# OPTIONS FOR SUSTAINABLE ARCHAEOLOGICAL ARCHIVES

## Part One - Report

Report prepared for

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# Purpose of document

This document has been produced as the final report for the Arts Council England (ACE) and Historic England (HE) funded project, '*An investigation and options appraisal on providing for the long-term storage and curation of archaeological archives in England*'. The overarching aim of the work has been to understand how the museum and wider archaeological sector can be best supported to ensure a sustainable model for providing future capacity for archaeological archives. The purpose of the document is to outline the results of the study, providing a series of scenarios and options which seek to address the archives challenge, and to outline the recommendations of the project team.

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# Executive Summary

This report is the result of an Arts Council England (ACE) and Historic England (HE) funded project, 'An investigation and options appraisal on providing for the long-term storage and curation of archaeological archives in England'. The overarching aim of the work has been to understand how the museum and wider archaeological sector can be best supported to ensure a sustainable model for providing future capacity for archaeological archives. This work will contribute to the strategic response to the specific recommendations in the Mendoza Review of Museums that addressed this issue (2017).

The project was delivered from March 2020 to March 2021, with workstreams focussed on several key areas agreed with the Project Steering Group. Regular meetings were held with the Steering group to provide updates and outline progress, and to agree any changes to the delivery programme because of issues related to COVID19. Key areas of work included desk-based review of results from previous work, survey and consultation, options modelling, and recommendations.

Recommendations aim to address the capacity challenge, facilitate access to heritage and maximise public benefit from archaeology – a key need identified from the results of previous work and across the project's consultation activities. Importantly, the OSAA 2020 research suggests that, to create the desired sustainable future for archaeological archives, an ambitious and robust response must look beyond capacity and encompass both accessibility and benefit. To this end, the project proposes the creation of a National Collection of Archaeological Archives (NCAA) which would provide:

> *A national, sustainable archaeological archive which guarantees public benefit through being discoverable and accessible, facilitating new stories of our shared past through the continuing use and reuse of resources created by archaeological processes, equally accessible to researchers, educators, curators and the public and providing a seamless interface between data, archive materials, organisations and communities.*

Key components of the NCAA would include 1) a single online catalogue – the NCAA Datastore, 2) a single set of standards for preparation, deposition, curation and access, 3) a Collections Policy which links the NCAA to national and regional research frameworks, and to the CIfA Selection Toolkit and 4) a dedicated team, including expert staff and a network of regional archives advisers to support the NCAA and build vital connections and relationships between archive creators, curators and users.

To describe the challenge, three Scenarios articulate the scale of the current problem and consider the immediate issue of inaccessible archaeological archives as well as the medium-term challenge of capacity within museums. A series of Options are then presented which respond to the scenarios, providing building blocks which address the challenge to a lesser or greater extent. Options include increased capacity within the current model, creation of a structured, distributed model which adopts a 'hub-and-spoke' approach, or the development of a single facility designed to collect and store the nations archaeological archive. In all cases, an assumption is made that some museums will continue to collect and store archives considered relevant to their collection policy and that a blended approach should be accommodated across any solution adopted.  In addition, the impact of outsourced storage to accommodate and support solutions is considered across the options modelled. The NCAA would provide the sustainability needed to underpin the various options which could be adopted.

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# 1 The Options for Sustainable Archaeological Archives Project

## 1.1 Project background

This report is the result of an Arts Council England (ACE) and Historic England (HE) funded project, '*An investigation and options appraisal on providing for the long-term storage and curation of archaeological archives in England*'. The overarching aim of the work has been to understand how the museum and wider archaeological sector can be best supported to ensure a sustainable model for providing future capacity for archaeological archives. This work will inform the strategic response to the specific recommendations in the Mendoza Review of Museums that addressed this issue (2017). It will inform thinking about future strategies and potential interventions whether through extending current provisions or introducing new approaches.

The Recommendations of the Mendoza Review of Museums aimed to improve '*the environment for museums so that individual organisations and the sector as a whole are well supported in a streamlined and effective way*'. Among the recommendations identified was one for Historic England to '*Work with key stakeholders to produce recommendations for DCMS early in 2018, which will improve the long-term sustainability of the archaeological archives generated by developer-funded excavations*'. In response, Historic England convened a task and finish group with Arts Council England and a range of archaeology and museum organisations. The group developed an action plan to address the challenge of sustainable management of archaeological archives.

Key features of the plan include:

- Investigating the potential for national or regional repositories.
- Understanding and promoting access and use of the archives.
- Clarifying issues of ownership and title transfer.
- Exploring realistic and sustainable charging frameworks for the transfer of archaeological archives to museums.
- Ensuring that selection is a key part of the archive creation process to ensure continuing significance.
- Exploring new technologies and methods of storage.

This project related to Recommendation 2 of that plan: *DCMS should ask ACE (as the lead development body for museums) to work with HLF and Historic England, to deliver a feasibility study of the viability of establishing additional strategic capacity in terms of publicly accessible repositories for archaeological archives, acting in support of existing museum provision*. Further details of the Action Plan can be found here: https://historicengland.org.uk/whats-new/news/new-plan-englands-archaeology-archives-challenge/

## 1.2 Scope and situation

This research exercise and options appraisal has explored the capacity challenge for archaeological archives, investigating the effectiveness of different storage models currently in use and exploring how different scenarios will impact future capacity needs. The project team has modelled several options, providing broad estimates of capital costs and resourcing required to support sustainability. A key

strand within the project has been consultation, and the report incorporates results from several discussion workshops, stakeholder consultations and case study interviews.

This project considers the challenges and potential options for the long-term storage of physical archive elements from archaeological projects and does not include the digital components of the archives. The definition of the archaeological archive used in this study is as follows:

> *All records and materials recovered during an Archaeological Project and identified for long-term preservation, including artefacts, ecofacts and other environmental remains, waste products, scientific samples and also written and visual documentation in paper, film and digital form (Perrin et al. 2014, 20).*

The report was delivered from March 2020 to March 2021, covering the period of the COVID19 pandemic where much of the UK was in varying degrees of lockdown conditions. This has influenced the methods used and, importantly, the ability of the project team to access some information. Whilst we have experienced fantastic responses and support from individuals and organisations, the working restrictions for some has limited their ability to visit workspaces, access datasets and archives. For a large part of the delivery programme, many individuals were also furloughed, the result of which was a smaller response to the archive creation and accrual survey than might be expected under more normal conditions.

It is important to note that the scope of the study was also quite specific, considering the non-digital elements of archaeological archives and providing sustainable future capacity for storage. Some areas were not considered as part of the research but may have significant bearing on the costs and implementation of the options presented, such as Title of Transfer and issues linked to Treasure Act (legislation, definition, process).

A glossary of key terms and abbreviations used within this report is included at the end of this document.

# 1.3 Project methodology

The project was delivered from May 2020 to March 2021 with workstreams focussed on several key areas agreed with the Project Steering Group. Regular meetings were held with the Steering group to provide updates and outline progress. It should be noted that the programme methodology used was amended throughout delivery because of ongoing issues related to COVID19.

The main work areas which have informed this project included;

- Desk based review (summarised in Section 2 and included in Appendix 1), evaluating previous work undertaken across a number of relevant projects.

- Archive creators (contracting organisations) update survey (Appendix 2), to review current understanding of the archives backlog, archive creation, accrual and deposition trends.

- Case Study review of existing solutions (Appendix 3) undertaking one-to-one interviews with archive managers and teams to explore different models of archive storage.

- User ambitions consultation workshops (Appendix 4) offering discussion-based workshops with heritage professionals across stakeholder sector groups identified in the Communications Plan.

- Stakeholder consultation (Appendix 5) delivered as a discussion workshop with key organisations identified in the Communications Plan.

- Options modelling (Sections 3 - 5), based on data collated and considering consultation responses, providing a range of options, outline costs and impacts.

- Recommendations (Section 1 and 6) from the Project Team.

It is important to note that the OSAA project is not a detailed feasibility study. The project has investigated strategic options which are presented below in comparator format, and which include many assumptions. For example, salary costs included are based on LGA Green Book data, and the local authority framework for overhead costs has also been used. This allows the reader to see a like for like comparison between each different option but should not be taken as an estimate of actual cost for the models provided. A good comparison would be with official manufacturers' fuel economy figures for vehicles: these are carried out under consistent laboratory conditions to allow comparators to be drawn, and do not reflect 'real world' returns.

This is especially true of the relationship between volume and area. The OSAA project has gathered capacity data in terms of volume and has a working assumption that 1m3 of volume requires 1.3m2 of footprint. Alternatively, 1m2 of footprint can accommodate 0.77m3 of storage. This is correct but makes no allowances for the height of the structure, where several m3 can be 'stacked' in the same floor area. Since building costs can be estimated on cost per m2, this becomes significant, especially for larger buildings. The case study provided of a build at SMG Wroughton, for example, shows that 1m2 of footprint can accommodate between 2 & 2.3m3 of material in a 'real world' example.

This makes it exceedingly difficult to provide more than ball-park scenarios at this stage and emphasises the need for detailed options appraisals to be carried out based on real world structural appraisals as the project is taken forward.

# 1.4 Defining the archaeological archive

The creation of a stable, ordered and accessible archive as a fundamental aspect of any archaeological project has been defined at national (Brown, 2011) and European (Perrin et al., 2014) levels. The industry accepted standard is that an archaeological archive should contain a complete record of an archaeological project; the methodology, aims and objectives, data or objects collected, analysis results, interpretations, research and publications; all parts working together as one interrogatable whole (Chartered Institute for Archaeologists 2014). These sector wide, industry accepted standards and guidance are what govern the creation, compilation and curation of archaeological archives within England. While many archaeological archives are held within museums, their requirements differ from other museum collections or types of archives. Collections management systems such as Spectrum, and schemes such as the Archive Service Accreditation and Museums Accreditation are not considered compatible with current archaeological archiving best practice because they do not refer specifically to the procedures that relate to archaeological archives, and have therefore not been discussed within this report. More detailed guidance produced by the Society for Museum Archaeology may be of interest in terms of further reading (SMA 2020, 39).

# 2 What is the issue?

## 2.1    The challenge

The *Options for Sustainable Archaeological Archives Project 2020* is the latest in a series of research and consultation projects looking at archaeological archives, commencing with the Society of Museum Archaeologists *Archaeological Archives and Museums 2012* project (Edwards 2013). A desk-based review of nine previous projects, all of which have tackled the challenge faced in the collection and management of archaeological archives, articulated several common recommendations as well as identifying existing knowledge gaps (Appendix 1).

A number of reports reviewed, including the Archaeological Archives and Museums 2012 (Edwards 2013), Seeing the Light of Day (Fernie, McNulty and Dawson 2017), 21st Century Challenges (Wills 2018) and Dr Paul's PhD thesis (Paul 2020), recommended that national or regional stores would provide an acceptable solution for the continued provision of access to archaeological collections. Therefore, in general, research undertaken consistently recommends that the strategy should be national, although none go so far as to suggest the nature and organisation of such a facility, or series of facilities. None of the reports identify any specific areas of the country where an archaeological resource centre would be best placed, the Edwards report (2013) specifically highlighting the fluid nature of the 'storage crisis'.

Edwards (2013) suggested that locality may be important in relation to archaeological archives, while Dr Paul's doctoral thesis concluded that location does not have to be a barrier to use if the systems are in place to support access. The 21st Century Challenges report (Wills 2018) concluded that new repositories for archaeological archives should be linked to museums, and the Empowering Collections report (Museum Association 2019) recommends the use of shared museum storage. The Gathering Information on Deep Storage Archive Facilities report (Tsang 2017) suggested that off-site storage is often seen as more suitable for less frequently accessed and physically robust material, but that maintenance of a local store for material regularly accessed, or in need of regular monitoring, in-house may be required. Tsang (2017) also states that those closer to, or on the fastest access routes to the storage felt the greater benefits due to the costs of recovering material from deep storage.

While the 21st Century Challenges report (Wills 2018) called for consideration of a transparent national costing model for archaeological archives, the Survey of Fees for the Transfer of Archaeological Archives in England report (Vincent 2019) concluded that setting a single fee across organisations is unrealistic due to the variation in the type, size and make up of collecting organisations. Additionally, the variable nature of income from archaeological archive deposition, should be taken into account, particularly regarding potential loss of income by museums.

A national strategy for archive completion was recommended by the Archaeological Archives and Museums 2012 report (Edwards 2013) and the doctoral thesis 'Why do we have this? A study of museum approaches to retention and disposal of archaeological archives' (Paul 2020), while the Seeing the Light of Day report (Fernie, McNulty and Dawson 2017) advocates for a 'Standard Framework' for archaeological archiving procedures. Both the Edwards report (2013), 21st Century Challenges report (Wills 2018) and Dr Paul's PhD thesis (Paul 2020) suggest the creation of a national index of archaeological archives.

Key recommendations which have been highlighted through the desk-based review, can therefore be summarised as:

- Development and adoption of a national strategy for archaeological archives.

- Development of a national index of archaeological archives.

- Creation of a standardised framework for archives management.

- Provision of a blended solution should involve museums and off-site storage.

- Consideration of archive deposition fees in terms of consistency and impact of the proposed solutions.

These recommendations provide a sound platform from which the OSAA 2020 project developed. Having also identified the significant gaps in the data, the project also undertook several consultation exercises, including survey, discussion workshops and interviews.

## 2.2    Beyond capacity – the case for sustainability

Feedback from the user needs discussion workshops (Appendix 4) provided an opportunity to understand the issues from all perspectives. Despite variation in the response to more focussed questions, overall there was a clear directive from everyone with regards to the need for a sustainable solution: we understand the challenge, the problem is still there, we need to address it, and its more than just boxes.

Analysis of the discussions highlighted four common themes which came out of the various discussion groups;

- The requirement for a nationally co-ordinated process or 'brand' for the archaeological archives, e.g. a National Collection.

- The opportunity to create a physical, national repository location.

- The need for a digitally accessible national index or register (incorporating existing archives and a process for newly created archives) including archives contents details.

- A consistent, standardised approach to preparation, storage and access to archives.

When discussing the current archaeological archiving situation, workshop attendees thought the biggest issue was online access and availability, followed closely by the variation in documentation, lack of museum resources and knowledge of where the archives are located. The three main barriers to gaining full potential from archaeological archives were lack of on-line data, staffing and resources, and the promotion and visibility of archaeological archives. However, if these barriers could be removed, it was believed that usage for multiple purposes including research and public engagement would increase, and new stories could be told.

The main changes needed to achieve a truly sustainable resource were agreed to be the need for national standards (for archive compilation, data, curation and accessibility), an on-line catalogue, better facilitation of the archiving process and to a lesser extent physical accessibility. Key to accessibility was an on-line searchable database, a dynamic central index or catalogue using standardised terminologies and data management systems. The consensus (though by no means unanimous) was that archaeological archives should be managed at the national level, although it was pointed out that change is difficult and there may be resistance from existing providers.

## 2.3    A vision for sustainable archaeological archives

This report includes several options and outlines different scenarios which may influence how a robust solution could be implemented. The report builds on recommendations which address the capacity challenge currently being experienced across England, but also the need facilitate access to heritage and maximise public benefit from archaeology. We feel that recommendations need to be approached as a series of objectives which fall under one important umbrella – the **National Collection of Archaeological Archives (NCAA)**. This concept, outlined in Section 4, has developed from the OSAA project and reiterates the conclusions of previous initiatives (see Section 2.1 and Appendix 1).

Options which outline possible solutions to problems recognised in the Mendoza Review of Museums (2017) are designed to address long-term sustainability of archaeological archives. The OSAA 2020 research suggests that, to create a more sustainable future for archaeological archives and meet the ambition of Arts Council England and Historic England, an ambitious and robust response is required which looks beyond capacity and encompasses the wider question of accessibility and benefit. To this end, we propose that the creation of a National Collection of Archaeological Archives provides an aspirational yet achievable solution. The proposal addresses the practical need of storage whilst enhancing existing provision and supporting a significant shift in how archaeological archives are perceived, accessed and used. The project team feel that a clear definition of sustainable archaeological archives provides a useful way to frame the aspirations of the project's recommendations.

The National Collection of Archaeological Archives (NCAA) would provide a sustainable archive, which is defined as:

> *A national, sustainable archaeological archive which guarantees public benefit through being discoverable and accessible, facilitating new stories of our shared past through the continuing use and reuse of resources created by archaeological processes, equally accessible to researchers, educators, curators and the public and providing a seamless interface between data, archive materials, organisations and communities.*

The NCAA would provide:

- A centralised web-based catalogue and index, making archaeological archives findable and accessible, using standardised forms and including legacy data.

- Base level of standards for preparation and deposition thus simplifying operations for contractors across England, creating a more efficient and cost-effective system.

- A single point of online access for archive creators, curators and users, creating a substantial research opportunity supported by both online access to information about archives as well as physical access to collections from multiple sites.

- Ability of local museums to join and become part of the NCAA, continuing to collect archives and through agreement to meet standards and link into the data infrastructure of the NCAA.

- An underpinning collection policy for the NCAA driven by and linked to regional research frameworks, where archaeological fieldwork is evinced to add value to the NCAA.

- An approach that is collaborative and includes creators of archives (contracting organisations, Universities, community groups) in its strategic aims, as well as monitoring organisations (local authorities, national advisors) and curatorial teams (museum curators, repository managers and staff).

The NCAA would be supported by a distributed team of NCAA Archaeological Archives Advisers providing:

- Regional support to promote and engage with NCAA.

- A connection between existing repositories who choose to register with the NCAA, the central facility, archive collectors, archive hosts, users and stakeholders.

The following section provides a summary of the challenge which this project has aimed to address, outlining the methods used to approach the research aims. We identify three Scenarios which present the storage challenge faced to varying degrees over a period of 30 years and consider the changing needs and opportunities over that period which may impact the nature of the solution presented.

# 3 ADDRESSING THE STORAGE CRISIS

## 3.1 Understanding data issues

The survey data which has informed our understanding of the current capacity challenge for archaeological archives within England is not without issue, and it is important to consider the limitations of the data used within this project prior to drawing conclusions from it. In addition to the project reports reviewed as part of an initial desk-based assessment (Appendix 1), a series of annual surveys delivered by the Society for Museum Archaeology, commissioned by Historic England, underpin what we know about capacity issues in England today. These surveys have sought to gather quantitative and qualitative information about the capacity of museums to collect and considered levels of staff resource and expertise.

The main surveys used to understand capacity needs in this research include:

- 2012    Edwards Survey for FAME and SMA

- 2016    SMA Annual Survey of Collecting (Historic England)

- 2017    SMA Annual Survey of Collecting (Historic England)

- 2018    SMA Annual Survey of Collecting (Historic England)

- 2020    OSAA Project Surveys

Through the delivery of this project, it has become clear that, whilst each report provides a snapshot of a particular moment and set of questions, as a group of data they are inconsistent and incomplete. This means that making comparisons between different datasets is difficult and the results should be treated with a degree of caution. Both the Edwards (2012) and SMA Surveys (2016 – 2018) asked receiving museums to give an indication of the remaining capacity for storage of archaeological archives, but the differing approaches cast doubt on the results in several ways.

For example, it is still not known how many repositories currently exist in England. Edwards worked on the assessment that there were 160, targeting those repositories and receiving 134 responses of varying completeness. The SMA approach was more broad brush and compiled a list of 493 museums that were contacted for the survey in 2016 and increased to 512 in 2017.

During the survey design for the final year of the SMA project, it was realised that the differences between 2016 and 2017 were introducing variables into the data, so in 2018 only the 256 museums

that replied in both 2016 and 2017 were approached, with 148 complete responses received. It is not clear whether the year-on-year comparisons in the 2018 survey are based on the total responses from 2017/2018 or have been filtered down to the 256 respondents that were approached across all three years.

In terms of respondents to the SMA surveys, it appears that repositories which are non-museum based were not contacted as part of the survey. For some areas this creates confusion and gives a false impression of both capacity and resource. For example, the Cambridgeshire County Council Historic Environment Team (CCCHET), which has been the receiving repository for Cambridgeshire since 1992, was not included in the survey. Instead, eight museums were approached, none of which accession archives from developer-funded excavations. The 2018 report therefore lists three of those museums as actively collecting archives, two of which have added archaeological objects to their collections from archives held by CCCHET, and the third is a University museum and could hold material from university research excavations. However, as the UAUK 2018 Survey shows, the volumes held in universities are not a significant issue compared to archives from developer-funded fieldwork. The misrepresentation of the Cambridgeshire situation is not unique, as the data from the West Midlands also excludes those museums that are not SMA members resulting in an inaccurate picture of archaeological archive storage provision in the region.

Relating to the creation of archives, contracting archaeological organisations were surveyed in Edwards 2012 about archives in their possession. This data was updated in 2020 for the OSAA project, although it was realised that one statistic not requested in any survey has been the annual accrual of archives. This was the subject of an additional questionnaire circulated as part of the OSAA project in 2020.

Finally, it should also be noted that the OSAA 2020 surveys were undertaken during the COVID19 pandemic, so responses have been impacted by staff availability and access to files/databases.

## 3.2    Storage and capacity within England

As a result of the limitations of the combined survey data as outlined above, it is quite difficult to draw generalised conclusions. A key question which underpins this study is how much capacity currently exists within England's repositories, how much of that space is available to archaeological archives, and when that capacity will be exhausted should archives continue to be deposited at the current rate. The four key surveys which provide this data suggest that available capacity in England has almost halved between the period from 2012 when overall storage capacity was estimated to be 3,200m$^3$, to 2018 when capacity was reduced to 1,870m$^3$ (see Table 1). However, looking at the data from the SMA surveys alone suggests a degree of variability from year to year which is not easy to explain as a general trend, but it more likely to result from variation within the survey respondents that was recognised in the 2018 survey.

One aspect that does remain more consistent is the average capacity per repository (Table 1). Again, a decline in overall capacity within repositories from 2012-2017 is to be expected, but the increase seen in 2018 is unexpected. This could be the result of a more targeted approach in the SMA 2018 survey which removed museums that were not expected to hold archaeological archives of this nature. Alternatively, if one considers the decline seen in the amount of undepositable backlog held by contracting archaeological organisations from 2012 - 2020 (Appendix 2), the increased capacity in SMA 2018 data could be a result of the implementation of local archive solutions (e.g. Cambridgeshire, Northamptonshire and Suffolk).

| | Data source | | | |
|---|---|---|---|---|
| | Edwards 2012 | SMA 2016 | SMA 2017 | SMA 2018 |
| Responses | 134 | 200 | 200 | 148 |
| Collecting repositories | 160 | 119 | 104 | 88 |
| Number stopped collecting | | 35 | 38 | 23 |
| Never collected | | 46 | 58 | 37 |
| Average storage capacity remaining per museum | 20m$^3$ | 18.1m$^3$ | 15.3m$^3$ | 21.5m$^3$ |
| Total capacity | 3200m$^3$ | 2116.5m$^3$ | 1546m$^3$ | 1870m$^3$ |

Table 1. Repositories in England, collection of archaeological archives and capacity

Data gathered from archaeological organisations is very telling with regards to the volume of archive material generated on an annual basis and expectations for deposition. According to data gathered as part of the OSAA 2020 surveys, contracting organisations are creating an estimated 492m$^3$ of archive material per annum. Of this, 379m$^3$ of archive material per year is depositable, leaving 23% (or 113 m$^3$) which is considered undepositable (see Appendix 2).

Comparison of the annual accrual of archive material and the estimated capacity within repositories, as estimated from Edwards 2012, SMA 2018 and OSAA 2020 data, demonstrates that existing storage capacity will be fully eroded within six to ten years should no changes be made to the current situation (Figure 1). These figures are averaged across the country and regional variation will mean that some collecting areas will have greater capacity than others, extending the timeline for some. However, even with those variables in mind, the situation is desperate. Presented as an average, the 2018 SMA figure of 1870m$^3$ remaining archives storage capacity, would mean that repositories will be full within in six years of the data collection, by 2023/4. Projection of the Edwards 2012 figure of 3200m$^3$ against the current accrual rate, repositories will be at capacity by 2022/3.

In summary, we will exceed the capacity available within existing repositories sometime between 2022 and 2025, increasing the burden on contracting organisations to retain and store undepositable archives in perpetuity. Whichever dataset is used, a solution must be found and taken forward urgently.
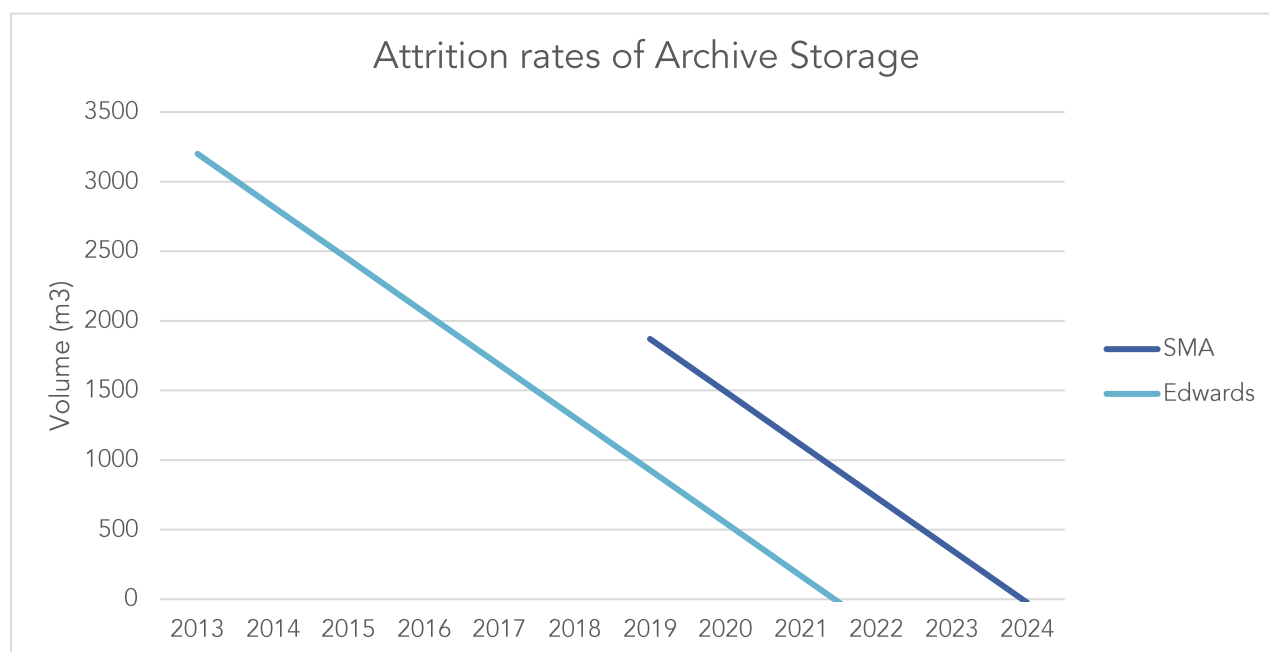


Figure 1. Attrition rates of archive storage based on current trajectory for archaeological archive accrual and existing storage capacity of England's repositories.

# 3.3 Meeting current demand – capacity needs

This section considers the size of facility that would be required to meet the current demand for space over a 30-year period, tackling the immediate need for England's archaeological archives but not addressing the wider issues of sustainability, accessibility, public value or resources highlighted in Section 2.

To better understand the demand for space required to address the current archive storage crisis, as well as future needs, the project delivered an update survey in 2020 to supplement information gathered from the 2012 Edwards report. The OSAA 2020 survey (see Appendix 2 for detailed summary) has assessed the volume of archaeological archives held within contracting organisations, as well as the volume of material considered to be backlog or otherwise undepositable. In addition, the 2020 survey requested an estimate of the annual production of archives by subcontracting organisations, allowing us to gauge the space required for storage solutions into the future. This is the first time an archives survey has requested this information, so we cannot compare the data to previous reports, but it does provide a key number for us to model different options around. In total, 20 organisations responded, representing around 45% of contracting organisations in England.

The project has posited three possible scenarios which could meet the existing demand for space (Scenarios 1 to 3 below). The key information which underpins this section of the report includes the current backlog archive material held within subcontracting organisations, the amount of material accrued on an annual basis and the amount accrued annually which is undepositable (see Table 2). It is also clear that the storage challenge is more complicated than simply dealing with the existing backlog and the annual creation of new undepositable archives. Even when considering meeting only the existing demand for storage, wider questions of museum capacity and resources need to be taken into account.

The scenarios presented below incorporate two additional streams of material: the first, additional capacity to allow for the likelihood that some institutions currently collecting will reach capacity and stop receiving archaeological archives over the coming decade, and the second which considers that some museums may seek to deaccession existing collections into the new facility. Failure to manage either of these streams could seriously compromise and even defeat attempts to address the challenge of creating a truly sustainable option for archaeological archives, which responds to the full list of recommendations included in Section 2 above. The Archive Options presented in Section 5 therefore creates the capacity needed to support either or both additional streams of material.

| | |
|---|---|
| Estimated archaeological archive holdings within contracting units in England | 4,957 $m^3$ |
| Estimated archaeological archive holdings within contracting units in England considered undepositable (23% of total archaeological archive) | 1,140 $m^3$ |
| Annual accrual of archaeological archives in England | 492$m^3$ |
| Annual accrual of undepositable archive material in England (23% of total archaeological archive) | 113$m^3$ |

Table 2. Key data which supports the scenarios outlined below.

