

## MANAGING ENVIRONMENTAL ARCHAEOLOGY: SOME FRESH THOUGHTS ON OLD SUBJECTS – THE HALMYRIS FORT

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**Abstract:** *This paper is part of a larger project regarding the management of Halmyris site to be implemented in the following years. The article is a general view of the actual situation at Halmyris site and of the challenges it raises. It briefly presents the chronology and the actual and factual problems the site faces: consolidation, restoration, risk factors, tourism, monuments and structures protection policy, etc. The involvement of the local authorities and community and the education of the young generation and even of mature individuals are fundamental. It is also of great importance to build a museum on the site and to protect the ruins against natural elements and human actions.*

**Rezumat:** *Abordarea de față este parte dintr-un proiect managerial al sitului de la Halmyris, care urmează să fie implementat în anii următori. Articolul este o privire de ansamblu a situației de facto a sitului și a provocărilor pe care le ridică. Este prezentată pe scurt cronologia sitului, starea de fapt și problemele cu care se confruntă: consolidări, restaurări, factori de risc, turism, politică de urmat în privința protecției monumentelor și structurilor. Implicarea autorităților locale este fundamentală ca și a comunității locale și educarea tinerei generații și chiar a populației adulte. Construcția unui muzeu local este de asemenea de mare importanță, alături de protecția ruinelor în fața factorilor naturali și antropici.*

**Key words:** *Halmyris, site management, monuments, tourism, education, museum.*

**Cuvinte cheie:** *Halmyris, management de sit, monumente, turism, educație, muzeu.*

### Introduction

When a site is been explored and ancient structures through the process of excavation are exposed to the atmospheric changes of day and night and the fluctuations of climatological conditions after so many centuries, the challenges of restoration and preservation will be faced by every scientist involved in the project. Appropriate management becomes crucial and the correct decisions can only be taken if the challenges are properly identified and it is therefore of uttermost important that a solid management plan is in place which solidifies the bridge between planning, implementation, increased participation by the local communities and people, stakeholders in decision-making, in interventions on the site, and in determining the disposition of excavated objects.

### Roman fort on the Danube: Halmyris

Halmyris is located in the delta area of the Danube just outside the village of Murighiol, the commune Murighiol, Tulcea County (Fig. 1). The site produced evidence of continued habitation of more than 11 centuries (6<sup>th</sup> century B.C.-7<sup>th</sup> century A.D.) containing no less than

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13 identified archaeological levels of occupation. Three main periods in the history of the site have been established<sup>1</sup>.

- I. **The native Getae settlement** shows two phases of occupation: the first encompasses the 6<sup>th</sup>-3<sup>rd</sup> century and the second, the 2<sup>nd</sup>-1<sup>st</sup> century B.C. It is difficult to determine whether the Getae settlement was an open or a fortified place, specifically called *dava*, which seems to be more likely. The presence of a Greek emporium of Classical and Hellenistic epoch is very likely.



Fig. 1. The geographical location of the Halmyris site on an Ancient world and present day map.

- I a. A probable **Getae-Thracian-Roman settlement** inhabited by the native Getae community, Thracian settlers from the Odrysian client state of Rome, and *cives Romani*<sup>2</sup>.
- II. **The early Roman fort:** 1<sup>st</sup> - 3<sup>rd</sup> century A.D. The early 2<sup>nd</sup> century fort may have had a typical card-like plan following the 1<sup>st</sup>- 2<sup>nd</sup> century Roman grid (*castrametatio*). A civil settlement stretched out approx. 1 km to the West. *Vicus classicorum* as recorded in inscriptions found on the site was possibly situated west of the fortress and separated as an administrative unit in the territory. It is presumed that an initial turf and timber Flavian fort was built in order to accommodate a squadron of the newly established river and maritime war fleet, *Classis Flavia Moesica*, probably with roots in Augustan times.
- III. Sometime between 106/107-116 the turf and timber installation was replaced by a stone fort built by joint detachments (*vexillationes*) from the legions *I Italica* and *XI Claudia*<sup>3</sup>.
- IV. **The late Roman fort:** late 3<sup>rd</sup> -early 4<sup>th</sup> century A.D.  
Within the 2<sup>nd</sup> -7<sup>th</sup> century, there has been a flourishing period of the settlement with a remarkable concentration of occupation, both outside and within the

<sup>1</sup> Suceveanu *et alii* 1987, 97-106; Zahariade, Phelps 2002, 229-245; Suceveanu, Zahariade, Topoleanu 2003, 27-42.

