Museums Worcestershire & Worcestershire Archaeology

SCOPING THE RATIONALISATION OF MUSEUM ARCHAEOLOGICAL COLLECTIONS

MUSEUMS WORCESTERSHIRE

Deborah Fox, Derek Hurst and Robert Hedge

MUSEUMS WORCESTERSHIRE
Art • Heritage • Events

worcestershire county council

+

Scoping the Rationalisation of Museum Archaeological Collections

Museums Worcestershire

HE Project reference	7574
WAAS project reference	P4944
WAAS report reference	2495
Status	Version 1
Date	31 October 2017

Deborah Fox	Derek Hurst and Robert Hedge
Museums Worcestershire Worcester City Art Gallery and Museum, Foregate Street, Worcester, WR1 1DT dfox@worcestershire.gov.uk 01905 25371	Worcestershire Archaeology, Archive and Archaeology Service, Worcestershire County Council, The Hive, Sawmill Walk, The Butts, Worcester, WR1 3PD dhurst@worcestershire.gov.uk 01905 844734

Contents

Scoping the rationalisation of museum archaeological collections

By Deborah Fox (Museums Worcestershire), Derek Hurst and Robert Hedge (Worcestershire Archive & Archaeology Service)

1 Executive summary

This project has provided the opportunity to address, in a museum context, the need to try and ensure that only archaeological materials of value are held in store. To this end a rationalisation process has been developed based on the existing acquisitions and disposals policy, and was carried out to assessment for a substantial part of the Museums Worcestershire collection (STEPs 1–2).

Rationalisation assessment was carried out and has suggested that a floor space of only 8m^2 is liable to be liberated if the process was to be completed fully. This would cost (potentially worse case) *c* £250,000 (ie £456/box, or more where archaeological assessment still required). Whereas this is worth a £1350 per annum saving, it is clearly unjustifiable, compared to the large rationalisation costs, and even if viewed in the terms of longer term savings. However, taking a more pragmatic view, it was felt that there were some easier wins if attention was directed towards certain materials, such as ironworking slag and ceramic building materials, which had no doubt been over-collected over many years.

Many lessons have been learnt in the course of this project, including:

a) the great importance of volunteers and the massive contribution they can make to project work

b) the importance of a detailed inventory of the collection rather than relying on the accession register

c) the importance of having to hand project reports as part of the archive, and/or easy access to them via OASIS (depending on the era of fieldwork) and/or local HER

d) the usefulness of knowledge available from local specialists/archaeologists who actually worked on the assemblages, as a rapid way to guide to the assessment of some archives

e) the value of the assessment stage of rationalisation in its own right for producing better quality and easier to navigate archives

f) that, even if carried through to completion, rationalisation does not deliver an easy answer to pressure on space

g) that adjustments in the process of submitting an archive to the museum, such as archaeologically based statements of significance, and advice about selection and retention (finds assessments), could assist greatly with the rationalisation being built into museum transfer of archives going forward

h) above all, therefore, that closer working between the museum archaeologist and the archaeologist is key to embedding rationalisation in the museum collection, with then both archaeological and museological issues and ethics being fully covered.

Whereas backlog (ie already accessioned archives) present a picture where rationalisation is liable to be the exception rather than the rule, it is also most important to use the impetus and understanding from this project to address future accessions, ideally to incorporate rationalisation more centrally as a concept in archaeological practice. The implications of this

are yet to be fully worked through, but one strand would surely be to ensure that assemblages are reduced to their core research archive before deposition by a process of on-going selection for retention – and, preferably, from the point that material is lifted from the ground during fieldwork. This would require liaison with the museum archaeologist from early in the project, and the emphasis of fieldwork would be to minimise the amount of material taken off site, and, equally, a focus of post-excavation would then be to minimise what is ultimately retained. Adjustment to programming and methods of recording of finds would be necessary to establish a new routine resulting in a rationalised project archive. A two-tier system of box charges with a lower cost for already rationalised archive could be a key move. Clearly this is looking to engagement with the archaeological profession to develop relevant practice towards ensuring that the liabilities of museums are then better managed for the future.

And development of more detailed museum collection policies, updating of the SMA guidelines on retention and disposal, and further effort with archaeological research frameworks, would all assist in the supporting this new impetus towards rationalisation.

2 Introduction

This project (commissioned by Historic England (HE)) forms part of Heritage 2020, and is coordinated on behalf of the whole sector by the Historic Environment Forum. The results of the various scoping studies, of which the Worcestershire project is one, will be amalgamated into a set of overall guidance for the museum sector by the Society of Museum Archaeologists (HE 2016). This project, therefore, constitutes a major response to the challenge of actively and efficiently managing the content of archaeological archives in museum collections. Other initiatives are also being pursued to develop other models for a similar purpose, such as by the Arts Council England Resilience Fund, which is supporting museums in the South West in this respect.

Both Museums Worcestershire and Worcestershire Archive & Archaeology Service (WAAS) are parts of Worcestershire County Council, and being part of a single organisation has enabled a high level of joint working. This has led to the development of a shared effort to deal with archaeological issues. Worcestershire Archaeology itself forms part of an integrated archaeological service which combines archaeological fieldwork expertise (including specialist finds and environmental services), with archaeological planning, and the county Historic Environment Record. As a result of professional collaboration, the greater benefits of this extended in-house expertise have been used to ensure currency and impact for commissioned projects, therefore, delivering greater public value.

Since the early 1990s in common with other parts of the country, the pace of museum acquisition of archaeological archives has increased in direct relation to the amount of archaeological intervention being undertaken. During this period, in common with mainstream museum practice the policy has been for the comprehensive collection of the entire project archive as deposited by the archaeologist without any particular attention to volume as long as it was boxed in accordance with the guidelines for deposition (ie appropriate conservation-standard containers). And, despite considerable pressures building up, Museums Worcestershire has continued to collect archaeology throughout this period. In 2006 Museums Worcestershire undertook a condition survey of its archives as a pilot study for the National Preservation Office aimed at better understanding the present state of museum collections (Museums Worcestershire 2006).

The realisation of diminishing space in an era of shrinking resources has led to positive discussion on this matter between archaeological units, most notably Worcestershire Archaeology, and Museums Worcestershire over a number of years. Site-specific responses to reduce the final size of project archives are now the norm for new excavations. This has

now influenced policy with the concept of rationalisation being mentioned in the Museums Worcestershire storage plan (Fox and Kendrick 2012) and collecting policies (Museums Worcestershire 2015a; 2015b), as well as the guidelines for depositing archaeological archives (Museums Worcestershire 2015c). A report on the proposed rationalisation of the very large accessioned Deansway (Worcester city centre) archive (Hurst and Christiansen (2009) is another step in this direction.

This active approach to collection management for new projects led to the presentation of a joint museums and archaeology paper at a recent CIfA Archives group meeting on this topic in Birmingham, in 2016. A strategy in Worcestershire, based on archaeological and museological considerations, has identified where the curation of records and data rather than the finds themselves are sufficient, thereby, incidentally, giving increased value to the retained finds, and, in effect, commencing the process of rationalisation on site. This avoids consideration of selection and retention merely in terms of addressing the pressure on space as the reason for discard, and instead a more site-specific retention policy is substituted for the more usual general policy of retaining all finds – the latter of itself, in practice, a fallacy anyway. And, as a part of the necessary framework for this policy, it is also important to pay attention to ethics in establishing proper practice, as reviewed recently by the Museums Association (2015; https://www.museumsassociation.org/ethics/code-of-ethics).

The present scoping rationalisation project, therefore, provides an important professional opportunity to take forward the work already done in Worcestershire to a further level, and then apply the experience to develop methodological guidance for targeting, estimating resources needed and benefits, and executing archive rationalisation without unnecessarily compromising the research value of the remaining archive, and, better still, with the result of actually enhancing that research potential.

Wider context of the project

Historically the idea of what should constitute the project archive has been evolving as the scale of archaeological work has increased and the understanding of the results of this research have provided different perspectives on the material.

IFA (Ferguson and Murray c1990) compiled advice on the creation of the archaeological project archive with the assumption that the whole archive would be accepted, as indeed did the IFA *Guidelines for findswork*. The Society for Museum Archaeologists (1993) *Selection, retention and dispersal of archaeological collections* was the first professional response to the growing realisation that museums were filling up, and so the need for this guidance was identified quite early on in the post-PPG16 (1991) archaeological boom. Brown (2007 updated) takes a broad policy approach with the aim to '… ensure that what is retained will ensure the continuing significance of the project in contributing to known research aims' (*ibid* 29). Here, the new concepts of the regional research framework and local research aims and objectives are called upon to inform this process. Bott (2003) has also considered the related issue of the costs of maintaining and making archaeological archives accessible.

More recently a report funded by English Heritage (now HE) and the Society of Museum Archaeologists (now the Society for Museum Archaeology), *Archaeological Archives and Museums 2012*, has shown that, in England, due mainly to pressures on storage space, 47 local authority museums no longer collect archives from archaeological projects. So far this has created the build-up of over 9,000 project archives that no museum is willing to collect (Edwards 2013), and this now must be regarded as a long-established problem, as it was first defined some years ago by Hedley Swain (1998). The current project, therefore, addresses a major national issue, where museums are increasingly under pressure, and faced with a growing demand by their sponsors to justify the accessioning of archaeological

material into museum collections. The project is in line with current policy as defined by Heritage 2020 (Historic Environment Forum 2015), which makes it clear that solutions should be sought where heritage is presently at risk, and that capacity should be cultivated where this would be of benefit to heritage protection. Comments contributing to this debate on the results of conducting research on archives may also be found in Doherty (2015). Therefore, it seems appropriate to explore innovative solutions for the better management of archives, whether this can be brought about through technology and/or improved practice.

The latest standards developed by archaeologists for pottery studies in archaeology (PCRG/SGRP/MPRG 2016) acknowledges (de-)selection as an option, some wording seems to indicate a strong resistance to this concept *viz* '… Selection should be based on the premise that every pottery find has the potential to inform future research and a strong case has to be made for not selecting pottery for archive' (*ibid* 21). There is potentially, therefore, quite a tension to be resolved here, when the archaeological viewpoint is set against the prospect of dwindling storage capacity in museums.

3 Museum overview

Worcestershire Museums archaeological archives collection conformed with the specific requirements of the Brief (HE 2016) as follows:

a) by holding >200 accessioned archives (about 700) and;
b) being supported by a professional Keeper of Archaeology.

3.1 Museums Worcestershire

Museums Worcestershire is a shared museum service comprising the collections of Worcester City Council and Worcestershire County Council. Both archaeological collections were considered in the Step 1 stage of this project but, following discussion with Duncan Brown (Historic England), only the collection of Worcester City Council was considered in the Step 2 stage.

3.2 Project team

The project team comprised:

Deborah Fox – Curator of Archaeology and Natural History, Museums Worcestershire

Derek Hurst (artefacts management and policy frameworks) – in-house (WAAS)

Rob Hedge, Finds Archaeologist, and worked flint specialist – in-house (WAAS)

Laura Griffin, pottery and non-pottery artefacts specialist – in-house (WAAS)

Jane Evans, pottery specialist (Roman) – in-house (WAAS)

Elizabeth Pearson, environmental archaeologist (plant macrofossils) – in-house (WAAS)

Museums Worcestershire volunteers

Consultation was carried out with the following:

James Dinn, Worcester City Archaeologist

Sheena Payne-Lunn, Worcester City HER Officer

Aisling Nash, Worcestershire HER Manager (WAAS)

Adrian Scruby, Planning Archaeologist (WAAS)

The overall project was managed by Deborah Fox (Museums Worcestershire) and Derek Hurst (WAAS).

3.3 Summary of the museum collection

Museums Worcestershire cares for the collections of Worcestershire County Council and Worcester City Council. This museum collection presently (in 2017) houses about 700 accessioned archives (ie both the city and county collections) which range in size from those related to single chance finds to large urban and large rural excavations. The collection is, therefore, a snapshot of British archaeological practice, in that large-scale fieldwork of the 1970s-80s is well represented, alongside that from the days of rescue archaeology in Worcester in the 1960s, as well as later material from the era of commercial archaeology postdating 1991.

In 2006 a partnership was formed between Worcestershire Country Museum and Worcester City Museum in the formation of a joint museum store on Hartlebury Trading Estate. The majority of the collections have been moved from less suitable stores and are now stored to a high professional standard in this building, making the collections more widely accessible for visitors, researchers and learning groups.

In 2010 Worcester City Council and Worcestershire County Council took the decision to merge the management of their collections and museum venues, although ownership remained with each authority and the collections are managed in parallel. The new service was named Museums Worcestershire and is overseen by the Joint Museums Committee, formed of representatives from each authority and, when required, additional external expertise.

Digital material has been deposited with the Archaeology Data Service (ADS) since 2013/14.

3.3.1 Worcestershire County Collection

The Worcestershire County museum collection comprises material evidence and associated information relating to the history of the County of Worcestershire and the people who have lived and worked there, and reflects the working life of a rural and urban county from earliest times.

The Worcestershire County Museum was founded in 1964, with the core collection of rural life artefacts donated by the Parker family from Tickenhill Manor (near Bewdley), and so The County collection has its origins in a folk museum and county archaeology service started in the 1960s. This collection is held in a charitable trust for the benefit of the public. Further collecting has continued in the following decades under the governance of Worcestershire County Council.

This museum collection holds material from within the present boundaries of Worcestershire, but excluding the area covered by the collecting policy of Worcester City Museums Service and Bordesley Abbey. The collection includes finds from research excavations prior to PPG15 and PPG16 (1991), sites investigated in response to development (ie mainly post 1991), chance finds, and treasure items.

The collections reflect the settlement of Worcestershire from the Pleistocene through to post-medieval times and include:

- Large deposits from the key county excavations at Beckford, Madresfield, and Droitwich (Bays Meadow Roman Villa, Upwich, Old Bowling Green and Hanbury Road), and Bordesley Abbey

- Pleistocene mammal, particularly mammoth, remains from excavations during the M5 widening at Strensham
- Bronze Age burial urns from Holt
- Iron Age currency bars from Malvern, a rare crouched Iron Age burial from Church Lench and a significant and extensive archive from the Iron Age settlement at Beckford
- Extensive collections of Roman Severn Valley Ware pottery, including from kiln sites at Newlands, salt containers/briquetage from Droitwich, evidence of Roman salt working from Droitwich, Bredon Hill and Hartlebury Roman Coin Hoards and the archive, including wall paintings and a mosaic, from Bays Meadow Roman Villa
- Anglo-Saxon and early medieval coin hoards from Severn Stoke and Wyre Piddle and a 10th century Anglo-Scandinavian gold ring from Kyre Park
- Medieval salt-working evidence, including the site of the main well, from Droitwich (Upwich)

3.3.2 Worcester City Collection

Museum collecting began in Worcester in 1833 with the formation of the Worcestershire Natural History Society led by Sir Charles Hastings. These early, and now extremely significant, natural history collections were bought by the Corporation of Worcester in 1881, which completed the Victoria Institute to house the Library, Museum & Art Gallery and School of Art & Science in 1896. Throughout the 20th century the collections continued to be drawn from a very wide geographical area and range of disciplines. In the 1960s rescue archaeology in Worcester by Philip Barker led to the collection expanding.

