

THE OFFICIAL LIST OF ARCHAEOLOGICAL SITES IN THE CZECH REPUBLIC - AN INFORMATION SYSTEM OF ARCHAEOLOGICAL SITES IN THE CR

SEE THE CD FOR THE EXTENDED VERSION

ABSTRACT

LENKA KRUŠINOVÁ
CZECH REPUBLIC

The project handles the specification of the territories with archaeological findings (i.e. archaeological monuments or sites) according to the state of knowledge for purposes of archaeological heritage management which is executed by governmental authorities. The collection, automatical elaboration, keeping, updating and amending of the data about the archaeological findings for the open information system is secured by implementation of the application SAS CR 2.0 and the application ARCHAEOLOGIE for the inter/active utilization for the graphical data and information from the d-base in the environment GIS ArcView in the version 2.0 being newly accesable also via Internet. So far 53 district offices have been participating in the project on contractual basis. In connection with the reform of public administration the district authorities ceased to exist. Prior to this contracts have been signed with 6 of the new larger administration units in 2002 and with the remaining 8 contracts are under preparation. Tens of archaeological institutions and archaeologists have been contracted for processing of archaeological data and nearly 50 regional archaeological institutions are maintaining, updating and using the data today.

THE DEVELOPMENT

The archaeological heritage and its management have been defined in the Czech Republic only during the nineties of the last century. The dynamic changes in the legal system caused by the major societal changes after 1989 gave rise to emphasis on the focusing of archaeological interest in the territory. In the area of state protection of historical monuments archaeologists are now trying to establish a system of protection of archaeological monuments as a consequence of both the enormously increased requirements of building contractors on execution of archaeological salvation researches and requirements of the public administration authorities on the recording of areas with archaeological findings in the preparation stage of construction work. The position of specialized archaeological institutions is determined by the changes in the system of public support of research as well as by changes in the establishing function of public administration authorities as a result of their reform.

The management and preservation of archaeological heritage as a whole can only be possible through establishing an open information system of the presently identified archaeological heritage, i.e. both of the movable findings already excavated from identified archaeological sites and of the immovable part, covering still unexcavated movable archaeological findings and undiscovered immovable archaeological findings. The information on relations between the above parts of archaeological heritage represents a limited and unique source base for the research of the ancient history of humanity and its historical memory. Therefore the archaeological sites so far undisclosed either for reasons of insufficient archaeological research capacities or due to unsystematic approach to research deserve the maximum efforts regarding their recognition and preservation. Especially this part of the archaeological heritage is most endangered and destroyed due to igno-

rance and disinterest and it is desirable to focus the attention on its recognition in the territory.

THE MALTA CONVENTION.

An important step of the Czech Republic was the ratification of the "European Convention on the Protection of the Archaeological Heritage" (revised) of the Council of Europe Nr. 143 (signed in La Valetta on January 1, 1992) in 2000. In order to fulfil the principles of Malta Convention it is necessary to reinforce the administrative and practical aspects of a more effective management of the archaeological heritage both in the specialized archaeological and in the public administration institutions evenly covering the entire territory of the CR. Regarding the domain of archaeological heritage, the Ministry of Culture of the CR, being responsible for the state preservation of monuments, refers in its "Conception of more effective conservation of monuments of the CR" (whose proposal was approved by the government on April 22, 1998) to the intention "to finalize the identification of territories with archaeological findings in the Czech Republic and develop a specialized central archaeological list". The Ministry of the Environment of the CR considered the archaeological heritage both in the wording and fulfilment of the Act No. 244/1992 on environmental impact assessment and by focusing one of the research and development programs on "Applications for a complex digital description of archaeological sites and mining areas in connection with the execution of public administration" in 1998. The Ministry for Regional Development of the CR is cooperating with the Department of Archaeological Heritage Management (DAHM) of the National Heritage Institute (NHI, until December 31, 2002 the State Institute for the Preservation of Monuments) in the area of sharing and utilizing the data on digital archaeological zones (derived from the data of the SAS CR project) for the needs of town and country planning in the geographical information system (GIS) environment.