Please note: For the scenarios given below, figures are given in metres cubed ($m^3$) to provide a standardised and comparable figure. Often numbers of boxes have been used in response to similar questions, but box sizes used are variable throughout the country and therefore not easily comparable. Translating $m^3$ into $m^2$ (e.g. from storage volume to estimated floorspace) has been assessed on the

basis that 1.3m$^2$ of floor area provides 1m$^3$ of storage. An extra 0.3m$^2$ was added to account for walkways and staff spaces but does not include specific public or research spaces.

## 3.4 Scenario 1: Storage for undepositable material.

Scenario 1 assumes that only the existing undepositable backlog of 1140m$^3$ plus the annual accrual of undepositable material (e.g. 23% of the total) must be addressed. This means that the estimated volume required for a 30-year period is **4,535m$^3$**. Table 3 shows the capacity requirements of this scenario from Years 1 – 30.

The model assumes that collecting museums and repositories will continue to develop and manage their facilities to maintain that function at the current level. However, the SMA surveys, OSAA workshops and likely impacts of the COVID pandemic indicate that this stability is unlikely, and it should be expected that more museums will cease collecting. It is important to recognise that museums have storage issues beyond that of the archaeological archive collection. In either case, limiting capacity to address current demand does not consider the likelihood that annual collecting capacity is likely to decrease and / or that some museums may seek to transfer existing collections of archaeological archives, either in part or in full.

| Scenario 1 | Year of Operation | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1 | 5 | 10 | 15 | 20 | 25 | 30 |
| Backlog (m$^3$) | 1,140 | 1,140 | 1,140 | 1,140 | 1,140 | 1,140 | 1,140 |
| Annual accrual undepositable (m$^3$) | 113 | 566 | 1,132 | 1,697 | 2,263 | 2,829 | 3,395 |
| | | | | | | | |
| **TOTAL m$^3$** | **1,253** | **1,706** | **2,272** | **2,837** | **3,403** | **3,969** | **4,535** |
| Floor Area m$^2$ | 1,629 | 2,218 | 2,953 | 3,689 | 4,424 | 5,160 | 5,895 |

Table 3. Scenario 1: Current backlog, plus undepositable archives.

## 3.5 Scenario 2: Storage for undepositable material and increased number of museums stop collecting archives.

In this scenario, the impact of a reduction in capacity across England's collecting museums is included. Using SMA survey data, it is postulated that over the next six years around 50% of currently collecting bodies will cease collection of archaeological archives due to capacity issues. Hence the volume of undepositable archive material per annum increases as more repositories close their doors to new archaeological archives, if the current repository network does not invest to maintain current capacity.

The impact of this situation would mean that the capacity of the 30-year building detailed in Scenario 1 would be full in less than ten years. This is the result of an increase to the annual accrual of undepositable archive material from 23% of 1140m$^3$ in Year 1 (113m$^3$), to an estimated 90% of 1140m$^3$ in Year 6 (443m$^3$). Therefore, over a 30-year period, the facility required to support Scenario 2 rises in capacity to 17,499m$^3$ in total, with an increased volume requirement of 12,964m$^3$ resulting from

museums ceasing to collect archaeological archives. In this Scenario, 50% of existing museums and repositories do continue collecting over the 30-year period.

| Scenario 2 | Year of Operation | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1 | 5 | 10 | 15 | 20 | 25 | 30 |
| Backlog (m$^3$) | 1,140 | 1,140 | 1,140 | 1,140 | 1,140 | 1,140 | 1,140 |
| Annual accrual undepositable (m$^3$) | 113 | 566 | 1,132 | 1,697 | 2,263 | 2,829 | 3,395 |
| Closures accrual (m$^3$) | 0 | 1,304 | 3,616 | 5,953 | 8,290 | 10,627 | 12,964 |
| | | | | | | | |
| **TOTAL m3** | **1,253** | **3,010** | **5,888** | **8,791** | **11,693** | **14,596** | **17,499** |
| Floor Area m2 | 1,629 | 3,912 | 7,654 | 11,428 | 15,201 | 18,975 | 22,749 |

Table 4. Scenario 2: Current backlog, undepositable archives and estimated closures.

## 3.6 Scenario 3: Storage for undepositable material, reduced museums capacity and transfer of existing collections



Scenario 3 assumes that, with a new facility collecting archaeological archives, some museums may wish to transfer a portion of their collection from their existing stores. As such, Scenario 3 combines the needs expressed in Scenario 2, plus provision of additional capacity to support transfer of existing collections. Edwards (2012) estimated that museums held in excess of 37,800m3 of archaeological archive material in collections. If we postulate that 1% of the total museum collection (378m3) is transferred in each year, over 30 years this will account for an additional capacity need of 11,340m3 (see Table 5). In total, the volume required for Scenario 3 would be 28,839m3. As with Scenario 2, in this Scenario, 50% of existing museums and repositories do continue collecting over the 30-year period.

| Scenario 3 | Year of Operation | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1 | 5 | 10 | 15 | 20 | 25 | 30 |
| Backlog (m$^3$) | 1,140 | 1,140 | 1,140 | 1,140 | 1,140 | 1,140 | 1,140 |
| Annual accrual undepositable (m$^3$) | 113 | 566 | 1,132 | 1,697 | 2,263 | 2,829 | 3,395 |
| Closures accrual (m$^3$) | 0 | 1,304 | 3,616 | 5,953 | 8,290 | 10,627 | 12,964 |
| Transfers (m$^3$) | 378 | 1,890 | 3,780 | 5,670 | 7,560 | 9,450 | 11,340 |
| | | | | | | | |
| **TOTAL m3** | **1,631** | **4,900** | **9,668** | **14,461** | **19,253** | **24,046** | **28,839** |
| Floor Area m2 | 2,121 | 6,369 | 12,568 | 18,799 | 25,029 | 31,260 | 37,491 |

Table 5. Scenario 3: Current backlog, undepositable archives, estimated museum closures and archive transfers.

## 3.7    The case for off-site and/or outsourced storage

In any of the above scenarios, there is a degree of unpredictability resulting from changing circumstances, as well as the possible consequences of opening a new storage facility. One national repository included in the Case Study Review, strongly suggested that future proofing any form of storage facility or archive resource centre was dependent on having access to additional, off-site storage and ensuring that logistical provision supports this use. A blended approach to storage offers potential cost benefits, especially as any storage facility providing access to materials will require good public access, and accessible locations tend to be situated in areas with higher land costs. Off-site storage could provide additional capacity at a more remote location, which may be cheaper although would need logistical provision to ensure that access for research and education is included.

A further option is to use outsourced storage to provide additional off-site capacity. This is a ready-made solution, and is a model already practiced in the UK. Cambridgeshire County Council are known for using DeepStore in Cheshire (a series of PD5454 compliant storage vaults converted from rock salt workings) to provide additional capacity for storage of bulk materials in their collections and have reported no problems or concerns with doing so. It is known that this approach is also being considered by others. A key consideration of this model is cost, and the comparison of providing an outsourced option to one directly managed by the facility.

The Historic England Report by Tsang (2017) reviews comparative costs of outsourced vs in-house storage (on or off-site) and concluded that the in-house option was more cost effective; 'in-house' here is taken to means storage operated by the museum, whether on site or offsite. The estimated cost of an in-house solution was £52.29 per $m^3$ per annum. However, it is important to note that the report did not consider capital costs of stores and their subsequent depreciation and was based on the finances of a single in-house store. Desk based research identified two further cost estimates: Wessex Archaeology suggested a cost of £136$m^3$ per annum and Wiltshire Museum £132 $m^3$ (Appendix 1, Table 1).

For comparison, DeepStore in Cheshire were approached in 2018 by the Chair of AAF to provide an estimate for an exclusive use storage vault of sufficient size to be of national interest. The request was made to provide a comparator for the Archives Advisory Panel discussions of the Science Museum Group's Wroughton facility but is also relevant here. Like-for-like comparison is complicated as DeepStore quotes based on box sizes, but 5,600 $m^3$ of space can be acquired for £25,000 per month, or £53 per $m^3$ per annum.

Outsourced storage does have its challenges. Any facility would need to consider the budget required to resource costs of retrieval and deposition of archive materials. Collections which would be deposited in an off-site store would need to be prepared and catalogued to an extremely high standard, perhaps higher than expected for an in-house collection. Regarding the former, information provided by Cambridgeshire County Council Historic Environment Team suggests that travel costs associated with deposition and retrieval (e.g. from store to office) are a significant consideration, but can be managed by limiting journeys per annum. Assumptions on logistical costs such as transport costs can also be included within deposition fees. Other resourcing needs, such as cataloguing or indexing as part of the archive accessioning process, can also be estimated. For example, CCCHET indicated that a team of three can prepare 40-60 boxes per day to a level where the contents of each box were listed by context.

Off-site or outsourced storage is not necessarily any more expensive to run than in-house collections and offers additional advantages. Including some off-site storage as part of the capacity solution could be a sensible approach to a situation which, owing to the potentially changing situation for some museums, may prove complex to predict accurately. A solution which offers a degree of adaptability and will not incur the costs of changing accrual needs until space is needed, provides flexibility that a

total in-house facility solution cannot. In addition, out-sourcing would incur no capital costs and is effectively limitless in capacity. It is therefore highly recommended that this be considered as a means of ensure longevity in any identified solution.

# 4  Towards a National Collection of Archaeological Archives

## 4.1    Sustainability is more than storage

The previous section presents a series of scenarios designed to address the immediate issue of capacity and facilitate the deposition of archives which are currently stuck in process. This will have an immediate positive impact, relieving subcontracting archaeological organisations of undepositable material and making archives from hundreds of projects more accessible. We have aimed to demonstrate that a simple solution which only targets undepositable material is, however, not attractive. Within a few years, any facility designed to relieve one challenge will be overwhelmed, and we estimate that organisational change across the museum sector may mean that an initial solution intended to be available for 30 years (Scenario 1), will be at capacity within 5 years (Scenario 3). A case is made to embed the use of outsourced storage from the outset, ensuring that there is the operational provision required to access additional capacity when needed. This allows flexibility without the need to create and resource spaces which may or may not be required. A blended approach to capacity provision is therefore recommended by the OSAA project team.

As outlined in Section 1 and discussed in Section 5, the work undertaken in this project has tried to look beyond storage and capacity and to identify how the sector might address issues of perception, barriers to use and questions of value. Beyond storage, much of the discussion had during consultation workshops as well as with our case studies has underlined the need to approach the archaeological archives issue from a more ambitious and complete perspective. Space alone will not address other challenges which have been identified, workshops emphasised that use of archives is influenced by awareness of their existence, content, and accessibility. The project team has broadened the meaning of 'sustainability' with regards to this project and in response to feedback from users and stakeholders. This definition, presented in Section 1 and repeated here, provides an outline of what is considered to be a sustainable archives solution:

> *A national, sustainable archaeological archive which guarantees public benefit through being discoverable and accessible, facilitating new stories of our shared past through the continuing use and reuse of resources created by archaeological processes, equally accessible to researchers, educators, curators and the public and providing a seamless interface between data, archive materials, organisations and communities.*

## 4.2    Proposal for a National Collection

Consultation provided an opportunity to explore perceptions about archaeological archives from different perspectives, including archive creators, curators and users. Our user needs workshops

reached over 70 individual practitioners and the stakeholder workshop included 20 representatives from 12 organisations including ALGAO, CBA, CIfA, EAC, EH, FAME, HS2, NHSF, NT, SMG and SMA. The results provided several common observations summarised in Section 2.3 and discussed in more depth in Appendices 4 and 5.

The message from the workshops was consistent with the results of desk-based assessment: to address sustainability, we need to look beyond the boxes. In addition to some archives being undepositiable, a common complaint from contracting organisations which work across multiple collection areas is the need to adhere to a wide range of standards, which increases costs and inefficiencies. Once deposited, professionals from all sectors indicated that lack of knowledge of the location and contents of archives decreased accessibility and, within museums, that limited resources and lack of specialist knowledge proved to be a considerable barrier for re-use. Connectivity within the heritage sector was also seen as an issue, and there was general support for collaborative working approaches, dialogue between sectors and the development of a network which provided advice.

In this report we have provided a clear definition of sustainability (see Section 2.3 and above) which meets the needs of the whole sector, identifying the **National Collection of Archaeological Archives (NCAA)** as a solution which is able to provide capacity and access, underpin standards and promote use. The NCAA will address common flaws in the archiving process, namely varying standards of preparation and cataloguing, discoverability and access, funding and (of course) box sizes. Existing museums and repositories who are able and keen to continue collecting archaeological collections, would be affiliated to the NCAA network and continue to collect archaeological archives in line with the agreed standards, guidance and processes. They would need to demonstrate consistency in standards across cataloguing, storage and provision of access to archaeological archives. The implications of this are discussed in Section 5.

The four key components of the NCAA include:

1.  A single online catalogue – the NCAA Datastore.

2.  A single set of standards for preparation, deposition, curation and access (c.f. CIfA Standards for Archaeological Archives, Museum Accreditation).

3.  A Collections Policy which links the NCAA to national and regional research frameworks, and to the CIfA Selection Toolkit.

4.  NCAA Team, including facility staff and a network of regional archives advisers (c.f. Historic England Regional Science Advisers) to support the NCAA and build connections/relationships between archive creators, curators and users.

These key components are described in more detail below. The combined elements of the NCAA are included in the Archives Options outlined in Section 5, providing a model which achieves the vision of a fully sustainable archaeological archive as defined by this project. The extent to which the NCAA operations are embedded, and the degree to which each Option responds to the Scenarios presented above (Section 3), provide the building blocks for the Archive Options presented. The following section provides some additional information about the NCAA elements.

# 4.3    NCAA Datastore (Component 1)

Robust feedback from the user needs and stakeholder workshops suggested that a single online catalogue was a fundamental part of improving accessibility and discoverability of archaeological archives, seeking to increase connectivity within the heritage sector. The NCAA Datastore infrastructure discussed here would require some reappraisal depending on which Archive Options

presented in Section 5 were progressed. However, the general support for such an overarching, technical solution could not be underestimated.

Building on the recent redevelopment of the OASIS project at the ADS, as part of the Historic England HIAS programme, a key element of NCAA would be publication of a single, searchable, datastore online that can support 'Linked Data' from existing catalogues, multiple proprietary software platforms, OASIS and also store newly created data as a result of new accessions.

Further work to develop a proof of concept and strategy for the NCAA Datastore was beyond the scope of this project but would be required as part of the NCAA infrastructure. A full scoping exercise would need to explore what data structure would be feasible and realistically achieved whilst delivering the most economic and sustainable connectivity. Potential for linkage with other datastores, such as the Heritage Gateway, should also be explored.

A single database would be neither efficient nor sustainable to develop given the technological developments of the last decade. The NCAA Datastore would create a digital infrastructure that allows for data flow between existing regional museums and repositories, and stores newly created information side by side, that can be interrogated simultaneously.

Whilst OASIS V stands to be a powerful information-gathering tool and integral to the creation of metadata about new archive depositions, much of the data that already exists in Museum and repository systems would form the baseline of information about archives that have already been deposited.

## Structure of the NCAA Datastore

The datastore would be an entirely scalable solution to the challenge of joining up existing information rather than creating an entirely new source, working together with NCAA affiliated organisations, NCAA facility staff and NCAA Advisors. Dedicated to FAIR principles and utilising existing research undertaken as part of HIAS and other programmes, the NCAA would need to establish a cross-sector agreed format for the 'structured data' the NCAA Datastore would use, building upon and employing the standardised terms and vocabularies already in use.

A subset of data from existing catalogues managed by NCAA affiliated organisations would be made available in a structured format, in non-proprietary structured formats, such as .csv (comma-separated values).

Structured data is highly organised and can be searched and manipulated relatively quickly. Providing information in this agreed format would be a pre-requisite for museums and repositories wishing to become an NCAA affiliated organisation.

New accession data created directly by the NCAA staff or NCAA affiliated organisations would be stored in the datastore, alongside the existing data, ensuring consistency of search terminology and full discoverability.

The NCAA Datastore would not require as many units of information as is required to fully catalogue and curate an archive and it would not be the intention to fully replace the existing software platforms and custom, detailed MS Access databases used by museums and repositories around the UK, but rather to act as the starting point or signpost the researcher towards the appropriate curating organisation.

Datastore staff would support data creators both using the OASIS V project to supply data but also work towards creating strong links between existing museum software platforms and staff within the NCAA affiliated organisations.

It is envisaged that the NCAAD would be able to receive information directly from OASIS V for the interventions recorded there.

## Potential users of the NCAAD

The end user would be able to retrieve basic information about archive's locations, drawn from the metadata captured as part of the accessioning process, regardless of where they are stored or which NCAA store or affiliated organisation they are curated by. This would allow for inter-regional searching where putting the same request to multiple organisations would be excessively onerous.

Basic metadata about an archive would be captured primarily by the organisations preparing the archive for deposition and the rest by the receiving organisation. This could include but not be limited to the site specific data (including local HER and OASIS references where applicable), the current location, accession references and contacts of the receiving organisation, the materials and objects included within the individual archive and persistent links to any published research incorporating those archives.

It is important to note that the proposals for the NCAA Datastore do not as yet suggest that this data should be Open Data but that this could be seen as an aspirational development. Key concepts and definitions which underpin this recommendation include:

- Datastore https://www.techopedia.com/definition/23343/datastore

  *A data store is a repository for persistently storing and managing collections of data which can include databases, but also simpler store types such as spreadsheets and word documents.*

- Linked Data https://www.w3.org/standards/semanticweb/data

  *Linked Data is structured data which is interlinked with other data so it becomes more useful through semantic queries.*

- Structured data

  *Structured data is highly organised and can be searched and manipulated relatively quickly.*

- Open Data https://opendatahandbook.org/guide/en/what-is-open-data/

  *Open data is data that can be freely used, re-used and redistributed by anyone - subject only, at most, to the requirement to attribute and share alike.*

- FAIR data principles https://www.go-fair.org/how-to-go-fair/

  *Findability, Accessibility, Interoperability, and Reuse of digital assets.*

# 4.4    NCAA Standards and Collection Policy (Components 2 and 3)

To support the NCAA Datastore (Component 1), standardised systems on archive preparation, deposition, curation and access will be needed. Adherence to NCAA standard (Component 2) would be required of both archive producers and archive curators affiliated with the NCAA.

It was highlighted throughout the OSAA project, that the specifics of how materials are stored, how bags and boxes are labelled, and how the archive metadata is presented, can either support or hinder archive access and re-use. Further work to develop a national standard on archaeological archiving was beyond the scope of this project but would be required as part of the NCAA infrastructure. It is suggested that national standards on compilation and recording should include; the order in which archives are sorted and organised, the terminology used for finds and sub-types, how significant finds are identified in the archive, and standardisation of archive contents recording, e.g. archive metadata and contents database.

The NCAA standards on archive preparation should link to existing industry standards and guidelines such as the CIfA Toolkit for Selecting Archaeological Archives (CIfA 2019) and the CIfA Toolkit for Specialist Reporting (CIfA 2020). NCAA standards should detail the process of deposition, curation conditions (including box sizes) and accessibility requirements for the physical archive and the archive metadata. Any project scoping the requirements for national standards on archive preparation, deposition, curation and access should consult with key stakeholders, including ALGAO, CIfA, EH, FAME, HE, and SMA.

Any museum or archaeological archive storage provider wishing to continue collecting archaeological archives as part of the NCAA would need to adhere to the standards on archive preparation, deposition, curation and access stipulated by the NCAA. In order to identify museums or institutions as members of the NCAA scheme, some form of NCAA accreditation would be required. The OSAA team are aware that Arts Council England (ACE) provides the Museum Accreditation scheme for museums across the UK (https://www.artscouncil.org.uk/accreditation-scheme/about-accreditation#section-1). The NCAA accreditation for archaeological archives could sit alongside this accreditation but could also provide an option for repositories that are not eligible to the ACE Museum Accreditation scheme such as archaeological sites, privately owned museums, record centres and archives which hold archaeological collections. The implementation of a NCAA accreditation scheme was beyond the remit of this project and will require further scoping.

The creation of a National Collection of Archaeological Achieves will require a Collections Policy (Component 3). The OSAA team does not propose to define what should be retained from the archaeological record for inclusion in the NCAA, but that existing archaeological frameworks such as national and regional research agendas are embedded into working practices, and industry standards and guidance such as the CIfA selection Toolkit  (CIfA 2019) are applied to establish the significance of all archaeological projects in order to support future research, outreach, engagement, display and learning activities.

Alongside the creation of a digital infrastructure for the NCAA, the development of standards and a unifying collections policy will help embed processes and attitudes to archives across the archaeological project.

## 4.5    NCAA Team (Component 4)

Any proposal to improve provision for storage will also need to provide investment in the NCAA (e.g. staff) to raise the profile of archaeological archives and increase access and use, otherwise it will be impossible to justify the spend. The Archives Options (Section 5) are supported by two main groups of roles which underpin the NCAA; Facility Staff, the team needed to support the NCAA Datastore, and NCAA Advisors, an expert advisory network to monitor provision and support accessibility.

Indicative costs for the roles and estimated staffing needs for the NCAA are included below (Table 6). It should be borne in mind that scoping for the digital infrastructure (NCAA Datastore) will need to

take place before the full cost of implementation could be realised. In addition, these costs do not include the initial setup costs required to ingest existing stored archives into the NCAA but do give an idea of the annual running costs linked to different operating models.

To estimate the annual operating expenses required, the OSAA project has applied a standard operating overhead against staff, using the local government practice of corporate overhead deduced from an amount per hour calculated annually and added to staff costs for externally funded projects. The sum is intended to cover the costs of office space, systems (IT, payroll etc), back-office staff (e.g., Human Resources) and indirect line management. Its use is intended to check that a public sector project is fully funded and is therefore a useful tool for these calculations.

The potential NCAA staff roles are listed in Table 6 and shown with Spinal Points used for National Joint Committee pay negotiations with grades used based on known comparable job vacancies and predictions (see Table 7 for full list). From here, the building blocks of staff resourcing can be developed.

| NCAA Role | No Staff | Salary, plus oncosts | Overheads | Total |
|---|---|---|---|---|
| Logistics | 1 | £44,517.00 | £25,589.20 | £70,106.20 |
| Senior Datastore Manager | 1 | £48,106.00 | £25,589.20 | £73,695.20 |
| Datastore Manager | 1 | £44,517.00 | £25,589.20 | £70,106.20 |
| Regional Adviser | 9 | £44,517.00 | £25,589.20 | £630,955.80 |
| Admin Support | 1 | £30,769.00 | £25,589.20 | £56,358.20 |
| **Total annual cost** | | | | **£901,221.60** |

Table 6. NCAA staffing costs.

| Role | SCP | Pay/Oncosts | Overhead |
|---|---|---|---|
| Manager | 43 | £ 62,170 | £ 25,589 |
| Senior Collection Manager | 33 | £ 48,106 | £ 25,589 |
| Collection Manager | 30 | £ 44,517 | £ 25,589 |
| Senior Conservator | 30 | £ 44,517 | £ 25,589 |
| Conservator | 25 | £ 38,496 | £ 25,589 |
| Senior Logistics | 33 | £ 48,106 | £ 25,589 |
| Logistics | 30 | £ 44,517 | £ 25,589 |
| Senior Datastore Manager | 33 | £ 48,106 | £ 25,589 |
| Datastore Manager | 30 | £ 44,517 | £ 25,589 |
| Regional Adviser | 30 | £ 44,517 | £ 25,589 |
| Outreach | 25 | £ 44,517 | £ 25,589 |
| Admin | 15 | £ 30,769 | £ 25,589 |

Table 7. Staffing roles shown against Spinal Point, salary costs and overheads used in Archives Options cost calculations.

# 4.6 Capital costs – building storage capacity

The OSAA surveys and case study reviews asked for examples of capital projects, but unfortunately few were forthcoming. There are a range of figures published as part of a review of construction costs undertaken in 2019 (Xavier-Rowe 2020), which serve to demonstrate the wide variability between

different sites (see table 3, *ibid*.). However, providing suitable environmentally controlled storage will be expensive and it is important to note the demands of adequate provision. To provide some background to the guide costs used for the creation of new storage capacity, we have summarised below the examples included in the case studies. There have been a couple of examples of buildings being purchased, in each case these are 'standard' industrial estate warehouse units that require to be retrofitted to create suitable storage environments.

As the figures in the Xavier-Rowe paper and those included from our Case Studies demonstrate, there is a large variability in the costs presented from different construction and refitting projects. This is due to the vastly different circumstances of each construction project, and the methods used to model the numbers by each of the project teams. For the costs associated with the Options presented below (Section 5), we have used Chester Farm, Cambridgeshire Record Office and Wroughton as a guide for construction.

Depending on the size of the project, we have estimated that a basic construction cost would vary from £2,000 per m2 to £2,500 per m2. To define the cost further and provide an accurate estimate, a decision would need to be made on which Scenarios should be met and on the Option model of choice. A Quantity Surveyor would then be able to provide more specific guidance and further figures.

The costs included in this report provide an indicator using a consistent baseline construction cost, but which are likely to vary considerably because of the specific circumstances of the Capital Build project.


## Case study examples

### *Northamptonshire County Council - Chester Farm*

Chester Farm is a £12.7m project to create a heritage centre of which £1.3 – 1.5m is allocated to the storage of archives, providing 600m2 of space. This gives the figure of £2,500 per m2 for a smaller facility. However, this involved construction inside an existing listed barn so may not be a true reflection of construction costs and the centre makes use of other public facilities on site.

### *Science Museum Group - Wroughton*

Wroughton is an entire new construction that will provide 33,000 m2 of storage. The main building has a Gross Internal Area (GIA) of 26,394 m2 with a mezzanine of 9,274m2. This breaks down as follows:

| Use | Space | Footprint |
|---|---|---|
| Stores | Object Store | 23,790 sq m |
| | Collections Study | 230 sq m |
| | Conservation Workshop | 500 sq m |
| | Photography Studio | 170 sq m |
| | Conservation Freezer | 117 sq m |
| | Conservation Laboratory | 207 sq m |
| | Conditioned Store | On mezzanine |
| | Special Collections Store | 170 sq m |
| Services & Welfare | Staff Welfare | 73 sq m |
| | Entrance Lobby | 56 sq m |
| | Toilets | 30 sq m |
| Logistics | Inward Transit | 200 sq m |
| | Loading Bay | 290 sq m |
| | Transit Storage | 260 sq m |

| | Outward Transit | 120 sq m |
|---|---|---|
| Total | Mezzanine | 9,274 sq m |
| | Building GIA | 26,394 sq m |

### *Cambridgeshire County Council's Records Office*

Another comparator (not assessed by OSAA but known to the project) is the relocation of Cambridgeshire County Council's Records Office. This project entailed taking the lease on a suitable structure - in this case a bowling alley/soft play area – and converting it into records office covering 1,750m2, 1000m2 of which is PD5454 storage. The remainder comprises offices, workrooms, a search room and comfort facilities. The cost of this conversion was £5.18m, or £2,960 per m2. A breakdown between storage and office space conversion costs is not possible, although Cambridgeshire HET experience in their own business modelling showed that PD5454 storage was comparable in cost per m2 to office space. In this case the nature and location of the building did impact on the costs. However, the committee papers for this project do indicate that the conversion was significantly cheaper than the new build option, with the latter scoped at c.£12m.

Comparing SMG Wroughton with CCC Records Office shows the benefits of scale. Of the total GIA of Wroughton, only 2253 m2 (or 6.3%) is not used for storage. At the Records office, the comparator is 43%.

### *Ballymena (Northern Ireland).*

The Historic Environment Division purchased a suitable building for conversion at a cost of £200,000. The conversion of the existing facility is estimated to be around £200,000 and will cover an area of 440 m2, providing a small environmentally controlled store room within a larger facility including racking and heating. On that basis, the cost per m2 will be £909, although the final budget it not yet known. The store at Ballymena is planned as a ten-year holding space to facilitate reorganisation, with ambition to have a comprehensive repository in place once that period is completed.

### *Amesbury Store (Wiltshire).*

It has been reported that the building was purchased for £125,000 and requires £54,000 of spend. However, it is noted that this includes minimal environmental control equipment as the assumption is that the majority of archive is made up of bulk finds and therefore inert. A controlled space will be created for metalwork. The intended capacity is not large – approximately 3,500 boxes.

### *Secret Collection (Renfrewshire).*

The refurbishment project transformed an out-of-use Littlewoods basement to a 2,100m2 storage facility housing the collections of Renfrewshire Council Arts and Museums service. Delivered for £2.58 million, including racking fit out, the site is located strategically on Paisley High Street, providing easy access and contributing to the revitalisation of the town centre. Key stats:

- Main renovation works costs (Project Management and Construction) - £2,233,000.
- Storage racking costs (Rackline) - £345,000.
- Capacity 2,100m2.
- Cost per m2 - £1230.

# 5 Archaeological Archives Options

Three options are presented below which offer solutions to the Scenarios presented in Section 3 and summarised in Table 8, and address the broader issues identified through desk-based research and consultation. Each Archive Option is summarised below and includes a description of the proposed option, the pros and cons, and associated costs. The components of each option were discussed during the stakeholder consultation workshops and, perhaps unsurprisingly, those present that already practiced one of the options were the most supportive of that option as a permanent solution.

| Scenario 1 | | Deposition of current backlog<br>Annual accrual of undepositable archives |
|---|---|---|
| Scenario 2 | | Deposition of current backlog<br>Annual accrual of undepositable archives<br>Accrual increase due to closures |
| Scenario 3 | | Deposition of current backlog<br>Annual accrual of undepositable archives<br>Accrual increase due to closures<br>Transfer of existing collections to NCAA |

Table 8. Summary of Scenarios presented in Section 3.

## 5.1    Option 1 – Increase capacity within the existing network

*Headlines*

- Expand the existing network of repositories through building or providing additional floor space.

