



## Drin River Basin

### The blue heart of the Balkans



**The Mediterranean Information Office for Environment, Culture and Sustainable Development (MIO-ECSDE)** is a non-profit Federation of 126 Mediterranean NGOs for Environment and Development. MIO-ECSDE acts as a technical and political platform for the presentation of views and intervention of NGOs in the Mediterranean scene and plays an active role for the protection of the environment and the promotion of the sustainable development of the Mediterranean region and its countries.

Website: [www.mio-ecsde.org](http://www.mio-ecsde.org)



© MIO-ECSDE 2012  
Kyrristou 12, 10556 Athens, Greece  
Tel: +30210-3247490, -3247267, Fax: +30210 3317127  
e-mail: [info@mio-ecsde.org](mailto:info@mio-ecsde.org)

This publication has been produced within the framework of the DG Environment programme for operating grants to European environmental NGOs.

Written/prepared by:  
*Thomas Vlachogianni, Milan Vogrin*

Text editing:  
*Anastasia Roniotes, MIO-ECSDE Head Officer*

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

## Contents

Drin River Basin: the blue heart of the Balkans .....	3
The Drin River: the 'connecting body' of a water system that forms an eco-region of global significance .....	3
Drin River Basin: an exceptional wealth of habitats and species .....	4
Areas of internationally recognized conservation value .....	6
The Drin River Basin under threat .....	8
A shared vision for the Management of the Drin River Basin and its implementation .....	9

## Drin River Basin: the blue heart of the Balkans

Throughout history the Drin Basin has been the meeting point of different civilizations which have left their traces in the area. The Drin Basin hosts a complex shared water system which extends over a large geographical area that includes parts of Albania, Greece, FYR Macedonia, Kosovo (under UNSCR 1244) and Montenegro. The Drin River is the “connecting body” of this water system, interlinking in various ways the lakes, rivers and other aquatic habitats into a major ecosystem of cardinal importance. The Drin River Basin in a real jewel of the Balkan region, has a wealth of different landscapes, is exceptional in terms of biodiversity, very rich in endemic species, while supporting a multitude of economic activities.

## The Drin River: the ‘connecting body’ of a water system that forms an eco-region of global significance

The Mediterranean region is characterized by a variety of wetlands, from large inland lakes to extensive coastal lagoons and small temporary ponds. Nowadays, the Mediterranean wetlands are among the most threatened ecosystems on Earth. They have been widely drained during the last few millennia. Today, much less than 28.500 km<sup>2</sup> of wetlands are left in the Mediterranean basin, including 6.500 km<sup>2</sup> of coastal lagoons, 12.000 km<sup>2</sup> of lakes and natural marshes and 10.000 of artificial lakes, mostly damned lakes. Most freshwater lakes in the Mediterranean are of glacial origin however those in Balkan peninsula like Ohrid, Prespa and Skadar lakes have tectonic origin and are product of karstic processes.

The Drin River watershed covers 15.540 km<sup>2</sup> and has its origin in the Lake Ohrid–Lake Prespa ecosystem in Albania, FYR Macedonia and Greece. The Drin River links the Prespa-Ohrid-Shkoder lakes region of the Balkan Peninsula to form a single ecosystem, which is widely acknowledged as an ecological area of global significance.

The water bodies and their watersheds are spread in a geographical area that includes Albania, Greece, FYR Macedonia, Montenegro and Kosovo (UN administered territory under UN Security Council resolution 1244).

Flowing from Lake Ohrid, which itself receives extensive water volumes from Lake Prespa through underground karstic formations, the Black Drin eventually leaves FYR Macedonia and enters Albania. The White Drin rises in Kosovo and flows into Albania where it meets the Black Drin to form the Drin River. Flowing through Albania, one arm of the Drin joins the Buna/Bojana River (a watercourse which



Map of the Drin River Basin

drains Lake Shkoder and, shared between Albania and Montenegro forms part of their border before finally flowing into the Adriatic Sea) near the city of Shkodra and the other arm drains directly into the Adriatic Sea south of Shkodra near the city of Lezhe. Each of these water bodies has a number of tributaries, small rivers and streams.

The watersheds of the Prespa, Ohrid and Shkoder/Skadar Lakes and the Black Drin, White Drin, Drin and Buna/Bojana Rivers make up the “extended” Drin Basin.

## Drin River Basin: an exceptional wealth of habitats and species

The Balkan region is renowned in Europe as a biodiversity hotspot due to its history as a major glacial refugium and a crossroads for floral and faunal exchange between Europe and Asia, as well as its well preserved terrestrial and freshwater biodiversity and unique features like hypogean environment and ancient lakes.

The extended Drin River Basin is characterized by an exceptional wealth of biodiversity, providing important habitats for many species of fauna and flora. Several of these species are endemic like *Salmo ohridanus*, *Salmo letnica*, *Chondrostoma prespense*, *Scardinius knezevici*, etc, while many others breed in the basin in exceptional high numbers in comparison to other parts of Europe, like *Pelecanus crispus*, *Pelecanus onocrotalus*, Pygmy Cormorant *Microcarbo pygmaeus*, etc. This is likely the result of geographical “fragmentation” and “isolation” of parts of the systems into lakes, valleys, underground carstic caves and rivers, etc., the vast pristine mountainous areas and the overall relatively low population density. However, this is changing.

