



ACT 4  
**DRIN**

Living well in harmony  
with the Drin

A booklet featuring a collection of

# NGO actions to protect and conserve freshwater ecosystems

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The publication reflects the authors' views and doesn't commit the donors.

This publication is available on line at [www.mio-ecsde.org](http://www.mio-ecsde.org) and [www.act4drin.net](http://www.act4drin.net)

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This publication has been developed by the Mediterranean Information Office for Environment, Culture and Sustainable Development (MIO-ECSDE) within the framework of the Act4Drin project funded by the Critical Ecosystem Partnership Fund (CEPF).

Photo credit: Thomais Vlachogianni



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## Introduction

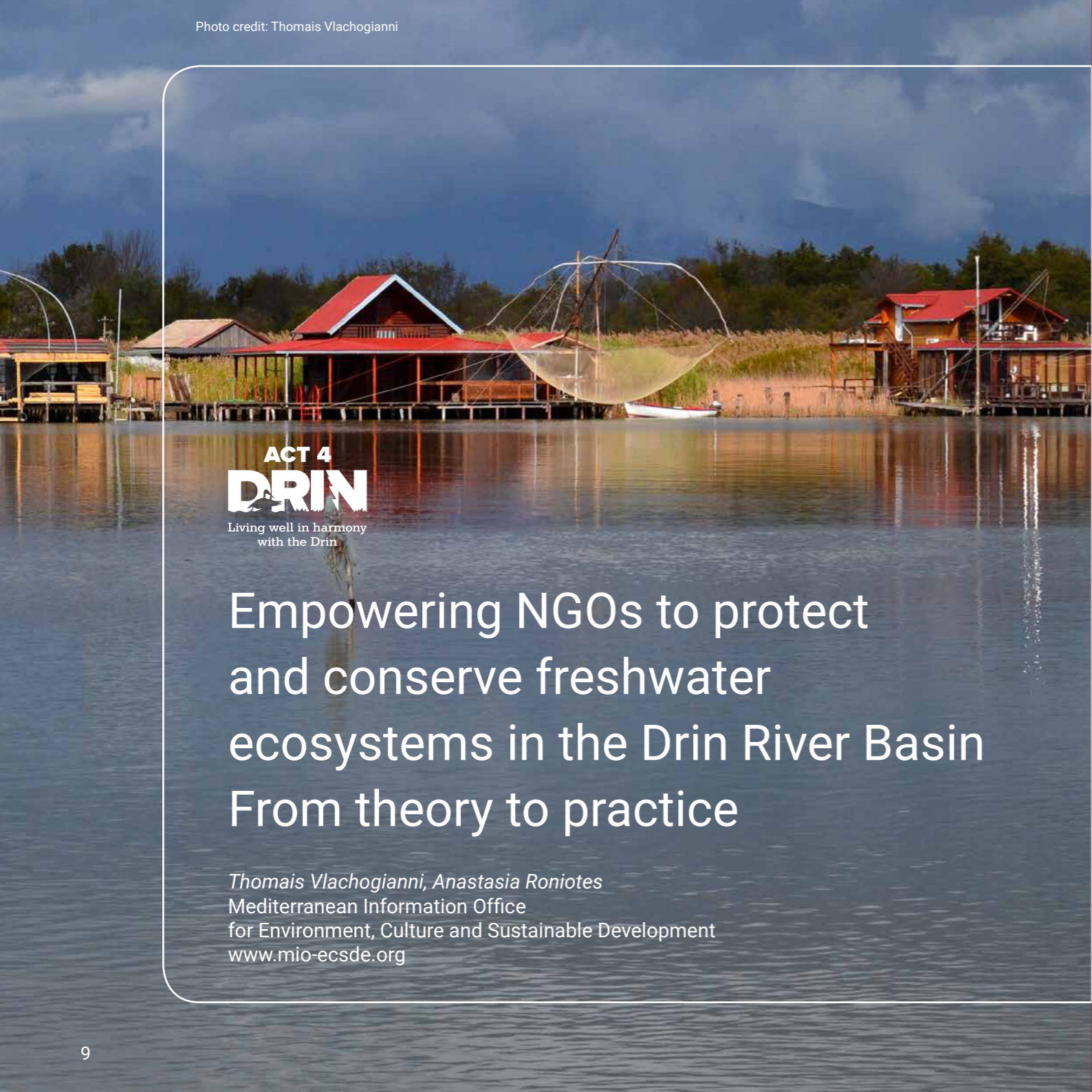
NGOs are essential partners in promoting environmental protection and achieving sustainable development. Their active participation at local, national and transboundary level in all phases of projects and processes, from their design, implementation in the field, operationalization, monitoring and evaluation, contributes not only to increased transparency, wide visibility and outreach of the project or process, but also to enhanced overall quality and increased ownership of the outcomes, as well as amplified possibilities for replication of its activities.

Very often the role of NGOs in environmental protection processes is perceived less as an active one and more as a passive one, where NGOs are simply recipients of one-way flow of information. This in fact just facilitates one part of what is termed as 'access to information', one of the prerequisites of public participation. However, NGOs have a more crucial role to play which includes their contribution to **raising public awareness** and **building the capacities** of different stakeholder groups on key environmental issues; **promoting co-responsibility** and **building consensus** via enhanced stakeholder participation and partnership building; **strengthening decision making** and **policy implementation** by providing analysis, expertise and commitment from the inception and policy dialogue phase to the implementation phase at different operational or administrative levels (regionally, nationally and locally) for more creative and dynamic solution identification and problem solving approaches; **filling in the knowledge gaps** that stand in the way of effective decision making through participatory science, including data collection, collective intelligence, grassroot activities, participatory experiments.

# Introduction

In this respect, this publication features a collection of concrete NGO actions on the ground that have contributed to the protection and conservation of freshwater ecosystems in the Mediterranean. It is an account of the diversity, wide ranging scope and extent of NGO involvement in promoting integrated water resources management and freshwater biodiversity conservation. Furthermore, it distils and captures lessons learned and communicates acquired knowledge so as to ensure that beneficial information is factored into future NGO activities. In a way, this publication aims to serve as a collective and collaborative learning tool, where the added value and particular strengths that the NGO community brings to environmental governance, such as **leadership, creativity, flexibility, entrepreneurship** and **capacity for vision** and **long-term thinking**, is depicted. The aspiration is to further mobilize and inspire NGOs to design relevant, holistic and feasible actions and eventually tap into funding opportunities for freshwater biodiversity conservation and/or restoration and sustainable management of water resources.





# Empowering NGOs to protect and conserve freshwater ecosystems in the Drin River Basin

## From theory to practice

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## The Drin River Basin

The Drin River Basin lies in the south-western Balkans and spreads over Albania, Greece, FYR of Macedonia, Kosovo and Montenegro. The Drin Basin is an interconnected hydrological system comprising the transboundary freshwater bodies of: Prespa, Ohrid and Shkoder Lakes; the Drin River, including its tributaries the Black and the White Drin and the Buna/Bojana River. It hosts an exceptional wealth of freshwater biodiversity, providing important habitats for many species of fauna and flora. All Drin riparian countries rely on the Drin Basin waters and the steady stream of benefits it provides.

Diverse and often conflicting uses and unsustainable management approaches applied in the Drin Basin exert severe pressures on the Basin's ecosystems leading to their degradation. Some of these key pressures are: solid waste & marine litter; wastewater; unsustainable use of water resources (including the construction of dams); extraction of minerals/mining; intensive agriculture and forestry; uncontrolled and often illegal fishing and hunting; erratic land use and urban development; unsustainable tourism; increasing climate variability. These pressures lead to a wide range of impacts such as: deforestation, pollution of surface and ground waters, accelerated soil erosion; salinisation and salt water intrusion; loss of valuable ecosystems and biodiversity; more frequent and severe floods; increasing health risks, etc.

## The Drin Dialogue

In December 2009, the Drin Dialogue, a structured multi-stakeholder process was launched aiming to establish a shared vision for the management of the Drin Basin. Guided by the Drin riparians and facilitated by the United Nations Economic Commission for Europe (UNECE) and the Global Water Partnership – Mediterranean (GWP-Med), the 2-year long process brought together in a series of meetings, national institutions, joint commissions, local authorities, users, academics, NGOs and the private sector at local, national and regional levels to express their views and jointly define the necessary actions for the sustainable management of the basin. A defining moment in the process was the signing of the Memorandum of Understanding (MoU) by the Ministers of the Drin riparians in November 2011, identifying short-, medium- and long-term actions to address the problems of the basin. The Drin Coordinated Action process succeeded the Drin Dialogue and focused on the preparation of an Integrated Drin Basin Management Plan. This process is guided by the Drin Action Plan and is ongoing, using resources made available by various donors active in the basin.

## MIO-ECSDE as a catalyst for enhanced NGO involvement in the Drin Dialogue

Since the very beginning of the Drin process, a coordinating body was established termed as the Drin Core Group. In full acknowledgement of the prominent role of NGOs in the realm of environmental governance, the Mediterranean Information Office for Environment, Culture and Sustainable Development (MIO-ECSDE), as the only regional federation of environmental NGOs in the region, and with a long standing relevant history since the early '90s, was included as a member of this group, along with representatives of the competent ministries of the riparians; (pre)existing joint structures established in the basin; the UNECE and GWP-Med. This came as a direct follow-up of MIO-ECSDE's previous actions and activities in south-east Europe and its long-standing experiences and competences in ensuring good freshwater governance in transboundary settings. MIO-ECSDE, as an equal partner with the Drin riparians, committed itself to:

- strengthening the participatory process of the Drin Dialogue by disseminating information and awareness and empowering grassroots and national NGOs to act effectively and meaningfully and streamlining their views into the process;
- enhancing cooperation and networking among and between national and grassroots NGOs in the Drin Basin working on sustainable water resources management and freshwater biodiversity protection/conservation;
- mobilizing the social and political will (from regional to community levels) to promote more effective use of natural resources and sustainable transboundary water resources management.
- contributing with its scientific/technical expertise to all stages of the process, from the inception and dialogue phase to the implementation phase.

In fulfilling its commitment and aspirations, MIO-ECSDE developed and implemented a number of activities within the Drin process to enable the constructive participation of NGOs. As a first step, MIO-ECSDE organized a regional NGOs workshop (November 2010) to jointly identify the potential obstacles and challenges that NGOs may have to deal with, as well as to exchange experiences on the operationalization of different participatory frameworks (e.g. the Aarhus Convention, the *acquis communautaire*, etc.). In synergy and complementarity with other on-going projects and processes that also aimed for the protection and sustainable management of the Drin Basin (the MedPartnership project, the H2020 CB/MEP), MIO-ECSDE succeeded in keeping NGOs informed, motivated and engaged in the Drin process by: disseminating information on the process;

organizing and/or ensuring their participation in relevant capacity building workshops; organizing a series of networking meetings back-to-back with the Drin national/regional consultations and Core Group meetings; undertaking joint fund raising efforts (e.g. targeted to the GEF Small Grants Programme, etc.) for implementing a project in support of the shared vision; carrying out engagement efforts to foster commitment and solidarity among environmental NGOs of the region to protect the Drin River Basin through the development of tangible/concrete outputs. In parallel, MIO-ECSDE has been a member of the Drin Expert Working Groups on the Water Framework Directive Implementation, Monitoring and Information Exchange, Biodiversity and Ecosystem established in 2012, contributing its expert/technical advice.

