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Diagnostic report - City of KOTOR



1. Brief details

NATURAL AND CULTURO-HISTORICAL REGION OF KOTOR

⇒ Fortified Adriatic city in Montenegro

⇒ Together with its surroundings due to its unique mixture of different cultural influences it has been entered in UNESCO's list of world's heritage since 1979.

⇒ Criterion (i): It is the gathering on the gulf coast of the monuments of the cities, their harmony with the landscape, and their insertion in town planning of great value that contributes to the Outstanding Universal Value of the property.

Criterion (ii): As the main bridge-heads of Venice on the South coast of the Adriatic, the aristocratic cities of captains and ship-owners of Kotor and its neighbours were the heart of the region's creative movement for many centuries. Its art, goldsmith and architecture schools had a profound and durable influence on the arts of the Adriatic coast.

Criterion (iii): The successful harmonization of these cities with the Gulf, their quantity, quality and diversity of the monuments and cultural properties, and especially the exceptional authenticity of their conservation, mean that the property can effectively be considered as unique.

Criterion (iv): Kotor and Perast are highly characteristic and authentically preserved small cities enhanced by architecture of great quality. Their town-planning is well adapted to and integrated in the landscape. .

⇒ Moreover, the transnational, serial nomination of Venetian fortifications from the 16th to the 17th century, which were candidates for enrollment in three countries: Italy, Croatia and Montenegro, was accepted at the 41st session of the UNESCO World Heritage Committee, held in Krakow from 02-12 July in 2017 which made Kotor a city with inscription on UNESCO list per two basis.

⇒ Boka Kotorska Bay was included in the Club of Most Beautiful Bays in the World.



2. Administrative information – Emergency Contact Details

While the Mayor is the head of the municipal protection and rescue team, there is also a local protection and rescue service that deals with tasks within its competence, derived from the Law on Protection and Rescue of Montenegro. The members come from various companies, institutions established by the municipality and health institutions.

Risk Prevention and Emergency Management Structure

Municipal Emergency Response Team

- ⇒ The Mayor: Head of the emergency team.
- ⇒ The Chief of the Protection and Rescue Service: Deputy head.
- ⇒ Local Stakeholders: Municipal institutions, companies, and healthcare providers.
- ⇒ Specialized departments involved: Protection and Rescue Service, Cultural Heritage, Budget and Finance.

Emergency contacts:

Mayor's office
Municipal Protection and Rescue Service
Ambulance
Police administration

