

Reinforcing protected areas capacity through an innovative methodology for sustainability

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The Project is co-funded by the European Regional Development Fund and by national funds of the countries participating in the Interreg V-A "Greece-Bulgaria 2014-2020" Cooperation Programme.

BIO2CARE – A project that cares for the environment

A Few Words for our Project

Reinforcing protected areas capacity through an innovative methodology for sustainability “BIO2CARE” is a project approved for funding under the Greece-Bulgaria 2014-2020 territorial cooperation programme. BIO2CARE falls under the Priority Axis 2: A Sustainable and Climate adaptable Cross-Border area, Thematic Objective 6: Preserving and protecting the environment and promoting resource efficiency, Investment Priority 6d: Protecting and restoring biodiversity, soil protection and restoration and promoting ecosystem services including NATURA 2000 and green infrastructures.

In full compliance with CBC GR-BG 2014-20 objective, BIO2CARE project overall objective is “To reinforce Protected Areas’ Management Bodies (PA MBs) efficiency and effectiveness in an innovative and integrated approach”, promoting territorial cooperation in a very concrete and well-defined approach. BIO2CARE main objective is to enhance PA MBs administrative capacities on the benefit of biodiversity as of local communities. This is in full compliance with programme priority specific objective: “To enhance the effectiveness of biodiversity protection activities”.

The BIO2CARE proposed decision-making platform could become a valuable tool for understanding the activities and quantifying their respective impacts on biodiversity (e.g. measuring ecological footprint, carbon footprint and water footprint). The monitoring activities proposed will give a competitive advantage in managing bodies to enhance their capabilities of protecting the areas of interest and mitigating illegal activities. Small infrastructures like

pathways accessible by disabled people will make PAs more attractive to new audience never been attracted so far, while will attract new target groups for neighboring businesses. At the same time this will be PAs contribution to social coherence. To further more support entrepreneurship on surrounding areas BIO2CARE will establish the process of awarding an ecolabel, a quality scheme that will help local businesses to show a qualitative distinction, surpassing competitors.

BIO2CARE applies an integrated approach responding to PAs entire environmental systems. It will deliver a wide range of differentiated outputs. Its main deliverables are:

(D.1) a set of studies,

(D.2) one set of monitoring equipment fully operational per country,

(D.3) two sets of ICT applications and e-tools for valorizing, studies and data produced from monitoring systems per country,

(D.4) two small infrastructures certified for disabled people use,

(D.5) one common labeling scheme,

(D.6) training sessions and

(D.7) one Policy Recommendations Report.

D.1, D.2, D.3 will form the essential components of one integrate Decision Support system (DSS) per country, that could operate separately or jointly on the Cross-Border area. D.4, D.5, D.6 will feedback DSS. Lessons learned during BIO2CARE implementation and scientific results from studies will form the D.7 output, to be discussed during last quarter of project with local, regional and national authorities.



The seven Rila lakes
Credits: Rila National Park



Biodiversity along Nestos river: *Buteo buteo* and *Circaetus gallicus*
Credits: Managing Authority for Nestos Delta – Vistonis & Ismaris lakes

Expected Results of BIO2CARE project

BIO2CARE project intervention logic was developed based on the theory of change, taking into account the attempted changes as the basis for a result orientated project. It will succeed so,

- (1) by producing new knowledge (WP3),
- (2) by applying to PA MBs new procedures and tools (WP3&4),
- (3) by setting the first solid foundations for one common or two commonly operating cross-border Decision Support system (-s) (WP4),
- (4) by setting in operation two jointly designed sets of monitoring equipment and exchanging information produced by them (WP4),
- (5) by setting in force an eco-labeling award scheme to help local businesses to overcome possible disadvantages emerge from protection status that apply (WP4),
- (6) by making PAs accessible to disable and aged persons (WP4 & 5),
- (7) by training specific target groups with training sessions and workshops (WP5),
- (8) by aware target groups and wide audience (WP2),
- (9) by contributing to a better policy making through Policy Recommendations Report (WP5).