- Contracting organisations would be required to meet the deposition standards of the NCAA.

- Collecting museums and repositories would be affiliated with the NCAA and would meet standards for archive management, curation and access.

- Costs would involve expansion of existing network, building storage capacity and developing resources (people and infrastructure) to facilitate participation in the NCAA.

- Capacity Building Grants would need to be provided to existing archaeological holdings to bring storage provision in line with NCAA standards (cataloguing, re-boxing, new shelving etc.).

- Aside from the NCAA steam costs, staffing and overhead costs are unknown.

*Scenarios addressed*

- Option 1 would address Scenario 2, requiring a capacity of 17,499m$^3$, with longer term sustainability supported using DeepStore.

- Scenario 3 would not apply as capacity issues leading to potential transfers would be addressed within the repositories.

*Pros and cons*

| Pros | Cons |
|---|---|
| → Builds on existing network so least culture change. | → Maintains the weakness of the current system in that all collections are dispersed. |
| → Addresses capacity within existing museums network. | → Least likely to address endemic problems in the current process as will be maintaining the status quo. |
| → Potentially, lowest costs once up and running | → Operating the NCAA as a network would be significantly more complex and consistency of cataloguing would be more challenging. |
| → Additional/overflow storage could be provided by offsite (DeepStore or similar) | → Achieving and monitoring consistency of NCAA standards across repositories would also be challenging. |
| | → Would require substantial and unknown investment in existing collections network, potentially the most expensive capital build solution. |
| | → Could be used as a revenue stream by institutions who would otherwise be uninterested by archaeological archives |

*Outsourced storage*

A variation on this option would be to reduce the capital build required for a sustainable capacity solution by providing back up remote storage, such as that offered by DeepStore. This would allow increased remote storage of some larger archives, or specific classes of less accessed, bulk material such as ceramic building material (CBM) or animal bone. The outsourced model also allows for exceptionally large archives including those from NSIPs such as HS2 to be created and stored as single archives rather than be created piecemeal to several differing standards and dispersed.

There would be a significant challenge of running/financing such a facility if ultimate ownership/responsibility rested with several different institutions.

*Staffing*

Sustainable archiving relies on more than storage capacity; it also relies on access, awareness and expertise. Whilst the NCAA, if adopted, can accommodate some of this, it is likely that the influence and value of the NCAA will be the least effective under this option, as there would be simply too many participants to support. Within the local museums and repositories, it is impossible to assess needs and therefore costs, as this option devolves the operation of archives to local levels thus to local decision making.

An additional requirement of this option might be to increase the specialist expertise available within the network by recreating archaeological curator posts, potentially by the method of 'pump priming'. There are precedents for this approach where English Heritage (now Historic England) assisted with the establishment of Development Control Officers and Countryside Advisers within local authority archaeological services.

Understanding the scale of this is difficult, although extrapolating from earlier surveys can assist. Previous attempts to understand the staffing capacity within repositories have identified the following:

|  | % with expertise | FTE |
| --- | --- | --- |
| Edwards 2012 | 54 | Unknown |
| SMA 2016 | 49.5 | 166.3 |
| SMA 2017 | 45.5 | 142.7 |
| SMA 2018 (smaller sample) | 48 | 88 |

Even considering the difficulties of comparing data from these surveys, this does represent a reasonably consistent average of 50% of repositories having suitable expertise with approximately 150 FTE staff. However, it does demonstrate the potential scale of reinstating suitable resource across repositories. The SMA survey also identified that since 2010, 29.2% of repositories have a reduction in staff resources.

*Capacity*

Option 1 assumes that sufficient capacity is introduced into the existing network of locally based repositories. On the deposition scenarios outlined above (Section 3), it is considered that Scenario 2, where capacity for ALL new archives' depositions will need to be found (17,499m$^3$).

In addition to capital costs required for storage to cover Scenario 2, a limited time grant to cover the costs of Capital Build Funding should be considered. This could be administered by an appropriate body (NLHF) and made available to existing museums wishing to operate within the NCAA network, but which may require development of infrastructure to meet NCAA requirements (digital, skills or structural). The variables in this scenario are too diverse to model, but in theory would result in the most expensive capital build solution as no economy of scale in construction would result.

It has been shown how use of supplementary outsourced storage (e.g. DeepStore) can increase sustainability by providing extra storage capacity with no capital cost, although with extra operational costs. However, to do so effectively would require robust centralisation of the resource, and such an option is unlikely to be deliverable under this model. This Option effectively ties the long-term sustainability of archiving into a network of locally run bricks and mortar solutions.

If a blended option using outsourcing is pursued, then based on the 2018 DeepStore costs of £300,000 per annum, would provide extra capacity of 5,600m$^3$. Doubling this to 11,200m$^3$ (e.g. two units) is also shown in the cost modelling below, increasing the cost of outsourced storage to £600,000 per annum. However not all this additional capacity, and revenue spend, would be required at the outset.

*Option 1 - Summary and costs*

| Scenarios addressed: Scenario 2 | ☑ Backlog archives ☑ Annual undepositable accrual ☑ Museums closures accrual ☒ Transferrals | |  |
| --- | --- | --- | --- |
| Capital Build costs | Capacity Area m2 | 17,499m3 22,749m2 | £56,871,750 |

| | | | |
|---|---|---|---|
| | Cost per m2 | £2,500 | |
| Annual Expenditure | Storage facility staff costs | ? | |
| | Overhead costs | ? | |
| | NCAA Staff costs | £901,219 | |
| | TOTAL | ? | |
| Impact of outsourced storage | | | |
| Outsourced storage x 1 | Reduced Capital Build cost | **£29,747,500** | |
| | Annual Expenditure plus DeepStore | ? | |
| Outsourced storage x 2 | Reduced Capital Build cost | **£15,747,500** | |
| | Annual DeepStore cost | ? | |

# 5.2    Option 2 – Distributed Hub and Spoke Model

*Headlines*

- Provision of a distributed hub solution by creating a network of nine new stores (Option 2A) OR extending an existing regional storage network of four (Option 2B).

- Both options comprise creation of distributed Archaeological Archive Hubs across England providing storage capacity and access to research spaces for users to come and access the collections.

- Collecting museums and repositories (the spokes) would be encouraged to continue collecting archaeological archives and sign up to be part of the NCAA, via several Hub Stores (the hubs). The affiliation with the NCAA would provide support and advice via the Archives Advisors around standards for archive management, curation and access.

- Contracting organisations would be required to meet the deposition standards of the NCAA.

- Use of outsourced storage (e.g. DeepStore) offers a blended approach to both Option 2A and 2B with savings against Capital Build requirements.

- Staffing would differ substantially between the two models in this option;

  – Both options would include NCAA team costs

  – Option 2A would require a network of new facilities requiring support from 64 staff

  – Option 2B uses an expanded existing network, so requires less staff and is expected to require 24 staff

*Scenarios addressed*

- Option 2A and 2B would both address Scenario 2, requiring a capacity of 17,499m$^3$, with longer term sustainability supported using DeepStore.

- Scenario 3 is less likely to apply here as it is felt that locally based museums will be less inclined to transfer existing collections to another region – this Option lacks the balance a National Store offers.

## Pros and cons – Option 2A New Distributed Hubs

| Pros | Cons |
|---|---|
| → Maintenance of the regional connection and local archive link<br><br>→ Creates hubs of excellence for archiving that balances the local connection against the efficiencies of scale.<br><br>→ The hub and spoke model supports a connected network of expertise, storage, research space.<br><br>→ Potential to include other organisations as hub 'Hosts', in variable roles | → Expensive as it duplicates both capital build and staffing needs across sites if starting anew.<br><br>→ Overall management may be complicated |

## Pros and cons – Option 2B Expansion of existing hub network

| Pros | Cons |
|---|---|
| → Maintenance of the regional connection and local archive link<br><br>→ Creates hubs of excellence for archiving that balances the local connection against the efficiencies of scale.<br><br>→ The hub and spoke model supports a connected network of expertise, storage, research space.<br><br>→ Incorporates existing expertise and facilities<br><br>→ Potential to include other organisations as hub 'Hosts', in variable roles | → Finding the right network which is happy to host the NCAA<br><br>→ Location - if adding into an existing regional network (e.g. English Heritage), would need to assess if existing store locations in the optimum location for users<br><br>→ Overall management may be complicated |

## Option 2A – New Hub stores, capital costs and staffing

### Costs

The capital cost is based on the estimate of the total capacity required across England but distributed across nine sites. It does not take into account regional variation in those costs.

The accessioning figures for Scenario 2 will apply here, as there would be little appetite by museums to seek to transfer their existing archive holdings. This is because a 'National Collection' is a balance between a location and a branding. For local and regional solutions, the branding is more likely to be pre-eminent and the option of multiple locations is considered less appealing than a single 'National Collection' facility.

Capacity required for Scenario 2 is 17,499m$^3$. Due to the number of facilities included, the costs of capital build remain at the higher end of the bracket, estimated at £2,400 per m$^2$.

Outsourcing assumes DeepStore costs of £300,000 per annum, for provision of 5,600m³. Doubling capacity to 11,200m³ is also shown in the cost modelling below, increasing the cost of outsourced storage to £600,000 per annum.

## Staffing

As an entirely new network of archive storage facilities will be constructed, each one will need to be staffed with the following roles, equalling up to seven FTE per hub location:

| Role | Roles | Pay/Oncosts | Total Salary | O/H |
|------|-------|-------------|--------------|-----|
| Manager | 9 | £62,170.00 | £559,530.00 | £230,302.80 |
| Curator | 9 | £44,517.00 | £400,653.00 | £230,302.80 |
| Conservator | 9 | £38,496.00 | £346,464.00 | £230,302.80 |
| Logistics | 9 | £44,517.00 | £400,653.00 | £230,302.80 |
| Database | 9 | £44,517.00 | £400,653.00 | £230,302.80 |
| Admin Support | 9 | £30,769.00 | £276,921.00 | £230,302.80 |
| Outreach Officer | 9 | £44,517.00 | £400,653.00 | £230,302.80 |
| **TOTAL** | **63** | | **£2,785,527.00** | **£1,612,119.60** |

## *Option 2A - Summary and costs*

| Scenarios addressed: Scenario 2 | ☑ Backlog archives<br>☑ Annual undepositable accrual<br>☑ Museums closures accrual<br>☒ Transferrals | | |
|---|---|---|---|
| OPTION 2A – New hubs | | | |
| Capital Build costs | Capacity<br>Area m2<br>Cost per m2 | 17,499m3<br>22,749m2<br>£2,400 | £50,397,120 |
| Annual Expenditure | Facility Staff costs | | £2,785,527 |
| | Overhead costs | | £1,612,107 |
| | NCAA Staff costs | | £901,219 |
| | TOTAL | | £5,298,853 |
| Impact of outsourced storage | | | |
| Outsourced storage x 1 | Reduced Capital Build cost | | £28,557,600 |
| | Annual Expenditure plus DeepStore | | £5,598,853 |
| Outsourced storage x 2 | Reduced Capital Build cost | | £12,598,000 |
| | Annual Expenditure plus DeepStore | | £5,898,853 |

## *Option 2B – Expansion of existing Hub store network, capital costs and staffing*

## Capital costs

One solution which has been suggested during Stakeholder Workshops is the use of an existing regional network, such as that operated by English Heritage Trust on behalf of the Historic Buildings and Monuments Commission and expand the role of the charity to include the operation of the NCAA as well as the national collection of buildings and monuments. This Option therefore allows integration with an existing national collection.

It provides an existing model for delivery, as English Heritage already manage and curate the 400+ historic sites and buildings owned by the government, and provides a receiving body for transfer of title, an important consideration. English Heritage currently operates across four hub sites which, in geographic terms, cover Eastern/Midlands, North, South West and South East respectively:

- Wrest Park, Bedfordshire

- Helmsley Castle, North Yorkshire

- Temple Cloud, Somerset

- Dover, Kent

Expanding the network offers a sensible solution with regards to both costs and staffing, as the existing infrastructure is already present, as are the skills and personnel. For example, each site already has a collections manager. In addition, English Heritage are familiar with the logistics of bringing together archives from multiple sites from their experiences creating their own archaeological stores such as the one at Wrest Park, that saw the contents of five others stores combined in one location (Amber Xavier-Rowe 2014).

As well as adding a foci to the NCAA brand, the model could support the ongoing work by English Heritage to improve their collections, although would need a change to their Collections Development Policy. However, it would bring an additional burden with the need to adopt the English Heritage backlog and any other collections issues.

There is not an equal division of annual accrual across these four EH sites, as it is understood that the regions known for the busiest levels of archaeological fieldwork are Eastern, London and South East. Whilst this division is difficult to quantify with certainty, an estimated breakdown based on ALGAO survey data showing the number of projects per annum would give:

- Wrest Park (East of England, East Midlands)          40%

- Helmsley (North East, North West, Yorkshire)          12%

- Bristol (South West, West Midlands)          23%

- Dover (London, South East)          25%

This is important as economies of scale can be applied to larger facilities, whereas smaller sites many be more expensive per m2 than larger ones.

As with Option 2A, the accessioning capacity would need to cover Scenario 2 (17,499m$^3$), although the reduced number of facilities means the costs of capital build can be lowered, estimated at £2,300 per m$^2$.

Outsourcing assumes DeepStore costs of £300,000 per annum, for provision of 5,600m$^3$. Doubling capacity to 11,200m$^3$ is also shown in the cost modelling below, increasing the cost of outsourced storage to £600,000 per annum.

### Staffing

Should the option of enhancing an existing network (such as English Heritage stores) be used, it is likely that existing roles could be adapted, or part-time posts increased. Oversight from a managerial role would not be required and a reduction in the number of sites would mean that even where 6 FTE staff were needed per location, the overall staffing need would drop to 24 in total.

| Role | Roles | Pay/Oncosts | Salary Sub total | O/H |
|---|---|---|---|---|
| Curator | 4 | £44,517.00 | £178,068.00 | £102,356.80 |

| | | | | |
|---|---|---|---|---|
| Conservator | 4 | £38,496.00 | £153,984.00 | £102,356.80 |
| Logistics | 4 | £44,517.00 | £178,068.00 | £102,356.80 |
| Datastore Manager | 4 | £44,517.00 | £178,068.00 | £102,356.80 |
| Admin Support | 4 | £30,769.00 | £123,076.00 | £102,356.80 |
| Outreach Officer | 4 | £44,517.00 | £178,068.00 | £102,356.80 |
| **TOTAL** | **24** | | **£989,332.00** | **£614,140.80** |

*Option 2B - Summary and costs*

| Scenarios addressed: Scenario 2 | ☑ Backlog archives<br>☑ Annual undepositable accrual<br>☑ Museums closures accrual<br>☒ Transferrals | | |
|---|---|---|---|
| OPTION 2B – Existing hub network | | | |
| Capital Build costs | Capacity<br>Area m2<br>Cost per m2 | 17,499m3<br>22,749m2<br>£2,300 | £48,297,240 |
| Annual Expenditure | Facility Staff costs | | £989,332 |
| | Overhead costs | | £614,136 |
| | NCAA Staff costs | | £901,219 |
| | TOTAL | | £2,504,687 |
| Impact of outsourced storage | | | |
| Outsourced storage x 1 | Reduced Capital Build cost | | £27,367,700 |
| | Annual Expenditure plus DeepStore | | £2,804,687 |
| Outsourced storage x 2 | Reduced Capital Build cost | | £14,487,700 |
| | Annual Expenditure plus DeepStore | | £3,104,687 |

# 5.3    Option 3 – A single national solution

*Headlines*

- Develop a single national solution – a centre for archaeological archives.

- Creation of a single large storage facility that acts as the hub of the NCAA and accepts archaeological archives from across England.

- Given the ambition of the Science Museum Group to create a National Collections Centre at Wroughton (Swindon), co-location with this would be sensible, and the site offers a range of options from rental of a new store to upgrading existing hangar facilities (one example outlined below).

- Collecting museums and repositories (the spokes) would be encouraged to continue collecting archaeological archives and sign up to be part of the NCAA. The affiliation with the NCAA National Store (the hub) would provide support and advice via the Archives Advisors around standards for archive management, curation and access.

- Contracting organisations would be required to meet the deposition standards of the NCAA.

- Use of outsourced storage (e.g. DeepStore) offers a blended approach, offering savings against Capital Build requirements.

- Staffing would need to support the operations of a single, large facility, and is estimated to require 14 members of FTE staff.

- Option 3B illustrates how this option might work if modelled using possible solutions offered by the Science Museum Group at the National Collections Centre, Wroughton.

## Scenarios addressed

- Offering a National Store facility may prove to be an attractive option for existing museums who wish to transfer some of their existing collections into the central NCAA store.

- This option would therefore need to address Scenario 3 and require an accessioning capacity of 28,839m$^3$, with longer term sustainability supported using DeepStore.

## Pros and cons

| Pros | Cons |
|---|---|
| → One location; everything on site and accessible | → A single location may lose local emphasis and local support |
| → More efficient use of staffing | → Location may not suit that many users. |
| → Easier to adopt, monitor and enforce archiving standards | → High capital build costs |
| → If co-located at the National Collections Centre it allows the facility to have higher profile and shared services | → Potentially high-risk solution |
| → It has been demonstrated that a national facility can be effective (e.g. Swords, NMI) | |
| → Evidence suggests that availability is less important than location for users | |
| → Centralisation allows a greater interest in research and standards supporting the wider agenda of conservation and collections management | |

## Capital requirements

This option represents the highest profile by creating a single national collections centre that accessions archaeological archives from across England. Such a facility would need to be located within good transport links and would benefit from co-location with the Science Museum Group at Wroughton (Swindon) as it would complement the longer-term ambition for that site, even though capital costs for a site on the M4 corridor are likely higher than for, say, the north of England.

The facility would contain general and specialist storage, plus space for researchers and conservators. It could also present the basis for a research facility into wider archaeological collections care and conservation. This encourages partnerships and innovation to be built around the facility.

It is also considered that this option would attract retrospective depositions from museums of their existing archives holdings, as transferring those to a national collections centre is more likely to appeal to senior curators and trustees (e.g. Scenario 3). This creates an extra dynamic (and resource challenge) of managing these accessions and preparing the same to NCAA standards.

This option would therefore need to address Scenario 3 and require an accessioning capacity of 28,839m$^3$, with longer term sustainability supported using DeepStore. The single store option reduces the costs of capital build, estimated at £2,000 per m$^2$.

Outsourcing assumes DeepStore costs of £300,000 per annum, for provision of 5,600m$^3$. Doubling capacity to 11,200m$^3$ is also shown in the cost modelling below, increasing the cost of outsourced storage to £600,000 per annum.

### Single hub plus many spokes

Collecting museums and repositories would still be encouraged to continue collecting archaeological archives (the spokes) and sign up to be part of the NCAA (the hub). The affiliation with the NCAA National Store would provide support and advice around standards for archive management, curation and access.

Success would be heavily dependent on the NCAA brand, and the use of a network of regional archaeological advisers. However, it is the easiest way to introduce and enforce centralised standards of cataloguing and archive deposition, and to create the best access or researchers and users – throughout OSAA this user group have consistently said that travelling to access is not an issue provided the archives are available.

### Staffing

The single facility would need to be supported by a reasonable number of staff but has the advantage of centralising both staff and functions. This option represents the most efficient for resources with an estimated need for 14 FTE staff. By comparison, the Swords facility for the National Museum of Ireland is intended to operate with up to 6 FTE but covers a smaller geographic area.

| Role | No. | Pay/Oncosts | Overhead | O/H |
|---|---|---|---|---|
| Manager | 1 | £62,170.00 | £62,170.00 | £25,589.20 |
| Senior Curator | 1 | £48,106.00 | £48,106.00 | £25,589.20 |
| Curator | 2 | £44,517.00 | £89,034.00 | £51,178.40 |
| Senior Conservator | 1 | £44,517.00 | £44,517.00 | £25,589.20 |
| Conservator | 1 | £38,496.00 | £38,496.00 | £25,589.20 |
| Senior Logistics | 1 | £48,106.00 | £48,106.00 | £25,589.20 |
| Logistics | 1 | £44,517.00 | £44,517.00 | £25,589.20 |
| Senior Datastore Manager | 1 | £48,106.00 | £48,106.00 | £25,589.20 |
| Datastore Manager | 1 | £44,517.00 | £44,517.00 | £25,589.20 |
| Admin Support | 2 | £30,769.00 | £61,538.00 | £51,178.40 |
| Outreach Officer | 2 | £44,517.00 | £89,034.00 | £51,178.40 |
| **TOTAL** | **14** | | **£618,141.00** | **£358,248.80** |

*Option 3A – Single store - summary and costs*

| Scenarios addressed:<br>Scenario 3 | ☑ Backlog archives<br>☑ Annual undepositable accrual<br>☑ Museums closures accrual<br>☑ Transferrals | |
|---|---|---|
| **OPTION 3 – Single National Store** | | |
| **Capital Build costs** | Capacity<br>Area m2<br>Cost per m2 | 28,839m3<br>31,723m2<br>£2,000 | **£63,445,800** |
| **Annual Expenditure** | Facility Staff costs | £618,141 |
| | Overhead costs | £358,246 |
| | NCAA Staff costs | £901,219 |
| | Total | £1,877,606 |
| **Impact of outsourced storage** | | |
| Outsourced storage x 1 | Reduced Capital Build cost | **£46,478,000** |
| | Annual Expenditure plus DeepStore | £2,177,606 |
| Outsourced storage x 2 | Reduced Capital Build cost | **£35,278,000** |
| | Annual Expenditure plus DeepStore | £2,477,606 |

# Option 3B - Using Wroughton as the home for the NCAA

The option for co-location of a single repository with Science Museum Group (SMG) at the National Collections Centre (NCC) on the former airfield at Wroughton, Wiltshire provides a tangible example for the NCAA. The costs presented in Option 3A are presented assuming a single option constructed at a new site. The following summary is based on utilisation of the NCC site and has been collated from interviews and a site visit undertaken by Quinton Carroll in May 2021.

The NCC is a project which is relocating all SMG collections, especially those in London, from dispersed stores to a single location. Various structures at Wroughton have been modified/retrofitted for storage but most recently, SMG has commissioned 'Building One', a purpose-built facility measuring 300m x 100m x 12m and providing 26,000m2 of storage plus a mezzanine of 9,000m2.

In addition to storage, this facility contains photographic studios, conservation laboratories, search rooms, staff rooms, loading bays and several individually controlled separate rooms, including strong rooms. Given the size of some of SMG's exhibits, including locomotives, some of these rooms are massive. The building was constructed using a distribution warehouse as the model but with extra insulation and sealed joints to reduce active climate control suitable to maintain a suitable environment. This reduces operating costs and ensures a reasonable drift time should the plant fail before active intervention is needed. SMG's longer-term plans include the construction of more of these buildings using the same plans and designs.

Discussions throughout the project with Matt Moore of the SMG made it clear that there were options for the NCAA; the project had already reached the conclusion that co-location with an existing national facility was a sensible option so Wroughton was visited to investigate options. These are:

- Shared Space in Building One

- A new 'Building Two'
- Retrofit of a Hangar
- Internal Construction within a Hangar

These will be addressed individually.

## Shared space in Building One

SMG are not currently using all the building, and have sub divided 6,000m2 towards the rear that is available to rent. At present this is not fitted out nor has a mezzanine floor. There is scope here for sub-divided storage (e.g. metalwork or wood stores), back and front office space.

An estimate of capacity of this space would be between 20,000m3 and 23,000m3 depending on the use of a mezzanine or gantries. This assumes a loss of 2,000m2 to provide specialist storage and other spaces.

The projections from OSAA postulate a wide range of scenarios and Building One alone would not be sufficient to meet the upper end of demand. Within Scenario 3, Building 1 would be sufficient to respond to the immediate need, annual accrual and expected closures accrual for a up to between 15 and 20 years. The space would therefore provide sufficient storage for the foreseeable future, with the options to either use DeepStore for extra capacity or to work with SMG to adopt a similar space in a future Building 2.

SMG will rent this space at an advertised cost of £70 per m2 per annum, so a total of £420,000 p/a. Options including sharing front of house, facilities management, conservation, photography and search rooms can be included but at a negotiated cost. An alternative to a mezzanine is to erect racks to the full building height but use gantries in between stacks at suitable intervals.

Fit out of this space, to include subdivision, mezzanine and mechanical / electrical (M&E), but not racking, would be between £1,100 and £1,500 per m2, so between £6.6m & £9m.

## A new 'Building Two'

SMG has ambitions for other builds across the airfield site. There is room adjacent to Building One for several other equivalent structures. As SMG has a detailed design from Building One, their intention is to replicate this for future structures, thus reducing design costs.

The options here are to either lease a building plot and design/build a bespoke structure or to allow SMG to build according to the design of Building One, which would then be let out to the NCAA.

For the first option, the ground rent would be £35,000 per acre; Building One is a four-acre plot. Therefore the costs to lease and then replicate Building One (SMG can construct it as well) would be £48m construction (plus internal fit out), with an additional ground rent of £140,000 per annum on top of running costs. Alternatively, the entire building could be rented at £2.1m per annum.

There are additional building plots on the airfield; SMG have identified one of 1.5 acres that would hold a 6,000m2 building, so equivalent to the available rental space in Building One. On the numbers as understood, this would cost between £9.6m and £12m to build (plus fit out) and have a ground rent of £52,500 per annum. Alternatively, the building could be constructed by SMG and rented at £420,000 per annum. This would be an alternative to rental of the unused space in Building One, but would not include benefits and disadvantages of a shared facility.

## Retrofit of a hangar

SMG has tried to make use of existing hangers on the airfields for storage. One option is to completely refurbish a hangar by adding external cladding and upgrading the structure. SMG's experience is that hangars are not a good starting point for this as they are essentially lightweight structures constructed 80 years ago with a design life of less than 10 years, so are difficult to maintain and keep vermin proof.

Refurbishing a hangar can be done for £575 per m2. However, the resulting structure would be difficult to control environmentally without extensive M&E installations. The example that SMG currently uses experiences winter temperatures below zero degrees with associated humidity. Controlling the climate in this volume would be very costly and incur a significant carbon footprint.

Realistically, such a structure would require internal subdivision – see below.

## Internal construction within a hangar

A second hangar at Wroughton has some external changes, mainly replacing the sliding hangar doors and other repairs, and has been subdivided internally. SMG reports it makes the building more complex to maintain and creates challenging internal climates.

One area is of traditional construction – mounted plasterboard with glass wool insulation. The internal climate is hard to control and running costs are significantly higher. A second structure is built of a material called hempcrete, composite material that provides thermal mass and insulation as well as being vapour permeable. Being inside another structure also protects it from the elements and it can be made rodent proof.

The rooms constructed of hempcrete blocks require no active environmental controls as the structure maintains a suitable passive environment. What is less clear is the maximum room volume that can be passively maintained by hempcrete; the rooms here are small in comparison to other spaces on the site.

Hempcrete is also expensive at £1,500 per m2 to construct, which is approaching the construction costs of new buildings. However, it does appear to reduce running costs or the storage spaces, but of course rental and maintenance of the hangar structure itself would be an issue.

## Conclusion

Of the options available at Wroughton, it appears that renting the remaining 6,000m2 in Building One to be the most practical. The space potential offered would meet the requirements of the NCAA for at least 10 years and potentially up to 20 years. As the OSAA project has identified, there are unknowns over how existing repositories would respond to a national storage facility which would significantly impact capacity:

- Firstly, will existing repositories continue to invest in their storage to maintain that ability to collect archive or will increasing amounts come to the central facility?

- Secondly, would museums start to look to move existing archaeological collections to a central store to make space for other materials?

These questions make assessing business cases on a capital project extremely precarious, which is why Building One is a good option and the costs relating to the option are shown in the table below. It makes provision for the likely range of scenarios, and even on the worse assumptions of Scenario 3 would still provide up to 20 years capacity. This would allow time to develop further capacity options, either using remote storage or in line with SMG developments. The space on offer is large enough to subdivide into specialist stores where needed, with the experience of using hempcrete suggesting options here. Building One already has a low energy footprint and overall running costs could be kept low.

Wroughton generally remains a good option for the NCAA. SMG have ambitious plans for the level of anticipated use of their collections and being able to be a partner in these is beneficial. These include the refurbishment of other buildings on the airfield to provide study/conference facilities, and even researcher accommodation. SMG are also keen to have the NCAA as it gives weight to the site as the 'National Collections Centre'.

Overall, initial discussions indicate this to be a good option.