The Drin River Basin contains more than 30 endemic freshwater fish species. Lakes Ohrid and Prespa are geologically old and as such they accommodate several endemic species and subspecies. For

example in Ohrid live *Salmo ohridanus*, *Salmo letnica*, *Pseudophoxinus minutes* and *Rutilus ohridanus*, in Prespa we found *Chalcalburnus belvica*, *Chondrostoma prespense*, *Barbus prespensis*, *Cobitis meridionalis*, *Phoxinellus prespensis* and *Rutilus prespensis*. In the river Drin two endemic fish are found *Scardinius knezevici* and *Eudontomyzon stankokaramani*.

Regrettably habitat (marine, freshwater and terrestrial) destruction and degradation caused by relatively recent human activities threaten this biodiversity.

### ***Anguilla Anguilla* (European eel): A critically endangered species**

A characteristic example of a threatened species in the region is *Anguilla Anguilla* (European eel), which historically used the Drin River to migrate between the Ohrid and Shkoder/Skadar lakes and the Adriatic Sea. Changes to water flows (largely due to dams), as well as the quantity and quality of water throughout the watershed, have caused severe damage to the fish passages, thus critically endangering various species such as *Anguilla Anguilla* (IUCN Red list) and other species, which face a high risk of extinction in the basin in the immediate future.



**Pygmy Cormorant *Microcarbo pygmaeus***  
(Photo credit © Milan Vogrin)



**The Dalmatian Pelican *Pelecanus crispus*:  
A 'flag' species of the Drin River Basin**

Among numerous bird species in the Drin River Basin the Dalmatian pelican *Pelecanus crispus* is without any doubt one of the 'flag' species of the region.

The Dalmatian Pelican is patchily distributed from the Balkan region to Central Asia. About a quarter of its population globally breeds in Europe with the largest colony found at Lake Mikri Prespa (Greece), with around 1400 breeding pairs.

Pelicans breed amongst aquatic vegetation on floating or stationary islands, isolated from the mainland to avoid mammalian species. Nests usually consist of a pile of reeds, grass and sticks and could be up to 1m high and up 1.5m in diameter.

Pelicans feed almost entirely on fish, especially carp, perch, rudd, roach and pike. What is interesting is that in the Mikri Prespa the breeding colony feeds mostly on the endemic fish species *Chalcalburnus belvica*.

Declines in the past were primarily caused by wetland drainage, shooting and persecution by fishers and even illegal hunting. Other continuing threats include disturbance from tourists and fishers, wetland alteration and destruction, water pollution, collision with overhead power-lines and over-exploitation of fish stocks.



**The Dalmatian Pelican *Pelecanus crispus* (Photo credit © Milan Vogrin)**

## Areas of internationally recognized conservation value

The Drin River Basin and its outstanding biodiversity features and wetlands of international importance have led to the designation of certain areas as protected under the Ramsar Convention. These include the Skadar/Shkoder Lake and Buna/Bojana River system, the Prespa and the Micro Prespa lakes.

### *Skadar/Shkoder and Buna/Bojana River*

The Skadar/Shkoder Lake and Buna/Bojana River system, with its delta area on the Adriatic Sea, contains important ecosystems with fresh and brackish water, and a variety of natural and human-made coastal habitats, including floodplain forests, freshwater marshes, extensive reed beds, sand dunes, karst formations, calcareous rocks, wet pastures, ponds, supporting about 1000 plant species. The Buna/Bojana River mouth represents a rare example of a natural delta on the East Adriatic coast.

Connection with the River Drin ensures the migration of mainly fish species from the Adriatic via Skadar/Shkoder Lake to and from Ohrid and Prespa Lakes, such as the endangered *Acipenser stellatus* and *Salmothymus obtusirostris* as well as the critically endangered species *Acipenser studio* and *Chondrostoma scodrensis*. The site hosts about 25.000 wintering waterbirds, amongst them the endangered *Oxyura leucocephala* and the critically endangered *Numenius tenuirostris*.

### ***Anguilla Anguilla* (European eel): A critically endangered species**

A characteristic example of a threatened species in the region is *Anguilla Anguilla* (European eel), which historically used the Drin River to migrate between the Ohrid and Shkoder/Skadar lakes and the Adriatic Sea. Changes to water flows (largely due to dams), as well as the quantity and quality of water throughout the watershed, have caused severe damage to the fish passages, thus critically endangering various species such as *Anguilla Anguilla* (IUCN Red list) and other species, which face a high risk of extinction in the basin in the immediate future.



***Buna/Bojana river*** (Photo credit © Thomais Vlachogianni)



Threats arise from past and present drainage practices for agriculture, uncontrolled development, changes in water regime, deforestation, illegal hunting and fishing, and introduced species. Today the main activities are agriculture, stock raising, fishing and tourism.

