





Project Gallery

The tools of war: conflict and the destruction of Ukrainian cultural heritage

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The military invasion of Ukraine has destroyed and damaged extensive built cultural heritage, including churches, museums and monuments. Based on site visits conducted since the invasion, we outline damage to the eleventh-century sites of Boldyni Hory, Chernihiv, and the church, citadel and graveyard at Oster, Chernihiv Oblast.

Keywords: Ukraine, satellite and ground observation, photogrammetry, built heritage, buried cultural heritage

Introduction

The full-scale Russian invasion of Ukraine on 24 February 2022 has resulted in a significant loss of human lives, the national and international displacement of many Ukrainian people and the destruction of cultural heritage aimed at erasing public history and memory (Georgiou 2023; Merai 2023). The international community has become increasingly aware of the destruction of Ukrainian cultural heritage, such as highly visible architectural monuments, religious buildings and public monuments. Even in de-occupied regions, including Chernihiv and Kharkiv, landmines and unexploded munitions restrict access to many areas and it is not possible to assess how much damage has taken place. In museums in occupied regions, including Kherson, Melitopol and Mariupol, collections have been expropriated and transferred to Russia, while in other cases artefacts have been pillaged by Russian soldiers to keep or sell (Hardy 2022; Spinney 2022). Researchers are currently trying to document the massive destruction of Ukrainian cultural heritage through the use of satellite data, such as that seen with the US Conflict Observatory (<https://hub.conflictobservatory.org/portal/apps/sites/#/home/pages/heritage-1>) and with ground observation. Based on case studies, we provide the first on-the-ground assessment of how the Russian invasion has destroyed or damaged Ukrainian cultural heritage.

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Case study: Ukrainian cultural heritage

Given the ongoing conflict, it is not yet possible to assess the damage to the cultural heritage along the frontlines of the Kharkiv, Donetsk, Luhansk, Zaporizhzhia and Kherson regions. Since the de-occupation of the Kyiv, Zhytomyr, Chernihiv and Mykolaiv regions in June 2022, however, a preliminary understanding of the scale and nature of destruction in some areas has developed (Figure 1). Field survey research demonstrates extensive damage to several important sites (Shydlovskiy *et al.* 2022), including major damage to the Makariv hillfort, Bilohorodka, the Vyshgorod hillfort in Kyiv region, significant destruction to the tenth to twelfth-century Shestovytsia and Boldyni Hora Barrows in the Chernihiv region, and extensive damage to churches and historic buildings from the eleventh–twelfth centuries in strategic landscape locations. To better understand the nature of destruction to Ukrainian cultural heritage, we will briefly highlight the scale of damage at cultural heritage sites by looking at case studies in the Chernihiv region.

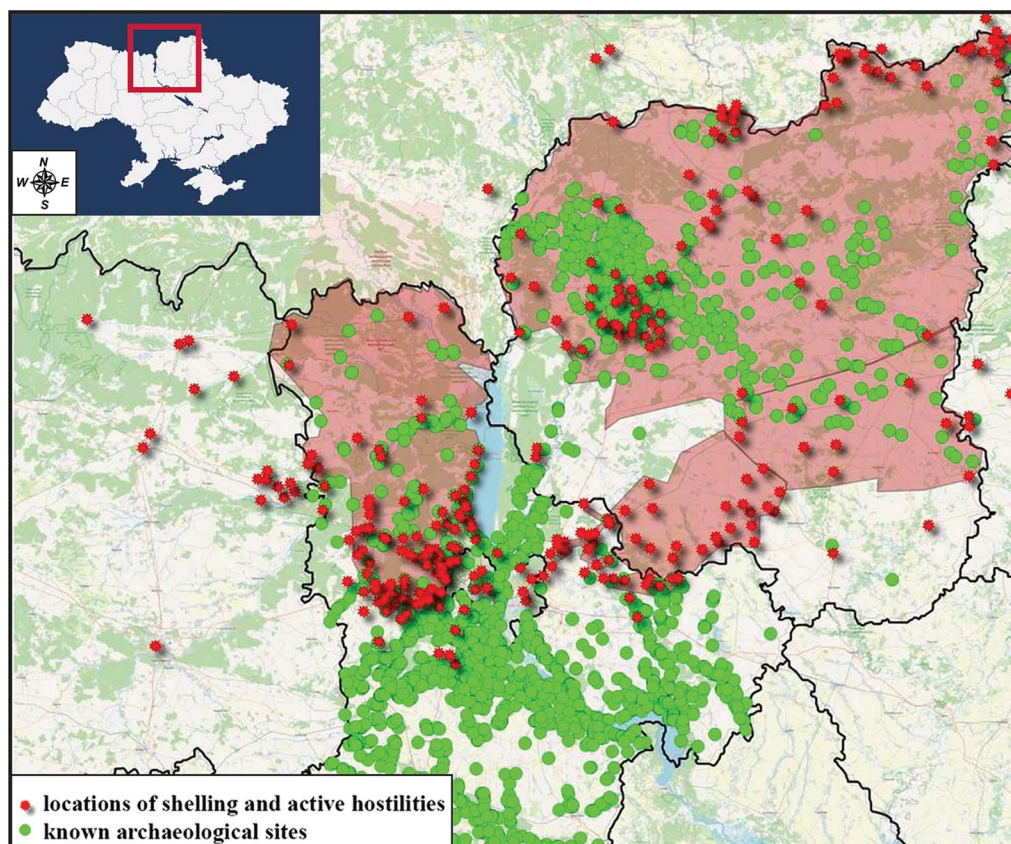


Figure 1. Distribution of cultural heritage sites (green dots) and locations of military action (red dots) in Kyiv and Chernihiv regions, Ukraine. The transparent red areas illustrate areas that were occupied by the Russian military in February and March 2022, and have now been liberated (figure by Ivan Zotsenko).

