



# HERAS

Submarine Archaeological Heritage  
of the Western Black Sea Shelf

## CROSSBORDER MANAGEMENT PLAN GUIDE FOR UNDERWATER HERITAGE TOURISM AT THE BLACK SEA



Common borders. Common solutions.



**CROSSBORDER MANAGEMENT PLAN/ GUIDE FOR UNDERWATER HERITAGE TOURISM  
AT THE BLACK SEA**

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## CHAPTER I

# CROSSBORDER MANAGEMENT PLAN/ GUIDE FOR UNDERWATER EXPLORATION OF THE BLACK SEA

## INTRODUCTION AND CONTEXT

In terms of size, the Black Sea is the third biggest sea in Europe, after the Mediterranean Sea and the North Sea. Black Sea is located between Europe and Asia, having as bordering countries Russia, Ukraine, Romania, Bulgaria, Turkey and Georgia.

The submerged territory of the Black Sea comprises a complex of underwater sites, which have been researched and documented in the recent years, in order to be included in the protected and development scientific circuit of the area's touristic potential.

### 1.1 Short description of the plan

The management plan for recreational and research diving in the Black Sea constitutes a guide for establishing objectives and management measures which have to be fulfilled in order to achieve these objectives.

The plan summarizes the information existent at the date of its elaboration and it establishes the general framework for the actions which are to happen during the progress of the project.

The elaboration activity of the Management Plan - Guide was integrated in the activities of the Romanian and Bulgarian partners: The National Institute for Marine Geology and Geo-Ecology Research and Development GeoEcoMar - Romania - Constanta branch, The National History and Archaeology Museum Constanta, Varna Oceanographic Institute (IO-BAS), Kavarna City Museum and "Respiro Underwater Research Society "Association.

The implementation of the guide-plan, benefits from the financial support of the Submarine Archaeological Heritage of the Western Black Sea Shelf - HERAS project.

The guide-plan represents the basis of the partners' activity within the HERAS project and constitutes a dialogue tool between them, as well as in relation to third parties (state's institutions, tourism agencies, clients, partners, etc.).

The management plan - guide also contains detailed and relevant information regarding the diversity of the submerged sites located in the Black Sea and belonging both to the Romanian and to the Bulgarian territory.



## 1.2 The plan's objectives

The concentrated activities of the group of partners regarding the implementation of the project are focused on meeting the established objectives:

- Economic sustainable development of the border areas, achieved through joint initiatives in identifying and improving mutual advantages and minimizing disadvantages.
- Social and cultural cohesion through cooperative actions between people and communities
- Supporting the development and promotion of integrated tourism products between borders.
- Stimulating cooperation and collaboration between universities, research institutions and business environment.

## 1.3 Legal basis

The development of the Management Plan - Guide was made under the UNESCO regulations regarding underwater exploration (UNESCO Convention on Underwater Cultural Heritage) and also in accordance with a set of standards regarding recreational diving, standards recommended by the international certification agencies for diving centres and recreational divers. (PADI, SSI, GUE etc.)

## 1.4 Safety regulations regarding recreational diving

### 1.4.1 General framework

The safety regulations regarding recreational diving are governed by international certification agencies and are applied by the approved diving centres, dive guides and recreational affiliate divers.

### 1.4.2 Safety regulations applied by diving centres

The diving centres approved by the certification agencies comply and implement the international and national regulations regarding:

- Regulations for certification agencies
- Protecting shipwrecks by applying the Code of Good Practice
- Applying the specific rules for Black Sea diving
- Informing the Border Police
- Establishment of an evacuation plan in case of accident
- Streaming the Alfa flag
- Possession and use of first aid kits
- Possession and use of emergency oxygen kits
- Appointing and training a person responsible for safety
- Performing a briefing before the dive.
- Indirect supervision (from the surface) of the divers
- Team diving system

- Direct supervision (underwater) of the divers
- Respecting the number of divers / guide
- Organizing orientation dives for guides

#### 1.4.3. Safety regulations for recreational divers

After being certified by international approved organizations, the recreational diver acquires a set of techniques and expertise which he shall apply when diving, in order for this underwater activity to take place in safe conditions. The received certifications and gathered experience can be proved with documents (certificate - cards, logbooks).

Divers have the obligation to comply with the safety regulations regarding:

- protection of shipwrecks
- knowledge and application of the Code of Good Practice
- presence at the briefing before which takes place before the dive
- use of the emergency oxygen kit
- use of the first aid kit
- team diving system
- use of adequate thermal protection when diving
- use of a diving computer
- use of a personal signalling light
- use of cutting instruments
- use of underwater flashlights

#### 1.5 Practicing underwater tourism





### 1.5.1 Relations of collaboration

In order to develop recreational diving activities and to promote submerged sites of interest from the Black Sea, the focus is set mainly on developing and growing the relation of collaboration between diving centres and on complete and accurate information of the personnel.

Also, information campaigns made for tourists and other connected marketing and informational activities, such as: tourism promotional websites, brochures and leaflets, tourism offers, are required.

All these activities could be the basis for developing new business opportunities in the region.