<sup>2</sup> Zahariade, Phelps 2002, 234-235; Suceveanu, Zahariade, Topoleanu 2003, 28-29; Zahariade, Alexandrescu 2011, 3-4.

<sup>3</sup> Zahariade, 1991, 314; Zahariade, Phelps 2002, 235-236.

fortified area. Its location on the crossroad of the Black Sea and mouth of the Danube, promoted its importance not only as a naval base but also as a supply base for forts located upstream Danube<sup>4</sup>.

As an almost completely unknown site from archaeological point of view, the investigations started in 1981 and focused on the today's visible fortified area: a surface of about 2.5 ha. Before the commencement of the excavations, ruins of a 6 m high wall, 13 figuring towers mounds, and adjacent outer defense ditches and turf walls were observable.

### Nature of remains and protection

The site has presently a team of scientist working on the project which consists of: archaeologists, geologists (E. Grădinaru, E. Rusu), archaeobotanists (M. Cărciumaru), zooarchaeologist (G. El Susi), anthropologists (N. Mirițoiu, A. Soficar), architects (M. Mărgineanu Cârstoiu and the team), and yearly teams of volunteers from abroad who all work together to achieve as complete layout and image of the environment as possible of the late Roman Fort. Presently unearthed objectives are: the North, West and North-East gates, basilica with a crypt, a large complex of buildings behind the North gate, barracks on the west side of the fortress, a bathhouse, and towers no. 2 and 12 (Fig. 2).



Fig. 2. The sites excavated within the Halmyris fortified area between 1981-2011.

A partial restoration has been commenced on the north side of the western gate (Fig. 3), while further investigation of this particular gate continues on limited scale.

<sup>4</sup> Zahariade 1991, 315-317; Zahariade, Phelps 2002, 236-239.

Two important structures are under direct protection due to the direct action and funding from the Institute for Eco-Museal Researches in 1999 and 2002, respectively. The 4<sup>th</sup> century bathhouse is relatively well preserved to the point that restoration of this structure is not only feasible but would also not incur vast amount of funds (Fig. 4). The protection of this monument from further deterioration of its structures consists nowadays of a fence around it and a high ridged roof against direct contact with the elements (Fig. 5). However, rain, winds and partially snow continue to affect in a certain measure the stone and brick masonry of the monument due to the surrounding fence, which through its thin iron welded bars is of no hamper against lateral infiltrations.

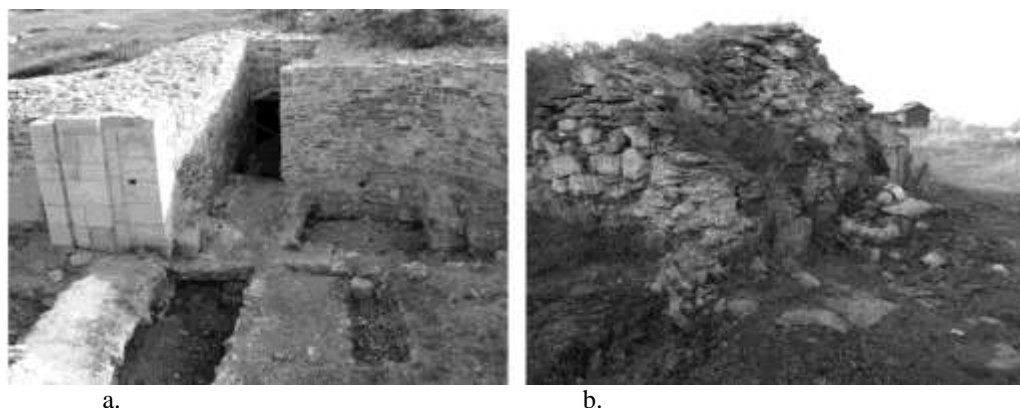


Fig. 3. A. Part of the restored north side and bastion of the Halmyris north gate;  
b. South bastion of the north gate.