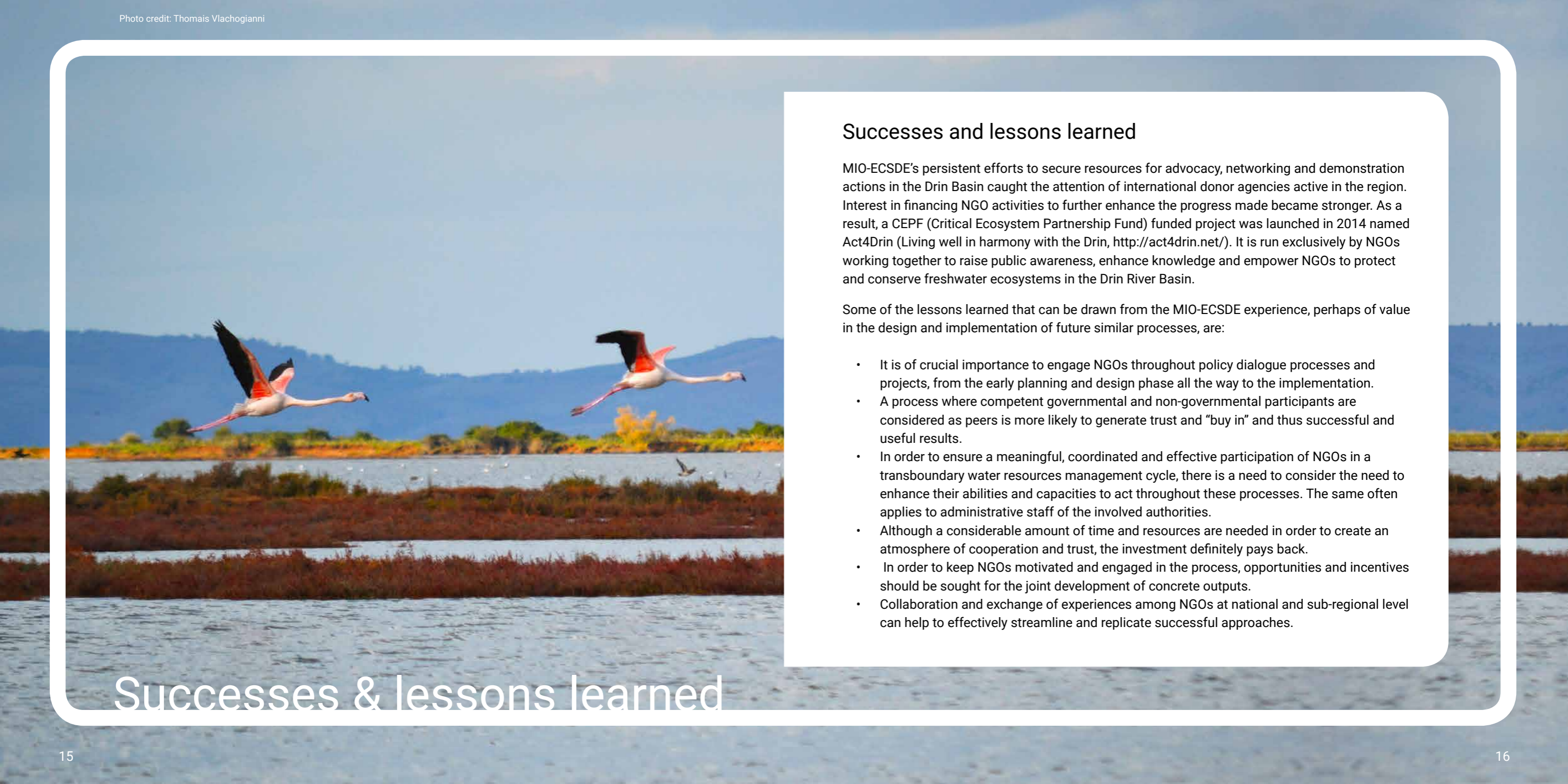
## Main challenges and obstacles for effective NGO involvement in the region

- Lack of recognition of legitimacy of the role of NGOs
- Constraints on the capacities and culture of local/national administration bodies to properly organise and implement participatory processes
- Lack of capacity and expertise of NGOs at local/national level and lack of human resources
- Lack of funds and/or knowledge on how to access funds
- Lack of donors
- Lack of, or weak coordination/collaboration between national/local NGOs
- No access to information or limited access to unreliable data regarding environmental issues
- Frequent cases of opportunistic NGOs, that adapt their scope according to funding prospects that arise
- Lack of continuation/sustainability of activities that have been initiated within the framework of a project.



# Challenges & Obstacles





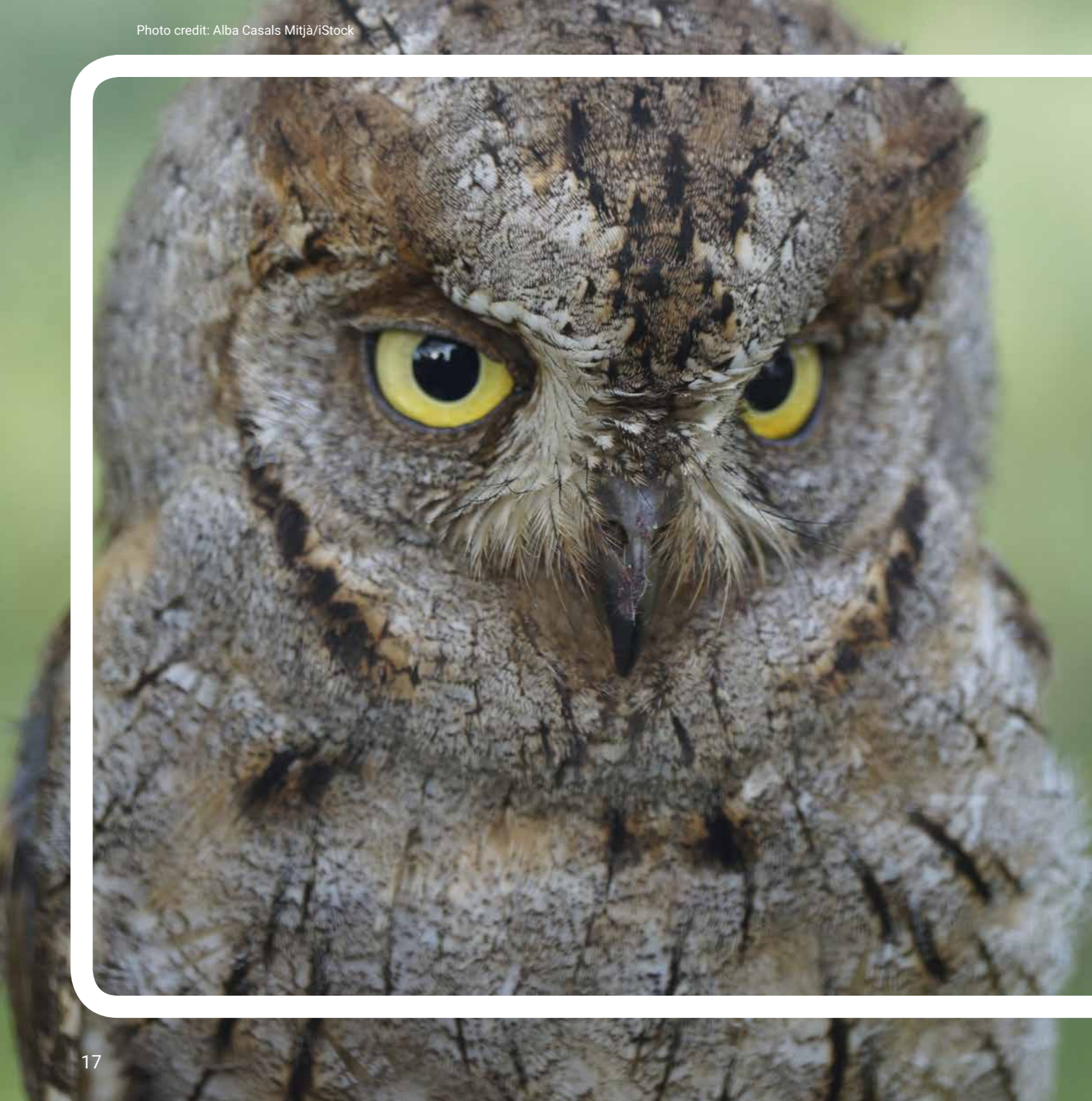
## Successes and lessons learned

MIO-ECSDE's persistent efforts to secure resources for advocacy, networking and demonstration actions in the Drin Basin caught the attention of international donor agencies active in the region. Interest in financing NGO activities to further enhance the progress made became stronger. As a result, a CEPF (Critical Ecosystem Partnership Fund) funded project was launched in 2014 named Act4Drin (Living well in harmony with the Drin, <http://act4drin.net/>). It is run exclusively by NGOs working together to raise public awareness, enhance knowledge and empower NGOs to protect and conserve freshwater ecosystems in the Drin River Basin.

Some of the lessons learned that can be drawn from the MIO-ECSDE experience, perhaps of value in the design and implementation of future similar processes, are:

- It is of crucial importance to engage NGOs throughout policy dialogue processes and projects, from the early planning and design phase all the way to the implementation.
- A process where competent governmental and non-governmental participants are considered as peers is more likely to generate trust and "buy in" and thus successful and useful results.
- In order to ensure a meaningful, coordinated and effective participation of NGOs in a transboundary water resources management cycle, there is a need to consider the need to enhance their abilities and capacities to act throughout these processes. The same often applies to administrative staff of the involved authorities.
- Although a considerable amount of time and resources are needed in order to create an atmosphere of cooperation and trust, the investment definitely pays back.
- In order to keep NGOs motivated and engaged in the process, opportunities and incentives should be sought for the joint development of concrete outputs.
- Collaboration and exchange of experiences among NGOs at national and sub-regional level can help to effectively streamline and replicate successful approaches.

# Successes & lessons learned



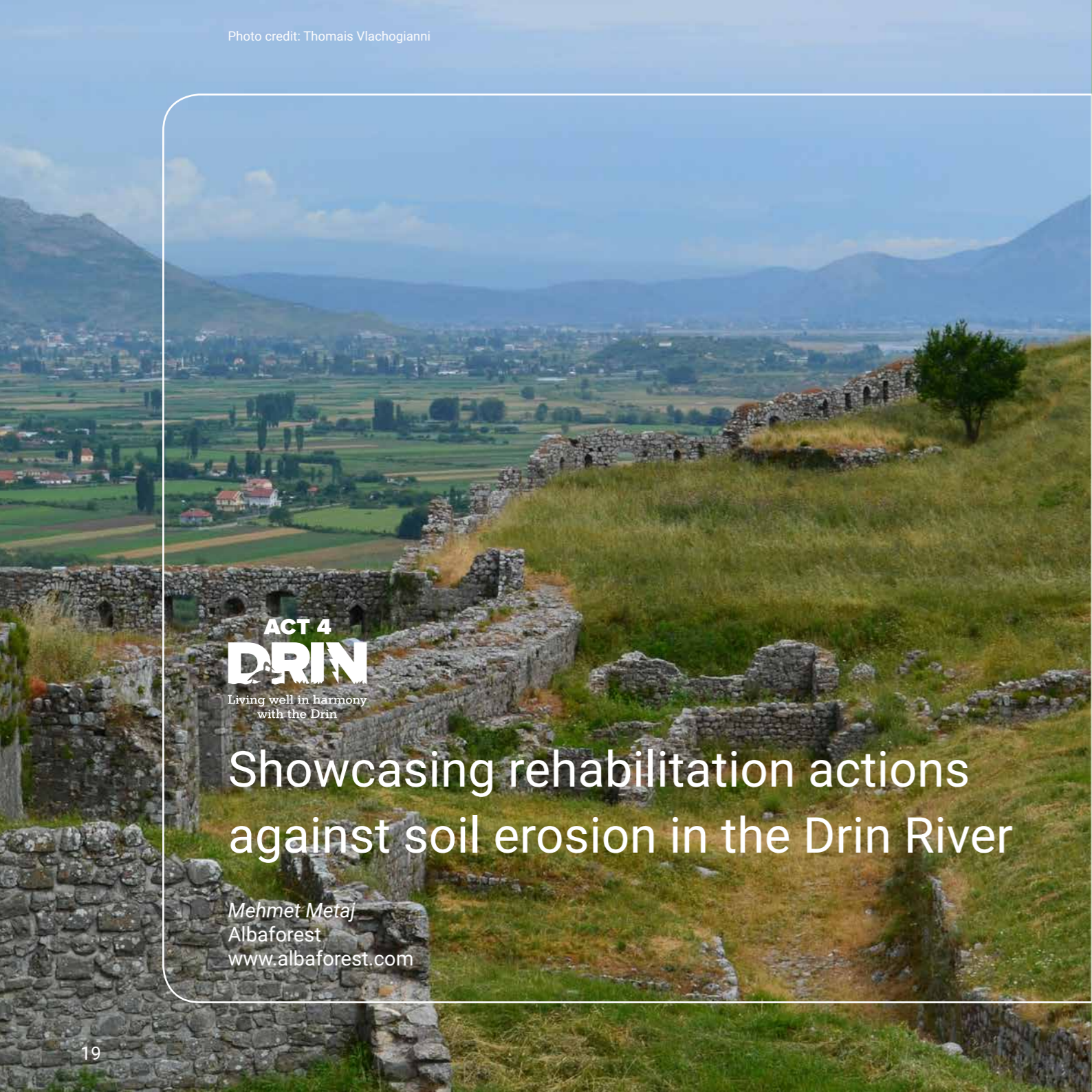
The involvement of a regional NGO such as MIO-ECSDE from the inception phase of the Drin Dialogue has been acknowledged across the board as a major success and strong point of the process. In fact, MIO-ECSDE's practices in transboundary water dialogues and specifically within the Drin Dialogue were exemplified during the 6th session of the meeting of the Parties to the UNECE Water Convention (November 2012). But what was the greatest success and reward of all was the mutual trust, solidarity and strong commitment built among NGOs in the region towards the protection of the natural wealth and legacy of the Drin River.

The whole Drin experience has been a learning process for everyone involved, including MIO-ECSDE. By making it a truly collective and collaborative effort, the insights gained and the progress achieved were considerable and for the small amount of funds dedicated, rather remarkable.

Grassroot and national NGOs were given the opportunity and the tools to play their role. MIO-ECSDE was more able to support and facilitate them in (i) fulfilling their expected role in the environmental governance scheme of the Drin process, (ii) becoming drivers of enhanced transboundary cooperation, and (iii) mobilizing public support for this transboundary agreement.