As BIO2CARE project is devoted to change, at the end of its implementation major positive impacts will be identified on PA MBs capacities and on local business communities. The development of the two e-tools will increase the managerial capacity of the PA MBs

in order to improve the management of the PAs as systems, define and prioritize the necessary improvements. The combination with high-tech monitoring systems (both for fauna/flora and for illegal activities) will furthermore contribute to the improvement of PAs environmental status. Small technical works (pathways), will provide a steady groundwork for the promotion of green tourism without discrimination, for every disabled and/or aged person to enjoy the natural beauty of the PAs. This social approach of green tourism that is coupled with the promotion of the silver economy approach is expected to be a starting point for the establishment of similar activities in both countries.



Anthemis sp.



Crocus veluchensis



Capercaillie (*Tetrao urogallus*)



Cicindela campestris

Biodiversity in Rila National Park

Credits: Rila National Park

Our Partnership

We Cooperate! We Act Jointly and We All Win!

BIO2CARE project consists of the following partners:

- **Democritus University of Thrace (DUTH)**, represented in the Project by the *Laboratory of Environmental Management and Industrial Ecology (LEMIE)*. <https://lemie.pme.duth.gr>
- **Municipality of Nestos**. www.nestos.gr
- **Greek Biotope/Wetland Centre (EKBY)**. www.ekby.gr
- **National Confederation of Disabled People (NCDP)**. www.esamea.gr
- **Regional Inspectorate of Environment and Waters – Blagoevgrad (RIEW – Blagoevgrad)**.
- **Rila National Park Directorate (RNPD)**.
- **The South-West University of Neofit Rilski in Blagoevgrad (SWU)**.
- **Pirin Tourism Forum (PTF)**.



Biodiversity at National Park of Nestos Delta and lakes Vistonida-Ismarida: Squacco heron (*Ardeola ralloides*) and *Sambucus nigra*
Credits: Managing Authority for Nestos Delta – Vistonis & Ismaris lakes

Implementation of BIO2CARE project

LEMIE/DUTH is organizing two online workshops

On Thursday, 9th of July, 2020, Laboratory of Environmental Management and Industrial Ecology held two online workshops, part of Deliverable 5.2 and 5.3, covering the following topics:

- Biodiversity Preservation, Circular Economy and Symbiotic activities
- Sustainable Tourism in Protected Areas - The BIO2CARE Labelling Scheme

The participants included members of Management Bodies from several Protected Areas in Greece, and experts from other competent bodies such as universities, municipalities, national institutes. The workshops aimed to inform targeted groups of professionals as well as executives of institutions/management bodies involved in environmental management and education activities, as well as to inform the general public. The object of the workshops is the training on innovative issues and tools related to the concept of sustainable development and protection of protected areas, as well as strengthening the administrative and managerial capacity of their Management Bodies.

The workshops were attended by 61 people, executives of the Local Government, executives of the Management Bodies of protected areas from all over Greece, primary and secondary education teachers active in environmental education and undergraduate and postgraduate students.

Furthermore, LEMIE prepared further promo material including key technical results of the project, in order to disseminate the scientific aspects of BIO2CARE project. The poster focuses on the circular economy case study within the boundaries of NP-EMATH, and the comparison between the proposed circular economy scenario with the existing situation utilizing the Life Cycle Assessment methodology. Furthermore, a brief presentation of the proposed BIO2CARE sustainability labelling scheme is included. This promo material would further serve for educational purposes, presenting the concepts of circular economy, industrial symbiosis, and life cycle assessment, in engineering students of the department of Production and Management engineering, of Democritus University of Thrace.

Key technical results of the **BIO2CARE** project

Laboratory of Environmental Management and Industrial Ecology, Department of Production Engineering and Management, Democritus University of Thrace, Xanthi, Greece, 67100.

Brief Description

The Project BIO2CARE was a CBC GR-BG 2014-2020 project, aiming at reinforcing the administrative capacities and effectiveness of **Protected Areas Management Bodies (PAMBs)**, in benefit of biodiversity and local communities, through the implementation of an innovative and integrated approach.