During the late 20th century it was the policy of the museum to 'illustrate the story of man and his environment in the Severn valley, with particular reference to Worcester'. Since 1997 the focus for the archaeology, social history and applied art collections has, however, now been more precisely defined as the area governed by Worcester City Council and the people who have lived and worked within that boundary. Museums Worcestershire does not collect archaeology from the area occupied by Worcester Cathedral, which retains its own material.

The collection includes finds from research excavations prior to PPG15 and PPG16, sites investigated in response to development, chance finds and treasure items.

The collections reflect the settlement of Worcester from the Pleistocene through to post-medieval times and include:

- Large deposits from the key city centre excavations Lychgate, Blackfriars, Sidbury, Copenhagen Street, High Street, Deansway, Magistrates Court, the Commandery and Newport Street
- Significant collections of flints by three key collectors: A.E. Jones, Bruton and Bowen. Stone axes from several sites across Worcestershire
- Bronze Age pottery and axes from sites both in the city and wider county; a Bronze Age sword dredged from the River Severn
- Roman pottery, glass, metalwork, ironworking, bronze-working and glass-working waste plus a rural Roman milestone and mosaic. Roman Severn Valley and samian ware are also well represented
- Anglo-Saxon grave goods including jewellery, and metalwork, including weapons, from sites both in the city and wider county
- Medieval pottery, floor tiles, domestic metalwork, glass, shoes and a rare barrel latrine from sites within the city walls

- Post-medieval pottery and glass bottles. 18th and 19th century porcelain waste and kiln furniture from the city industry
- Human remains including Roman cremations from the Diglis cemetery, Roman skeletons from the Kings School cemetery and a significant collection of disarticulated medical waste from medical treatment, training and post mortems carried out at Worcester Royal Infirmary

3.3.3 Museums Worcestershire

3.3.4 Project staffing and expertise

Museums Worcestershire:

Deborah Fox, Curator of Archaeology and Natural History
Claire Cheshire, Registrar
Kerry Whitehouse, Registrar
Lynda Evans, Collections Volunteer
Janet Hogg, Collections Volunteer
Rob Lythe, Collections Volunteer
Judith Prett, Collections Volunteer
Ann Silk, Museums Collections Volunteer
Christine Sylvester, Collections Volunteer

Worcestershire Archive & Archaeology Service:

Derek Hurst (artefacts management)
Jane Evans, pottery specialist (Roman)
Laura Griffin, pottery and non-pottery artefacts specialist
Robert Hedge, Finds Archaeologist, and lithics specialist
Elizabeth Pearson, environmental archaeologist (plant macrofossils)
Aisling Nash, Worcestershire HER Manager
Adrian Scruby, Planning Archaeologist

4 Project delivery

4.1 Rationale and aims

Rationale

The basic principle underpinning the method applied to scoping rationalisation of the archaeological collection was that it needed to closely follow the acquisition and disposal procedures of the Museums Worcestershire (2015d). In this way it was possible to forge a direct link between the rationalisation process and existing procedures that had already been approved by the Museums Association and used successfully in the disposal of some museum collection items – albeit not archaeological material as yet.

Aims

The principle aim was to gather information towards formulating guidance for museums in respect of rationalising archaeological collections, the guidance to include:

- preparatory procedures; methodologies; the resources required; likely outcomes.

Objectives

a) To audit the quality and quantity of the archaeological archives in the museum stores in order to provide a factual basis rationalisation

which, combined with the significance criteria for selection for retention/discard, is intended to facilitate:

b) the calculation of the amount of storage space that could be created by applying the significance criteria and;

c) the creation of a mechanism for estimation of the resources needed to carry out a rationalisation exercise.

This, in effect, therefore, represents a dry-run exercise in the rationalisation of the museum archaeological collection.

4.2 Methods statement

Scoping of the collection for rationalisation was based closely on that applied for the purposes of acquisition and disposal of objects by Museums Worcestershire (2015d; STEPS 1–2). These procedures had been previously approved by the Museums Association, and had already been used successfully in the disposal of social history items, but only tested hypothetically for use with archaeological collections. This approach ensured that the rationalisation process was based on existing procedures, and so could be most easily integrated into current museum practice.

The stages below, therefore, largely comprise those specified for acquisition and disposal procedures by Museums Worcestershire (2015d). They are staged sets of tasks which were worked through systematically and in the order presented.

The museum collection inventory was created in MS Excel. Microsoft Access was used to clean and cross-reference the data and thus compile the final dataset. For details of fields recorded and a copy of the STEP 2 archive assessment template, see Appendix 1.

4.2.1 Stage 1 (STEP 1) – Auditing the quality and quantity of the archaeological archives

Auditing of quantity (curator and volunteers)

1) Undertake a store inventory to material type for:

    a. Worcestershire County archaeology collection in Excel

    b. Undertake a store inventory to material type for Worcester City archaeology collection in Excel.

    Inventory to include: accession number, HER site code, site name, location in store, number of boxes per material type per site, condition check where material is vulnerable eg metalwork, glass.

Auditing of quality (curator and volunteers)

2) Assess inventories against Museums Worcestershire STEP 1 disposals procedure ie consideration of the following:

    - Object damaged beyond repair
    - Object containing hazardous material
    - Objects that were previously over collected
    - Abandoned loan or donation

3) Generate new Worcestershire County and Worcester City inventories (down to context number), following on from results of applying the Museums Worcestershire STEP 1 disposals criteria, where archives have now be adjudged potentially to include material that would benefit from sampling/disposal ie rationalisation of the archive. **In practice, due to the scale of the collection, this was applied selectively only to the Worcester City inventory, and this selective approach is continued in the stages to follow as described below.**

    Each material and context (or context range, if there are multiple consecutive contexts listed) was given a separate record identifier in the spreadsheet. Some boxes contained just a single record (eg a box containing only one material from a single context), while some contained dozens (eg lots of small bags of material from multiple contexts). The advantage of logging records in this way rather than just making box records of material without examining the contents, was considered most important, and so worth the large effort involved. The motivation was that it would enable a more accurate picture of the amount of labour required to sort material within each box, in any subsequent mover to actual rationalisation. All data recording for this stage was in Excel.

4.2.2 Stage 2 (STEP 2) – Applying significance criteria

Rationalisation assessment (museum curator/archaeologist/specialists/curators)

4) Assess inventory of possible archive disposals generated by STEP 1 process against the significance criteria of the Museums Worcestershire STEP 2 disposals procedure. In order to progress to being considered for disposal the object/material must meet TWO OR MORE of the following criteria:

    - comes from outside geographic collection area
    - has no known research potential (see calculate resources section *)
    - has no association with people or events
    - it is undisplayable
    - a better example or sample is retained
    - it is a replica project collected in error
    - it cannot be made safe to store or handle

    In actuality, it proved necessary to also consider archaeological criteria for the purpose of the rationalisation assessment, and so the following criteria were added to the Museums Worcestershire STEP 2 with respect to whether:

    - has an appropriate level of analysis/reporting been carried out?
    - has a rationalisation exercise already been carried out sufficiently?

5) Generate a Worcester City inventory list of potential disposals as a result of applying the Museums Worcestershire STEP 2 disposals criteria.

6) Review the inventory of potential disposals (5) to ensure that only objects/materials that should be considered for disposal are listed. A consultation is, therefore, built in with archaeological curators. In practice, any **final decision** to fully implement rationalisation would also be likely to involve some specific specialist input. The resulting 'disposals' list from the scoping exercise is, therefore, to be regarded as a basis for planning to implement rationalisation as specified in Stage 4.

7) The final determination of what should be considered as suitable for rationalisation is based on the present level of analysis/publication already undertaken as follows:

   - unknown
   - none available (ie reports missing)
   - specialist report completed, but site not published
   - publication completed (NB broad definition of 'publication' included 'grey literature' reports if these comprised the fullest level of analysis deemed appropriate for the site. 'Grey literature' reports comprising assessments or interim reports for major sites were not included in this definition)
   - none needed

   Each archive was then described according to the following scale of archaeological suitability for rationalisation:

   - yes (ie already fully analysed/published appropriately)
   - after recording (eg bulk-collected finds)
   - in future (recording done but awaiting project completion ie major publication)
   - no (too significant or already rationalised)

   The necessary background research for step (7) usually comprised tracking down any reports for individual archives and then scanning them for relevant information which could contribute to an assessment of the value of retaining the finds. In practice, this turned out to be greatly facilitated by having the opportunity for much of the museum collection included here to consult colleagues with first-hand knowledge of those archives and their state of publication in particular. In addition, having access via Worcestershire Archaeology and the HER to the original digital project files made identifying relevant documents much easier, especially as even older reports had been digitised.

4.2.3 Stage 3 – Calculate the amount of storage space that could be created by applying those criteria

Estimation of potential space saving (museum curator)

8) Calculate the storage capacity that could be saved/created (both in standard box units equivalent to 0.02025m^3 and cubic metres).

4.2.4 Stage 4 – Estimate the resources needed to carry out rationalisation

Estimation of resources to complete the rationalisation (museum curator)

9) Estimate the resources required to fulfil Museums Worcestershire disposal procedures which should include, as appropriate:

- Curator to check documentation and accession registers for object/material/archive information
- Curator to check any legal limitations to disposal
- Curator to seek input from excavating unit and planning archaeologist if possible
- Curator to record and photograph objects/materials
- *Some objects/material/archives will require a greater degree of recording prior to disposal eg: basic assessment, specialist report. Where required, these resources will also be calculated. It is possible that the results of further reporting may have implications for disposal.
- Curator's written report to internal acquisition and disposal panel
- Meeting of internal acquisition and disposal panel (at least 3 members of staff which may include Senior Curator, Curator of Social History, Curator of Archaeology & Natural History, Collections Ambassador or Registrar)
- Museums General Manager to take disposal recommendation to Museums Joint
- Committee made up of; two councillors from Worcester City Council and two from Worcestershire County Council. Majority decision, chair has the deciding vote
- Joint committee to recommend disposal to Worcester City Council or Worcestershire County Council cabinet.
- Time and cost of disposal via recommended outcome. Acquisition and Disposal panel will recommend 3 routes in order of priority eg:
    - Offer to another museum
    - Offer to education staff for handling
    - Offer to another educational, charitable or community organisation
    - Return to donor
    - Donate to charity shop
    - Special hazardous material disposal
    - Other professional waste disposal
    - Burial
    - Use house clearance service to mitigate costs of disposal

4.3 Project management and risk management

The project was managed by Deborah Fox (Curator of Archaeology and Natural History, Museums Worcestershire), with Derek Hurst (Post-excavation manager, WAAS). Reporting was by Deborah Fox, Derek Hurst, and Robert Hedge (Finds Archaeologist).

Access to the remote museum store at Hartlebury was key to the project and this was arranged as supervised access by D Fox, as the only museum member of staff available for this purpose. In practice it proved essential to have the curator present in order to navigate the store and know where archaeology was kept (ie there are several adjacent temporary storage units under separate lock and key), including health and safety, as some of the latter are not suitable for normal working.

Assessment work on the data was undertaken allocated between the museum curator and archaeologist/specialists, on the basis of smaller and larger sites respectively.

Risk management

Several risks were identified at the outset of the project (Fox and Hurst 2017) as follows:

> Risk 1 – The size of the museum archive collection may be too large to audit entire collection and a target of 250 project archives may be too much. The countermeasure was to make sure that a cut-off point in terms of archive quantity was agreed with HE in good time – a cross-section of archive sizes, however, to be maintained.
>
> Risk 2 – Parts of main archive store (Hartlebury) are known to be uncomfortable for working in in winter, so the countermeasure was to arrange audit at time of year when ambient conditions are suitable or to ensure appropriate PPE is worn and working conditions ameliorated as far as possible
>
> Risk 3 – The establishment of selection criteria might not be straightforward for archaeology in that resolving conflicting interests (eg of different specialists and/or curators) might be difficult. The countermeasure was to apply clear deselection criteria thresholds only.

Risk 1 proved to be realised, and a decision was taken, therefore, during the inventory stage to restrict the Step 2 assessment to Worcester City archives only – this decision was taken at a monitoring meeting and on the recently established data about the rate of progress with the inventory. Risk 2 did not significantly materialise, as the delay in the project start, due to its later commissioning, meant that the inventory work was carried out at a relatively suitable time of the year given the unheated nature of the premises. Risk 3 fell largely beyond the remit of this project as the project resulted in a list of archives recommended for rationalisation, rather than actual deselection/disposals taking place with the process being carried through to its conclusion. However, the point made in Risk 3 that defining the selection criteria might be difficult tended towards being proved the case, as it turned out that the museological criteria on their own were not sufficient to fully assess the archives for the purpose of their rationalisation, and so these were supplemented by archaeological assessment criteria.

Risks not identified before project commencement

An initial issue of some consequence, and not identified till the outset of the project, was that the existing museum accession catalogue, together with a more recent archaeological box inventory, were determined not to be adequate for the purposes of the project. Accordingly a fresh detailed box inventory down to context level of box contents had to be undertaken for the whole collection. This new detailed inventory was done by skilled volunteers working under supervision by the Curator of Archaeology and Natural History, and represented a very large undertaking not foreseen at the time of project design.

Further and varied issues arose concerning labelling of boxes and the identification of the related fieldwork, which took several forms:

a) Variations in site primary reference where an HER reference was missing from more historic parts of collection

b) Absence of HER number as a primary reference

c) Repeating of the same HER numbers across many projects, so that the finds can no longer be clearly tied into a specific episode of fieldwork.

d) Renumbering by City HER of sites with replacement HER references after their museum accession due to establishing separate City HER – this contributed to making the tracking down of the relevant reports more difficult.