## Relevant useful resources

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## Showcasing rehabilitation actions against soil erosion in the Drin River

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### The Drin River basin

Rivers are complex and dynamic ecosystems, whose nature and fate is shaped by the prevailing climate and their geological and geomorphological features. The interplay between these features determines the water flow regimes, the types of sediments found in the river bed, the drainage patterns, the water chemistry, the landforms along the river, the diversity of habitats and species.

The Drin River, the connecting body of the southwestern Balkans, is the longest river that runs through Albania and provides multiple ecosystem services to its inhabitants. Given its national and international importance for biodiversity conservation, the Drin River has been classified as a Key Biodiversity Area in Albania. Sadly, some of the key river features of the Drin have been severely affected due to unsustainable use of water resources, including the construction of dams; intensive forestry and increasing climate variability. Currently rain is washing bare soil away into the river, and all of the beneficial ecosystem services along with it – like nutrients to provide crop fertility, water storage by forests, fresh water filtration and flood protection.

### Pilot actions to combat soil erosion in the Drin River basin

In 2014, Albaforest launched a two-year long challenging endeavor within the framework of a CEPF funded project entitled 'Integrated Drini River Basin Management' to tackle soil erosion in the Drin River basin. They undertook this big task by starting small - they piloted four micro-projects aimed at preventing soil erosion in selected micro-catchment areas along the Drin, which in turn would feed into and inform the integrated water resources management process of the entire Drin river basin.

#### AlbaForest actions focused on:

- Field surveys to assess the status of ecosystems and identify negatively impacted sites to demonstrate restoration actions;
- Showcasing restoration/rehabilitation measures aiming to reduce the risk of soil erosion and landslides while also addressing issues of watershed management, soil fertility and biodiversity conservation. The selected four demo projects were implemented at: Gjoricë (Dibra region), Vig-Mnelë (Shkodra region), Tërthore (Kukësi region), Blinisht (Lezha region). The piloted measures included: reforestation; seeding grasses and herbs; installation of small scale anti-erosion structures such as check-dams and fences.

- Mobilizing and empowering local communities via capacity building and awareness raising activities (4 workshops were organized bringing together all stakeholders from twelve local communities) on sustainable management of natural resources, including water resources; integrated management of the Drin River Basin; soil erosion and land use; restoration and rehabilitation approaches for natural ecosystems; etc.

## Results, impacts and lessons learned

Within the two-year timeframe of the project some 60.000 trees of indigenous species were planted along the river banks of the four selected catchment areas. In the re-habilitated pilot areas the soil and water balance is expected to be restored in the short term while events of floods will be reduced. Furthermore the productivity of the soil will be enhanced and the planted trees will contribute to carbon sequestration in the long term. The small-scale physical interventions including the construction of 400m<sup>3</sup> check-dams, 200m<sup>3</sup> double fences and 200m<sup>2</sup> single fences have substantially contributed to soil stabilization and anti-erosion. The reforestation and the grass seeding of some 4000m<sup>2</sup> has transformed the barren riverbanks of the selected sites into lush green fields and nascent biodiverse forests, improving habitats for flora and fauna species.

Results, impacts & lessons learned



## Pilot Actions

AlbaForest's pilot actions have contributed to strengthening the foundation of knowledge on the Drin River basin and the natural and socio-economic forces that influence it and led to several valuable lessons learned and recommendations (also depicted in the guidelines on 'Integrated community-based natural resources management'), summarized below:

- Soil bioengineering measures offer a potentially effective, low-cost, sustainable and environmentally acceptable means to repair natural terrain landslide scars. However, any attempt to restore or conserve a large area must involve the local communities of people living there, ensuring that activities have been adapted to the local context and needs and are coupled with sustainable management practices towards resilient ecosystems and vibrant communities.
- Community mobilization has been key to the smooth implementation of the riverbank rehabilitation work. Awareness raising and capacity building of local communities on

integrated natural resources management, including water, forests and grazing pastures is the only option towards protecting ecosystems and the valuable services they provide against soil erosion, floods and land degradation.

- Small scale pilot projects showcasing rehabilitation measures and/or replicating best practices at local level can provide strategic input and feedback to decision makers and guide their actions at national and transboundary river basin management processes.
- Pilot projects and small scale demonstration actions in environmental hotspots have a real impact on the ground and not only have the potential to integrate sustainability criteria and biodiversity conservation into local communities' vision and management plans, but they can substantially strengthen the implementation of environment related policies at national level.



## Wetland Management in the transboundary lake Lesser Prespa

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### The Prespa Lakes basin

Situated in the Balkans, the Prespa basin is shared between Albania, Greece and the Former Yugoslav Republic of Macedonia. It encompasses two of the oldest lakes in Europe, Lesser Prespa (48,5km<sup>2</sup>) and Great Prespa (273km<sup>2</sup>), which lie at 850m above sea level. While Great Prespa is shared by the three countries, Lesser Prespa lies mostly within Greece, except for a southernmost tip extending to Albania. The Prespa basin is well known for its exceptional biodiversity and high degree of endemism; especially globally threatened waterbird species that nest in Lake Lesser Prespa, such as the Dalmatian pelican *Pelecanus crispus*.

By the early '90s, when the Society for the Protection of Prespa (SPP) was founded, the ecosystem of Lake Lesser Prespa was in an extremely poor state. Large littoral wetland areas were abandoned and overgrown with reed beds or reclaimed for agriculture. Lake Lesser Prespa had fallen victim to the "rapid economic development at any cost" trend of those days. Large investments in rural development, such as the construction of an extensive irrigation network, gradually resulted in the abandonment of traditional activities, the intensification of

agriculture, the unsustainable use of natural resources and finally the ending of sustainable wetland management. The loss of wet meadow areas affected specific water bird and fish species which showed alarmingly decreasing trends. The socio-economic situation of the times, such as the centralized decision-making system on resource utilization, the weak local communities' involvement and the relocation of a great percentage of residents to nearby urban areas, further contributed to the deterioration of the ecosystem.

Around the same time, deterioration was taking its course on the Albanian side of Lake Lesser Prespa. The partial diversion of the River Devolli into Lake Lesser Prespa in 1976 resulted in the extra supply of water in the lake during winter and the abstraction of water, for irrigation purposes, in the summer, upsetting the ecosystem balance. The sediments carried by Devolli River over the years were deposited in the shallow southern end of the lake, accelerating the wetland succession rate and the development of extended reed beds in this part of Lesser Prespa. The diversion/abstraction system continued irregularly until 2003 and has been abandoned ever since.

## Restoration efforts within and across borders

Observing the considerable dwindling of the littoral wet meadow areas due to reed bed expansion and unregulated water management, the SPP initiated what would be a long-term effort for the restoration of wet meadows and the conservation of Lesser Prespa. To this effect it dealt simultaneously with a multitude of issues.

- Vegetation management in the littoral zone was rendered necessary in order to create open areas with low herbaceous vegetation (wet meadows) that would flood in spring creating important fish spawning areas and waterbird feeding habitats.
- Water management in Lake Lesser Prespa required improvements and re-planning as it was carried out on an ad hoc basis aiming at irrigation and flood prevention purposes. Sustainable water management had to also address conservation issues such as the flooding of wet meadows in spring and the protection of waterbird colonies.
- Institutional development was also necessary in order to ensure the participation of local stakeholders in decision making. The establishment of appropriate structures was sought for the successful incorporation of all conservation and sustainability issues in the Lesser Prespa management regime.



# Restoration efforts

For the planning and implementation of restoration works, the combination of traditional practices and scientific knowledge along with local stakeholder collaboration have been the SPP strategic pillars. After some experimentation on vegetation management (1997-2001) and the compilation of a study on the optimum water level regime (2001), a LIFE Nature project enabled the application of large scale interventions in vegetation and water management and the development of an institutional structure - the Wetland Management Committee (WMC) - that encompasses all related local, regional and national stakeholders. The WMC notably reached consensus on Lesser Prespa water level thresholds, enabling the appropriate planning of actions, while it still remains the main decision-making forum for the conservation and management of Lesser Prespa. The WMC advises the Prespa National Park Management Body on wetland management issues and is composed of representatives from the national, regional and local authorities, the local stakeholders (primary sector groups) and the Society for the Protection of Prespa.

Within this 5-year (2002-2007) LIFE funded project entitled 'Conservation of priority waterbird species in Lake Lesser Prespa', conservation practices aimed at the management of both water resources and vegetation included:

(a) reconstruction of the sluice that channels the water of Lake Lesser Prespa into Lake Great

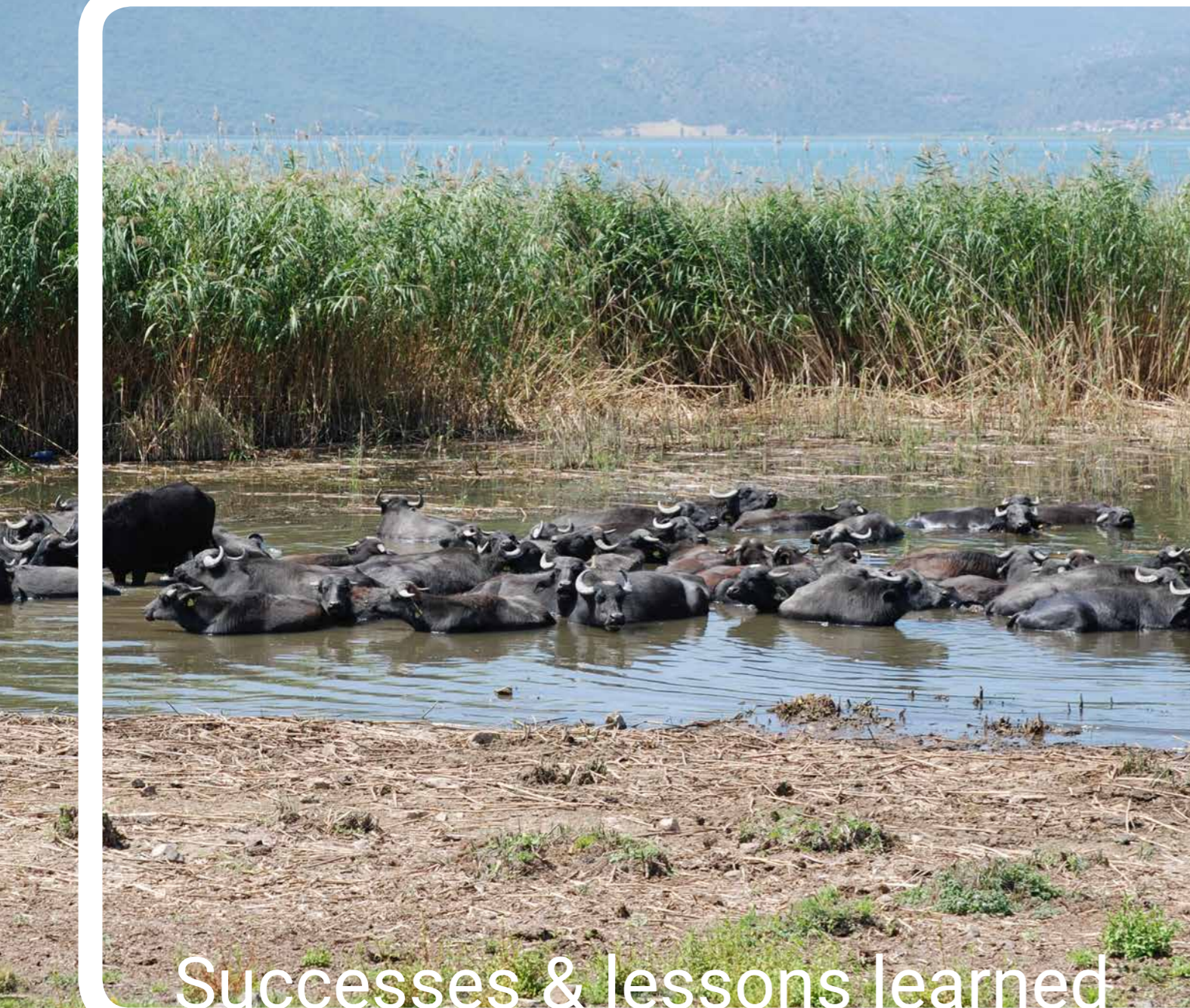
Prespa; (b) reed management through cutting and grazing (by water buffalos and cattle) resulting in the restoration of 100 ha of wet meadow areas; (c) monitoring of avifauna and vegetation management practices; and (d) elaboration of a five-year wetland management plan which was consulted on by national Greek and Albanian authorities.

Today, vegetation and water management in Lake Lesser Prespa are under the jurisdiction of the Management Body of the Prespa National Park. The management body has included the proposals of the wetland management plan into its full management plan and incorporates the annual decisions of the WMC that assesses the annual management and proposals of participating stakeholders. Actual littoral vegetation management is largely undertaken by local cattle herd owners, who either allow grazing of their herds in the littoral areas or cut vegetation to be used as fodder.