### 1.5.2. Diving normative (sites and shipwrecks)

For organizing, planning and performing recreational dives at the sites and in the areas of shipwrecks located in the Black Sea, apply rules for diving, environment preservation and good practices for protecting sites and shipwrecks against material degradation.

In order for specific diving rules to be standardized and for all diving rules to be applied, the involvement of recreational diving centres is necessary.

An important contribution to develop consistent and accurate underwater tourism in the Black Sea belongs to the tourism agencies, their implication being necessary for promoting recreational diving and also the guide for good practices.

#### 1.5.2.1 Shipwreck diving regulations

Shipwreck diving is allowed after the following process is completed:

- the shipwreck is classified
- the shipwreck is included in the adventure touristic circuit
- access is secured
- the shipwreck is secured for recreational diving

When evaluating the shipwreck, several characteristics are analysed and considered: finding the site, visibility, sea current, diving difficulty, presence of fishing nets, historical interest, photographic interest, biological interest (low / medium / high).

Specific data are gathered and recorded in order for a shipwreck to be documented and included in the tourism circuit: type of shipwreck, nationality, displacement, length, width, date and cause of sinking, position and geographic coordinates of the site, number of survivors, loading, minimum and maximum depth. Following a shipwreck discovery, its heritage and archaeological importance are established by assessing the cultural importance. The need for accessibility and archaeological excavations is established after analysing the distance to the shore, the depth and the area's specific risks.





Securing the access is made by installing permanent signalling lights on the site, marking the site on the navigation maps and informing the authorized institutions about its geographic position.

Securing shipwrecks is an important part when including it in the touristic circuit. The environmental and sinking risks are analysed and notified. Environmental risks require checking for potential leakage of hydrocarbons. Reducing and eliminating risks involves removing fishing nests, providing access routes and ensuring the loading.

#### 1.5.2.2 Rules for protection of shipwrecks

Direct action on shipwrecks is prohibited: removal, displacement, destruction and entering shipwrecks bearing a war grave status.

In the event of accidental findings: the shipwreck discovery is announced, the object is handed over (if applicable) and the reward is evaluated.

### 1.6 Cultural sites submerged into the Black Sea

#### 1.6.1 General framework

People associate world wars with military uniforms and cemeteries. Underwater legacies which are considered war relics are however little known, and there is little research in this area. The written history of world war naval components is usually limited to a description of the warships, the strategy and the technology used in the fight for power etc. However, the war wrecks hide a different history. Many of them are also graves. The reports of the sunken ships or the efforts to recover the dead speak about human suffering. These are evidence and memories that wars are born from the fight and wish for power, they end up in destructions, in separating families, in the sufferance of the innocent, in premature death of the young and in loss of hopes. And they all remain in history to remind humanity of the need for peace.

The General UNESCO Conference adopted in 2001 the Convention for the Protection of Submerged Cultural Heritage. This action came as a response to the destruction of submerged archaeological sites, destructions caused by treasure hunters and by some industrial activities. The convention also reflects the increasing awareness to provide the underwater cultural heritage the same protection which is provided to land heritage.

The submerged cultural heritage, as it was defined during the Convention, makes reference to all traces of human existence having a cultural, historical or archaeological character, which have been totally or partially underwater of at least 100 years, continuously or periodically. That includes millions or wrecks, sunken cities, traces of human existence on underwater territories, submerged sacrificed objects and religious sites located in lakes and rivers.





### 1.6.2 Protection of submerged cultural heritage

Regional collaboration activities and protection of submerged sites within the territory belonging to the Romanian Black Sea, follows the UNESCO Convention recommendations (Convention signed by Romania in ...):

- convincing as many states as possible to ratify the Convention for the Protection of Submerged Cultural Heritage
- Encouraging states that have not officially acceded to the Convention to still apply its principles.
- States' implementation of specific regional legal frameworks for the protection of submerged cultural heritage
- Constant elaboration of recommendations regarding the implementation of the Convention and enforcing any other conventions which may protect the submerged cultural heritage
- Development of cooperation relations between countries and national authorities, especially between customs services, police and naval authorities in order to control the imports of artefacts obtained from waters
- Description and monitoring of submerged cultural heritage in order to facilitate research and protection, but also to evaluate the impact of the environment on the artefacts
- Developing collaboration relations between institutions and scientists in order to evaluate and to catalogue the submerged artefacts, having as purpose their inclusion in the international data base. In this manner it is possible to monitor the conservation level and to develop feasible technical action to protect the artefacts
- Developing relations between divers and scientists in order to evaluate and monitor the human and environmental impact on the submerged cultural artefacts, in order to foresee their degradation
- Promoting submerged sites and providing responsible access to the public
- Developing and implementing concepts such as "protected marine areas", "maritime landscape", creating and promoting diving routes
- Developing and implementing cultural routes which can connect regional, coastal and submerged artefacts
- Informing and developing public awareness regarding the submerged cultural heritage
- Researching and documenting human stories connected to the sunk sites
- Encouraging value development projects for the submerged sites.
- Encouraging fundraising and financing activities for the value development projects and for the protection of submerged sites.