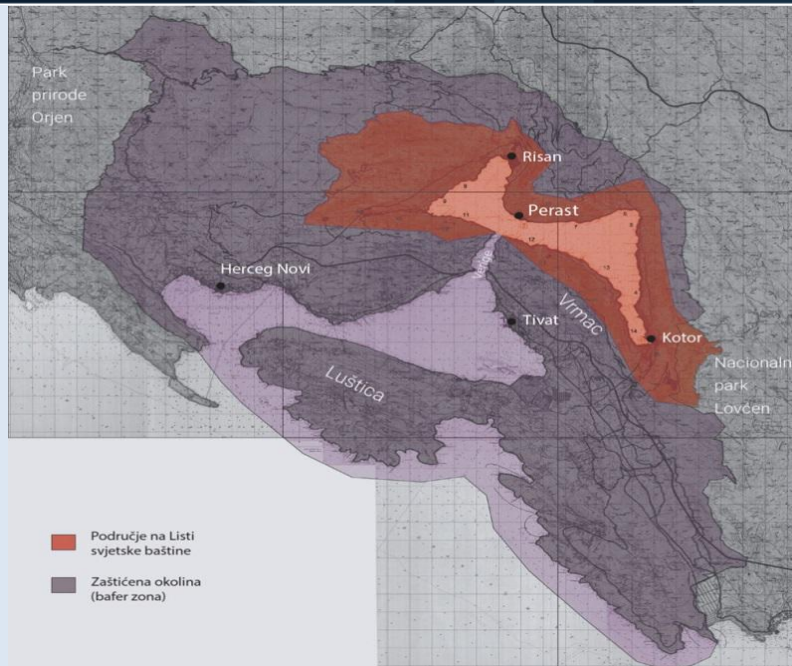
3. Geographical info

The Natural and Culturo-Historical Region of Kotor is located in the Boka Kotorska Bay, on the Adriatic coast of Montenegro. The property encompasses the best preserved part of the bay covering its inner south-eastern portion. The boundaries of the Kotor Area cover a total surface of approximately 12,000 ha, of which around 9,500 ha is land and about 2,500 ha is marine area, located within the territories of the municipalities of Kotor, Herceg Novi, Tivat, and the Old Royal Capital Cetinje. Within the Municipality of Kotor, it includes the areas of: KO Kotor I, KO Kotor II, KO Dobrota I, the large western part of KO Dobrota II, the small western part of KO Zalazi, KO Orahovac I, the southern and southeastern part of KO Orahovac II, the large southern part of KO Perast, KO Risan I, the large southern part of KO Risan II, the southern part of KO Donje Krivošije, a large part of KO Morinj, the large northern part of KO Kostanjica, KO Stoliv I, the large northern part of KO Stoliv II, KO Prčanj I, KO Prčanj II, KO Muo I, the large northern part of KO Muo II, KO Škaljari I, the large northern part of KO Škaljari II, and KO Špiljari. Within the Municipality of Herceg Novi, it includes the areas of: KO Ubli and a small southeastern part of KO Žiljebi. Within the Old Royal Capital Cetinje, it includes the southwestern part of KO Njeguši. Within the Municipality of Tivat, it includes the northern part of KO Lepetani, the northern part of KO Gornja Lastva, and a small eastern part of KO Bogdašići. The Kotor Area also includes the marine basin of the Kotor-Risan Bay.

The protected buffer zone of the Kotor Area covers a space extending across the territories of three municipalities: Kotor, Tivat, and Herceg Novi, and includes part of the Boka Kotorska Bay aquatorium, including the Tivat Bay, Kumbor Bay, and Herceg Novi Bay, as well as the entrance to the Boka Kotorska Bay with Mamula Island and Cape Arza, the Ponta Oštra Peninsula, the southern part of Krivošije and Ledenice, the settlements along the coast of the Tivat Bay, the Tivat Archipelago (Prevlaka Peninsula, St. Mark's Island, Our Lady of Mercy Island), the western side of the Vrmac Peninsula, the settlements along the coast of the Herceg Novi Bay, and the slopes of Mount Orjen with the villages (Ratiševina, Trebesin, Kameno, Podi, Sušćečan, Sutorina, Malta, Lučiči).