Moreover, in order to address the deterioration of the southernmost part of Lesser Prespa, SPP secured funding for a bilateral Greek/Albanian study on the effects of the river diversion to the lake. The study, which was implemented in collaboration with research institutes and authorities in both countries, scientifically demonstrated the detrimental effects of the diversion works and came up with proposals for







## Successes & lessons learned

the restoration and management of the Albanian part of Lesser Prespa. The study findings also provoked the official commitment on behalf of the Albanian authorities for the permanent abandonment of the diversion works, at a formal bilateral freshwater authorities meeting held in 2008.

Having gained great experience in reed bed management, SPP is also imparting knowledge across the borders. To this effect, the Society has carried out a study on the assessment of reed management in the Albanian part of Lesser Prespa, the proposals of which were included unabridged in the Prespa National Park Management Plan in Albania. In addition, SPP carried out the monitoring of the effects of the management regime in 2015. This recent cooperation in relation to the reed bed management of Lesser Prespa has highlighted the need for harmonized management and monitoring plans with common targets in the future.

## Successes, conclusions and lessons learned

This long-term conservation effort in the Greek part of the lake is today recognized as a “best practice” for an ecosystem’s recovery. In this regard, the SPP has been awarded the “Best of the Best” LIFE Nature award (2007-2008) for the wetland conservation and management activities implemented in the area. The tripling of wet meadow areas, the re-nesting of the Glossy ibis and the enlargement by 240% of the colony of the globally endangered Dalmatian pelican, now numbering over 1.200 pairs (15% of global population) are among the most outstanding results. These results were enabled by the application of large-scale management, but would not have been possible without the participation of local stakeholders.

Indeed, the most crucial challenge faced was changing the perspective of local people about their own area. In the early 1990s most local inhabitants believed that Prespa was a remote frontier, poor and undeveloped, without a promising future. SPP on the other hand, was promoting the image of a unique area, rich in natural and cultural resources, which could certainly be enhanced by the active participation of local inhabitants in resource management.

Another important challenge was the centralized institutional framework, which was weak, inflexible and excluded local inhabitants from managing resources sustainably. The lack of local multi-stakeholder schemes that would allow local inhabitants to become actively involved in wetland management and have a responsibility for resources, such as the WMC, was a crucial issue that SPP had to work on in order to ensure the successful results of long term projects.

### Lessons learned span over four main axes and can be summarized as follows:

- A combination of traditional ecological knowledge and a solid scientific foundation should be considered in the planning and implementation of all conservation activities.
- For the achievement of local conservation actions, it is important to identify the main local actors and demonstrate to them the socio-economic benefits of conservation.
- The establishment of institutional structures that ensure stakeholder participation in the decision making process is crucial for successful conservation management and establishes their commitment to the application of management measures.
- Integrated approaches to basin management require joint efforts and the development of a transboundary institutional framework.



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## Water for lakes, bog, streams and people on Jablanica Mountain: a pilot project for integrated water resources management

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### Freshwater ecosystems on Jablanica Mountain

Jablanica is a mountain shared by the Former Yugoslav Republic of Macedonia and Albania. It plays an important role in the water flow regime of the Black Drin River through its streams, bogs, glacial lakes (Podgorsko, Vevcansko, Gorno Labunisko, Dolno Labunisko) and its glaciers. The area is characterized by a wealth of endemic and/or endangered species and it has been identified as a potential National Park area, within the Biodiversity Strategy and Action Plan of the Former Yugoslav Republic of Macedonia (2004).

The freshwater ecosystems of the mountain, the glacial lakes and bogs which are very rare types of habitats, are under pressure due to eutrophication caused by sheepfolds in their vicinity, water extraction for water supply and irresponsible waste disposal from tourism. Furthermore, some of the water streams below the lakes are used for water supply, energy production through small-scale hydro-electric power plants and aquaculture, mainly fishponds with allochthonous trout species. The water extracted from lakes Podgorecko and Labunisko, as well as from the streams is used primarily by the local inhabitants and the

wastewater generated confluences with the Black Drin. The watersheds of these small rivers are also used for legal timber extraction, but also for illegal logging.

Taking into account the natural wealth, endemic and endangered taxa of these freshwater ecosystems, the need for their adequate protection as priority habitats under the Habitats Directive and their proper conservation under the Water Framework Directive emerges, while at the same time meeting the needs of local communities for access to high quality water should be considered.

### MES's pilot actions for integrated water resources management

In 2014, the Macedonian Ecological Society (MES) launched a two-year CEPF funded project entitled "Water for lakes, bogs, streams and people on Jablanica Mountain" aiming to promote integrated water resources management with a special focus on the protection, conservation and

restoration of freshwater ecosystems. The project activities mainly focused on increasing knowledge on the status and trends of biodiversity (habitats, species, ecosystem services), strengthening sustainable management of water resources and increasing awareness of local communities and the wider public, on the vital benefits that watershed bodies provide. Shortly the following actions were undertaken:

- Identification and quantification of the pressures exerted on the lakes, bogs and streams via an expert assessment focusing on data collection related to the biodiversity and definition of favorable conservation status of the priority water ecosystems in Jablanica Mountain. In addition, special emphasis was given to the assessment of timber harvesting in the stream watershed below the glacial lakes and bogs.
- Identification of alternative ways for water supply and sustainable water resources use together with the local communities.
- Education of local people and promotion of conservation activities to the wider public mainly via stakeholder workshops carried out in the local communities.

Research results on the ecological status of the water bodies on Jablanica Mountain (based on macro invertebrates and algae taxa) show that wetlands and lakes are in excellent and or good status, while for the rivers and/or streams the status is excellent or good upstream and it deteriorates downstream. The hydrological conditions for most water bodies studied were classified as having poor or bad hydrological status.





## Successes & lessons learned

### Successes and lessons learned

The 10-year long presence of MES in the region significantly facilitated collaboration with local people and acted as a catalyst for the accelerated and successful implementation of the project in Jablanica Mountain. Project activities such as field trips, stakeholder meetings and workshops were organized making best use of already established relationships with local communities, which in turn increased the quality of the project outcomes.

Given that the project aimed on the longer run to change locals' habits towards sustainable management of water and forest resources, more time is required in order to assess the ultimate level of success of the project. However in the short term education of local communities on best practices seem to be a firm base for further actions in the region. The long-standing actions of MES in the region not only provided a solid collaboration platform among local people but also provided the enabling conditions of mutual respect and trust key to connecting science with community actions.

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## Mura River restoration to protect and conserve biodiversity

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### Mura River

Mura River, located in north-western Slovenia, has been designated as an environmentally significant habitat due to its high levels of biodiversity. A major part of this area has been included in the Natura 2000 network. The woodlands along the Mura constitute some of the most important lowland floodplain forests in Slovenia.

Intensive water use, changes in land use and other human activities carried out in the Mura basin have thoroughly transformed the area along the river. The number of flood events is decreasing, while periods of low discharge rates are becoming longer, causing the floodplain forests along Mura to receive less and less water. The river dynamics of creating gravel bars, river branches, islands,

oxbows and erosion banks are decreasing. Water can only flow into the branches at times of flooding, while a normal water inflow from the Mura channel is not possible due to the heightened banks. Ecological conditions, necessary for the existence of freshwater habitats and indigenous plant and animal species in the Mura floodplains, are deteriorating, also due to improper management in the forest and agricultural area. Hydroelectric power plants, regulations in Austria and drainage of the areas supplying water have an immense effect on the river dynamics. These factors coupled with the vast exploitation of groundwater of the river's aquifers are causing a gradual decrease in groundwater levels and a river bed deepening.

## The BioMura project

In 2006, the five-year LIFE+ BioMura project was launched aiming to protect and conserve freshwater habitats and species in the area listed in the Habitats and Birds directives. The main lines of action of the BioMura project were three-fold:

- Restoration interventions to establish better ecological conditions in terms of preserving the intensive hydrodynamic processes in the river corridor, mainly via the removal of heightened banks to stimulate side erosion and river widening, introduction of rock-fill riffle (rocky shoal just below the surface of the waterway) to raise water levels during low and average flows, reopening the side-channels and introduction of a system of wooden sluices to raise groundwater tables.
- Monitoring activities to evaluate the impact of restoration actions on targeted bird, butterfly & dragonfly and fish species.
- Awareness raising and education actions, including the construction and establishment of two information centers.

Target Species	
Bird species	White Stork <i>Ciconia ciconia</i> Black Stork <i>Ciconia nigra</i> Little Bittern <i>Ixobrychus minutus</i> Honey Buzzard <i>Pernis apivorus</i> Spotted Crake <i>Porzana porzana</i> Little Crake <i>Porzana parva</i> Middle Spotted Woodpecker <i>Dendrocopos medius</i> Common Kingfisher <i>Alcedo atthis</i> Barred Warbler <i>Sylvia nisoria</i> Collared Flycatcher <i>Ficedula albicollis</i>
Butterfly species	Jersey Tiger Moth <i>Callimorpha quadripunctaria</i>
Dragonfly species	Green Club-tailed Dragonfly <i>Ophiogomphus cecilia</i>
Fish species	Weather Loach <i>Misgurnus fossilis</i> Bitterling <i>Rhodeus sericeus amarus</i> Schraetzer <i>Gymnocephalus schraetzer</i> European Mudminnow <i>Umbria krameri</i> Asp <i>Aspius aspius</i>



# The BioMura Project



## Successes & Lessons learned

DPPVN, a grassroots NGO working on bird research and biodiversity protection, was a key partner of the BioMura project (led by the Institute for Water of the Republic of Slovenia) and contributed to biodiversity monitoring and awareness raising activities.

### Successes and lessons learned

The BioMura project was among the first concerted efforts aiming to restore the natural state and functioning of a river system in Slovenia and the results have been very encouraging. Biodiversity monitoring of target species (10 bird species; 5 fish species; 1 butterfly species; 1 dragonfly species; 2 amphibians) has shown a clear increase in their populations as a direct result of the favourable ecological conditions enabled in the river.

More specifically, all re-naturalized branches served as important amphibian spawning grounds, evident from the first year of the project works. The introduction of the rock-fill riffle aiming to improve the inflow of water into the

branch, proved to be of extreme importance, since prior to these works, only individual amphibians were present, with no permanent access to water during their spawning period.

Compared to amphibians, the effect of hydrological works on birds, which are restricted to land habitats (e.g. forest) is slower and less direct. The positive effects on birds will be seen gradually and through a longer period of time. The river restoration actions provide for better preserved floodplain forest habitat and eroded channel banks habitat and ensure creation of new gravel bars. These habitats serve as breeding areas for most of the endangered species, such as the sand martin *Riparia riparia*, the common kingfisher *Alcedo atthis*, the little ringed plover *Charadrius dubius*, the collared flycatcher *Ficedula albicollis* and the middle spotted woodpecker *Dendrocpus medius*. Species restricted to water and its proximity experienced positive effects sooner.

Given the lifespan and lifecycle of the targeted fish species, it will take more time to assess the effect of the altered river morphology on their populations.



One important lesson learned is that protected areas are not necessarily enhanced by simply leaving them alone to face human disturbances, even if they have managed to thrive in continuous interaction with humans. Small-scale restoration actions can substantially contribute towards achieving good environmental status and maintaining and/or enhancing the ecological integrity of protected areas.

A balanced blend of field work and awareness raising and education actions was key to establishing the enabling mechanisms for long-term management of the river Mura and its natural resources. The creative and holistic approach towards informing local communities on the complexity and benefits of the river, coupled with feedback and community dialogue mechanisms, empowered them to shape their own destiny via contributing their indigenous knowledge and acquiring the necessary

information to adopt sustainable management options in future decision making processes.

One of the main challenges encountered while implementing the BioMura project was the lengthy and complicated permitting process that took over a year or so. The permit process, even if often seen as needlessly time-consuming and too bureaucratic, is not intended to be a roadblock, but rather aims to avoid unintended consequences, to ensure coordination with other land and water management efforts and to promote thorough planning. Whether restoration projects are large or small, funded by public or private funds, carried out by large agencies or individual property owners, they all have to foresee sufficient time and human resources adequately skilled, experienced and qualified on the how-to's of permitting in order to receive authorization from the competent national and/or local authorities and agencies to carry out their actions.





## Education for sustainable development in protected areas: bridging educational processes and conservation efforts

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### Education for sustainable development in the Mediterranean

Education for Sustainable Development (ESD) is an innovative type of education that incorporates the economic, social and environmental aspects of sustainability, challenging the prevailing production and development models that have led to complex global and local environmental and socio-economic problems. Since 2002, the Mediterranean Education Initiative for Environment and Sustainability (MEdIES), a network facilitated by MIO-ECSDE, has been striving to promote ESD in the Mediterranean and ensure its integration into education and training systems at all levels, in non-formal, informal and formal learning setups.

