


THE		
NATIONAL		
ARCHIVES		
<h1>Managing mixed collections</h1>		
	Guidance for archive services	
Archive Sector Development		June 2021

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1. Introduction

1.1 Introduction to this guidance

This guidance was written in response to demand for support from the archive sector, particularly from archive professionals that were asked to manage non-archive heritage collections, often without the necessary skills and knowledge. In some organisations, archive professionals are the only staff members with a heritage background, and this results in them being given responsibility for managing any heritage item, irrespective of format. Our aim is to support professionals in this position.

This guidance doesn't support archive professionals having responsibility for the management of large heritage collections but recognises that situations will arise when smaller heritage collections are managed by archive professionals.

This document was produced by a team of archive and museum professionals: Janice Tullock, Anita Hollinshead, Heather Lomas and Mairead O'Rourke. Archive professionals across the sector supported the development of the work by providing interviews and participating in discussions. Particular thanks are given to the Section for Archives in Museums of the Archive and Records Association.

1.2 Purpose and scope of the guidance

The guidance will help archivists and archive service managers to explore the issues around managing mixed collections and to effectively manage these collections. It provides an overview of sources of help and advice and signposts existing good practice and standards. Following the structure of the Archive Service Accreditation Standard, the guidance provides advice on general management of these collections, including ethics and legislation; collections development, care and conservation and information; the needs of stakeholders, particularly access and interpretation.

In each section we aim to:

- Introduce the problem/potential of the subject matter.
- Outline the principles to be applied.
- Highlight specific areas of importance.
- Provide links to sources of more detailed guidance and relevant standards.

Each section provides standalone advice, while cross-referencing other sections.

Definitions

The definitions used in this document align closely to Archive Service Accreditation, with the addition of some which have been written for this document. A detailed glossary is in the appendix.

1.3 Why manage mixed collections

Managing mixed collections can present a variety of problems and risks, particularly when collections staff do not have the knowledge or experience to effectively manage the full range of material in their holdings. Possible scenarios could include managing dispersed art collections without a detailed knowledge of the recommended approaches. In other instances archivists have unwittingly stored objects in damaging environmental conditions or packaged items in ways that may cause damage.

The research for this guidance identified one instance where this had expensive results for the organisation. A company managed a mixed collection, including a wide range of materials and formats. Although they had policies and procedures in place, they did not have the necessary depth of knowledge of the collections to manage these materials effectively. A lack of understanding of the significance of materials led a collection of books to be used as “set dressing” for a room within the company. The value of the books was recognised by a staff member who stole the books and offered them for sale. The subsequent police investigation created unnecessary work for the archive service and difficulties for the company. If the archive service had recognised the significance and value of the books, they would not have been used in this way.

2. Overview of the Museum Sector

Managing mixed collections requires partnership with experts in the museum sector and for this reason we are beginning this guidance with a brief overview of the sector and how it might help you to manage your mixed collections.

The museum sector in the UK is varied but includes national, civic, independent and university museums. Nationally styled museums are funded by Department for Digital, Culture, Media & Sport and are generally large institutions holding collections that are of national importance. Civic museums can be run by town, parish, borough, city, or county councils and other Local Authority bodies and generally hold collections that reflect local heritage. The independent museum sector is also varied in scope, size and activities. The Association of Independent Museums (AIM) states that there are 1600 independent museums, the majority

covering specialist subjects such as military issues or industrial heritage and a third having a general nature. University museums usually hold collections relevant to academic specialisms. Overall the UK has more than 1700 accredited museums. It is important to note that Museums have each site accredited, in contrast to archive services that tend to have a whole service accredited.

2.1 Overarching museum standards

Several key museum standards are effective the UK museum sector:

- Museum Accreditation Standard.
- Spectrum the UK Collections Management standard.
- EN 16893:2018, covers specifications for new buildings and the modification of existing buildings intended for the storage and display of all heritage collection formats.
- PAS 197:2009 Code of practice for cultural collections management.

2.2 Introducing Spectrum

Overview

SPECTRUM 5.0 is the UK Collections Management Standard and its contents and recommendations provide archive professionals with some guidance on managing mixed collections. It is maintained for the sector by the Collections Trust and its 21 procedures form the basis for best practice for working with museum collections. Spectrum 5.0 is mapped directly to the Museum Accreditation Scheme. This guidance recommends the use of Spectrum procedures for mixed collections where the Archive Service has no relevant policy and procedure. These procedures will be noted throughout the guidance. There are nine primary procedures which museums meet as part of the Museum Accreditation Scheme; these procedures are the ones museums use most frequently.

The Spectrum 5.0 nine primary procedures are:

- **Object entry** – Logging all objects coming into your care for whatever reason, including loans, enquiries and potential acquisitions.
- **Acquisition and accessioning** – Taking legal ownership of objects, especially (but not always) to add to your long-term collections through

the process of accessioning: the formal commitment by your governing body to care for objects over the long term.

- **Location and movement control** – Keeping a record of where all the objects in your care can be found and updating the location each time an object is moved.
- **Inventory** – Making sure you have the basic information to be accountable for the objects in your care and tackling the backlog if you do not.
- **Cataloguing** – Managing the information that gives your collections meaning, not as an end in itself but to record and retrieve what is known about your objects.
- **Object exit** – Recording when objects leave the buildings you are responsible for and pass out of your direct care.
- **Loans in (borrowing objects)** – Managing objects you borrow for a fixed period of time and for a specific purpose.
- **Loans out (lending objects)** – Assessing requests for you to lend your objects and managing the lending process until loans are returned to you.
- **Documentation planning** – Making your documentation systems better and enhancing the information they contain as an ongoing process of continual improvement.

The remaining procedures are:

- **Condition checking and technical assessment** – Documenting the make-up and condition of objects and noting any resulting recommendations.
- **Collections care and conservation** – Managing and documenting any conservation work on particular objects, such as treatments to slow decay, repair damage or improve appearance.
- **Valuation** – Documenting the financial value of objects, whether your own or borrowed.
- **Insurance and indemnity** – Ensuring your own objects, loans and other objects left in your care have appropriate cover against damage or loss.
- **Emergency planning for collections** – Managing information about potential risks to all the objects in your care, and the action to be taken in emergency situations.
- **Damage and loss** – Responding to damage to, or the loss of, objects in your care.

- **Deaccessioning and disposal** – The formal decision by a governing body to take objects out of its long-term collections (deaccessioning) and managing the disposal of those objects through an agreed method.
- **Rights management** – Managing the intellectual property rights and data protection rights associated with objects, reproductions and information.
- **Reproduction** – Managing and recording the creation of images and other kinds of reproduction of objects, including digital copies.
- **Use of collections** – Managing and recording how your collections, including images and other reproductions of them, are used, whether by you or anyone else.
- **Collection review** – Managing and documenting any formal assessment of your collections that follows a stated methodology.
- **Audit** – Systematically checking the accuracy and completeness of the information you have about your collections.

<https://collectionstrust.org.uk/spectrum/spectrum-5/>

Particular issues to consider for mixed collections

Archive Services holding mixed collections will find the information contained in Spectrum 5.0 useful in developing policies, plans and procedures which encompass the range of collections they manage.

Many of the procedures are similar to procedures archive services will develop to manage collections.

In developing procedures for mixed collections archive services should aim to combine standards from the Spectrum 5.0 with archive standards, thus producing an effective and applicable hybrid procedure. To ensure consistency in managing archives and mixed collections a procedural manual should be developed and maintained.

Principles to apply

Spectrum 5.0 defines a standard for each procedure and also provides the structure and framework for development of procedures. This is useful as a tool and one to consider when adapting archive service procedures to encompass mixed collections.

As described by the Collections Trust, each procedure has:

- A **definition** that tries to sum up the procedure in a single sentence.

- A fuller note on the **scope** of the procedure, which explains when to use it (and, at times, when to use a different procedure).
- The **Spectrum standard**. This is what you should aim to achieve, however you do it. There are two parts to the standard:
 - Some **policy questions** you will need to consider.
 - The **minimum requirements** you should meet in your museum's own written procedure. An example or two suggests why each is important.
- A **suggested procedure** (and it is only a suggestion) given in two formats:
 - A **workflow** diagram summarising the suggested way of doing things.
 - A **text** version, which includes the **information requirements** for the procedure. Where needed, the text versions of suggested procedures also include guidance notes.