Part of the final outputs included:

- a) A circular economy case study, within the boundaries of the National Park of Eastern Macedonia and Thrace, identifying potential symbiotic activities;
- b) A comparison between the environmental performance of the existing situation and the proposed symbiotic scenario, utilizing the Life Cycle Assessment methodology;
- c) The proposal of a conceptual Eco-label sustainability labelling scheme, aiming to mitigate the impacts of anthropogenic activity within the boundaries of NP-EMATH;

Industrial Symbiosis case study

Following the detailed examination of the area under study, i.e. residential needs, business profile, predominant financial sectors, etc., and considering the relevant literature, several symbiotic activities were identified and are summarized in the following figure:



- Reduction of 4.3 kt of waste CO2
- Reduction of 72 – 98 kt of oil for heating;
- Reduction of 7500 MW of thermal energy from heating oil;

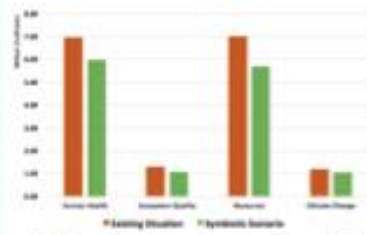
- Reduced impacts from transportation;
- Reduced fertilizer consumption;
- Boost of the local agricultural economy;

LCA comparison

The boundaries and Life Cycle Inventory of the existing situation for NP-EMATH are summarized in the following figure:



The results of the comparison between the existing situation and the symbiotic scenario for the 4 major damage categories are shown in the following figure:



person.

The results showcase that the symbiotic scenario has better environmental performance in each damage category.

The BIO2CARE Eco-label

National parks and protected areas in Greece, are spatial entities that, with the exception of tourism, also include other anthropogenic activities (such as agricultural, industrial, residential, etc.). These activities exert additional pressures on the environment and failing to take them into account in the assessment of their sustainability leads to an underestimation of environmental impacts and/or incomplete conclusions.

Following a review of the available labelling schemes for protected areas, a lack of sustainability labelling schemes that cover protected areas, their quantified environmental performance, the anthropogenic activities within the boundaries of the protected area, and the products resulting from these anthropogenic activities, was noticeable.

The development of a conceptual sustainability labelling scheme is proposed, that will take into account both the environmental performance of the protected areas, as well as the anthropogenic activities taking place within its boundaries.

The proposed conceptual eco-label and is presented in the table below, with its respective sublevels.

Name	Logo	Location	Product
BIO2CARE Bee		Protected Area	Proposed to produce honey, supporting the local beekeeping community for increasing their environmental performance.
BIO2CARE Fish		Protected Area	Proposed to produce fish, supporting the local fishing community, while increasing the results for the common good.
BIO2CARE Rabbit		Protected Area	Proposed to produce rabbit, supporting the local rabbit farming community, while increasing the results for the common good.
BIO2CARE Poultry		Protected Area	Proposed to produce poultry, supporting the local poultry farming community, while increasing the results for the common good.
BIO2CARE Sheep		Protected Area	Proposed to produce wool, supporting the local sheep farming community, while increasing the results for the common good.

In order to assess the existing consumer and business perception towards eco-labels, we conducted a questionnaire research, approaching consumers and businesses with the boundaries of NP-EMATH.



Poster for Key technical results of BIO2CARE project

Credits: BIO2CARE project photo archive

Rila National Park with a nature trail for people with special needs

As part of the BIO2CARE Project, Rila NP Directorate adapted one of its shorter nature trails, the one running along the Parangalitsa Nature Reserve border above the town of Blagoevgrad, for visits from people with special needs. The specific infrastructure which was provided, includes access platforms, railings, rest spots and information boards. The new trail was presented to partners, local stakeholders and disabled people from the area of the park at six information days under the motto: “Parangalitsa Reserve – Accessible and Equal”. Topics of the info days included the history of Parangalitsa Reserve and its values, visitor rules within the reserve, its precious plant and animal life, and habitats. The new trail is about to be tested and promoted by the Greek partners from the National Confederation of Disabled People in Greece.