⇒Red zone on the map: Protected area

⇒Grey area on the map: Buffer zone

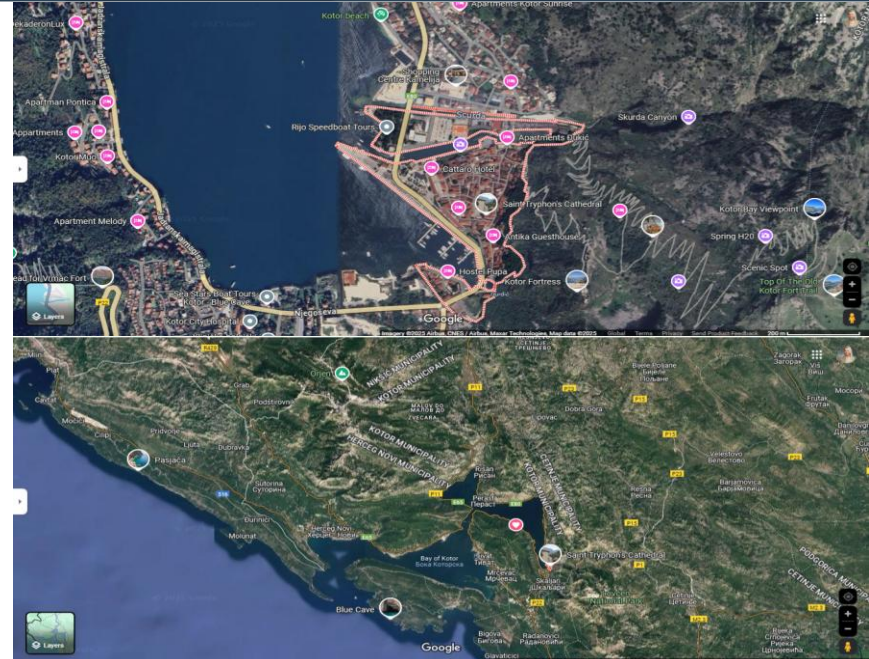


4. Property Ownership

⇒ Data related to the area of the Bay (heritage site excluding the Buffer zone):

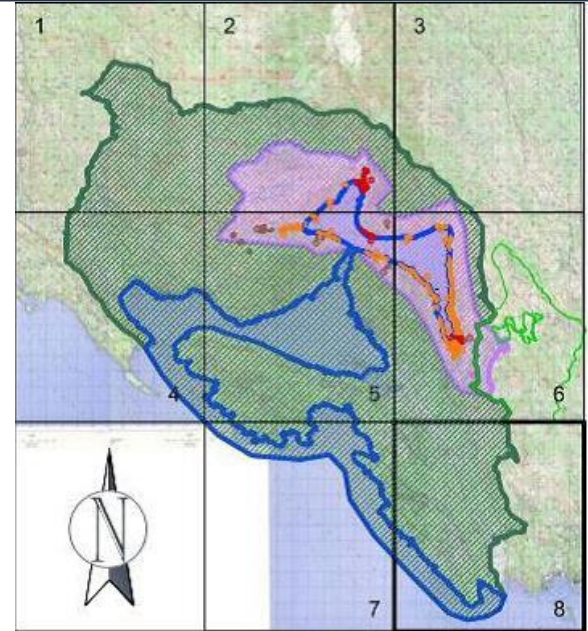
Total number of Business spaces: 43, Total area: 2111m²
Total number of non-residential spaces: 63, total area: 3217m²
Total number of residential spaces: 194, total area: 9657
Total number of spaces in non commercial use: 120, total area: 8591
Garage as part of the building area 107m²
Monument of culture: area 963
Storage house, area 7m²
Community building total area 220
Business space for sports total area: 2263

⇒ The data for buffer zone exists however it takes extensive analysing to extract such data. The entire document has the indicators of ownership however it is extensive and in Montenegrin language.



5. Protection Level

⇒ The authority responsible for the protection of structures within the protected and buffer zones is the Administration for the Protection of Cultural Property. For any intervention on structures or construction within these zones, it is mandatory to obtain conservation conditions or to develop a conservation project from the Administration.



6. Type(s) of risk/hazard to which the city is exposed

Landscape Complexity: Protected area: 14,600 ha, diverse topography

⇒Challenges in maintaining quality of life for residents amidst heritage preservation.

⇒Earthquake Risk: Kotor is situated in a high seismic zone.

⇒Fire Risk: Wildfires during summer months, especially in tourist peak season. Increased risk due to narrow streets in Old Town and short-term accommodations.

⇒Flood Risk: Flash floods due to intense winter precipitation. Impact on infrastructure and heritage sites

⇒Landslides

A catastrophic earthquake happened in 1979 while the fires occur almost every year affecting some buildings.

For the period 01/01/2024 – 31/12/2024, the Protection and Rescue Service Kotor recorded a total of 343 interventions. The Volunteer Fire Department from Perast conducted 114 interventions, resulting in a combined total of 458 interventions. The past year was marked by a higher number of interventions by the Protection and Rescue Service and fewer by the Volunteer Fire Department in Perast.

There was one major forest fire last year, which occurred on Vrmac Hill and lasted several days. Firefighters from the Volunteer Fire Departments of Tivat and Kotor, as well as the professional Protection and Rescue Service from Tivat, assisted in extinguishing the fire.

There was an increase in indoor fire incidents, rescues of individuals from the surrounding hills, and technical interventions. All interventions were carried out according to protocol and field conditions. No injuries were recorded among firefighters or civilians.