<https://collectionstrust.org.uk/spectrum/spectrum-5/>

Standards to consider

Spectrum 5.0 Collections Management Standard for Museums

<https://collectionstrust.org.uk/spectrum/>

Museum Accreditation Scheme

<https://www.artscouncil.org.uk/supporting-arts-museums-and-libraries/uk-museum-accreditation-scheme>

Archive Service Accreditation

<https://www.nationalarchives.gov.uk/archives-sector/archive-service-accreditation/>

2.3 Where to go for specialist help

Understanding the ecology of the museum sector is important when managing mixed collections as it will help you to find sources of help and advice, identify when items might be better housed in a museum service and to tie into museum standards and guidance. For our purposes there are five main organisations that can provide specialist help: Arts Council England (ACE); Museums, Archives and Libraries Division of the Welsh Government (MALD);

Collections Trust; Association of Independent Museums (AIM) and the Museums Association.

Further detail of the roles of these organisations is in the section on Museum Liaison.

3. Organisational Health

3.1 Mission and governance

Overview

Archive Service Accreditation places the mission of your governing organisation at the centre of your planning for your Archive Service and your collection. It describes the intent of your service and should define your purpose in every aspect of your archive management. Arrangements for governance enable you to ensure that you are achieving your mission and helping to deliver the overall aims of the organisation.

Particular issues to consider for mixed collections

The mission of the service is an important consideration for mixed collections because it provides an opportunity to describe your role at the highest level. In some organisations the management of mixed collections sits naturally with the archive service and your mission should be written to reflect this. This will help to secure the necessary resources to manage the collections within your care and fully reflect the role of the archive service.

Alongside a clear mission, including a role for mixed collections, it is useful to advocate for both your service and its role. Advocacy is important in the management of mixed collections, particularly articulating your collecting policy and its limits. It is useful to develop a clear message about your collecting policy, to inform people within the organisation about that policy and to work across the organisation to share that message. To prevent confusion it is good to avoid the use of technical language when describing the scope of the policy and to provide examples of the types of material you collect.

Useful resources and websites

The National Archives: Raising the Profile of your Archive Service

<https://www.nationalarchives.gov.uk/documents/archives/effective-communications.pdf>

3.2 Forward Planning

Overview

A relevant and practical forward plan sets the strategic direction for the archive service. It is an active document containing clear aims and objectives and a delivery plan to enable effective monitoring of operations. It is supported by essential financial planning, resources and budgeting to ensure the plan is delivered.

The forward plan is the central part of the Archive Service Accreditation Standard which in the guidance document (page 16) states

'Significance

The forward plan is concerned with execution and delivery. It is the route by which the mission of the archive service is achieved through the practical management of the service. Forward planning is a useful exercise for a service of any size. It gives an opportunity to lay out the objectives you want your service to achieve and to plan what needs to be done to get there'.

Particular issues to consider for mixed collections

Issues to consider include:

- The forward plan should inform the service's response to all the requirements of the Accreditation Standard i.e., Organisational Health, Collections and Stakeholders.
- The forward plan aims, objectives and delivery plan should adequately reflect the breadth and depth of the collections.
- Ensuring the forward plan maximises the opportunities available for enhanced access and research, that is possible with holding mixed collections.
- Maintaining sufficient skills and experience within the workforce to support the work with mixed collections and ensuring the forward plan recognises when additional expertise is required.
- Providing sufficient resources are available to resource the storage, display, access, care and conservation needs of mixed collections.

Principles to apply

Forward planning involves setting realistic strategic aims and objectives for the future. To meet the standard for Archive Service Accreditation a plan is required which covers a minimum term of the current and subsequent years.

Development of the forward plan provides a time for reflection on the effectiveness of a previous plan, including how the archive service is developing, what is working well and where challenges may be. This is also the time and

opportunity to consult stakeholders on the aims and objectives for the future. If the archive service holds mixed collections, this will be the time to consult with external colleagues, particularly with museums which may have overlapping collection areas or hold similar or related collections.

Standards to consider

The Archive Service Accreditation Standard and guidance provides useful guidance and information for developing an effective forward plan.

It may also be helpful for archives to consider the requirements of the Museum Accreditation Scheme guidance for forward planning.

Useful resources and websites

Archive Service Accreditation, Guidance.

<https://www.nationalarchives.gov.uk/archives-sector/archive-service-accreditation/supporting-guidance/>

Museum Accreditation Scheme, Guidance.

https://www.artscouncil.org.uk/sites/default/files/download-file/Accreditation_Guidance_Mar_2019_0.pdf

Association of Independent Museums Success Guide

<https://www.aim-museums.co.uk/wp-content/uploads/2017/03/Successful-Business-Planning-2017.pdf>

Arts Council England

<https://www.artscouncil.org.uk/sites/default/files/download-file/Business%20Planning%20Guidance%20for%20arts%20and%20cultural%20organisations.pdf>

National Lottery Heritage Fund Business Plan Guidance

<https://www.heritagefund.org.uk/good-practice-guidance/business-plan-template-and-guidance>

3.3 Resources: Spaces and storage

Overview

Detailed guidance on the physical storage requirements of mixed collections is dealt with below. This section looks at what you might need in terms of the stability, suitability and sufficiency of your spaces and storage.

Particular issues to consider for mixed collections

In an ideal world a mixed collection would have storage that is suitable for each collection type. This would include separating materials likely to cause damage to other materials, or materials with greater fire risks. You might also need to store materials in different environmental conditions. Specific guidance can be found in the sections on these materials below. However, in all but the most specialist archive stores (e.g. a distiller holding a large collection of whiskey) collection stores will be mixed and not specialist. In these instances the recommendation is to isolate different types of materials that might cause damage to each other in different areas of storage and to understand the impact of environmental conditions on each material. See the sections below on guidance for each material. As with archive materials you should also aim for a generally stable environment with little change in fluctuation of temperature and humidity.

Mixed collections tend to bring issues of size to archive management that have not previously been an issue. Storage areas should not only have spaces big enough to store items safely, but should have doorways large enough to safely allow movement of items. Storing large items within a store often requires specific storage furniture and the Museum of London resource below is useful in providing guidance. You may also need specialist equipment to move objects and a goods lift if storage is not on the ground floor. For artworks you should consider specialist gallery shelving systems on walls or in mobile racking. Finally if your collection grows and you seek specialist off-site storage for collections you should consider how you will continue to manage this collection. You should consider how you will manage risks to the collection on an ongoing basis. Further guidance is available in The National Archives guidance on Managing Split-Site Services referenced below.

Finally, a mixed collection requires spaces for access. This might be access to study, to participate in engagement activities or to exhibit objects. Spaces required will vary according to the collection, but your planning should consider issues of size, safety and security. It may be that access to the objects is better provided digitally and the Collections Trust blog below offers some suggestions.

Useful resources and websites

Museum of London, Packing Museum Objects for storage.

<https://www.museumoflondon.org.uk/Resources/e-learning/packing-museum-objects-for-storage/>

Royal Museums Greenwich, Behind the scenes: how we store large textiles.

<https://www.rmg.co.uk/stories/blog/conservation/behind-scenes-how-we-store-large-textiles>

Collections Trust, 6 tips for increasing access to museum storage.

<https://collectionstrust.org.uk/resource/6-tips-for-increasing-access-to-museum-storage/>

The National Archives, Assessing and managing the risks of split-site archive services.

<https://www.nationalarchives.gov.uk/documents/archives/split-site-services.pdf>

3.4 Resources: Workforce

Overview

As with the management of any heritage collections, it requires skills and knowledge to care for mixed collections. In particular mixed collections may require skills and knowledge in specific object types, knowledge of new cataloguing or preservation techniques and knowledge of specific object types and their management. These can all be found or developed, but mixed collections cannot be effectively managed without access to these skills and knowledge.

Particular issues to consider for mixed collections

Accessing specialist conservation skills to advise on the preservation and conservation of objects can be difficult. Museums with large collections of the relevant type may be able to act as advisers and the resources of the Collections Trust, the Museum Development Network and some national museums may be called upon. When more in-depth, practical work on collections or managing collections is needed the Institute of Conservation (Icon) Conservation Register can provide links to a range of specialist conservators. Icon also manages an accreditation framework that assesses professional competency against an agreed framework and conservators that have achieved accreditation are highlighted on the register. Icon also brings together specialist conservators interested in the conservation and preservation of specific collection types, into a series of networks, such as the Modern Materials network and the Historic Interiors Network.

If you are caring for a specific collection or object type, you may decide that you need in-depth training in caring for that collection/object. The first point of call should probably be your local Museum Development provider that provides a

range of collections training opportunities, followed by the Collections Trust that provide training, usually connected to the use of Spectrum. The Archives and Records Association Section for Archives and Museums is a valuable archivally focused source of support, advice and training. Some national museums may also provide training in the area in which they specialise e.g. V&A in care of costume collections.