*Option 3B - Summary and costs using Wroughton example*

| Scenarios addressed:<br>Scenario 3 | ☑ Backlog archives<br>☑ Annual undepositable accrual<br>☑ Museums closures accrual<br>☑ Transferrals | |
|---|---|---|
| **OPTION 3 – Single Store at Wroughton** | | |
| Fit out costs, Building One<br>*Includes subdivision, mezzanine, M&E* | Area m2<br>Cost per m2<br>Cost per m2 | 6,000m2<br>£1,000<br>£1,500 | **£6,600,000**<br>**£9,000,000** |
| Building One rental<br>*Per annum* | Capacity<br>Area m2<br>Rental per m2 | 20,000m3<br>6000m2<br>£70 | £420,000 |
| Other annual expenditure | Facility Staff costs | | £618,141 |
| | Overhead costs | | £358,246 |
| | NCAA Staff costs | | £901,219 |
| | **Total annual cost** | | **£2,297,606** |
| **Impact of outsourced storage** | | |
| Outsourced storage x 1 | Reduced Capital Build cost | | n/a |
| | Annual Expenditure plus DeepStore | | £2,597,606 |
| Outsourced storage x 2 | Reduced Capital Build cost | | n/a |
| | Annual Expenditure plus DeepStore | | £2,897,606 |

## 5.4 Financial summary – comparing options

| | | Option 1 | Option 2A | Option 2B | Option 3A | Option 3B |
|---|---|---|---|---|---|---|
| *Key feature* | | Add capacity to status quo | New hubs x 9 | Existing hubs x 4 | Single National | Single store Wroughton |
| *Scenario addressed* | | Scenario 2 | Scenario 2 | Scenario 2 | Scenario 3 | Scenario 3 |
| | | | | | | |
| Capital Build | Build | £56,871,750 | £50,397,120 | £48,297,240 | £63,445,800 | £9,000,000 |
| | | | | | | |
| Annual expenditure | Facility staff | Unknown | £2,785,527 | £989,332 | £618,141 | £618,141 |
| | Overhead | £ - | £1,612,107 | £614,136 | £358,246 | £358,246 |
| | NCAA staff | £901,219 | £901,219 | £901,219 | £901,219 | £901,219 |
| | Rent | | | | | £420,000 |
| | Total | Unknown | £5,298,853 | £2,504,687 | £1,877,606 | £2,297,606 |
| | | | | | | |
| DeepStore (5,600m³) | Capital | £29,747,500 | £28,557,600 | £27,367,700 | £46,478,000 | n/a |
| | Annual expenditure plus DeepStore | Unknown | £5,598,853 | £2,804,687 | £2,177,606 | £2,597,606 |
| | | | | | | |
| DeepStore (11,200m³) | Capital | £15,747,500 | £12,598,000 | £14,487,700 | £35,278,000 | n/a |
| | Annual expenditure plus DeepStore | Unknown | £5,898,853 | £3,104,687 | £2,477,606 | £2,897,606 |

# 6 Designing a sustainable solution

The scope of the OSAA project was to be focused on identifying 'sustainable' within the context of the archiving crisis. As part of that, we had to challenge and define what comprises a sustainable archive, for it became clear in the early stages of the project that sustainability was not solely about shelf space.

As a result, the project has grown beyond the exploration of storage options and has attempted to define a solution for a 'sustainable archive.' As part of this, 'ballpark' costs have been defined that address both capital and revenue requirements. As mentioned above (Section 1.3), the costs provided are intended to facilitate comparison of the different models outlined but, due to assumptions made, they should not be understood to be 'real world' estimates and further modelling of costs will be required to progress the options presented once certain variables are defined. Income to support sustainability for the NCAA proposals also requires further definition although we have presented some suggestions below.

The options set out in this report come from an understanding that the current status quo is not sustainable and cannot be made to be so. This will be a serious challenge for parts of the archaeological sector and as a result 'selling' the concept of a sustainable archive (as presented in this report) will be a significant issue.

It also needs to be remembered that although the overall perspective of archiving across England may seem grim, there are many local exceptions to this, where local curators and contractors have worked

to develop cost effective, committed and innovative approaches for their locality. Many of these are case studies in this report. However even these local examples still fail to address many of the concepts of 'sustainability' around archaeological archives.

# 6.1    Redefining sustainable

At the commencement of the project, the definition of 'sustainable' was focussed around capacity and meeting the demand for space created by reduced capacity in repositories and backlogs held at contracting units. However, it was clear that other factors were involved in determining whether an archive was 'sustainable', including:

- Accessibility
- Curatorial expertise
- Consistency of content
- Access to catalogues

All these were key factors in influencing the USE of archives, at it has become clear throughout this project that sustainability is intricately linked with levels of use. The latter brings a justification for the creation of and willingness to store archives and, increasingly, an income stream through recharging externally funded research projects.

Location was rarely an issue for most archives users except for those community/outreach officers employed directly by museums. Here the willingness to use archives in public facing activities was made clear, but once again, it is unnecessary to hold an entire archive to make use of it in this way. However, it was equally clear that this type of use of archives by repositories is less common than would be beneficial.

For other, research-based users of archives, location of the archive was rarely an issue. Research projects have become comfortable with including a data gathering phase where samples and materials are collected and therefore the need to travel is understood. Whilst such users reported that having a single centre for archives would be beneficial and easier for them, having the confidence that the intended research material was as described, accessible and supported by curators was far more important.

Therefore, if sustainability of archives is closely linked with use of those archives, any solution needs to support an increase in use, thus demonstrating the value and relevance of those archives. Hence the OSAA project developed the proposal for the National Collection of Archaeological Archives (NCAA), a national team that drives a single collection standard and catalogue to raise the profile and use of archives.

# 6.2    NCAA - a hub and spoke design model

The OSAA project has presented three broad options based on a range of engagement from local to national level. Option 1 is effectively maintaining the status quo, with multiple small repositories and different levels of engagement across England, whereas Option 3 is a large, national facility that effectively 'takes over' archaeological archiving.

There are pros and cons to each and the models posit different challenges to the principle of 'sustainable'. The local model continues to carry the risk of fragmentation of the NCAA, whereas the

national approach, whilst the most supportive of the NCAA, may be too much of a transition from the local connection of the historic environment, thus risking becoming solely a research institute, is not cost effective and will have wider implications for access and collaborative working. The local option does avoid issues over title, which unfortunately each other option does not.

Option 2, the blended regional model, is effectively the halfway house between local and national solutions. The project sets out two possibilities: the first being the creation of a new network of regional stores loosely based on the national regions of the UK; and the second involves a partnership with an existing regional model – the English Heritage network, in this case.

To be clear, OSAA does not recommend the option of a new regional network. Although this is presented on parity with the other ideas, the project considers this to be the worst option in both capital and revenue terms and would be trying to create an operational model where none such already exist. Also, during the project the Society of Antiquaries of London released their 'Manifesto' for change in British archaeology, at the core of which was the suggestion of a network of regional archaeological hubs. This document has created a heated debate within the sector, but it is generally accepted that changes to the delivery of local authority-based services will be driven by more general changes in local authority provision, and that such a provision is unlikely in the immediate future. Unfortunately, the archives crisis cannot wait for much longer.

Conversely, the option of developing the existing English Heritage network to create four regional stores is more attainable, through increasing the capacity and resource of this network **and** enhancing its functionality through the NCAA. The model is further blended by encouraging those existing repositories that have either invested in or are willing to maintain their service provision to engage with their local facility and the NCAA – a variation of a hub and spokes model. A benefit for this arrangement is that English Heritage are already the custodians of a significant archaeological collection for properties and associated fieldwork, so bringing this to the NCAA does create a truly national collection of excavated archaeological material. However, it should be stressed here that although English Heritage did provide a case study for the project, and were keen advocates for the regional network approach, the options model and proposal included in the report has not been discussed with them.

The principle of the hub and spoke is well established in the public sector and involves a core facility supported by a network. This definition from within the health sector illustrates this:

> *https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-017-2341-x*
>
> *Formally defined, the hub-and-spoke organization design is a model which arranges service delivery assets into a network consisting of an anchor establishment (hub) which offers a full array of services, complemented by secondary establishments (spokes) which offer more limited service arrays, routing patients needing more intensive services to the hub for treatment [3, 7]. The hub-and-spoke model yields a healthcare network consisting of a main campus and one or more satellite campuses. It is much more efficient than organization designs which replicate operations across multiple sites [5, 7, 8]. Hub-and-spoke networks are highly scalable, with satellites being added as needed or desired [6, 7]. When geographic distance makes satellite-to-hub access impractical, an additional hub can be created, yielding a multi-hub network [4, 5, 9].*

If the existing four repositories form multiple hubs, then the spokes would be museums and other repositories that would opt into the collecting programme and manage archives on behalf of the NCAA. They will need to meet standards and demonstrate how they are providing access etc. The project recognises that some may need help, so we feel there should be a funding stream which museums could apply to for funds to support capacity building (skills, resources), as well as to create

the legacy data required to map archive locations into the NCAA data infrastructure. Such a grant scheme could be administered via existing bodies such as the NLHF.

The principle of a dedicated, Lottery supported, funding stream for a specific national objective has been undertaken before, and the English Heritage Trust already acts on behalf of Historic England on the collection of sites and buildings; this proposal would be increasing its remit.

https://historicengland.org.uk/research/support-and-collaboration/heritage-information-access-strategy/

The hub and spoke model would also be at the core of Option 3, the National Store. Here, a central and single hub would be provided by the NCAA which would occupy a physical store facility. As with Option 2, this would be supported by the addition of existing repositories which continue to collect and manage parts of the NCAA (the spokes). Although the success of this model would depend on a strong brand it does provide a compelling solution, especially when the opportunities presented by the Science Museum Group's National Collection Centre located at a former airfield at Wroughton Wiltshire. Exploration of this option demonstrates it could be both cost effective and flexible, with capacity to provide a staged solution as needs change.

# 6.3     Finding a sustainable funding solution

The OSAA project has identified significant options for developing and implementing solutions for sustainable archives and has set out outline capital and revenue costs for each. However, it has not looked in detail at the possible sources of funding.

The project has assumed that the original establishment of the NCAA, datastore development, capital provision for storage and the migration/upgrading of backlog collections would be the subject of a one-off grant application. The capital build alone has been assessed at between £48m and £65m, although the inclusion of a single storage unit at DeepStore reduces this significantly and would be highly recommended. The Wroughton facility (Option 3b) has the potential to offer a less costly set-up option with an estimated £9,000,000 capital build cost.

However, ongoing revenue across all options discussed will need to have a sustainable funding source. This has been estimated at between £1.8m and £5.2m, depending on option, which includes the NCAA at £900k p/a (assuming an equivalence in coverage to the Historic England Science Advisers network). A single DeepStore unit would add £300k p/a to this, so the favoured option of enhancing and extending the English Heritage repository network would require an estimated c.£2.8m p/a to operate.

The project has considered three possible funding options: box charges, annual subscription or project levy. All of which are dependent on the continuation of developer funding for archaeological programmes.

Box charges represent another aspect of the status quo and are applied for the simple reasons that they are simple to understand and implement. However, the report undertaken for Historic England (Vincent 2019) clearly demonstrates that the way in which charges are calculated, applied and used is wholly inconsistent. However, it concluded that the average box fee was £75 per box, without specifying the size of the box.

Vincent also clearly stated that repositories were not maximising the potential of this income stream. Using a crude calculation that the annual accrual of archives at 493m3 equates to approximately 23,600 boxes per annum (based on a 'standard long bone' box of 50cm x 25cm x 20 cm) then at £75 per box this should realise £1.95m per annum; uplifting this to £100 per box realised £2.6m per annum. This

however reflects the dangers of basing a business model on raw numbers but does give an indication of the potential of this income stream. It does not recognise the well documented realities of both the contractor and repository relying on box charges.

A further possibility is tied into planning gain funding, namely Section 106 (S106) or Community Infrastructure Levy (CIL). Both can provide support for community facilities within and connecting to any development. However, application of CIL in particular is variable, with some local planning authorities choosing not to levy it as a means to keep housing more competitively priced, although in other areas both have been used for museum or repository provision (ALGAO 2018).

But CIL is not revenue support and S106, whilst useful, can be erratic. Both are competitive processes and must provide for community facilities like schools and health centres. Regrettably, cultural provision can fall down the priority lists. Furthermore, the recent government Planning White Paper proposes overhauling both funding pots and replacing them with a single community levy which councils will have a far greater freedom over using. Unfortunately, this is likely to increase demand for this funding, making it harder for museums or repositories to access it.

The final possibility rests on the scale of the developer funded fieldwork undertaken every year. ALGAO estimated (ALGAO 2018 – Value of Developer Funded Fieldwork report) that this currently stands at £245m per annum (excluding NSIPs). The proposal is that this is utilised directly, whether by contracting archaeological organisations paying an annual subscription based on their turnover which would provide access to the NCAA and incur no project-by-project archiving costs, or by a project levy paid per project on instruction by the client. Simplistically therefore a 1% charge (either route) would potentially raise £2.45m per annum, whilst 1.5% raising £3.675m.

Clearly the solution will need to take account of the complexity of the sector and fully consider the range of projects which make up the value of the developer funded fieldwork noted above. Not all projects will produce a physical component to the project archive, and the vast majority will have digital archive elements to manage and deposit, also incurring a cost which must be accounted for.

Raising revenue by directly asking contracting organisations would be incredibly controversial but has advantages if the NCAA can provide a meaningful option for contractors to be included. By having a single standard of creation, cataloguing access, with guaranteed deposition within a national storage network, contracting units would be able to operate a more efficient post-excavation and archiving procedure, ultimately saving money in that area. It also removes the difficulties of tendering for projects, and for ensuring that a suitable archiving budget is retained until deposition. By funding the NCAA in this way, organisations are directly contributing to the creation of sustainable archives.

# Glossary and abbreviations

### Archaeological Archive

All records and materials recovered during an Archaeological Project and identified for long-term preservation, including artefacts, ecofacts and other environmental remains, waste products, scientific samples and also written and visual documentation in paper, film and digital form (Perrin et al. 2014, 20).

### Archaeological Project

Any programme of work that involves the collection and/or production of information about an archaeological site, assemblage or object in any environment, including in the field, under water, at a desk or in a laboratory. Examples of an Archaeological Project include: intrusive projects such as excavation, field evaluation, watching brief, surface recovery and the destructive analysis of objects; non-intrusive projects such as landscape or building survey, aerial survey, remote sensing, off-site research such as desk-based assessment and the recording of objects or object assemblages. (Perrin et al. 2014, 20). One result of an Archaeological Project will be an Archaeological Archive.

### Bulk Finds

Finds that occur in relatively large quantities on site and can be recorded as a group; usually materials that do not require special recording during recovery. Examples are animal bone, ceramic building material and slag.

### Collecting Institution

Receives an Archaeological Archive from the Depositor for long-term curatorial care.

### Curator

The individual that curates (the day to day management) Archaeological Archives on behalf of the Collecting Institution.

### Digital Data

All documents and records in digital form, including: correspondence, contracts, specifications, notes, records, pro-forma, indexes, catalogues, reports, maps, plans, section drawings, elevations, site photographs, object images, CAD files, databases, digital aerial photograph interpretations, geophysical and other survey data, GIS files, audio records, images, satellite imagery, spreadsheets, text files, analytical results and 3-D data.

### Selection

The process of applying a Selection Strategy to a Working Project Archive to determine which archive components, including documents, digital files and material objects, should be included in the Archaeological Archive. The aim of selection is to ensure that the Archaeological Archive contains everything required to establish the significance of the project and support future research, outreach, engagement, display and learning activities.

### Selection Strategy

The methodology detailing the project-specific Selection process, agreed by all Stakeholders, which will be applied to the Working Project Archive to create the Archaeological Archive.

| ACE | Arts Council England |
|---|---|
| ADS | Archaeology Data Service |
| ALGAO | Association of Local Government Archaeological Officers |
| CBA | Council for British Archaeology |
| CHET | Cambridgeshire Historic Environment Team |
| CIfA | Chartered Institute for Archaeologists |
| CIL | Community Infrastructure Levy |
| DCMS | HM Government, The Department for Digital, Culture, Media & Sport |
| EAC | European Archaeological Council |
| EH | English Heritage |
| FAME | Federation of Archaeological Managers and Employers |
| HE | Historic England |
| HER | Historic Environment Record |
| HIAS | Heritage Information Access Strategy |
| HLF | Heritage Lottery Fund |
| MA | Museum Association |
| NCAA | National Collection of Archaeological Archives |
| NCAAD | National Collection of Archaeological Archives Datastore |
| NHSF | National Heritage Science Forum |
| NPPF | National Planning Policy Framework |
| NT | National Trust |
| OASIS | Online Access to the Index of archaeological investigations project |
| OSAA | Options for sustainable archaeological archives |
| SMA | Society for Museum Archaeology |
| SMG | Science Museum Group |

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# OPTIONS FOR SUSTAINABLE ARCHAEOLOGICAL ARCHIVES

## Part Two - Appendices

Report prepared for

Arts Council England and Historic England

March 2021

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# APPENDIX 1    DESKTOP REVIEW

## 1.1    Introduction

The *Options for Sustainable Archaeological Archives Project 2020* is the latest in a series of research and consultation projects looking at archaeological archives, commencing with the Society of Museum Archaeologists *Archaeological Archives and Museums 2012* project (Edwards 2013). Each of these reports has provides results and made recommendations that are relevant to this project, which are summarised here.

This section offers a review of the relevant projects, highlighting recommendations and collating relevant evidence, as well as identifying gaps in the available research. The reports consulted are:

- SMA / Archaeological Archives and Museums 2012 (Edwards 2013)
- ACE / Wiltshire Museum / Seeing the Light of Day (Fernie, McNulty and Dawson 2017)
- HE / *Gathering Information on Deep Storage Archive Facilities in England* (Tsang 2017)
- HE / CIfA / *21st Century Challenges for Archaeology* (Wills 2018)
- HE / SMA / *Museums Collecting Archaeology (England) Report Year 3* (Boyle, Booth and Rawden 2018)
- SMA / HE / *Guidance on the Rationalisation of Museum Archaeology Collections* (Baxter, Boyle and Creighton 2018)
- ALGAO / HE / *Planning for Archives: Opportunities and Omissions* (Donnelly-Symes 2019)
- HE / *A Survey of Fees for the Transfer of Archaeological Archives in England* (Vincent 2019)
- MA / *Empowering Collections* (Museum Association 2019)

This review draws out the relevant recommendations and briefly summarises the supporting evidence that led to those recommendations being made, highlighting where further research was called for. The review will not consider discussions or recommendations around 'selection' or 'digital archiving'. While both issues are relevant to the current project, they have or are being addressed through the *CIfA Selection Toolkit* project (CIfA 2019) and the *Dig Digital* project (Forster 2020).

In addition to the above reports, this review also considers the recommendations made by Dr Samantha Paul in her doctoral thesis:

- *Why do we have this? A study of museum approaches to retention and disposal of archaeological archives* (Paul 2020).

This review does not include data from the following two reports as they either do not make relevant recommendations relevant to this project or the project is in progress: Dig Digital (HE project 7796, Forster 2020) and the DCMS consultation, *Revising the definition of treasure in the Treasure Act 1996 and revising the related codes of practice*.

The recommendations and supporting evidence from the reports listed above are discussed under the following themes:

- Theme 1 - National storage strategy
- Theme 2 - National archive compilation strategy
- Theme 3 - Use and users of Archaeological Archives

## 1.2   Theme 1 – A National storage strategy

### Project: Archaeological Archives and Museums 2012 (2013)

Recommendation 4 of the *Archaeological Archives and Museums Report 2012*:

> *"Develop a national strategy for the storage and curation of archaeological archives. For the national resource represented by archives to be accessible, attention needs to be paid to how and where material is stored; what is selected for retention as archives are prepared; what can be discarded from older archives." (Edwards 2013, p9)*

The completion of Recommendation 4 would fulfil Recommendation 6:

> *"Seek solutions for archive material that currently cannot be transferred to a repository." (Edwards 2013, p10)*

The Archaeological Archives and Museums survey aimed to identify areas of the country where an archaeological resource centre might provide an acceptable solution for the continued provision of access to archaeological collections and consider issues relevant to the establishment of archaeological resource centres (p14).

The report detailed the gaps in collecting areas across England in 2012 (p18) as well as highlighting that the situation was fluid. Some of the issues identified by the Society of Museum Archaeology's 2002 and 2006 surveys into museum collecting areas (Bott 2003, Edwards 2006) had been resolved by 2012, while others had arisen (Edwards 2013, p17 and p19). In a significant number of cases there were discrepancies between a unit claiming they were unable to deposit, and curators reporting that museums were open to archaeological archives (p43).

Museums were asked to quantify the volume of their stored archaeological archives by cubic meters or by number of boxes, as well as to provide details on total storage capacity in cubic or square meters. Responses from 21 museums suggested the volume of stored archaeological archives ranged of 8m$^3$ to 2,759m$^3$, with an average volume of 314.81m$^3$ (p24). Responses from 22 museums suggested the total storage space in museums ranged from 7m$^3$ to 6,923m$^3$, with an average volume of 1,247m$^3$ (p24). This suggests that on average, 25% of museums stores are taken up by archaeological collections. These figures were provided with the caveat they represent a small number of museums and that most responders to the 2012 survey were unable to provide this data. In the report, the museum reporting a volume of 2,750m$^3$ stored archaeological collections was considered to be an exception, and it was recommended that the number be excluded from the average volume calculations (Edwards 2013, p25). However following discussion with the author, it has been confirmed that the responder represented a county museum service and therefore were representative of that type of museum and should not be excluded from the count.

Three quarters of museums were funded by local authorities. As museum services are not a statutory requirement of local authorities, spending cuts by local authorities would have an impact on a museum's continued ability to store and curate archaeological archives (p20). At the same time, many existing archaeological archives are homeless, remaining in the care of contracting organisations (p40). The FAME survey did not identify quantities of un-depositable archives by area nor data from some areas where gaps in collecting are known to exist so while the overall size of the issue was identified, the scale of the problem for specific areas was unknown (p43).

Therefore, at a national level it was possible to identify general trends in reduction or archaeological archive collecting but at a local level these were influenced by the local history and development of museums in their towns, districts, or counties, and subject to local pressures and political agendas (p47). However, the report did conclude that 'local is important'; for many museums, it is important that they continue to collect and retain local material relevant to local populations (p45) and that where issues relating to archaeological archives had been addressed most effectively, this was through local collaboration (p47).

The Archaeological Archives and Museums Report 2012 therefore did not identify any specific areas of the country where an archaeological resource centre might provide an acceptable solution for the continued provision of access

to archaeological collections, but instead recommended a national strategy for the storage and curation of archaeological archives.

## Project: Seeing the Light of Day (2017)

Recommendation 2 of the Seeing the Light of Day report:

> *"The storage and access crisis can be solved at a regional and national level." (Fernie, McNulty and Dawson 2017)*

The report found that museum stores in the South West of England are full and archaeological contractors are holding large backlogs of archives that they are unable to deposit (p2). Over 1,300 cubic metres of archaeological finds and documentary archives are being held by archaeological contractors in temporary storage presenting a risk to their business viability (p4).

Barrier to deposition from the contractor's point of view included museums' lack of storage or inability to accept archaeological archives due to lack of resources including lack of experienced or knowledgeable staff (p5). The museums felt that where the existing backlogs to be deposited, they would take much of the available space in museums (p6).

The report concludes that NPPF requirement to provide public access to archaeological archives can be met at a regional and national level (p9). However, the report does not suggest any solutions or recommend any specific forms of regional or national storage.

The report suggested that understanding the costs of storing, managing and providing access to archaeology collections required further study (p7). The use of Deep Store was mooted though it was felt that realistic, long-term funding formulas needed to be created (p5). A few museums in the region have secured funding through Section 106 agreements (S106) for new storage facilities, but non through Community Infrastructure Levies (CIL) (p6-7).

Therefore, Recommendation 2 states that sectors must come together to establish the delivery body that will implement a large-scale storage strategy. This will enable units to deposit the backlog of archives with a publicly accessible repository, support future development, and prevent the situation from worsening (p8).

The sector should also develop funding, charging and business models to ensure sustainable curation of archaeological archives in a regional/ national repository based on the robust cost model provided by the Seeing the Light of Day project (p8). The model details the costs of Wiltshire Museum setting up a new rented store, archive ingest, and their annual running costs. This figure is compared to the costs of DeepStore and Re-store as detailed in the 'Gathering Information on Deep Storage Archive Facilities in England' report (Tsang 2017) and a cost per m$^3$ for each facility is summarised. The costs for 10 years of storage per m$^3$ are given in Table 1.

During a workshop on 14/11/2017, Lorraine Mepham of Wessex Archaeology provided a series of costs per m$^3$ of storage at DeepStore, Wiltshire Museum and Wessex Archaeology over a 10-year period (it is unclear how the £1 additional box access cost is calculated). The costs for 10 years of storage per m$^3$ are given in Table 1.

Table 1 details the comparison of suggested costs for storing 1m$^3$ of archaeological archives over 10 years from the *'Gathering information on Deep Storage'* report, *Seeing the Light of Day'* project and Lorraine Mepham's presentation 'The True Cost of Collecting'. A true comparison is not possible as the costs have been reached through different methodologies, some include staff time to compile and curate, some include access retrieval costs, while others do not.

Table 1. Comparison of suggested costs for storing 1m3 of archaeological archives over 10 years

| | Gathering information on deep storage facilities (Tsang 2017) | Seeing Light of Day: Wiltshire Museum Cost Model | Lorraine Mepham: The True Cost of Collecting cost model |
|---|---|---|---|
| DeepStore | £762.80 (does not include retrieval/ access costs) | £889 (includes access costs based on Wiltshire museum cost model) | £736 OR £1,353 (includes additional access cost @ £1 per box- not clear how this is calculated) |
| Restore | £1,565.50 (does not include retrieval/ access costs) | £1,692 (includes access costs based on Wiltshire museum cost model) | |
| Museum X | £522.90 (£52.29pa in 2015/16) | | |
| Undeposited archives (Edwards 2013) | £2484.80 (£248.48pa) | | |
| Wiltshire Museum | | £1,320 (includes access costs) | £1,320 (includes access costs) |
| Wessex Archaeology | | | £1,040 OR £1,356 (with addition of WA staff costs) |

## Project: Gathering information on deep storage archive facilities in England

The *Gathering Information on Deep Storage Archive Facilities in England* report defined Deep Storage as off-site storage outsourced to a commercial facility, often based a long way from the originating museum or repository (p3). The report therefore discussed the benefits and drawbacks of deep storage in terms of supporting existing museum storage, rather than as an alternative means of archive curation.

The report suggested that off-site storage is more suitable for less frequently accessed and physically robust material, and that a dual strategy that also maintains a local store for material regularly accessed, or in need of regular monitoring in-house may be required (p6).

Use of deep storage facilities requires detailed recording of the contents of each box to run their own databases and for retrieval, therefore museums would need to decide how this would work with their own inhouse recording systems (p5). The costs of recovering material from deep storage mean there are greater benefits to those closer to, or on the fastest access routes to the facilities (p6). The costs for 10 years of storage per m$^3$ are given in Table 1.

The project had had limited success in establishing the real costs of museum-based archaeological storage (only one museum, Museum X, provided the information required), yet the report concluded there are clear benefits to holding archaeological archives in a curatorial institution in terms of accessibility and cost, except where storage issues cannot be resolved. Deep storage could provide a 'stop gap' for museums that require additional or temporary storage (p8). However, the costs of deep storage are significantly lower than some museum deposition fees, and the amount archaeological contractors are paying to store 'un-depositable' archives, therefore it may become financially beneficial for contractors to use those facilities instead of depositing with a museum (p8). The

cost of storing 1m$^3$ of un-depositable archives was established form the Edwards 2012 report and is detailed in Table 1 along with the suggested costs for DeepStore, Restore and Museum X.

## Project: 21st Century Challenges for Archaeology Report

Proposed action 4 of Workshop 1, Archaeological archives, 21$^{st}$ Century Challenges for Archaeology report:

> *"Strategic archive storage: Feasibility study for national (or regional) archive stores/resource centres, followed by preparation of business case for funding." (Wills 2018, p6)*

Proposed action 9 of Workshop 1, Archaeological archives, 21$^{st}$ Century Challenges for Archaeology report:

> *"Costs of archive curation, and storage (capital and revenue): Develop an understanding of whole life (? but time limited) storage costs (which covers both archive store/resource centres and deep-store type alternatives) with the aim of producing a transparent national costing model. Consider how costs might be apportioned: developer/public funds." (Wills 2018, p9)*

The 21$^{st}$ Century Challenges for Archaeology report highlighted many of the same issues as discussed by the Archaeological Archives and Museums 2012 report (Edwards 2013), suggesting that the circumstances (the 'storage crisis') leading to recommendations for a national archiving strategy had not improved in the intervening 6 years. The report stated that the 'storage crisis' around archaeological archives is not replicated for other museum collections because of the 'pipeline' of developer-funded archaeology that continues to produce new archives (Wills 2018, p12). Workshop participants also questioned the appropriateness of storing research archives in museums, some having little potential for display, education and engagement (p13).

Where there is no museum home for archives, they are held by the archaeological contractor that produced them; there is a consequent and significant on-going cost to the businesses concerned. The report concluded that new repositories for archaeological archives, linked to museums, are needed, on a national or a regional scale (p13). The capital costs might come from ACE and/or HLF augmented by the use of Community Infrastructure Levy and S106 agreements. However, the report did suggest there would be an issue of who would own and administer the new facility(ies).

## Project: Museums Collecting Archaeology (England) Report Year 3 (2018)

Year three of the Museums Collecting Archaeology report (Boyle, Booth and Rawden 2018) detailed the results of the 2018 survey as well as summarised the previous two years results. Relevant data regarding the continued threat the provision for curating archaeological archives includes the following:

59.4% of responding museums described themselves as continuing to actively collect archaeological archives in 2018, up from 2017 (52%) but roughly equal to the 2016 result (59.5%) (p3). As in 2016 and 2017, the most cited reason for ceasing to collect, was lack of space (76.9%) followed by shortage of staff resource and then staff expertise (p18).

The regions with the highest percentages of museums ceasing to collect were recorded as the North West (20%), London & East England areas (20%) and West Midlands (18.1%) regions (p 19).

> *"This is a crisis!!"*

> *"Shelving is full, and archives are now stacking up on the floor due to a lack of storage space."*

> *"We are at the brink of completely running out of space."*

> *(quotes from responders)*

Similar to the data provided in 2016 and 2017, 66.6% of responding museums in 2018 (and which are actively continuing to collect) reported that they will run out of space within 5 years or less (p46). 48% of responding

museums have specialist museum archaeological expertise as per the CIfA Specialist Competence Matrix in 2018 (p47)

## Project: Guidance on the Rationalisation of Museum Archaeology Collections (2018)

Guidance on the Rationalisation of Museum Archaeology Collections document (Baxter, Boyle and Creighton 2018) is informed by the results of five detailed scoping studies which demonstrated that rationalisation is unlikely to release large amounts of space in store.

