



## **Interim Report**

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### ***Conservation of the Northern Surrounding Walls (Phase2) - Project BF14/07***

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**BUTRINT HERITAGE CENTRE**

For Preservation, Research and Development of Culture and Natural Heritage of Butrint National Park  
Lagjia Nr.2. Ksamil 9706 Sarande, Albania

### ***Conservation of the northern surrounding walls: from the Lake Gate to Western Gate (Phase2)***

The work so far for the second phase of the project was focused in maintaining the results achieved last year and continuing the intervention in the other sections within the area in the scope of the project.

Keeping on to the parallel combination of conservation techniques and practices, vegetation management, the park staff and local students training ensures long and sustainable results for the future.

The implemented intervention undertaken so far consist on the vegetation management, trails improvement, and stabilization and preparation of the structures for the consolidation works.

Because of the isolated location of this monument, a lot of energy and intense work was required for transporting the materials and needed equipments.

The focus was not only on the wall structures, but it considered the intervention for the whole broader area around the northern defense walls, where are located some of the most outstanding sections of the surrounding walls including phases from Hellenistic, late antique, medieval and Venetian period.

### **Stabilization and consolidation of the structure of the North West Spur Wall**

The North-west Spur wall was built in the medieval period from the northwest of the acropolis fortification across a strip of land reaching down the lakeshore and closing off the access to the north side from the isthmus. This wall was built in order to enhance the natural protection provided by the lake and the channel that surround the peninsula by three sides.

A detailed analysis and diagnosis of the main degrading agents was undertaken in order to ensure that the intervention would stop and minimizing the impact of these agents on the monument.

During 2013 some of the sections of this wall were successfully consolidated in the framework of this project and the same interventions have been continued to the other sections of the wall that need to be consolidated.

Before any consolidation work is undertaken the wall structure has been stabilized by minimizing the impact of the degrading factors such as water causing the erosion and mortar degrading from on the wall base, vegetation growth that caused structural cracks and as well degrading of mortar joints. In order to improve the stability of the structure a series of interventions were undertaken:

➤ **Backfilling of the ponds beside the wall**

Because of the unstable terrain which is caused due to the proximity with the wetland it was continued the backfilling of the area beside the water in a width of about 1.5 meters in the western side of the wall. This not only creates a stable terrain and stops water erosion but also serves as base platform for scaffolding and enabled access for conservation workmen. The rock materials were collected along the excavated sections of the road from Ksamili and were transported to the spur wall with the support of the floating platform that was build some years ago.



**Backfilling of the ponds and continuation of the platform in sections 8.ga – 8.fa**



### ➤ **Vegetation clearance**

Generally, vegetation growth is considered as one of the main degrading factors for the structure of the monuments at Butrint. This factor was heavily impacting the stability of the sections of the spur wall due to the considerable height but low width of the structure.

During 2014 was continued the clearance and treatment with the herbicide of the remaining stumps and roots from bushes and trees which were cut in 2013 and previous season. Initially the degraded parts from the remains of the vegetation were removed and the areas were washed from any loose organic materials.

After the wall was washed from any solid roots and leafing stumps were treated with herbicide. Such action is important because all the roots and stumps have to be killed before the consolidation with new mortar is applied and also it serves to stop new vegetation growth.

As well the wall was cleared from the low annual and perennial vegetation. On the wall tops where the vegetation was denser vegetation was initially treated with herbicide and when roots started to decay it was mechanically removed. The vegetation in the vertical faces of the wall was mechanically removed.