Therefore, there were numerous problems with the variation in and quality of box labelling. The degree of effort needed to resolve these issues was not inconsiderable, and again slowed up the project, but, this time, at the assessment stage. At this point it also proved invaluable to have archaeological staff available with first-hand knowledge of some of the sites where problems had arisen. This familiarity with the archive also proved invaluable as a shortcut, or possibly only way to determine, that a finds archive had only been partly analysed/published. Even if stated in the report this information would often not have been realised, given the resources available for the project. This was crucial information for a rationalisation assessment, and a facility which will be lost in the fullness of time as an avenue for rapidly recording this aspect of an archive.

Completely standardised recording was not achieved when doing the new inventories of the collection, which again extended the time needed, especially when drawing the data together for analysis and presenting the detailed final results (including with diagrams).

4.4 Resources – materials and staff

In addition to the project budget (see below), the following extensive staff and volunteer time were needed for the project (as estimated):

role	**time (days @ 7h/day)**	**cost/value**
Curator (museum)	23 days	£6900
Registrar (museum)	9 days	£1620
Volunteers (museum)	58 days (based over 81 days @ 5hr/day)	£8700 (equivalent value based on HLF ratio of £150 per person day for 7 hour day)
Consultees (various)	3 days	£1000

The production of the new inventory of the collection to a standard which was compatible with the purpose of the project was aided by an extremely able body of volunteers, and this was a key contribution..

4.5 Time

The timespan of the project was just over 8 months from agreement to start and up to submission of the report.

4.6 Budget

The main project budget was £11,938.66, and this was augmented by matched funding and volunteer/professional contributions estimated at £18,220 (see above for breakdown).

4.7 Stakeholders/consultees

Stakeholders in the rationalisation of the *Museums Worcestershire* archaeology collections included:

- the *Museums Worcestershire* joint museums committee (who would sign off any deselection on behalf of the Councils)
- Worcester and Worcestershire local authorities, including planning archaeologists
- Society for Museum Archaeology
- WeMACRU – West Midlands Archaeological Curators Research Unit (the body representing West Midlands museums)
- Historic Environment Records, Worcester City and Worcestershire County Council
- Local groups looking for local research projects to initiate and support
- Universities looking for research projects and teaching materials
- Professional researchers
- museum visitors including 'visitors' via social media (ie better knowledge of the collection through an expert audit will lead to new displays and dissemination of finds information). This is a future provision pending permissions to publicise the results of the project.

5 Project results

The scale of the Worcester City part of the Museums Worcestershire collection meant that, whereas all the larger site archives could be included in the rationalisation assessment at both STEPs 1–2, the high volume of smaller sites (comprising less than 5 boxes) led to the random selection of a 10% sample. Therefore, in the interpretation of the results below, a small margin of error should be allowed for data representing, or including, small sites.

5.1 Empirical data – STEP 1 results

Where 'boxes' are referred to below they should be understood to normally be the standard box size of about 0.45m x 0.25m x 0.18m = 0.02025m^3, except in the case of small finds which are normally stored in a variety of sizes of Stewart plastic boxes. The sites are presented in no particular other than large and smaller sites are separately grouped below.

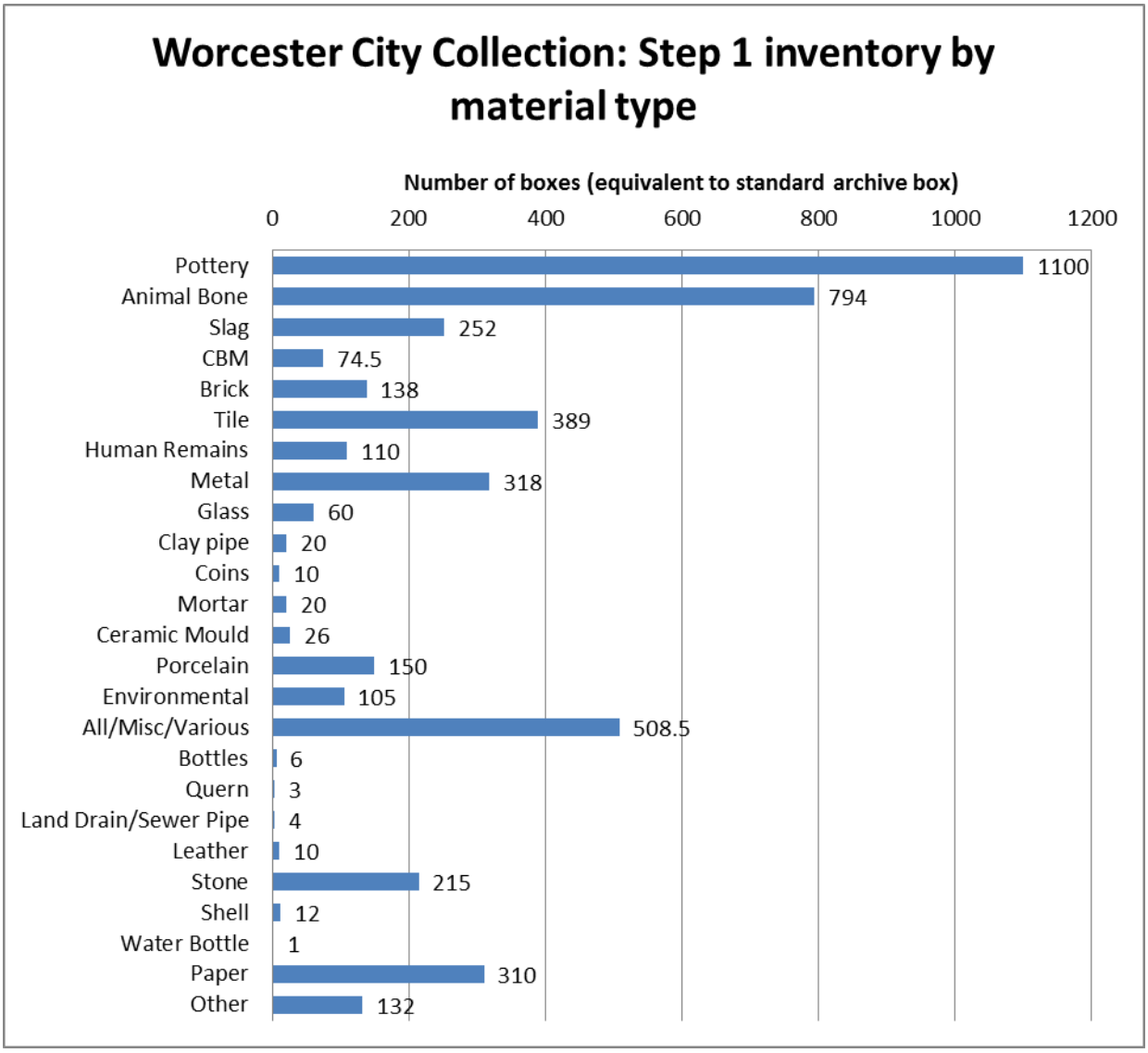

Figure 1 All STEP 1 Worcester City boxes by material (odd-sized boxes estimated by equivalent volume to standard archive boxes)

The total m^3 volume of the Worcester City collection can be estimated at 96.552m^3 (based on 0.02025m^3 x 4768 boxes; Fig 1 and Table 1), though, of course, the actual space utilised is rather greater due to the act of shelving and maintaining access.

Material	Number of boxes	Percentage of collection by volume
Pottery	1100	23.07%
Animal bone	794	16.65%
Slag	252	5.29%
CBM	74.5	1.56%
Brick	138	2.89%
Tile	389	8.16%

Material	Number of boxes	Percentage of collection by volume
Human remains	110	2.31%
Metal	318	6.67%
Glass	60	1.26%
Clay pipe	20	0.42%
Coins	10	0.21%
Mortar	20	0.42%
Ceramic mould	26	0.55%
Porcelain	150	3.15%
Environmental	105	2.20%
All/Misc/Various	508.5	10.66%
Bottles	6	0.13%
Quern	3	0.06%
Land Drain/Sewer Pipe	4	0.08%
Leather	10	0.21%
Stone	215	4.51%
Shell	12	0.25%
Water Bottle	1	0.02%
Paper	310	6.50%
Other	132	2.77%
Total	4768	100.00%

Table 1 STEP 1 Worcester City material quantified by percentage of the collection

These data revealed that pottery and animal bone were the most prolific materials, with ceramic building materials and slag next in order of frequency in terms of their bulk occupation of space in the collection (Table 1).

The average size of a site archive (by number of standard boxes) was also calculated on the basis that this would potentially provide a management tool for forward planning in a context of rationalisation practice. However, box labelling did not always render it clear whether differently labelled boxes were different stages of a single project, or different sites in the same general location – where identifiable as associated phases of one project (eg evaluation leading to excavation followed by watching brief), then these have been considered here as parts of the same site archive. On this basis there was a total number of 327 archived STEP 1 sites/projects (amounting to 4768 boxes; Table 2 and Fig 2), and it could also be observed that there was a high proportion of smaller archives (eg *c* 82% at 5 boxes or fewer; Table 2 and Fig 2).

Archive size (no of boxes)	Frequency	Cumulative %
1	191	58.77%
2	41	71.38%
Up to 5	35	82.15%
Up to 10	25	89.85%
Up to 20	10	92.92%
Up to 50	9	95.69%
Up to 100	5	97.23%
Up to 200	4	98.46%
Up to 500	4	99.69%
Up to 1000	0	99.69%
Up to 2000	1	100.00%
Total	325	

Table 2 STEP 1 Worcester City collection quantified by size of each site/project archive

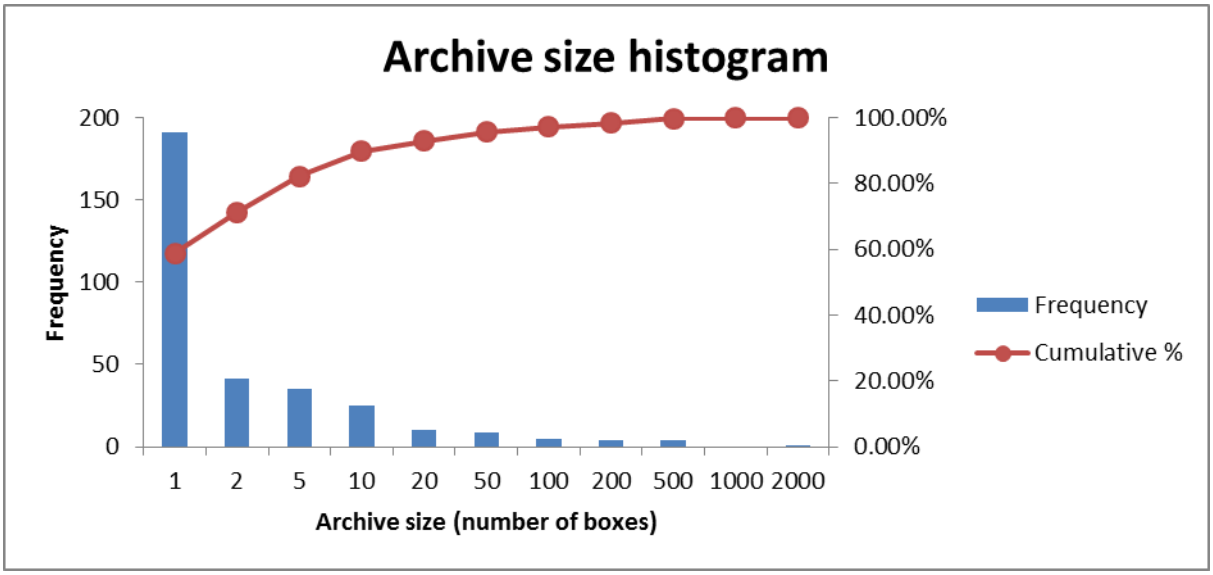

Figure 2 STEP 1 Worcester City collection showing cumulative percentage by size of site/project archive

5.2 Empirical data – STEP 2 results

For an initial detailed assessment the STEP 2 archives were grouped into larger and smaller archives below. It was necessary to sample the smaller archives, as they were very numerous, and this was done on the basis of 10% being assessed.

5.2.1 Assessment of individual STEP 2 site archives

The collections inventory compiled for this stage comprised 16,310 records, which contained up to 375,130 separate pieces of data on the completion of the STEP 2

assessment process. This amply demonstrates the scale of work needed to conduct rationalisation of a large collection. The best focus for STEP 2 was regarded as the larger archives, as these seemed to offer the best prospect of some space reduction. However, smaller site archives were not neglected, but there were so many that these were only sampled, and this has been accommodated for in the overall results.

Larger site archives

WCM101153, 14–24 The Butts, Worcester (boxes marked 'BUF03')

Background

This site is located on the north side of the Roman settlement and a synthetic report has been published (Butler and Cuttler 2011). The archive comprises 33 boxes of finds.

Archive assessment

A review of the published report in *Britannia* (Hurst 2014): commented as follows:

> … Finds dominate the reporting. In the case of the waste products of ironworking, these were ubiquitous, though the lack of associated features implies that this material represents background noise. The slag report for 18–24 The Butts is most illuminating – analysis of the ore makes for a convincing argument that it derives from the Forest of Dean. With smelting not in question the reader is next referred to the extent of smithing, and the general presence of spheroidal hammerscale is taken to indicate that this was potentially on a larger scale than suggested for the Deansway site further south, and no mention of plate hammerscale may point to the initial stage of bloom working. …

The above suggests that the seven boxes of iron slag are liable to be mostly residual.

1	It comes from outside geographic collection area	untrue
2	It has been assessed as having no known research potential	untrue
3	It has no association with people or events	true
4	It is undisplayable	untrue
5	A better example or sample is retained	?
6	It is a replica project collected in error	untrue
7	It cannot be made safe to store or handle	untrue
8	Re an appropriate level of analysis/reporting:	
	• None was needed	untrue
	• Full analysis/specialist report has been done	true
	• Publication has been completed	true
9	Rationalisation exercise already carried out sufficiently	untrue

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard

Recommendations

Consideration could well be given to disposing of much of the iron slag. Though the whole finds archive might also be a candidate for rationalisation bar a handful of small finds.

WCM100543, City Arcades, Worcester

Background

This site has seen some publication (Griffin *et al* 2004), though this is currently understood to be decidedly partial (Laura Griffin pers comm). The archive comprises 103 boxes of finds.