### 1.6.3. Submerged sites of interest and shipwrecks in the Black Sea

Submerged sites complex discovered and discovered in the Black Sea, Romanian territory belonging contains a variety of wrecks resulting both from military conflicts and from civil navigation causes.

#### “Arkadia”

##### RATINGS

Finding site: easy  
 Visibility: 5-15 m  
 Current: weak to moderate  
 Dive difficulty: medium  
 Presence of lines or nets:  
 Historical interest: high  
 Photographic interest: high  
 Biological interest: medium

##### DATA FILE

Type of wreck: cargo  
 Nationality: German  
 Year of construction: 1927  
 Displacement: 1756 DWT  
 Length: 84.16 m  
 Width: 12.86 m  
 Date of sinking: April 29, 1943  
 Cause of sinking: collision with a mine from S-57 barrage  
 Site position: 8.5 km East from Cape Midia  
 Survivors: all  
 Cargo: empty  
 Minimum depth:  
 Maximum depth:

#### Russian Submarine SCH 213

##### RATINGS

Finding site: easy  
 Visibility: 5-15 m  
 Current: weak to strong  
 Dive difficulty: medium to difficult  
 Presence of lines or nets:  
 Historical interest: high  
 Photographic interest: high  
 Biological interest: medium



##### DATA FILE

Type of wreck: submarine class Schuka  
 Nationality: Russian  
 Year of construction:  
 Displacement: 256 Ton  
 Length: 56.5 m  
 Width: 5,2 m  
 Date of sinking: October/November, 1941



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Cause of sinking: possible collision with a mine from Constanta barrage  
Site position: 10 Nm East of Cape Midia  
Survivors: none  
Cargo:  
Minimum depth: 27  
Maximum depth: 32

**"Sadu"**

**RATINGS**

Finding site: easy  
Visibility: 5-15 m  
Current: weak to moderate  
Dive difficulty: easy to medium  
Presence of lines or nets:  
Historical interest: low  
Photographic interest: high  
Biological interest: medium

**DATA FILE**

Type of wreck: bulk carrier  
Nationality: Romanian  
Year of construction: 1976  
Displacement: 4737 DWT  
Length: 106.05 m  
Width: 14.825 m  
Date of sinking: December 2, 1988  
Cause of sinking: collision with Constanta harbor dike  
Site position: Constanta harbor North dike  
Survivors: 7  
Cargo:  
Minimum depth: 25  
Maximum depth:

**"You Xiu"**

**RATINGS**

Finding site: easy  
Visibility: 5-15 m  
Current: weak to moderate  
Dive difficulty: easy to medium  
Presence of lines or nets:  
Historical interest: low  
Photographic interest: high  
Biological interest: medium

**DATA FILE**

Type of wreck: bulk carrier  
Nationality: Hong Kong  
Year of construction: 1992  
Displacement: 26802 DWT  
Length: 167 m  
Width: 26 m  
Date of sinking: January 4, 1995  
Cause of sinking: collision with Constanta harbor dike  
Site position: close to the north dike  
Survivors: none  
Cargo: empty  
Minimum depth: 25  
Maximum depth: 3

**"Paris"**

**RATINGS**

Finding site: easy  
Visibility: 5-15 m  
Current: weak to moderate  
Dive difficulty: easy  
Presence of lines or nets:  
Historical interest: low  
Photographic interest: high  
Biological interest: medium

## DATA FILE

Type of wreck: bulk carrier  
 Nationality: Maltese  
 Year of construction: 1971  
 Displacement: 25842 DWT  
 Length: 174 m  
 Width: 25 m  
 Date of sinking: January 4 1995  
 Cause of sinking: collision with  
 Constanta's harbor dike  
 Site position: close to north dike  
 Survivors: none  
 Cargo: empty  
 Minimum depth: 20  
 Maximum depth:

## "Vishva Shanti"

### RATINGS

Finding site: easy  
 Visibility: 5-15 m  
 Current: weak to moderate  
 Dive difficulty: easy  
 Presence of lines or nets:  
 Historical interest: low  
 Photographic interest: medium  
 Biological interest: medium

### DATA FILE

Type of wreck: cargo  
 Nationality: Indian  
 Year of construction:  
 Displacement: 12606 DWT  
 Length: 156 m  
 Width: 20 m  
 Date of sinking: March 01, 1968  
 Cause of sinking: possible bad weather  
 Site position: close to north dike of  
 Constanta harbor  
 Survivors: all

Cargo:  
 Minimum depth:  
 Maximum depth:

## Russian destroyer "Moskva"

### RATINGS

Finding site: medium  
 Visibility: 5-15 m  
 Current: weak to strong  
 Dive difficulty: difficult  
 Presence of lines or nets:  
 Historical interest: high  
 Photographic interest: high  
 Biological interest: medium



### DATA FILE

Type of wreck: destroyer (Leader) -  
 project 1 Leningrad class  
 Nationality: Russian  
 Year of construction: 1934  
 Displacement: 2597 Ton  
 Length: 127.5 m  
 Width: 11.7 m  
 Date of sinking: June 26, 1941  
 Cause of sinking: possible collision with  
 a mine from Tuzla barrage  
 Site position: 14 km East from Eforie Sud