The Montenegrin part of the lake and its surrounding area were declared a national park in 1983. The Albanian part has been designated as a Managed Nature Reserve. In 1996, by Ramsar Convention on Wetlands, it was included in the Ramsar list of wetlands of international importance.



*Pelecanus crispus*, Lake Prespa (Photo credit © Vassilios Psallidas)

### *Prespa and Micro Prespa lakes*

The area is characterized by outstanding beauty, great biodiversity and a wealth of natural resources. The rich natural environment includes many rare species characterized by a high degree of endemism especially among its plants, invertebrates and fish. The site includes cultivated land, meadows, pastures, reedbeds, and forests. More than 2000 plant species and 11 amphibian, 21 reptile and 62 mammal species, with endangered species of bats, wolves, brown bears and otters all finding refuge within the basin. More than 275 species of birds have been recorded, including rare waterbirds such as the Dalmatian Pelican, which forms the world's largest colony in Micro Prespa. The Pygmy Cormorant also forms an important colony at the European level. A lesser known treasure of the Prespa area is the diversity of fish fauna. Within the lakes 23 species of fish have been observed, 9 of which are endemic to the area. Out of the other 14 species, one, the carp, is extremely important for its economic value to the fishery sector.

## The Drin River Basin under threat

Diverse and often conflicting uses and unsustainable management approaches applied in the Drin Basin under various circumstances, have led to the degradation of ecosystems and pollution of the Adriatic Sea, as well as to a bottle-neck for the sustainable economic growth of the region. Some of the key pressures (causes) and their corresponding impacts are listed below:

<p><b>Pressures/Causes</b></p>	<ul style="list-style-type: none"><li>• Unsustainable management of:<ul style="list-style-type: none"><li>▪ solid waste</li><li>▪ wastewater</li><li>▪ water resources</li><li>▪ minerals</li><li>▪ agriculture and forests</li><li>▪ fishing and hunting</li><li>▪ land use</li><li>▪ urban development</li></ul></li><li>• Lack of robust institutions and mechanisms for cooperation</li><li>• Increasing climate variability</li></ul>
<p><b>Impacts</b></p>	<ul style="list-style-type: none"><li>• Deforestation</li><li>• Pollution of surface and ground waters</li><li>• Accelerated soil erosion</li><li>• Loss of valuable ecosystems and biodiversity</li><li>• More floods</li><li>• Increasing health risks</li></ul>



***Unsustainable fishing practices are among the main pressures of the Drin River Basin***  
*(Photo credit © Milan Vogrin)*



## A shared vision for the Management of the Drin River Basin and its implementation

A defining moment in the process towards the sustainable management of the Drin River Basin was the signing of a Memorandum of Understanding (MoU) by the Ministers of the Drin Riparians at a regional consultation meeting held in Tirana, 25 November 2011. The multi-stakeholder process for the establishment of the Shared Vision, the Drin Dialogue, was formally launched in December 2009, in Podgorica. Almost a year after the signature of the MoU, in 2012, the institutional basis for its implementation has been set up, the Drin Core Group, which coordinates actions among the Parties (to the MoU) for the implementation of the



MoU and three Expert Working Groups have been established on the Water Framework Directive implementation, Monitoring and Information exchange and Biodiversity.



*Skadar/Shkoder Lake (Photo credit © Thomais Vlachogianni)*



## MIO-ECSDE Profile

The **Mediterranean Information Office for Environment, Culture and Sustainable Development**, is a Federation of 126 Mediterranean Non-Governmental Organisations (NGOs) for Environment and Development. MIO-ECSDE acts as a technical and political platform for the presentation of views and intervention of NGOs in the Mediterranean scene. In co-operation with governments, international organisations and other socio-economic partners, MIO-ECSDE plays an active role for the protection of the environment and the promotion of the sustainable development of the Mediterranean region and its countries.

### ITS MAIN OBJECTIVES ARE ...

To protect the **Natural Environment** (flora and fauna, biotopes, forests, coasts, natural resources, climate) and the **Cultural Heritage** (archaeological monuments traditional settlements, cities, etc.) of the Mediterranean region. The ultimate goal of MIO-ECSDE is to promote **Sustainable Development** in a peaceful Mediterranean.

Major tools and methods used by MIO-ECSDE in order to achieve its objectives are the following:

- Promotion of the understanding and collaboration among the people of the Mediterranean, especially through their NGOs, between NGOs and Governments, Parliaments, Local Authorities, international organisations and socio-economic actors of the Mediterranean region at all levels.
- Assistance for the establishment, strengthening, co-operation and co-ordination of Mediterranean NGOs and facilitation of their efforts by ensuring the flow of appropriate information among relevant bodies.
- Promotion of education, research and study on Mediterranean issues, by stimulating collaboration between NGOs and scientific and/or academic institutions.
- Raising of public awareness on crucial Mediterranean environmental and social issues, through campaigns, publications, exhibitions, presentations, etc.

### Contact information

Postal address: Kyrristou, 10556 Athens, Greece  
T: +30 210 3247267, 3247490, F: +30 210 3317127,  
E: [info@mio-ecsde.org](mailto:info@mio-ecsde.org), W: [www.mio-ecsde.org](http://www.mio-ecsde.org)