Archive assessment

Only *c* 800 pottery sherds of a total of 3000 were fully analysed due to budgetary constraints, and the remainder was just quantified (Laura Griffin pers. comm.). However, the presence of 19 boxes of pottery suggests that even more pottery seems to be present. Also a large amount of building material was archived from this site (23 boxes)

1	It comes from outside geographic collection area	untrue
2	It has been assessed as having no known research potential	untrue
3	It has no association with people or events	true
4	It is undisplayable	untrue
5	A better example or sample is retained	?true
6	It is a replica project collected in error	untrue
7	It cannot be made safe to store or handle	untrue
8	Re an appropriate level of analysis/reporting:	
	• None was needed	untrue
	• Full analysis/specialist report has been done	untrue
	• Publication has been completed	untrue
9	Rationalisation exercise already carried out sufficiently	untrue

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard

Recommendations

Due to the incomplete state of the publication of this site, detailed assessment of the archive is required, especially of the unpublished part of the archive, before any recommendations can be made.

WCM 101359, Commandery, Worcester

Background

The site is an iconic one for Worcester. An archive report has been produced for this project but not yet finalised. The project archive comprises 281 boxes of finds.

Archive assessment

There are *c* 100 boxes of building materials most of which are ceramic which is a high proportion of the archive collection.

1	It comes from outside geographic collection area	
2	It has been assessed as having no known research potential	
3	It has no association with people or events	
4	It is undisplayable	
5	A better example or sample is retained	
6	It is a replica project collected in error	
7	It cannot be made safe to store or handle	
8	Re an appropriate level of analysis/reporting:	
	• None was needed	
	• Full analysis/specialist report has been done	
	• Publication has been completed	
9	Rationalisation exercise already carried out sufficiently	

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard

Recommendations

In due course, following publication of the report, it is likely that this site archive can undergo some rationalisation, especially focussed on the building materials. Though the iconic nature of the site for the history of Worcester also needs to be borne in mind.

WCM101104 and 100983, 31-33 Friar Street, Worcester

Background

The archive comprises 8 boxes of finds and this project remains unpublished.

Archive assessment

1	It comes from outside geographic collection area	
2	It has been assessed as having no known research potential	
3	It has no association with people or events	
4	It is undisplayable	
5	A better example or sample is retained	
6	It is a replica project collected in error	
7	It cannot be made safe to store or handle	
8	Re an appropriate level of analysis/reporting:	
	• None was needed	
	• Full analysis/specialist report has been done	

	• Publication has been completed	
9	Rationalisation exercise already carried out sufficiently	

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard

Recommendations

Detailed assessment of the archive is required before any recommendations can be made.

HWCM117, Sidbury, Worcester

Background

Shearer dug a trench in 1959. Hirst dug a trench in November 1975. The code 'ws76' is thought to refer to Carver's excavation in 1975-6, which was continued by John Sawle (HWCC) in 1977. Multiple sites represented and 'HWCM117' does not correspond to a known HER record. However, from notes associated with boxes it would appear that this material relates to both the 1975-7 (Carver/Sawle) and the 1988 (Darlington, published in Darlington and Evans 1992) fieldwork.

Collective HER number WCM100824 can be used for the material from the Sawle/Carver work in 1975–7; however, as this material cannot currently be distinguished from the 1988 material, it has not been assigned as such. It is tempting to conclude that boxes marked 'ws76' are exclusively Carver and boxes marked HWCM117 are exclusively Darlington, but there are some discrepancies, and it is unclear which boxes belong to Sawle's 1977 continuation of Carver's work.

HWCM4182 is referenced by Darlington (1989) in his WMA account of the 1988 evaluation on this same site (*West Midlands Archaeology* (for 1989) 32, pp58–65), but presently no boxes are marked as deriving from this stage of fieldwork.

The site archive comprises 245 boxes of finds.

Archive assessment

Carver's (1980) account of the 1976 fieldwork details on-site sampling and discard notes:

Material recovered:

1. Pottery
2. Small finds
3. Coins
4. Clay pipe
5. Building material (selected samples only)
6. Animal bone
    a. Artefacts
    b. Bone groups from selected primary contexts
    c. Bone groups from surface of F47

Material discarded:

1. Iron slag from all contexts except F30
2. Building materials except E5
3. Unresponsive soil samples
4. Responsive soil samples

There are 75 boxes of animal bone with the remainder mostly pottery in the current archive collection.

1	It comes from outside geographic collection area	untrue
2	It has been assessed as having no known research potential	untrue
3	It has no association with people or events	true
4	It is undisplayable	untrue
5	A better example or sample is retained	untrue
6	It is a replica project collected in error	untrue
7	It cannot be made safe to store or handle	untrue
8	Re an appropriate level of analysis/reporting:	
	• None was needed	untrue
	• Full analysis/specialist report has been done	true
	• Publication has been completed	true
9	Rationalisation exercise already carried out sufficiently	true

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard

Recommendations

The relative number of boxes of animal bone suggests that this could be reviewed for the purpose of rationalisation and so some discard.

HWCM 100328 (originally HWCM231), Springfield, Worcester

Background

The archive comprises 4 boxes of finds.

Archive assessment

Insufficient information available.

1	It comes from outside geographic collection area	
2	It has been assessed as having no known research potential	
3	It has no association with people or events	
4	It is undisplayable	
5	A better example or sample is retained	

6	It is a replica project collected in error	
7	It cannot be made safe to store or handle	
8	Re an appropriate level of analysis/reporting:	
	• None was needed	
	• Full analysis/specialist report has been done	
	• Publication has been completed	
9	Rationalisation exercise already carried out sufficiently	

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard

Recommendations

None possible.

WCM378, Blackfriars, Worcester

Background

Excavations at Blackfriars (HWCM 378) took place between February 1985 and May 1986. The first phase comprised the excavation of 5 trial trenches between February 13 and March 31 1985 (alongside two within the footprint of the proposed shopping centre under number HWCM3899). The excavation of two further areas (also as HWCM 378) followed:

- site 1 (trench 6): 1 April 1985 – 23 October 1985
- site 2 (trench 7): 18 June 1985 – 9 May 1986

The project archive comprises 439 boxes of finds.

Archive assessment

Although interim reports were produced, and a draft archive report is also present, these excavations have, to date, not been published. An attempt to incorporate publication into The Hive project was not successful, although in 2007 large parts of the digital archive were converted into a MS Word document. The archive is difficult to navigate.

Some post-excavation work on the finds was evidently completed, although full analysis reports do not appear to be present for pottery and virtually all of the other classes of artefacts are listed as requiring further work for publication. However, environmental analysis appears to have been fully completed.

1	It comes from outside geographic collection area	untrue
2	It has been assessed as having no known research potential	untrue
3	It has no association with people or events	true
4	It is undisplayable	untrue
5	A better example or sample is retained	?true
6	It is a replica project collected in error	untrue
7	It cannot be made safe to store or handle	untrue

8	Re an appropriate level of analysis/reporting:	
	• None was needed	untrue
	• Full analysis/specialist report has been done	?true
	• Publication has been completed	untrue
9	Rationalisation exercise already carried out sufficiently	untrue

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard

Slag

A note in a letter dated 6 January 1992 lists iron slag among the 'completed' aspects of the post-excavation work. However, no copy of any resulting report (or reference to its contents) can be found within the project archive.

Other categories of material

The condition of the iron objects is thought to be poor (L Griffin pers. comm.).

Recommendations

There is a particularly large relative quantity of ceramic building materials and other non-ceramic building materials (c 100 boxes, including a surprising amount of mortar samples), animal bone (60 boxes) and iron slag (44 boxes). Much of the latter is likely to comprise re-used material in the Roman road and can, therefore, be considered residual. Furthermore, given the close proximity of well-documented assemblages of Roman slag from Deansway and The Hive, it seems unlikely that the Blackfriars assemblage would add much in the way of new information. However, excavations on the adjacent 'Broad Street' site in 1967, monitored by Henry Sandon (Barker 1969), uncovered and described a Roman iron-smelting site, which may be the origin of much of the slag deposited in the area. There is, therefore, the possibility that some of the Blackfriars material may be from primary deposits associated with industry in the very near vicinity. Despite this, sampling would very likely be justified for the purpose of rationalisation of the archive.

However, as this is a highly significant site with much remaining to be done to bring the archive to publication, material from HWCM 378 should not be generally considered for disposal at present. If the site can be brought to publication, or if the iron slag analysis/report suggested by the 1992 letter can be recovered, then at least that component of the archive should be considered for disposal.

The condition of the iron objects is thought to be poor (L Griffin pers. comm.), and it is likely that these and the pottery archive would be the priorities for any future attempt to progress work on the site.

WCM100388, St Nicholas Church, Warndon, Worcester

Background

The project archive comprises 9 boxes of finds; it is unclear when this was collected, though a project in 1993 (Napthan 1993) is recorded as adding to a collection.

Archive assessment

The finds are mainly floor tiles.

1	It comes from outside geographic collection area	untrue
2	It has been assessed as having no known research potential	untrue
3	It has no association with people or events	true
4	It is undisplayable	untrue
5	A better example or sample is retained	untrue
6	It is a replica project collected in error	untrue
7	It cannot be made safe to store or handle	untrue
8	Re an appropriate level of analysis/reporting:	
	• None was needed	untrue
	• Full analysis/specialist report has been done	untrue
	• Publication has been completed	untrue
9	Rationalisation exercise already carried out sufficiently	untrue

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard

Recommendations

No obvious case for rationalisation.

WSM29907, Warndon Court Farm, Worcester

Background

The project archive comprises 10 boxes of finds.

Archive assessment

The finds were mainly pottery but also include 2 boxes of brick; the pottery was summarised as being mainly late 18th–20th century (Fagan and Hurst 1994).

1	It comes from outside geographic collection area	untrue
2	It has been assessed as having no known research potential	untrue
3	It has no association with people or events	true
4	It is undisplayable	untrue
5	A better example or sample is retained	untrue
6	It is a replica project collected in error	untrue
7	It cannot be made safe to store or handle	untrue
8	Re an appropriate level of analysis/reporting:	
	• None was needed	
	• Full analysis/specialist report has been done	
	• Publication has been completed	

9	Rationalisation exercise already carried out sufficiently	

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard

Recommendations

It is likely that this archive would benefit from rationalisation as the pottery is generally relatively late, and there is a quantity of bulk ceramic building material from post-medieval deposits.

HWCM539, Diglis, Worcester

Background

The project archive comprises 6 boxes of finds.

Archive assessment

The finds were mainly bottles but also building materials.

1	It comes from outside geographic collection area	untrue
2	It has been assessed as having no known research potential	?true
3	It has no association with people or events	true
4	It is undisplayable	untrue
5	A better example or sample is retained	?true
6	It is a replica project collected in error	untrue
7	It cannot be made safe to store or handle	untrue
8	Re an appropriate level of analysis/reporting:	
	• None was needed	
	• Full analysis/specialist report has been done	
	• Publication has been completed	
9	Rationalisation exercise already carried out sufficiently	

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard

Recommendations

It is possible that this archive could be a candidate for rationalisation.

HWCM 3899, Deansway, Worcester

The following is based around a detailed inventory of the museum collection, assessment of the archive. Any recommendations for rationalisation here are subject to further more detailed phase/context-related consideration, as this is a very significant site archive, so they should only be seen as a broad indication of the likely course to follow. The archive comprises 1417 boxes of finds – the Hurst and Christiansen (2009) assessment identified 953 boxes of finds in all.

Background

This site is the largest modern excavation in Worcester, though only the medieval and earlier remains were reported on (Dalwood and Edwards 2004). The report included some archive data also being made available on-line. The post-medieval remains were not analysed nor reported on, and this constitutes a large amount of material.

Archive assessment

This archive was rapidly reviewed as part of a rationalisation initiative in 2009 (Hurst and Christiansen 2009), the results of which were summarised as follows:

… The assessment has focussed on the following aspects of the finds archive: condition, specialist status, residuality, future research potential, reasons to retain select items, and duplication. It acknowledges the achievement of the project to date, but also the inherent problems that often attend the archive of such a large and complex excavation. Recommendations are made for the future management of the Deansway collection. The recommendations focus on the current condition of the archive, possibilities of further specialist reporting to maximise potential of the archive, and provides a possible framework for some disposal, emphasising in all cases that detailed specialist review should precede any action impacting on the integrity of the current archive.

And a synopsis of the finds highlights of the project by Hurst and Christiansen (2009) was as follows:

> … The most spectacular finds included a samian sherd with a rare runic inscription, and a series of rare Anglo-Saxon *sceatta* coins. The very large assemblages of pottery, and animal bone in particular allowed extensive analyses resulting in the firm establishment of typological trends for the periods covered to date (ie prehistoric to medieval), and which now provide part of the essential framework for future research in the region. However, there were also problems with residuality typical of large urban assemblages, and this is acknowledged throughout the report, which in itself adds to the value of the reporting already undertaken.

In 2009 the criteria applied were a combination of museological and archaeological attributes, much the same as being applied in the current assessment. In 2009, given the size of the archive, it was deemed necessary to sample it, and this was done on the basis of the following stipulation: for every 10 boxes or less of a material, one box was sampled, and for over 10 boxes, 5% of boxes were sampled.

Hurst and Christiansen (2009) table 4 assessed the specialist reporting to establish whether further reporting was identified as still needed at the time of writing, though in many cases this would not imply any tendency to disposal given the significance of the site assemblage as a whole. Indeed some important areas were defined as having had insufficient publication due to resourcing not being sufficient eg bone/antler objects and iron objects. A policy of excluding items from analysis and publication where residuality was high has resulted in some pre-post-medieval material also being omitted from publication, though this policy seems to have been inconsistently applied.

As an example of the relative complexity of more detailed assessment for rationalisation of a category of finds, animal bone is picked out from the 2009 assessment report as it highlights some of the general problems of working even with an archive of the recent past:

> … As an example the animal bone report was briefly assessed in terms of the viability of its archive data. The published animal bone report appears comprehensive, and an additional section of the report (spatial analysis) is also available in a digital form on the ADS website (http://ads.ahds.ac.uk/catalogue/library/cba/rr139fiche/index.cfm - checked 25 March 2009). A detailed bone catalogue (digital) exists (presently at the WHEAS office); the digital copy was located on the network, but was not opened due to the need to migrate files before any data could be usefully examined – therefore the full viability and contents of the data could not be established given the time constraints of the assessment reported here, though the signs are good that revival of these data would be successful. On this basis it would clearly be inadvisable to recommend any course of future action about the material itself at the moment, as the availability of the essential primary source data could not be fully determined.