It is also worth noting here that volunteers are a valuable part of the workforce and as such should also have the necessary training if required to care for mixed collections.

Useful resources and websites

Icon Conservation Register

<https://www.conservationregister.com/>

3.5 Liaison with museums

Overview

Support, advice and partnership working with museums will allow archive services to maximise the impact of holding mixed collections.

Some archive services have good, well established links with museums and in certain cases will be part of a wider local authority service. Understanding the skills and knowledge available from museum services to support the work of the archive service is important. Developing a greater understanding between archives and museums enhances the audience and visitor experience and the care of collections.

Museum staff have experience and skills in dealing with a wide range of specific artefact types and they may also have specialists available or links to experts who can provide advice.

Museum professionals understand issues affecting mixed collections, for example storage requirements, conservation needs and hazards, as well as well-developed practice in audience development, consultation and engagement and experience of creating exhibitions, temporary displays and learning and engagement activities.

If an archive service has a large mixed collection, it could be worthwhile employing a museum professional to support this area or consider buying in expertise as required.

Particular issues to consider for mixed collections

Close liaison with museum colleagues can encourage a collaborative approach of working together, which is beneficial for archive services and museums.

Mixed collections bring with them a range of challenges and also many opportunities. Enhancing stories contained in archives and bringing them to life with mixed collections through supportive collaborations with museums is a positive move.

Working closely with museums will allow archives to ensure any possible collecting overlap meets the needs of both the archive service and the museum.

Accredited museums meet the standards defined in the Museum Accreditation Scheme. Opportunities for funding and collaborations which are available to accredited museums could also provide prospects for partnerships with archive services.

Museums have access to a range of services and expertise to support managing mixed collections, through networks and expertise.

As outlined above, the UK Museum Development network provides advice, support and opportunities for accredited museums in their area. In Wales museum development support is provided via the Welsh government

Principles to apply

Working collaboratively and in partnership can develop positive relationships with museum colleagues.

A collaborative approach allows for sharing of information and expertise.

Mixed collections present a range of issues which may be new to archivists, particularly around managing different types of material, handling, packing, storage, interpretation and engagement.

Engaging museum colleagues at the earliest opportunity for project planning or expertise required for work to support mixed collections is important.

Standards

Museum Accreditation.

<https://www.artscouncil.org.uk/supporting-arts-museums-and-libraries/uk-museum-accreditation-scheme>

Resources and websites

Arts Council England (ACE)

At the time of writing in March 2021 Arts Council England funds a number of activities that produce resources and support that are useful for managing mixed collections:

- Guidance for meeting the Museums Accreditation Standard.
<https://www.artscouncil.org.uk/supporting-arts-museums-and-libraries/uk-museum-accreditation-scheme>
- The Museum Development programme. This programme is delivered across the UK and by providers working together in a national network. They provide support and development via advice, information, initiative and grants for a range of museum and collections activities. Each regional programme works slightly differently, but it's worth learning more about the resources of your region.
- <https://mduk.org.uk/>
- Subject Specialist Networks (SSNs). These networks support the development of collections by sharing knowledge, expertise and resources. Networks funded and activity delivered varies over time but in 2019-20 these included SSNs supporting Islamic Art & Material Culture; Money and Medals; European Paintings pre-1900 and War and Conflict. It is always worth checking if one of these SSNs can help with a mixed collections issue or query. <https://www.subjectspecialistnetworks.org.uk/>

In addition to these key activities, ACE plays a development role, providing grants, managing the Designation and Cultural Property schemes and oversees the Museum and Gallery Exhibitions tax relief scheme.

Museums, Archives and Libraries Division of the Welsh Government (MALD)

MALD manages the Museum Accreditation scheme in Wales, supporting applications and developing museums. They provide grants and a range of guidance documents and direct research and policy in the sector.

<https://gov.wales/museums>

Collections Trust

The Collections Trust supports museums to manage and provide information about their collections, with the core of their work being Spectrum, the collection management standard. Their website brings together resources on collections management from a range of organisations and supports both the use of

Spectrum and achieving Accreditation. The Collections Trust also offers an outreach programme that provides training on Spectrum and other aspects of managing collections.

Association of Independent Museums (AIM).

AIM provides a range of resources to support the management of museums including:

- Success Guides series providing practical advice on issues such as basic interventive conservation and collection safety.
- AIM Hallmarks of Prospering Museums, including training events.
- Toolkits and guidance.

Further details can be found at

<https://aim-museums.co.uk/helping-organisations/resources/>

Museums Association

The Museums Association (MA) is a membership organisation, with a campaigning role. As well as their advocacy role they provide professional development, deliver content on the management of museums and an events series. Their Museum Practice series is useful in providing an overview of the subject as well as case studies.

<https://www.museumsassociation.org/>

3.6 Ethics and Legislation - Overview

Legislation

Mixed collections bring with them a range of cultural property legislation issues for consideration; archive services must ensure compliance with all relevant legislation.

Legislation controls the holding of objects and collections, purchases, storage and access to collections. It is wide-ranging encompassing human remains, firearms, the Treasure Act and exports of cultural property, to name a few.

Ensuring compliance with all necessary legislation can be a factor in defining the limits and reach of the Collections Development Policy, particularly as associated costs, storage, access and ethical considerations work in tandem with legal compliance.

Updates to individual laws are made on a regular basis, information on cultural property legislation is provided on the Collections Trust website.

Ethics

Accredited archive services will be familiar with the need to meet sector ethical codes, for example Archives & Records Association UK & Ireland Code of Ethics. (2018).

Accredited museums meet the 1998 Museums Association definition of a museum:

“Museums enable people to explore collections for inspiration, learning and enjoyment. They are institutions that collect, safeguard and make accessible artefacts and specimens, which they hold in trust for society.”

And in achieving the Museum Accreditation Standard they reinforce a shared, ethical way of doing things for everyone involved in running a museum.

The Museums Association Code of Ethics for Museums ‘supports museums, those who work in and with them and their governing bodies in recognising and resolving ethical issues and conflicts. It sets out the key ethical principles and the supporting actions that museums should take to ensure an ethical approach to their work.’ <https://www.museumsassociation.org/campaigns/ethics/code-of-ethics/>

The Museums Association expects all institutional, individual and corporate members to uphold and to promote the Code of Ethics for Museums and it would be advisable for archive services to abide by this code of ethics where it relates to its objects.

Particular issues to consider for mixed collections

Legislation

Archive services with a clear understanding of how legislation and ethics apply to the whole range of collections can manage collections and any arising issues effectively.

Understanding the provenance, history and the materials in the collections and creating clear information records will ensure legislation is upheld.

Remaining up to date with changes in current legislation is important.

The Collections Trust website maintains a list of collections related legislation. Although many of these Acts and guidance documents are aimed at museums, they apply to and support the work of archive services with collections in these

areas. For additional information and support the relevant Subject Specialist Network (SSN) is recommended as a good point of contact.

The information below is based on the Collections Trust current list of collections relevant legislation, best standards and guidance (March 2021):

Ancient Monuments and Archaeological Areas Act 1979

<https://collectionstrust.org.uk/resource/ancient-monuments-and-archaeological-areas-act-1979/>

This Act defines ‘scheduled monuments’ and makes damage to the site (including metal detecting) a criminal offence.

Convention on the Protection of Cultural Property in the Event of Armed Conflict

<https://collectionstrust.org.uk/resource/convention-on-the-protection-of-cultural-property-in-the-event-of-armed-conflict/>

This provides a link to the Hague Convention on the Protection of Cultural Property in the Event of Armed Conflict and its two Protocols of 1954 and 1999. These were put into UK law through the Cultural Property (Armed Conflicts) Act 2017 and protect cultural property in situations of armed conflict.

Council of the European Union: Regulation on the export of cultural goods

<https://collectionstrust.org.uk/resource/council-regulation-on-the-export-of-cultural-goods/>

This order prohibits the export of cultural goods e.g. archaeological items, artworks, archives, from the territory of the EU without a valid licence. Further details of the cultural goods covered are included.

Convention on International Trade in Endangered Species of Wild Fauna and Flora 1973

<https://collectionstrust.org.uk/resource/convention-on-international-trade-in-endangered-species-of-wild-fauna-and-flora-cites-1973/>

CITES is a multilateral treaty which aims to protect endangered plants and animals by managing the acquisition of biological and geological material.

Cultural Property (Armed Conflicts) Act 2017

<https://collectionstrust.org.uk/resource/cultural-property-armed-conflicts-act-2017/>

Covers the 1954 Hague Convention and its two Protocols. In particular archivists should be aware of Section 17 which creates an offence of dealing in unlawfully

The National Archives – Managing mixed collections for archive services

exported cultural property. This is supported by DCMS guidance documents, one specifically dealing with the offence of dealing in unlawfully exported cultural property.

