

2022

Romania's Natural Heritage Sites Inscribed on the UNESCO World Heritage List



ROMANIA'S NATURAL HERITAGE SITES

Inscribed on the UNESCO World Heritage List

This booklet is part of a series of three publications of The National Commission of Romania for UNESCO, celebrating the 50th anniversary of the adoption of the Convention Concerning the Protection of the World Cultural and Natural Heritage

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50 years since the adoption of the Convention Concerning the Protection of the World Cultural and Natural Heritage

The Convention Concerning the Protection of the World Cultural and Natural Heritage was adopted at the General Conference of the United Nations Educational, Scientific and Cultural Organization (UNESCO) meeting in Paris from 17 October to 21 November 1972, at its 17th session. The most significant feature of the 1972 World Heritage Convention is that it brings together, in the same document, the concepts of nature conservation and cultural property conservation. The Convention recognizes the way in which people interact with nature and the fundamental need of keeping a balance between the two.

Heritage is our legacy from the past, what we are using and creating today, and what we pass on to future generations. Our cultural and natural heritage are both irreplaceable sources of life and inspiration.

Under Article 2 of the Convention, the following is considered as natural heritage:

- natural features consisting of physical and biological formations or groups of such formations, which are of outstanding universal value from the aesthetic or scientific point of view;
- geological and physiographical formations and precisely delineated areas which constitute the habitat of threatened species of animals and plants of outstanding universal value from the point of view of science or conservation;
- natural sites or precisely delineated natural areas of outstanding universal value from the point of view of science, conservation or natural beauty.

What makes the concept of World Heritage exceptional is its universal application. World Heritage sites belong to all the peoples of the world, irrespective of the territory on which they are located.

UNESCO'S WORLD HERITAGE MISSION IS TO:

- Encourage countries to sign the World Heritage Convention and to ensure the protection of their natural and cultural heritage;
- Encourage States Parties to the Convention to nominate sites within their national territory for inclusion on the World Heritage List;
- Encourage States Parties to establish management plans and set up reporting systems on the state of conservation of their World Heritage sites;
- Help States Parties safeguard World Heritage properties by providing technical assistance and professional training;
- Provide emergency assistance for World Heritage sites in immediate danger;
- Support States Parties' public awareness-building activities for World Heritage conservation;
- Encourage participation of the local population in the preservation of their cultural and natural heritage;
- Encourage international cooperation in the conservation of our world's cultural and natural heritage.

At present, the natural objectives of Romania designated within the UNESCO programs are:

- The Danube Delta Biosphere Reserve, cross-border with Ukraine – designated in 1998
- The Pietrosu Mare (Rodna Mountains) Biosphere Reserve – designated in 1979
- The Hațeg UNESCO Global Geopark – designated in 2015
- The Buzău Land UNESCO Global Geopark – designated in 2022
- The Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe – designated in 2017.

WHAT IS A UNESCO GEOPARK?

A geopark is a land of sustainable development that uses the local natural and cultural heritage – especially the geological heritage – to the benefit of communities. The status of Global Geopark is a UNESCO designation that enjoys international recognition. It is not a protected area and it does not entail any restrictions or government obligations. It is a land whose development takes place from the bottom up, based on the association and cooperation with the local administrations and communities, as well as with various associations, schools, museums, universities, entrepreneurs, corporations and other partners. A global geopark included in the UNESCO network is a land that preserves unique geological, natural and cultural values of international value and that is managed by a professional team which initiates activities in the fields of economic and social development, environment protection, education, heritage conservation, research, geotourism, community engagement, cooperation and promotion at national and international levels. Rather than being a territory of intrinsic values, an area must have had a track record of projects implemented by the geopark management team before the UNESCO assessment in order to qualify for this designation. The UNESCO Global Geopark status ensures a framework for promoting the area on the international