SHOT ON MI 9 SE
AI TRIPLE CAMERA



SHOT ON MI 9 SE
AI TRIPLE CAMERA

A pathway for people with special needs at Rila National Park
Credits: Rila National Park Directorate

Municipality of Nestos completes the development of a new ecotourism route for the observation of the flora and fauna of the National Park of Eastern Macedonia - Thrace in the area of Keramoti

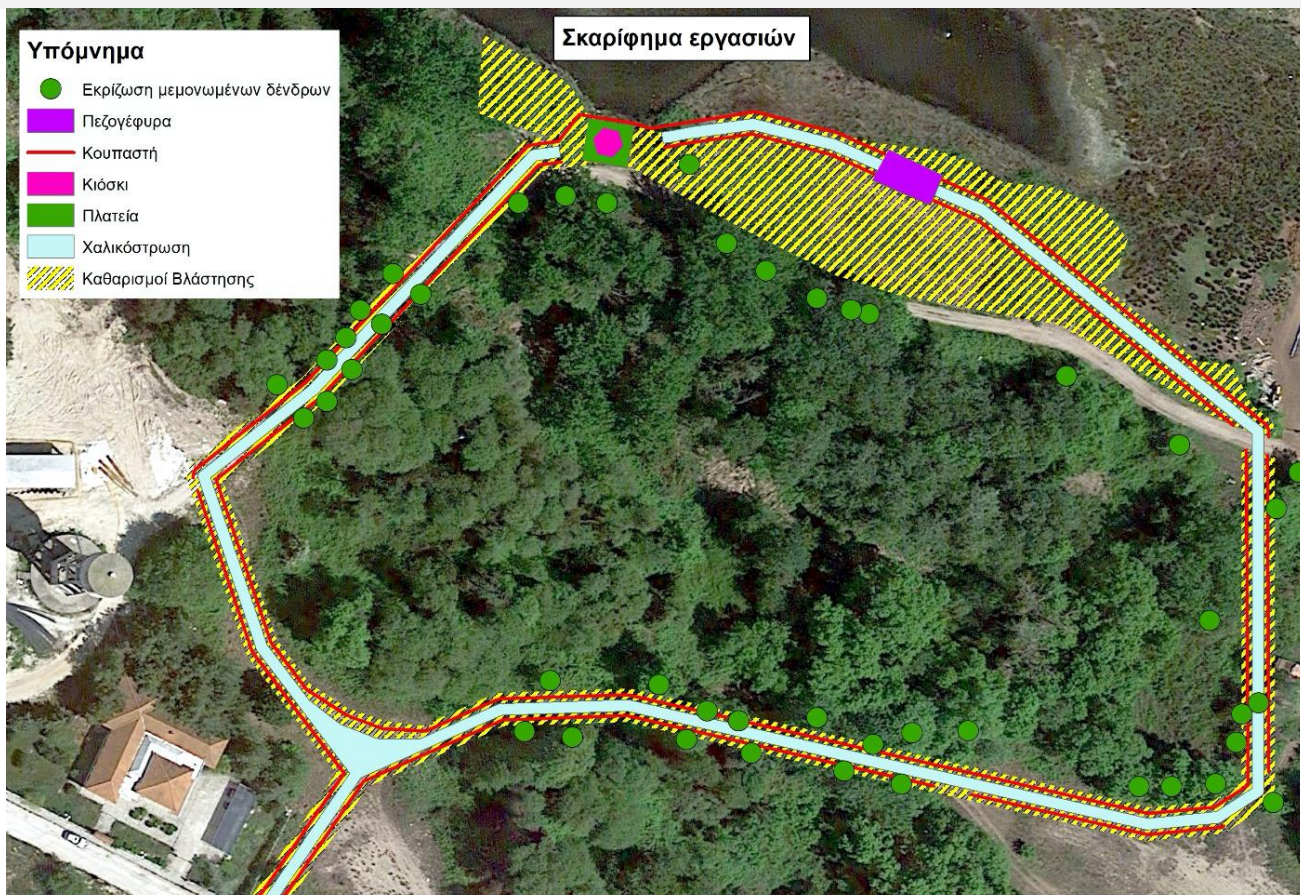
The Municipality of Nestos <https://dimosnestou.gov.gr/>, is close to deliver a new ecotourism route - path for the observation of flora and fauna of the National Park of Eastern Macedonia-Thrace (NP-EMATH)) in the area of the Municipal Department of Keramoti. The path is designed to attract visitors of the surrounding area while it offers infrastructure according to standards for people with special needs.