<https://www.gov.uk/government/publications/protection-of-cultural-property-in-the-event-of-armed-conflict>

Customs and Excise Management Act 1979

<https://collectionstrust.org.uk/resource/customs-and-excise-management-act-1979/>

This Act makes it an offence to export or import goods with intent to evade a prohibition or restriction on those goods.

Dealing in Cultural Objects (Offences) Act 2003

<https://collectionstrust.org.uk/resource/dealing-in-cultural-objects-offences-act-2003/>

This Act refers to the acquisition of cultural property and makes it an offence to acquire, dispose of, import or export 'tainted' cultural objects, or agree or arrange to do so; and for connected purposes.

European Cultural Convention

<https://collectionstrust.org.uk/resource/european-cultural-convention/>

This treaty which aims to develop mutual understanding among the peoples of Europe and recognition of cultural diversity, to safeguard European culture.

Export Control Act 2002

<https://collectionstrust.org.uk/resource/export-control-act-2002/>

This Act enables controls to be imposed on the exportation of goods, the transfer of technology, the provision of technical assistance overseas and activities connected with trade in controlled goods.

The Export Control (Syria Sanctions) (Amendment) Order 2014

<https://collectionstrust.org.uk/resource/the-export-control-syria-sanctions-amendment-order-2014/>

This order prohibits throughout the EU the import, export, transfer, or provision of brokering services for the import, export or transfer, of Syrian cultural property and other goods.

Export Licensing guidance

<https://www.artscouncil.org.uk/export-controls/export-licensing#section-1>

Certain cultural items require an individual licence for export out of the UK – whether on a permanent or temporary basis. These licenses are issued by the Export Licensing Unit on behalf of the Secretary of State. This resource provides information about Export Licenses and how to apply for them, as well as further guidance documents.

Export of Objects of Cultural Interest (Control) Order 2003

<https://collectionstrust.org.uk/resource/export-of-objects-of-cultural-interest-control-order-2003/>

This order prevents the export of objects without a licence from the Secretary of State.

Firearms Act (1968)

<https://www.legislation.gov.uk/ukpga/1968/27>

This Act defines firearms and gives guidance on the licensing of those holding firearms. It includes sections on antique and de-activated weapons.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/143817/museums.pdf

Home Office Firearms Guidance to the police on issuing and managing the issuing of firearms licenses to museums.

Fraud Act 2006

<https://collectionstrust.org.uk/resource/fraud-act-2006/>

This Act describes the offences of fraud and obtaining property by deception.

Guidance for the care of human remains in museums

<https://collectionstrust.org.uk/resource/guidance-for-the-care-of-human-remains-in-museums/>

This guidance from the Department for Culture, Media and Sport outlines good practice guidance for museums acquiring and holding human remains from any period and aims to offer practical support in the care of these items.

Human Tissue Act 2004

<https://collectionstrust.org.uk/resource/human-tissue-act-2004/>

The National Archives – Managing mixed collections for archive services

This legislation applies to organisations holding or intending to hold human remains under 100 years old. The Act regulates the acquisition, storage, use and disposal of human bodies, organs and tissue. Further detail is provided in the relevant section below.

Human Tissue Authority 2004

<https://collectionstrust.org.uk/resource/human-tissue-authority/>

Guidance on the Human Tissue Act 2004.

International Foundation for Art Research: International cultural property laws

<https://collectionstrust.org.uk/resource/international-foundation-for-art-research-international-cultural-property-laws/>

Maintains information about international cultural property laws and case laws regarding the acquisition and ownership of artworks.

International cultural property legislation

Practical advice for the protection of cultural property in the event of armed conflict

<https://collectionstrust.org.uk/resource/practical-advice-for-the-protection-of-cultural-property-in-the-event-of-armed-conflict/>

These guidelines from the International Committee of the Red Cross (ICRC) are intended to support States in the implementation of a system for the protection of cultural property. They provide further guidance to the 1954 Hague Convention on the Protection of Cultural Property in the Event of Armed Conflict.

The Iraq (United Nations Sanctions) Order 2003

<https://collectionstrust.org.uk/resource/the-iraq-united-nations-sanctions-order-2003/>

This order prohibits the importation or exportation of any cultural property illegally removed from Iraq since 6 August 1990.

Money Laundering Regulations 2007

<https://collectionstrust.org.uk/resource/money-laundering-regulations-2007/>

This Act deprives criminals of the proceeds of their crimes and prevents the use of the financial system for money laundering.

Proceeds of Crime Act 2002

<https://collectionstrust.org.uk/resource/proceeds-of-crime-act-2002/>

This Act simplifies the process of convicting criminals suspected of money laundering and enables the recovery of proceeds of crime.

Theft Act 1968

<https://collectionstrust.org.uk/resource/theft-act-1968/>

Thefts from museums and archives may be from the collections, display counters and shops, stores and equipment, and visitors – pickpockets and bag snatchers. This resource allows you to view the relevant legislation.

The Treasure Act (1996) Code of Practice (Revised) for England and Wales 2000

<https://collectionstrust.org.uk/resource/the-treasure-act-1996-code-of-practice-revised-for-england-and-wales/>

This guidance from the Department for Culture, Media and Sport is best practice relating to the application of the Treasure Act. The Act provides legal protection to antiquities found on land and this guidance outlines the principles and provisions of the Act and procedures for the acquisition and valuation of treasure.

UNESCO Declaration on the Responsibility of the Present Generations Towards Future Generations

<https://collectionstrust.org.uk/resource/unesco-declaration-on-the-responsibility-of-the-present-generations-towards-future-generations/>

This declaration requires that present generations should preserve the cultural diversity of humankind, and have the responsibility to identify, protect and safeguard the tangible and intangible cultural heritage and to transmit this common heritage to future generations.

UNESCO Declaration concerning the Intentional Destruction of Cultural Heritage

<https://collectionstrust.org.uk/resource/unesco-declaration-concerning-the-intentional-destruction-of-cultural-heritage/>

This declaration concerns the intentional destruction of cultural heritage and requires that member states should take all appropriate measures to prevent acts of intentional destruction of cultural heritage.

UNESCO Database of National Cultural Heritage Laws

<https://collectionstrust.org.uk/resource/unesco-database-of-national-cultural-heritage-laws/>

This database of National Cultural Heritage Laws aims to combat the illicit traffic of cultural property.

UNESCO 1970 Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property

<https://collectionstrust.org.uk/resource/unesco-1970-convention-on-the-means-of-prohibiting-and-preventing-the-illicit-import-export-and-transfer-of-ownership-of-cultural-property/>

This is a multilateral international agreement which tackles the illicit trafficking of cultural property.

Ethics

Codes of ethics are central to upholding the reputation of the museum and archive sector and contributing to standards met by those holding object collections.

Archive services involved with acquiring, disposing or lending museum collections should be aware of the ethical framework museum colleagues work within and be conversant with the Museum Association Code of Ethics. The Code of Ethics is a consensus of sector views, it is regularly reviewed, and it is responsive. There is a Museums Association convened ethics committee which develops and promotes the understanding of ethical principles, practice and issues.

The Museum Association Code of Ethics covers three key areas:

Museums and those who work in and with them agree to uphold the following principles throughout their work:

1. Public engagement & public benefit

Museums and those who work in and with them should:

- actively engage and work in partnership with existing audiences and reach out to new and diverse audiences.
- treat everyone equally, with honesty and respect.
- provide and generate accurate information for and with the public.
- support freedom of speech and debate.
- use collections for public benefit – for learning, inspiration and enjoyment.

2. Stewardship of collections

Museums and those who work in and with them should:

- maintain and develop collections for current and future generations.
- acquire, care for, exhibit and loan collections with transparency and competency in order to generate knowledge and engage the public with collections.
- treat museum collections as cultural, scientific or historic assets, not financial assets.

3. Individual & institutional integrity

Museums and those who work in and with them should:

- act in the public interest in all areas of work.
- uphold the highest level of institutional integrity and personal conduct at all times.
- build respectful and transparent relationships with partner organisations, governing bodies, staff and volunteers to ensure public trust in the museum's activities.

There is current focus across museums on issues relating to sales of collections and on ethical issues surrounding decolonisation of collections and work museums are doing to assess collections and clearly address and represent the history of institutions and collections.

Principles to apply

Archive services must comply with legislation and have plans and procedures in place which enable compliance.

It is good practice to work collaboratively with the museum sector over the holding of mixed collections and associated ethical and legislative issues.