**Closing wall sections 8f – 8a showing the dense vegetation before the intervention**





**Closing wall (sections 8f – 8e above and 8d – 8a below) after the intervention for vegetation clearance**





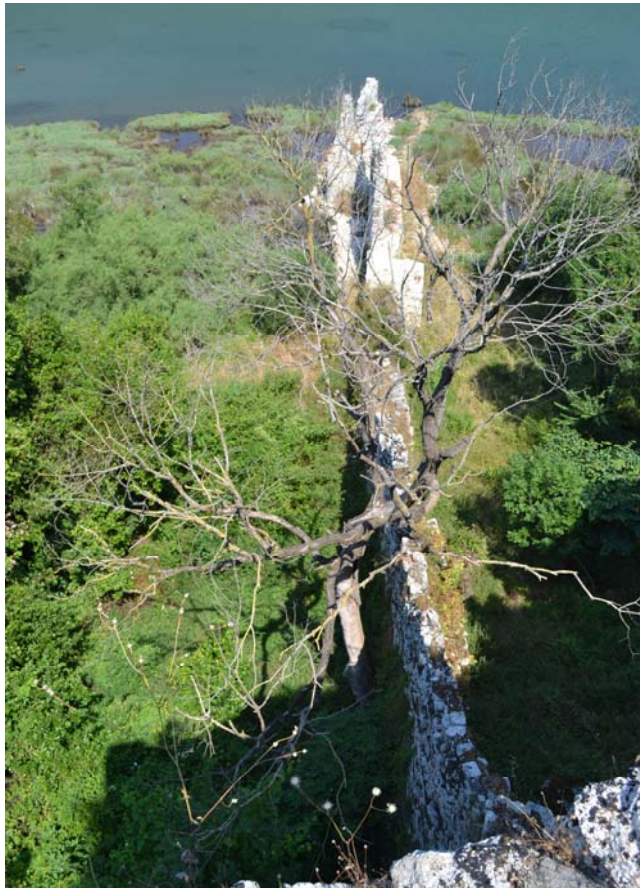
**Closing wall sections 8fa – 8aa before and after the vegetation**



### ➤ Removal of the dead elm tree

The structure of the closing wall was seriously endangered by a dead elm tree that was hanging just above the tallest section of the wall with a diameter of branches that covered more than 7 meters in the length of the wall. This tree was reported in 2007 to show symptoms of the Dutch elm disease and in 2009 was totally dried. The branches and the roots had started to degrade increasing risk of falling on the wall structure and causing collapse of the sections. As well the degrading roots had lost anchoring strength, making the tree swinging from the wall and causing vibrations on the wall structure that lead to several cracks and increasing risk for collapse.

The task for removing the tree was very difficult as most of the tree branches were above the wall and the isolated area required a lot of work for transportation of the scaffolding and the materials. To avoid any damages of the wall structure from undesired falling of branches, the wall structure was previously secured with scaffolding. After that the branches were cut individually and in small sections. The tree was cut to the wall level as the remaining trunk presents no danger for the structure and it can serve for supporting the scaffolding for the consolidation works.



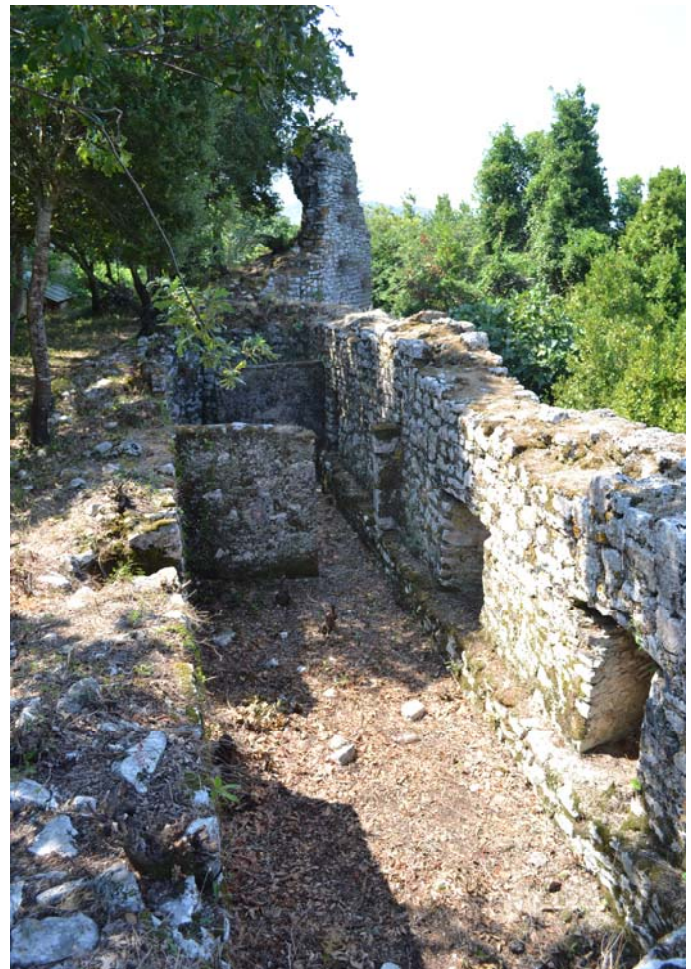
**Dead elm tree on the closing wall before and after intervention**