Survivors: 69  
Cargo:  
Minimum depth:  
Maximum depth: 45

### “Mitera Zafira”



#### RATINGS

Finding site: medium  
Visibility: 5-15 m  
Current: weak to medium  
Dive difficulty: easy  
Presence of lines or nets:  
Historical interest: low  
Photographic interest: medium  
Biological interest: medium

#### DATA FILE

Type of wreck: cargo  
Nationality: Cypriot  
Year of construction: 1951  
Displacement: 8150 DWT  
Length: 140.3 m  
Width: 18 m  
Date of sinking: March 8, 1973

Cause of sinking: run aground in Cape Tuzla area due heavy fire.  
Site position: 2.5 km South of Tuzla Cape  
Survivors: all  
Cargo: phosphate  
Minimum depth:  
Maximum depth:

### “E. Evangelhia”

#### RATINGS

Finding site: easy  
Visibility: 5-15 m  
Current: weak  
Dive difficulty: easy  
Presence of lines or nets:  
Historical interest: low  
Photographic interest: high  
Biological interest: medium

#### DATA FILE

Type of wreck: refrigerated cargo liner  
Nationality: Greek  
Year of construction: 1942  
Displacement: 7355 DWT  
Length: 131.49 m  
Width: 17.46 m  
Date of sinking: October 15, 1968  
Cause of sinking: run aground in Costinesti area.  
Site position: 300 m. East of shore, Costinesti area  
Survivors: all  
Cargo:  
Minimum depth: 0 m.  
Maximum depth: 5 m.

## Multi Trader

### RATINGS

Finding site: easy  
 Visibility: 5-15 m  
 Current: weak to moderate  
 Dive difficulty: medium  
 Presence of lines or nets:  
 Historical interest: low  
 Photographic interest: medium  
 Biological interest: medium



### DATA FILE

Type of wreck: cargo  
 Nationality: Cambodian  
 Year of construction:  
 Displacement: 1010 DWT  
 Length: 59.95 m  
 Width: 9.53 m  
 Date of sinking: July 26, 2007  
 Cause of sinking: unknown.  
 Site position: 5.7 km. East of Jupiter

Survivors: all  
 Cargo: 1000 tons of construction materials  
 Minimum depth:  
 Maximum depth:

## “Akra Aktion”

### RATINGS

Finding site: easy  
 Visibility: 2-15 m  
 Current: weak to medium  
 Dive difficulty: easy  
 Presence of lines or nets:  
 Historical interest: low  
 Photographic interest: medium  
 Biological interest: medium

### DATA FILE

Type of wreck: cargo  
 Nationality: Greek  
 Year of construction: 1957  
 Displacement: 3851 DWT  
 Length: 91.4 m  
 Width: 12.54 m  
 Date of sinking: February 19, 1981  
 Cause of sinking: run aground near Vama Veche  
 Site position: 500 m. East of Vama Veche  
 Geographical coordinates:  
 43° 44'58.20"N / 28° 35'2.40"E  
 Survivors: all  
 Cargo: 3575 Ton of laminated materials  
 Minimum depth: 1 m.  
 Maximum depth: 8 m.



## CHAPTER II

### OTHER OPPORTUNITIES ALONG THE BLACK SEA COAST

Currently one in four trips contains elements of adventure travel. It is estimated that by 2050, one of two trips will contain adventure elements. Adventure tourism is part of the key products of traveling.

The practice of adventure tourism on the west coast of the Black Sea offers diversification opportunities in pre and after season periods. Also, in order to capitalize the benefits of heritage tourism is recommended ecotourism development (entertainment and sport).

#### ***2.1 OFF ROAD***





**a. CHITUC HILL**

Chituc Hill with an area of 2300 ha is a scientific reserve in the Danube Delta Biosphere Reserve. It is located on northwest of Sinoe Lake, a distance of 44 km from Constanta. Sandy roads and great views make a perfect off road track.



**b. DUMBRAVENI FOREST (BRIDES FOREST)**



Nature Reserve declared a natural monument (botanical site), Dumbraveni Forest has an area of 207.40 hectares. This area is represented by Dumbraveni - Urluia Valley - Vederosa Lake. Including limestone rocks with fossils and caves, valleys with temporary waters and a relatively-permanent watercourse this habitat preserves a rich biodiversity.

**c. WOLVES HILL**



Wolves Hill with an area of 2075 ha is a scientific reserve in the Danube Delta Biosphere Reserve. It is located on north of Golovița Lake and from east to south-west of Sinoe Lake, at a distance of 40 km from the city of Constanta.



d. JURASSIC REEFS CHEIA (CHEILE DOBROGEI)



Mixed Natural Reserve - geological, flora and fauna comprises an area of 5134 ha and is located in the Central Dobrogea Plateau, in the Cheia towns and Targusor.

e. HAGIENI FOREST

Nature Reservation protected since 1962, declared natural monument (botanical site) Hagieni Forest has an area of 207.40 hectares and is located in the Southern Dobrogea Plateau, not far from Mangalia Lake, between the villages Hagieni and Albesti.





f. CANARAUA FETII FOREST

Mixed Nature Reserve (has an area of 172.1 ha and is located on south of the Baneasa city and north of the border with Bulgaria. Geological substrate is represented by a karst type relief and in the center of reserve we found a broad valley called Canaraua Fetii consisting of a limestone canyon wall with maximum height of 40 m and furrows cracks and caves.