Archive services should aim to work within the Museums Association Code of Ethics and to seek advice on any areas of uncertainty.

Standards to consider

- Museum Accreditation Scheme.
- Archive Service Accreditation.
- Spectrum 5.0 Collections Management Standard for Museums.

Useful resources and websites

Collections Trust Cultural Property, Legal Contexts.

<https://collectionstrust.org.uk/cultural-property-advice/legal-contexts/>

The National Archives – Managing mixed collections for archive services

Museums Association Code of Ethics for Museums.

<https://www.museumsassociation.org/campaigns/ethics/code-of-ethics/>

Archives & Records Association UK & Ireland Code of Ethics. (2018)

<https://www.archives.org.uk/membership/code-of-ethics.html>

Museum Accreditation Scheme.

<https://www.artscouncil.org.uk/supporting-arts-museums-and-libraries/uk-museum-accreditation-scheme>

Museum Accreditation Scheme Collections Development Policy template.

https://www.artscouncil.org.uk/sites/default/files/download-file/Collections_Development_Policy_template_2014_PDF_0.pdf

Archive Service Accreditation.

<https://www.nationalarchives.gov.uk/archives-sector/archive-service-accreditation/>

Spectrum 5.0 Collections Management Standard for Museums.

<https://collectionstrust.org.uk/spectrum/>

3.7 Ethics and Legislation - Collecting contemporary history: events and memorials

Overview

Collecting contemporary material related to events or a particular moment in time is a core activity for archive services. These events, which are often temporary, are sensitive and emotive for large numbers of people and raise questions about what and how archives should be collecting.

Alongside pertinent archive materials a range of objects will be available to support the future telling of the story. The key issue faced by archivists is knowing which objects they should be keeping, to ensure they effectively support the archive material.

Objects hold the personal and collective memory of an event and sensitivities in dealing with material should be duly acknowledged during acquisition and future use.

Particular issues to consider for mixed collections

Collecting from a moment in time event is responsive and often spontaneous, archives may be offered a wide range of material from the public, whilst also proactively collecting to ensure the event is effectively captured for the future.

A large number of objects may be available, many of which the archive will not be able to accession, or which could be duplicates. Although objects associated with emotive events have sensitivities embedded within them it is often unrealistic to consider accessioning every item collected or offered for donation.

Some objects may have inherent issues and require specialist conservation, for example the Whitechapel fatberg in 2018 collected by the Museum of London required specialist care, conservation and display.

<https://www.museumoflondon.org.uk/discover/exhibiting-fatberg-monster-whitechapel>

Archives should work within their Collections Development Policy to ensure accessioned objects meet the policy requirements. Decisions should take account of the issues surrounding storage requirements, conservation and the potential for research and future engagement from the public.

If appropriate, engaging communities to support the selection of objects provides a positive dimension to accessioning. This ensures selection of a representative sample of objects and also provides an opportunity to capture responses from people involved, which enhances information contained in the collection record.

Principles to apply

- An awareness and sensitivity to emotive issues affecting local communities.
- Collecting will often be urgent and unplanned, a significant amount of material may be collected in a short space of time.
- Collections development policies should be followed.
- Archives should consider the impact on storage, conservation and future use and engagement potential.
- Ensure the archive service retains a representative sample of objects, which capture the essence of an event or period of time.
- Maximising the opportunity to enhance the catalogue record with personal histories and responses from members of the public will provide added value.

Standards to consider

Museum Accreditation Scheme.

<https://www.artscouncil.org.uk/supporting-arts-museums-and-libraries/uk-museum-accreditation-scheme>

Archive Service Accreditation.

<https://www.nationalarchives.gov.uk/archives-sector/archive-service-accreditation/>

Spectrum 5.0 Collections Management Standard for Museums.

<https://collectionstrust.org.uk/spectrum/>

Useful websites and resources

What collecting spontaneous memorials can tell us about collecting COVID-19 – Part I, Cultural Practices, The Magazine of the Institute for Cultural Practices.

<https://culturalpractice.org/collecting-covid-19-part1/>

Contemporary Collecting Toolkit, Museum Development North West, 2019.

https://museumdevelopmentnorthwest.files.wordpress.com/2019/07/mdnw_contemporarycollectingtoolkit_july2019.pdf

The 'Manchester Together Archive': researching and developing a museum practice of spontaneous memorials, Kostas Arvanitis, Museums and Society 2019.

<https://journals.le.ac.uk/ojs1/index.php/mas/article/view/3203>

3.8 Ethics and Legislation – Managing human tissue

Overview

Human remains should always be treated with dignity and respect. If your organisation holds human remains under 100 years old then you must comply with the Human Tissue Act 2004. If your organisation holds human remains from any period, you should follow the procedures in the 'Guidance for the care of human remains in museums' (DCMS 2005). It is advisable to have a policy that sets out the principles guiding the acquisition/disposal, holding, care, display and study of human remains in your collection.

The activities of organisations holding human remains under 100 years old must be compliant with the Human Tissue Act 2004 which regulates the removal,

storage and use of human remains for listed activities including research and display. This includes obtaining a licence.

The definition of human remains in the Human Tissue Act 2004 does not include hair and nails though it is recognised that these have a sacred importance to some communities. It does include osteological material (whole or part skeletons, individual bones or fragments or bone and teeth), soft tissue including organs and skin, embryos and slide preparations of human tissue. The definition also includes artworks composed of human bodily fluids and soft tissue.

Principles

Any organisation that holds or intends to acquire human remains from any period should follow the procedures in the 'Guidance for the care of human remains in museums' issued by Department for Digital, Culture, Media & Sport (DCMS) in 2005. This sets out an ethical framework for the care and use of human tissue which covers procedural responsibilities and ethical principles:

Procedural responsibilities

These responsibilities are meant to apply corporately, i.e., to be discharged by the organisation and by all the individuals representing it.

In handling human remains and claims relating to remains, organisations should demonstrate:

Rigour – act rationally with appropriate knowledge, skill and care and justify your decisions.

Honesty and integrity – be worthy of trust by others; declare conflicts of interest; show honesty in communicating knowledge with all interested parties; act in a principled manner.

Sensitivity and cultural understanding – show sensitivity and compassion for the feelings of individuals; show understanding of different religious, spiritual and cultural perspectives.

Respect for persons and communities – show respect for individuals and communities; minimise any adverse effect on people and communities; respect privacy and confidentiality.

Responsible communication, openness and transparency – listen, inform and communicate openly and honestly.

Fairness – act fairly; give due weight to the interests of all parties; act consistently.

Ethical principles

These ethical principles are designed to guide organisations' thinking and actions in decision-making but cannot in themselves determine the outcome in any particular case. The principles will frequently come into conflict with each other; where they do, the organisation will need to determine the appropriate balance and may need to seek expert advice.

1. Non-maleficence – doing no harm

Non-maleficence would require you to avoid doing harm wherever possible. This could include avoiding harm to an individual, a community or the general public. For example, not taking an action that would cause distress to a particular community.

2. Respect for diversity of belief – respect for diverse religious, spiritual and cultural beliefs and attitudes to remains; tolerance

Respect for diversity of belief demonstrates humility and modesty regarding one's own opinions, and shows respect for individuals, cultures, groups and communities. The principle requires decision-makers to give consideration to the cultural and historical backgrounds, beliefs and values relevant to all parties concerned. For example, it would require an organisation to recognise and respect that a community may place a particular cultural value on human remains that is not shared by others.

3. Respect for the value of science – respect for the scientific value of human remains and for the benefits that scientific inquiry may produce for humanity

This principle holds that individuals and communities (past, present and future) benefit both personally and indirectly, through the benefit to their loved ones, descendants and communities, from the fruits of science.

4. Solidarity – furthering humanity through co-operation and consensus in relation to human remains

The principle of solidarity recognises that we all have a shared humanity and an interest in furthering common goals and tolerating differences that respect fundamental human rights. Mutual respect, understanding and co-operation promote solidarity by fostering goodwill and a recognition of our shared humanity. This principle emphasises the importance of rising above our differences to find common ground, co-operation and consensus. It would be

reflected, for example, by seeking to find a consensus in relation to competing claims over human remains that all parties can accept.

5. Beneficence – doing good, providing benefits to individuals, communities or the public in general

Beneficence would dictate that your actions have good outcomes wherever possible. This could include advancing knowledge that is of benefit to humanity (for example, by using human remains for scientific research) or respecting the wishes of an individual (for example, by returning the remains of their relative for burial).

Standards to consider

Human Tissue Act 2004.

Useful resources and websites

DCMS (2005) Guidance for the Care of Human Remains in Museums.