The variability of the archive record for differing categories of material is also pointed out in the Hurst and Christiansen (2009) table 5, where catalogues in many cases are missing, presumably as not provided, for most materials, which is rather surprising given that identification lists are usually the basis of any reporting. This part of the project archive has recently been catalogued by WAAS staff and 305 separate parcels of records identified – it is suggested that quite a lot of duplication is present, and the new catalogue resulting from the 2016–2017 cataloguing work should make starting to deal with this part of the archive a feasible proposition.

The main conclusion of the 2009 assessment, apart from identifying areas of improvement in storage conditions, was that specialist review should form the basis for any disposal.

1	It comes from outside geographic collection area	untrue
2	It has been assessed as having no known research potential	true
3	It has no association with people or events	true
4	It is undisplayable	untrue
5	A better example or sample is retained	untrue
6	It is a replica project collected in error	untrue
7	It cannot be made safe to store or handle	untrue
8	Re an appropriate level of analysis/reporting:	
	• None was needed	untrue
	• Full analysis/specialist report has been done	true
	• Publication has been completed	true
9	Rationalisation exercise already carried out sufficiently	untrue**

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard

** earlier (pre-2009) finds archive reduction (slag) was minimal and, therefore, not counted as rationalisation for the purposes of this assessment; a separate review of the archive undertaken by Hurst and Christiansen (2009) has gone some way to identifying categories of material as foci for rationalisation, though the results of this rapid review were more indicative than final.

Slag

The publication report notes 2.6 tonnes, though the tables suggest slightly less: ie 2020.3kg smelting slag & 308.0kg smithing slag. Split over the 147 boxes recorded by Hurst and Christiansen (2009), the larger figure would account for 17.7kg per box. This is well beyond the average volume observed, so it would appear that the slag present is already a sub-sample of that assessed by the specialist.

Animal bone

A large amount of animal bone (499 boxes) was in store, however it should be acknowledged that this includes a large amount of unrecorded post-medieval animal bone, which is a significant component within the total of around 115,000 fragments.

Recommendations

The very large amount of slag (150 boxes) seems unlikely to repay longer term retention, and a selection from some key contexts should most likely be the only material of this type to be retained.

Given the very large amount of animal bone (499 boxes), it is also likely that this would repay the identification of those contexts with large quantities of residual datable finds (medieval and earlier only contexts due to the partial publication), as another contribution to collection rationalisation (see above). The rapid recording toolkit employed by York Archaeological Trust on their animal bone assemblage from Hungate (Rainsford *et al* 2014) suggests a model. However, at York, the Hungate assemblage is one of a number of significant animal bone assemblages from the city, whereas at Worcester the Deansway assemblage is much more unique. Any movement in this direction would, therefore, need to be carried out in careful consultation with relevant specialists. As an indication of what could be achieved assessment of the Hungate material (241 boxes containing 83500 fragments) resulted in a retention ratio of 35% by number, with a corresponding reduction of around 50% in the volume of the assemblage (undertaken over 15 working days by one zooarchaeologist and a team of volunteers).

Other categories of material such as the ceramic building materials (145 boxes), are also likely to repay a similar process of review for the purpose of rationalisation. This archive, therefore, should potentially be a prime candidate for selective disposal of some very numerous bulky/heavy categories of material.

WSM04182, Friar Street, Worcester

Background

This project was published (Darlington 1989) and the project archive comprises 2 boxes of finds.

Archive assessment

1	It comes from outside geographic collection area	untrue
2	It has been assessed as having no known research potential	untrue
3	It has no association with people or events	true
4	It is undisplayable	untrue

5	A better example or sample is retained	untrue
6	It is a replica project collected in error	untrue
7	It cannot be made safe to store or handle	untrue
8	Re an appropriate level of analysis/reporting:	
	• None was needed	untrue
	• Full analysis/specialist report has been done	?
	• Publication has been completed	?
9	Rationalisation exercise already carried out sufficiently	?untrue

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard

Recommendations

The size of this archive makes rationalisation a low priority, though residual Roman finds in medieval and later deposits confirm the mixed nature of finds in the upper parts of the stratigraphic sequence.

HWCM5323, Bishop's Palace, Worcester

Background

The project archive comprises 3 boxes of finds.

Archive assessment

1	It comes from outside geographic collection area	untrue
2	It has been assessed as having no known research potential	untrue
3	It has no association with people or events	true
4	It is undisplayable	untrue
5	A better example or sample is retained	untrue
6	It is a replica project collected in error	untrue
7	It cannot be made safe to store or handle	untrue
8	Re an appropriate level of analysis/reporting:	
	• None was needed	?untrue
	• Full analysis/specialist report has been done	?
	• Publication has been completed	?
9	Rationalisation exercise already carried out sufficiently	untrue

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard

Recommendations

The size of this archive makes rationalisation a low priority.

HWCM8229, Farrier Street, Worcester

Background

The project archive comprises 18 boxes of finds.

Archive assessment

This excavation (HWCM8229) was published (Dalwood *et al* 1994).

1	It comes from outside geographic collection area	untrue
2	It has been assessed as having no known research potential	untrue
3	It has no association with people or events	true
4	It is undisplayable	untrue
5	A better example or sample is retained	untrue
6	It is a replica project collected in error	untrue
7	It cannot be made safe to store or handle	untrue
8	Re an appropriate level of analysis/reporting:	
	• None was needed	untrue
	• Full analysis/specialist report has been done	true
	• Publication has been completed	true
9	Rationalisation exercise already carried out sufficiently	untrue

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard

Recommendations

Due to publication this archive though of moderate size, may well repay some rationalisation of finds categories such as ceramic building materials and animal bone, especially as the report indicates a high level of residuality in the post-Roman phases (Buteux 1994, 91, fig 8).

HWCM24905, WCM100198 and WCM100525, 37–55 Friar Street, Worcester

Background

As well as including buildings on the Friar Street frontage and their back plots, this fieldwork also impinged onto the city wall. It is presently unclear to which discrete areas of fieldwork the different HER numbers refer. The project archive comprises 48 boxes of finds, though mainly from WCM100198.

Archive assessment

There appears to have been a good sequence of deposits from Roman onwards with a wide range of and numerous artefacts despite the evaluative nature of the fieldwork (Napthan *et al* 1997; Jackson *et al* 2001). The data collected on the boxes from this site archive lacked much information on categories of material for WCM100198, though it is known that only a limited selection of the pottery was fully analysed (Laura Griffin pers. comm.).

1	It comes from outside geographic collection area	untrue
2	It has been assessed as having no known research potential	untrue
3	It has no association with people or events	true
4	It is undisplayable	untrue
5	A better example or sample is retained	untrue
6	It is a replica project collected in error	untrue
7	It cannot be made safe to store or handle	untrue
8	Re an appropriate level of analysis/reporting:	
	• None was needed	untrue
	• Full analysis/specialist report has been done	untrue
	• Publication has been completed	untrue
9	Rationalisation exercise already carried out sufficiently	untrue

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard

Recommendations

This site assemblage is not known to have been taken to full analysis, and so should not currently be considered for rationalisation. Further information is also needed on box contents for WCM100198, possibly because storage conditions did not permit the collection of the usual level of archive finds data.

WCM101372, Newport Street, Worcester

Background

The results of this fieldwork have been published in detail (Davenport 2015). The project archive comprises 149 boxes of finds.

Archive assessment

The site assemblage is extensive and medieval to post-medieval finds are very well represented, and especially later medieval and post-medieval pottery.

1	It comes from outside geographic collection area	untrue
2	It has been assessed as having no known research potential	untrue
3	It has no association with people or events	true
4	It is undisplayable	untrue
5	A better example or sample is retained	untrue
6	It is a replica project collected in error	Untrue
7	It cannot be made safe to store or handle	Untrue
8	Re an appropriate level of analysis/reporting:	
	• None was needed	Untrue

	• Full analysis/specialist report has been done	True
	• Publication has been completed	True
9	Rationalisation exercise already carried out sufficiently	Untrue

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard

Recommendations

There are indications that sampling of some bulk materials during excavation, notably ceramic building materials, was carried out during the excavation, but the extent of retained archive for this category of find (36 boxes) suggests that further rationalisation may be possible. Whereas the published report dwells extensively on brick dating and fabrics, the value of this may deserve some questioning, and depending on the outcome of that, again there may be grounds for disposal. The site is liable to stand as a type site for published post-medieval pottery in the region and may, to some extent, lessen the impact of the unpublished status of the Deansway pottery of the same period. On the basis of the latter consideration it may be suggested that rationalisation should not be considered for this material despite its forming a large part of the overall pottery assemblage (38 boxes) from the site.

WCM100358 and WCM100414, Castle Street, Worcester

Background

The results of this fieldwork were published (Edwards *et al* 2002). The project archive comprises 40 boxes of finds.

Archive assessment

Roman features were quite truncated and overlying soils with only small amounts of medieval finds. Late post-medieval deposits were best preserved, though these were excluded from the analysis on the grounds of lateness (as also commented by Laura Griffin). While residuality is mentioned later on in the Roman sequence, it does not seem to have been a big feature of the Roman pottery. Some sampling is recorded as having occurred during fieldwork ie for ceramic building materials, with only the Roman material being recorded in any detail, and even then a large assemblage (754 fragments) of Roman CBM was recorded to fabric type (Laura Griffin pers. comm.).

1	It comes from outside geographic collection area	Untrue
2	It has been assessed as having no known research potential	Untrue
3	It has no association with people or events	True
4	It is undisplayable	Untrue
5	A better example or sample is retained	untrue
6	It is a replica project collected in error	Untrue
7	It cannot be made safe to store or handle	Untrue
8	Re an appropriate level of analysis/reporting:	
	• None was needed	Untrue

	• Full analysis/specialist report has been done	Untrue
	• Publication has been completed	Untrue
9	Rationalisation exercise already carried out sufficiently	Untrue

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard

Recommendations

Parts of the assemblage, such as the samian ware, are lacking specialist reporting, and recording of some aspects of the finds has not been completed. Therefore, this site archive, as it stands, is unlikely to qualify fully for any rationalisation.

WCM101132, Crown Passage, Worcester

Background

The results of this fieldwork have been published (Deeks *et al* 2005). The project archive comprises 4 boxes of finds.

Archive assessment

1	It comes from outside geographic collection area	Untrue
2	It has been assessed as having no known research potential	Untrue
3	It has no association with people or events	True
4	It is undisplayable	Untrue
5	A better example or sample is retained	Untrue
6	It is a replica project collected in error	Untrue
7	It cannot be made safe to store or handle	Untrue
8	Re an appropriate level of analysis/reporting:	
	• None was needed	Untrue
	• Full analysis/specialist report has been done	Untrue
	• Publication has been completed	True
9	Rationalisation exercise already carried out sufficiently	Untrue

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard

Recommendations

The size of this archive makes rationalisation a low priority.

WCM101701, Kardonia, Worcester

Background

This project has not been completed in that no report has yet been formally undertaken. The project archive comprises 30 boxes of finds.

Archive assessment

1	It comes from outside geographic collection area	Untrue
2	It has been assessed as having no known research potential	Untrue
3	It has no association with people or events	True
4	It is undisplayable	Untrue
5	A better example or sample is retained	Untrue
6	It is a replica project collected in error	Untrue
7	It cannot be made safe to store or handle	Untrue
8	Re an appropriate level of analysis/reporting:	
	• None was needed	Untrue
	• Full analysis/specialist report has been done	Untrue
	• Publication has been completed	Untrue
9	Rationalisation exercise already carried out sufficiently	Untrue

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard

Recommendations

The absence of any progress with formal analysis and reporting means that rationalisation is not currently an option.

WCM100417, Magistrates' Court, Worcester

Background

The current status of the reporting stage of this project is uncertain. The project archive comprises 133 boxes of finds.

Archive assessment

This site archive comprises a great deal of Roman pottery (most of 104 boxes), ceramic building materials (14 boxes), and other finds (mostly Roman).

1	It comes from outside geographic collection area	Untrue
2	It has been assessed as having no known research potential	Untrue
3	It has no association with people or events	True
4	It is undisplayable	untrue
5	A better example or sample is retained	Untrue
6	It is a replica project collected in error	Untrue
7	It cannot be made safe to store or handle	Untrue
8	Re an appropriate level of analysis/reporting:	
	• None was needed	Untrue
	• Full analysis/specialist report has been done	?untrue

	• Publication has been completed	Untrue
9	Rationalisation exercise already carried out sufficiently	Untrue

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard

Recommendations

The scale of the Roman component of this site archive is notable. As it is of mainly one period there is less opportunity to easily identify residual material, and this makes it more difficult to carry out much rationalisation.

Smaller site archives (five boxes or less) – select sample

WCM100033, 7 Severn Street (1986.70)

Background

Nothing known.

Archive assessment

The archive is currently stored in one box but is recorded as containing 176 sherds Roman pottery, 5 sherds of samian, 4 pieces of slag, 33 pieces of building material, 2 pieces worked stone, 502 sherds post medieval pottery, 40 bathroom pottery sherds, 1 door knob, 75 clay pipe stems, 24 clay pipe bowls, 34 pieces of post medieval glass, 16 nails, 1 key, 6 brass objects, 4 pieces of animal bone, 23 teeth and 4 shells.

1	It comes from outside geographic collection area	Untrue
2	It has been assessed as having no known research potential	Untrue
3	It has no association with people or events	True
4	It is undisplayable	Untrue
5	A better example or sample is retained	Untrue
6	It is a replica project collected in error	Untrue
7	It cannot be made safe to store or handle	Untrue
8	Re an appropriate level of analysis/reporting:	
	• None was needed	Untrue
	• Full analysis/specialist report has been done	Untrue
	• Publication has been completed	untrue
9	Rationalisation exercise already carried out sufficiently	Untrue

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard

Recommendations

The absence of any progress with formal analysis and reporting means that rationalisation is not currently an option but following assessment, the archive or parts of it may be suitable. It is likely that the full archive has not yet been identified.

WCM100656, Bowling Green Terrace (1973.41)

Background

This archive forms part of the wider work carried out during the construction of City Walls Road in 1973. The project archive comprises 1 box of finds.

Finds from city ditch site adjacent to Crocketts works, hence presence of bottles.