## ➤ Vegetation Management

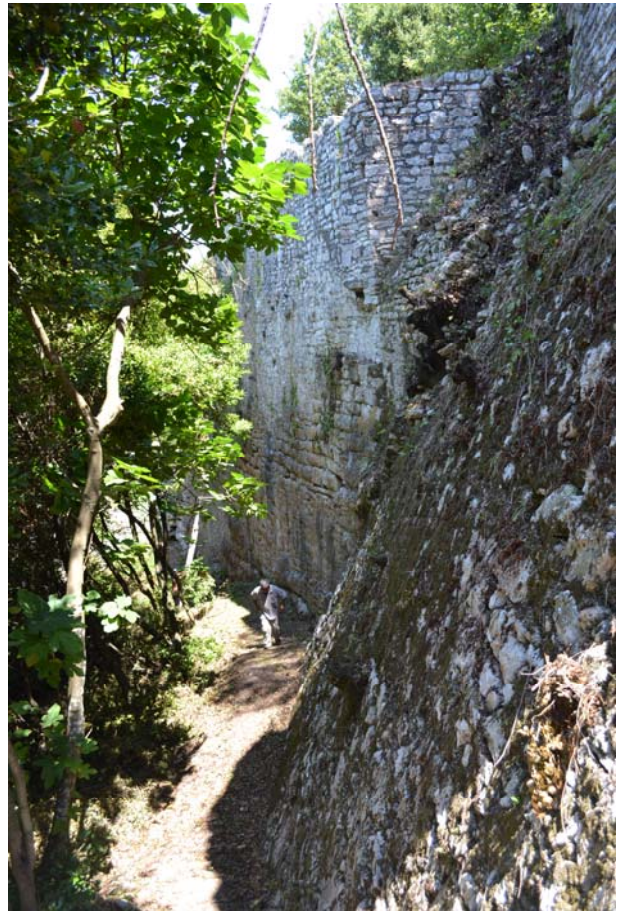
Vegetation in Butrint is considered an important value that makes the site unique, but as well one of the main factors that causes fractures and damages to the structures of the monuments and often limits visibility and access of the visitors. Therefore it is crucial to maintain a balance between the nature and culture heritage at Butrint. During 2014 the work was focused in the sections from the closing wall to the western gate, as well as maintaining the areas that were managed in 2013 from the Lake gate to the Western Gate.

The intervention included the removal of damaging trees and perennial vegetation growing upon and within monuments and masonry; and control of the woodland that surrounds the monuments. Whilst the first aim is self-evident in averting accelerated decay and allowing access for masonry consolidation, the second is more complex and includes species diversification, fire prevention, the opening of paths for visitors and maintenance crews, (Dutch elm) disease management, the opening of sight lines, allowing sunlight to penetrate more deeply and fostering a sense of the site as a whole rather than isolated islands of heritage. The trail that was opened in 2013 was improved by widening and marking it in some sections and as well extending with new paths from the closing wall to the western gate.



**Vegetation clearance near the western gate exposing the battlements and fireloops and creating a new panoramic viewpoint.**





**Improvement of visitors access and creation of new trail**

**Report by Smirald Kola**

**Butrint Heritage Centre**  
Lagjia Nr.2. Ksamil 9706  
Sarande, Albania  
Tel: +355 692022602  
[smiraldkola@yahoo.com](mailto:smiraldkola@yahoo.com)