Some interventions involved assisting the Emergency Medical Service and local citizens in transporting patients between ambulances, homes, and hospitals.

One notable trend in 2024 was the frequency of mountain rescues within city limits. Nearly every week, half of the Service's personnel had to be deployed to rescue irresponsible tourists. These interventions require large teams and specific equipment. We hope for a solution that will regulate the obligations of foreign visitors towards emergency services, particularly in cases of deliberate hiking outside marked trails. Fortunately, all such interventions were completed successfully, with no injuries to tourists or firefighters.

7. Existing information about the site

At the time of the inscription, immediately following the 1979 earthquake, the protection, reconstruction, and management of the cultural monuments and historic urban areas of Boka Kotorska Bay were guaranteed by the Montenegrin Republic Institute for the Protection of Cultural Monuments. After the 1979 earthquake, the management of the whole region was carried out within the Southern Adriatic Development Plan, which was developed with the help of the United Nations Development Programme (UNDP). The programs included the preservation, presentation and rehabilitation of cultural monuments in the old towns and settlements. At the same time, industrial facilities (4 factories) that conflicted with the character of the property were cleared. In 1980, the Municipal Institute for Protection of Cultural Heritage was established with its seat in the Old Town of Kotor, for the purpose of management and conservation of the property. In 1992, it was transformed into the Regional Institute for the entire area of the bay including the municipalities of Kotor, Tivat and Herceg Novi. Since the end of 2011, conservation work, field studies and preparation of conservation guidelines for the municipalities of Kotor, Tivat, Herceg Novi and Budva have been undertaken by the Directorate for Protection of Cultural Heritage of Montenegro and the Centre for Conservation and Archaeology of Montenegro through their local offices in Kotor. The post-earthquake reconstruction has been completed, and the conservation and management of the monuments and historic centres of Kotor and Perast are carried out with high professional competence. The need to prevent excessive and uncontrolled urbanization led to the development of the Management Plan of the protected area, which was adopted by the Montenegrin Government in 2011. At the same time, a new legal framework for the area of cultural heritage conservation was created with the Law on Protection of Cultural Properties (2010), which prescribed integrated protection of the property and its buffer zone. The Law on Protection of the Natural and Culturo-Historic Region of Kotor (2013) makes provisions for the establishment of the Council for Management of the Kotor Region, with the role of coordinating conservation, preservation and management of the property. In addition, with the buffer zone defined in 2011 encompassing the entire area of the Boka Kotorska Bay, the groundwork has been laid to treat this cultural landscape in an integrated manner through spatial and development plans.



8. Significance of the World Heritage City

The status of the World Heritage Site implies the long-term commitment of all involved in this process. Therefore, the basis must be the protection and preservation of exceptional universal values on the principles of sustainable development for present and future generations. The area of Kotor is located in the impressive natural and cultural environment of Boka Kotorska, which consists of four interconnected bays framed by high mountains and concentrated around the central visual axis that integrate these elements into an outstanding landscape ensemble. At the south-western side the sea connects Kotor with the rest of the world. Kotor has the status of permanent border maritime crossing and a port for international maritime transportation. The port of Kotor is connected to the coastal towns and the ones in the hinterland. The activities in the field of tourism on which the economy of the town relies especially in respect of future development of Kotor also includes nautical tourism activities. Over the past couple of years the Port of Kotor witnessed a significant growth of transportation of vessels and passengers with big renowned cruising companies visiting our port regularly. In the Middle Ages, this natural harbour on the Adriatic coast in Montenegro was an important artistic and commercial centre with its own famous schools of masonry and iconography. A large number of the monuments (including four Romanesque churches and the town walls) were seriously damaged by the 1979 earthquake but the town has been restored, largely with UNESCO's help. The Outstanding Universal Value of the Culturo-Historical Region of Kotor is embodied in the quality of the architecture in its fortified and open cities, settlements, palaces and monastic ensembles, and their harmonious integration to the cultivated terraced landscape on the slopes of high rocky hills. The Natural and Culturo-Historical Region of Kotor bears unique testimony to the exceptionally important role that it played over centuries in the spreading of Mediterranean cultures into the Balkans. Kotor is home to 40% of Montenegro's tangible cultural heritage and over 70% of its intangible heritage. The Old Town, with its medieval fortifications and Romanesque churches such as the Cathedral of Saint Tryphon, Church of Saint Luke, Church of Saint Anne, Church of Saint Mary the Collegiate, and Church of Saint Michael, the settlement of Perast with the island church Our Lady of the Rocks, the ancient Roman mosaics in Risan, and the Church of the Virgin Mary in Prčanj and many more.