The route starts from the Information Center of NP-EMATH, which is located at the eastern end of the Municipality Department of Keramoti and extends north-northeast through the adjacent forest with a total length of about 610 meters. The area has a great environmental interest, and it is estimated that the implementation of this gentle ecotourism route will increase the number of visitors to the Municipality of Nestos. This activity shows emphasis to the protection and biodiversity restoration, the promotion of ecosystem services including the NATURA 2000 network, and green infrastructure and accessibility for people with disabilities (construction of a flat deck with a maximum slope of 5%).

The aim of the project is to highlight the wider area of the Municipality of Nestos, through hiking, in order to promote and utilize the natural and cultural environment. More specifically, the Municipality aims at:

- the enhancement of the special flora and fauna that is found in the Municipality of Nestos and in the wider area of NP-EMATH.

- the enhancement of the remaining Kotz a-Orman forest that was located in the wider area and now is located in the adjacent programme area.
- the increase of the number of visitors in wider area of the Municipality of Nestos, with special emphasis on attracting people with special needs.
- the development of quality tourism activities in the region, especially during the period other than July - August,
- the increase of awareness of the local community about regional culture and nature, and
- the appropriate route labelling



Ecotourism route for the observation of the flora and fauna of the National Park of Eastern Macedonia - Thrace in the area of Keramoti of the Municipality of Nestos

Credits: Municipality of Nestos







Ecotourism route: Pathway and a kiosk

Credits: Municipality of Nestos

Extension of BIO2CARE project has been approved

After a quick discussion among project partners resulting to a request for a project duration extension, early October 2020, the Managing Authority of GREECE-BULGARIA 20014-2020, has approved this request setting a new deadline for project closure on 19/12/2020. This decision will facilitate partners to communicate project outcomes and effectively deliver project deliverables.

Closing communication project event in the town of Blagoevgrad

In relation to the wrapping up of BIO2CARE Project communication activities within the developed project Communication Plan, the Directorate of Rila National Park held a special seminar in Blagoevgrad. The event was officially opened by the Rila NP Director, Mr. Krassimir Andonov, on 02.10.2020 at the conference hall of the Regional Historical Museum.

The programme included presentation of the results of main project activities, the implementation of the Communication Plan, as well as greetings from the Greek and Bulgarian beneficiaries of the project. The event was attended by representatives of the District Government of Blagoevgrad, state, educational, scientific and cultural institutions, non-governmental organizations and associations, and media.



Workshop for BIO2CARE Labeling Scheme in Bulgaria

In the last days of July, the Pirin Tourism Forum organized a two-day targeted workshop in Blagoevgrad to present the BIO2CARE sustainability Labeling Scheme and some other project results. The workshop was targeted at stakeholders from the area of Rila NP – municipalities, other state institutions such as state forestries, schools, scientists, businesses and others. Some external experts and partners like the Association of South-West Municipalities were also invited. The participants had the chance to see the start of the adaptation of a trail near Parangalitsa Reserve in Rila for people with special needs and the new Visitor Center of the Park in Blagoevgrad – all implemented under the BIO2CARE Project.



Brochure with final project results under way

The Pirin Tourism Forum is preparing the publication of a brochure presenting the most essential of BIO2CARE Project results. It will show the contributions of all project beneficiaries and the project outputs, including a set of studies for the protected areas of Rila National Park in Bulgaria and the National Park of East Macedonia and Thrace in Greece; monitoring equipment supplied and accessible visitor infrastructure constructed; electronic instruments developed in help of anthropogenic impacts' control; a common sustainable labeling system; seminars and trainings; and policy recommendations for better management of protected areas in the future. The brochure will be disseminated among partners and stakeholders in both Bulgaria and Greece.



Participation of EKBY (PB4) in the BIO2CARE training workshop "A holistic look at the sustainable management of protected areas"

EKBY participated in the organization of the two training workshops, entitled "A holistic look at the sustainable management of protected areas" and delivered presentations with regard to topics of its competency, namely biodiversity and sustainable tourism.

Specifically, in the framework of the first workshop regarding biodiversity conservation, circular economy and symbiotic activities (action 5.2), EKBY's scientific personnel discussed the term of "biodiversity", its different levels (from genetic to landscape biodiversity), as well as the state of nature, that is the conservation status of habitat types and species (including avifauna) in Greece. Also, a historical background of the protected areas' institution, and also the categories, features and role of these areas were presented, with emphasis in the legal framework governing their conservation and management in Greece. Last but not least, the European policy framework for financing biodiversity conservation was given and best practices in fundraising were presented.