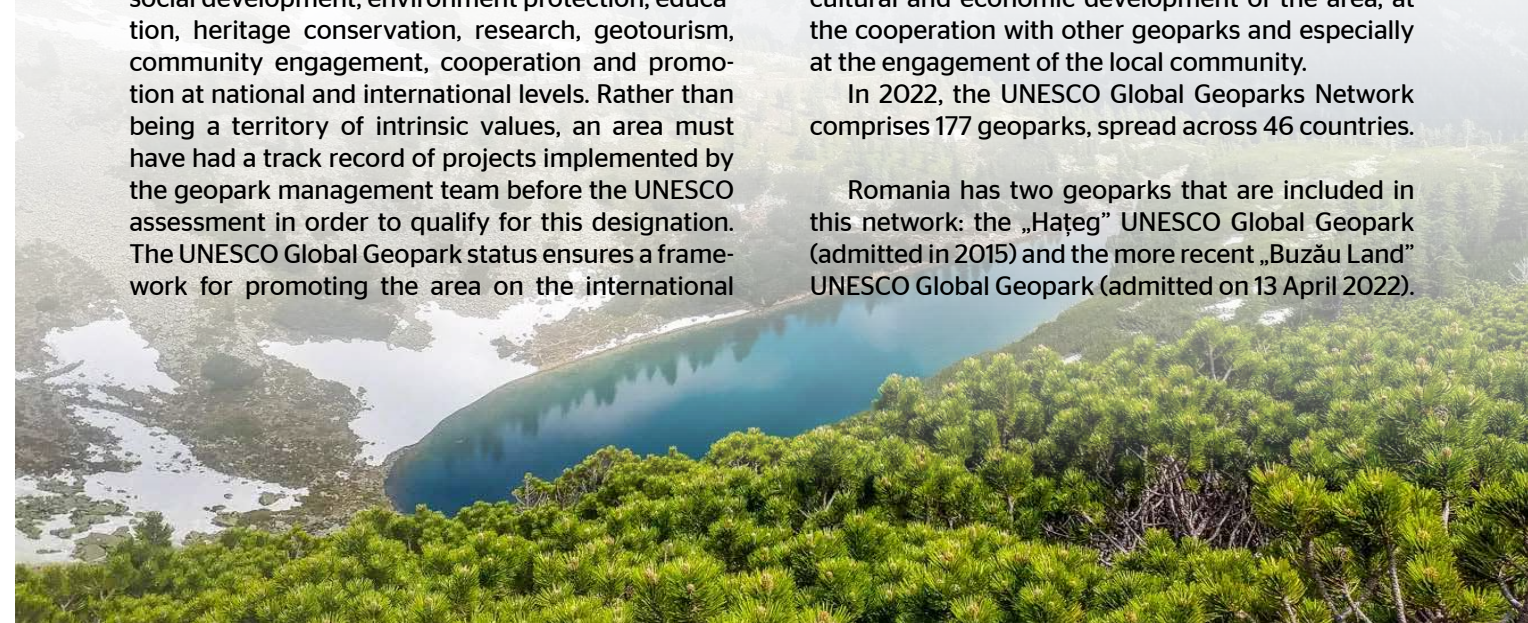
scene, for developing international projects and for training and engaging young people in exchanges and cooperation. This status entails no restrictions on any economic activity performed on its territory, provided that such activity complies with the local or national legislation.

The International Geopark Programme is one of the main programmes within UNESCO's Natural Sciences Sector. UNESCO Global Geoparks are single, unified geographical areas where sites and landscapes of international geological significance are managed with a holistic concept of protection, education and sustainable development. Their bottom-up approach of combining conservation with sustainable development while involving local communities is becoming increasingly popular.

In line with the provisions of the Global Geoparks Network, the status of UNESCO Global Geopark is subject to a revalidation every four years. The revalidation process includes a quality review of the activities carried out by the geopark team since the previous revalidation and looks at how the local authorities and institutions are involved in the social, cultural and economic development of the area, at the cooperation with other geoparks and especially at the engagement of the local community.

In 2022, the UNESCO Global Geoparks Network comprises 177 geoparks, spread across 46 countries.

Romania has two geoparks that are included in this network: the „Hațeg” UNESCO Global Geopark (admitted in 2015) and the more recent „Buzău Land” UNESCO Global Geopark (admitted on 13 April 2022).



Hațeg UNESCO Global Geopark

Year of inscription: 2015

The Hațeg Geopark was registered in the global network of **UNESCO Geoparks** in November 2015 as part of the **UNESCO International Geoscience and Geoparks Programme**. This international recognition is due to the continuous work that was started 20 years ago by a partnership of universities, local administrations, museums, research institutes and associations in Romania and abroad. The University of Bucharest initiated and coordinated this development programme and undertook

the task of managing the status of Global Geopark and UNESCO site. In partnership with other entities, it contributes to the fulfilment of all international obligations and continuously proposes activities of research, education, interpretation and promotion of the Geopark and of the Hațeg Land - Retezat Mountain area. For Romania, the concept of Global Geopark has opened a new stage in the approach to the conservation of natural and cultural heritage in the context of local development.



The House of Stones | Photo: C. Crețescu



The House of Volcanoes
Photo: V. Dumitrescu



Bottomless Pond. Peșteana Swamp
Photo: D. Dinu

Located in the Țara Hațegului (Land of Hațeg), county of Hunedoara, the Geopark covers an area of 1 023.92 sq.km. (395 square miles) and has a charm of its own as it lies at the crossroads of ancient cultural and trade routes that connected Transylvania with its neighbouring regions of Banat and Oltenia.

It is a region where geodiversity, biodiversity and the interactions between people and land have created a space of great natural and cultural value.

A visit to The Hațeg UNESCO Global Geopark resembles a „Journey through time”, a journey across the ages that begins 600 million years ago with the Age of the first rocks and heads into the Age of the Tethys Ocean, the Age of Dinosaurs, the Age of the Retezat, Șureanu and Poiana Ruscă Mountains formation, the last Ice Age, the Age of the first humans, the Age of Dacians and Romans, the Age of knights, castles and stone churches, and the Age of our grandparents.

Hațeg Land, which was an island in the Tethys Sea 70 million years ago, preserves the fossil remains of unique dinosaurs: the dwarf dinosaurs. Under their various names, shapes and attributes, they are a link

to ancient history, become local mascots, children's friends and brand ambassadors for Romania. The attractiveness and scientific significance of the Geopark fossils are enhanced by the discovery of egg nests and embryos, fossils of mammals that lived alongside the dinosaurs and a flying reptile (Hatzegopteryx) belonging to the order of pterosaurs.

Visitors of the UNESCO Global Geopark can see three exceptionally detailed dwarf dinosaur models, created by one of the world's most famous palaeo-artists, the Canadian Brian Cooley, as well as three dinosaur egg nests.

The tale of the Hațeg Geopark is told by a network of visiting points belonging to the Geopark itself or to its partners, called **houses**.