<https://www.britishmuseum.org/sites/default/files/2019-11/DCMS-Guidance-for-the-care-of-human-remains-in-museum.pdf>

Advisory Panel on the Archaeology of Burials in England, (2017) Guidance for Best Practice for the Treatment of Human Remains Excavated from Christian Burial Grounds in England.

https://www.archaeologyuk.org/apabe/pdf/APABE_ToHREfCBG_FINAL_WEB.pdf

British Museum (2018) British Museum Policy: Human Remains in the Collection.

https://www.britishmuseum.org/sites/default/files/2019-10/Human_Remains_policy_061218.pdf

Museum of London Human Remains Working Group (2011) Policy for the Care of Human Remains in Museum of London Collections.

https://www.museumoflondon.org.uk/application/files/5714/8129/0350/Museum_of_London_Policy_for_the_Care_of_Human_Remains.pdf

3.9 Ethics and Legislation – Provenance and the Legalities of collecting

Overview

Archive Services can be presented with a range of issues when offered a mixed collection, not least that they will need to be sure of the provenance of the collection, especially as additional laws and ethical codes can apply to objects. In our research archivists have identified the potential for collections in their care

to include: archaeological finds, wild birds' eggs, fossils and items found during metal detecting. There is also the potential for a home for the collection to be contested, for another country or community to have a claim on caring for the collection or object. This section seeks to explore some of these issues.

Particular issues to consider for mixed collections

Archive Services should be sure that they have clear rights to any collections offered to them, including understanding the provenance of both archives and objects. It is not possible within the limitations of this guidance to provide detailed guidance on objects which may be contested heritage. Archive Services should refer to the various Codes of Ethics, to section 4.2 of this guidance where contested heritage is covered and should request guidance from The National Archives.

It has been illegal to take the eggs of most **wild birds** since the Protection of Birds Act 1954. Additionally, it has been illegal to either possess or control the eggs of wild birds' eggs taken since the start of the Wildlife and Countryside Act 1981. This includes the sale or purchase of these eggs. The law is focused on people that are currently actively collecting and trading eggs rather than prosecuting people with historic collections. Those with historic collections and collections of significant scientific value are encouraged to hand these over to museums for research.

The Portable Antiquities Scheme encourages the recording of archaeological objects found by metal detectorists or by people simply walking. Some finds meet the definition of Treasure and are governed by the Treasure Act 1996 and its Code of Practice. There are also guidelines for searching a particular place such as the River Thames foreshore, sites of special scientific interest and scheduled ancient monuments.

Principles to apply

- You have a duty to meet all legal requirements and ethical standards. This will involve considering the law relating to specific collection types (outlined below) and whether the collection could be stolen property. The Collections Trust provides links to both commercial and non-commercial databases of stolen cultural property.
- If you have a collection of eggs which predates the 1981 Wildlife and Countryside Act you will not be convicted of possession as long as you can demonstrate that the collection predates the legislation. There is no forensic method to authenticate the age of eggs to determine the legality of individual collections.

- By law fossils belong to the owner of the land from which they were collected. You should be sure that any fossils or geological specimens you are offered are collected legally.
- For finds meeting the requirements of the Treasure Act, you are required to report finds within 14 days and follow the legal obligations of the Act. Those managing mixed collections should seek to ensure that these legal obligations and recommended actions have been complied with, especially relating to ownership.

Standards to consider

RSPB The Wildlife and Countryside Act 1981.

<https://www.rspb.org.uk/birds-and-wildlife/advice/wildlife-and-the-law/wildlife-and-countryside-act/#:~:text=All%20birds%2C%20their%20nests%20and,in%20use%20or%20being%20built.>

West Dorset Fossil Collecting Code of Conduct.

<https://jurassiccoast.org/wp-content/uploads/2006/07/West%20Dorset%20fossil%20code.PDF>

DCMS, Treasure Act 1996 Code of Practice (2nd Revision) England and Wales

<https://www.gov.uk/government/publications/treasure-act-1996-code-of-practice-2nd-revision-england-and-wales>

Useful resources and websites

Lancashire Constabulary, Laws that protect wild birds.

<https://www.lancashire.police.uk/faqs/wildlife-crime/what-are-the-laws-that-protect-wild-birds/>

Collections Trust, Provenance.

<https://collectionstrust.org.uk/cultural-property-advice/provenance/>

Natural England, Managing geological specimen collecting responsible collecting.

https://ukafh.com/wp-content/uploads/2019/05/TIN112_edition_2-responsible-collecting.pdf

Collections Trust, researching and processing a restitution or repatriation claim.

<https://collectionstrust.org.uk/resource/researching-and-processing-a-restitution-or-repatriation-claim/>

Portable Antiquities Scheme, Code of Practice for Responsible Metal Detecting in England and Wales. (2017)

<https://finds.org.uk/getinvolved/guides/codeofpractice>

3.10 Valuation

Overview

Valuation has been seen as a difficult subject for many collections, as it has the potential to detract from the significance of the item, to attract unwanted attention and to raise the potential of the sale of items. This may be particularly acute for mixed collections where the objects may not be core collection items. However, for mixed collections, knowing the value of items is perhaps more important as these are more likely to be loaned and exhibited. Having a policy and procedure in place is valuable when staff are placed under pressure to provide quick valuations.

Valuation for purchase and insurance is more consistently applied.

Particular issues to consider for mixed collections

For fine art, rare books etc it is acceptable to pay an auction house or external specialist to carry out a periodic inspection for insurance purposes based on market values. For other types of objects valuation is more difficult. What if the monetary value is low but the item is integral to the history of your organisation or area? Would you therefore place a value for insurance on the potential repairs that might be needed?

In some cases it may be that you as the collection manager, with access to the supporting archive, may have the greatest amount of knowledge to be able to develop the information needed to reach a valuation. In these cases you would want to bring together a range of information to support the valuation, including:

- Catalogue record.
- Accession record including full provenance.
- Assessment of the local, national or international significance.
- Assessment of the significance of the object to the managing organisation.
- Uniqueness of the object.
- Details of related items in the collection and elsewhere.

There are a series of useful templates in Freda Matassa's book below.

Principles to apply

In writing this guidance we acknowledge that circumstances are different in profit and non-profitmaking organisations but as a general principle collections should not be valued for sale. Indeed the Museums Association Code of Ethics states that you “Resist placing a commercial value on the collections unless there is a compelling reason to do so, and for collections management purposes only.” The Code of Ethics also states that you should “Recognise the principle that collections should not normally be regarded as financially negotiable assets” and you should refuse to undertake disposal for financial gain except under specific circumstances, which are laid down. Additionally, the Code states that collections should not be mortgaged or offered as security for a loan.

Spectrum provides a procedure to follow when seeking valuations, based on having an agreed policy on the subject. This policy should agree a set of principles for valuing objects based on the current market value of similar objects, the original price paid, the potential cost of conservation and the full cost of acquiring another comparable object.

Standards to consider

Spectrum Standard – Insurance and Indemnity.

<https://collectionstrust.org.uk/resource/insurance-and-indemnity-the-spectrum-standard/>

Spectrum Standard – Insurance and Indemnity – Suggested Procedure.

<https://collectionstrust.org.uk/resource/insurance-and-indemnity-suggested-procedure/>

Freda Matassa, Valuing your Collection, a practical guide for museums, libraries and archives. (Facet 2017)

3.11 Insurance

Overview

All archive collections have considered and planned for their insurance needs but mixed collections bring another dimension. Usually mixed collections bring more opportunities for exhibition and loan, which requires different considerations.

Particular issues to consider for mixed collections

Normally objects on loan to you are subject to an agreement, including arrangement of insurance by the borrower. For objects on loan from you it is usually the borrower that is responsible for insuring or indemnifying items on loan to them. You should ensure that this includes during transport to and from another site and that you have written evidence of the insurance. Spectrum guidance recommends that “the loan agreement should include a stipulation that the item be insured for the specified value for all risks, including transit cover from the time it leaves your premises to the time it returns (‘nail to nail’ cover).”

The Government Indemnity Scheme (GIS) is an alternative to insurance for art and cultural objects on public exhibition or study in the UK. It:

- covers objects on loan from private lenders and other non-national institutions.
- provides cost-free indemnity cover for loss or damage when items are on short- or long-term loan.
- encourages non-national institutions to hold important exhibitions or add to existing collections.
- allows institutions to borrow objects or works of art for study purposes.

Any publicly accessible institution is eligible to apply for indemnity cover that is cost free to borrowing institutions. You are required to meet certain transport, security and environmental requirements.

Principles to apply

Spectrum has a procedure and guidelines in place. It suggests that you have an insurance and indemnity policy, supported by a procedure.

