Sea (BSB963)

Issue # 1, January 2021

Common borders. Common solutions

## Research Activities

### Research Activity Moldova—International Association of River Keepers

By Ilya Trombitsky



Figure 14. Soil sample

We have started research on soil erosion and pollution of the Baltata River basin. Two aspects are important in assessing soil cover. First, despite erosion and partial salinization, the soils are very fertile (Fig 14). The second important feature of Moldova's soils is their diversity: there are more than 700 soil varieties on its territory (Fig 15). The Baltata River's basin is marked by slightly eroded soils, which require anti-erosion measures. If you do not apply anti-erosion measures, then slightly eroded soils pass into the category of moderately eroded soils. Typical chernozem contains more than 6% humus down to a depth of 1.20 m and is estimated with a bonitet score (fertility) of 100. The increase in eroded soils is associated with the relief of the Republic of Moldova.



Figure 15. Soil pit

### Research Activity Turkey—Artvin Coruh University

By Aydın Tufekcioglu & Cengizhan Yildirim

As a first field research activity (Stream Bank Plot Method), the locations of the erosion pin sites were determined in the channel network of the Arhavi River Watershed (Fig16). Total 30 sites/reaches were selected for pin installment to measure streambank and gully erosions. Of the 30 pin sites, 6 were located along each 1<sup>st</sup>, 2<sup>nd</sup>; and 3 were on 3<sup>st</sup> order streams, and the remaining 15 sites were located along gully reaches. The iron pins used in this study were 60 cm in length and 0.8 cm in diameter.



Figure 17. Erosion pins



Figure 16. Arhavi River Watershed

Pins were pounded (about 50 cm) vertically into the gully and stream bank surfaces (Fig 17) from the bottom to the top of the bank on each side (right and left bank) of a channel. The distribution of the selected sampling sites was based on the stream order classification and types within the stream network of the Arhavi watershed, since stream size and its potential power (i.e., high flow stages) is one of the main driving factors controlling the annual migration of a streambank.



Project funded by  
EUROPEAN UNION



Protect-Streams-4-Sea



# PROTECT-STREAMS-4-SEA

The newsletter of the Protect-Streams-4-Sea (BSB963)

Issue # 1, January 2021

Common borders. Common solutions

## Project Presentations

### Presentations at International conferences

- ◆ **The monitoring of Baltata River pollution by soil erosion as a part of a new Black Sea project in Moldova.** *Presenter: E. Kuharuk.* Co-authors: I. Trombitsky, G. Sirodoev. International conference “Selection, seeds growing and agricultural technologies,” Tiraspol, Moldova, September 4<sup>th</sup>, 2020.
- ◆ **Protect-Streams-4-Sea - A new Black Sea programme project.** *Presenter: G. N. Zaimes.* Co-authors: M. Tufekcioglu, D. C. Diaconu, I. Trombitsky, A. Ghulijanyan, M. Marinescu, P. Koutalakis, V. Iakovoglou. MONITOX International Conference “Environmental Toxicants in Freshwater and Marine Ecosystems in the Black Sea Basin,” Kavala, Greece, September 8<sup>th</sup>-11<sup>th</sup>, 2020.
- ◆ **Eroded soils in the Baltata River basin, the Dniester River tributary.** *Presenter: E. Kuharuk.* Co-authors: A. Bitca, O. Crivova International Conference “EU Integration and Management of the Dniester River Basin”, Chisinau, October 8<sup>th</sup>-9<sup>th</sup>, 2020
- ◆ **Nature-based solutions for streams to reduce sediment and litter pollution in the Black Sea.** *Presenter: V. Iakovoglou.* Co-authors: P. Koutalakis, D. Diaconu, M. Tufekcioglu, I. Trombitsky, A. Ghulijanyan, M. Marinescu, A. Tufekcioglu, G. N. Zaimes. MONITOX International Conference “Environmental Challenges in the Black Sea Basin: Impact on Human Health,” Galati, Romania, September 23<sup>rd</sup>-26<sup>th</sup>, 2020.
- ◆ **The use of GIS to determine stream bank erosion prone areas in two watersheds of Greece.** *Presenter: G. N. Zaimes.* Co-authors: by G. Pagonis, V. Iakovoglou. MONITOX International Conference “Environmental Challenges in the Black Sea Basin: Impact on Human Health,” Galati, Romania, September 23<sup>rd</sup>-26<sup>th</sup>, 2020

Issue #1, January 2021

Editor: Valasia Iakovoglou (IHU SARF)  
Co-Editor: Paschalis Koutalakis and  
Georgios Gkiatas, (IHU SARF)

## Social Media

### Contact Links

Email: [protectstreams4sea@gmail.com](mailto:protectstreams4sea@gmail.com)

Web.: [Protect-Streams-4-Sea](http://Protect-Streams-4-Sea)



[ProtectStreams4Sea](https://www.facebook.com/ProtectStreams4Sea)



[@SeaProtect](https://twitter.com/ProtectStreams4Sea)



[Protectstreams4sea](https://www.instagram.com/Protectstreams4sea)



[Protect Streams 4Sea](https://www.linkedin.com/company/Protect-Streams-4-Sea)



[Protect Streams 4 Sea](https://www.youtube.com/channel/UCv8v8v8v8v8v8v8v8v8v8v8)

*The long-term  
objective “Protecting streams  
for a clean Black Sea by  
reducing sediment and litter  
pollution with joint innovative  
monitoring and control tools  
and nature-based practices  
(BSB963)”*

Joint Operational Programme Black Sea Basin 2014-2020. Editor: Valasia Iakovoglou, (IHU-SARF)

Co Editor: Paschalis Koutalakis and Georgios Gkiatas, (IHU-SARF)

January 2021

Joint Operational Programme Black Sea Basin 2014-2020 is co-financed by the European Union through the European Neighbourhood Instrument and by the participating countries: Armenia, Bulgaria, Georgia, Greece, Republic of Moldova, Romania, Turkey and Ukraine. This publication has been produced with the financial assistance of the European Union. The contents of this publication are the sole responsibility of Valasia Iakovoglou, Paschalis Koutalakis and Georgios Gkiatas, (IHU SARF) and can in no way be taken to reflect the views of the European Union.



Project funded by  
EUROPEAN UNION