THE SAS PROJECT

The identification of areas with archaeological findings for the purpose of their protection and salvation is the subject of a long-term research project "The Official List of Archaeological Sites in the Czech Republic" (in Czech: "Státní archeologický seznam České republiky", SAS CR). The conception of SAS CR stems from a thorough analysis of the situation, needs, and possibilities of the state administration authorities (former district authorities) and of the archaeological institutions processed during the years 1991-93 at NHI. The precondition for a viable cooperation of public administration authorities with specialized archaeological institutions is the identification of areas with archaeological findings in connection with property rights (on a resolution basis allowing the link to cadastral maps). The information funds hitherto collected by the Institutes of Archaeology of the Academy of Sciences of the CR turned out to be too incomplete especially with regard to the areas of potential archaeological findings. Furthermore, the levels of data processing in the territories of Bohemia, Moravia and Silesia were too different to comply with the needs of public administration authorities and archaeological institutions both on the regional and national level for producing an information system for protection and salvation of the archaeological heritage. For these reasons it was not possible to unify the development of a technical instrument covering both the registration of areas already archaeologically researched (i.e. the already destroyed areas with archaeological findings) and the purpose of identification of areas with archaeological findings.

The standard for the scope of data for collecting and processing of information for the purpose of archaeological heritage management was set by a research team of DAHM led by principal investigator Lenka Krusinova. The team has developed and implemented the methodology enabling the solution of the problem of identification of areas with archaeological findings based on the present state of archaeological knowledge by developing the instruments for archaeological data processing in GIS environment. Decision making of public administration based on the use of such information systems is in accordance with the EU recommendations in support of application of GIS and data harmonization and standardization. The classification of areas with archaeological findings is split into four categories: I - areas with a positive proof of findings, II - areas with a 51-100 per cent probability of findings, III - areas presently without identified archaeological sites, cultural landscapes with the probability of findings less than 50 per cent, IV - areas with no real probability of archaeological findings - all excavated areas.

The start of the research project SAS CR was made possible by a financial donation from the Embassy of the UK in the years 1993-1997. Only starting from 1995, the Ministry of Culture also granted financial contributions to the project.

Moreover, the planned duration of the project was changed to 2003 from the original 2005. The implementation of the project will continue from 2004 on as an integral part of the internal research activity within NHI.

The aim of the SAS CR project is to generate a digital map of areas with archaeological sites in the Czech Republic in a GIS environment interlinked with the database of data about archaeological sites and provide the mechanism for updating and amending the archaeological information. This will establish an open information system operated on user stations allocated throughout the territory of the Czech Republic. The basic relations of the project are created on contractual basis between NHI, namely DAHM, the public administration authorities, and the archaeological institutions licensed to execute archaeological research. NHI secures the collection of archaeological data and their central management; it also secures the digitalization of graphical data into the basic archaeological coverage. Numerous regional archaeological institutions as well as single archaeologists have been participating in the collecting of standardized archaeological data, transferring positive archaeological findings into the database, and preparing expert maps in 1:10,000 scale, showing the locations with archaeological findings. Figure 1 shows the state of processing of archaeological data gained in cooperation with archaeological institutions until December 31, 2002.

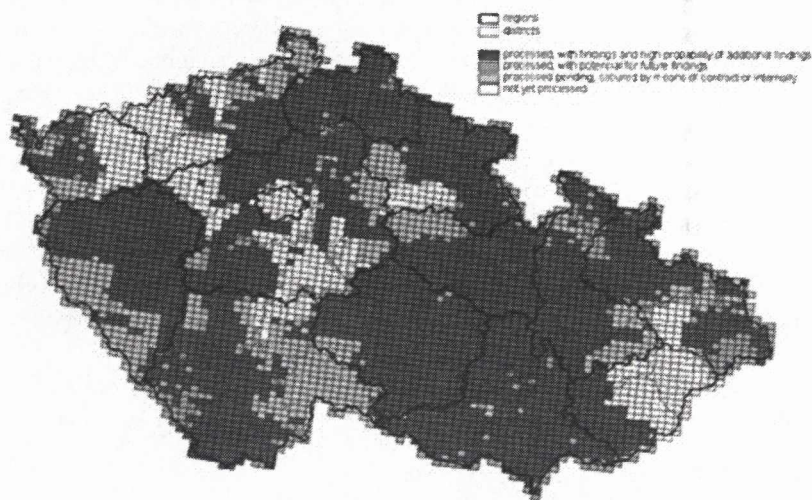


Figure 1 SAS CR - state of processing of maps on 31.12.2002

The regional management, completion, and updating of archaeological data is being executed (also on contractual basis) by 40 archaeological institutions, cooperating with public administration bodies in the protection and salvation of archaeological heritage. Archaeological institutions are utilizing the data from the regional SAS CR projects in GIS for solution of their professional tasks (see Fig.2). The database is operated within the SAS CR version 1.5 application (in the environment of Paradox for Windows) developed to allow automated archaeological data collecting and management and currently contains 22.000 records in total. New SAS CR version 2.0 application has recently been developed to improve the professional quality of data (supplemented by some more detailed items such as the information on the reason for entering of each specific site, obligatory links bet-

Cultural Heritage Management

ween selected items, etc.) and for better comfort of the users. Presently the extended database is being completed, the data are being transferred into the new structure and prepared for distribution, and user manual for the new application is under completion.