Standards to consider

Spectrum Standard – Insurance and Indemnity.

<https://collectionstrust.org.uk/resource/insurance-and-indemnity-the-spectrum-standard/>

Spectrum Standard – Insurance and Indemnity – Suggested Procedure.

<https://collectionstrust.org.uk/resource/insurance-and-indemnity-suggested-procedure/>

Useful resources and websites

Government Indemnity Scheme, Arts Council.

<https://www.artscouncil.org.uk/protecting-cultural-objects/government-indemnity-scheme#section-1>

Share Museum East, Insuring Museum Collections, A collections care how to guide. <http://sharemuseumseast.org.uk/wp-content/uploads/2018/07/How-to-Guide-Insuring-Museums-Collections.pdf>

MLA, Insurance for Museums.

<https://southeastmuseums.org/wp-content/uploads/PDF/000007.pdf>

4. Collections Development

4.1 How to decide whether you are an appropriate custodian

Overview

Decisions around collections development and acquisition should follow the agreed archive service policy and link clearly back to the purpose and mission of the organisation.

The Archive Service Accreditation Scheme states in requirement 2.2

‘The archive service has a co-ordinated approach to collections development activity, guided by coherent policies, plans and procedures. The approach should cover both analogue and digital materials, where relevant, and be approved by top management, or an appropriate delegated authority.’

Particular issues to consider for mixed collections

Archive Services should consider that museums could also be collecting in the area defined in their Collections Development Policy.

Archives should liaise with museums over the collection of mixed collections to ensure objects are located in the most appropriate institution, promoting effective collections care and good public access to collections. Developing relationships with museums can provide positive collaborative working and enhance future lending and borrowing.

Acquisition of mixed collections should also consider the necessary requirements for:

The National Archives – Managing mixed collections for archive services

- Storage space.
- Environmental conditions.
- Needs of specialist materials.
- Legal and ethical requirements.
- Resources required to manage mixed collections effectively.
- The skills and expertise needed to manage mixed collections and if these are available within the Archive Service or whether seeking external support is more appropriate.

Principles to apply

- Compliance with the archive service Collections Development Policy.
- Developing knowledge of relevant collections held in other institutions.
- It is recognised that archive services will want to preserve the integrity of the collection. Splitting collections is only recommended when the archive service cannot effectively care for the object, or where the museum and archive can ensure that intellectual connections are retained between the archive and object.
- When reviewing the Collections Development Policy, it should reflect consideration of accredited museums with related collections.
- Members of the public, offering deposits and donations, should be directed to the most appropriate organisation to hold the objects.
- Developing a collections development panel to consider a range of views and the opportunities and challenges for objects, prior to acquisition, is an excellent means to ensure objects are suitable acquisitions.

Standards to consider

Archive Service Accreditation.

<https://www.nationalarchives.gov.uk/archives-sector/archive-service-accreditation/>

Museum Accreditation Scheme.

<https://www.artscouncil.org.uk/supporting-arts-museums-and-libraries/uk-museum-accreditation-scheme>

PAS 197: 2009 Code of practice for cultural collections management. (BSI, 2009)

The National Archives – Managing mixed collections for archive services

Spectrum 5.0 Standard and procedure for Acquisition and Accessioning.

<https://collectionstrust.org.uk/spectrum/primary-procedures/acquisition-and-accessioning/>

Useful resources and websites

The National Archives Collection Development guidance.

<http://www.nationalarchives.gov.uk/archives-sector/advice-and-guidance/managing-your-collection/developing-collections/collection-development/>

Arts Council England, Collections Development Policy Template –It includes an archives section.

<http://www.artscouncil.org.uk/document/collections-development-policy-template>

The National Archives - writing a Collections Development Policy.

<https://www.nationalarchives.gov.uk/documents/archives/writing-a-collections-development-policy-and-plan.pdf>

Resources to support creation of a Collections Development Policy are available on the Collections Trust website.

<https://collectionstrust.org.uk/accreditation/managing-collections/holding-and-developing-collections/collections-development-policy/>

4.2 Contested Heritage and decolonising collections

Overview

Contested heritage and decolonising collections in museums and archives is an area of increasing importance for the sector. In this document we follow the English Heritage definition of contested heritage meaning *historic objects, structures, buildings or places where the associated stories or meanings have become challenged*. For mixed collections this might involve a range of actions including re-examining collections gathered during the early activities of your governing organisation, re-examining the story that collections explain or re writing catalogue entries.

Within the limitations of this guidance it has not been possible to provide detailed guidance on what are emerging areas of work. Instead we have provided links to work by the Museums Association and to how some archives, museums and others have tackled these subjects. Recurring themes that are

emerging from these discussions include: understanding the marginalisation that occurs in current archival practice; such as consulting stakeholders, creating space for multiple interpretation and artistic responses, transparency around context of original descriptions, development of collections and intervention with catalogue descriptions. Where your mixed collections are impacted by these discussions you will need to keep up to date with developments in what is a rapidly moving field.

Useful resources and websites

Chilcott, A. Towards protocols for describing racially offensive language in UK public archives. Arch Sci 19, 359–376 (2019).

<https://doi.org/10.1007/s10502-019-09314-y>

Decolonising the London School of Hygiene and Tropical Medicine Archive.

<https://www.lshtm.ac.uk/research/library-archives-service/archives/decolonising-lshtm-archives>

Museums Association – Decolonising Museums Campaign.

<https://www.museumsassociation.org/campaigns/decolonising-museums/>

Church of England, Contested Heritage in Cathedral and Churches.

https://www.churchofengland.org/sites/default/files/2021-05/Contested_Heritage_in_Cathedrals_and_Churches.pdf

Introducing contested heritage: The case of the Axum Obelisk, Jasper Chalcraft illustrates the idea of contested heritage.

<https://www.futurelearn.com/info/courses/heritage-culturally-diverse-cities/0/steps/39506>

Approach of Royal Pavilion and Museums, Brighton and Hove, managing objects from the former colonies of the British Empire at Royal Pavilion & Museums.

<https://brightonmuseums.org.uk/2019/10/02/objects-from-the-former-colonies-british-empire-at-royal-pavilion-museums/>

4.3 Acquisition and Accessioning

Overview

Accessioning is when an object is formally added to the collections and confirms the transfer of title from one owner to another and it is the point that a unique number is assigned to the item. In museum terminology this is two procedures,

acquisition and accessioning. The information is recorded to form an accession record. This can be in the form of a register or information as part of the collections management system.

This is a regular procedure for archive services and one which can easily adapt to ensure principles are applied to mixed collections.

Spectrum 5.0 Acquisition and Accessioning procedure provides a useful checklist of questions to consider when acquiring objects.

<https://collectionstrust.org.uk/spectrum/primary-procedures/acquisition-and-accessioning/>

Particular issues

Museum collections, on the whole, tend to be owned by their institutions, who have acquired them through donations, bequests and occasionally purchases. If at all possible, archive services should aim to acquire mixed collection items as gifts or purchased items. This reduces any issues there may be with loaned objects and ensures and confirms ownership of mixed collections.

Understanding the scope of the collection permanently owned by the archive service allows for effective forward planning and allocation of resources.

Museum collections are often supplemented with loaned objects for temporary exhibitions or to fill gaps in collections, these will follow a clear loans policy and procedure. Loans will have detailed agreements and are for specified reasons and agreed time frames (subject to review). Loans are not added to the accessioned collections, a separate loans file is maintained in the collections management system.

Mixed collections in archives are likely to have been deposited as part of a wider collection of archives or, they may have been acquired to supplement an archive aiming to increase engagement with the public or enhance the story and context of the archive material.

Acquisition

Before deciding whether to accept mixed collections into an archive, the first step is to consult the Collections Development Policy to ensure the proposed acquisition meets the criteria outlined in the policy.

Mixed collections are made from a range of different materials and will be different sizes, shapes, weights and materials. All acquisition decisions should consider the storage requirements, current condition, future care and conservation of the object, access requirements and the potential the object has to add to public engagement.

The National Archives – Managing mixed collections for archive services

Transfer of title

During the process of acquisition, archives and mixed collections will be accessioned and permanently added to the collections.

This will normally be through completion of a donor or depositor agreement and/or transfer of title form. It is important donors are directed to the terms and conditions associated with a donation.

Before a donation is finalised assessment of the object and appropriate due diligence should be conducted relating to provenance and ownership.

<https://collectionstrust.org.uk/resource/acquiring-objects-due-diligence-checklist/> .

It is at this point that transfer of title is confirmed and the object will be allocated its accession number.