The Geopark Houses are small interpretation centres. They act as hubs for educational and tourist activities, as well as for the selling of local products, to the benefit of the community and the people of Hațeg Land.

The House of the Geopark is the starting point for the „Journey through time”. The „Balaurs, Dragons, Dinosaurs” exhibition explains what a geopark is and blends together stories about the local people

and fabulous animals with legends from the Land of Hațeg.

The „Dumitru Huzoni” House of Science and Art, located in General Berthelot Commune, tells the story of Planet Earth's 4.6 billion years and that of the 600-million-year-old rocks of Hațeg Land. By means of experiments, you will discover the physical parameters of Earth and of the surrounding nature.

In Densuș Village, after crossing the „Bridge over Time”, you will discover an unusual space on top of a volcanic hill – the **House of Volcanoes**. Although there are no more active volcanoes here today, the landscape was completely different when dinosaurs roamed Hațeg Island.

At the **House of Dwarf Dinosaurs** in Sânpetru Village of Sântămăria Orlea Commune, you will learn the story of some unique creatures that lived on the former Hațeg Island, 70 million years ago. A small reconstitution of a paleontological site and the representations of several species of dwarf dinosaurs, as well as the life-size model of an Eopteryx nopcsai will offer you an insight into this fascinating prehistoric world. Eopteryx nopcsai is a carnivorous dinosaur that bears the name of Franz Nopcsa, the scientist

who discovered the first fossils of Hațeg Land.

At the **House of Traditions** in Sânpetru Village of Sântămăria Orlea Commune, you can find the story of how the locals used the natural resources and developed a multicultural community. Italians, Hungarians, Roma and Romanian people have been sharing this space for centuries. The representatives of the Sântămăria Orlea Women's Association, who manages the **House of Traditions**, will tell you about one of the oldest and most important occupations in the area – shepherding. For centuries, sheep husbandry, along with the craft of wool dyeing and wool processing have been the engine of the local economy.

At the **House of Stones** in Ohaba-Sibișel Village of Râu de Mori Commune, the stones seem to come alive and tell the tale of how they formed, how they transformed over time and how they are supporting life today.

OTHER PLACES YOU CAN VISIT:

„La Scoabă” Geosite. The first dwarf dinosaur fossils were found in the Sibișel River valley, within the Sânpetru formation, called „La Scoabă” („At the cramp iron”) by the locals. There, you can touch stones that



Dinostop Eoapteryx nopsai | Photo: R. Suci



Thematic path "The Music of Nature"
Photo: D. H. Popa



The School of Dinosaurs and Trades
Photo: A. Popa

formed while the last dinosaurs lived on Earth. The rocks reveal stories about dinosaurs, turtles, crocodiles, pterosaurs and other animals that used to live there, on the banks of the river, in a subtropical climate.

The Dinosaur Valley route. It starts by the House of Dwarf Dinosaurs and the House of Traditions in Sânpetru Village and leads you to the place where the first dinosaur fossils of the Geopark were discovered, in the „La Scoabă” geosite. After having visited the geosite, continue to the traditional village of Ohaba-Sibişel, where you will discover how people used lumps of granite to build dry stone walls, and also for their houses.

The Volcano Road starts in the centre of Densuş Village and takes you to the volcanic hills and the House of Volcanoes. On this route, you will see pillow-shaped fragments of lava. You must cross the Bridge over Time in order to see the volcanic hills, the bottom of the former Tethys Sea and the fossil traces on your way to the House of Volcanoes. The „Music of Nature” thematic trail in Peştera Village of Sălaşu de Sus Commune will tell you about rocks, wood, water and vegetation. Stone, wood and water have always been trusted friends for the inhabitants of Haţeg

Land. With their help, the people have built houses, tools and mechanisms that have made life easier.

The granite lump fields. The last ice age, which ended about 10,000 years ago, left its mark on the Geopark under the shape of granite lumps. They were once parts of the cliffs of Retezat Mountain, but the glaciers melting from the mountain top dragged them to the valley below, grinding them and rounding their corners. The village people used those round lumps of granite to build dry stone walls and other constructions. The most spectacular granite fields of the Geopark are those around the villages of Sibişel, Ohaba-Sibişel and Peştera.

The Bottomless Pond. Legends say that the Devil lives there, drawing people and cattle towards the bog. In fact, those who disappeared into the Bottomless Pond got stuck into the deep mud and the tangled vegetation on its surface. That vegetation is also home to the roundleaf sundew – *Drosera rotundifolia*, a rare insectivorous plant that is a glacial relict.

The Bison Reserve. In 1958, the first European bison were reintroduced in Romania, being held in captivity in Slivuţ Forest near the town of Haţeg, after they had become extinct two centuries before. The reserve, which is open to visitors, now hosts the descen-

dants of the first pair of bison, which were brought in from Poland.