In the second workshop for BIO2CARE labelling scheme in protected areas and the development of sustainable tourism (action 5.3), EKBY provided the framework of tourism in protected areas as well as the main benefits and of course the negative potential impacts of tourism in protected areas, from an environmental, economic and social point of view.

Activities of BIO2CARE project beneficiaries

Scientific papers prepared from LEMIE laboratory (DUTH)

During last year, scientific staff of LEMIE laboratory (DUTH), has issued two (2) articles on various scientific magazines, presenting BIO2CARE results. participated in external events promoting the activities of BIO2CARE project, and trying to disseminate results of the studies.

- Gaidajis G. and Kakanis I., “Examining the potential carbon footprint reduction by implementing circular economy practices in a protected area with anthropogenic activities”, Online Symposium on Circular Economy and Sustainability, 1-3 July 2020, Alexandroupolis, Greece.
- Gaidajis G., Kakanis I., Symeonidis P., Vakkas T., and Mirli A., “Development of a Geospatial Environmental Monitoring System for the National Park of East Macedonia-Thrace”, International Conference Protection and Restoration of the Environment XV, July 2020, Kalamata, Greece (canceled due to Covid-19, Proceedings published).

Two new protected areas designated in Rila Mountains

The major goals of environmental legislation in Bulgaria include the preservation of types of natural habitats and habitats of endangered, rare and endemic flora, fauna and fungi species which are representative for the country and for Europe; of protected flora, fauna and fungi species and species which are being traded; of the genetic resources and the diversity of plants and animals outside their natural environment; the protection against the introduction of alien

and the re-introduction of local species in nature, as well as the trade with samples of endangered flora and fauna species and actions threatening centuries-old trees. In that relation, Law has introduced the establishment of a National Ecological Network in Bulgaria, including:

- Protected areas as part of the NATURA 2000 European Environmental Network which can incorporate other protected territories;
- Protected areas which are not part of other protected zones.

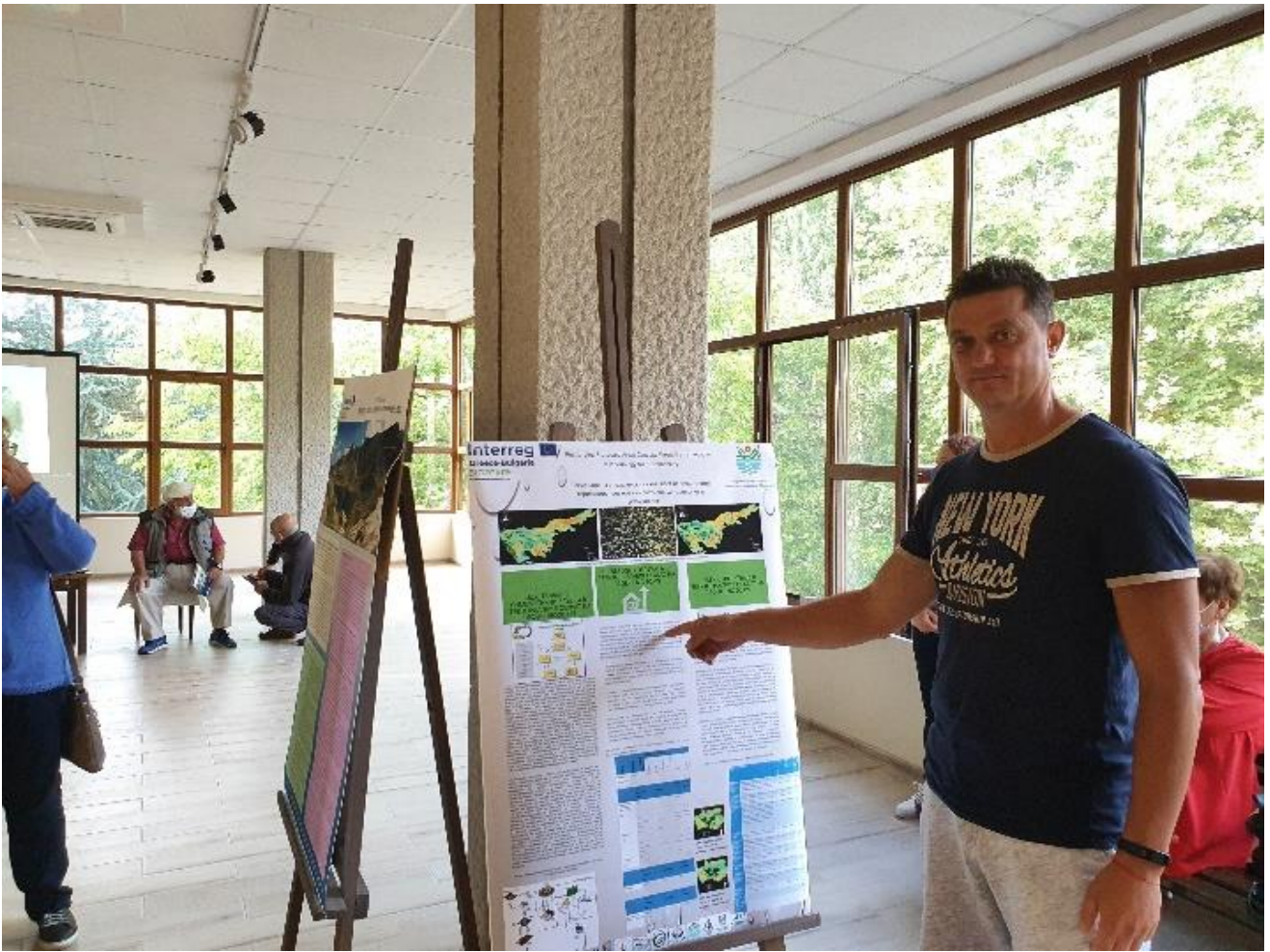
At the regional level of Southwest Bulgaria, the policies for protection of the elements of the National Ecological Network and biodiversity are being implemented by the Regional Inspectorate of Environment and Waters – Blagoevgrad.