Archive assessment

The archive is stored in 1 box and includes 6 incomplete stoneware bottles (6 named Crocketts of Worcester and 2 plain)

1	It comes from outside geographic collection area	Untrue
2	It has been assessed as having no known research potential	True
3	It has no association with people or events	True
4	It is undisplayable	Untrue
5	A better example or sample is retained	Untrue
6	It is a replica project collected in error	Untrue
7	It cannot be made safe to store or handle	Untrue
8	Re an appropriate level of analysis/reporting:	
	• None was needed	Untrue
	• Full analysis/specialist report has been done	?
	• Publication has been completed	?
9	Rationalisation exercise already carried out sufficiently	Untrue

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard

Recommendations

It is recommended that the objects from this archive are suitable for rationalisation following basic recording.

Bridge Street, Worcester (1986.76)

Background

The archive was hand collected by Tim Bridges, Curator of Archaeology at Worcester City Museum Service (James Dinn pers comm).

May refer to WCM100053 and so be material from a well. No details in HER record. Possibly more likely to be WCM100057 'Rear of Bridge Street', seems to be records from a test pit dug in October 1985.

Archive assessment

The archive is stored in one box and includes 47 sherds of post medieval pottery, 11 clay pipe stems, 2 clay pipe bowls, 2 pieces of tile, 15 pieces of glass, 15 nails, 1 brass design and 20 pieces of animal bone.

1	It comes from outside geographic collection area	Untrue
2	It has been assessed as having no known research potential	Untrue
3	It has no association with people or events	True
4	It is undisplayable	Untrue
5	A better example or sample is retained	Untrue
6	It is a replica project collected in error	Untrue
7	It cannot be made safe to store or handle	Untrue
8	Re an appropriate level of analysis/reporting:	
	• None was needed	Untrue
	• Full analysis/specialist report has been done	Untrue
	• Publication has been completed	Untrue
9	Rationalisation exercise already carried out sufficiently	Untrue

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard

Recommendations

The absence of any progress with formal analysis and reporting means that rationalisation is not currently an option but following assessment, the archive may be suitable.

WCM100586, 17 Britannia Square, Worcester

Background

A watching brief (access condition) by James Dinn on the excavation of a light well on 6–7 October 1999.

Archive assessment

The archive is stored in one box and includes Roman pottery, animal bone, sandstone fragments, a piece of shale, *opus signinum*, tegula, imbrex and box-flue tile, mortar, stone and tile tesserae, and a small fragment of mosaic floor.

1	It comes from outside geographic collection area	untrue
2	It has been assessed as having no known research potential	Untrue
3	It has no association with people or events	True
4	It is undisplayable	Untrue
5	A better example or sample is retained	Untrue
6	It is a replica project collected in error	Untrue

7	It cannot be made safe to store or handle	Untrue
8	Re an appropriate level of analysis/reporting:	
	• None was needed	Untrue
	• Full analysis/specialist report has been done	Untrue
	• Publication has been completed	Untrue
9	Rationalisation exercise already carried out sufficiently	Untrue

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard

Recommendations

The absence of any progress with formal analysis and reporting means that rationalisation is not currently an option but following assessment, the archive or parts of it may be suitable. This small portion of mosaic floor is the only known example from the City of Worcester.

WCM100041, Diglis Roman Cremation Cemetery, Worcester (WD1860)

Background

Roman cremation cemetery found in March 1860 by farm labourers at depth of three to four feet.

HER record for event: WCM100041. Cremation cemetery itself: WCM96613.

Archive assessment

The archive is stored in one box and on one shelf of opening ceramic storage and contains Roman pottery sherds, complete and semi-complete Roman vessels, a copper alloy torc and cremated remains

1	It comes from outside geographic collection area	Untrue
2	It has been assessed as having no known research potential	Untrue
3	It has no association with people or events	True
4	It is undisplayable	Untrue
5	A better example or sample is retained	Untrue
6	It is a replica project collected in error	Untrue
7	It cannot be made safe to store or handle	Untrue
8	Re an appropriate level of analysis/reporting:	
	• None was needed	untrue
	• Full analysis/specialist report has been done	Untrue
	• Publication has been completed	Untrue
9	Rationalisation exercise already carried out sufficiently	Untrue

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard

Recommendations

The archive is often used for display and interpretation and there is an absence of any modern formal analysis and reporting. The archive is not considered suitable for rationalisation.

HWCM9617 Evaluation at Little Tolladine Farm, Warndon

Background

An evaluation was undertaken at Little Tolladine Farm, Warndon, at the request of Bryant Homes Central Ltd in an area of proposed development. The evaluation uncovered a suspected medieval mote although no dating finds or significant environmental remains were found within it. Development occurred in the 18th century but, following the evaluation, the site was not considered to be of archaeological significance.

Archive assessment

The archive contains one box of post medieval finds and may contain two sherds of medieval pottery. The report contains no table of finds.

1	It comes from outside geographic collection area	Untrue
2	It has been assessed as having no known research potential	True
3	It has no association with people or events	True
4	It is undisplayable	Untrue
5	A better example or sample is retained	Untrue
6	It is a replica project collected in error	Untrue
7	It cannot be made safe to store or handle	Untrue
8	Re an appropriate level of analysis/reporting:	
	• None was needed	Untrue
	• Full analysis/specialist report has been done	Untrue
	• Publication has been completed	True
9	Rationalisation exercise already carried out sufficiently	Untrue

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard

Recommendations

It is likely that this archive is suitable for rationalisation but the current report contains no details or table of finds. It is recommended that this work is carried out prior to consideration.

HWCM6953, Reindeer Coaching Inn, Mealcheapen Street, Worcester

Background

Salvage recording was undertaken at Reindeer Coaching Inn, Mealcheapen Street at the request of Bryant Properties Plc. The majority of finds dated to the post medieval period although a sherd of samian ware is mentioned in the report. The discovery of five desiccated cats beneath floorboards is also mentioned.

Archive assessment

The archive contains two boxes of post medieval water bottles but the report refers to further finds including five desiccated cats found beneath floor boards which are not currently in the museum collection. The report contains no table of finds so it is not possible currently to identify what the archive contains in its entirety. Finds are referred to in the report that are currently not in the archive. The report states that the five desiccated cats were sent on loan to S. Payne (English Heritage).

1	It comes from outside geographic collection area	Untrue
2	It has been assessed as having no known research potential	Untrue
3	It has no association with people or events	True
4	It is undisplayable	Untrue
5	A better example or sample is retained	True
6	It is a replica project collected in error	Untrue
7	It cannot be made safe to store or handle	Untrue
8	Re an appropriate level of analysis/reporting:	
	• None was needed	Untrue
	• Full analysis/specialist report has been done	Untrue
	• Publication has been completed	True
9	Rationalisation exercise already carried out sufficiently	Untrue

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard

Recommendations

Efforts should be made to locate the entire archive and record what it contains. It is likely that following this work, the two boxes of water bottle are likely to be suitable for rationalisation but other elements (ie the cats) may be retained.

WCM100522, Sansome Place, Worcester

Background

An evaluation was undertaken by WAAS on behalf of Hercules House Ltd ahead of a residential development. Deposits, features and finds dated from Roman to 20th century.

Archive assessment

The archive contains one box of material dating from Roman to 20th century. It was considered that only backfilled quarry pits of 16th and 17th century date in trench 1 had potential to add to picture of aspects of early modern society and economy in Worcester. Small quantity of Roman and medieval material was residual.

1	It comes from outside geographic collection area	Untrue
2	It has been assessed as having no known research potential	Untrue
3	It has no association with people or events	True
4	It is undisplayable	Untrue
5	A better example or sample is retained	True
6	It is a replica project collected in error	Untrue
7	It cannot be made safe to store or handle	Untrue
8	Re an appropriate level of analysis/reporting:	
	• None was needed	Untrue
	• Full analysis/specialist report has been done	Evaluation
	• Publication has been completed	True
9	Rationalisation exercise already carried out sufficiently	Untrue

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard

Recommendations

Retain material from 16th and 17th century pits in trench 1 – contexts 1007, 1009, 1011, 1012 with discard of remainder only after basic recording complete. This would reduce archive size from one box to a half a box. But would this be worth the effort when reviewed in a cost-benefit exercise?

St Andrews, Worcester (1969.731)

Background

Collected by pupils from Christopher Whitehead School otherwise nothing known.

Archive assessment

The archive contains one box of medieval pottery found during excavation by three pupils from Christopher Whitehead School.

1	It comes from outside geographic collection area	Untrue
2	It has been assessed as having no known research potential	Untrue
3	It has no association with people or events	True
4	It is undisplayable	Untrue
5	A better example or sample is retained	Untrue
6	It is a replica project collected in error	untrue
7	It cannot be made safe to store or handle	Untrue

8	Re an appropriate level of analysis/reporting:	
	• None was needed	Untrue
	• Full analysis/specialist report has been done	Untrue
	• Publication has been completed	Untrue
9	Rationalisation exercise already carried out sufficiently	Untrue

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard

Recommendations

The absence of any progress with formal analysis and reporting means that rationalisation is not currently an option but following assessment, the archive or parts of it may be suitable.

HWCM25280, St Mary's Street, Worcester

Background

Salvage recording was undertaken at St Mary's Street, Worcester at the request of Genesis Property Management Ltd in part fulfilment of a planning condition applied by Worcester City Council in February 1997. No features of layers predated the 17th century. Urban development did not take place on the site until 19th century. No evidence of Roman or medieval activity, that had been suggested, was found on the site.

Archive assessment

The archive contains one box of post medieval material: pottery sherds, clay pipe fragments, tile, brick, animal tooth.

1	It comes from outside geographic collection area	Untrue
2	It has been assessed as having no known research potential	True
3	It has no association with people or events	True
4	It is undisplayable	Untrue
5	A better example or sample is retained	Untrue
6	It is a replica project collected in error	Untrue
7	It cannot be made safe to store or handle	Untrue
8	Re an appropriate level of analysis/reporting:	
	• None was needed	Untrue
	• Full analysis/specialist report has been done	True
	• Publication has been completed	True
9	Rationalisation exercise already carried out sufficiently	Untrue

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard

Recommendations

Following adequate recording and consultation this material is likely to be suitable for rationalisation. One clay pipe fragment is recorded as having an indistinct makers mark. This should be given specific consideration before discard to ascertain its quality and clarity.

5.2.2 Overall outcome of STEP 2 assessment (potential for rationalisation)

The completed STEP 2 record consisted of 16,310 records relating to 3220 boxes, as compiled for the purpose of this project. Overall the total number of STEP 2 sites assessed in detail was 34 (comprising the 3220 boxes), giving an average per archive of 95 boxes. This latter figure may give some idea of the size of archive most likely to be worth considering for rationalisation, that is, if size in itself is concluded to be relevant in this context.

To underline part of the method statement (see above) the advantage of logging 'records' rather than boxes was that it would enable a more accurate picture of the amount of labour required to sort material within each box as part of any rationalisation implementation. Apart from enabling clinical extraction of specific contexts in the course of this process, it has also enabled the mean value of 'records per box' to be calculated (being 5), which in itself is useful when estimating the amount of work/costs of rationalisation. The mean volume per 'record' can therefore be estimated at $0.02025m^3/5 = 0.00405m^3$.

Suitable for rationalisation?	Number of records	Percentage	Equivalent number of boxes (estimate)	Volume (m^3)
Yes	2842	17.42%	568	11.5
After recording	2704	16.58%	541	11.0
In future (pending publication)	5994	36.75%	1199	24.3
No	4770	29.25%	954	19.3
Total STEP 2 records	16,310		3262	66.1

Table 3 Quantification of STEP 2 boxes of material suitable for rationalisation

Dividing the number of logged records of the STEP 2 archive by 5 (see above for average records per box), then the estimate of box numbers involved at this stage is 3262 (deviating by only 1.3% from the total box count for STEP 2 archives; Table 3). Bulkier materials such as slag or CBM, are more likely to be considered for disposal, and so are likely to account for fewer records per box than other material such as pottery.

The scoping of rationalisation of the museum collection has, therefore, resulted in the equivalent of **568 boxes** ($11.5m^3$) being identified as suitable immediately for rationalisation (Table 3). Given that retention of a sample is desirable in many cases, not all the material associated with the 2842 records would be eligible for disposal. As an example, allowing for retention of 10%, it can be estimated that about **500 boxes** would be available for disposal without further recording or analysis – representing a space saving of around $0.02025m^3 \times 500 = 10.125m^3$.

Two other areas of the collection can now also be targeted for rationalisation on a quantifiable basis (Table 3):

a) Given that well over one-third of the assessed collection (by number of records) remains unpublished, it might reasonably be suggested that this material should also be considered for some rationalisation;

b) Certain categories of material are also indicated for rationalisation (Table 4 and Fig 3) by their nature, most specifically in the context of Roman Worcester, ironworking slag. There is very little variation of type (ie the complexity of individual categories of material may also be taken into account in the context of rationalisation), and it is waste rather than artefactual in nature. In the case of this collection, a brief study of the slag (after all a waste material) may result in considerable further space-saving advantage without too much further effort/cost.

Since the publication of many of the other STEP 2 sites does not presently seem a realistic prospect in the short to medium term, this part of the collection would currently seem beyond the reach of rationalisation. Were rationalisation, however, to gain momentum, engagement with the process and broadcasting its progress, could invite attention to the other archives not quite so well placed for rationalisation, and so encourage other archives to be opened up for further work.