DinoStops. These are original products developed by the Geopark. A DinoStop combines the story of dinosaurs with activities by the local partners. Each DinoStop tells you about one unique dinosaur species discovered in the region, displays an artistic reconstruction of the animal and has a local partner that provides services, local products and information to visitors. **The „Balaurea Bondoc” DinoStop** is associated to the House of the Geopark in Haţeg and tells the story of the only dinosaur that received a purely Romanian name. **The „Eoapteryx nopsai” DinoStop** is a space of leisure and discovery for tourists who visit the House of Dwarf Dinosaurs and the House of Traditions in Sânpetru Village of Sântămăria Orlea Commune. It offers wool dyeing workshops, educational activities and a souvenir shop with products made by the Sântămăria Orlea Women's Association, a partner of the Geopark. **The „Struthiosaurus transilvanicus” DinoStop.** *Struthiosaurus transilvanicus* is one of the most spectacular dinosaurs whose fossils have been discovered in the Geopark. An artistic representation of the animal, created in France by a mosaic artist, is now displayed in the central park of Sălaşu de Sus Commune.



Magyarosaurus dacus | Photo: A. Popa

Buzău Land UNESCO Global Geopark

Year of inscription: 2022

Buzău Land was registered in the global network of UNESCO geoparks on April 13, 2022. It is located near the bend area of the Carpathian Mountains, in the county of the same name, and covers an area of 1 036 sq.km. (400 square miles) that is divided between 18 communes spread around the mountains and hills. The geological history of the region spans over 40 million years and displays mud volcanoes, magmatic ashes generated by prehistoric volcanoes, eternal flames, glacial valleys, lakes formed in depressions resulting from the erosive action of glaciers, fossils of prehistoric marine life, salt mountains, huge cliffs dragged by the glaciers, bizarre-shaped rocks created through natural cementing (sandstone concretions called „trovanți”), salt caves (that are among the longest in the world), oil springs, mineral waters and the largest accumulation of amber in Romania, which includes a one-of-a-kind species of amber (red rumanite). One strategy implemented by the Buzău Land Association, which manages the Geopark, is to develop an alternative tourism of discovery and exploration.

The Mud Volcanoes
Photos: Buzău Land Association

CULTURE, GEODIVERSITY, MYTHS

Throughout history, Buzău Land witness the passing of different populations, who migrated forward or settled temporarily – such as Anatolians, Goths, Huns, Teutons and Mongols, and also served as a buffer area between the three Romanian states of the Middle Ages – Wallachia, Moldavia and Transylvania.

Buzău Land is an entirely rural area that has a unique culture, featuring ancestral traditions and lifestyles of people who live in harmony with nature. They carry on elements of ancient Romania by perpetuating traditions such as loom weaving, amber polishing, blacksmithing, pottery or the making of musical instruments out of elder wood or plum wood.

A fairy-tale world still lingers here through the myths and legends – a world where the volcanic mud is spit out by a seven-headed dragon, while ogres lay

traps in the small muddy craters in order to catch the cattle that people send grazing in the fields.

The scientific explanation is far from such mythology. Natural gases rise to the surface from oil reserves that lie more than 3 km (2 miles) deep into the ground and stir the groundwater, washing the salt and the clays in the earth crust and thus creating the muds that erupt on the surface, forming either cones (vents) or bubbling (boiling) craters. When erupting, the mud volcanoes bring up pieces of rock, salt or fossils. In Buzău Land there are currently four main sites of active mud volcanoes.

Apart from mud volcanoes, we can also find traces of magmatic volcanism in the land of Buzău. One such example is over 14 million years old, dating from a time when Buzău Land was covered by sea instead of hills and mountains, as it was an underwater depression. In the wake of an eruption of a volcano in the Carpathian Mountains (which were just beginning to take shape), the ash was transported by the wind and fell into the sea, precipitating on its bottom. Over time, the ash hardened, and as the mountains rose and the sea retracted (its only remaining parts today are the Black Sea and the Caspian Sea), the white ash rose to the surface. Today, we can enjoy it in the vicinity of Mânzălești Village, where it forms a white spike of glass and volcanic crystals, called the „Grunj”.

Another important sight in Buzău Land can be found at the edge of Terca Village, where nature puts on a show that the locals remember being there since the beginning of time. Flames are coming out the cracks in a hill, burning incessantly. The elders say that the flames are „spirits of the place” who defend them against intruders, just as they did a few centuries ago, when the Tatars invaded the village. The invaders chased a few locals up the hill, but then fires came out of nowhere and scorched the raiders.

The flames are also a natural phenomenon, being



The „Trovanți” from Ulmet

caused by the methane that rises to the surface from 3 km (almost 2 miles) deep, the same as in the case of mud volcanoes. However, in this case the gas does not pass through any groundwater.

THINGS TO SEE IN BUZĂU LAND

■ ■ Wild nature

Buzău Land is one of the wildest places in Europe due to its vast forests, ancient trees and great biological diversity (over 77 habitats), including reptiles, birds, insects and the three great predators: the wolf,

the bear and the lynx, but also migrating bird species that come from the Mediterranean. Moreover, a plant the dinosaurs used to eat 65 million years ago is still growing here today.

■ ■ Eternal flames

In Buzău Land, in the vicinity of Terca Village, one can see a rare and spectacular phenomenon: the eternal flames or living fires – natural fires that seem to burn endlessly, coming straight from the earth. The source of these flames is the methane that rises to the surface from a depth of 3 km (2 miles).



Landscape with cart at Colți Commune

■ ■ Mud volcanoes

There are many places with mud volcanoes in Buzău Land. Some of them cause mud flows, while others generate small explosions that are totally harmless.

■ ■ **The Mud Volcanoes of Pâcelele Mari** are in fact a single volcano that has several cones. It is the tallest of its kind in Europe.

■ ■ **The Mud Volcanoes of Pâcelele Mici** are a group of somewhat shorter volcanoes, but they form the largest site of mud volcanoes in Europe.

