

With reference to a specific archaeological project, critically assess the methods of archaeological investigation employed, and the nature of the archaeological materials/ data recovered.

This piece of work will be assessing an archaeological survey conducted by Historic England, then known as English Heritage, assessing the threats posed to an area of scheduled lead-mining activity in the Yorkshire Dales National Park (Ainsworth and Burn, 2009). The project was formed in response to concerns raised by the Yorkshire Dales National Park Authority (YDNPA); the site had seen a series of unauthorised work carried out on the main roads throughout the scheduled area, where the groundkeepers from the local shooting estate were using material from the surrounding spoils heaps to resurface damaged sections of road but also altering sections of road to add drainage and water management features (Ainsworth and Burn, 2009, p.1-4). The main aim of the project was to collect information about the “location, extent, context and impacts” (Ainsworth and Burn, 2009, p. 7) that the work on the roads was having on the scheduled area and the features within it, specifically for the regional grants and advice team within Historic England to provide the information needed to support the YDNPA in implementing a local management plan (Ainsworth and Burn, 2009, p.1 & 7). Although the research had obvious driving factors which impacted the scope of research to focus on the roads and obtaining the relevant information to aid in the advice provided, this report goes above and beyond what is necessary for a management plan and in some ways the report could have been streamlined and still obtained the same results.

The methodology used during this assessment included an initial survey of the scheduled area using historic aerial photographs and maps to enhance the understanding of

historic land use in the area (Ainsworth and Burn, 2009, p. 4-6). In the field, the survey aimed to map out the location of the features with the use of aerial orthophotography; the orthophotography formed the map base for the GPS mapping-grade survey equipment, which was a relatively new methodology that was being tested in this report (Ainsworth and Burn, 2009, p. 12). Not only were the features mapped, but the condition was also observed, looking for the destruction of spoil heaps and sections of the road as well as the impacts of fluvial erosion (Ainsworth and Burn, 2009, p. 12). The information collected in the field was amalgamated into a GIS database which was used for the spatial analysis of the site providing information on which areas would need to be addressed and which features were at risk (Ainsworth and Burn, 2009, p.12). The element of risk was categorised into a Green, Amber and Red system, which Burn (2023) states was a highly subjective method, with no formalised framework or criteria to categorise each level of risk, something which is commonplace in environmental impact assessments, such as the Mining Environmental Liabilities Risk assessment (Salgado-Almeida et al, 2022, p. 4-5), to help regulate the decisions of individuals and provide a justification for the choices made. This is not to say these flow charts of decision-making are without subjectivity, but it does at least set a precedent for everyone working on the project, creating stability in the decisions that everyone is making. Risk assessments also play an important role in the management and conservation of Scheduled monuments, which are managed by the Heritage at Risk programme within Historic England (Historic England, 2023b). The Heritage at Risk Programme uses a set methodology to decide which heritage assets should be included on the register using a criteria list for different types of historical assets (Historic England, 2023a, p.3-5). The type of methodology used in the Heritage at Risk programme would have

made the risk assessment process at Grassington less subjective and could have aided in the decisions made in the field.

Another objective of the project was to “develop, trial and report on recording methodology based on orthophotography, mapping-grade GPS and a GIS database” (Ainsworth and Burn, 2009, p. 8), this highlights that not only was the research for developing knowledge of the area but to develop and test a methodology by using, what were, developing techniques at the time. This methodology was also employed in a further project, *The Archaeology of a North Pennine Valley* sited in Scordale, Cumbria which also required a ‘rapid’ element due to time pressures implemented by the MOD, who controlled access to and management of the land (Ainsworth and Hunt, 2010, p.1-2). Similarly, to the Grassington site, archaeological features at Scordale were also facing fluvial erosion, however an in-depth report on the fluvial action was already available from the Defence Estates Environmental Support team and so this was used for reference. This ensured that the focus of the report mainly looked at the effects of the fluvial erosion on the site as well as interpreting the dates and functions of the archaeological features (Ainsworth and Hunt, 2010, p.2). Although there was no report on the fluvial action readily available for the Grassington site, it still seems that the report could have focused less on this and more on the effects this was having on the archaeology. This would have streamlined the time spent on site as well as the time spent surveying the archaeology. Another area that differs from the Grassington report was the addition of a vertical aerial survey conducted by English Heritage commissioned by the MOD before the Scordale report (Ainsworth and Hunt, 2010, p. 2). The Scordale report states that following a review, the aerial survey alone was not sufficient for identifying the main areas that were at risk or interpreting the features and their significance, both of which would be necessary to devise a strategy for conservation

and management (Ainsworth and Hunt, 2010, p.2). This rather negative view, however, does not discount the usefulness of aerial surveys within wider research projects; before the aerial survey that was commissioned by the MOD, an earlier aerial survey was conducted of the Scordale area, as part of a wider National Mapping Programme, which aimed to produce a record of archaeological sites to help the Defence Estates produce an Integrated Management Plan (Boutwood, 2002, p.2). This project successfully mapped 46 new features and updated the records of a further 51, which helped to enhance the knowledge of the features in the area and provided the base for further investigation including the recommendation of further aerial reconnaissance and field survey, which no doubt contributed to the formation of the Scordale report, by highlighting the archaeological significance of the area (Boutwood, 2002, p.9). Further National Mapping Projects conducted by Historic England have continued to show the success of using aerial photographs for mapping and interpreting archaeological features within large landscapes such as the Alston Moor, Miner-Farmer National Mapping Report (Oakey, Radford and Knight, 2012). The Alston Miner-Farmer project successfully recorded over 130 buildings related to the lead mining industry, and as a result of this report further work was undertaken specifically examining these buildings, demonstrating why aerial surveys are so useful as the base for further, more targeted investigation and research (Jessop, Whitfield and Davison, 2015, p. 1-2). An aerial mapping survey of the site at Grassington would most certainly have been useful for the field survey team, putting less pressure on accurately mapping out the features in the field and streamlining the priority to assess the damage being caused to the spoil heaps and roads.