All five participating institutions conclusively demonstrated that rationalisation is not a cost-effective way to increase storage capacity. The costs and resources required to undertake rationalisation and disposal to its conclusion were high, whilst the amount of space it released was relatively small.

## Project: Planning for Archives - Opportunities and Omissions (2019)

No recommendations regarding regional or national storage were made in the Planning for Archives: Opportunities and Omissions report (Donnelly-Symes 2019). However, the report did highlight National Planning Policy Framework Footnote (2018) 64 which states that archives should be deposited with a local museum or other public repository (p7). This requirement was not being met across England as archaeological archives were unable to be deposited in over 25% of the country, with many more museums expecting to be unable to accept archive within the next five years (p16). The report also raised concerns over the declining numbers of staff and level of expertise within museums to fulfil the requirement for accessibility (p16).

The potential to acquire funding to explicitly assist with the facilitation of archaeological archiving thorough section 106 agreements or the Community Infrastructure Levey was also highlighted (p17).

The report also discussed one further proposal of attaching archaeological archiving to Arts Council museum accreditation but did question how non-museum archive repositories would be factored into this scenario. The report suggested that this would be worth further investigation as a means to ensuring that all archive repositories are working to an acceptable standard and that archives are ultimately lodged with those repositories that have publicly committed to curating them (p17-18).

## Project: A Survey of Fees for the Transfer of Archaeological Archives in England 2019

The Survey of Fees for the Transfer of Archaeological Archives in England project aimed to understand the charges and fee structures imposed by collecting organisations in England for the deposition of archaeological archives (Vincent 2019). The report concluded that the vast variation in the fees charged by collecting organisations for the deposition of archaeological archives (ranging from £0 to £1200 for one document box plus 3 bulk finds boxes), was the result of confusion on how to calculate costs, the HE box grant scheme and what those cost should cover (p8).

The methods used by collecting institutions to calculate costs are not transparent and many institutions simply base their fees on those of others under the assumption that someone established that fees are reasonable (p7). This has resulted in deposition fees remaining artificially low, and no collecting organisation is currently covering its storage costs (p8).

The report recommendations are based around existing storage within museums and other repositories; however, some provide guidance when thinking about establishing charging structures:

> *"Current fees should not be considered a useful benchmark against which to set fees in the future." (Vincent 2019, p9)*

Setting a single fee across organisations is unrealistic due to the variation in the type, size and make up of collecting organisations. However, clearer guidance on what factors which should be considered when setting fees would be helpful (p8).

*"Discussion around shared, regional or national storage solutions should acknowledge the variable nature of income from archaeological archive depositions."*

*"Any discussions around future storage solutions should take into account the financial impact of archaeological archives which collecting organisations have agreed to accept, but which have not yet been deposited." (Vincent 2019, p9)*

The income currently generated through charging for archaeological archive deposition is variable across institutions and is influenced by the time between project inception and deposition of the achieve.

## Project: Empowering Collections (2019)

Recommendation 11 of the Empowering Collections report:

*"Explore shared storage solutions. Many collections are held in unsuitable stores. Efficient storage solutions in which multiple museums share the same up-to-date storage facility can help to solve this problem, while also ensuring that collections are well documented." (Museum Association 2019, p23)*

The Museum Association feel that overflowing storage combined with limited staffing and resources, mean that many museum collections are in a state of stasis or even decay. Funding cuts over the past decade have resulted in a loss of collections resources and skilled museum staff meaning museums are unable to provide adequate care for the items that they hold, undertake rigorous collections reviews, or transfer unwanted and duplicate items out of their collections. Therefore, new storage solutions and more effective collections reviews and rationalisation are required (p5).

Note: The 'Rehousing the collection of the Science Museum Group' case study provides insight on how 300,000 objects can be recorded and transported utilising barcode scanning technology alongside an app and automated image ingest pipeline, directly linked to the museum's collection management system.

## Doctoral thesis: Why do we have this? A study of museum approaches to retention and disposal of archaeological archives (2020)

Recommendation 4 of the thesis:

*"Develop a National Archaeological Archive Resource as an alternative to museum-based curation"*
*(Paul 2020, p251).*

The thesis demonstrated a need for new repositories for archaeological archives at a regional or national scale in order to remove the burden of commercially derived archives from the museums who feel unable to appropriately curate them. The research suggested that organisation at a regional level would prove difficult due to the variations in complex overarching political, economic and financial pressures, coupled with cross local-authority funding arrangements. The thesis therefore recommended that that storage of archaeological archives should be at a national level, either in one location, or through central organisation of satellite stores.

The author stipulated that the physical storage environment should meet the SMA definition of a publicly accessible repository as fair, inclusive, equitable, flexible and responsive (Society for Museum Archaeologists, 2019), and that the ideal situation would be a large, publicly accessible resource centre, staffed by qualified curators and professional archaeologists that supported access to the archaeological resource for any purpose such as research, exhibition, learning and general interest as defined by the Archaeological Archives Forum (Archaeological Archives Forum, 2010). However, it was also noted in the thesis that public interest is best served when the archives are located where they will be best understood, valued and made accessible, and that a remote location was not necessarily a barrier to use if the systems are in place to access and retrieve that material when necessary.

The thesis also recommended that the creation of a national storage solution could remove the emotional and ethical burden on some curators to look after material that is rarely accessed or used within their museum, as well as neutralise some of the mistrust between commercial archaeologists and museum curators around box fees, selection

criteria and financial incentives to deposit, not deposit, or how much to deposit. However, it was also noted that this may well not suit those museums fully engaged with the archaeological archiving process, and the loss of an important revenue stream for some may mean they would be unwilling to move to a national system of curation. The thesis demonstrated that many museums do not want to lose control of their archaeological collections, and for some, involvement in the planning process supports local authority funding of the museum and its staff. It was therefore suggested that where museum provision for archaeological archive storage is considered to be adequately resourced and accessible, this could be retained alongside a national solution.

## 1.3 Theme 2 – A National Archive Compilation Strategy

### Project: Archaeological Archives and Museums 2012 Report

Recommendation 3 of the Archaeological Archives and Museums Report 2012:

> *"Establish a national strategy for archive completion as a means of providing easy access to the archaeological record. The Archaeological Archives Forum should investigate possible solutions such as a national index of archaeological archives and universal standards for archive creation." (Edwards 2013, p9)*

The increasing number of undepositable archives in store with archaeological organisations, creates an ethical dilemma for companies in terms of compilation and curation of the archives in their care. Additionally, commercial organisations reported that variations in museum deposition requirements (such as stringent requirements for selection and retention, some museums only accepting complete archives while others are separating documentary from material archives, or only accept the smaller archives) resulted in archives being rejected (p43). National standards on archive compilation would improve quality and efficiency, remove variations in the cost of archiving and deposition fees, and standardise the application of selection and retention (p40).

### Project: Seeing the Light of Day report

Recommendation 4 of the Seeing the Light of Day report:

> *"A standard framework on archaeological archives to be required in all briefs and Written Schemes of Investigations." (Fernie, McNulty and Dawson 2017)*

The Seeing the Light of Day report advocates for a 'Standard Framework' that incorporates archiving procedures, data management processes, selection strategy, transfer of title, and recognised repositories. The standards should be endorsed by CIfA, FAME, ALGAO and SMA to ensure that they are adopted and implemented. They should be referenced and monitored by DM Archaeologists in their briefs and/or guidance for archaeological interventions. The introduction of such a framework would provide the added benefit of more effective consideration of archaeological archives at the beginning of the archaeological process (p9-10).

### Project: 21st Century Challenges for Archaeology Report

While the 21st Century Challenges for Archaeology report did not make any specific recommendations or suggest actions towards the creation of a national archive compilation strategy, workshop participants did discuss the concept. The potential for a new national index of archives was discussed, with some suggesting that more easily accessible information could help to increase the use of archives for research (Wills 2018, p14).

The report did question how a national index of archives would link to HERs and signpost the location of archives accurately. Proposed action 11.2 of Workshop 1, Archaeological archives, 21st Century Challenges for Archaeology report:

> *"Consider whether archives are 'findable' through existing systems, or whether there is a need for new or enhanced routes (national index, HERs, HIAS, Oasis)." (Wills 2018, p7)*

*Project: Museums Collecting Archaeology (England) Report Year 3*

Year Three of the Museums Collecting Archaeology report (Boyle, Booth and Rawden 2018) detailed the results of the 2018 survey as well as summarising results from the previous two years. Relevant data regarding the current provision of standards and guidance for archaeological archives deposition includes the following:

75% of responding museums said they had a collecting policy that specifically referred to British Archaeology (p27), and 70.3% reported that their institution has a set of standards or guidelines for the deposition of archaeological archives (p28). Interestingly, 24.5% were unwilling to share these documents (p29). The report concluded that this may because museums are becoming less willing to share these documents with outside organisations and could reflect a lack of confidence with the collecting and curation of archaeological material. Additionally, it is possible the museums recognised a difference between stated collecting objectives in policy and procedural documents, and the reality on the ground given staffing and storage pressures (p30)

*Project: Planning for Archives: Opportunities and Omissions*

No specific recommendations regarding national standards on archaeological archiving practices were made in the Planning for Archives: Opportunities and Omissions report (Donnelly-Symes 2019). However, the report did identify that archive repositories within 7.8% of ALGAO: England authority areas had no archiving guidelines, raising the question as to whether the standards of archives produced in these areas, while for some other repositories there can be contradiction between the general requirements for an accessible archive and certain museum collection policies (p16).

## Doctoral thesis: Why do we have this? A study of museum approaches to retention and disposal of archaeological archives (2020)

The thesis made two recommendations pertinent to the creation of a national archaeological archive strategy:

Recommendation 1 of the thesis:

> *"A National Archaeological Archives Registry linked to detailed archives contents databases (Paul 2020, p244).*

Recommendation 2 of the thesis:

> *"National standards on archive compilation and recording" (Paul 2020, p247)*

The thesis demonstrated that access and re-use of archaeological archives is greatly increased when information about an archive's location and contents is available digitally, preferably on-line. It was therefore proposed that archives need to be more 'findable', and that establishment of a National Archaeological Archives Registry would raise the profile of these un-used collections, promote their access and re-use, and stimulate research. It was proposed that a National Archaeological Archives Registry should not duplicate current knowledge but draw information from existing systems such as OASIS and either link directly to or provide details on where users can access the archive's contents database (the archive's metadata). The thesis reported that where detailed metadata about an archive's contents exists, that archive is more accessible and useable by curators, researchers and other interested parties. The author noted that archaeological archive and object data can be studied, manipulated and re-used in many different ways, and any standardised archives contents database would necessarily be detailed in nature in order to support a broad spectrum of users. The thesis concluded that the creation of a National Archaeological Archive Registry accompanied by detailed databases would increase the research undertaken on the results of commercial archaeological projects, as well as facilitating access for display and engagement activities. Detailed metadata has the potential to reduce the need or desire to access the physical archives, supporting remote storage as a viable solution to the 'storage crisis', therefore reducing the strain on museum resources as well as facilitating movement of archives between stores and users.

In order to support a National Archaeological Archives Registry linked to detailed archives contents databases, standardised systems on archive compilation and recording were recommended. The thesis discussed that while standards on archive creation and compilation already exist (Brown, 2011), it is the specifics of how materials are

stored, how bag and boxes are labelled, and how the 'metadata' (the data about the archive) is presented, that can either support or hinder archive access and re-use. Current variations in museums' deposition requirements increase the time and resources required to compile and transfer archives from planning-led archaeology. The research indicated that a standardised system of archive compilation and transfer would be welcomed by commercial archaeologists and streamline curation and accessibility for the majority of curators and researchers wishing to re-use the material. National standards could be followed by units in areas where no repository exists or where a museum has temporarily closed its doors to new acquisitions, expediating their eventual transfer to permanent storage. A single methodology of archive compilation would facilitate access to anyone wishing to work with an archive regardless of its location, and ease the issues around dealing with archives when a commercial unit goes out of business.

## 1.4   Theme 3 – Understanding use / users of archaeological archives

*Project: Archaeological Archives and Museums 2012 Report*

Objective 8 of the Archaeological Archives and Museums Report was to characterise the users of archaeological archives, while Objective 5 was to investigate the potential for archaeological resource centres to attract new audiences for archaeological collections (Edwards 2013, p14). The report concluded that archaeological archives were used by museums with an archaeological curator for loans, teaching collections, and handling packs in museums. In museums with no archaeological expertise it is unlikely that archaeological archives will reach much of an audience at all (Edwards 2013, p45).

Museums were asked to quantify research (external) visits to their museums over the previous twelve years (2000–2011). However, due to a lack of data compiled by museums, the report did not manage to fully characterise end users of archaeological archives following deposition. Nineteen of the responding museums were able to provide data on who was accessing their stored archaeology collections:

Volunteers by far represented the largest user group (45%) followed by the public (20%), private researchers (14%), universities (10%), community groups (6%), schools (3%) and commercial archaeologists constituted only 1% of the visits (p71). Data from 40 responding museums, suggested around 2000 visits are made each year to stored archaeological archives, that's about 50 visits per museum per year, or roughly one visit per week (p72).

The report therefore found that "archaeological archives have been used by responders to reach a very wide and diverse range of audiences" (Edwards 2013 p8). However, the '50 visits per year' were not achieved by the majority of the responding museums. In fact, only 3 reported a number over this 'average' with the majority reporting numbers well under 15 per year. The skew seems to result from the response of one museum/repository that reported over 900 visits that year, but they did stipulate the collection had recently moved to a new location allowing numbers to increase (p73). If this number is removed, the average number of external visitors to archaeological collections per year for the 40 responding museums is closer to 26, or 2 visits per month with several reporting as few as one visit per year. Visitor numbers for the remaining 121 museums was not established, though as stated previously, access is unlikely for museums without an archaeological curator (p45).

The Archaeological Archives and Museums 2012 project did not fully characterise the users of archaeological archives. While the report concluded that archaeological archives had a wide range of uses and could reach a variety of audiences, this was only possible where specialist staff were present in the museum. In 2012 it was reported that only 30% of responding museums had an archaeological curator on staff (Edwards 2013 p8). Potential archaeological archive 'end users' were not identified by the 2012 survey, neither was the form that use might take, how different end users would/could access or use archives, or how access/use may differ for individual archive components.

*Project: Seeing the Light of Day report*

The Seeing the Light of Day report concluded that Archaeology archives are among the most-used museum collections, for use in exhibitions, handling sessions, education, volunteer projects and by researchers (Fernie, McNulty and Dawson 2017, p6). Contractors reported using the archives in their care for a range of public engagement activities, such as lectures and workshops, educational and community activities and open days (p5). However, more work is required to properly fund public repositories where researchers, communities and the wider public can access archaeological archives, no specifics on the how access could be provided, and use facilitated were given.

*Project: 21st Century Challenges for Archaeology Report*

Proposed action 11.1 of Workshop 1, Archaeological archives, 21st Century Challenges for Archaeology report:

> *"Archive usage: Develop a better understanding of the professional and public usage (and potential usage) of archives in order to inform retention strategies. Include both museums and contractor stores." (Wills 2018, p10)*

The report concluded that we do not have good information on which components of archives are used, how they are used, whether in a museum or with contractors, and that this is an area that would benefit from survey (p11).

The report also highlighted the low level of engagement of the academic community with archives from development-led archaeology in general, although the potential for involvement of academics and researchers in many aspects of archive management was not discussed further (p11).

*Project: Empowering Collections*

Recommendation 4 of the Empowering Collections report:

> *"Research to understand public expectations of collections. It is clear from our research that there is a substantial gap between museums' collections activity and the public understanding of collections. Museums need to understand better what their communities – visitors and non-visitors – want from collections if they are to diversify their audiences and remain relevant in the long term. Sector bodies should fund UK-wide deliberative public opinion research to enable museums to expand their knowledge of their communities and respond to these expectations." (Museum Association 2019, p16)*

The Museum Association states that museums should consult regularly with audiences on how collections are researched, presented and used, and should encourage public participation alongside professional knowledge and expertise when using collections (p10).

# 1.5   Conclusions

A number of reports reviewed, including the Archaeological Archives and Museums 2012 (Edwards 2013), Seeing the Light of Day (Fernie, McNulty and Dawson 2017), 21st Century Challenges (Wills 2018) and Dr Pauls PhD thesis (Paul 2020), recommended that national or regional stores would provide an acceptable solution for the continued provision of access to archaeological collections. Therefore, in general, research undertaken consistently recommends that the strategy should be national, although none go so far as to suggest the nature and organisation of such a facility, or series of facilities. None of the reports identify any specific areas of the country where an archaeological resource centre would be best placed, the Edwards report (2013) specifically highlighting the fluid nature of the 'storage crisis'.

Edwards (2013) suggested that locality may be important in relation to archaeological archives, while Dr Paul' doctoral thesis concluded that location does not have to be a barrier to use if the systems are in place to support access. The 21st Century Challenges report (Wills 2018) concluded that new repositories for archaeological archives should be linked to museums, and the Empowering Collections report (Museum Association 2019) recommends the

use of shared museum storage. The Gathering Information on Deep Storage Archive Facilities report (Tsang 2017) suggested that off-site storage is more suitable for less frequently accessed and physically robust material, but that maintenance of a local store for material regularly accessed, or in need of regular monitoring in-house may be required. Tsang (2017) also states that those closer to, or on the fastest access routes to the storage felt the greater benefits due to the costs of recovering material from deep storage.

While the 21st Century Challenges report (Wills 2018) called for consideration of a transparent national costing model for archaeological archives, the Survey of Fees for the Transfer of Archaeological Archives in England report (Vincent 2019) concluded that setting a single fee across organisations is unrealistic due to the variation in the type, size and make up of collecting organisations. Additionally, the variable nature of income from archaeological archive deposition, should be taken into account, especially regarding potential loss of income by museums.

A national strategy for archive completion was recommended by the Archaeological Archives and Museums 2012 report (Edwards 2013) and the doctoral thesis 'Why do we have this? A study of museum approaches to retention and disposal of archaeological archives' (Paul 2020), while the Seeing the Light of Day report (Fernie, McNulty and Dawson 2017) advocates for a 'Standard Framework' for archaeological archiving procedures. Both the Edwards report (2013), 21st Century Challenges report (Wills 2018) and Dr Paul's PhD thesis (Paul 2020) suggest the creation of a national index of archaeological archives.

Key recommendations which have been highlighted through the desk-based review, can therefore be summarised as:

- Development and adoption of a National strategy for archaeological archives.

- Development of a National index of archaeological archives.

- Creation of a standardised framework for archives management.

- Provision of a blended solution should involve museums and off-site storage.

- Consideration of archive deposition fees in terms of both of consistency and impact of proposed solutions.


# 1.6   Gaps in our understanding – next steps

## Updating the data (Appendix 2)

Although previous projects undertaken have produced comprehensive datasets, there is a significant amount of time since the last data collection exercise which collected information from archaeological organisations that create and deposit archives was delivered. A simple survey based around the questions included in the Archaeological Archives and Museums 2012 (Edwards 2013) project will be developed and circulated to provide a current dataset which can be compared with that gathered in 2012 (results presented in Appendix 2).

## Understanding existing solutions (Appendix 3)

A key element of the OSAA project will be identifying practical options which can be considered in terms of how they might address the challenges and issues identified during the desk-based review. A key element missing from the previous project data in relation to the experience of archives management in England is the presentation of the different approaches to archives storage which are already in use across the UK and further afield. An in-depth consideration of the various solutions currently in use will provide the perspective from archive managers of the advantages / disadvantages of different options as well as informing a review of resources which will be required to meet the challenges (case studies are presented in Appendix 3).

## Users of archaeological archives (Appendix 4)

A significant gap in current knowledge identified by the desk-based research is how archives are used. While the reports discussed above provide evidence linked to the storage crisis, archive deposition backlog and reductions in museums specialist staff, they do not outline which components of archives are used, how they are used and by whom, and levels of public engagement. In addition, previous reports have not considered research access requirements or how archives could be better promoted to researchers.

The identification of archaeological archive 'end users', and the potential access requirements that would be required to support that use is an area that would benefit from surveying and could include looking at public knowledge of, and attitudes to archives.

The 2008 report 'Discovering physical objects: Meeting researchers' needs' (Research Information Network 2008) may provide a starting point on establishing how archaeological archives may be made more findable and accessible to researchers and other end users. The main findings of the report were that:

- researchers want online finding aids that enable them to plan their visits to museums and collections and to see and, where possible, to handle objects for themselves

- researchers use a variety of methods to find out about objects that might be relevant to their research, but contact with curatorial staff is crucial

- most researchers are unaware of the online catalogues that have been, and are being, developed by museums and other organisations

- researchers believe that there is a lack of consistency in the arrangements that different museums make for direct access to objects.

(Research Information Network 2008, p5)

To address this knowledge gap, a series of workshops will be held with different user groups to identify the concerns and opportunities that different archive solutions might provide (results presented in Appendix 4).

# APPENDIX 2    DATA COLLECTION SURVEY

## 2.1    The survey

The short data collection survey was devised to provide an update to the information collected during previous projects (Appendix 1). The aim was to ensure that any options considered as part of the OSAA project were balanced against a realistic understanding of future capacity needs.

The survey was sent out to all CIfA Registered Organisations and FAME members via each organisation's mailing list, and members of the project team personally approached individuals in order to maximise the number of responses. Unfortunately, as a result of the Covid19 pandemic the survey went live during a period of significant upheaval in UK archaeology. Many archaeological staff were either furloughed or working from home and therefore were unable to access the data required to fully respond to the survey.

> *"These are as accurate as we can be, however, our archives are spread across four separate offices. We also have personnel on furlough who may have archives at home."*

Despite this, responders represent approximately 45% of the contracting organisations responsible for the creation and compilation of archaeological archives in England (see below). Responding organisations ranged from sole traders to multi- office organisations with over 400 members of staff.  The results of the survey are presented below, and where applicable, directly compared to the 2012 FAME survey (in Edwards 2013).

During analysis of the survey data, it was recognised that that the volume of archaeological archives accrued annually could not be established through any of the existing surveys or reports. A further survey asking commercial units to estimate their average annual accrual rate was therefore sent to all CIfA Registered Organisations and FAME members via each organisation's mailing list, and responders to the Data Collection Survey were contacted directly. The results of this short survey are presented at the end of this report.

## 2.2    Headline results

The following headline results are discussed in more detail within the main body of the report. The figures quoted are based on the scaled-up survey results to provide a broad estimate for the totals in England.

- At the time of the survey, there were **27,288** active archaeological projects in England.

- There are **26,131** completed projects awaiting deposition in England.

- Contracting units hold an estimated **7,339** undepositable project archives England (likely an underestimation).

- On average, **23%** of all completed archaeological projects are undepositable (likely an underestimation).

- Archaeological archive holdings within contracting units are estimated at **4,957m³**, of which **1140m³** (23%) could be considered undepositable.

- An estimated **492m³** of archaeological archival material is compiled each year, of which **113.24m³** (23%) could be considered undepositable. (NOTE: Manipulation of these figures due to a potential overestimation by one organisation would see these numbers reduce to an annual accrual of **404.5m³** nationally, **93m³** of which cannot be deposited.)

## 2.3 Results of the survey

### Who were the respondents?

In total, 20 organisations responded to the survey. All 20 organisations responded to Questions 1 (Organisation) and 2 (Organisation Type), of which 18 were contracting organisations involved in the creation and compilation of archaeological archives (answered as Archaeological contractor or Local Authority based contractor).

Of the responders not currently involved in the active creation and compilation of archaeological archives, one represented and archaeological consultancy (answered as Consultancy based curator) and another an archive repository (answered as Local Authority based Contractor- the archive repository had previously responded to the 2012 survey as an archaeological contractor but is no longer involved in the generation of archives). These responses from non-contracting organisations have been excluded from the statistical analysis.

The 18 responses included in the statistical analysis represent approximately 45% of the contracting organisations (40) in England involved in the creation and compilation of archaeological archives (identified through comparison with the FAME members and CIfA Registered Organisation scheme). This indicates a 40% reduction in the responses compared to the to the 2012 FAME Survey which received 31 responses, or 75% of contracting organisations nationally at the time.

The responses have therefore been scaled up by a factor of 120% where there have been 18 responses to provide a broad estimate for the totals in England (where there have been less than 18 responses to specific questions, the number of responses has been stated and the estimates scaled up accordingly).

This follows the same methodology to the used in 2012 and allows the clearest comparison to the 2012 FAME survey data and analysis.

### *Responding Organisations*

The responding organisations ranged in size form sole traders to a large organisation employing 400 individuals. The size of responding organisations have been quantified by the number of staff as defined by the 2012/2013 Profiling the Profession report (Aitchison and Rocks-Macqueen 2013). The below table details the number of responders per size of organisation.

The responders per size of organisation is also expressed as a percentage for comparison with the 2012/2013 profiling the Profession data. However, it is important to note that Profiling the Profession included Scotland, Wales and Northern Ireland, as well as the types of organisations that do not create and complete archaeological archives and therefor have not been included in this data analysis. A direct comparison of the size of responding organisations is therefore not possible.

| No. archaeological staff | No. responders to 2020 survey | % responders to 2020 survey | % employing organisations represented in 'Profiling the Profession' (2012-2013) |
|---|---|---|---|
| 1 | 1 | 5.5% | 29% |
| 2 to 10 | 1 | 5.5% | 49% |
| 11 to 49 | 10 | 56% | 18% |
| 50 to 99 | 2 | 11% | 1% |
| 100 to 249 | 2 | 11% | 2% |
| 250+ | 2 | 11% | 0% |
| total responding | 18 | 100% | |

Table 2. Size of organisations that responded to the survey.

In 2012/2012 small organisations (up to 10 employees) was the norm, however by far the largest responder to this survey were organisations with 11-49 employees (56%). The trend towards responders from medium/large contacting organisations may be the result of several unit mergers in recent years, or that larger organisations create and compile a larger number of archaeological archives and are therefore more engaged with the issues and likely to respond.

## Question 3: Can you confirm that your answers to this survey are a formal organisational response?

All 18 contracting organisations responded to the question, of which 17 confirmed a formal response.

## Question 4: How many archaeological project archives do you hold (including both active ongoing projects and those ready for long term storage)?

### Question 4a: Total current / active projects

All 18 contracting organisations responded to the question. The number of active projects ranged from 6 to 3719.

The total number of current/active projects between all 18 contracting organisations is 12,280. This gives an average of 682 per contracting organisation and suggests a total of around **27,288** active archaeological projects in England.

### By type of responding organisation

- Small contracting organisations (1-10 employees, 11% of the responders) reported 86 current/active projects (1% of reported projects). That equates to roughly 29 current/active projects per employee.

- Medium contracting organisations (11-99 employees, 67% of the responders) reported 6587 current/active projects (53% of reported projects). That equates to roughly 15 current/active projects per employee.

- Large contracting organisations (100-250+ employees, 22% of the responders) reported 5670 current/active projects (46% of reported projects). That equates to roughly 5.5 current/active projects per employee.

| Size of organization/ No. of employees | % of the responders | No. of current/ active projects | Projects per employees |
|---|---|---|---|
| 1-10 | 11% | 86 | 29 |
| 11-99 | 67% | 6587 | 15 |
| 100-250+ | 22% | 5670 | 5.5 |

Table 3. Total current/active projects per size of organisation.

Alternatively, this can be calculated as an average number of 8 current/active projects per employee for the responding organisations.

### Question 4b: Completed projects awaiting deposition (e.g. which can be deposited)

All 18 contracting organisation responded to the question. The number of completed projects awaiting deposition (e.g. which ca be deposited) ranged from 2 to 6000 (at a multi office organisation).

The total number of completed projects awaiting deposition across all 18 contracting organisations is 11,759. This gives an average of 653 per contracting organisation and suggests a total of around **26,131** projects awaiting deposition in England.

## By type of responding organisation

- Small contracting organisations (1-10 employees, 11% of the responders) reported 22 completed projects awaiting deposition (<1% of reported completed projects awaiting deposition). That equates to roughly 7 completed projects awaiting deposition per employee.

- Medium contracting organisations (11-99 employees, 67% of the responders) reported 4347 completed projects awaiting deposition (37% of reported completed projects awaiting deposition). That equates to roughly 10 completed projects awaiting deposition per employee.

- Large contracting organisations (100-250+ employees, 22% of the responders) reported 7390 completed projects awaiting deposition (63% of reported completed projects awaiting deposition). That equates to roughly 7 completed projects awaiting deposition per employee.

| Size of organization/ No. of employees | % of the responders | No. of completed projects awaiting deposition | Projects per employees |
|---|---|---|---|
| 1-10 | 11% | 22 | 7 |
| 11-99 | 67% | 4347 | 10 |
| 100-250+ | 22% | 7390 | 7 |

Table 4. Completed projects awaiting deposition per size of organisation.

Alternatively, this can be calculated as an average number of 8 completed projects awaiting deposition per employee for the responding organisations.

### Question 4c: Completed projects undepositable (e.g. no receiving repository)

Of the 18 contracting organisations, 17 responded to the question. The number of completed projects undepositable (e.g. no receiving repository) ranged from 8 to 988.