■ ■ To the north of Pâcelele Mici and Pâcelele Mari, within the same Scorțoasa Commune, one can find the **Boiling Volcanoes of Beciu**, the most active of all. Their spectacular eruptions resemble those in Stromboli and Hawai'i. Other somewhat smaller boiling volcanoes are located north of Berca: almost circular craters that are always full of liquid mud. Gases rise to the surface and stir the mud, which seems to be boiling.

■ ■ The ash of prehistoric volcanoes

Millions of years ago, the wind would bring the

ash of erupting volcanoes from different places of the world to the land of Buzău. Some of the older ash came all the way from Anatolia. Other was blown in from the nearby Carpathian Mountains when their volcanoes were still active. The ash, now petrified, displays many colours: from white to green, grey or pink.

■ ■ Trovanți (sandstone concretions)

The word “trovant” is of Italian origin and means “a strange rock of unknown origin”. Almost 100 years ago, it was this name that was given to the bizarre-shaped stones of this land, which people had always called “Old Men and Old Ladies”. Folk stories tell that these *old men* and *old ladies* hold mischievous spirits within. In fact, they are naturally cemented sand mounds which formed from the sediment deposits of a prehistoric delta that existed here over 12 million years ago. The trovanți are shaped by the erosive forces of water and of wind, which grind away any soft uncemented grain of sand. The most representative sites are the Old Ladies and Old Men of Ulmet and the Mushrooms of Odăile.



The volcanic ash „Grunj”



Natural boilers from Beciu



Eternal flames from Terca

■ ■ Salt domes

The best-known salt mountain of Buzău Land is the one found in the communes of Mânzălești and Lopătari, called Meledic or the Salty Brink. It formed millions of years ago, during an age of global warming when Buzău Land resembled today's Dead Sea. Inside it there are dozens of salt caves (which cannot be visited due to the high risk of collapse), salt canyons and amphitheatres, but also a natural reserve. The Meledic area boasts the most complex karst relief of all Romania.

■ ■ Amber

The amber of Colți Commune is a fossilised vegetal resin dating from almost 25 million years ago. Here, the amber comes in innumerable hues (more

than 100, according to the locals), ranging from yellow and orange to green or black. The most precious type is the red amber called rumanite, a variety that can only be found in Buzău Land. There were once 13 amber mines here, and the nuggets extracted could be as small as a fingernail, but also as big as a pumpkin.

■ ■ **The Amber Museum of Colți** is a reference museum for Romania's cultural landscape. It exhibits amber nuggets, jewellery and tools for extracting and processing amber.

■ ■ Cave settlements

The cliffs scattered through the forest, but also the slopes of the mountains in this land are full of strange symbols, drawings or inscriptions in an an-

cient alphabet originating from Anatolia, but yet to be deciphered. However, the most spectacular vestiges are the rock-hewn dwellings, carved by a mysterious population during the late Antiquity and later inhabited by Christian monks. More than 20 cave settlements have been documented so far, but there are many other that still lie hidden in the wilderness of the mountains.

Landmarks: the cave complex of Aluniș, the rock-hewn vestiges in Nucu and Poiana Cozianței, the Cave of Joseph, the Cell of Dyonisius, the New Agaton and the Old Agaton.

■ ■ Bottom of a prehistoric sea

For tens of millions of years, Buzău Land was covered by the waters of a very large sea, one that included both the Black Sea and the Caspian Sea of today. Over time, the sea retracted and Buzău Land became first a sea shore, then a delta, later a lagoon area and finally the mountainous region of the present. The rocks and fossils record all these moments of the land's history.



The rock settlements from Aluniș



Rumanit



Salt crystals



The salt canyon

WHAT IS A BIOSPHERE RESERVE?

A biosphere reserve is a protected natural area recognised by UNESCO that reconciles biodiversity protection and preservation and sustainable development, with the support of research, education and awareness raising, in the framework of the „Man and the Biosphere” (MAB) Programme.

The International Coordinating Council of the “Man and the Biosphere” UNESCO Programme (MAB) met for the first time in 1971, and the concept of biosphere reserve was introduced in 1974. The year 1976 is considered the reference year for the Programme which aimed at creating a worldwide network of biosphere reserves.

In 1995, a strategy was defined for the first time at the Seville Conference, and a statutory framework was developed to support the principles accepted by all states. In the same year, the UNESCO General Conference adopted the Seville Strategy and its framework.

According to the Seville Convention, the concept of biosphere reserve means the communion between man and nature, i.e. man ensures the sustainability of biodiversity through his actions and can exploit the

renewable resources of nature.

The principles underlying the biosphere reserve concept are the following:

- ■ protecting and preserving biological diversity in areas of which human settlements are an integral part;
- ■ harmonious and sustainable development of man and nature, so that the conservation of biodiversity sustains the flow of ecosystem services and supports the creation of economic opportunities;
- ■ creating a global network of model regions, where options for adapting to changing environmental, economic and social conditions can be tested with the involvement of all stakeholders, in order to generate models for adaptation to the impacts of such changes.

Biosphere reserves are not subject to international conventions, but they share the principles defined above. They remain under the jurisdiction of the states in which they are located.

There are also cross-border biosphere reserves, which are subject to cooperation between the states responsible for the protection and management of the shared ecosystems. A biosphere reserve is divided into three zones according to their level of protection (the core zone, the buffer zone and the transition zone).