The investigation was labelled a rapid assessment which could infer that time and budget constraints may have impacted how the research was conducted, as was the case at

Scordale (Ainsworth and Hunt, 2010, p. 163), but upon speaking to Burn (2023) this appeared not to be the case, rather that the need to respond to the management issues was perhaps what impacted the results and research that was undertaken. The bulk of the research was constrained to the road corridors through the scheduled areas as these were the main areas of concern highlighted by the YDNPA (Ainsworth and Burn, 2009). It seems difficult to assume that this was the only area being affected by destructive factors, both natural and human, and perhaps this is an area in which the study lacks scope and was somewhat restricted by the aims of the research. One of the other aims of the project was to provide a piece of research that would sit within and aid a developing body of upland-lead mining archaeological research, both locally but also as a wider subject (Ainsworth and Burn, 2009, p.7). It seems that restricting the study to a limited area of investigation may inhibit the variety of features that were analysed, leaving a gap where features sit away from the roadside and at locations not accessible by foot. This is one of the benefits of aerial photography, as access, especially in upland areas can be highly challenging for field surveys. Other studies undertaken by the archaeological investigation team including the specialist aerial survey investigation team within Historic England have proved the effectiveness of using both historic and modern aerial images alongside field survey investigation, especially in upland areas, to inform the basis for decisions made on the ground, such as deciding which sites to target for further field investigation/excavation but also to clarify specific features and their condition in some cases (Hardwick, 2014, p.8) (Oakey et al., 2015, p.1 & 10). Within both the Hardwick (2014) and Oakey et al (2015) reports it is clear that using aerial survey before field survey investigations can have great advantages both in time spent at a site, as it can reduce the amount of time spent mapping out features on the ground, but also in deciding where to target for more in-depth analysis, which as stated by Winton and

Horne (2010, P. 11) is one of the ways that the National mapping Programmes, conducted by Historic England, can be very effective through continued collaboration between teams, which in the case of the report at Grassington could have served as a useful methodology (Ainsworth and Burn, 2009). In a conversation with Burn (2023), they agreed that upon reflection this method could have been very useful but recalled that the aerial team were tied up in another large landscape-scale mapping project, which could be the reason this was not employed in this research. This highlights some of the constraints of the responsive nature of the report, if this was not so urgent perhaps more time could have been assigned within the project design to allow a preliminary assessment of the site from the Aerial Survey Investigation team to map out the features allowing the field survey team to spend their time on site focusing on the management effects wholly and gathering evidence for how the archaeological features were being damaged and to what degree they were at risk. The report does address this point by stating that office-based aerial surveys “do not attempt to identify or record the depth of interpretation and detail necessary for a profound understanding of lead-mining landscapes, nor the complex threats they face” (Ainsworth and Burn, 2009, p.108), which seems to be the justification for discounting the use of this type of survey for the mapping process.

One area the report does not lack in is the huge amount of data recorded, including the mapping of archaeological features, which roads are used most actively, which spoil heaps are of historical significance and should be protected, hydrological processes affecting the features, a risk assessment of each of the features as well as the different types of erosion (Ainsworth and Burn, 2009, p. 123-160). The results provide a vast amount of evidence to support the creation of a management plan, which in some ways, from reading the recommendations included in the report, was already provided (Ainsworth and Burn,

2009, p. 120-122). This report goes above and beyond what initially might be expected from a 'rapid assessment' and without a doubt successfully hits the aims and objectives established from the outset. Upon the completion of the report, English Heritage provided a grant to the area to help get it off the Heritage At Risk Register showing just how successful the report was (BBC, 2010). The level of detail and data created, such as the testing of the spoil heaps to justify why they are historically significant and should not be used for road maintenance, most definitely provides the evidence to advise against this kind of management action in the future, however, it seems slightly over the top to have completed the testing on the scale they did as 119 spoil heaps were tested and only eight were found to potentially not be of any significance (Ainsworth and Burn, 2009, p. 155-156). The detail on how active the roads were used to assess their significance, also seems a little excessive as this section could have been summarised in map form or a table rather than the 18 pages it took to cover this (Ainsworth and Burn, 2009, p.27-45). It also seems over the top to have investigated the hydrological processes to the level of detail that was included in the report, almost 20 pages are dedicated to the hydrological processes alone in the report (Ainsworth and Burn, 2009, p.79-98). This is not to say the information obtained was not useful, but perhaps some areas such as the mapping could have been done in a much simpler and more time-efficient way and still have reached the same outcomes with the same recommendations.

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