The total number of undepositable projects from all 17 contracting organisations is 3119. This gives an average of 183 per contracting organisation and suggests a total of around **7,339** undepositable project archives England. However, it is likely that this this figure is an underestimation as some of the responders suggested the figures they provided did not tell the whole story:

> "Our database records which museums archives are destined for, and I know which are currently closed, but that is far from the whole picture."

### By type of responding organisation

- Small contracting organisations (1-10 employees, 11% of the responders) reported no completed projects undepositable (0% of reported undepositable projects). That equates to roughly 0 completed projects undepositable per employee.

- Medium contracting organisations (11-99 employees, 67% of the responders) reported 1510 completed projects undepositable (48% of reported undepositable projects). That equates to roughly 3.5 completed projects undepositable per employee.

- Large contracting organisations (100-250+ employees, 22% of the responders) reported 1609 completed projects undepositable (52% of reported undepositable projects). That equates to roughly 1.6 completed projects undepositable per employee.

| Size of organization/ No. of employees | % of the responders | No. completed projects undepositable | Projects per employees |
|---|---|---|---|
| 1-10 | 11% | 0 | 0 |
| 11-99 | 67% | 1510 | 3.5 |
| 100-250+ | 22% | 1609 | 1.6 |

Table 5. Completed projects undepositable per size of organisation.

Alternatively, this can be calculated as an average number of 2.1 completed projects undepositable per employee for the responding organisations.

Comments by responders suggest that there are many factors other than a lack of receiving repository that affects their ability to deposit archives:

*"Some have repositories, but actually getting them to accept an archive seems to be impossible."*

*"The above contains projects where we have been unable to obtain the TOT and the museum will not accept the archive even after three proven attempts of contact"*

*"We have been in business since the 1960s and have a lot of old backlog material that has no further funding available."*

*"Archives with no receiving museum are often not prepared, hence the low number for completed projects undepositable."*

## Comparison with 2012 FAME survey

The estimated **7339** undepositable project archives in England (see above) appears to represent a significant reduction (18%) from the figure of 9,000 undepositable archaeological archives quoted in 2012. There may be several explanations for this reduction:

- One of the 2020 survey responders previously quoted 1,781 undepositable project archives in 2012, but has since transformed into an archive repository, therefore they no longer have any undepositable archaeological archives.

- The opening of Northamptonshire Archaeological Resource Centre and Cambridge County Councils adoption of DeepStore for archive deposition will have also significantly reduced the number of undepositable archives held by contracting units.

  *"Recently museums that had been closed for large-haul renovation have reopened (just prior to Covid closures) i.e. Northampton, MOL and Luton and that has reduced undepositable archives considerably."*

- It was also acknowledged that adoption of new best practice policies has reduced the number of undepositable archaeological archives:

  *"It would be about 50 more awaiting deposition and another 20 at no receiving repository but we now archive negative projects on oasis/ADS only in agreement with museums and that helps."*

- One of the responding organisations detailed that the number given for 'undepositable archives' was not representative of their true 'undepositable archive holdings' as the number stated (400) only represented those with no receiving museum. For many more deposition is affected by other factors:

  *"Deposition is affected by many factors other than museum closure e.g. current deposition fees have outstripped the original funding or been spent on temporary storage whilst museums were closed. Transfer of title affects many projects especially where third-party consultants manage correspondence, or older legacy projects where rapid ownership changes are involved and original owners are impossible to locate. New museum preparation guideline changes, including,*

*rationalisation requirements, whilst worthwhile were not funded into the original project costings and so cannot be met etc."*

It therefore appears that there are significantly more than 7,399 undepositable archaeological archive currently being held by contracting organisations in England, and that the figure of 7,339 represents a significant real-world increase in the number of undeposited archives estimated in 2012.

## Combined responses to question 4.

The combined responses from question 4 for active projects (24,560), completed projects awaiting deposition (23,518) and completed projects undepositable (7,339) suggest that **60,759** archaeological project archives are currently held with contracting organisations in England.

The combined responses for questions 4b and 4c (completed projects awaiting deposition 23,518 and completed projects undepositable 7,339) suggest a total of **33, 471** completed projects currently held by contracting units in England, **22%** of which are deemed undepositable.

### By type of responding organisation
- Small contracting organisations reported that 0% of their completed projects were undepositable.
- Medium contracting organisations (67% of the responders) reported 26% of their completed projects were undepositable.
- Large contracting organisations (22% of the responders) reported 22% of their completed projects were undepositable.

The data provided from only the large and medium contracting organisations suggests that an average of **24%** of completed archaeological project archives are deemed undepositable.

Overall, an average of **23%** of all completed archaeological projects are considered undepositable. However, it is likely that these figures do not represent the full percentage of completed projects held by contracting organisations that are undepositable (see above).

| Size of organization/ No. of employees | % of the responders | No. of completed projects awaiting deposition | No. completed projects undepositable | Total completed projects | Percentage of completed projects held by contracting organisations that are undepositable |
|---|---|---|---|---|---|
| 1-10 | 11% | 22 | 0 | 22 | 0% |
| 11-99 | 67% | 4347 | 1510 | 5857 | 26% |
| 100-250+ | 22% | 7390 | 1609 | 8999 | 18% |
| Suggested for England | | 23,518 | 7339 | 33471 | 22% |

Table 6. Percentage of completed projects held by contracting units that are undepositable

## Question 5: What is the current estimated volume of your physical archaeological project archive?

### Question 5a: The material archive / by volume (metres cubed) and shelf length

Of the 18 contracting organisations, 13 provided the estimated volume, and 9 provided the estimated shelf length of their physical material archaeological project archives.

The estimated volume ranged from 1m$^3$ to 260m$^3$, amounting to 1442.7m$^3$. This gives an average of 111m$^3$ per contracting unit and suggests a total material project archive volume of around **4439m³** held nationally by contracting organisations.

The estimated shelf length ranged from 7m to 4091m, amounting to 6174m for the 9 responders. This gives an average of 686m and suggests that the contracting units in England currently hold **27,440m** shelving of material archives.

*5b: The documentary archive / by volume (metres cubed) and shelf length*

Of the 18 contracting organisations, 11 provided the estimated volume, and 12 provided the estimated shelf length of their physical documentary archaeological project archives.

The estimated volume ranged from 0.86m$^3$ to 15m$^3$, totalling 129.5m3 for the 11 responding contracting organisations. This gives an average of 13m$^3$ and suggests a total volume for documentary archives nationally of **518m³.**

The estimated shelf length ranged from 0.1m to 365 m, amounting to 915.8m for the 12 responders. This gives an average of 83.3m and an estimated national total documentary archive shelf length of **3,330m.**

## Combined responses to question 5

The combined totals for question 5 suggest the national archaeological archive holdings within contracting units to be estimated at **4,957m³** or 30,770m of shelf space.

If on average, 23% of all archaeological projects are considered undepositable, this implies that **contracting units currently hold 1140m³ of undepositable archaeological archives.**

*Comparison with 2012 FAME survey*

In 2012 the estimated volume of temporary archives being held by contracting organisations in England was 5,860m$^3$, of which 1,160m$^3$ (20%) were undepositable archives.

The 2020 survey results therefore indicate a 15% decrease in the total volume of archaeological archives being held by contracting organisations from 2012 to 2020. However, the volume of undepositable archives has only decreased by 2% (from 1,160 m$^3$ to 1,140m$^3$), a figure that should be considered in light of the opening of Suffolk, Northants and Cambridge stores for deposition of previously undepositable archaeological archives (see above).

## Question 6: We know the cost of archive deposition, especially for legacy archives, can be problematic. What % of your undeposited archives have ring-fenced archive budgets?

- 17 contracting organisations responded to the question which allowed for an open-ended response.
- 5 organisations reported 100% of their undeposited archives have ring-fenced archive budgets.
- 1 organisation reported 90% of their undeposited archives have ring-fenced archive budgets.
- 3 organisations reported 50% of their undeposited archives have ring-fenced archive budgets.
- 1 organisation reported 35% of their undeposited archives have ring-fenced archive budgets.
- 2 organisations reported 5% of their undeposited archives have ring-fenced archive budgets.
- 3 organisations reported 0% of their undeposited archives have ring-fenced archive budgets.
- 2 organisations responded that they were unable to answer the question.

## Question 7. How confident are you in the numbers provided above?

All 18 contracting organisations responded to the question.

2 responders believed they were very confident in the numbers provided, 11 responders believed they are fairly confident in the numbers provided, and one responder was not confident at all. 4 contracting organisations chose to respond using the free text box.

> *"Archive deposition is prioritised to archives with funding, transfer of title and willing receiving museum. During archive preparation recommendations from the museum, specialists etc, are used to carry out archive rationalisation so the volume held at OA is the working archive and not necessarily the volume for deposition."*

> *"This is an estimate only: we have checked our database and measured our shelving, but as our system is currently being overhauled it is unlikely to be completely accurate."*

> *"These are broad estimates - office access to get more accurate figures limited at present."*

## Question 8. Do you have any comments you wish to make regarding the specific issue of long-term archive storage?

All 18 responding contracting organisations chose to provide additional comments around long-term archive storage.

> *"Part of the problem with this is we have no way of budgeting for archiving costs for new projects for these museums as they themselves do not know if they will ever open up again or what costs they will charge for deposition."*

> *"Difficulties of lack of coherent policy r.e. archaeological archives disposal/deposition policy etc.- every repository has different guidelines making it hard to easily prepare archives for deposition."*

> *"We are finding more instances where archaeological monitors are saying the project should be deposited with a specific museum, but the museum is either no longer accepting archives, no longer collecting in that area/parish, or is only accepting 'archaeologically significant' archives."*

> *"Some museums are accepting archives 'in principle' but cannot physically take them as they have no space left in their stores."*

> *"The reality is a large research project on a scheduled ancient monument is very different to a 2hr monitoring project in a back garden where three pieces of peg-tile, a sherd of pottery and an iron nail were found in topsoil. Archaeological contractors should be allowed to make judgements on the significance of these small archives and not be made to fill up a store with relatively unimportant material no one will ever want to study or research."*

> *"The perennial issues of museum inflexibility with regards lack of TOTs. This is becoming a much bigger issue with the increasing use of consultants."*

> *"Archaeological archives are a national treasure that are being failed due to lack of appropriate national repository. Research is being affected by lack of a coherent single strategy for deposition that secures the resource accessibly. Archaeological archives differ in nature and content to other collections held by museums and should be thought of less as display objects, though they may contain these, and more as evidence archives. Whilst the public, and the museums that serve them, are set up to display, research and conserve objects we urgently need a storage option for the large but necessary evidence material held in archaeological archives which is literally the stuff from which our history, and so heritage, is deduced."*

> *"While many of these could potentially be deposited with open repositories, we simply cannot afford to pay £300 per box to deposit them. While we are happy to include the archiving costs within tenders*

*for new projects and, therefore, can deposit these, being charged sometimes upwards of £10000 to deposit larger, older archives is unworkable and we will have to keep them in storage within our warehouse."*

## Question 9. We will be considering a range of options for the long-term storage of archives including using mixed-use premises. Do you think any of the facilities below might be of interest to your organisation?

### Renting storage space for live project archives

Of the 13 contracting organisations that answered the question, 1 responded positively, 7 negatively and 5 said they would possibly be interested in renting storage space for live project archives depending on cost and location.

### Hire of co-working spaces

Of the 12 contracting organisations that answered the question, 1 responded positively, 9 negatively and 2 said they would possibly be interested in the hire of co-working spaces.

### Hire of bench / lab space with access to specialist equipment

Of the 12 contracting organisations that answered the question, none responded positively, 10 responded negatively and 2 said they would possibly by interested in hiring bench/lab space with access to specialist equipment.

### Hire of meeting spaces

Of the 13 contracting organisations that answered the question, 3 responded positively, 6 negatively and 4 said that they would be interested in hiring meeting spaces.

| Option | Responders | Yes | No | Possibly |
|---|---|---|---|---|
| Renting storage space for live project archives | 13 | 1 | 8% | 7 |
| Hire of co-working spaces | 12 | 1 | 8% | 9 |
| Hire of bench / lab space with access to specialist equipment | 12 | 0 | 0% | 10 |
| Hire of meeting spaces | 13 | 3 | 23% | 6 |

Table 7. Responses to Data collection survey, question 9: Use of addition facilities

## Additional Survey Question. What is the average estimated volume of Archaeological Archive material generated during one year of your organisation's archaeological projects? (average over the last 5 to 10yrs). Ideally, please provide your response in volume rather than box numbers.

In late October 2020, a supplementary question was sent to all CIfA Registered Organisations and FAME members via each organisation's mailing list. In addition, all original responders to the Data Collection Survey were contacted directly.

Responders were given the option of providing their average annual volume as meters cubed, or by number of boxes. Where number of boxes only was provided, responders were re-contacted to establish their average box size to establish an approximate volume in cubic meters.

23 organisations responded to the questions, of which 19 were contracting organisations involved in the creation and compilation of archaeological archives (answered as Archaeological contractor or Local Authority based contractor). The responses from non-contracting organisations (museums, consultancies etc) have been excluded from the statistical analysis.

The average reported estimated volume of archaeological archive material generated during one year ranged from 0.04m³ to 84.7m³, with an average of 12.31m³ per contracting unit. This suggests approximately 492m³ of archaeological archives are accrued every year nationally (scaled up to represent the 40 contracting organisations identified through comparison with the FAME members and CIfA RO scheme).

By combining the potential annual accrual rate of archaeological archives in England (492m³), with the percentage of completed projects deemed undepositable (23%), it is possible to suggest that **113.24m³** of archaeological archives are produced each year that cannot be deposited.

NOTE: One responder reported an exceptionally large annual archive accrual rate of 84.7m³. The response was from one of the larger commercial units working in England. It was suggested the figure may be an overestimation on their part, but it was not possible to be more specific due time and resource constraints. The nearest response was from a similar sizes organisation and was for an annual accrual rate of 43m³. If the exceptionally large response is replaced with this lower figure, the average annual accrual rate of archaeological archives per organisation reduces to 10.11m3. This would suggest approximately 404.5m³ of archaeological archives are accrued every year nationally (scaled up to represent the 40 contracting organisations identified through comparison with the FAME members and CIfA RO scheme), **93m³** of which cannot be deposited.

## By *type of responding organisation*

- Small contracting organisations (3 responders) reported an average volume of 2.13m³ of archaeological archives were accrued annually per contracting organisation, of which 0.49m³ (23%) can be considered undepositable.

- Medium contracting organisations (10 responders) reported an average volume of 6.2m³ of archaeological archives were accrued annually per contracting organisation, of which 1.86m³ (23%) can be considered undepositable.

- Large contracting organisations (6 responders) reported an average volume of 27.64m³ of archaeological archives were accrued annually per contracting organisation, of which 6.36m³ (23%) can be considered undepositable.

| Size of organization/ No. of employees | No. of responders | Total average annual A.A. accrual volume in m³ | Average m³ accrued annually per contracting organisation | Average m³ of undepositable archival material accrued annually per contracting organisation (23%). |
|---|---|---|---|---|
| 1-10 | 3 | 6.04 | 2.13 | 0.49 |
| 11-99 | 10 | 61.99 | 6.2 | 1.86 |
| 100-250+ | 6 | 165.83 <br> 124.13 | 27.64 <br> 20.69 | 6.36 <br> 4.76 |
| All responders | 19 | 233.86 | 12.31 | 2.83 |

Table 8. Annual accrual rate of archaeological archives by size of contracting organisation.

NOTE: Figures in grey demonstrate the annual accrual of archaeological archives if the exceptionally large rate reported by one organisation is replaced with the next response down.

# APPENDIX 3    EXISTING SOLUTIONS

Between March and September 2020, the OSAA team undertook a series of thirteen case studies looking into existing solutions for the management and storage of archaeological archives within England and the United Kingdom more widely. Each case study represented either a single institution, collection of institutions or national body dependant on their approach to archaeological archiving. A questionnaire was sent to each case study participant as a launching point for data collection and follow-up telephone interviews were conducted as necessary with one or more representatives. The case studies and their representatives are listed below, along with a blank version of the questionnaire.

Analysis of the case study data has fed into the report recommendations (see Part One), and examples / supporting evidence discussed where relevant. A summary of key themes, approaches and pitfalls discussed with case studies are detailed below. These are not intended as a full analysis of each case study, simply to highlight some of the common issues, or areas of success.

An additional interview was conducted with Matt Moor (head of site) and follow-up site visit to the Science Museum's new facility at Wroughton was made as part of the solutions research in May 2021. The details from this interview and site visit are included in the main body of the report (Part 1, Section 5.3 Option 3, A Single National Solution).

## 3.1    Methodology

A standard questionnaire was circulated to all the case studies included in the study, which was completed (in most cases) and then followed up with one-to-one interviews. In some cases, an interview was conducted without a completed questionnaire being received.  A copy of the initial questionnaire circulated can be found at the end of this appendix.

## 3.2    The Case Studies

- Cambridgeshire: Quinton Carroll, Historic Environment Team Manager, Cambridgeshire County Council.

- English Heritage: Matt Thompson, Head Collection Curator.

- Gloucestershire Museums: Alexia Clark, Document and Collections Officer at Museum In the Park, on behalf of all six museum in Gloucestershire.

- Herefordshire Museums: Patrick McNulty, Independent Museum Consultant working for Hertfordshire Museum Development and the Hertfordshire Archaeological Network.

- Humber Bone Store: Kevin Booth, Senior Curator.

- Ireland: Judith Finlay, Registrar and Collections Resource Centre Manager, National Museum of Ireland.

- Museum of London: Michol Stocco, Archaeological Archives Manager, London Archaeological Archives Resource Centre.

- Northamptonshire Archaeological Resource Centre (NARC): Ben Donnelly-Syms, Archaeological Archives Curator.

- Northern Ireland: Rhonda Robinson, Assistant Director, Historic Environment Division.

- Paisley, The Secret Collection: Ewan Imrie, Collective Architecture.

- Science Museum Group: Jack Kirby, Group Head of Collections Service and Matt Moor, Head of Site, Wroughton. NB – This case study is included in the main text (see Part One, Section 5.3).

- Scotland: Chanté St Clair, Head of Collections Services, Fraser Hunter, Principle Curator, Iron Age and Roman Collections, Liz Mylod, project Assistant Registrar and Emily Freeman, Treasure Trove Scotland.

- Wiltshire: Megan Berrisford, Collections Manager, The Salisbury Museum and David Dawson, Director, Wiltshire Museum.

- Wales: Dr. Elizabeth Walker, Principal Curator, National Museums Wales.

## 3.3   Existing Regional / County solutions

There is only one example close to a regional solution involving archaeological archives currently employed within England: English Heritage operate four 'hub' stores and a number of smaller satellite stores all of which are managed centrally through HOMS (Heritage Object Management System) on a centralised server. Any member of English Heritage staff with access to the data management system can access the entire collection and establish an object or archives location. When objects are moved within stores, between stores, loaned out or moved for conservation requirements, the details are tracked on HOMS providing real-time location data and conservation updates for the entire collection. Each hub site is run by curators, conservators and support staff assisted by volunteers. The management of HOMS is currently provided by one registrar, one assistant registrar and two documentation officers, but this is not considered enough to deal with the structural backlog that exists.

The level of detail recorded on HOMS varies between objects and archives, with five to six hundred thousand entries potentially representing hundreds of thousands (possibly millions) of individual objects. There are also differences in granularity, some archaeological archives are documented at box level, some at components of those boxes, or context bags etc. While the metadata does exist for almost everything in the EH collections, this is sometimes just in card format and therefore cannot be searched and accessed via HOMS. There exists a massive documentation backlog which varies from site to site. Whether or not material is recorded in HOMS, and the detail within the record effects accessibility at both a site and institution level.

### Existing County solutions

Archaeological archive storage and management at a County level exists for Cambridgeshire and Northamptonshire. In both cases the archaeological archive storage is owned, managed and curated by a single entity - the county council.

### *Northamptonshire*

The Northamptonshire Archaeological Resource Centre (NARC) was established as part of a larger Heritage project at Chester Farm to restore a 17th century farm and adjacent 34-hectare site into a sustainable heritage attraction, educational and commercial space. The NARC is not currently open to the public due to delays in the build program. It is anticipated that it will be completed in early 2021, and able to open to the public along with the wider Chester Farm Heritage Park site in late 2021. The current NLHF funding will end once the site is completed. The Chester Farm Heritage Park's business plan forecasts that the site will be self-sustainable without the need for contributions from the local authority after being open for 5 years. The charge for deposition is factored in as part of reaching this sustainability for the site. NARC will not charge for access to archives and it is hoped that commercial activity (weddings, commercial lets etc.) at the site will offset the cost for the archive resource centre and educational elements.

As of 2020 there are an estimated 16,000 boxes of archaeological bulk finds held across 40+ organisations in Northamptonshire including the 3 main temporary stores and Historic England who hold over 4,100 boxes of archive. Once complete the NARC will be able to accept all these archives. The NARC building has a research room based on the county record office model with the capacity for up to 10 researchers at a single time (pre social distancing). It is expected once open that the research room will have Wi-Fi, a computer with a catalogue accessible and research equipment such as a microfiche reader and potentially a digital microscope. The building has a

designated kitchen/break space, and the wider Chester Farm site has an on-site café for visitors. The building is fully DDA compliant with a wheelchair lift that goes across all floors (including plant room in the roof). It is envisioned that volunteers will be crucial to the running of the NARC, primarily to assist with the re-boxing and cataloguing the poor condition legacy archives. The ownership of the site is due to change in 2021 when Northamptonshire County Council becomes two unitary authorities.

> *"The overall authority will change as part of the Local Government changes in Northamptonshire as the county becomes two Unitary Authorities from 1st April 2021. It has not been determined which authority (North Northamptonshire or West Northamptonshire) the NARC will be a part of but there has been confirmation that it will collect archaeological archives for both authorities."*

## *Cambridgeshire*

Cambridgeshire Historic Environment Team manage their archaeological archives through a combination of remote storage at DeepStore (a commercial storage facility within the salt mines in Cheshire) and a converted bunker beneath the County Council offices in Cambridge. The decision to manage archaeological archives in this manner was based solely on the business case established by the Historic Environment Team (CHET). The tendering process (for storage provision) was weighted towards quality of care, though the financial cost of the re-archiving project and subsequent long-term care was also a consideration. DeepStore provided the most economically advantageous solution to the local authority and delivered the storage and access standards required by CHET. DeepStore however was only suitable for the storage of stable (bulk) finds and documentary archives, the unstable or fragile finds are housed at the council's converted bunker beneath the County Council offices in Cambridge. The on-going storage costs are covered by the box deposition fee which is applicable to archives stored at both DeepStore and the council offices.

Cambridgeshire County Council implemented new deposition standards requiring all archives produced within Cambridgeshire to be conserved, sorted, packaged and documented in the same way. This process is supported by the completion of a detailed database linked to the barcode system already employed by DeepStore. Prior to the rollout of the new system, the existing archives in CHET's care were assessed and re-archived against the new standards so that all archives can be searched, retrieved and used in the same way. All new depositions of archives are delivered to Cambridgeshire County Council for checking and eventual transfer to DeepStore, or in the case of larger archives, a direct 'uplift' with DeepStore personnel from the commercial unit's offices can be arranged. In these cases, the archives are checked by the CHET staff at the commercial unit's offices prior to deposition. Access to the archives can be requested at the DeepStore facility or at the council offices by applying to CHET, or the boxes can be recalled and loaned out to researchers or museums using the DeepStore barcode tracking system.

Lack of constant on-site access to the majority of the archives is not considered as an issue by the CHE team who have reported an immediate increase in the number of requests to access the material. In the six years since the completion of the project requests have risen steadily, with around 500 boxes on-loan in 2019. The archives have been used as part of temporary exhibitions by local groups and museums, and also as part of larger exhibitions such as the 'Hide and Seek: Looking for Children in the Past' exhibition at the Museum of Archaeology and Anthropology in Cambridge that ran for twelve months in 2016. Several large-scale research projects have been undertaken using material retrieved from DeepStore; the 'After the Plague Project' where Cambridge University is looking at over 200 skeletons from three early medieval sites in Cambridge, and the 'Feeding Anglo-Saxon England Project' is studying environmental samples stored by CCC since early 2000.

> *"Within 18 months during 2017 and 2018, 8% of our total holdings had been accessed by researchers, students, community archaeology groups, professional archaeological companies, museums and educational institutions."*

## Problems encountered with the County-wide approach

Several other counties have either attempted or would like to explore shared museum storage or a county-wide solution to the issues surrounding archaeological archives. However, various problems have been encountered when more than one local authority is involved in the process and these have yet to be overcome. Three of the case studies (Gloucestershire, Hertfordshire and Wiltshire) highlighted some of the issues that can be encountered when

attempting a county-wide approach to the storage and curation of archaeological archives. The majority of problems arose when trying to establish how a shared store would be owned, managed and maintained across several institutions and local authorities. An additional Case Study from Scotland, the Secret Collection, Paisley, offers a slightly different perspective. The archive store for Renfrewshire Museums is located in a refurbished high street department store basement and offers an interesting example of a high street location and associated costs for renovation.

## *Gloucestershire*

In Gloucestershire the idea of a county store had been discussed since the early 2000's and the concept was seriously revisited in 2016 when the six museums in the county joined forces to create county-wide deposition standards for archaeological archives. Despite a positive approach by each museum and the efforts of the Gloucestershire Museums Development Officer, there were a range of problems that could not be resolved:

- Timing - the museums struggled to be able to work on it at once due to differing organisational priorities.

- Different needs of the individual museums - e.g., capacity for archaeology vs social history collections etc.

- Capital required - where come from and division of investment? No identifiable lead partner.

- Location - the county is large, and inevitably the store would be closer to some museums than others – this would make it easier/harder for some to use than others, and the 'fairness' of the issue was never resolved.

- Legal set up – if a store was to be rented, who would be the 'head tenant' and how would rent, running costs etc. be divided between the museums. If a site was bought, who would manage it in the long-term, who would take ultimate responsibility for it?

One of the museums in Gloucestershire ran out of space in their archaeology store and ceased accepting new depositions several years ago. Two further museums are at capacity and will either need to acquire additional storage space or cease collecting very soon. One museum is volunteer run and very new to taking archaeological archives, while the remaining two museums currently do not have a storage capacity problem. Moving forward, at least two of the Local Authorities involved are now entirely against contributing funding to an 'owned' shared store as the legal considerations are contrary to their policies.

> *"Discussions across Gloucestershire today indicate that most of the museums consider that the idea of shared storage creates a major headache and that none of the old issues have not gone away."*

The Gloucestershire museum group provided a list of considerations that they feel currently preclude progress on the idea of county-wide storage:

- How can a space be fairly shared out to meet the needs of each museum?

- Would collections types from all museums be combined – i.e., all archaeology together, if so, how is it clear what belongs to who? How is cross-contamination managed, how is entry of new depositions managed and distributed across the available space?

- If collections types are not combined, then the store would need 6x archaeology rooms, 6x natural history rooms etc – this seems excessive.

- Who is responsible for IPM, visitor management on site etc.?

- How are the costs of the building fairly shared and how is the building resourced, staffed etc.?

- How do you manage access to the building – how is security managed with staff from 6 different museums all needing keys and access at different times?

- What would the National Security Advisor (Museums) think about this – we are certain they will have an opinion and that it wouldn't necessarily be favourable!

- Who would take the ultimate responsibility for:

  – Energy costs? Insurance? Health and Safety?

  – Liability in the event of an accident or disaster? Security and responding to alarm call outs?

## Hertfordshire

Within Hertfordshire, most museum do not have sufficient land to expand and will run out of storage space in around 2 years. There has been a long-term desire to develop a County Archaeological Store to alleviate pressure on the museums though this has not progressed pass the scoping and consultation stages. Previous projects and joint bids to the National Lottery Heritage Fund did not come to fruition. Hertfordshire Archive and Library Service (HALS) is due to move to a new site, which provided a catalyst for discussions around a county store. However, at present the HALS site development plans do not include an archaeological archive store.

DeepStore was considered but was not a popular option by the museums as it would take the archives out of the County. Planning and discussions around a county store are at a very early stage and while the idea has been agreed by the museums and is broadly supported at County level, no agreement has been made at District level. The COVID19 pandemic had put all discussions on hold.

## Wiltshire

Salisbury and Wiltshire museums both fall under Wiltshire County Council jurisdiction and therefore did not encounter many of the issues that other museums have come up against when attempting to create a county storage solution involving several local authorities. Wiltshire County Council agreed the county store in principle and provided capitol of £200,000 for a store which the two museums would share. A site was found, but various legal issues (the district council solicitors raised concerns) slowed down the process until the site owners pulled out. Salisbury museum were at risk of losing £50,000 they had secured from another funder, and therefore drew £75,000 from the £200,000 and have bought a storage unit for their own use. Wiltshire museum are now planning to use the remaining £125,000 to buy their own storage unit.

Therefore, while the legal and site management issues around county-wide storage were resolved by involvement of the county council, the museums were still affected by institutional priorities and pressures, leading to a separate approach to the storage of archaeological archives. While the planned joint storage did not come to fruition, both Wiltshire and Salisbury have a commitment from the council that if they sell the individual buildings in the future, the money can only be used for archaeology storage. It is also hoped that earnings generated through deposition fees (potential £85,000 projected by Wiltshire) will be available for the joint venture, and that other projects such as the A303 may provide opportunities to campaign for county-wide storage of archaeological archives.