In 2022, the World Network of Biosphere Reserves comprises 738 sites spread across 134 countries, including 22 cross-border sites.



Rodna Mountains Biosphere Reserve

Year of inscription: 1979

The Rodna Mountains (or Pietrosu Mare) Biosphere Reserve overlaps with the Rodna Mountains National Park and is located in the counties of Maramureș and Bistrița-Năsăud, occupying an area of 47,000 ha. The Rodna Mountains Biosphere Reserve is centred on the Pietrosu Mare area, which was declared a protected area in 1932 and was included in the UNESCO World Network of Biosphere Reserves in 1979. The Rodna Mountains Biosphere Reserve is a diverse mountainous area consisting of peaks, dolines, caves, karst springs, valleys, calcareous cliffs, glacial cirques, glacial lakes, glades, meadows, pastures, junipers, coniferous forests, deciduous forests and mixed forests. The varied flora provides food and pasture for many species of mammals, birds, reptiles and insects characteristic of the Eastern Carpathians. In the Rodna Mountains massif,

the Pietrosu Mare peak stands out at a height of 2,303 metres. It is the highest peak in the Eastern Carpathians. The reserve includes the most impressive glacial relief in the Rodna Mountains: the Buhăescu glacial cirques (the largest in the Rodna Mountains), Zănoaga Iezerului, Zănoaga Mare, Zănoaga Mica, Rebra, and Gropi. In its basal portion there are moraines and waterfalls, as well as rocky slopes polished by glaciers. Most of the reserve is full of metamorphic crystalline rocks, such as those in Pânza de Rodna. The Voșlobeni formation is made up of mica shales, quartzites and amphibolites, dolomite beds and crystalline limestones (such as those at Turnu Roșu, Piatra Albă). Some of the notable peaks within the perimeter of the reserve are Buhăescu Mare (2,221 m), Buhăescu Mic (2,199 m), Gropi (2,063 m), Piatra Albă (2,061 m), Hotarului (1,905 m), Bătrâna (1,770 m).

Sunset from “Vârful Gropilor”

Photos: Rodnei Mountains National Park Administration

The reserve includes several glacial lakes:

■ ■ **Iezerul Pietrosului**, with an area of 3,450 square meters, a maximum depth of 2.50 m and a length of 84 m. It is located in the Rodna Mountains, under the Pietrosu peak, at an altitude of 1,825 m. The „Pietrosu” weather station is located near the lake.

■ ■ **Buhăescu I**, with an area of 700 sq.m, a maximum depth of 1.80 m and a length of 84 m. It is located in the Rodna Mountains, under the Buhăescu Mare peak, at an altitude of 1,905 m.

■ ■ **Buhăescu II**, with an area of 1,700 sq.m., a maximum depth of 5.20 m and a length of 55 m. It is located in the Rodna Mountains, under the Buhăescu Mare peak, at an altitude of 1,890 m. It is the deepest glacial lake in the Rodna Mountains.

■ ■ **Buhăescu III**, with an area of 700 sq.m., a maximum depth of 0.35 m and a length of 45 m. It is located under the Buhăescu Mare peak, at an altitude of 1,820 m.

■ ■ **Buhăescu IV**, with an area of 1,100 sq.m, a maxi-



Mountain Rooster



Iezer Lake



Rhododendron, Pietrosu and Buhăescu Peak

mum depth of 0.30 m and a length of 68 m. It is located under the Buhăescu Mare peak.

The flora consists of trees and shrubs including species of fir, spruce, beech, hornbeam, maple, linden, ash, birch, wild chestnut, elm, sycamore maple, alder, willow, bog pine, juniper, hawthorn, elder, hazel, blackberry, raspberry, rose hip or blueberry. As regards the plants, rare floral species grow in this reserve, such as: *Silene nivalis*, aconites, angelicas, alpine bellflowers, gentians, mountain peonies, globeflowers, the edelweiss, the roundleaf sundew, etc. **Mammals** are represented by the lynx, the alpine chamois, the marmot, the wolf, the brown bear, the otter, the fox, the squirrel, the marten, the Tatra pine vole (*Microtus tatrae*), the northern birch mouse (*Sicista betulina*) and others. The reserve is populated by the following species of **birds**: the black grouse, the western capercaillie, the eagle, the sparrowhawk, the raven, the white-throated dipper, the white wagtail, the woodpecker, the siskin,



Black Goat

the great tit, the common kestrel, the mistle thrush, the hazel grouse, etc. This biosphere reserve includes several **interesting tourist attractions**, tourist routes and thematic paths, while in its vicinity there are other attractions such as:

- the wooden church in Borșa din Jos, dedicated to the Holy Archangels Michael and Gabriel, built in 1700, a historical monument;
- the Moisei Monastery, a monastic ensemble with a wooden church, a stone and brick church, cells and gardens;
- the wooden church dedicated to the Assumption of the Virgin, belonging to the Moisei Monastery, built in 1672, a historical monument;
- the church dedicated to the Holy Apostles Peter and Paul, in the village of Săcel, built in 1909, now a historical monument;
- the obelisk of Borșa, erected in memory of the local victory over the Tatar invaders in 1717;
- the Maramureș Mountains Natural Park;



- the Sâlhoy-Zâmbroslovele rocks, a landscape, geological and botanical protected area;
- the nature reserve of Cornu Nedeei-Ciungii Bălăsinii;
- Piatra Rea (protected area);
- Izvorul Bătrâna, a hydro-geological nature reserve (0.50 ha);
- the Băile-Borșa tourist complex located 12 km northeast of the city centre;
- mountain hikes in Maramureș, Rodna and Țibău Mountains.