## 2.2 PARAGLIDING



In Mamaia, Eforie Sud, Cape Tuzla and Vama Veche are often organized Jumping Paragliding

## THE MARINE AREA FROM CAPE TUZLA



The marine area from cape Tuzla is in the Black Sea Ecoregion, Pontic bioregion of Romania, with an area of 1738 ha, 100% in Constanta county. Uniqueness is the bottom of the rocky reef site which has the largest expansion to deep at the varied and rugged terrain submarine Romanian sector of the Black Sea. The site hosts three habitats of Community interest:

## *2.3 PARACHUTE JUMP*

### TUZLA

These jumps are ideal for those who want to experience jumps at a speed of 120 miles per hour, without any day of training. Technically, the jump is called "tandem skydive". Before opening the parachute will dive in the air for several thousand feet with a professional instructor whom will be along the tourists along the descent.



## 2.4 CLIFF DIVING

Forty km further from Vama Veche lies a unique beach in Bulgaria - Tyulenovo - famous for its caves, fresh air, transparent colour of the sea and for high and rocky shores, ideal for jumping or climbing. This destination is not for those who want to read books or lying in the sun, but for lovers of extreme sports and adventure seekers.



## 2.5 CYCLING

Mountain-Bike Trail from 2 Mai - Forest Hagieni - Balta and Limanu Cave is a shift of 31 kilometers through fields, woods, hills and valleys, in a surprising setting for those attracted by the views of resorts from the Black Sea.





This sport allows visiting Natural Reserve Forest and Cave Limanu Hagieni. The mountain-bike trail map is in the triathlon "No Asphalt", a competition that takes place between cities 2 Mai - Vama Veche each year in the first weekend of June. There are organized tours between Mamaia-Cap Tuzla-Vama Veche-Balchik-Kavarna.

## 2.6 GOLF

Thracian Cliffs Golf & Spa Resort, Kavarna, Bulgaria



Nautic sports, golf course – biggest from Bulgarian seaboard; founded by known Gary Player, who state “You will not find a golf course like this anywhere else on the planet”. Framed by rugged coastal cliffs and the vast blue of the Black Sea, the 18-hole Gary Player designed Signature course at Thracian Cliffs is one of the most dramatic golf courses on earth.

## 2.7 RIDING (HORSEMANSHIP)

**Mangalia Stud** is situated 3 km north of the city and 500 m from the Black Sea. The Stud of Mangalia is the largest in Southeast Europe. It was founded in 1926 and officially opened in 1929. Apart the livestock the stud is also an excellent leisure center and a great tourist attraction. The complex has a well arranged racecourse gallop trot and horseback riding are in the premises.





## 2.8 FISHING

### SIUTGHIOL LAKE



Siutghiol Lake is located in Dobrogea Plateau Ecoregion, Pontic and Steppic bioregions of Romania, with an area of 1,849 ha, 100% in Constanta County. It represents one of the best choices for fishing locations.

### HERGHELIE SWAMP - OBAN HIGH AND CAVE MOVILE



Herghelie Swamp - Oban High and Cave Movile is in Dobrogea Plateau Ecoregion, of Romania Pontic and Steppic region, with an area of 232 hectares, Constanța County, Mangalia locality.

In site are mesothermal springs and sulfur springs. Cave "Movile" is the only ecosystem in the world which operating exclusively on chemosynthesis and has an impressive diversity of over 35 unique species.

## 2.9 OTHER UNDERWATER ATTRACTIONS

### MANGALIA UNDERWATER SULPHUROUS SPRINGS



Underwater sulphurous springs from Mangalia is in the Black Sea Eco-region (the territorial waters) Romanian Black Sea bioregions, with an area of 232 ha, 100% in Constanța County, Mangalia locality. This site is unique in Romania because of its genesis is closely related to the complex karst Dobrogea.

### VAMA VECHÉ - 2 MAI MARINE RESERVE



Vama Veche - 2 Mai Marine Reserve is in the Black Sea Ecoregion - Romanian Black Sea bioregions, with an area of 7,196 ha, 100% in Constanta County. The site Vama Veche -2 May is at the southern edge of the seaside Romanian, Bulgarian border and comprises a mosaic of marine habitats.

## 2.10 FOSSIL PLACES

### ALIMAN



Fossil place Aliman has an area of 11.13 hectares and represents a natural reservation declared monument of nature (paleontological site). Is in Medgidia Plateau in the western extremity of Constanta county, on the southeastern territory of Aliman village in the southern Vederosa Lake. Has the shape of a steep wall, consists of an alternation of limestones belonging to the Lower Cretaceous. It has a great scientific importance both nationally and internationally, as it is one of the few places in the country where you can continuously track the Lower Cretaceous stratigraphic succession in the southern Mediterranean typical facies.