## Creating spaces – The Secret Collection, Paisley Museum

This case study was included as an example of a regional archive which is housed in a redeveloped high street department store. The Case Study was conducted as an interview with the architects who designed the development, Collective Architecture. The refurbishment project created a 2,100m2 storage facility housing the collections of Renfrewshire Council Arts and Museums service. Delivered for £2.58 million, including racking fit out, the site is located strategically on Paisley High Street within the basement of a former Littlewoods department store, providing easy access and contributing to the revitalisation of the town centre. The space was purpose built by Littlewoods in the 1970s and occupied by the department store until 2005. The empty site provided a large, open environment within which a secure, climate-controlled store has been created. The new facility also has spaces for school groups, interested parties and researchers, as well as good access for large items via a ramp. The location provided a large facility for storage but had some issues for the staff – a small street frontage and limited daylight.

Details about the project can be found online here: https://www.collectivearchitecture.com/projects/paisley-the-secret-collection

Collective Architecture have also provided access to some project boards they produced as part of an exhibition panel: https://www.dropbox.com/s/inji1v63bhrzfri/CollectiveArchitecture-SecretCollection-Panels.pdf?dl=0

The renovation works cost:

- Main renovation works costs (Project Management and Construction) - £2,233,000
- Storage racking costs (Rackline) - £345,000
- Cost per m2 - £1230

## 3.4  Existing National Solutions

Outside of England, archaeological archives are administered at a National Level. While the approaches, level of oversight, decision making procedures and storage solutions vary between Scotland, Ireland, Wales and Northern Ireland, they reported that many of the same problems encountered within England exist such as lack of storage, huge backlogs, ownership considerations, lack of use and insufficient data to support full engagement.

### Science Museum Group (National Collection Centre)

Due to the relevance of this case study to the Options presented in the main text, more detail on this facility is provided in the main body of the report (see Part One, Section 5.3).

### Ireland

The approach in Ireland presents both the benefits and potential pitfalls of a National single storage solution. The National Museum of Ireland (NMI) has a statutory requirement to collect archaeological archives from Ireland, alongside a requirement to support the local museums. The NMI manages many of its collections, including archaeological archives at Swords, a national collection centre located at an industrial area outside of Dublin. The central location and good travel connections is seen as paramount, facilitating researcher visits, depositions and collections of material loaned out to approved museums.

The importance on databases and online access for researchers, local museum curators and other users can not be underestimated. However, there has been some push back from local museums to the 'top down' approach, though some of this is being overcome through engagement and the perceived success of the project (currently around 5% of the collections are on loan to approved museums across Ireland). Early engagement with all stakeholders is recommended, alongside active, on-going outreach to maintain relationships and engagement. Remote, backup storage is advised to ensure sustainability.

### Northern Ireland

While commercial units in Northern Ireland are required to apply for a licence to undertake excavations, until recently the licence did not include responsibility for deposition of the subsequent archive. In January 2019 the excavation licence was revised to include the production of archives to deposition ready standards, but there is no specific Northern Ireland in place as yet, but these are intended to be developed. In the meantime, standard requirements refer to the EU Standard (ARCHES) and CIfA standards.

Currently the existing National Museum/ Historic Environment Division storage is considered unfit for purpose and therefore units are holding large quantities of undepositable archaeological archives. The issue came to a head following the closure of a major commercial archaeology unit, and a large industrial building located just outside Ballymena has been purchased to be repurposed for archive storage. It is envisaged that the contents of several small, poor condition stores across Northern Ireland will be brought together at Ballymena but the total volume, contents and current state of those archives is not fully understood. The existing records are not considered accurate, and no digital inventory currently exists. As of September 2020, the costs for refitting the store and making it ready to accept archives have almost doubled from the original expected estimate.

The Ballymena store is considered a temporary solution, and it is hoped that museums will take the archives in the future; although at present they seem unenthusiastic it is hoped this will change when everything is brough up to a consistent standard.

### Scotland

NOTE: the archaeological archiving process in Scotland is currently under review and is likely to change to some extent.

With the exception of ecofacts-only assemblages, all archaeological assemblages in Scotland are subject to the Treasure Trove process. Under this system, anything recovered from Scottish soil is considered crown property regardless of the age or material type (documentary archives are not included in this process). The Scottish Archaeological Finds Allocation Panel (SAFAP) meet three times a year to assess applications by accredited

museums to accession objects and material archives material into their collections. The SAFAP will allocate the material at the meetings, and bar a conflict, the process is complete. With regard to contested material, the panel make a recommendation to the Crown Agent on what the outcome should be, but this is not common occurrence with generally only one or two instances a year. Conflicts can be encountered at a local or regional level where two or museums have overlapping collecting areas, or at a national level where museums may have specialist collections or curators. However, there can also be instances when no museum applies for an object or archive (also not very common occurrence) and the material therefore becomes the property of the finder, resulting in contracting units holding undepositable archives.

In general, there are considered to be storage issues across Scotland which may affect museums willingness to apply to accession new material. Selection of archaeological archives is not common practice, potentially due to an unease about discarding material considered to be Crown Property.

> *In Scotland National Museums Scotland is one of a group of museums considered 'last resort' hosts for any archaeological material not claimed by museums through the first round of the Treasure Trove process. At the second round, museums of last resort can bid for allocation in the usual way. Where no museum, including those of last resort, wishes to acquire the object, it reverts to being the ownership of the finder (and can be sold on the open market).*

### *Wales*

The National Panel for Archaeological Archives in Wales (a subgroup of the Historic Environment Group) was established after the need for national policies and guidelines for collection, selection and deposition of archaeological archives was recognised at government level. The group established national standards and guidance on the compilation and deposition of archaeological archives (linked to existing CIfA standards), alongside standardised deposition charges across Wales and guidelines for the selectin and retention of archaeological material.

While standards and policy are set at national level, selection and deposition decisions are made at a local level by the local Trust and regional curators. It is the intention that archaeological material should stay local, but only registered museums with archaeology within their collection policy can accept archaeological archives; the National Museum will only step in where the is no local collecting museum.

Currently, there are storage issue across Wales, with some museums unable to collect archaeological archives due to limited resources and space. There is also a significant legacy issue with many archives being stored by the Welsh Trusts, alongside controversy over collecting areas and where the material from specific sites should be stored. Regional stores/ resources centres have been proposed as a potential solution, but the idea has met significant resistance and is considered quite a politicised issue.

A discussion of the Welsh Strategy for archives and access was published in 2004 (Henderson and Parkes 2004) and a review of the situation regarding storage and access to archaeological archives in Wales was undertaken in 2013 (Edwards 2014).

# 3.5   Case Study Questionnaire

## Options for Sustainable Archaeological Archives – Case Study Review

Arts Council England (ACE) and Historic England (HE) are jointly funding a new project to assess strategic options for the ongoing issue of storing archaeological archives. The options appraisal will review existing and future capacity for archaeological archives within England, considering a full range of archive solutions and evaluating the potential of each to meet the needs of archive creators, managers and users.

The project delivery team is led by Quinton Carroll, Cambridgeshire County Council, current chair of the Archaeological Archives Forum and of ALGAO: England, with Sally Croft (Cambridgeshire County Council), Samantha Paul (Independent consultant) and Manda Forster (DigVentures).

As part of the project, we are collating information from existing archive solutions to include as Case Studies and would like to include your repository in the study. This questionnaire is intended to be a launching point for data collection and will help us begin to compare the range of current solutions across the UK and Europe.

We appreciate that some information might be difficult to provide – especially under current working conditions. Our intention is to follow-up this initial form with a phone call and possible visit (subject to Government guidelines relating to the lockdown). This would enable more detail to be added to some of the questions and the opportunity to provide further clarification where appropriate.

Part 1 – Basic Information

What is the name of your organisation?

Is your organisation accredited? (Yes/No).

What is your name?

What is your role within your organisation and are you able to answer on behalf of your organisation?

What is your contact email address?

Part 2 – Your Review Process and Store

What are the main sources of income for your organisation?
Central government.
Local authority.
Charging for deposition.
Charging for research services (x-ray, XRF etc.).
Other (please specify).

What was the main reason for your organisation undertaking a review of your archaeological store?
To increase storage capacity.
To improve the environmental conditions within the store.
To improve access for visitors.
To reduce running costs.
Other (please specify).

Do you have a Development Plan in place for your store, and if you do have you secured funding?

Please list the various solutions you considered before making a final decision?
Expansion of your current store.
Outsourcing storage to a commercial company, for example DeepStore.
Construction of a new store.

Other (please specify).

Please describe any unforeseen problems you encountered during this process.

What environmental requirements did your new archaeological store require?

What security requirements did you consider?

What research/visitor facilities did you consider?

Were there any unexpected additional costs during the development of your new storage solution?

During the review process did you consider any alternative sources of funding for the running of your new store? Please give details below.

What storage solution did your organisation settle on and why?

How much does it cost annually to run your store?

How is your store funded?

How many staff does the store employ?

Are volunteers integral to running your store and, if so, what roles do they fill?

What is the total storage space within your store?

How much free space does you store have?

How many archive boxes do you receive annually?

Typically, how many requests for archive access do you get per year?

How many visitors if any, do you receive annually?

Are you currently accepting archives?

Are there any other issues regarding the review process that you would like to raise?

What if any additional facilities would your organisation benefit from?

Does your new store have the capacity to expand its storage capacity? (Y/N)

Any other comments or further information?

# APPENDIX 4    RETHINKING USER NEEDS WORKSHOPS

## 4.1   Introduction

To support the aims of the options appraisal in reviewing existing and future capacity for archaeological archives within England, the OSAA project needed to consider the full range of archive solutions and evaluate the potential of each to meet the needs of archive creators, managers and users. In order to better understand the user perspective, a series of engagement workshops were undertaken; "Rethinking Archives" where colleagues from across the heritage and archaeology sectors were invited to take part to help rethink how we store and access archaeological archives.

This document reviews the feedback and collates recommendations generated by those workshops.  Summaries of the comments left on the jam boards (digital flip charts) are included below, and copies of the actual boards are included.

## 4.2   Methodology

A pilot workshop was undertaken in July 2020 with two further workshops following in August and September 2020. Widely circulated through the networks of SMA, CIfA, ALGAO and FAME, the workshops were fully booked with 73

participants in total. Of those, 20 were from contracting archaeological organisations, 24 from museums, 21 represented local planning authorities and 7 were from research or national advisory bodies.

Each workshop was set up the same with breakout groups of participants. Each breakout group discussed a series of questions relating to the use of archives (see Section 8.4 for summarised comments for each breakout session across all three workshops). Jamboard was used to record comments as digital post-it notes during each discussion, images from which are included below. Sessions were recorded for the benefit of the project team to revisit and record exact comments.

# 4.3   Findings

Despite great variation in responses, there were common threads that came through:

- The requirement for a nationally co-ordinated process or 'brand' for the National Collection of Archaeological Archives.

- The option to create a physical, national repository location.

- The need for a digitally accessible national index or register (incorporating existing archives and a process for newly created archives) including archives contents details.

- a consistent, standardised approach to preparation, storage and access to archives.

The need to take into account the existing local needs and concerns of organisations storing and curating archives was also raised.

## Digital and physical access

Currently digital access to archives information is extremely varied across the sector with some archive repositories being consistently updated with a remotely accessible front end, others have little or none.

Due to the varied quality and often extremely technical nature of digital archives available, they are generally unsuitable for members of the public without the required technical knowledge. It was also felt that they were often not consistent enough for researchers to utilise in comparative studies across regions.

It was felt that researchers and others were often unaware of digital archives and the type/nature of data held by repositories, it was also stated that not knowing who to contact was an issue. This resulted in physical archives either not being accessed or the wrong material being requested.

It was expressed that curators (where available) had to act as a bridge between the archive and the requestor, further adding to their often-heavy workloads.

It was frequently stated that easy access to physical archives was essential to facilitate research requests and also assisted in the deposition of other archives.

Improvement of access to physical archives would also result in a greater output of research with reduced costs and time. Again, the idea of large inter-region research projects was raised and it was felt that improved access would result in these becoming more common and requiring less resources to accomplish.

Greater access would also result in archaeological displays and research taking place with less time invested in logistics, this could mean exhibitions reflecting big topics of the day and current events to a greater extent.

## 4.4 Individual Sessions (Workshops 1-3)

### Session 1 - Current Picture

*How do you currently use archives in projects or work?*

The main areas discussed covered research (which increased where the was on-line data or access), within a museum context (display, curation, public engagement etc) and by specialists as part of commercial projects. It was thought general re-use by commercial units was low. Jamboard comments included:

- PAS Research, if accessible online.

- Displays and research. X3

- Further analysis when a commercial project is in the same area.

- Provide displays of temporary loans.

- Commercial units.

- Collaborations with Universities.

- Students.

*Existing issues.*

The biggest issue was online access and availability, followed by the variation in documentation, lack of museum resources and knowledge of where the archives are located. Jamboard comments included:

- More information about the archives is needed online (including photos) to improve access.

- Some archives are only open part time. X2

- Where are the archives and how can access be gained.

- Units not depositing quickly enough.

- The public don't realise archives can be split (with specialists long term etc).

- Not as well documented in museums as other objects in their collection.

- Museum staff not as knowledgeable with archaeological archives as other objects in their collections.

- Not possible to capture all the research and info from a grey literature report.

- Time taken to access digital data.

- Lack of awareness outside of depository.

- Access to older material.

- Grey literature hiding archives?

- Universities teaching of how to approach research.

- Why should a lack of curator mean no access to archives?



Figure 1. User Needs Workshop, Session 1 Jamboard (composite)

*Barriers.*

The three main barriers were considered to be lack of on-line data, staffing and resources, and the promotion and visibility of archaeological archives. Jamboard comments included:

- Lack of online access, including photos. X2

- Lack of full-time permanent staff. X4

- Providing access is a small part of the job and can be low priority.

- Lack of promotion of access and deposition.

- Staff lacking an archaeological background.

- Not knowing where the archive is located and where it is physically (Which museum and then where in the museum). X3

- Disability access.

- Lack of social media presence.

- Need to look at how we define archives.

- Resourcing access.

- Lack of awareness of how to access digital archives.

- General lack of access.

- Lack of digital documentation.

- Not knowing what is in the archive.

- Making sure things go back in the right box. X2

- Lack of publication awareness.

## Session 2- Rethinking use

### *If barriers were removed what would change how you use them.*

Generally, it was thought that if the barriers to use were removed everything would be better, research would increase, and new stories could be told. Jamboard comments included:

- Everything would be better!

- Tell new stories.

- Greater sharing with researchers and community groups. X3

- Engagement with the public with up to date research and techniques.

- Being able to get access to all project information not just from the grey report.

- Greater understanding of artefact analysis and the importance of objects (some sites and objects have an overinflated importance as researchers are unaware of recently discovered parallels).

- Less delay for time sensitive research questions.

- Greater engagement in the big issues of the day (environmental change).

- Make it easier to use material for education etc.

- Increased use from researchers and local groups.

- Curators can do more with an archive the more they know about it.

- How many researchers want to access archives?

- Need a national archives register?



Figure 2. User Needs Workshop, Session 2 Jamboard (composite)

## What changes would help get the most out of archaeological archives?

The main changes needed were the need for National standards (for archive compilation, data, curation and accessibility), an on-line catalogue, better facilitation of the archiving process and to a lesser extent physical accessibility. Jamboard comments included:

- More photographs.
- Standardisation of data.
- Standardised deposition guidelines across the country.
- Standardisation of digital data.
- Can we improve the language used in archives to make them more accessible. X2
- Archives becoming part of a museum collection give them greater protection.
- Online promotion of content.
- Research involvement in post-ex for mental health.
- Online catalogues. X2
- Improve disability access.
- Make the most of deselected material. X2
- Wifi, hearing loops, microscopes, scales, camera stands etc.
- Improve local engagement. X2
- Increase dialogue with academics and commercial units.
- Closer links to universities and early stage researchers.
- University and local authority as well as public library and HER all in one spot.

## Is the physical location of an archive important?

The answers to this were less clearly defined. Location was deemed important from a local perspective, but it was less clear if this meant archives needed to be stored locally, or if access could be facilitated through different means. Dispersed storage was considered as positive, supporting local museums network, but less positive in terms of logistics and researchers having to travel to multiple locations. Jamboard comments included:

- Yes even if the data is available online.
- Physical access to the archive is very important to the public.
- Research space is very important.
- Local access important to the public.
- Local stores mean researchers may have to travel all over the country.
- Depends on the user group.
- Location is important when getting people to deposit.

## Session 3 - Rethinking access

### How would you like to access information about the archive?

The clear answer to this question was through an on-line searchable database, a live updatable central index or catalogue using standardised terminologies and data management systems. Possible homes for the catalogue included the ADS, OASIS/HERALD linked to HER's and museums. Jamboard comments included:

- Online and searchable by type, similar to HER access. X2

- In a publicly accessible format, front facing and less specialist in nature.

- National database.

- National database that links to regional museums or archives.

- Still needs local access.

- Improve terminology at the data entry stage.

- Through individual museum portals.

- So much event data it may need to be handled centrally (and then distributed locally?).

- Access for multiple types of users requires multiple entry points.

- HERALD.

  *"Central digital catalogue accessible by all. Central repository where access can be arranged centrally or locally as required. If archives are 'loaned' there needs to be a checking process for return."*
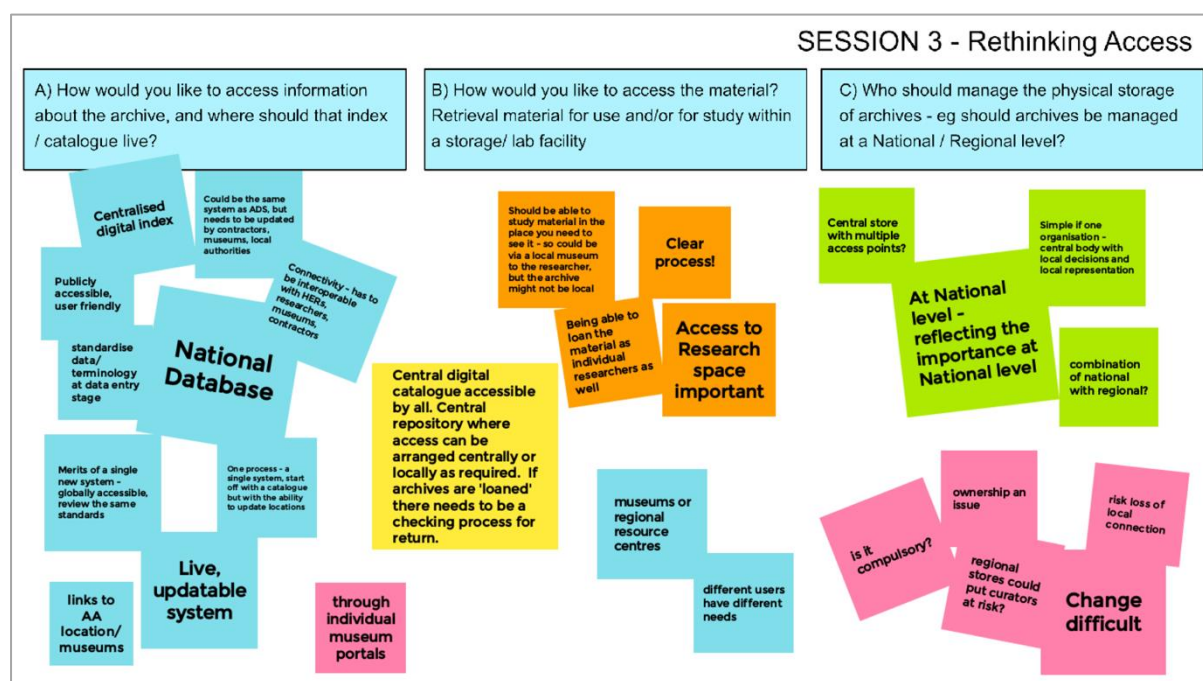


Figure 3. User Needs workshop, Session 3 Jamboard (composite)

### How would you like to access the material?

The answers to this were less specific though access to researcher space or lab/bench space was considered important. Several individuals suggested museums could still perform the function. Jamboard comments included:

- At the collecting museum.

- Regional resource centres, but what about material already in collections?

- Research space at the depository. X2

- Research space is essential. X2

- Look at the Scotland model?

- Increased use of digital recording to reduce the need to access physical archives (photogrammetry).

- Different users have different needs, some not able to access digital data.

### *Who should manage the physical storage of archives?*

The general consensus (though by no means unanimous) was that archaeological archives should be managed at the national level, thought it was pointed out that change is difficult and there may be resistance from exiting providers. Jamboard comments included:

- National level, reflecting national importance

- Any change would be difficult.

- Difficult to answer.

- Ownership an issue, at regional level who, Historic England?

- In theory it doesn't matter but is a big change.

- Combination of national and regional.

- Regional stores could but local curators at risk.

- One store with multiple points of access?

- National Store may lose local engagement.

- Can other museums sign up or is it compulsory?

## Session 4 - Rethinking space

### *Would you use a specialist facility?*

Responses were mixed, though it was thought any facility would need visitor facilities. Jamboard comments included:

- Would need a visitor facility to get people onside.

- Tours of the stores. X2

- Café and shop needed.

- Record office in Suffolk have similar facility.

- Why can't it be joined up (record office and archives?).
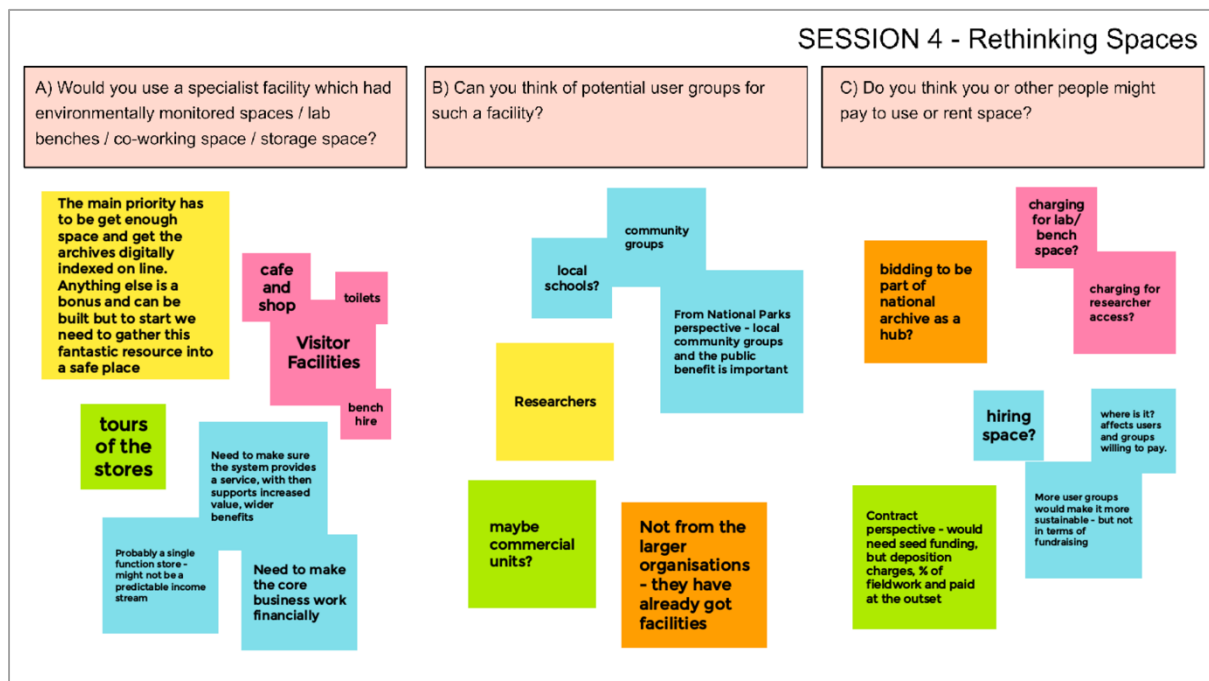
Figure 4. User Needs Workshops, Session 4 Jamboard (composite)

## Can you think of potential user groups?

It was though any facility could cater to community groups and schools etc. It was thought researchers and specialists would use bench spaces but that many of the larger commercial units already had those facilities. Jamboard comments included:

- Commercial Units.
- Researchers.
- Local groups.
- Hive – is that a model to follow?

## Do you think people might pay to use or rent space?

The response was mixed. Jamboard comments included:

- Regional hubs bid to be a hub or archive?
- Charging for commercial research.
- Space for PhD students whose archive research is too big for university facilities.

# APPENDIX 5 STAKEHOLDER CONSULTATION

## 5.1 Introduction

To support the aims of the options appraisal in reviewing the impact of different potential options with stakeholder groups, the OSAA project needed to consider possible solutions with project stakeholders. A discussion workshop was held in October 2020 which invited stakeholder organisations to engage in a series of discussions which considered different options for archaeological archives storage.

This appendix reviews the feedback and collates recommendations generated by those workshops. Summaries of the comments left on the jam boards (digital flip charts) are included below, and copies of the actual boards are included.

## 5.2 Methodology

The October 2020 workshop involved 20 invited participants representing several key stakeholder organisations, including CIfA, ALGAO, CBA, HE, EAC, EH, HS2, NHSF, NT, FAME, SMG and SMA.

The format was based on the successful delivery of the user needs workshops discussed above. A series of propositions were presented to the participants, who then discussed each within breakout group sessions (see Section 9.4 for summarised comments for each break out session across all three workshops). Jamboard was used to record comments as digital post it notes during each discussion, images from which are included below. Sessions were recorded for the benefit of the project team to revisit and record exact comments.

## 5.3 Outcomes

The session provided an opportunity to test some ideas with stakeholder groups, and to reveal where the key opportunities and issues were perceived to be. The concept of a National collection was well received, with very few negative points. In particular, the idea of a national brand and identity was seen as a powerful narrative for those working with developers, clients and other organisations, to help underpin the value and significance of archaeological archives from developer funded excavations. Participants immediately saw the practical advantages of a national approach, especially when linked to indexing and signposting of archives and their contents. This would have the very positive impact of supporting discoverability and use, meaning archives were more accessible both for research and engagement purposes. Accessibility was a thread than ran through all the workshops discussions and should be seen as a key consideration for any storage solution.

In terms of potential issues for all solutions, the need to provide a balance between regional and local ownership and access, against provision of national catalogues and indexing was raised in more than one workshop. Concerns that a national approach to storage would erode income and therefore resources within local museums was raised as a likely if unintended consequence of centralisation. Feasibility was also brought up – a move to a National collection brand, supported

with an online accessible index, was very welcome, but is the level of data aggregation and incorporation of existing museum collections possible, and how would it be funded? If it were possible, the research benefits of an accessible index were seen as a major positive, opening up a significant opportunity of national and internally significant research.

With regards to storage solutions and the options available, no single option was felt to be more supported than another. Rather, a blended approach which involves existing museums, local access to any archive with a guaranteed storage option would seem to combine all options. This would need the buy-in from multiple partners but provides the local and regional connection which is supported by a nationally supported infrastructure. For museums where storage is an issue, being able to access national managed facility provides the back-up needed to relive pressure and reduce the strain on capacity. For access, the idea of national infrastructure provides an additional advantage of an 'inter library loan' approach, where collections can be accessed at a location local to them.

Apart for the recognition that a sustainable funding option needed to be developed, there was a not agreement on a particular funding model. A degree of start-up funding would be needed, and as a national collection, the idea that some support from national or public funding would be needed. The one thing participants did find agreement on was boxes – a move away from box charges would be a positive move. How income could then be generated was not clear – with suggestions including a levy which frontloaded archive costs or subscription paid by contractors or projects to a storage facility.

# 5.4   Individual Sessions

## Session ONE, The National Archaeological Archive

Participants were presented with the following proposition and asked to discuss its pros and cons, as well as make a yes/no decision on the proposition.

*Proposition # 1 – We need to recognise archaeological archives as a significant National collection which needs to be protected and cared for. Yes / No?*

Overwhelmingly, our breakout session participants supported the proposal that archaeological archives should be recognised as a significant National collection (Figures 7 and 8). A key positive is seen as branding and identity, providing a useful vehicle to communicate significance and value of archaeological archives on a regional and national level.

> *"If we generated material that fitted into national vision/ collection would be easier to explain to developers."*
>
> *"If had that identity- would be easier to argue its importance"*

Creating a National collection could also provide the opportunity to centralise information, reduce duplication of effort and standardise collections management, which was also seen as a positive. Information management and centralisation was seen as a necessary part of a National collection being created, which would support accessibility and findability of archives.

> *"Give focus to developing national standards"*
>
> *"Help with signposting to archives location"*

> *"Managing as a national collection has potential to improve discoverability. Otherwise it has to be through linked open data - but most local museums don't even have online catalogues"*

> *"Potential for efficiencies - avoids duplication of inessential material in multiple places"*

The proposition is not without its drawbacks and would need strong leadership and lots of buy-in from stakeholder groups. Participants cautioned against alienation of regional museums, the costs associated with establishing a National collection, and issues of collaboration or interoperability with existing museum catalogues.