### Promoting ESD in protected areas

Protected areas are ideal settings where environmental awareness can be developed and enhanced. In particular Biosphere Reserves, but also other Designated Areas, are not only themselves an object of learning but also constitute a pleasant, rich in stimuli educational environment, an enabling environment for applying ESD in a concrete way.

It was within this context that MIO-ECSDE/MEdIES back in 2008 accelerated efforts towards promoting ESD in protected areas and developed a publication dedicated to 'Environmental Education & Education for Sustainable Development in Protected Areas'.

within an EU-funded Operational Programme for Education and Initial Vocational Training (EPEAEK). This educational material, initially produced in Greek, was the first tool of its kind that bridged educational processes and conservation actions. It attracted the attention of the UNESCO Regional Bureau for Science and Culture in Europe which expressed keen interest in supporting and expanding the project to address the needs of educators from southeastern Europe and the Mediterranean and develop their competences in designing and applying innovative ESD approaches for students, young people, independent visitors or families and other audiences.

In a five-year timeframe (2008-2013) the material was translated into English, adapted and enriched with Mediterranean showcases, tested in the field by ESD practitioners and over and over again evaluated by experts. The end result was a UNESCO Resource Book entitled 'Education for Sustainable Development (ESD) in Biospheres Reserves and other Designated

Areas: A Resource Book for Educators in South-Eastern Europe and the Mediterranean. It can be used by: anyone involved in education and awareness raising programmes in nature (outdoor education providers) either from the formal (school teachers) or non formal (trainers, NGO staff) educational sectors; environmental managers and ecosystems experts; officers of management bodies of protected areas; officers involved in the ecotourism sector (environmental centers, eco-museums, nature parks, etc.), etc.

This valuable tool has been used by MIO-ECSDE/MEdIES to promote ESD in various types of protected areas, including freshwater ecosystems in the Mediterranean. In 2012 and 2014 two successful trainings were organized: a Grundtvig workshop entitled 'Creating Bridges of Education - ESD in Protected Areas' and an ERASMUS+ Summer School entitled 'ESD in Protected Areas', both aiming to develop participants' competences in designing, applying, monitoring and evaluating ESD projects in protected areas. In 2013, MIO-ECSDE/MEdIES





# Success

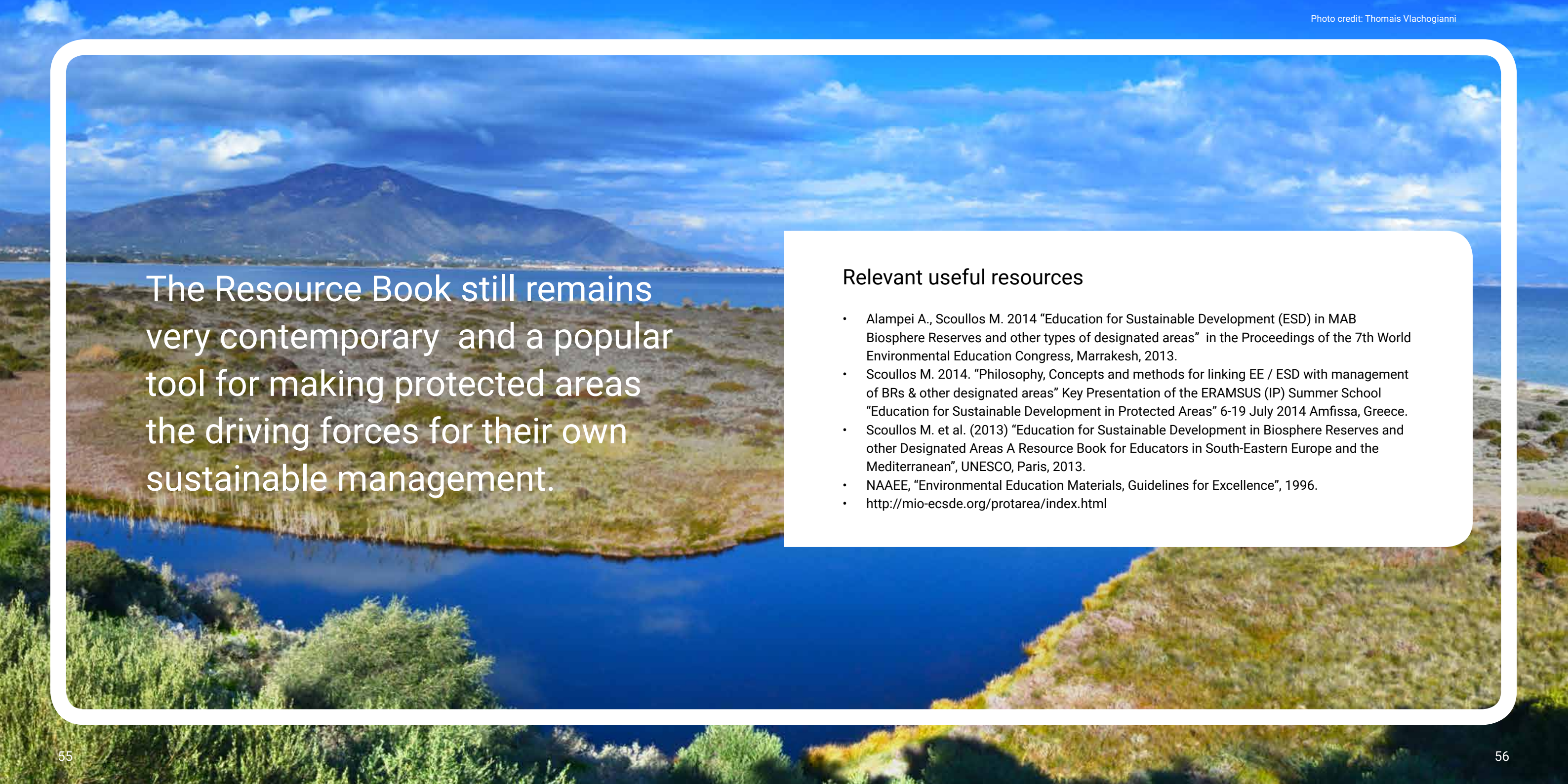
ran a four-week asynchronous e-learning course targeted to officers working in protected areas with the main aim to build their capacities on key issues related to the management of protected areas (i.e. sustainable management, planning, fund raising, engaging stakeholders and the society, etc.). The participants not only enhanced their skills on the aforementioned topics and on how to use the resource book within their working environments, but they also generated valuable recommendations on the application of the educational material in various locales.

## What contributed to the success of the Resource Book

- the quality assurance standards followed during the content development phase (i.e. concerning the clear set of objectives; the substantial, accurate and up-to-date content; the diversity of pedagogical approaches, etc.).
- the participatory process followed throughout its development. The engagement of a diverse, dynamic and committed group of academics, ESD practitioners and staff of protected areas made a meaningful linkage between the educational processes taking place in

protected areas and their management & protection as such, always using ESD as a vehicle.

- its relevance and compatibility with the specificities of southeastern European and Mediterranean countries.
- the continuous validation process via pilot applications and expert reviews. This ensured the high-end relevance and applicability of this learning tool in meeting the needs of ESD practitioners to design and implement innovative and authentic educational projects in protected areas. The pilot applications of the educational material not only improved its quality but also enhanced the competences of those involved.
- the strong ownership and shared commitment it invoked among ESD practitioners in promoting protected areas as ESD open air laboratories for learning and enhancing interaction between schools, communities and local agencies.
- the necessary insights and tools it provides to address the major challenge of reconciliation between local communities and the protected area on the basis of sustainable development.



The Resource Book still remains very contemporary and a popular tool for making protected areas the driving forces for their own sustainable management.

### Relevant useful resources

- Alampei A., Scoullos M. 2014 "Education for Sustainable Development (ESD) in MAB Biosphere Reserves and other types of designated areas" in the Proceedings of the 7th World Environmental Education Congress, Marrakesh, 2013.
- Scoullos M. 2014. "Philosophy, Concepts and methods for linking EE / ESD with management of BRs & other designated areas" Key Presentation of the ERAMSUS (IP) Summer School "Education for Sustainable Development in Protected Areas" 6-19 July 2014 Amfissa, Greece.
- Scoullos M. et al. (2013) "Education for Sustainable Development in Biosphere Reserves and other Designated Areas A Resource Book for Educators in South-Eastern Europe and the Mediterranean", UNESCO, Paris, 2013.
- NAAEE, "Environmental Education Materials, Guidelines for Excellence", 1996.
- <http://mio-ecsde.org/protarea/index.html>



## Supporting local communities to implement nature-based tourism practices in Sasko Lake and efforts to establish it as a protected area

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### Sasko Lake

Sasko Lake is located 10 km north-east of the coastal town Ulcinj in Montenegro. The lake covers a 3.5 km<sup>2</sup> surface area and the shoreline of the lake is some 8.5 km long. The maximum depth of the lake is about 8 m and the annual average depth is 3.5 m. The lake belongs to the extended Drin River Basin and its water comes from the river Buna/Bojana and several wells. The water exchange between Sasko Lake and Buna/Bojana stops during the summer months because of the low water levels. Due to the fluctuation of the water levels, the northeast shore is not clearly defined and is slightly aslope, changing gradually from meadow to lake. The southwest shore of the lake is sharp and rocky and almost vertical. In terms of biodiversity richness, Sasko Lake is a miniature of Lake Shkoder/Skadar, a well-known freshwater biodiversity hotspot, which is a National Park in Montenegro.

### Main lines of action

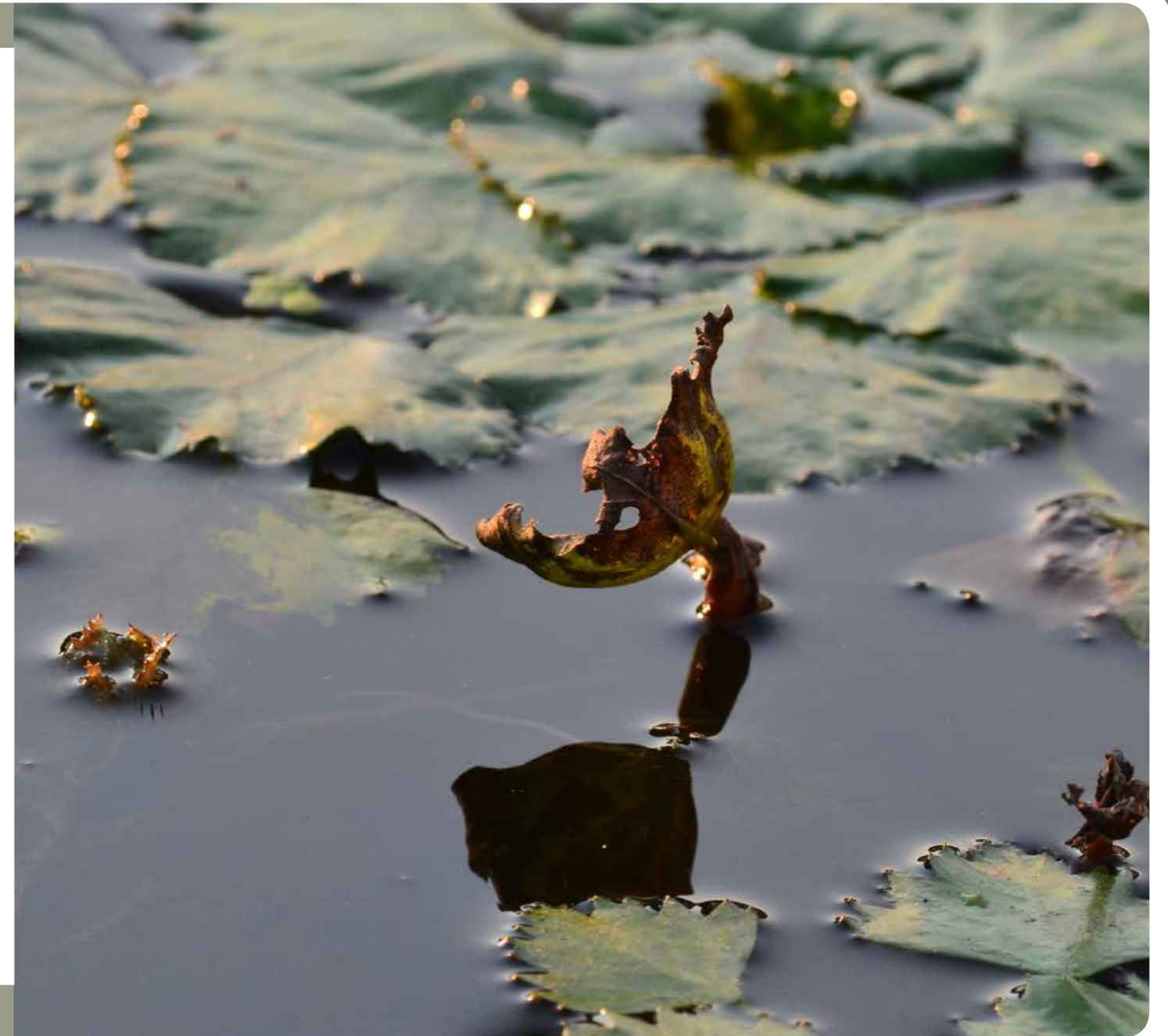
In 2013 a 3-year CEPF funded project was launched by the NGO Green Home entitled 'Supporting local communities to implement nature-based tourism practices around Sasko Lake'. The main aim of the project was to promote sustainable tourism development in the lake and create a new tourism destination, while at the same time ensuring the protection of the lake and minimizing the negative human-induced impacts on the lake.