9. Summary of buildings and urban fabric

⇒ Before the very construction of objects and reconstruction as well, during the phase of obtaining the urbanistic and technical conditions, there are limits meaning that the objects have to be built accordingly to the method of construction that satisfies the seismics, that is, 9 degrees on Richter's scale, as well as all other legally prescribed norms in order for objects to be stable. ⇒ The document such as the building condition rating or condition and vulnerability rating of the buildings is not available at the moment.



10. Existing risk assessment management / planning procedures

⇒ The Municipal fire and rescue service deals with fire fighting, rescuing lives and their property as well as the actions of humanity to the needs of citizens. Over the years the fire fighting service provided services of distinguishing fire of low vegetation, in the woods, inflamed containers, waste bins, waste, fires in private houses, apartments and properties. The service also carried out specific interventions such as searching the terrain for missing persons, rescuing injured tourists from Kotor Fortress and City walls, extracting a granate from the sea, saving pets, helping colleagues from neighbouring municipalities fight the fire at their territory, providing drinking water to the residents of Kotor, performed transshipping of fuel at boats at the Port of Kotor, rescuing people at the sea etc. The Protection and Rescue Service Kotor has 24 employed firefighters-rescuers. All of them are experienced, well-trained, and professional in their work. Operations are organized in three continuous 24-hour shifts. The Volunteer Fire Department “Bogoljub Brezić” from Perast employs 12 firefighters-rescuers who, by performing protection and rescue tasks for people and property, ensure full operational capacity. Each shift includes five to seven firefighters-rescuers, significantly improving the Service’s performance. This ensures that two fire trucks can be dispatched simultaneously, which was not possible in previous years. The Service is characterized by strong results across all types of interventions, outstanding dedication, and high levels of sacrifice. With their professional and swift response. Emergency Interventions in 2024

⇒ Ongoing procedures and strong points: Procurement of narrow-access firefighting vehicles; Specialized training for indoor fire suppression; Vehicles are equipped for fire suppression in both indoor and outdoor environments, multiple types of technical interventions; Regular provision of fire suppression chemicals: Powder, foam-making extract, and CO₂ gas; Daily checks of firefighting and rescue equipment ensure operational readiness; Older equipment prone to failures is replaced based on financial capability; Proper maintenance and storage of equipment are ensured by dedicated Service personnel; Strong cooperation with businesses, private entrepreneurs, and the local population, particularly in the area of fire prevention; Citizens frequently report fire outbreaks early, allowing faster hazard response; Every intervention is systematically recorded, including: time of report, location, estimated cause, participating personnel, and material damages. hters have mitigated the consequences of complex situations and have shown themselves to be worthy successors of Kotor’s firefighting tradition spanning over 150 years.

Emergency Response Planning

⇒ Based on work plans and past experiences, the first step was the technical modernization of the service and the development of operational plans in order to proceed with the drafting of planning documents, as these form the basis for the use of all resources and equipment. Regarding the operation of the services themselves, there is no significant difference between the past and current state. Planning was previously tied to resources that had not been allocated in the budget. As of this year, the budget includes the funds necessary for the development of plans.

Status of the Risk Management Plan

⇒ Each type of risk has a dedicated plan (e.g., rescue in floods and fires, while a plan for earthquake response is currently in development). A municipal Strategy of risk assessment will be prepared during this or the next year, as funds have been allocated for this purpose in the municipal budget.