APPLICATION SOFTWARE ARCHEOLOGIE 1.1 AND 2.0

Archeologie version 1.1 application in the environment GIS Arc View 3.x or T-Map Viewer 2.x, enabling effective work with data in interaction between database and graphical data, was installed at 46 out of then existing 77 district authority offices and at 36 regional archaeological institutions. NHI was sharing the positional data with 49 district authorities in total. However, due to the termination of their existence the data have been returned. DAHM has secured raster data in 1:50,000 scale for the entire territory of the CR and, based on a contract with the Ministry of Defense of the CR, also vector data in 1:25,000 scale with the necessary number of user licenses for the cooperating regional archaeological institutions. New Archeologie version 2.0 application in GIS environment (presently under completion) can be installed locally and data can be accessed and worked with also via Internet. Figure 3 shows a sample of the use of Archeologie version 1.1 application, showing in red the location of a selected archaeological site at Svucice (part of Misovice) and in the window the corresponding data on findings at this location. Software versions 1.0, 1.1, and 2.0 of Archeologie application have been developed for NHI by T-Mapy, s. r.o., see <http://www.tmapy.cz>. The application can be used on two levels. On the first one, the user can use all the basic functions for the work with data regarding archaeological sites such as viewing, sorting, selections, graphical presentation, preparation of output for printing etc. The second level represents extended access for system managers. In addition to the above it also enables the access to detailed information regarding each site as well as to the instruments for a more detailed sorting of information and setting of passwords. Detailed description is available in the manual prepared by the software supplier.



Figure 2 SAS CR - state of contractual cooperation with the old districts and the new regional authorities and the licensed regional archaeological institutions on 10.04.2003

The graphical coverage contains 20,000 graphical representations of digitalized sites. Out of the total of 4,754 maps in 1:10,000 scale, 3,959 maps (corresponding to 86 per cent of the territory of the Czech Republic) have been processed until end of 2002. Presumably more than 90 per cent of the territory will be covered before the expiration of the project at the end of 2003. For the remaining part analytical instruments in GIS environment can be used for modelling the possibilities of occurrence archaeological findings.

The function of public administration authorities consists in utilizing the archaeological information for protection and salvation of archaeological findings in the area of state preservation of monuments. Before the former district authorities terminated their activities on December 31, 2002 (as a partial step of the public administration reform), contracts have been signed with 53 of them (out of then existing 77 in total). They supported the utilization of archaeological information and project data in their offices in GIS environment. They also supported the regional management of data together with specialized archaeological institutions and provided their own reference (positional) data needed for the project. The cooperation with the newly established regional administration authorities in fulfilling the aims of the project started already during 2002. By April 10, 2003, contracts have been signed with 8 of the newly established 14 regions, with the remaining contracts being under negotiation and/or preparation.

It is obvious that public administration authorities are inter-

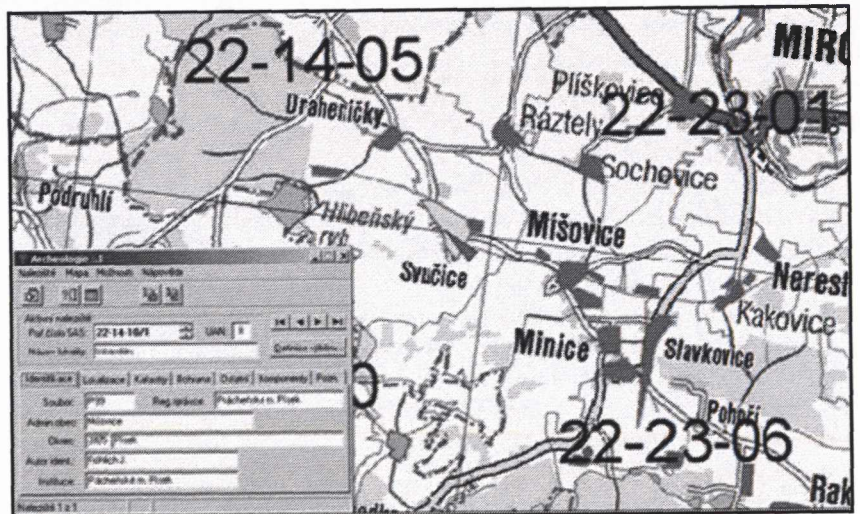


Figure 3 SAS CR - Application Archeologie 1.1 - sample of interactive work with project data in GIS