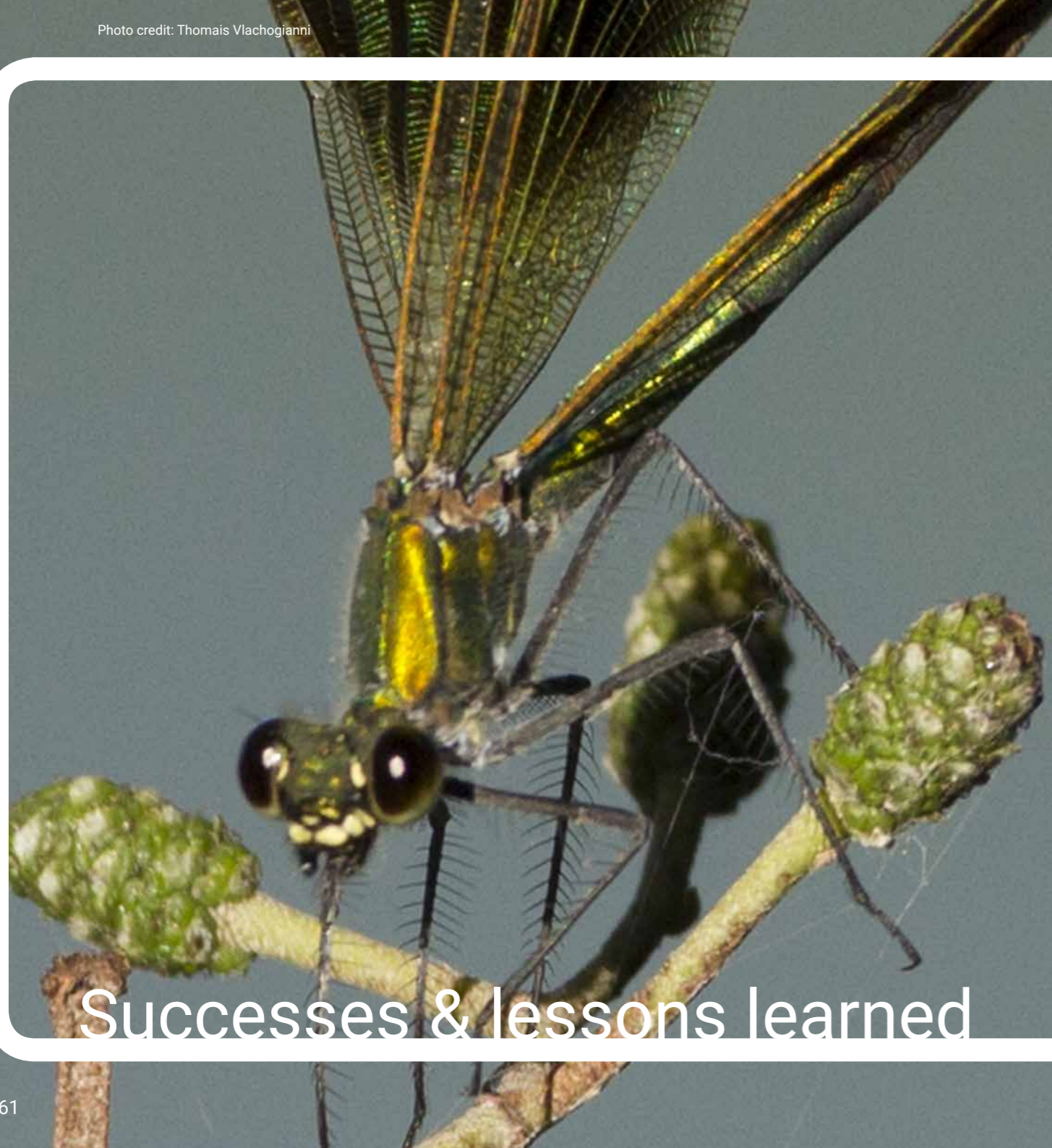
One of the project components dealt with capacity building of local communities. Stakeholders, including citizens, through educational activities and sharing of good practices had a unique opportunity to become acquainted with ways to valorise the natural heritage of the area and use it as a tourism destination. As a starting point, a study visit targeted to local citizens, NGOs,

representatives of local communities and local authorities was organized. The study visit took place in Slovenia where the participants explored a series of good practice examples at the Secovlje saltern, the Skocjan caves, the traditional karst village of Pliskovica and other locations. One of the most important capacity building actions was the study visit to the marine protected area of Vlora bay in Albania, where participants were immersed into a blend of tourism related activities carried out by locals, which resembled a lot the kind of actions they would like to promote in Sasko Lake.

At the heart of the activities related to the promotion of nature-based tourism in Sasko Lake was the development of a tourism destination marketing strategy defining the collective vision, goals and objectives of local communities with regards to the tourism planning process and providing concrete guidelines on how to articulate Sasko's identity and positioning in the tourism market. The project defined and assessed all sustainable tourism opportunities in the area of the lake with regards to local food, accommodation, local products, recreational activities, etc.

Another main cluster of activities focused on initiating a proclamation process to classify Sasko Lake as a protected area under IUCN Category III (Monument of Nature). This was definitely not an easy endeavour given conflicting local interests that sought to develop the area in unsustainable ways applying massive tourism formats, such as constructing large-scale hotels, golf courses, etc. During the public hearing held on the spatial plan of the municipality of Ulcinj, Green Home actively and intensively brought forward a set of sustainable solutions and approaches strongly calling for the actual protection of the area and for changing the plan towards a nature-based tourism format. Green Home managed to become member of the council in charge of elaborating and finalizing the spatial plan and succeeded in convincing the members of the council to exclude hotel complexes from the plan. The proclamation process for Sasko Lake was initiated with the elaboration of a study on the area, however due to the lack of financial resources the process was not completed.





## Successes & lessons learned

### Successes & lessons learned

Green Home's success in its efforts to promote nature-based tourism practices in Sasko Lake and contribute to its establishment as a protected area were two-fold:

On the one hand, the impact of achieving the exclusion of large scale constructions from the spatial plan reinforced a strengthened vision for sustainable and responsible tourism development in the area and stimulated the interest of local communities in taking an active part in the respective decision making and future planning processes. Furthermore, their enhanced awareness on the importance of the lake for their livelihoods and wellbeing coupled with the best practice sharing activities of the project triggered their co-responsibility in collectively defining the tourism development vision for Sasko Lake and suggest activities and lines of actions in harmony with nature. In addition, deepening the understanding of local communities on the labor market, products market and skills needed is necessary for successfully advocating for alternative and sustainable livelihoods within a nature-based tourism context.

On the other hand, it was reconfirmed that initiating a process of proclamation/designation of an area is a very challenging endeavor. Usually the obstacles encountered are generated by the local communities, in particular from the people who use the area's resources and fear that their life will be negatively impacted. Involving local people in the proclamation process as partners is very hard but a key prerequisite to success. Green Home succeeded to get the locals on their side, however now they have to wait for the political will and the essential financial resources to make advances in the process and classify Sasko Lake as a protected area.





# Critically Endangered Species Conservation: The Balkan Lynx Recovery Programme

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## Introduction

The Balkan lynx is a rare and charismatic wild cat that roams the southwest Balkans. The Balkan lynx was widely distributed across the entire Balkan Peninsula until the beginning of the eighteenth century. Since then, a series of factors nearly exterminated the lynx from the Balkans. The most important ones include: its direct persecution as it was proclaimed to be a pest animal causing damage to livestock; loss of habitat; and overhunting of its prey.

The lowest number of individuals was recorded between 1935 and 1944, with an estimation of 15-20 individuals remaining in the Former Yugoslav Republic of Macedonia and Kosovo, while in the rest of the ex-Yugoslavian countries and Bulgaria the lynx was already extinct. By the mid-twentieth century, the lynx was protected and its persecution was banned. As a consequence, its small population started to recover and increase. The highest peak of the Balkan lynx population was in the 1980s with an estimated number of some 320 individuals. Since then however, the numbers are ever decreasing. In 2004, the Balkan lynx was estimated to be around 80-100 individuals.

Nowadays, their population is estimated to be close to 40 individuals according to the latest assessments carried out within the framework of the Balkan Lynx Recovery Programme. The continuous presence of the Balkan lynx is so far only confirmed for the Former Yugoslav Republic of Macedonia and Albania in two separate, but relatively close locations, therefore the population is considered to consist of two subpopulations. Camera-trapping surveys resulted in a few observations from Kosovo, all coming from the same individual. The presence of the Balkan Lynx in Montenegro and Greece is presently regarded as unlikely. In 2015, according to the IUCN Red List Criteria, the Balkan lynx was classified as Critically Endangered since the number of mature individuals is estimated to be less than 50, illustrating the need for urgent and coordinated measures to prevent its extinction. Nowadays, poaching, together with habitat degradation, depletion of prey base and fragmentation of the habitat are the most prominent threats to the survival of the Balkan lynx.

## The Balkan Lynx Recovery Programme

In 2006, a conservation project entitled 'Balkan Lynx Recovery Programme' was launched, aiming to ensure the survival of the Balkan lynx population through the establishment of a series of protected areas and the improved management of existing ones. The project was jointly implemented by several civil society organizations, namely MES (Macedonian Ecological Society) from the Former Yugoslav Republic of Macedonia, PPNEA (Society for the Protection and Preservation of the Natural Environment) from Albania, EuroNatur from Germany and KORA (Carnivore Ecology and Wildlife Management) from Switzerland. In 2013, the project expanded its activities to Kosovo in co-operation with the NGOs Finch and ERA (Environmentally Responsible Action group) and to Montenegro in co-operation with CZIP (Center for Protection and Research of Birds of Montenegro). The project has been financially supported by the MAVA Foundation, Switzerland.

The Balkan Lynx Recovery Programme related activities are five-fold and include the following:

- Studying and monitoring. The most important component of the Balkan Lynx Recovery Programme was to improve knowledge on the lynx and its prey. Since 2006, the Balkan lynx teams have used baseline surveys, opportunistic and deterministic cameras – trapping studies, snow tracking and radio (GPS) telemetry as the main methods to gather scientific data on lynx ecology and biology. As a result, new knowledge on the lynx status, distribution and population size was gained. The presence of the lynx was confirmed in 7 different areas in the Former Yugoslav Republic of Macedonia, 2 areas in Albania and 1 area in Kosovo. Population and population trend estimates were made for the lynx in Mavrovo National Park. Four GPS collared lynx individuals provided more information on the species diet, territory size, habitat preference, etc. Two core areas of the Balkan lynx population with highest reported presence were identified, one in Mavrovo National Park and one in Munella Mountain.



# Related activities

- Expanding the protected areas network. The program didn't only focus on research but also invested considerable time and effort in catalyzing the designation of new protected areas, as well as developing sustainable management schemes in and outside protected areas. To-date two protected areas have been proclaimed in Albania, the Shebenik-Jabllanica National Park in 2008 and the Korab-Koritnik Natural Park in 2011. Two additional areas are currently under the focus of the Balkan Lynx Recovery Programme, namely the Munella Mountain and Pashtrik-Morina. Munella Mountain is the only area in Albania where a reproducing sub-population of the Balkan lynx has been proven to exist. Pashtrik-Morina provides a connecting corridor between established and potential areas of lynx distribution such as the Sharr-Koritnik-Korab Mountains in the south, the Albanian Alps-Bjeshket e Namuna in the north and the Puka-Mirdita mountainous region in the west.
- Capacity building and education. Staff of non-governmental and governmental organizations, experts, post-graduate students in biology and/or other related fields were trained on lynx conservation approaches and wildlife monitoring methods, but also in conceptual and organizational aspects. Increasing capacities and developing a strong monitoring network is considered to be of crucial importance for the recovery of the Balkan lynx.
- Promoting access to small grant programmes. In an effort to raise awareness on the natural value of the region and promote constructively its sustainable management and preservation, the Balkan Lynx Recovery Programme encouraged locals to submit their ideas for small-scale projects related to local sustainable development actions.
- Awareness raising activities. Awareness raising activities have been implemented at two levels: (a) at local level targeted to children, educators and other stakeholders (such as hunters, loggers, managers); (b) at national level targeted to the general public from the respective partner countries. An indicative example of the very successful awareness raising activities has been the "Balkan Lynx Ambassadors" programme carried out by PPNEA in Albania, a peer education programme targeted to students.