The basilica's outline and basic construction remain clearly visible even though severe collapses of walls and roof took place in centuries past<sup>5</sup>. The excavation of the crypt revealed a fresco which became extremely vulnerable to deterioration as soon as the fragile paint was exposed to light. The protection of basilica and the crypt underneath the altar have been differently approached. Basically, almost the entire surface of the basilica is covered with a high ridged roof anchored with solid iron bars placed in key positions without any damage for the stone and clay walls (Fig. 6). The protection from lateral aggression of the elements is ensured by existence of a thick network of small mobile boards set obliquely as a hindrance against both rain and storm-swept snow (Fig. 7).

The crypt is a double roomed elongated building, containing the *dromos* and the funerary room, both covered with multicolored painted fresco (Fig. 8). Presently, the painting is consolidated on its entire surface due to a project financed by the National Commission of Historical Monuments entrusted to Dr. E. Murariu, expert in painting and plaster restoration (Fig. 9). The painting needs less light and proper degree of humidity. Because of the severe lack of funding, obscurity and slight humidity have been temporarily supplied through a cover of reed applied upon the entire length and width of the monument. Surprisingly, the reed solution proved to be feasible, the material roughly ensuring, until the proper protection will be fulfilled, the two required conditions (Fig. 10).

<sup>5</sup> Zahariade 2001-2003, 143-168.



Fig. 4. The bathhouse. The perfect state of preservation is noticeable.

### **The challenges and possible solutions**

It should be noted that the management of an archaeological site should not only be viewed from a scientific, social, and historic point, but also from an economic perspective.

In general the issues at stake are:

- a. climatological
- b. agricultural
- c. degradation of the environment through natural or by human induced environmental changes
- d. cultural tourism
- e. under funding
- f. safety

Like most archaeological sites, Halmyris is vulnerable to general pressures such as deliberate destruction, demise through lack of maintenance, robbery for the purpose of reusing elsewhere materials that cannot be secured. The structures, once unearthed, face immediately the danger of being undermined by rain water and sometimes rather strong winds, which promote the deterioration of the walls, constructed mostly out of lime stone and clay which was used as a cementing agent. Any crack in the structure becomes a fertile place for the proliferation of weeds, causing further undermining of the stability of a structure. Halmyris is also exposed to extreme temperature changes between the summer and winter months.



Fig. 5. Ridged roof of the bathhouse.

The site faces tough challenges with regard to the degradation of the environment and human induced environmental changes. A thin layer of top soil promotes the growth of weeds with a long and tough root system which invade structures and overwhelm the site area. Located in a concentrated agricultural region, the site faces challenges from the farmers who look at the lush patches of grass and the free food they provide for their cattle. Whereas sheep are a welcome tool in controlling the weed growth, goats, cows, and horses are not. Overgrazing can occur and soil displacement will result.



Fig. 6. Ridged roof protection on iron pillars of the basilica.

Other forms of environmental changes induced by man have to do with the life style of the people who inhabit the region. Central collection of trash has not yet been implemented within the archaeological reservation. The result is that people have a tendency to drop discards wherever an open area is present, particularly in the area of the civil settlement. Thus, the littering of modern conveniences such as beer cans, plastic bottles, paper, weathered wood not only produce an eye sore but will also invite further usage of the place as a dumping ground. If the area is to be developed, as planned, into a positive educational and tourist attraction, with the Halmyris project as one of its major objectives, measures will need to be taken with regard to waste management.



Fig. 7. Vertical protection with small boards set in oblique position as hindrance against rain water and snow.