> *"Experience suggests that the local museums feel that archives should be local. Often questions from councillors mean museum's having to adhere to local politics"*

> *"May be challenging on a local level. Difficult to get a strategic vision."*

> *"If we created a single NAC catalogue how would we deal with existing museum listings?"*

> *"What if people don't want to be part of it?"*
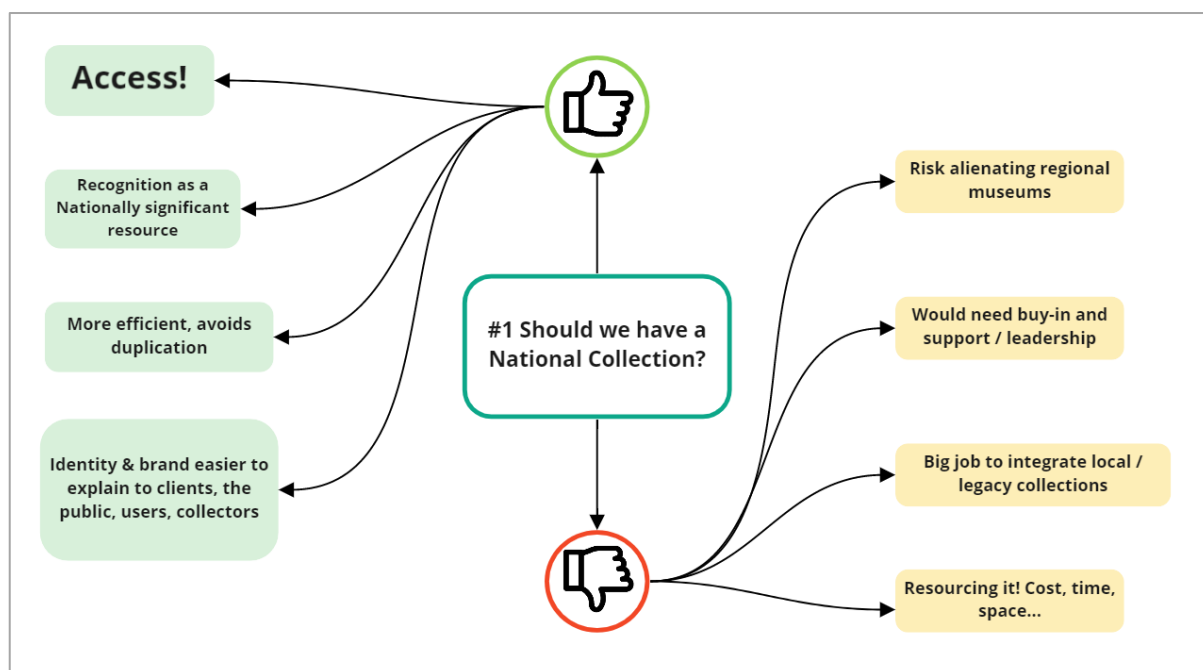


Figure 5. Stakeholder workshops, Session 1, Proposition #1 Jamboard summary

Figure 6. Stakeholder workshops, Session 1, Proposition #1 Jamboard (composite)

## Session 2, Managing the Collection

Participants were presented with the following proposition and asked to discuss its pros and cons as well as make a yes/no decision on the proposition. An extension question asked how we should fund such a proposition.

*Proposition #2 – The deposition process for archaeological archives should be managed via a single National entity, which oversees a standardised, comprehensive and fully accessible index of archives. Yes / No?*

Although there was a lot of support for a centralised system which introduces National standards, the simple Yes / No answer was more difficult for participants to decide.

Of the positives, the concept of a streamlined process which meant a consistent approach to archives creation and deposition was well received, with wide benefits in terms of both management, costing projects and (of course) box sizes. Standardisation and access to information via an index was also seen as a positive for accessibility and alignment with data interoperability and research.

> *"Standards nationally sounds like a good idea, as could make life easier for contractors as we would not have to check each guideline for each museum"*

> *"Standard processes can only streamline things and make commercial requirements plain to"*

> *"Benefits from standardizing are huge in terms of accessibility"*

> *"Aligns with big data initiatives"*

The potential issues were seen to be either practical, in terms of feasibility, data aggregation and ownership, or concerns over duplication, e.g. does OASIS already provide an index for archives, or the concern over a National entity confusing the role of local archives.

*"Two-tier system?- what about the archives that have already been deposited?"*

*"Feasibility and getting people to use it consistently"*

*"Lack of ownership at a local level"*

*"How much could you aggregate existing data into a new single catalogue?"*

We also discussed how a single National archive might be funded, and a range of options were proposed. Of these, the common threads of the discussion included:

- A centrally funded start-up, perhaps with support from public infrastructure or research infrastructure funds.

- As a National collection, a degree of public funding would be appropriate and perhaps moving to a statutory requirement.

- Movement away from a box charge, perhaps through the use of levy to front-load costs for archive deposition in projects.

- A subscription model for archaeological contractors, or for larger projects.

- A need for sustainability.



Figure 7. Stakeholder workshops, Session 2, Proposition #2 Jamboard summary

Figure 8. Stakeholder workshops, Session 2, Proposition #2 Jamboard (composite)

## Session Three, Storing the collection

Participants were presented with three propositions based around how archives should be stored (nationally, regionally or utilising the museums network) and asked to discuss the pros and cons of each, as well as make a yes/no decision.

### Proposition #3 – Guaranteed storage for all appropriately prepared archives should be provided by a single physical and National Store. Yes / No?

The idea of one single National Store produced mixed feelings from the participants with only a few clear 'yes' or 'no' responses and most needing some clarification about how it might operate before a decision was made. Whilst there were positive angles, there were some real concerns. As with previous propositions, the single entity idea provides a simplified accessible route to information, and some felt that if archives can be accessed then it shouldn't matter where they are held. A large National Store could provide opportunities for specialist storage spaces and would need research areas to ensure they are usable as a resource and not simply a store facility. Some felt that a national solution could take advantage of existing facilities, such as DeepStore, supported by connections with regional locations such as museums to facilitate access. In this case, the National Store would not prove to be a barrier to collaboration but could act as an 'overflow' for museums which heave reached capacity, or as a network connector, taking the idea of inter-library loan systems with museums acting as places where researchers can view collections.

> "Need to move archives between off site & local store - perhaps a 'booking' system to national index by appointment. Box index should include digital image of contents online to enhance index."

> "As long as can access it when needed, location of storage possibly doesn't matter."

> "System like inter-library loans"

*"DeepStore advantages - only pay for what you use, stable environment, no O2 so no worry about fire"*

*"If museums are part of the solution the main store could be DeepStore but the user interface- where researchers can visit - is the local museum."*

Concerns were mainly linked to the existing museums network, and the unintended consequences of developing a solution which does not include museums. Would the loss of archaeological archives as part of the collecting policy of museums threaten the income or resources of organisations, risk a reduction in skills and expertise in museums or lead to the loss of access to archives on a local level? In addition, concern of the viability of an ambitious programme, whether it is fundable or would lead to archives being split across locations, was also discussed.

*"Museums might end up being priced out - if it costs us more to archive compared with the national archive people might try and avoid depositing with us."*

*"Culture dump, loss of regional/local connectivity etc etc store of last resort could be a possibility but I suspect this would end up as the default"*

*"Issues how to persuade people it is a good idea to move archives away from area"*

*"Too ambitious, it is not practically manageable. Loosing local connections is as well important issues."*



Figure 9. Stakeholder workshops, Session 3, Proposition #3 summary

Breakout Session THREE – Storing the collection

Proposition #3 – Guaranteed storage for all appropriately prepared archives should be provided by a single physical and national store (And, what do we mean by that? For everything, or for last resort?)

**Pros**

Need to move archives between off site & local store - perhaps a 'booking' system to national index by appointment. Box index should include digital image of contents online to enhance index.

System like inter-library loans

use library idea to maintain local identity

A larger national store would be more likely to provide a wider variety of specialist storage spaces

loan and return system

As long as can access it when needed, location storage possibly doesn't matter

if we are using a selection tool kit then stuff already sorted as what is best to keep

about ability to 'recall' material

Easier to sustain a single facility longer term and deal with recurrent capital expenditure

Deepstore advantages - only pay for what you use, stable environment, no O2 so no worry about fire.

Could be an 'overflow' facility for large archives which cannot practically be accepted by local repositories

Having archives closer might also be useful for researchers.

the archive still be a 'whole' if the first point of access is n-line

mechanism for having variation of use- display alongside deep storage?

ability to call back material key!

Would create more job opportunities in the sector (but may threaten existing ones)

a national approach and understanding would have too have an understanding that there is a local needs on the material

If museums are part of the solution the main store could be Deepstore but the user interface- where researchers can visit - is the local museum.

The police & NHS already store archives in Deepstore - so public funding is already being used there.

would help establish storage standards, good practice that would support local initiatives and help sustain local standards

archive can be utilise by different people in different ways

drivers for use? store in deepstore vs use locally?

if no-ones going to look at it it doesn't matter!!!

**Cons**

should archives stay together? a lot more work to split archives for contractors?

Too ambitious, it is not practically manageable. Loosing local connections is as well important issues.

very difficult to persuade local politicians that locals should pay for a national institution

costs?

Issues how to persuade people it is a good idea to move archives away from area

If archives are stored far from local communities it will be difficult to get them engaged in any way.

would need to record 'two locations on oasis?

Local accessibility and loss of local connection

How would archives produced by voluntary groups fit into this? Is a national store less likely to realise their value?

local museums can still use items in storage for exhibitions, education etc

one location not accessible to the vastest majority

would people not make as much effort locally if there was a national store

Some local museums which receive archaeological archives are actually privately owned so who owns the archive once deposited?

Museums might end up being priced out - if it costs us more to archive compared with the national archive people might try and avoid depositing with us.

risk reduction of curatorial specialism

researchers would use a 'resource centre' but probably not a 'day out'!

Having to estimate/build to cater for all or nothing.

national archaeology museum not really a goer!

culture dump, loss of regional/local connectivity etc etc store of last resort could be a possibility but i suspect this would end up as the default

Feasibility - what about existing/legacy archives? Splitting archives potentially? Losing value

what message does it send out to the public- real people!

a NAM would need the glamour location to draw people in

**Yes or No?**

National store should be used only if no local museums

Possibly but only if controls are in place to protect the status of local repositories

Yes, but only as the last resort if the archives cannot be stored locally or regionally.

national centre as a co-ordinating centre- supporting existing centres

Yes, but needs strong links with local museums. Accessioning?

Local job losses?

Yes- as a back up alongside existing solutions that work and the 'national brand' and management.

Only where other provision cannot be made elsewhere - i.e. a store of last resort

National store should only be used if no local museums

not for me I'm afraid!

No - county stores shared by local museums, maybe?

Last Resort

Who will operate and take title?

Figure 10. Stakeholder workshops, Session 3, Proposition #3 Jamboard (composite)

## *Proposition #4 – Guaranteed storage for all appropriately prepared archives should be supported via a network of regional storage centres. Yes / No?*

The proposition to use regional storage centres provides some opportunity to reduce concerns over local access – however, the need to secure an operational model which works with several local authorities and the multiplication of capital costs were key issues. The advantages included support for regional resources, which might be beneficial to local people and public engagement. Pinon was certainly less emphatic with this option – participants recognised this model is used for some (English Heritage) but that as an option for a National collection, it might not solve any more issues that a Nationally held store might.

*"At least material would be help more locally than a national repository and so access would be better"*

*"Yes, as part of a 'mixed provision"*

*"Yes, proposition 4 and 5 do not have to be contradictory. Network of storage facilities could be formed upon existing entities (with additional funding)"*

*"Possibly, but only if there is an option for existing large repositories to become part of this solution"*

*"Accessibility is key! Either a regional store or a national store (with or without remote back storage) that is networked with local museums"*
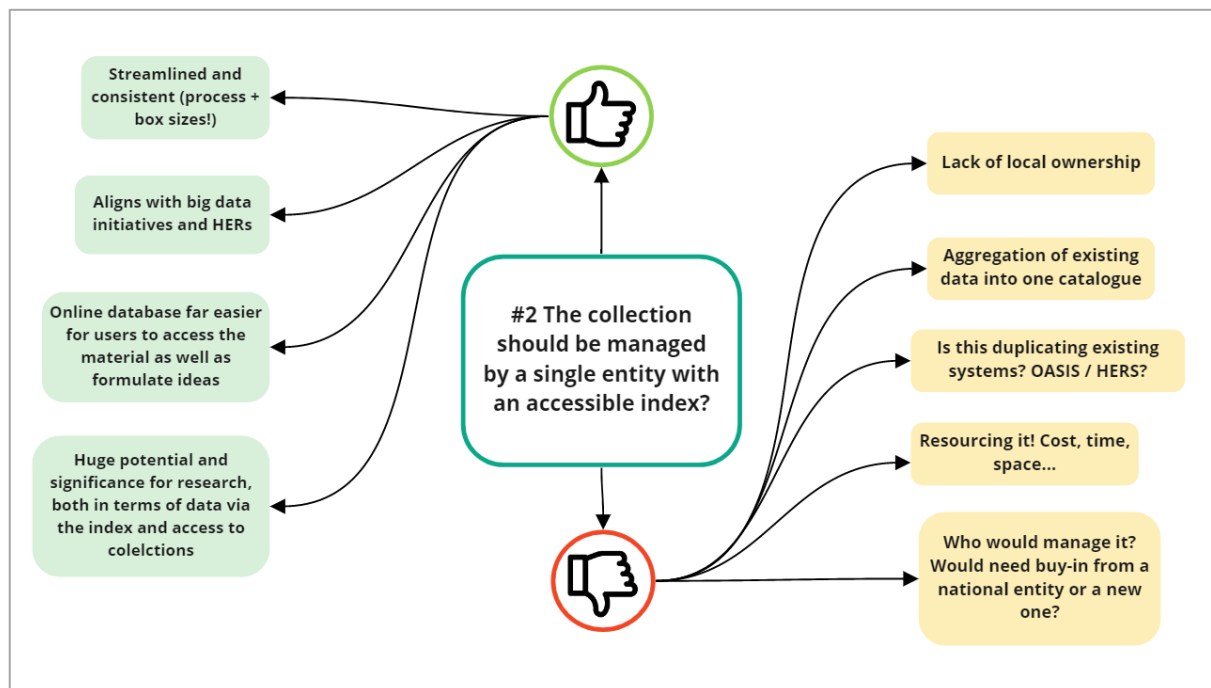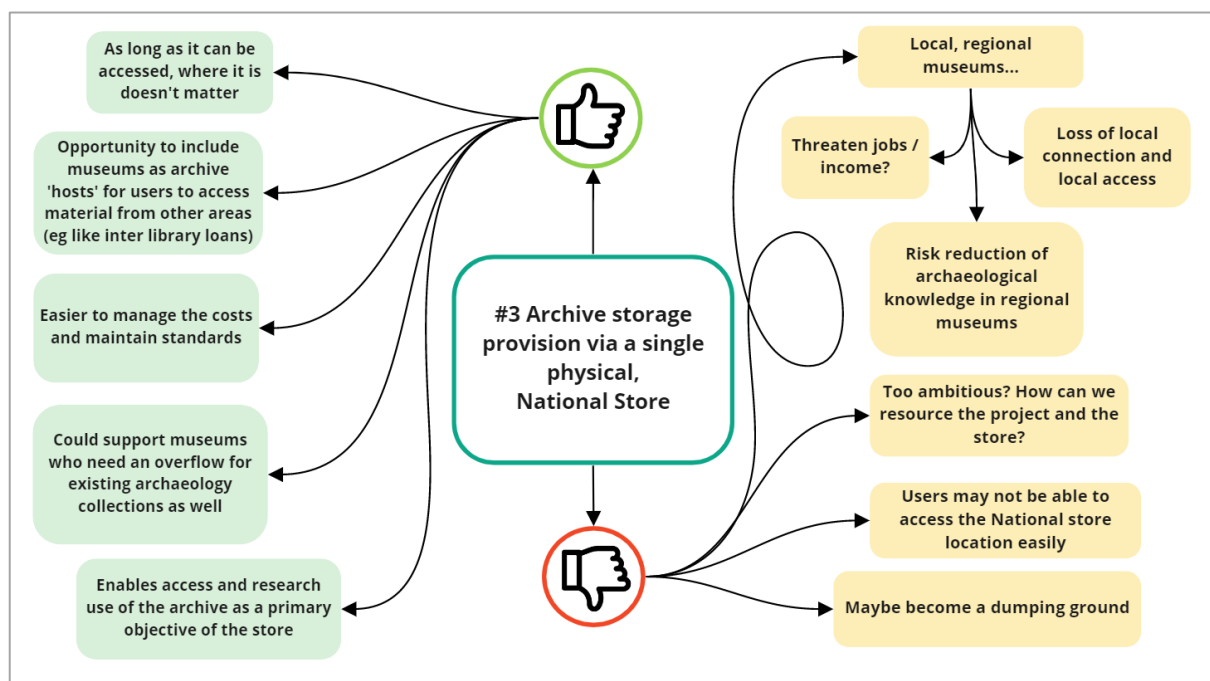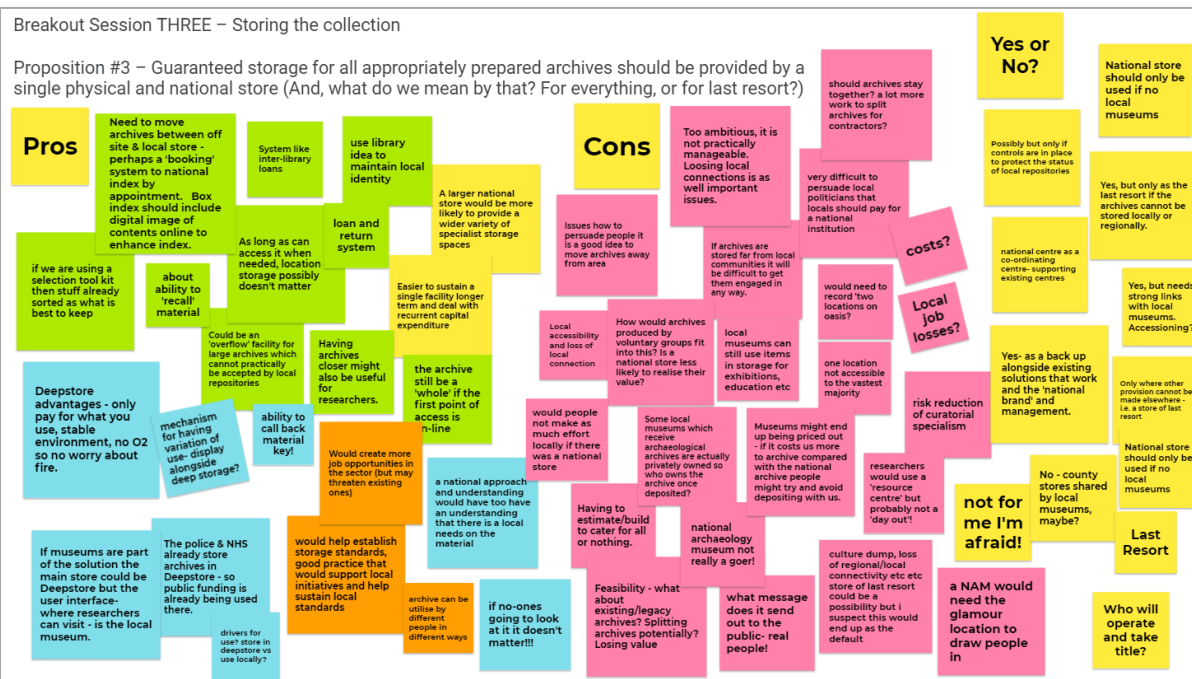
Figure 11. Stakeholder workshops, Session 4, proposition #4 summary



Figure 12. Stakeholder workshops, Session 4, proposition #4 Jamboard (composite)

*Proposition #5 – Guaranteed storage for all appropriately prepared archives should be supported via existing museums network. Yes / No?*

The key issue highlighted with the proposition that the existing museums network should provide guaranteed storage is that the system does not work. To provide the level of confidence needed, the capacity and resourcing issue would need to be solved within several organisations. Participants

did like the idea that this would support the experience of in-house museum archaeologists and that the system is already in place. The guarantee would need to come from off-site / last resort storage facility, which might create tensions between regional and national repositories. It would not support any standardisation or accessibility, apart from perhaps providing better connections to local public audiences.

*"Capacity is still an issue - for this to work support and investment is still needed to ensure it can be a consistent and sustainable solution"*

*"Including existing archives in a network unites the sector"*

*"Would be good to re-engage museums in archives as some are losing interest"*

*"No statutory requirement for museums to collect archives - so unless that exists it is easy for provision to be withdrawn"*

*"That's the system we have now, and it doesn't work!"*

*"Yes- alongside backup solution that work and the 'national brand' and management"*


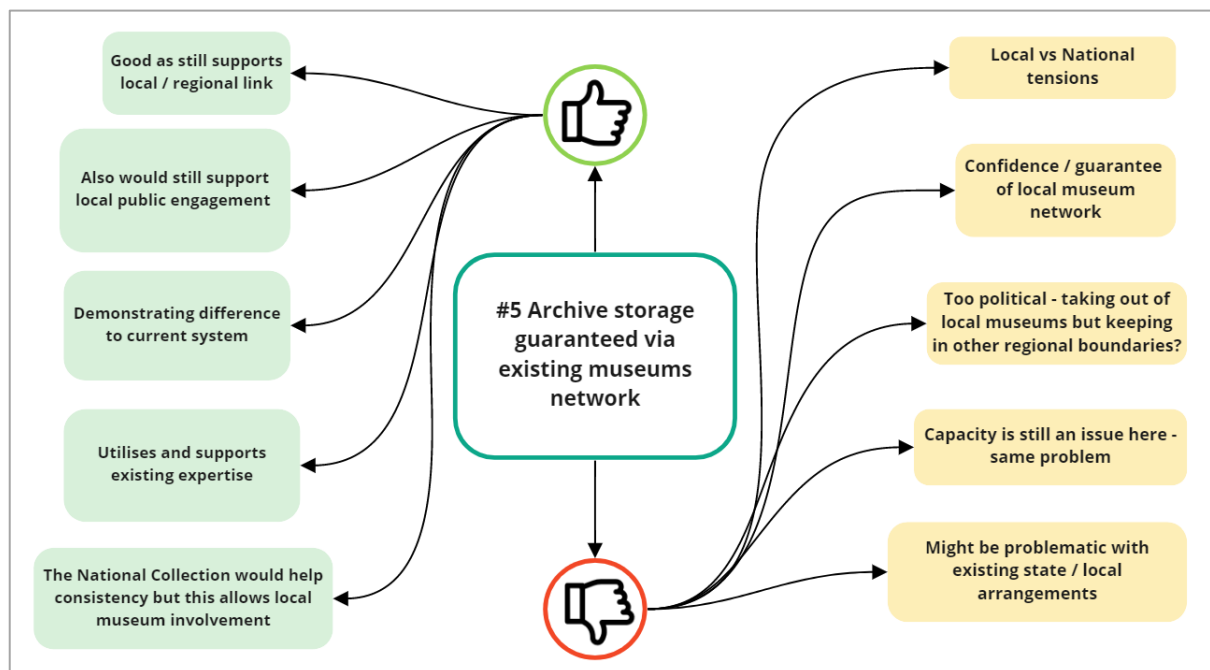
Figure 13. Stakeholder workshops, Session 3, Proposition #5 summary

Figure 14. Stakeholder workshops, Session 3, Proposition #5 Jamboard (composite)

## Session four, Standardising the store

The final session asked participants to discuss standardisation, within the working project archive and the deposited archive, and to outline any pros and cons as well as make a yes/no decision on the proposition.

*Proposition #6 – The preparation and storage of both working and deposited archaeological archives should be standardised and meet industry wide benchmarks. Yes / No?*

The proposition that an industry standard could be developed which was linked to both the working project archive (essentially CIfA Standards for Archives) with a standard for the management of archaeological archives once in store proved to be an interesting discussion. The proposition did get some clear agreement from most of the participants, although there were areas of concern. Issues discussed all related to the currently existing museum accreditation – would another raft of standards prove too much, would standards be in line with collecting policies, and would additional resource be required in museum to facilitate compliance. A key question was around regulation – who was setting the standards and who was checking them? On the positive side, standards were a way to reduce deposition delays and streamline costs, making it more of a level playing field for project design and budgeting. Standards were also viewed as a means to make archives more accessible and predictable, and better for both regional and national research projects.

> *"Yes - needs a working group to define"*

> *"Makes archives more sustainable in a digital world"*

> *"Incentivise holding organisations meeting standards for care and access"*

> *"Reduce deposition delays and costs to contractors by streamlining processes"*

> *"Does the existing accreditation process need revisiting for archives?"*

*"Who oversees the benchmarks? Who ensures they're being followed?"*

*"Relies on accreditation being enshrined in the planning process otherwise"* commercial units won't want to pay more to deposit with an accredited store

*"Lots of standards already exist. Will another be accepted?"*



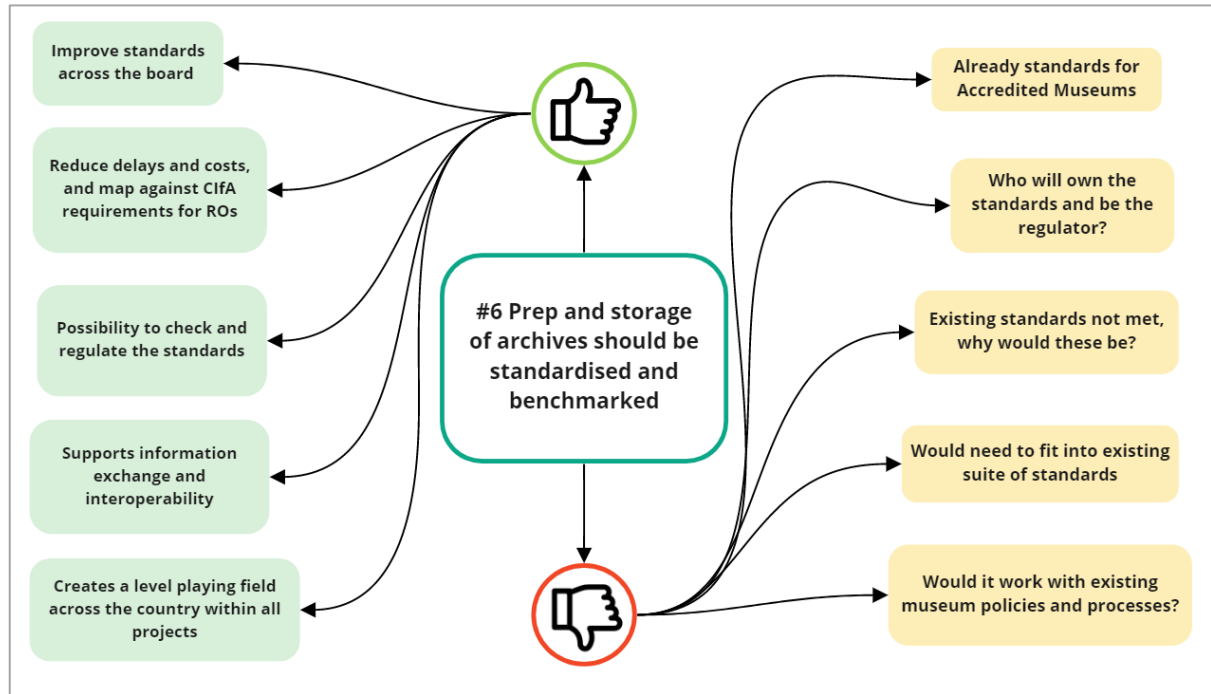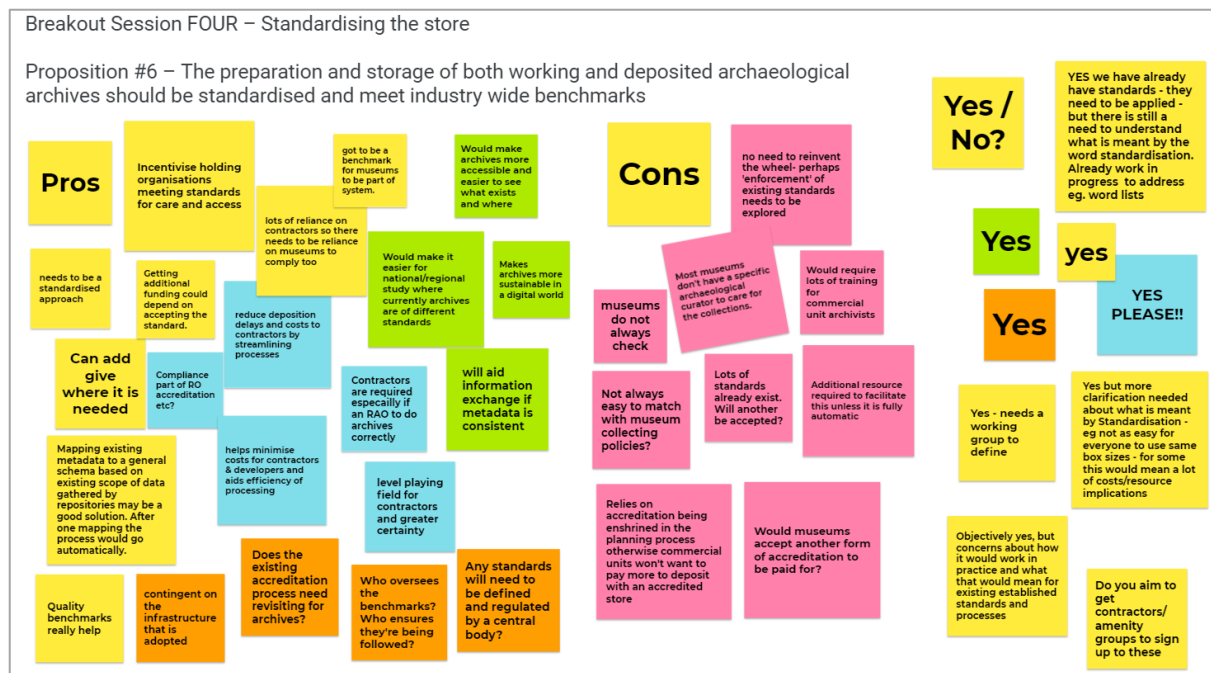Figure 15. Stakeholder workshops, Session 4, Proposition #6 summary



Figure 16. Stakeholder workshops, Session 4, Proposition #6 Jamboard (composite)

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