With the purpose of enhancing environment-protection activities and the efficient conservation and management of types of natural habitats and habitats of species in Rila Mountains, two new protected zones were designated during the period of BIO2CARE Project implementation, covering the periphery of Rila National Park - BG0002129 “Rila Buffer” under the Birds Directive and BG0000636 “Low Rila” under the Habitats Directive. The two zones coincide partially as scope. Parts of them fall also within the territories of interest of the BIO2CARE Project

BIO2CARE Project – part of European Heritage Days

On September 24, 2020, the Regional Historical Museum of Blagoevgrad paid tribute to the European Heritage Days by opening an ethnographic exhibition dedicated to the cultural heritage of the local community – costumes, everyday life items and tools, documents and photos. The Regional Inspectorate of Environment and Waters – Blagoevgrad joined the initiative by paying tribute to European natural heritage and presenting the two BIO2CARE valuable protected areas with focus on Rila National Park, plus the project itself and some specific project results. The event was attended by partners, students, pupils and representatives of Blagoevgrad local community.





Two new projects of EKBY (PB4) financed by the GREEN FUND



ΠΡΑΣΙΝΟ ΤΑΜΕΙΟ

In spring 2020, EKBY started the implementation of two new projects, financed by the GREEN FUND under the Program "Natural Environment and Innovative Environmental Actions 2020 - Priority Axis CA.1: Biodiversity Conservation Actions".

The first project entitled "Promotion of the Greek protected areas" aims to enhance the identity of protected areas and strengthen their touristic profile, as well as to mitigate the effects of tourism and leisure activities, by attracting informed and properly prepared visitors. The project duration is 12 months and its budget is 80,000 euros.