In any project it is of prime importance that those involved are responsible not only for the essential excavations but also for the preservation and restoration (wherever possible or advisable) of the monuments and artifacts. To this end they will need the cooperation of the politicians and administrative authorities of the local communities. People, which in the case of Halmyris are primarily the farmers, must be particularly involved in the process of keeping up of the site area. A site will need protection from those who are inclined to have less respect for past civilizations. At Halmyris one of the major problems is that the site is on public lands and thus in principle accessible to anybody. Vigilance is required from those in charge in order to prevent that the site becomes a target of overgrazing and thus destabilizing the soil and diplomacy is needed to avoid disputes and conflicts. It is here that an understanding between the local politicians, the custodians of the site, and the farmers is cultivated and that a mutual cooperation is ascertained.

The location of the site near an area, the Danube delta, which holds the promise of a major tourist attraction and thus an influx of people and resources, will also bring the challenges to expand and improve the infrastructure. There has been an immense progress in the last four years (2008-2011) when the county road Tulcea-Dunăvâtu de Jos (DJ 22 C) has

been entirely paved and walkways and retreats were provided in every single locality the throughfare passed through. The rehabilitation of the road system included some important streets of the villages and communal residences, like Malcoci, Nufăru, Beștepe, Mahmudia, Murighiol, Dunavățu de Sus and Dunavățu de Jos. The Murighiol communal hub turned lately into a pleasant and functional place, with pensions, small hotels restaurants, shops which add much to the touristic development and makes tourists' influx much more attractive. The perspective of the reconstruction of the once well-known camping on the border of the Murighiol Lake is a major incentive for the development of a balanced historical (Halmyris site oriented) and environmental (Danube Delta) tourism.



Fig. 8. The fourth century basilica and the crypt in the presbyterium area.

Whereas the progress of construction of modern structures which can absorb the expected influx of tourism, caution must be taken that any type of configuration does not affect the environment negatively. It would not be advisable for example to have a paved road for cars leading directly on to one of the gates of the site at Halmyris. Nor would it be desirable to have a parking lot directly in front of the same. Cars bring pollution and vibration of the terrain which will affect negatively the structures of the site. Instead, access to the site should be by footpath or a shuttle powered by electricity only with the possibility of gaining access to a paved parking area nearby.

Even though the living standard in the community has risen steadily, the economic situation is still precarious and people remain basically more interested in their daily necessities than in cultural or intellectual endeavors. The increase of tourism could have both a positive and negative influence on the community. The positive will be apparent by the increase of spendable income and thus economic growth; the negative might not be as obvious in that tourism can become overwhelming for a site to handle and the people who visit might not always show the proper respect due to the remnants of a civilization which preceded their



own. The key to change lies *a priori* in the education of the young and a variety of approaches can be applied.



Fig. 9. The painted fresco on the east wall of the crypt (before consolidation).

At Halmyris certain programs have already been initiated and implemented which will have a positive influence on the children of the elementary school. The circle of “the little archaeologists” which was established in early 2000 includes among their main activities work of the children and students, for few days, in some digging activities and instruction on the site under the close supervision of the archaeologists and teachers who have hands-on expertise and experience. Other programs could be added such as in-class instruction in which the site is tied in with the history lessons. Children could make models of a Roman Fort, using materials such as clay, carton, and wood. They could be enticed in using their imagination by writing a creative story about life in the fort so many centuries ago. Any of these programs must be adapted to the age and capability of the child.

It is also to the young that the concern for the environment must be addressed. Incentives should be given to those children who participate in a voluntary clean up campaigns. Here too, the politicians and leaders of a community can set the example by distributing plastic bags and protective gloves for the collecting of trash and organizing clean up sessions at least twice a month.