### LIMESTONE WALLS FROM PETROȘANI



Limestone walls from Petroșani have a total area of 8.07 hectares and represents a natural reservation declared monument of nature (geological site). It is situated on the territory of the commune Deleni, Petrosani village, about 58 km from Constanta.



## 2.11 CAVES AND ARCHEOLOGIC SITES

### ADAM CAVE



Adam Cave has a length of 480 m and represents a natural reservation declared monument of nature (spelunking site). It is located at 40 km from Constanta, in Târgușor village. In cave were discovered five pieces of carved stone which have been identified as belonging to a shrine to the god Mithras, identified with the God of Light, and a fireplace near the cave settlements are named " Ester ", known in the Old Testament. It has a high degree of difficulty; the entry has several galleries upward and perpendicular to the main gallery, which is strongly meandering and has heights ranging between 6 and 15 m

### GURA DOBROGEI CAVE (KEIRIS CAVE)



Keiris Cave from Gura Dobrogei is located about halfway between the village Târgusor and the village of Gura Dobrogei and is part of the Natural Reservation "Gura Dobrogei".

Keiris Cave has a length of 480 m and represents a natural reservation declared monument of nature (spelunking site). The total length of the galleries is of 480 m. The cave presents three openings: I, the main entrance is 2 meters large and 1.5 meters high, oriented towards North.

It presents the scientific importance in terms of biospeleology, paleozoology and archeology - Paleolithic and Neolithic flint tools and fragments of Neolithic pottery, and metal objects belonging recent to Iron Age. Consists of a fossils gallery and a pottery gallery in which are ceramics, coins remaining populations that have succeeded in the cave from the upper Paleolithic until the eighteenth century.

## LIMANU CAVE

Limanu Cave is located near the shores of Black Sea and Mangalia town. The cave is surrounded by a rocky steppe area, at about 200 m from Mangalia Lake and a pine plantation. The cave became popular at the beginning of the 20th century, being also known as: Cave from Icoane, Cave from Baltă, Caracicola Cave. The cave is dug in the plateau of the right coast of Mangalia Valley, at 500 m upstream from Limanu village, in limestone deposits belonging to the superior Sarmatian (Bessarabian and Kersonian, 26 m altitude). The network of underground galleries that constitute the labyrinth from Limanu was dug by men, having as starting point the old natural cave. The length of the mapped galleries is of 3200 m. The tunnel is located in the North-Eastern area of the forest. It was dug in 1950 and used as a munitions depot. The tunnel presents 2 entrances, located at South-West, with the length of 8.5 m and height of 2.2m. The total length of the tunnel is 131.5 m, with a width of 1.5 m and height up to 3 m.





It is a fossil cave type of a great importance for paleontological fauna, but also the remains of human civilization. Spans more on horizontal, galleries network are divided into three sectors: the first sector, near the entrance, houses the bulk of the colony of bats, the second sector (central), the low number of galleries where they found fragments of pottery, mainly amphorae of Roman origin and the third sector where is a maze of tunnels.

## HISTRIA FORTRESSES

A precincts wall was built for the civilian settlement; it marks a "sacred area" on the acropolis, probably next to an agora. The inhabitants dedicate themselves to different artifact production occupations: precious metals, glass processing and especially of a local ceramics category, intended to improve the economic strength of the new colony.

Histria is the first Greek colony on the western shore of the Pontus Euxinus and the oldest town on Romanian territory. Situated on Sinoie lake shore, a bay in the past, Histria proudly signifies 14 centuries of uninterrupted history.

Histria was founded in the second half of the 7<sup>th</sup> cent. BC by Greek colonists coming from Milet and represented the most important economic and cultural center at the Danube mouths for a long period.

Histria city history ends after 14 centuries of existence. Its role in Dobrujan and West Pontus Euxinus area economic and cultural life was most important.



## CALLATIS FORTRESSES



The ancient city Callatis was founded by Doric Greek colonists in the 6<sup>th</sup> cent BC. It became a flourishing settlement in Hellenistic and Roman periods as an important harbor in the Black Sea region. The monuments discovered there show that trade and culture developed there to a high level. Many of them are preserved in situ (the precincts wall, one of the Roman-Byzantine quarters, funeral chambers).

## ALBEȘTI



The settlement in Albești is placed at the Western limit of the territory belonging to the Dorian colony Callatis. The fortified area has rectangular shape and occupies a surface of about 3200 m<sup>2</sup>. To the East, South and West the settlement stretches on a surface of about 12 ha. The fortification itself shows three consecutive building stages: the first two cover about equal surfaces and are dated to the middle and second half of the 4<sup>th</sup> century BC; the third stage, representing also an extension of the fortified area to the South, is placed in the 3<sup>rd</sup> cent BC (after the first decades of this century until its end or the beginning of the next one).



The settlement in Albești, with its strong „city” character, with edifices and street frame, defended by strong precincts walls has the attributes of a *fourion*, built after Greek model in the *chora* of the Dorian colony Callatis.