Destruction of built heritage

The damage to built cultural heritage in northern, eastern and southern Ukraine, including churches, museums, and libraries, has been extensive. Typical of this is the badly damaged Children's (Youth) Regional Library, former Vasyl Tarnovsky Museum of Ukrainian Antiquities, Chernihiv. This UNESCO-listed Gothic Revival heritage building was bombed by the Russians on 11 March 2022, destroying the roof and most of the walls (Kishkovsky 2022). Online photogrammetry documentation by the War Close UP research group provides viewers with a good sense of the damage that has taken place (<https://war.city/objects/bombed-chernihiv-historic-library-ukraine/>) (Figure 2).

Another example is the Church of the Ascension, constructed in 1913 on the site of an earlier wooden 1781 church (<https://ui.org.ua/en/postcard/ascension-church/>) in Lukashivka, Chernihiv Region. The church was badly damaged during fierce battles in March 2022, with the majority of the wooden roof destroyed, burning of the inside and destruction of windows and glass work. The destruction to this building has also been documented by the War Close UP research (<https://war.city/objects/lucashivka/>).

Cultural heritage below the surface

While the international community and archaeologists are aware that some damage of built heritage sites has taken place in Ukraine, they are largely unaware of the extensive scale of destruction in northern, eastern and southern Ukraine. The combination of modern weapons and the widespread use of First World War types of trench systems is destroying buried cultural heritage at an alarming rate. For example, located on a river bank in Chernihiv is the mound complex of Boldyni Hory. Covering 1.2ha, Boldyni Hory consists of 230 mounds and is one of the largest eleventh-century cemetery sites in Ukraine. Some of these well-preserved burial mounds are up to 6m in height and have a diameter of 20m-plus. Dur-

ing February and March 2022, the Russian military repeatedly attacked Boldyni Hory with artillery and missiles, causing extensive damage to neighbouring residential areas. These attacks, as well as the necessary construction of defensive trenches by the Ukrainian military for protection, resulted in significant damage to many of the mounds (Figures 3 & 4).

Another example of the destruction of buried cultural heritage in Ukraine is the damage to the eleventh-century church, citadel and graveyard at Oster, Chernihiv Oblast. During the Russian siege of Chernihiv, approximately 200m of defensive trenches were constructed in March 2022 (Figures 5 & 6). This partially



Figure 2. Children's Regional Library, former Vasyl Tarnovsky Museum of Ukrainian Antiquities, Chernihiv, Chernihiv Oblast, March 2022. Since bombing, the building has largely been unroofed, with the inside of the building left exposed to rain and snow (figure by Viacheslav Skorokhod).



Figure 3. Distribution of eleventh-century burial mounds (area in red) Boldnyi Hory, Chernihiv Oblast, Ukraine. The locations of individual rocket strikes are plotted in orange. This map does not include the locations of 30 additional rocket strikes in residential areas or the associated destruction of 20 or more residential buildings (figure by Viacheslav Skorokhod).

destroyed the remains of the brick foundation of the church as well as the remains of a previously unidentified graveyard. Archaeological field research at Oster in March and April 2023 identified the destruction of at least seven eleventh-century human burials. Ongoing photogrammetry is being used to assess the scale of destruction with the construction of military trenches at Oster and to consider what future assessment and mitigation will be required. The full-scale Russian invasion has destroyed or damaged thousands of Ukrainian culture heritage sites, many of which are below ground and previously unrecorded.



Figure 4. The Princely Barrow dating to the tenth–eleventh centuries AD, located in the north-west area of Boldnyi Hory cemetery, Chernihiv Oblast, Ukraine, was damaged by a Russian rocket strike in March 2022 (figure by Serhii Tarabarov, 2022).



Figure 5. Standing remains of eleventh-century Каплиця Святого Юра (St George Chapel), Oster, Chernihiv Oblast, Ukraine, April 2023. To the left of the chapel is a partially covered bunker and on the right is a large trench that has dug through the brick foundation of the building (figure by Archaeological Landscapes Monitoring Group, 2023).



Figure 6. Standing remains of the eleventh-century citadel of Oster, Chernihiv Oblast, Ukraine, April 2023. The outer edge of the mound is surrounded by an extensive trench system constructed in March 2022, with at least four bunkers. The standing remains of Каплиця Святого Юра (St George Chapel), can be seen on the far side (figure by Archaeological Landscapes Monitoring Group, 2023).

Recognising destruction of the area's cultural heritage

It is currently impossible to quantify the damage and destruction of Ukrainian cultural heritage (Shydlovskiy *et al.* 2022, 2023). Ongoing missile and drone strikes on cultural sites, such as the 19 August 2023 drone strike on the Chernihiv theatre that killed nine people and wounded 144 others (Sabbagh 2023), or the Russian strike on the landmark Orthodox cathedral in Odesa (Arhirova & Morton 2023), highlight the interconnected loss of human lives and targeting of cultural heritage. In this static ground war that is characterised by military trenches, used at a scale similar to the Second World War, Ukrainian cultural heritage is being destroyed at a rate not seen since 1945. Archaeologists are only now able to access some of the regions, but ongoing combat in other regions makes it impossible to visit let alone assess the damage to built cultural heritage sites such as churches, museums and monuments. Potentially more problematic and less understood is the destruction of the buried cultural heritage. The future identification and documentation of damaged cultural heritage will require a multi-stage process, drawing on remote sensing and, most of all, site visits. In a situation where hostilities are far from over, it is important that scientists, specialists in cultural heritage protection bodies and public activists collect information on the scale and nature of damage and destruction of archaeological heritage sites.

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