The site should have rules and regulations clearly posted as to the acceptable and not acceptable. Visitors should be given, together with an education on the history of the site, brief explanations as to the reasons for imposing certain guidelines for visiting. Smoking, the consumption of food and drinks should be on the prohibited list. Until the site’s monuments have been preserved and/or restored and proper pathways, which protect the walking on/ or in delicate areas, have been established, it is advisable that a guide be always at hand for the visitors. This guide must be knowledgeable about the site and its history and must be a positive

representative of the people of the land. Students in history and/or archaeology could fulfill such a requirement.

Halmyris has an added problem in that the ownership of the site is rather vague. Even though it has been placed under the direct protection of the National Commission of the Historical Monuments and Ministry of Culture of Romania, rather recently, the Tulcea County Council and the Institute of Eco-Museal Researches in Tulcea assumed the most difficult part of the issue, to set up the basic directions of a large scale management plan implying financial aid in implementing protective measures. Even though particular protective measure seems to be adequate for the time being, a long term solution for the preservation of the fresco of the crypt must be sought and produced. Negotiations with the Orthodox Church, which benefits rather generously from the find of the human remains of the two Christian martyrs, Epictet and Astion, should take place in soliciting their contributions to the construction of a modern protective structure to ensure preservation, possible restoration and easy study by the experts of the fresco which depicts the martyrdom of the two saints. Thus far, any help from that source seems to remain a "wishful thinking".

Up until now, the monuments have only been discussed. In tracking down the intensity of productive activities in a settlement and the trade relations with other regions, pottery is a reliable and eloquent source of information. A large quantity of Roman but also native (Getae) pottery is being uncovered every year at Halmyris and each time new types of pots in terms of utility and provenance are revealed.

Initially, most of the artifacts found their way to the museum in Tulcea. Due to the considerable extent of excavations to a multitude of sites wide spread on the territory of the Tulcea County as well as the limited areas of depositing artifacts within the museum it has, therefore, become apparent that *in situ* preservation of the amount of pottery and other common artifacts is the preferable. This is a serious problem and would entail an onsite managing of the influx of artifacts. The establishment of a site museum became a point of critical importance. Talks with the local authorities are promising with regard to providing a building in the center of the village. Advantages to such a project would be that the community could be involved in the refurbishing of the building, if necessary and the dressing of the museum with the artifacts from the site, thus instilling a sense of ownership and encouraging responsibility. Such a location would also discourage the establishment of commercial construction near the site as the museum would be located nearby the shops of the village. Another prospect is the initial promise of the local monastery, 500 m east of the site, in present day under construction having as patrons the Christian martyrs Epictetus and Astion to reserve an area of the building for a museum. The advantage of this situation would be that the museum is close to the site and transportation from one place to the other would be rather easy. However, if a museum were to be housed outside the community of Murighiol and in the monastery, the ownership participation would go to the inhabitants of the monastery, thus eliminating input from the local community. Another factor which must be taken into account is that with a museum in town, local merchants could profit from the visitors by providing refreshments, food, and souvenirs, whereas the establishment of the museum in the monastery near the site could eventually encourage commercial construction. Some visualization of establishing some kind of cafeteria near the museum, or even making it part of the museum has taken place with the local economy in mind.



Fig. 10. The temporary reed cover overlapping the crypt with painted fresco.

### Funding

Halmyris receives, like most of the sites in Romania, only a limited amount of funds. It goes without saying that the locally generated funds by the Romanian government contributes only a fraction of what is needed for the works still in progress and for the preservation and/or restoration of the site and its artifacts. Even though the site excavations were commenced due to the assignment of considerable human and material resources by the Defense Ministry between 1981-2003 and since 1999 received significant aid from the Earthwatch Institute of Boston, USA, between 1999-2007 in that each year volunteers were sent to help in the excavations, the search for funding is an ongoing and time consuming activity. Starting with 2008 up until present time the College Year in Athens provided yearly American students as volunteers on the site. Even though foreign aid is very welcomed, in order to develop a sense of ownership in and responsibility for their heritage, the participation of fund raising by the local authorities as well as those involved in the site management is very advisable.