## CHEIA HAMANGIA SETTLEMENT



The Eneolithic settlement from Cheia fits into a carstic area that has ensured, in the course of time, a series of circumstances which have been propitious for life. It is the site of the discovery of the earliest traces of habitation in the space situated between the Danube and the Black Sea (“Bats’ Cave” - 600000 BC) and the oldest human fossils (“La Adam” Cave - from the Gravettian era).

The recent discoveries demonstrate that this ancient civilization still hides many secrets and is not sufficiently investigated yet. In the present moment, the archaeological site from Cheia represents the only systematic research of this culture in Romania. Given the density of the population in the area, we deem it absolutely necessary to draw up an ample interdisciplinary research project that could establish the complete chronology and, implicitly, a clear periodization, the reconstruction of the archaic environment, of the ceramic and lithic technologies, of some aspects connected to everyday life. Only thus, and not intuitively, can the problem of the origin of these communities be solved, communities which are so special in the scenery of the south-eastern European Eneolithic.

## CAPE KALIAKRA NATURAL AND ARCHEOLOGICAL RESERVE



Bulgarian state is owner of Kaliakra Natural and Archeological Reserve, but is administrated by Kavarna Municipality. The area of the reserve is 713, 67 hectares. It has been announced as reserve since 1941. Cape Kaliakra and the archeological reserve on its territory are located 12 km southeast of Kavarna. It is an oblong, narrowing rocky peninsula that juts out about 2 km into the sea. The rich history, the well-preserved landscape, and the beautiful panoramic views make Cape Kaliakra one of the most attractive tourist spots on the Black Sea Coast.

The earliest data for human occupation of Cape Kaliakra come from IVth millennium BC. Kaliakra was settled by the Thracian tribes. The greatest prosperity cape is in the second half of the XIV century, when the capital of the so-called Karvun despotism of the Bulgarian ruler Dobrotitsa. The merchants ships which are mooring in ancient Tirizis used deep western Gulf of Cape Kaliakra naturally protected of the north and east winds. It was first used during the Late Bronze Age. During the underwater archaeological expeditions there were found a stone anchors, the unique polymetal ingot, lead stock from all of types, Early Bizantine pottery, *graffito* pottery etc. In the aquatory of western gulf have been found 39 stone anchors at depth 5 up to 10 m.

## BOTANICHESKA GRADINA - BALCHIK PROTECTED SITE



The area of the protected site is 17.46 hectares and it has been announced from January 27<sup>th</sup> 2005. Botanicheska gradina - Balchik protected site are located 2 km southwest of Balchik town, near the Black sea coast. The aims of the declaration are: conservation of area with a distinctive landscape arising from the harmonious coexistence of man and nature; conservation of habitats of endangered, rare and vulnerable plant species.



Balchik SPA protected zone is located in 4 km east from Balchik town, on the Black Sea coast. The total area of zone is 1560.03 hectares and has been announced from February 10<sup>th</sup> 2012.

Balchik is a city on the Black Sea coast, Dobrich region in northeastern Bulgaria, situated at a distance of 42 km from Varna. Here is Balchik Palace, a favorite summer



residence of Queen Mary of Romania, surrounded by a famous botanical garden, unique in Central and Eastern Europe, especially due to the collection of cactus. Because of its nearby limestone slopes, the town was nicknamed the White City and the whole area was called the Silver Coast for the same reasons.

## DURANKULAK LAKE PROTECTED AREA

Durankulak Lake Protected Area is located 15 km north of Lake Shabla and 6 km south of the Romanian-Bulgarian border. The lake has been established as protected area since 2002. Durankulak is one of few monuments left from early farming societies in Europe and tell us about daily life. The Durankulak site has been excavated for decades under the direction of H. Todorova. The excavation in Durankulak took part between 1974 and 1997 when 1204 prehistoric burials were carefully recorded and the remains of 17 houses were found. The settlement in Durankulak was first occupied from 5200 to 4200 BC by inhabitants belonging to the Hamangia culture. The village in Durankulak was well-organized aggregations of buildings of substantial size with several rooms. Around 4700/4600 BC the stone architecture (Fig 9) was already in general use and became a characteristic phenomenon in the late Hamangia culture and can be seen as evidence of settlement differentiation. There are also remains from the Early Bronze Age, Late Bronze Age, Antiquity and Medieval Ages till the Xth century.



In the middle of the lake "floats" a small island, where is a well-known archaeological site called "Bulgarian Troy".

## YAYLATA PROTECTED AREA



The area of Yaylata is announced as an archaeological reserve in 1989 by a resolution of the Ministerial Council of Bulgaria. It covers comparatively big surface of the coast line starting from the village of Kamen bryag in the north and reaching 'Rusalka' resort in the south, including 500 meters all along the sea line as well. There are many monuments in the territory of the archaeological complex, belonging to different historical epochs- from VI millennium B.C. until the middle XI century. The regular archaeological excavations have been made since the beginning of 1980. Every endeavor has been made so that the early- Byzantine stronghold, the necropolises out of stone tombs and the cave complexes to be investigated carefully and in detail. Near Yaylata site there is a cave carved in limestone named after Konstantin and Elena Saints.





## SUHA REKA PROTECTED SITE

The Protected Area Yaylata is situated 2 km away from Kamen bryag in south and 18 km away from Kavarna in north-east. It is a seaside ledge covering 45.3 ha and is detached from the sea by 50-60 meters high rock massifs.