## Main challenges faced during the implementation of project activities in the region

- Lack of capacities and expertise of local NGOs, GOs and lack of human resources
- Lack of continuation/sustainability of the activities that have been implemented or initiated within the frame of this project
- Lack of reliable data on the lynx and its prey
- Absent or weak coordination and collaboration between national/local organizations
- Lack of knowledge on how to access needed funds

# Challenges



## Successes and lessons learned

Ten years ago, scientific data on the Balkan lynx and its prey was very limited in the southwestern Balkans. The Balkan Lynx Recovery Programme has provided the necessary data to assess the status of the lynx, based upon which it has been classified as Critically Endangered according to IUCN standards. The data collected and the enhanced knowledge gained coupled with the continuous and intensive partner NGO efforts to expand the network of protected areas in the region and raise public awareness have been instrumental for the survival of the Balkan lynx.

Some lessons learned from the PPNEA experience include the following:

- Good collaboration and exchange of experiences among organizations at national and international level can help to effectively work and implement successful approaches.
- It is very important to involve all partner organizations in the design phase of the programme activities and ensure good

communication throughout the activities implementation.

- There is a need to enhance the abilities and capacities of all stakeholders in order to act meaningfully and constructively throughout the implementation of the programme activities.
- There is a special need to develop and maintain good collaboration with national authorities and governmental institutions for the conservation of the lynx in order to reach the desired results.
- A strong and solid collaboration with all relevant decision makers is crucial (at sub-national level as well).

A 10-year long commitment, collaboration and exchange of experiences between and among partners has been essential in delivering the expected programme results towards protecting the Balkan lynx. The implementation of this program has been a learning process that has been catalyzed and accelerated by the support received and enacted by international and governmental organizations as well as stakeholders strongly committed to the common cause, the survival of the Balkan Lynx.

## Relevant useful resources

- Melovski D, et al. *Lynx lynx* ssp. *balkanicus*. The IUCN Red List of Threatened Species, 2015.
- Hoxha B, et al. Intensive camera-trapping survey in promising areas Puka-Mirdita and Kukës region. PPNEA. Balkan Lynx Recovery Programme, 2015.
- Von Arx M, Breitenmoser U. Status and conservation of the critically endangered Balkan lynx – 10 years Balkan lynx recovery programme and beyond, KORA, 2015.
- Trajce A, et al. Summary of findings from the Balkan Lynx Recovery Programme. PPNEA, 2014
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## The Vjosa/Aoos river ecomuseum: a successful transboundary experience

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### The Vjosa/Aoos river

The Vjosa-Aoos may well be one of the most magical rivers in Europe, a sky blue traveller that winds through magnificent mountains, impressive gorges and multicoloured valleys. Everything along the way is abuzz with life, from the blades of grass on its banks to the picturesque villages dotted along its route. From its sources in the Northern Pindos mountains in Greece, the Vjosa/Aoos River enters into Albania and eventually flows untamed and free into the Adriatic Sea.

### The Vjosa/Aoos river ecomuseum

Greece and Albania, the two countries the Vjosa / Aoos River runs through, joined

efforts in order to create an ecomuseum: an interactive museum that displays in situ the natural and cultural heritage and identity of this transboundary area. A museum without walls that tells the story of the interaction of people with the environment as it has developed through the centuries.

Ecomuseums are a dynamic way for communities to preserve, interpret, and manage their heritage in view of a sustainable development of the area. They are based on a community based agreement of the overall concept; it is about designing real actions, able to change local society, improve nature and the landscape, while enhancing the welfare and development of local communities.

The Vjosa/Aoos River ecomuseum project was a two-year long project launched in

2012 and implemented within the framework of the IPA Cross-border Programme “Greece-Albania, 2007-2013”. The project was carried by four organizations, the Mediterranean Institute for Nature and Anthropos (Med-INA), Pindos Perivallontiki, the Institute of Nature Conservation in Albania (INCA) and the Forest Directorate in Permet. The overarching goal of the ecomuseum was to combine the past and present experiences providing simultaneously a path towards a sustainable future for the area; a future where the balanced co-existence of nature and culture will positively contribute to the livelihoods of the local population.

The main lines of action towards establishing the cross-border ecomuseum which covers an area of 3.540 km<sup>2</sup> of the drainage basin included:

- Development of four open-air thematic routes (two in each country), with the routes’ narratives shedding light on the identity of the area as this is perceived by its inhabitants, and combining elements of the natural and man-made environment (landscapes, monuments, interactions between Humans and Nature).
- Interpretation and presentation in a comprehensive way, of the historical

memory, materials and intangible culture, customs and traditions, local products and diachronic development of the Vjosa/Aoos landscape. In this sense, a trilingual guide was developed presenting the four thematic routes in Greek, Albanian and English; a virtual tour was elaborated, allowing visitors to access information and experience the four thematic routes before or after their visit to the area; a website was launched, hosting the virtual tour and guide and providing additional information about the project and parallel activities taking place in the area ([www.ecomuseum.eu](http://www.ecomuseum.eu)).

- Organization of two capacity-building workshops and an international conference, so as to bring all those involved together and provide the necessary tools and guidance to facilitate their collaboration and help explore additional prospects and opportunities.
- Establishment of a cross-border network of local organizations and individuals to undertake the operation, maintenance and further development of the ecomuseum.
- Cooperating and building synergies with other ecomuseums and institutions in order to promote the ecomuseum concept.

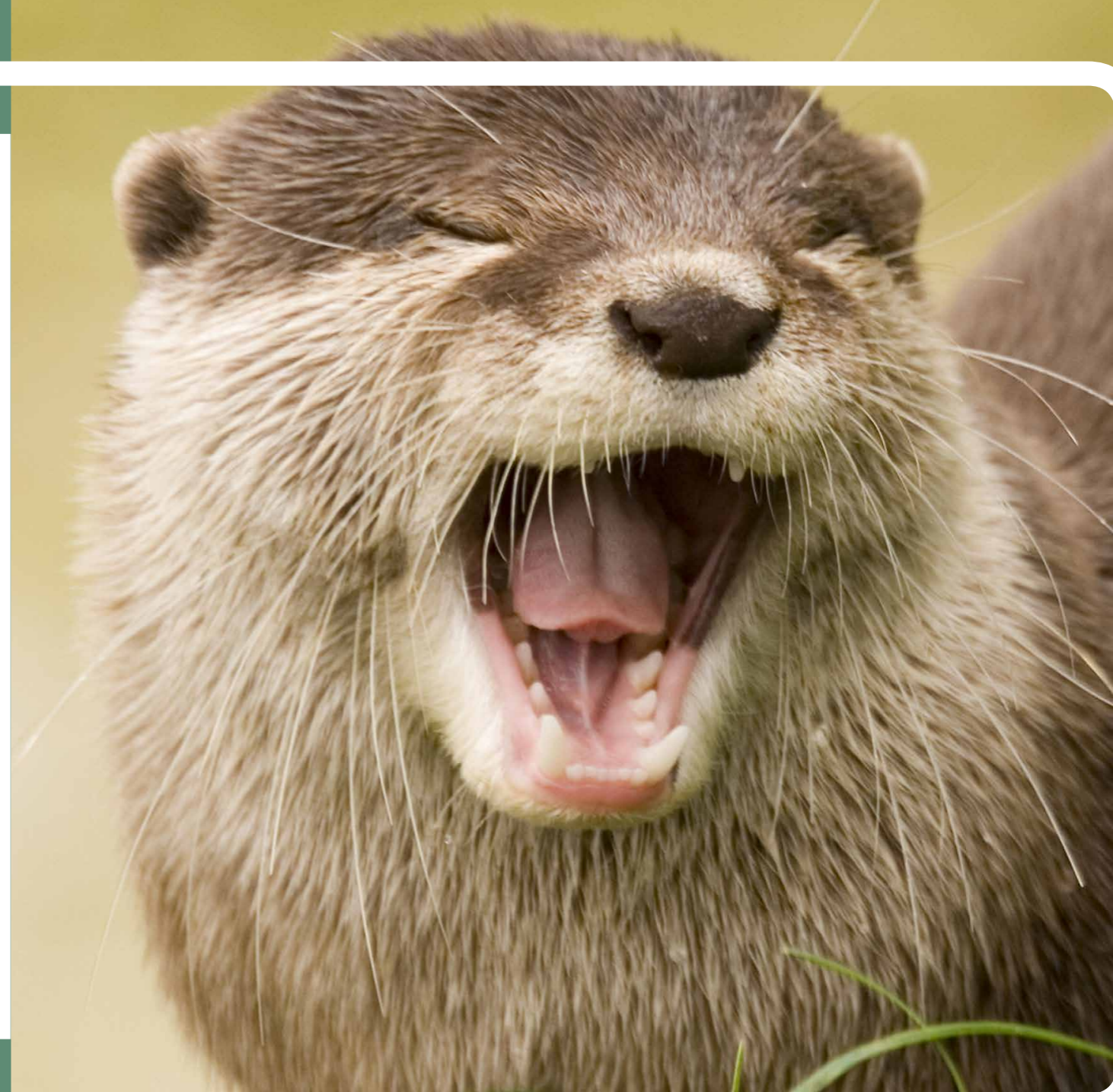


Photo credit: Stephen Meese/iStock



## Successes & lessons learned

### Conclusions, successes and lessons learned

The successful implementation of the project was the result of the effective cooperation between and among the project partners and the active engagement of local populations as they are the end users and beneficiaries of the project outcomes. A series of coordination meetings and continuous monitoring of project progress with contributions from each partner ensured a coherent project implementation. The engagement of local communities was ensured by consistent and comprehensive communication actions focusing on showcasing the project results in an easily accessible and readily available way. Research results have fed into all aspects of the project including the definition and main objective of the ecomuseum, as well as its overall development. The sustainability and strengthened ownership of the project results were secured by creating a network based on the principles of equal opportunities and open dialogue. The capacity building workshops complemented the expert and technical contributions by promoting active involvement by the citizens, authorities, political and social groups on both sides of the borders.



## The main conclusions and lessons learned that are valuable for similar future endeavours are:

- The Vjosa/Aoos River ecomuseum project offered a unique opportunity for close cooperation between both countries for the creation of more win-win situations in the field of natural and cultural heritage conservation and management.
- The ecomuseum has proven to be an innovative financial instrument for the Vjosa/Aoos River area's development and has triggered a comprehensive approach of local people and river administrators towards comprehensive and coordinated fund raising efforts.
- The ecomuseum, which is strongly supported by the local authorities and local communities in Albania and Greece, can be an innovative tool or vehicle towards the promotion and establishment of transboundary water resources management in the Vjosa/Aoos River Basin.
- The Vjosa/Aoos River ecomuseum project is perceived by local communities to have a direct bearing on their livelihoods, with a clear potential to deliver tangible and immediate benefits. These include: the potential for income generation; the provision of socio-economic opportunities which can successfully address the gradual abandonment and ageing of population in Albania; the enhanced awareness on pressures that pose a threat to the harmonious relationship between humans and nature in the area.





## Promoting smart water use in farmlands of Ohrid Lake

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### Lake Ohrid

Lake Ohrid, one of the deepest and oldest lakes in Europe, is mainly fed by underground water (50%) from several karstic springs of the south-eastern shore of the lake (St. Naum contributes approximately 75% of the total underground inflow, Tushemist to 25%). The karst aquifer receives water from Lake Prespa, which completely drains into the karst system 150 m above Lake Ohrid's water level. The Ohrid basin is an area with relatively small population density, but with big and urgent problems that mostly stem from lack of awareness of solutions related to the sustainable management of water resources towards minimizing water wastage and water pollution (e.g. from waste and wastewater, fertilizers and pesticides).

### Grashnica's pilot actions towards smart water use in farmlands of Ohrid Lake

In 2014 the NGO Grashnica, with the financial support of CEPF, initiated a 2-year pilot project aiming to contribute to a more sustainable management and wiser use of water resources by local communities and the agricultural sector in the Ohrid lake watershed within the Former Yugoslav Republic of Macedonia. The main lines of actions included:

- A baseline assessment and mapping of the ways water is used and associated socio-economic features; and identification of solutions for water efficiency.