In a well-managed site, provisions must be made for the safety of those who work there as well as for those who visit. First aid kits need to be on hand at all times and somebody on staff needs to be certified in the administering of first aid and CPR, if a professional medical staff cannot be present. The Earthwatch Institute of Boston has developed a model for the recognition of possible dangers and trains its scientists in the prevention and correction of hazardous issues (RAT= Risk Assessment Template). Managers should be aware that excavating *per se* can be hazardous and that it is important to inform anyone working on a site about the possible dangers. Working in bare feet or in sandals for example, which happens quite often at the Halmyris' site, makes a person vulnerable to cuts and bruises from falling stones and tools. Handling tools without proper protection of the hands may cause blisters. In hot climates these blisters can become infected if not treated properly. The presence of insects

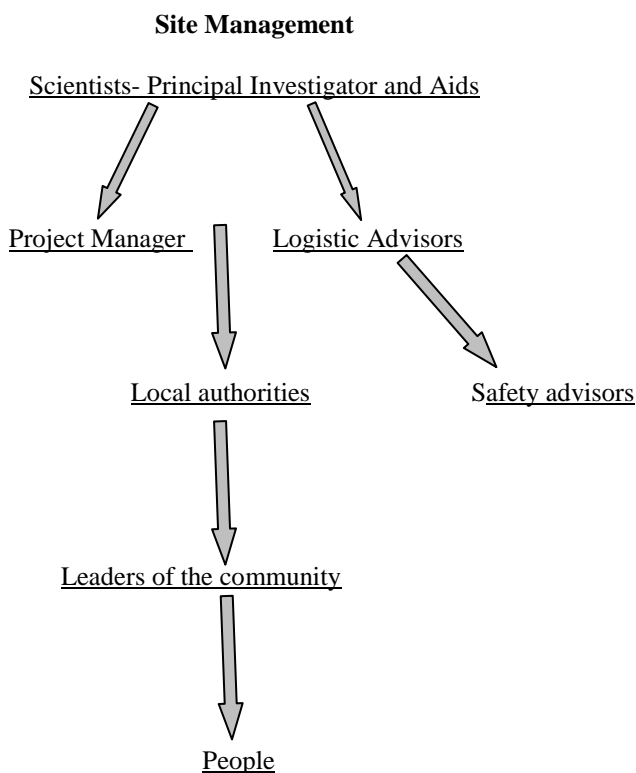
to which a person might be allergic (bees', wasps' stings) is another issue that can cause health problems and needs to be addressed on a personal basis.

Visitors need to be informed about the condition of the site, i.e. the terrain. At Halmyris, the terrain is uneven and can cause sprains. It is the responsibility of the staff to brief workers and visitors alike that caution needs to be taken.

Managing a site effectively requires thus firstly the recognition of the issues at hand, secondly the search for possible, plausible solutions, and thirdly the implementation. It should be emphasized that co-operation between the parties affected and parties involved is a prime condition for establishing a workable relationship. In Halmyris the cooperation from the people, i.e. for the most part, the farmers, is a must.

Another concern which needs to be addressed at the Halmyris site and the adjacent communities is that of the quality of water. Public wells are still widely used by the people and little care is being exercised as to the proper handling of the extraction of the water, nor the safeguarding against runoffs from agriculture. Halmyris benefits of a well within the archaeological base with excellent drinking water, although supplementary particular care must be taken in wide open field against bacteria and the safety of the people should be guarded by teaching users of the well the proper way of extracting water, which should be the responsibility of the safety advisors.

A possible model for such an undertaking could be as follows:



It will also be helpful for managing purposes that a three-year, five-year, and a ten-year plan be developed in which certain issues are prioritized. A three-year plan for Halmyris would consist of the following points:

1. maximize public and private resources for the preservation/restoration of the monuments
2. seek improvement in the protection of the bathhouse and basilica
3. seek to develop a partnership between all parties involved
4. improve public understanding about the value and importance of the site
5. improve access to the site
6. continue to improve the visitor's visual, cultural, and educational experiences of the site
7. ensure that the economic benefits of tourism are maximized for the benefit of the local communities.

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