The area of the protected site is 2307.92 hectares and it has been announced from July 12<sup>th</sup> 2007. Suha reka protected site are located 25 km west Dobrich town. The Suha Reka protected site overlapping (partial or full) with: Natural Monument Peshterata and Natural Monument Vratata. The rocky monasteries at Suha reka a dated from the Late Antiquity (V - VI c. AD) and they are one of the oldest rock monasteries in Europe.

## 2.12 *TURISTIC PORTS*

TOMIS (CONSTANȚA), MANGALIA, EFORIE, BALCIK



Constanta (Tomis)



Mangalia





RESPIRO SOCIETY  
UNDERWATER RESEARCH

Tourist ports Tomis (Constanta), Mangalia, Eforie, Balchik offers recreational opportunities like riding (equitation), diving, scooters, ATV, surfing, windsurfing, jet skiing, kiting, paintball, soccer, volleyball, billiards, tennis, basketball, cruises, tourist routes.



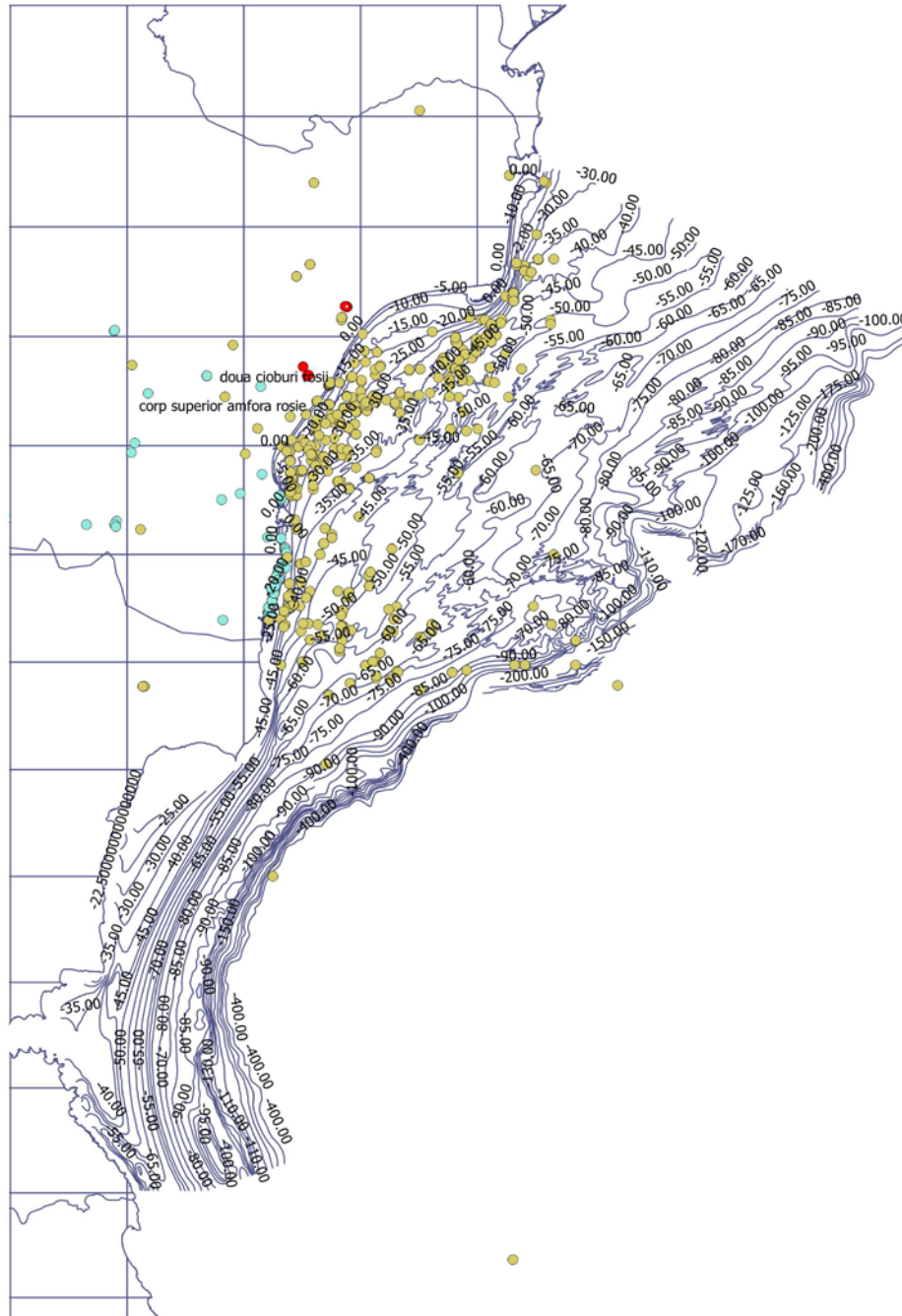
Eforie



Balcik



RESPIRO SOCIETY  
UNDERWATER RESEARCH



Map of the potential targets from the Romanian coast and shelf of the western Black Sea



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