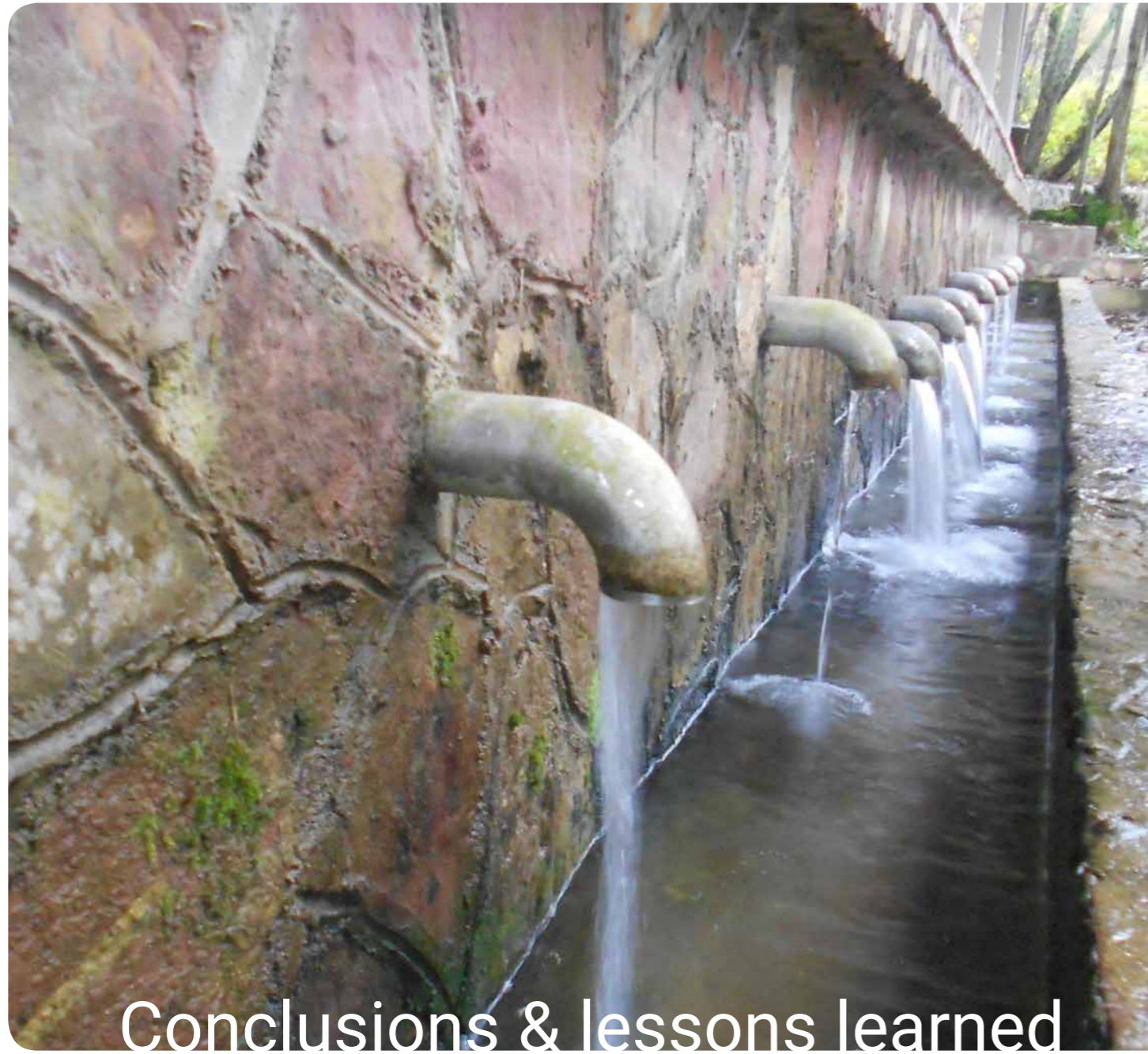
- Capacity building (including a study visit) and information dissemination activities targeted to different stakeholder groups with the aim to join and coordinate efforts in the area in implementing harmonized actions for improved water management.

## Key findings from the water use assessment

Grashnica carried out a survey in eight rural riparian communities in the municipalities of Ohrid and Debarca, involving some 120 farmers aiming to identify their needs and problems with regards to water use. One of the key findings of the survey highlights that farmers are not well informed about water saving solutions, the amount of water that their watering systems consume, the total amount of water they consume for irrigation. The majority of the respondents reported that they had a high interest in water resources conservation, water

scarcity reduction and that they are willing to invest in water saving systems. Nevertheless, the majority of the installed watering systems are not water efficient. The survey underlined the willingness of farmers to reduce water consumption in their farmlands however they stressed the need for more information on how to save water and encouragement or support from the local/national authorities. One interesting outcome of this survey was that farmers do not opt for reducing the frequency of water use in high consuming irrigation processes. This may be attributed to the fact that the interviewed farmers are confident that they are already “doing their best” in terms of efficient water use.

The results of Grashnica’s survey provide valuable insights and contribute to setting the priority actions that policy makers may try to concentrate their efforts on towards achieving sustainable water resources management in the Ohrid lake watershed.



## Conclusions & lessons learned

### Conclusions and lessons learned

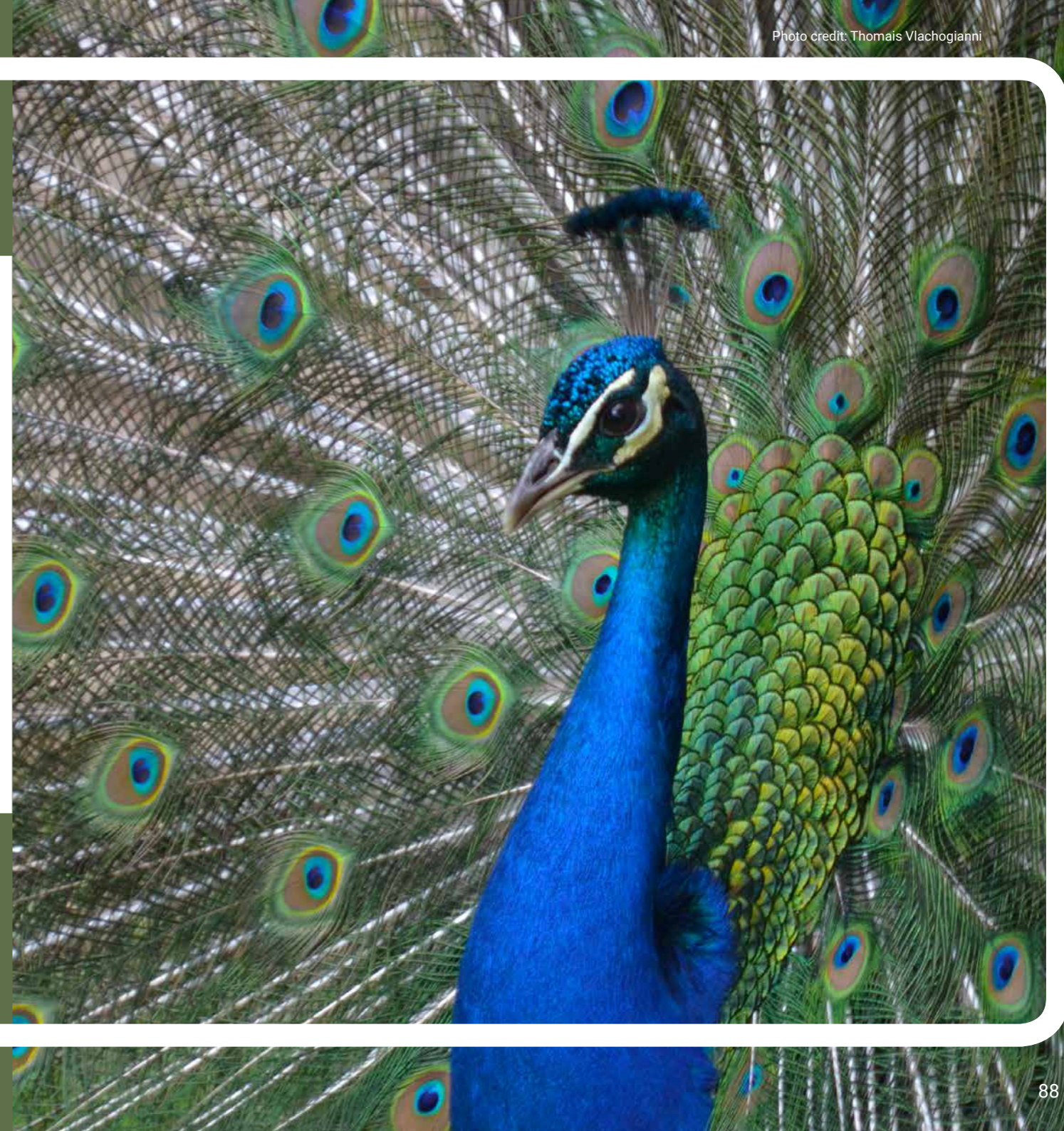
Key to gaining stakeholders buy-in to the project have been: the project team, composed of eight social mobilizers, two agriculture experts and one coordinator delivering the technical knowledge to the local communities and farmers; the regular flow of tailor made information; and the continuous dialogue with all stakeholders. Furthermore, building up partnerships with competent authorities, universities, institutes and other NGOs working in the regions (such as the CEEweb for Biodiversity, NGO GAUSS Institute) have ensured the smooth implementation of the project activities without any duplication. In addition, the impact of the project has been enhanced due to the implementation of a sister CEPF funded project entitled 'Developing sustainable water management practices to conserve

environmental flow in Ohrid lake' carried out by the Institute for Environmental Policy (NGO) on the Albanian side of the Ohrid lake watershed. The capacity building activities, including the study visit, have been essential tools for imparting knowledge to the local communities and the establishment of an ad-hoc platform. The respective commitments made by partner institutions will now serve as a mechanism to build increasing momentum for long-term water conservation efforts in Ohrid Lake, including the initiation of measures for adaptation to climate change.

Some more general lessons learned relevant to the wider conservation community of Lake Ohrid are outlined below:

- In order to ensure project acceptance and endorsement by the stakeholders, and sustainability of the project results, it is necessary to actively engage stakeholders throughout the project activities.

- Local actors (e.g. institutions, organisations) are catalysts in terms of achieving mutual understanding and effective exchange of experience and knowledge between and among partners.
- Coordination between and among projects with common objectives and similar activities is imperative to avoid duplication, strengthen the impact and ensure the endorsement of the projects' outputs.
- Transboundary and national structures already set up should be used in further actions for Ohrid Lake, including operational and regulatory capacity, infrastructure and community level mechanisms and incentives which are in place to support further water resource management and climate change adaptation measures.
- It is important to follow up and build upon the outcomes of previous actions and initiatives or to implement new activities which are already identified as priority ones in the management plans of Lake Ohrid.
- A good level of collaboration at watershed - transboundary and local levels, as well as participation and active involvement of all interested stakeholders is possible for Ohrid Lake. But it needs long-term stimulation of stakeholders, an environment that enables trust and consensus building. All this requires patience and persistence and does not happen overnight. Complimented with capacity building activities these are indispensable for the successful implementation of any joint decisions or management measures.



## Acronyms

CEPF	Critical Ecosystem Partnership Fund
CZIP	Center for Protection and Research of Birds of Montenegro
DPPVN	Society of bird research and nature protection
EPEAEK	EU-funded Operational Programme for Education and Initial Vocational Training
ERA	Environmentally Responsible Action group
ESD	Education for Sustainable Development
EU	European Union
GEF	Global Environment Facility
GPS	Global Positioning System
GWP-Med	Global Water Partnership – Mediterranean
H2020 CB/MEP	Horizon 2020 Capacity Building/ Mediterranean Environment Programme
INCA	Institute for Nature Conservation in Albania
IUCN	International Union for Conservation of Nature
KORA	Carnivore Ecology and Wildlife Management
MEdIES	Mediterranean Education Initiative for Environment and Sustainability
MES	Macedonian Ecological Society
MIO-ECSDE	Mediterranean Information Office for Environment, Culture and Sustainable Development
MoU	Memorandum of Understanding
NGO	Non-Governmental Organisation
PPNEA	Protection and Preservation of Natural Environment in Albania
SPP	Society for the Protection of Prespa
UNECE	United Nations Economic Commission for Europe
UNESCO	United Nations Educational, Scientific and Cultural Organization
WMC	Wetland Management Committee
WWF	World Wide Fund for Nature

## The Act4Drin in a nutshell

Living well in harmony with the Drin (Act4Drin) is a Critical Ecosystem Partnership Fund funded project led by MIO-ECSDE aiming at raising public awareness, enhancing knowledge and empowering NGOs to protect and conserve freshwater ecosystems in the Drin River Basin.

The project's activities are built around and upon a two-fold approach. On the one hand, activities seek to empower local and national NGOs in effectively and meaningfully promoting integrated water resources management with a special focus on the protection, conservation and restoration of freshwater ecosystems in the Drin River Basin. On the other, considerable emphasis is given to expanding people's awareness, especially of youth, on the intrinsic values of freshwater habitats and species of the region and to promoting concrete, comprehensive and continuous actions towards safeguarding the biodiversity of the Drin River Basin and its invaluable ecosystem services.

# ACT 4 DRIN

Living well in harmony  
with the Drin

[www.act4drin.net](http://www.act4drin.net)



## Act4Drin project partners



**Qendra Mjedisore  
për Zhvillim  
Edukim dhe Rrjetëzim**



This publication has been produced within the framework of the Act4Drin project funded by the Critical Ecosystem Partnership Fund, a joint initiative of l'Agence Française de Développement, Conservation International, the European Union, the Global Environment Facility, the Government of Japan, the MacArthur Foundation and the World Bank. A fundamental goal of CEPF is to ensure civil society is engaged in biodiversity conservation.

This publication is available on line at: [www.mio-ecsde.org](http://www.mio-ecsde.org) and [www.act4drin.net](http://www.act4drin.net)