The responsibility for the administration of this biosphere reserve rests with the Administration of the Rodna Mountains National Park, under the National Forestry Authority (ROMSILVA), according to the provisions of the Government Emergency Ordinance no. 236/2000 regarding the protected natural area regime, the conservation of natural habitats, wild flora and fauna.



Danube Delta Biosphere Reserve

At the end of its 2,860 km course from its source (the Black Forest Mountains, Germany) to the Black Sea (the ancient Pontus Euxinus), the Danube has been building, for more than 16,000 years, one of the most beautiful deltas in Europe and in the world. Due to the richness of its landscape and its fauna in which birds are prevalent, the Danube Delta is of special interest from a scientific, tourist and economic point of view. Over time, the Danube Delta and the other neighbouring geographical units have received several

national and international recognitions in terms of nature protection. In 1938, the Letea Forest, part of the Danube Delta, was declared a nature reserve. During the 1950s, other parts of the Danube Delta were also declared protected natural areas, with a total area of 40,000 ha. In 1978, the Roșca-Buhaiova-Hrecisca area was declared a biosphere reserve. The changes that took place in Romania after 1989 allowed for the value of the Danube Delta to be reconsidered, the scientific and protection interest becoming paramount.

Year of inscription: 1998



Landscape in The Danube Delta

Thus, by the Government Decision no. 983/27 August 1990 (art. 5), the Danube Delta together with the Razim-Sinoie lagoon complex, the Sărățuri-Murighiol lake, the Isaccea-Tulcea sector (the undeveloped Danube meadow between Isaccea and Tulcea), the maritime Danube up to Cotul Pisicii, as well as the coastal seas up to the 20 m isobath, were declared a biosphere reserve, totalling an area of 580,000 ha. This decision was followed by the drafting and approval by the Romanian Parliament of Law no. 82/1993 which established the structure of the reserve, its administration, the protection and ecological reconstruction of certain damaged areas.

According to the biosphere reserve concept, man and his activity are not excluded from it, but integrated into it, so that the economic activity is reconciled with the means of conservation and protection. Biosphere reserves with human settlements are managed in such a way as to constitute models for the de-

velopment of human communities in harmony with the natural environment. Like all biosphere reserves, the Management of the Danube Delta Biosphere Reserve is carried out according to its own regulations and protection and conservation plans, in accordance with the recommendations of the UNESCO “Man and the Biosphere” Programme.

GEOGRAPHICAL COORDINATES:

The geographic position of the reserve is defined by the following geographic coordinates: 28°10'50” (Cotul Pisicii) and 29°42'45” (Sulina) east longitude; 45°27’ (Chilia Branch, km 43) and 44°20'40” (Midia Cape) north latitude.

From the point of view of its administrative-territorial organisation, the surface of the reserve is located on the territories of three counties: Tulcea (87.73%), Constanța (12.23%) and Galați (0.14%).

More than half of the total area of the reserve (312,440 ha) is covered by the natural aquatic and



Litcov Canal

terrestrial ecosystems included in the list of areas of universal heritage value (UNESCO Universal Natural Heritage Convention) and those intended for ecological construction, areas that constitute the public domain of national interest.

The exceptional value of the natural heritage, the role and importance of the biodiversity of the Danube Delta Biosphere Reserve were recognised by:

- its inclusion in the International Network of Biosphere Reserves (1990), in the framework of the “Man and the Biosphere” (MAB) Programme launched by UNESCO;
- its designation as a wetland of international importance, especially as a waterfowl habitat - RAMSAR Convention, in September 1991;
- the inclusion of more than half of its surface (312,440 ha) on the UNESCO World Heritage List, in December 1991;
- the awarding, in 2000, of the European Diploma for protected areas (renewed in 2005, 2010,

2020). The European Diploma of Protected Areas is one of the most prestigious distinctions in Europe, both due to the scientific criteria that must be met and to the mechanism for constant monitoring of compliance;

■ the inclusion of the Danube Delta Biosphere Reserve (DDBR), together with the Danube Biosphere Reserve of Ukraine, in the International Network of Cross-Border Biosphere Reserves Romania-Ukraine, in 1998;

■ its designation as an integral part of the European Ecological Network Natura 2000, both as a special conservation area (ROSCI0065 Danube Delta and ROSCI0066 Danube Delta - marine area) and as a special avifaunistic protection area (ROSPA0031 Danube Delta and Razim-Sinoie Complex and ROSPA0076 Black Sea), according to the Government Decision no. 1284/2007.

DESCRIPTION AND FEATURES



White water lily

The varied ecosystems of this wetland enhance the natural beauty of the Danube Delta and, enriching our existence. 23 natural ecosystems (partially modified by man) have been identified in the Danube Delta Biosphere Reserve, distributed over the entire surface of the reserve, from the Danube arms to the sea beaches. There are also seven anthropogenic ecosystems (modified by human intervention), which include agricultural, fishery and forestry facilities and human settlements. As a young region in continuous consolidation, the Danube Delta is a favourable place for the development of a flora and fauna unique in Europe, including numerous rare species.