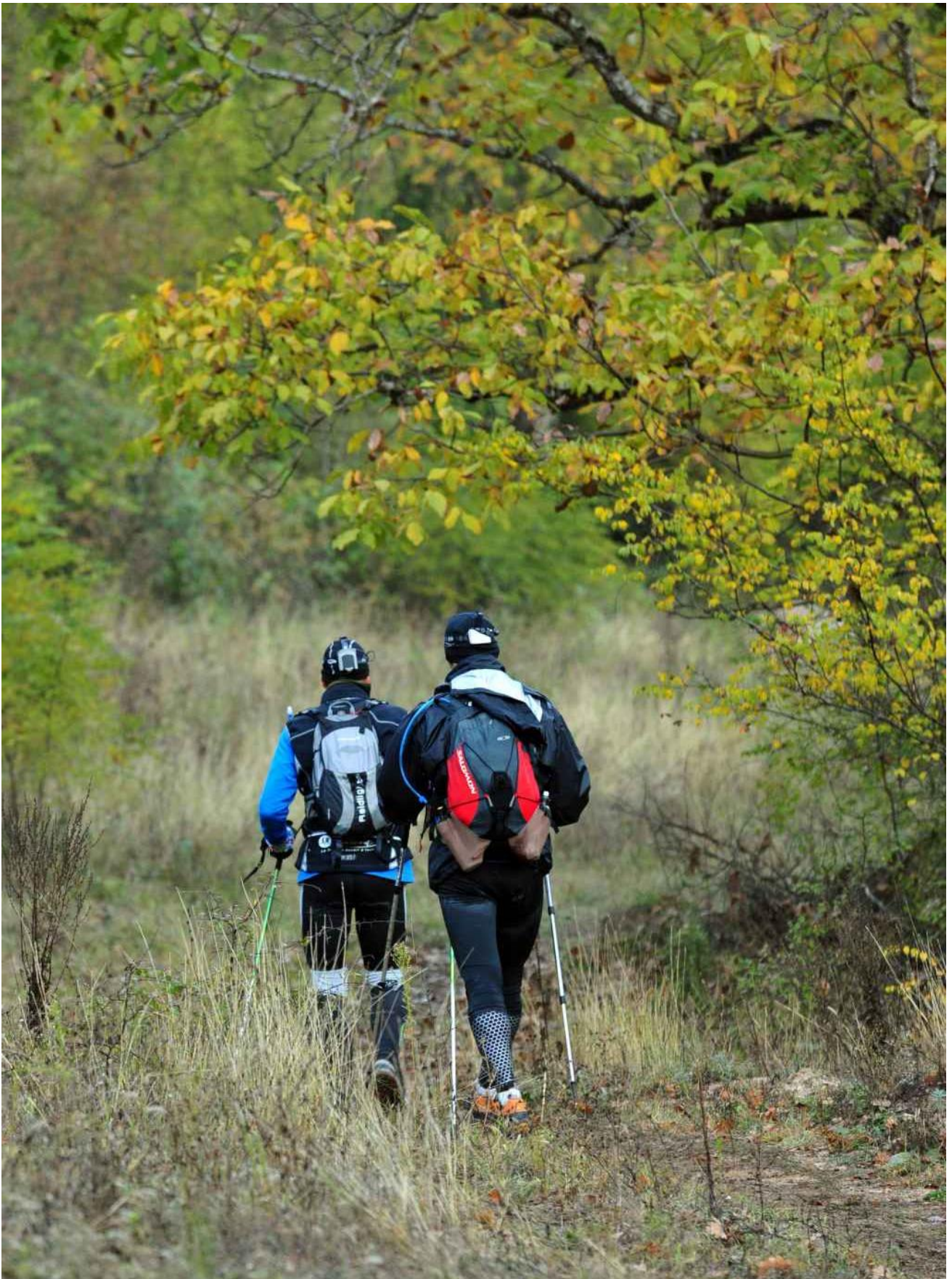
More info: Maria Katsakiori, Project Manager

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www.biodiversity-info.gr

The second project is entitled "Specifications for monitoring biodiversity during the operation of projects requiring environmental licensing in Natura 2000 Network areas" and aims at achieving: a) the objectives of environmental monitoring programs as derived by the national legislation for Natura 2000 Network and b) maximum synergies, at national level, with other actions with regard to collection and use of biodiversity monitoring data. Its duration is 12 months and its budget is 25,000 euros.

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Hiking in Rodopi Mountain Range
©B.Giritziotis



Autumn landscape in Rodopi Mountain Range,

©EKBY/L. Logothesis

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www.bio2care.eu/en

Also, you can regularly visit our social media

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The Newsletter of the BIO2CARE project has been transcribed in multiple accessible formats by the National Confederation of Disabled People, Greece (Project Beneficiary PB5).



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