ested to participate in taking care of the archaeological heritage in the area of protection and salvation of archaeological findings in cooperation with the archaeological institutions. The regional administration authorities, which are also responsible for the founding of new specialized archaeological institutions since 2003, are cooperating with NHI on contractual basis. This is a fundamental precondition both for the stabilization of the professional archaeological activities in the regions and the search for an adequate model of the system for the protection of archaeological monuments fulfilling the aims of the European Convention on the Protection of Archaeological Heritage, a system enabling the utilization

of updated specific archaeological information in the decision making processes of the public administration authorities fully considering the requirements for preservation, protection and conservation of the archaeological heritage.

ACKNOWLEDGEMENT

The author would like to express his thanks to Mr. Becvar and Mr. Volfik from NHI for the technical preparation of the figures.

References

BAŠTOVÁ, D., KRUŠINOVÁ, L., SKLENÁROVÁ, Z. and VOLFÍK, P., 1997. Státní archeologický seznam České republiky - informační systém archeologických nalezišť. In Macháček, J. (ed.), *Počítačová podpora archeologie*, Masarykova univerzita v Brně, Brno:115-123.

BAŠTOVÁ, D., KNECHTOVÁ, A., KRUŠINOVÁ, L., SKLENÁROVÁ, Z., VOLFÍK, P., KRECMER, T., KAMENICKÝ, J., TRHON, P. and VACULÍK, J., 1998. *Aplikace Archeologie 1.1 - příručka uživatele*.

BECVÁR, L., CEJPOVÁ, M., ERNÉE, M., KNECHTOVÁ, A., KRUŠINOVÁ, L., SKLENÁROVÁ, Z., VACHUT, P. and VOLFÍK, P., 2003. *Státní archeologický seznam CR, verze 2.0 - uživatelská příručka*. Praha.

BECVÁR, L., DOSTÁL, L., HULEK, T., KAMENICKÝ, J., KNECHTOVÁ, A., KRECMER, T., KRUŠINOVÁ, L., VACHUT, P., VOLFÍK, P. and VACULÍK, J., 2003. *Aplikace Archeologie 2.0 - příručka uživatele*.

BLAŽEK, J., 1998. Ein willkommenes Provisorium. Bodendenkmalpflege in der Tschechischen Republik. In *Archaeologisches Nachrichtenblatt Band 3, 2/1998*:123-128.

CEJPOVÁ, M., 1997. Archeologická památková péče v podmínkách okresního úřadu. In *Archeologická památková péče - legislativa a skutečnost, MENHIR - společnost na podporu archeologických aktivit*, Olomouc:45-50.

<http://www.EUROGI.org>.

Koncepce účinnější péče o památkový fond v České republice do roku 2005. Praha 1998.

KRATOCHVÍL, L. and KRUŠINOVÁ, L., 1997. Právní hlediska porizování a přenosu archeologických informací. In *Archeologická památková péče - legislativa a skutečnost, MENHIR - společnost na podporu archeologických aktivit*, Olomouc:23-36.

KRUŠINOVÁ, L., 1992. Postavení oboru archeologie v systému památkové péče. In *Zprávy památkové péče 2*:20-23.

KRUŠINOVÁ, L., 2002. The Czech Republic. In Fairclough, G. and Rippon, St. (eds.), *Managing Europe's Archaeological Heritage, Europe's cultural Landscape, Archaeologists and management of Change*, EAC Occasional Paper 2:182-185.

KUNA, M., KRIVÁNKOVÁ, D. and KRUŠINOVÁ, L., 1996. *Archiv 2.0 - Systém archeologické databáze Čech. Uživatelská příručka*, Praha.

SKLENÁROVÁ, Z., KRUŠINOVÁ, L., BAŠTOVÁ, D. and VOLFÍK, P., 1999. *Státní archeologický seznam CR, verze 1.5. Uživatelská příručka*, Praha.

KRUŠINOVÁ, L., 2000. Archeologické dedičství v ČR z pohledu státních úřadů a archeologických institucí. In *Čáslavský sborník*, Čáslav.

The author would like to express her thanks to Mr. Becvar and Mr. Volfik from NHI for the technical preparation of the figures.