	Number of records (mean size 0.00405m^3)			
Material type	**Suitable for rationalisation**	**After recording**	**In future (pending publication)**	**Not suitable for rationalisation**
animal bone	2	2465	684	144
building material			422	33
CBM	1570	198	1261	241
daub			56	5
stone	178		332	87
clay pipe	1		80	8
pottery	13	4	1625	2035
flint				3
furnace lining				1
ceramic mould				127
glass			161	50
bottles	1	6		16
glass and textile			17	
human remains			1	6
industrial			17	
slag	1064		577	173
Iron			166	689
Lead			1	92

Material type	Number of records (mean size 0.00405m^3)			
	Suitable for rationalisation	After recording	In future (pending publication)	Not suitable for rationalisation
metal			197	33
coins			1	82
copper alloy	1		6	575
shell	3		8	1
organics			9	8
environmental	2	28	113	39
wood			18	4
worked bone				66
unlisted	7			83
other			62	45
mixed		3	172	123
totals	2842	2704	5986	4769

Table 4 Quantification of rationalisation prospects by number of records for each material type based on STEP 2 assessment

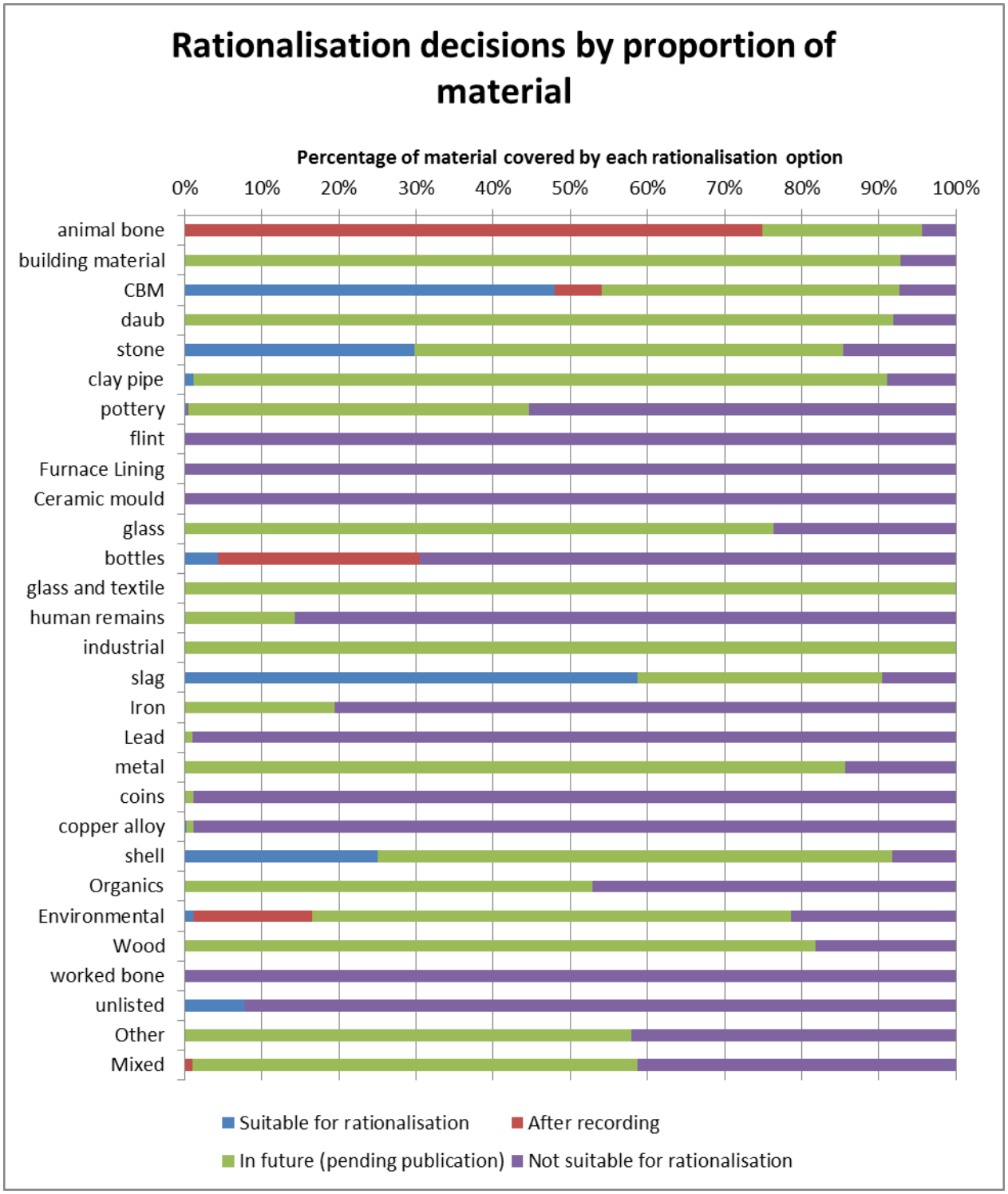

Figure 3 Percentage breakdown by material type of current prospects for rationalisation following STEP 2 assessment

5.3 Projected costs of implementing rationalisation

The following outlines indicative costs of undertaking the rationalisation process discriminating between cases where all information is already available (ie boxes/contexts

identified and relevant reports accessible) and, alternatively, where, additional archaeological assessment is still needed.

a) Table 5 presents the breakdown of the **cost per box** for archives recommended for **immediate** disposal – ie this is posited on all relevant information being available at time of review for the purpose of rationalisation. The cost has been calculated based on analogous work on the social history collection and estimates may be subject to some, possibly even significant, error.

resources	task	time	cost
Curator	Research, basic record, report to collections meeting	0.5 day	£150
3 x Curators as minimum	Collections meeting to consider disposal against procedures, ethics, recommendations for Museums Joint Committee	0.25 day	£75
Museum General Manager	To make recommendations to Museum joint Committee	0.1 day	£35
4 x Museum Joint Committee 4 councillors	To consider recommendation and ratify a decision	-	No cost
Curator	Investigate and implement disposal	0.5 day	£150
Registrar	Document disposal	0.2 day	£36
	Hire of skip (if other avenues of disposal fail)	-	£10 box space – pro rata
	cost per box	**-**	**£456****

*Table 5 Estimated costs of rationalisation of identified candidate archives (** Other additional costs may also apply in disposals, such as transfer costs).*

Therefore, the cost of dealing with the rationalisation of 568 boxes (total number of boxes now identified for rationalisation as described above; Section 5.2.3) would be **£259,008** (at £456 per box).

b) **Cost per box** for material recommended for **potential** (as opposed to immediate) disposal (ie following further assessment and reporting) is also considered here, which introduces the need for supplementary archaeological assessment. However, the cost of archaeological assessment for rationalisation could vary greatly between of one box of variable material content compared with assessment of lots of boxes of the same material where relatively homogeneous (eg slag). No specific cost per box can, therefore, be given, in this instance, except that the final cost will be greater than the £456 per box already calculated for museum de-accession and disposal to take place, and will include items such as dispatch of material to other venues or skip hire (cf Table 5).

5.4 Evaluation/benefit analysis

Whereas annual storage rates as quoted commercially often seem very low (eg £5 per m^2 or less, which might seem about £0.10 per box per annum, for instance), the addition of other charges such as business rates, rents, utility charges etc drastically raises this figure. Accordingly, for Museums Worcestershire, taking all building-related costs into account, this figure amounts to £75/m^2 of floor space – and, as shelf storage would only be possible on half (or less) of the overall floor space in the building, then to make allowance for access, an annual charge of **£150 per m^2** is going to be nearer the real cost. This formula has, therefore, been used for calculating the cost of box storage, which is the equivalent of **£5 per box per annum**, where the shelves are fully filled.

Based on current shelving arrangements, 0.5m^2 of floor space can accommodate 30 boxes. In which case, if all 568 boxes were disposed of during rationalisation then this would free up **8m^2** of shelving floor space (*c* 15% of total archaeology store). This does not seem a great deal given the costs of implementing this rationalisation being estimated at *c* **£250,000**.

As noted above, a reduction of 8m^2 of shelving floor space would occur, where 568 boxes were disposed of via rationalisation. In theory, this then provides an annual *pro rata* saving on building charges of **£1350** arising from that disposal, that is, in terms of reduced storage space required. However, in practice, this saving cannot actually be realised as a saving, as the building/shelving space costs the same whether space is filled or not – though, of course, more space is created and that is important where space is at a premium. Even if it did not work like this, this case study shows it would take 185 years for the rationalisation 'saving' to, in a sense, pay for itself, that is in terms of the newly liberated space (with its associated charges) being made available.

However, it should be emphasised this is really a worse-case scenario, and there may well be some archives and/or material types where much cheaper gains can be made, and all-important space created.

Clearly there is a mismatch here with resources presently in the current museum budget, where there is no provision for rationalisation. Given the scale of costs now envisaged for rationalisation of the existing collection it would be unlikely to be justifiable given the nature of the saving achieved where viewed simply as for the purpose of space saving, and the sheer scale of the identified cost suggests it is unsustainable even if it was to tackled over a span of years, as even over a 10-year programme the costs would still be very significant given the level of funding of museums.

5.5 Performance (as measured against aims, expectations, schedule, budget)

Broadly the project plan remained intact but certainly adjustments had to be made to enable delivery. More time was spent getting the project under way than was expected – due to being unable to use the available accession/archive records for the purposes of this project without their considerable augmentation. This caused the project to progress slower than intended at the beginning. The starting point for the project also fell at the busiest time of the year (ie the end of the financial year), and so this also contributed to a slower start.

Whereas volunteers were part of the original project plan, their importance, especially in terms of the skill and speed of their work in producing the archive inventory to the necessary level of detail, was not fully appreciated until the project was under way. Their contribution has been critical and the great value of volunteers for this project should not be underestimated.

Whereas the vision for the rationalisation audit and assessment was set in a museological framework from the start, it also became evident during the project that this needed to be expanded to incorporate archaeological criteria at a basic level, especially in terms of how much analysis/reporting had taken place for any archive, or parts thereof.

During the project a crucial decision was taken at an Historic England monitoring meeting to restrict the assessment to a select part of the museum collection (as per Risk 1 identified in the project design; Fox and Hurst (2017)), and in this way the budget remained intact and sufficient for the staff work undertaken. Only the voluntary contribution exceeded what was originally expected (for the reasons given above). In addition, all the issues identified above contributed to extending the timespan of the project, and, in the final analysis, this amounted to an extension of about two months being needed to complete the project.

The project has proved, therefore, to be challenging but has been highly beneficial for enabling an in-depth understanding of the contents of a large part of the collection to be realised for the first time through systematic survey. There has been the bonus that it has now revealed some major possibilities of disposals (see below), should resources be forthcoming for this purpose, as well as providing a collection-wide framework for any rationalisation, and stimulating the active management of the collection, especially planning for its future.

5.6 Conclusions, including insights (ie lessons learned from this project)

The need for more detailed records of the archaeological collection is very much underlined by this project. If rationalisation is to become more central to archaeological museum practice, this suggests an augmented archive record for the museum collection should become the norm.

The great value of volunteers has been emphatically confirmed by the experience of this project, especially during the extensive inventory stages. However, some downsides were encountered in that the accuracy and consistency of data recording was sometimes an issue, and correcting this did increase considerably the staff time input into the project. This suggests that some more systematic supervision would pay off in the longer run in a project of this type. Also perhaps greater familiarity with this exercise would lead to more accurate working, which might well suggest that carrying on to inventory the rest of the collection in the near future with the same volunteers would be desirable given their experience of this project.

Whereas the present project represents rationalisation of an already accessioned archive (in a sense 'backlog'), the realisation of the benefit of a more detailed archive collection record could also mean that procedures now need to be adopted that better facilitate this process in the future. One option would be that an individual assessment is carried out as part of museum acceptance of an archive – this would contribute to ensuring that the accessioning of the archive into the collection is viable on grounds of its value. The principle of rationalisation would then be made integral to the acceptance of an archive by the museum in the future by embedding it in the archaeological collection process.

Just remaining on the 'backlog' (ie already accessioned archives) for the moment, this project has seen considerable effort made to cover just part of the overall collection (Worcester City), and the completing of the rationalisation assessment for the whole collection is still outstanding. Equally for a museum looking at this for the first time it would be a major decision to undertake this exercise as done in the course of this project (ie archive by archive for a large part of a major collection). A more pragmatic approach could

be desirable with 'backlog', therefore, where rationalisation assessment is applied selectively to those areas where there is the highest likelihood of it succeeding in creating fresh storage capacity. This will vary from region to region, and, for instance in Worcestershire, a principal rationalisation candidate would be Roman ironworking slag. This would mean adopting the principle of rationalisation of backlog, but applying it selectively, to positive effect, rather than as a blanket strategy where the costs are prohibitive.

During this project the immense value of local specialist archaeological knowledge of individual archives has been realised, often providing a time-saving shortcut to understanding the strengths and weaknesses of an archive. This is a decreasing resource, and the costs of rationalisation can only increase without this. Also, fortunately, Worcestershire is well served by having most of its grey literature on-line or otherwise available through WAAS – again progress to rationalisation would have been severely hampered without this advantage. The museum and archaeologist very much tackled this project together on the basis of local working having being long established, and collaborative working has very much shaped the outcome of this project, and strengthened that relationship. Of itself this potentially offers hope for rationalising archives for the future, as has been proven by recent past fieldwork collaboration between Museums Worcestershire and WAAS, where rationalisation of the finds archive has been built into the project.

However, it has to be acknowledged also that efforts to rationalise collections have sometimes been hampered by poor quality reporting, especially in finds reporting. This may be most pronounced in some more historical archives, but modern archives are not immune (often due to post-excavation budgetary issues). This is a total hindrance to investigation and effectively means that group of finds has to be assessed afresh and at the museum's cost. Where archives are unassessed or unpublished, rationalisation becomes even much more difficult and ethically inappropriate unless, again, museums can shoulder the cost which is unlikely and unrealistic. While these are now stumbling blocks to future rationalisation, they should also be clear lessons that future practice must change so that rationalisation is built into not only the museum transfer/acceptance process but also into the fieldwork, where appropriate (see more below). Part of the answer is to ensure that finds reports include a specialist assessment of each category of find in terms of recommended retention/disposal and the grounds for this. This has been the practice at WAAS for several years, and means that deposition with the museum has a clearer basis on which to proceed, in that rationalisation has been, to a large extent, already built into the creation of the archive.

It has now been realised within the project team that rationalisation on its own will not solve the problem of crises in storage in museums, especially given the level of costs that would be incurred, but also given the wider context of falling levels of museum archaeologists and the volume of finds arising from development-funded archaeology.

Through involvement in this project, curators, museum managers and archaeologists alike have together formed a greater understanding of the issues involved in rationalisation, the costs, and, therefore, the likely benefit, which is invaluable in storage planning for the future. Arguments can now be made about what ethical and unethical rationalisation would look like, and although there may be some UK museums where disposal is the only option in the years to come, the museum is now in a much stronger position to make sure that councillors and trustees will understand the gravity of decisions they ultimately have responsibility for. All parts of the project team have certainly gained from an overview of archive documentation (reports mainly), and a much deeper understanding of the collection has resulted on all sides.

Paper and digital archives

Whilst these were not reviewed as part of the rationalisation process, partly as they tend not to take up very much room in comparison with the finds archive, paper and digital archives cannot be entirely ignored, and are, of course, of paramount importance where a site remains unpublished. However, experience shows that even here there is room for improvement, and this usually consists of identifying and removing duplicate copies of project documentation. Opportunities should also be looked for to get major archives digitised and deposited with the ADS, which would encourage research and so justify the effort involved in keeping archives in good order and open to access.