SPECIFIC HABITATS.

Of particular significance is the designation of the Danube Delta as a site of community importance, which includes 29 types of habitats specific to the steppe bioregion and 4 types of habitats from the Pontic bioregion, within the European Ecological Network Natura 2000.

- The only delta in the world that is declared a biosphere reserve in its entirety
- Area 580,000 ha - 2.5% of the area of Romania
- One of the largest wetlands in the world - a wa-



Letea Village | Photo: Daniel Petrescu

terfowl habitat

- The largest compact area of reeds on the planet - approx. 170,000 ha of reeds
- One of the largest areas, especially as a waterfowl habitat

MAIN NATURAL ATTRACTIONS OF THE DANUBE DELTA BIOSPHERE RESERVE

The natural landscape of the Danube Delta, almost undisturbed by man, consists of a mosaic of ecosystems made up of river branches, canals, lakes of various types and sizes, reeds, bulrushes, sand dunes and oak forests with Mediterranean vegetation, representing the main tourist attraction of the Danube Delta.

The natural habitats created there provide favourable conditions for the development of an impressive biodiversity of deltaic ecosystems. The mosaic of habitats developed there is the most varied in Romania and hosts more than 9,581 species of flora and fauna, of which 2,391 species of flora and 6,197 species of fauna. However, the most renowned feature of the DDBR remains its ornithological fauna, with more than 340 species registered, accounting for about 90% of the national ornithological fauna.

The reed forms one of the widest compact surfa-



Colony of pelicans

ces in the world, and the Letea and Caraorman Forests are the northern limit of two of the rarest oak species that are more commonly found in the south of the Italian and Balkan Peninsulas, as is the case with the Greek liana (*Periploca graeca*). Along with a large number of aquatic and terrestrial plants, the delta is also home to many important colonies of pelicans and cormorants, which are characteristic species for the Danube Delta, as well as to a wide variety of waterfowl that visit or stop in the delta for nesting and wintering. The wealth of fish - over 135 species - in the delta's lakes, canals and Danube arms represents another tourist attraction both for fishing lovers and for those wishing to taste the traditional fish food prepared by the locals. The continental-temperate climate, with Pontic influences, long periods of sunshine and high temperatures allows for the tourist season to extend until the end of September and the beginning of October. The very wide coastal beach, with fine sand, calm sea with shallow waters, is also a great attraction for tourists.

The special natural values of the Danube Delta Biosphere Reserve are complemented by the cultural diversity existing in the reserve. The specific customs, traditional activities and culinary delights are some of the cultural components of the communi-



Letea Forest

ties in the DDBR.

The traditional houses, along with the popular costumes of the local communities are features that provide a special charm to the area.

When the reserve was established in 1990, an institution was also created and designated to manage the largest protected area in Romania - the Administration of the Reserve, a public institution with legal personality under the Ministry of the Environment, Waters and Forests. The Administration of the Danube Delta Biosphere Reserve (ADDDBR) is managed by the governor, who has the rank of undersecretary of state.

Ensuring sustainable development in the Danube Delta Biosphere Reserve is the principle underlying all programmes and projects initiated by ADDDBR together with its partners over the years.

The projects implemented aim to improve the management of natural resources in the reserve and their sustainable use, to increase the local population's standard of living and to engage people in the promotion of traditional economic activities and ecotourism, as well as to raise awareness and educate the local population and the general public with regard to the respect for nature.

A photograph of a forest stream flowing over mossy rocks in a dense beech forest. The water is clear and reflects the surrounding greenery. The trees are tall and slender, with sunlight filtering through the canopy. The overall scene is peaceful and natural.

Ancient and Primeval Beech Forests of the Carpathians and other Regions of Europe

Year of inscription: 2017

The element „Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe” became a UNESCO World Heritage site in 2007, when areas of ancient and primeval beech forests in Slovakia and Ukraine were included on the UNESCO World Heritage List. In 2011, the dossier was expanded due to the inscription of forests in Germany, and in 2017 Romania included eight components on the World Heritage List.

In 2022, the site „Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe” comprises 94 forest areas located in 18 countries: Albania, Austria, Belgium, Bulgaria, Bosnia and Herzegovina, Czechia, Croatia, France, Germany, Italy, North Macedonia, Poland, Romania, Slovakia, Slovenia, Spain, Switzerland and Ukraine.

With its eight designated components, Romania has the largest area of primeval beech forests, namely 23,983 hectares and a buffer zone of 64,450 hectares. The location of the eight Romanian components of the dossier „Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe’ is as follows:

1. Izvoarele Nerei Nature Reserve - in the Semenic-

Cheile Caraşului National Park;

2. Cheile Nerei-Beuşniţa Mixed Reserve - in the Cheile Nerei-Beuşniţa National Park;

3. Coronini-Bedina Nature Reserve, Ialna-Craiova Nature Reserve and Ciucevele Cernei Nature Reserve - in the Domogled-Valea Cernei National Park;

4. Cozia Massif and the Lotrişor Gorges - in the Cozia National Park;

5. Şinca ancient forest;

6. Slătioara ancient forest;

7. The ancient forests of Izvorul Şurii and Preluci, located in the Arcer-Țibleş Bran nature reserve;

8. Strâmbu-Băiuţ ancient forests.

Virgin beech forests are stable ecosystems, which are home to about 13,000 species that have come to live there without human intervention.