11. Training plans and information programs

In 2022, a major multinational earthquake rescue exercise was organized under the EU Civil Protection Mechanism. In addition to Montenegro as the host country, participating countries included EU Member States Greece, Bulgaria, Italy, and Spain, as well as non-EU countries Serbia, Albania, and Cyprus.

In 2024, training for firefighters in the suppression of indoor fires continued. The training took place at the "Šapjane" Training Center in Rijeka (Republic of Croatia), one of the best facilities of its kind in this part of Europe. Four members completed the training. Special emphasis was placed on indoor fire suppression due to the high risk these fires pose. Modern materials used in furniture and household items reach extremely high temperatures when ignited, significantly increasing the danger for firefighters intervening in such conditions. Therefore, considerable focus was placed on developing staff expertise in this area. The knowledge gained greatly assisted in more efficiently executing tasks in the field. Continued training for 2025 has already been agreed upon. In collaboration with members of the Volunteer Fire Department (DVD) "Bogoljub Brežić" from Perast, joint exercises were conducted in vehicle accident rescue, high and low-angle rescues, operations in smoke-filled environments, as well as orientation and room-search drills in smoky conditions. Members of the diving unit conducted their training in the Kotor Bay area. New members were gradually introduced to the diving unit. Experienced divers trained in open waters, while beginners practiced in the bay. As part of the preparations for the summer wildfire season, we carried out standard preventive activities. A ban on the use of open flame was issued for the period from 01/06/2024 to 30/09/2024. Through public media, we raised awareness by educating citizens about fire hazards caused by negligence. A tactical firefighting exercise was conducted aboard a ship, in collaboration with employees of the Port of Kotor. This exercise demonstrated the Service's ability to respond to fires on large vessels moored along the coast, particularly thanks to the acquisition of an aerial platform fire truck with a reach of 27 meters. The exercise was carried out successfully, much to the satisfaction of the ship's crew aboard "SEABOURN ENCORE". Firefighting vehicles available to the Service were regularly maintained and registered.

Weekly and monthly inspections of vehicles and equipment were carried out consistently. As in previous years, a portion of outdated or non-functional equipment had to be decommissioned (portable backpack pumps, gas-tight suits, protective suits, fire hoses, etc.). All employees were covered by life insurance during the year. In 2024, a comprehensive medical check-up was conducted for all staff, with results confirming good overall health. Fire protection equipment used by entities operating in the territory of the Municipality of Kotor was serviced upon request. All servicing data were logged as usual to facilitate monitoring of the field situation and improve prevention. All consumable materials for fire protection equipment servicing were provided and procured by the Service as needed. To enhance the training level of firefighters-rescuers, and with the help of partner institutions and companies from our city, training in high-angle and low-angle rescue was successfully organized and completed. The training was conducted by instructors from the Šapjane Training Center in Rijeka, with whom we have an excellent cooperation in training firefighters. The training focused on rope rescue techniques, completing the full scope of responsibilities as prescribed by the Law on Protection and Rescue.

Last year, the Protection and Rescue Service also conducted international activities. As part of the national earthquake rescue team, our firefighters Mihail Vukšić, Božidar Belan, and Nikola Banićević participated in a humanitarian mission to assist the affected population in Jablanica (Bosnia and Herzegovina). We are extremely proud that our firefighters made a significant contribution and provided assistance to the local population to the best of their ability. Unfortunately, equipping national rescue teams will likely have to wait until experts and dedicated professionals are appointed to positions that require knowledge and commitment to protection and rescue.

At the invitation of the Firefighting Association of the Primorje-Gorski Kotar County, we participated in a professional firefighting conference held in Opatija from April 10 to April 12, 2024. In addition to closely following presentations by colleagues from various fields, we exchanged valuable experiences related to daily operations, which will greatly benefit our future work.

12. Useful contacts

Qualified contractors who can be contacted for urgent stabilization and repair works on damaged structures

local, regional, and other experts who can be contacted to conduct on-site assessments and provide first aid in case of a disaster, in coordination with emergency services.