6 Project legacy

6.1 Recommendations

In terms of the content of archaeological archives, developing the criteria for (de-)selection is now an imperative to give up-to-date guidance for collection (ie building on SMA 1993), and to help safeguard the value of the site archive in terms of retaining all the finds that could still have further value realised through future research. Further work on museum collection policies is also liable to benefit the process of rationalisation, though it may be hampered in areas where archaeological research frameworks are not yet in place.

It is clear that traditional museum accessioning is not supplying the level of site data necessary for the management of the collection for the purposes of what is potentially a key outcome ie the application of rationalisation on an on-going basis. Since, in the course of archaeological reporting, detailed catalogues are already typically generated, especially for larger site archives, it would be useful to explore the sharing of these data and potentially working towards a common integrated template for storage. This may allow already existing data to be transferred to the museum and re-purposed rather than, as currently, that data being present in the archive, but not made available for management of the collection by the museum. There may be merit in exploring this, and would be a contribution in kind by archaeology to enabling rationalisation, in that this would at least be one aspect for which substantial further funding did not then need to be found.

For the backlog rationalisation of archives it is difficult to suggest a solution for finding the resources to tackle this. Increasing box charges may seem attractive, but it could be construed as unfair to levy charges for dealing with past accessions on current projects funded by different developers, and so may not be legally, nor in principle, sustainable. However, this aspect of museum storage (the scale of existing unrationalised collection) by compromising future storage of deserving material now constitutes such a monumental issue for museums that it must be worth some thought on a national level, with a bearing also on how archaeological storage is funded into the future. Develop-funding and other possible funding should be considered in this context.

Rather than having to research each site archive to establish its status with respect of possible rationalisation after accession, it is also suggested that the STEP 1–2 criteria are applied more pre-emptively in future at the point of accession ie as part of the requirements stipulated for archive transfer to the museum. The archaeologist would, therefore, contribute to this by supplying the required archaeological information (ie criteria 8–9 of the template assessment in particular; Appendix 1) for rationalisation status to be determined. This should include the important information about whether the site has been published and, if so, to what extent. Though it does help with addressing backlog archive rationalisation, at least it is another contribution by the archaeologist to facilitating the rationalisation of new archives. If

this has been the final stage of a rationalisation strategy from the outset of the field project, then, in effect, a substantially, if not entirely, rationalised archive should be being deposited.

As an incentive to take this approach it could be possible to have a two-tier box charge for deposition with the museum, where an archive from a project deemed to have undertaken rationalisation satisfactorily already would be charged at a lower rate for its deposition, than one where this had not been the case. Care would need to be taken that all discard was undertaken for valid reasons and in consultation with the museum archaeologist, in order to counteract any abuse within such a system.

Other related areas

The management of large stores should not be readily underestimated, as it is particularly difficult to maintain such a system accurately using completely manual stock management. This suggests a more sophisticated method of storage logistics could also be helpful (eg bar-coding to automate movements within the store). Though ancillary to the main purpose of this project, it is practical issues such as maintaining accurate records and storage, which can cause endless difficulties, and so undermine efforts as represented by the present project. Therefore, this aspect could be considered as very relevant, especially as it is a neglected area of archaeological/museological practice in general.

Also tangential to the purpose of the present project are the tools that could enable more consistent and systematic recording of archaeological material to become the norm rather than the exception. The generation of better data could decrease the necessity to retain so much material in the case of some common categories of artefact (eg ceramics). In particular, this relates to the availability and use of reference resources, and more specifically the creation of web-based reference resources, which, where developed, could have the potential to reduce volumes presently collected, on the basis that high quality data is substituted for recurring finds of known type, and then only key items of interest need be retained. Such initiatives would include the identification system for Worcestershire ceramics (www.worcestershireceramics.org).

6.2 Future plans/delivery

Implementing local rationalisation

Though the costs of implementing any backlog archive rationalisation seem, on the face of it, highly discouraging, taking a more pragmatic view, there are some easier/less costly options that have suggested themselves. These currently focus on certain categories of find, notably slag and ceramic building materials, and may mean that steps towards rationalisation can realistically be taken in this direction. Furthermore, the impetus of the project and the now finely honed skills of the volunteers, may make it possible to undertake at least the necessary level of inventory recording for the remainder of the collection, though staff resources would need to be found still for this.

The process of rationalisation of the archive from the start of the project fieldwork remains key in Worcestershire, and, though subject to further development, it also seems likely that this can now be carried to another level by formally instituting the STEP 2 rationalisation assessment at the point of transfer to the museum. However, for this to be fully effective there is a need to also now address the museum collection policy at large, as this clearly needs much more detail to determine better the content of the final finds archive. As part of that the west Midlands region also requires the continuing development of its research framework (Garwood 2007; Watt 2011; Hurst 2017), which is currently quite incomplete. More detailed development of the museum collection policy could potentially then determine

the content and character of future archives by putting them on a more rationalised footing by being more prescriptive.

Technical advances, however peripheral, should also be looked to facilitate the rationalisation process. Consideration might, for instance, be given to improved systems of stores management. A promising prospect is, also, the enhancement and refinement of reference resources which could, albeit indirectly, turn into tools with a bearing on the management of museum collections by enabling consistent and high quality data to be more readily collected, potentially, therefore, lessening the need to retain as much of the original material. Archaeological ceramics represents an area where this approach may be particularly relevant (cf www.worcestershireceramics.org), and this is an avenue currently being explored, though primarily for archaeological purposes.

7 Acknowledgements

The compilation of a new inventory of the museum collection to a standard which was compatible with the purpose of the project was undertaken by an extremely able body of volunteers. Immense thanks are, therefore, owed to: Becky Dinn, Lynda Evans, Janet Hogg, Rob Lythe, Judith Prett, Ann Silk and Christine Sylvester. The project team is very grateful for the support and advice of colleagues Philippa Tinsley (Museums Worcestershire), James Dinn (Archaeological Officer, Worcester City Council), and Sheena Payne-Lunn (Historic Environment Record Officer, Worcester City Council).

8 Bibliography

Barker, P A, 1969 The origins of Worcester, *Trans Worcestershire Archaeol Soc 3 ser*, 2

Bott, V, 2003 *Access to archaeological archives: a study for Resource and the Archaeological Archives Forum*

Brown, D, 2007 (as updated) *Archaeological archives: a guide to best practice in creation, compilation, transfer and curation*, Archaeological Archives Forum

Buteux, V, 1994 The pottery in H Dalwood, V Buteux, and J Darlington, 1994. 89–98

Butler, S, and Cuttler, R, (eds) 2011 *Life and industry in the suburbs of Roman Worcester*, Birmingham Archaeology monograph series 8, BAR British Series 533, Oxford: Archaeopress

Carver, M O H, 1980 Medieval Worcester: an archaeological framework, *Trans Worcestershire Archaeol Soc 3 ser*, 7

Dalwood, H, Buteux, V, and Darlington, J, 1994 Excavations at Farrier Street and other sites north of the city wall, Worcester 1988–1992, *Trans Worcestershire Archaeol Soc 3 ser*, 14, 75-114

Dalwood, H, and Edwards, R, 2004 *Excavations at Deansway, Worcester 1988-89: Romano-British small town to late medieval city*, CBA Res Rep, 139

Darlington, J, 1989 *Evaluation at Friar Street, Worcester*, Hereford and Worcester County Archaeology Section Rep, 16

Darlington, J, and Evans, J, 1992 Roman Sidbury, Worcester: excavations 1959-1989, *Trans Worcestershire Archaeol Soc 3 ser*, 13, 6-104

Davenport, P, 2015 *Excavations at Newport Street, Worcester, 2005: Roman roadside activity and medieval to post-medieval urban development in the Severn floodplain*, Cotswold Archaeology Monogr 4

Doherty, A, 2015 *Using archaeological archives: a case study of finds from Roman Essex*, SpoilHeap Publications

Deeks, A, Robson-Glyde, S, and Darch, E, 2005 *Historic buildings recording and archaeological watching brief at Crown Hotel, Broad Street*, Worcestershire, Worcestershire Historic Environment & Archaeology Service report, 1182

Edwards, R, 2013 *Archaeological archives and museums 2012*, Society of Museum Archaeologists. Available at http://socmusarch.org.uk/socmusarch/gailmark/wordpress/wp-content/uploads/2016/07/Archaeological-archives-and-museums-2012.pdf accessed 24 October 2017

Edwards, R, Griffin, L, and Dalwood, H, 2002 *Excavations on the site of the new police station, Castle Street, Worcester*, Worcestershire Archaeological Service unpublished internal report, 962

Fagan, L, and Hurst, D, 1994 *Evaluation at Warndon Court Farm, Warndon*, Hereford and Worcester Archaeological Service internal rep 219

Ferguson, L M, and Murray, D M, undated (*c* 1990) *Archaeological documentary archives*, CIFA

Fox, D, and Hurst, D, 2017 *Scoping Studies and Guidance for the Rationalisation of Museum Archaeology Collections*, Worcestershire County Council

Fox, D, and Kendrick, D, 2012 Archaeological Storage Plan: Worcester City and Worcestershire County Archaeological Collections, March 2012

Garwood, P (ed), 2007 *The undiscovered country: the earlier prehistory of the West Midlands*. Oxford: Oxbow Books

Griffin, S, Jackson, R, Atkin, S, Dinn, J, Griffin, L, Hughes, P, Hurst, D, Pearson, E, and Vince, A, 2004 Excavation at City Arcade, High Street, Worcester, *Trans Worcestershire Archaeol Soc 3 ser*, 19, 45–109

Historic England 2016 *Historic England Action Plan: Call for Proposals relating to Project No: 7359 – Scoping Studies and Guidance for the Rationalisation of Museum Archaeology Collections*

Historic Environment Forum, 2015 *Heritage 2020: strategic priorities for England's historic environment 2015-2020*

Hurst, D, 2014 Review of *Life and industry in the suburbs of Roman Worcester*, *Britannia*, 45, 474

Hurst, D (ed), 2017 *Westward on the high-hilled plains: the later prehistory of the West Midlands*. Oxford: Oxbow Books

Hurst, D, and Christiansen C, 2009 *Assessment of the Worcester Deansway archaeological archive (WCM100801) with a view to rationalization*, Worcestershire Historic Environment and Archaeology Service internal rep 1680

Jackson, R, Dalwood, H, Bretherton, J, Jones, L, Pearson, E, and Robson, S, 2001 *Evaluation, building recording and watching brief at Warner Village Cinemas, 37-55 Friar Street, Worcester*, Worcestershire Archaeological Service unpublished internal report, 855

Museums Association, 2015 *Guidelines for museums: Disposal toolkit*

Museums Worcestershire 2006 *Museums Worcestershire collection condition survey, National Preservation Office pilot study*

Museums Worcestershire, 2015a *Worcestershire County Council Museum Collection development policy 2015-2020*

Museums Worcestershire, 2015b *Worcester City Council Museum Collection development policy 2015-2020*

Museums Worcestershire, 2015c *Museums Worcestershire depositing archaeological archives*

Museums Worcestershire, 2015d *Museums Worcestershire acquisition and disposal procedures*

Napthan, M, 1993 *Watching brief at St Nicholas church, Warndon, Worcester*, Hereford and Worcester Archaeological Service internal rep 196

Napthan, M, Dalwood, H, Hurst, D, and Pearson, 1997 *Evaluation at Friar Street, Worcester*, Hereford and Worcester Archaeological Service internal rep 584

PCRG, SGRP, MPRG, 2016 *A standard for pottery studies in archaeology*

Rainsford, C, O'Connor. T, and Connelly, P, 2016 The embarrassment of riches: rationalising faunal assemblages from large urban sites, *Int J Osteoarchaeology*, 26, 221–31. https://doi.org/10.1002/oa.2412

Society of Museum Archaeologists 1993 *Selection, retention and dispersal of archaeological collections*

Swain, H, 1998 *A survey of archaeological archives in England: a report prepared for English Heritage and the Museums & Galleries Commission*

Watt, S (ed), 2011 *The archaeology of the west Midlands: a framework for research*. Oxford: Oxbow Books

Appendix 1

Documentation and templates

Excel spreadsheets were used for data collection in store. A STEP 1 spreadsheet was constructed to capture information relating to the archive or site, the number of boxes by material and finally to assess those archives and boxes against the Museums Worcestershire STEP 1 disposal criteria.

A STEP 2 spreadsheet was constructed to collect information relating to the archive or site, information that could be researched within documentation, paper archives and site reports and information on box types that could be used to estimate the amount of space occupied by boxes and archives that could potentially be rationalised. The STEP 2 disposal criteria were also applied.

Examples of templates/*pro forma* documents used to facilitate process

MS Excel spreadsheet headings used were as follows:

STEP 1 Spreadsheet

To capture archive and site information:

- Accession Number
- Site Name
- Unit
- Site Code (HER number if known)

To inventory boxes by material:

- Pottery
- Animal Bone
- CBM
- Slag
- Brick
- Tile
- Human Remains
- Metal Glass
- Clay Pipe
- Coins
- Mortar
- Ceramic Mould
- Porcelain
- Environmental
- All/Misc/Various
- Bottles
- Quern
- Land Drain
- Leather
- Stone
- Shell
- Water Bottles
- Other
- Hazardous

To assess archives/boxes against Museums Worcestershire STEP 1 rationalisation criteria:

- Badly Damaged
- Over Collected
- Abandoned
- Retain

STEP 2 Spreadsheet

Box Number
To capture archive and site information:

- Accession Number
- Site Name
- Site Code
- Unit (HER number)
- Location

To capture information that can be researched in documentation, paper archive and site reports:

- Material
- Context Number
- Additional Information
- Notes

To capture enough information to estimate volume of space occupied by boxes and archives that could potentially be rationalised:

- Box Type

For the purposes of the STEP 2 assessment the following table of criteria was applied to each site archive:

1	It comes from outside geographic collection area	
2	It has been assessed as having no known research potential	
3	It has no association with people or events	
4	It is undisplayable	
5	A better example or sample is retained	
6	It is a replica project collected in error	
7	It cannot be made safe to store or handle	
8	Re an appropriate level of analysis/reporting:	
	• None was needed	
	• Full analysis/specialist report has been done	
	• Publication has been completed	
9	Rationalisation exercise already carried out sufficiently	

Re criteria 1–7 a minimum of x2 'true' = to be considered for Step 2 discard