Objects may have several parts, which are associated, but could become separated, for example a tea pot with a lid or a box of pencils, with a box and 12 pencils. It's important that objects and their parts are fully recorded, so objects can be accounted for and matched with the records.

Standards

Archive Service Accreditation.

<http://www.nationalarchives.gov.uk/archives-sector/archive-service-accreditation/>

Museum Accreditation Scheme.

<https://www.artscouncil.org.uk/supporting-arts-museums-and-libraries/uk-museum-accreditation-scheme>

Spectrum 5.0 Standard and procedure for Acquisition and Accessioning.

<https://collectionstrust.org.uk/spectrum/primary-procedures/acquisition-and-accessioning/>

Useful resources and websites

The Collections Trust provides an extensive list of related resources for acquisition and accessioning.

<https://collectionstrust.org.uk/spectrum-resources/acquisition/>

The Collections Trust labelling and marking booklet provides details of marking and labelling a range of objects.

<https://collectionstrust.org.uk/resource/labelling-and-marking-museum-objects-booklet/>

And there are a series of marking and labelling films to support the booklet:

<https://collectionstrust.org.uk/resource/labelling-and-marking-museum-objects/>

<https://collectionstrust.org.uk/resource/labelling-and-marking-textiles-in-museum-collections/>

<https://collectionstrust.org.uk/resource/labelling-objects/>

<https://collectionstrust.org.uk/resource/labelling-and-marking-paper-objects-in-museum-collections/>

The National Archives, Collection Development guidance.

<http://www.nationalarchives.gov.uk/archives-sector/advice-and-guidance/managing-your-collection/developing-collections/collection-development/>

Arts Council England, Collections Development Policy Template – It includes an archives section.

<http://www.artscouncil.org.uk/document/collections-development-policy-template>

4.4 Deaccessioning and disposal

Overview

Deaccessioning and disposal has traditionally been a problematic area for archive services. Pressure has increased to ensure that all collections stored are worthy of preservation, as more services are short of space. Alongside this, in response to events in the museum community, Archive Service Accreditation has considered its position on deaccessioning and disposal. In recent years guidance from The National Archives has provided advice on developing policy and procedure in this area.

Principles to apply

The National Archives guidance document on deaccessioning and more particularly its disposal destination tree should be followed for archives and mixed collections. The only addition to this is that services might consider retaining objects not worthy of permanent preservation in the archive collection, as part of handling collections. Handling collections are used to enable people to get closer to objects in visitor attractions, museums and in engagement activities

of all types. These collections have been specifically chosen as not having high levels of significance but enable engagement.

In the museum sector three further guidance documents apply. Spectrum provides guidance and a procedure for deaccessioning and disposal, and the Museums Association offers a disposal toolkit and the Code of Ethics.

Standards to consider

Spectrum Standard Deaccessioning and Disposal.

<https://collectionstrust.org.uk/resource/deaccessioning-and-disposal-the-spectrum-standard/>

Spectrum Procedure Deaccessioning and Disposal.

<https://collectionstrust.org.uk/resource/deaccessioning-and-disposal-suggested-procedure/>

Useful resources and websites

The National Archives, Deaccessioning and Disposal Guidance for archive services. <https://www.nationalarchives.gov.uk/documents/Deaccessioning-and-disposal-guide.pdf>

Museums Association, Disposal Toolkit.

<https://www.museumsassociation.org/campaigns/collections/disposal-toolkit/>

4.5 Assessing significance

Overview

Assessing significance of collections contributes to effective collections management. Understanding the significance and potential of collections is an integral part of collections development and can support decisions around acquisition, disposal, priorities for care and conservation and allocation of resources.

A range of methodologies exists to support the process of significance assessment; many start with conducting a collections review.

Collections review is the systematic process of assessment of the collections, which are measured against a rationale of agreed criteria or questions. It can be applied to part of a collection or to an entire collection and may involve consultation with stakeholders and communities or the input of subject specialists.

Collections reviews are particularly useful as tools to help with enhancing understanding of the significance of collections, planning exhibitions and displays, increasing understanding of collections, enabling multiple voices and responses to be captured for the collections record, identifying and prioritising collections care and conservation, allocating resources aligned with strategic priorities and providing reason and rationale for recommendations for rationalisation and possibly disposal of collections.

Collections review is often the first step in the rationalisation and disposal of collections, ensuring decisions meet the objectives and priorities of the organisation, whilst maintaining legal and ethical standards.

Available methodologies and case studies enable organisations to use them as examples in developing a bespoke framework, focused on specific objectives and ensuring that the process is managed and documented effectively.

Particular issues to consider for mixed collections

Assessing significance can be applied across collection types.

Mixed collections may provide an opportunity to include a wider range of criteria and questions as part of a collections review. For examples, alongside an assessment of significance, you may consider engagement and learning impact, research potential, care and conservation priorities and storage requirements.

It is important that assessment involves individuals with specialist knowledge and expertise, particularly when considering significance. You may need to factor in a specialist to assist with the process.

Principles to apply

Significance assessment and collections review should include the following clear principles and link back to the purpose and aims of the organisation.

It is essential to have a clear reason for the significance assessment and collections review - what do you want to achieve? Examples could be:

- Collecting has been out of control - need to decide what should remain in the collection.
- An area of the collection that you have little knowledge about - for example, specialist areas of mixed collections.
- To inform a new display.
- To support research priorities.
- To help identify new collecting areas.
- To help identify possible areas for rationalisation.

The National Archives – Managing mixed collections for archive services

Follow a step-by-step process to conduct the significance assessment and collections review:

- Establish your methodology and the criteria you will use.
- Put a team together.
- Agree your methodology.
- Pilot your methodology to check it works.
- Do you need specialist input - at what stage?
- Record and collate your results.
- Analyse your results and determine the next steps.

Standards to consider

Collections Review is one of the 21 Spectrum 5.0 procedures.

The Museum Accreditation Standard recommends collections review is carried out as part of a rationalisation and disposal process.

Useful resources and websites

Spectrum 5.0 Standard and procedure for Collections Review.

<https://collectionstrust.org.uk/spectrum/procedures/collections-review-spectrum-5-0/>

UCL Collections review toolkit.

https://www.ucl.ac.uk/culture/sites/culture/files/cr_toolkit_final.pdf

Significance process and template from the Welsh Government.

<https://gov.wales/sites/default/files/publications/2019-08/why-do-we-have-it-a-significance-process-and-template.pdf>

Collections significance as a part of collections review.

<https://collectionstrust.org.uk/resource/reviewing-significance-3-0/>

A guide to selecting a review methodology for collections rationalisation 2014

Heather Lomas, Collections Trust.

<https://collectionstrust.org.uk/resource/a-guide-to-selecting-a-review-methodology-for-collections-rationalisation/>

Museums Association, empowering collections - recommendations for dynamic collections.

<https://www.museumsassociation.org/campaigns/collections/empowering-collections/recommendations-dynamic-collections/>

Arts Council, Disposals from Museums collections - including by sale.

<https://www.artscouncil.org.uk/supporting-museums/disposal-collections#section-1>

The Imperial War Museum conducted a collections review across all of its collections (objects, archives and library) – case study information is here:

<https://www.iwm.org.uk/collections/managing/collections-development>

Collections Trust, Collections significance as a part of collections review.

<https://collectionstrust.org.uk/resource/reviewing-significance-3-0/>

SHARE Museums East, Collections Rationalisation - this short animation provides an excellent introduction to the issues of collections rationalisation.

<https://collectionstrust.org.uk/resource/collections-rationalisation/>

Museum Development South East, Practical guidance of the review and rationalisation for collections.

<https://southeastmuseums.org/resource-library/pdg2016-guide/>

Society of Museum Archaeologists, guidance on rationalisation of archaeology collections. <http://socmusarch.org.uk/projects/guidance-on-the-rationalisation-of-museum-archaeology-collections/>

5. Collections Care and Conservation

5.1 Storage and Packaging for mixed collections – what's important?

Overview

Appropriate packing and storage protect objects from physical damage, dirt and dust, pest activity and fluctuating temperature and humidity.

Principles

- Use appropriate materials that are inert and chemically stable for storage and packing.
- Be aware of off gassing from objects stored/ packed in close proximity to others and do not place objects that give off harmful substances in the same storage containers (box/ drawer/ folder etc.)
- Pack collections in ways that minimise the need for future handling such as placing them in supportive 'nests' of acid free tissue rather than wrapping them up. This removes the risk of damaging collections when unwrapping them. It's easier to see what's in your storage box when

objects are nested which also reduces the need for handling and makes it easier to do condition checks and to look for evidence of pest activity.

- Clearly label the outside of storage boxes/ garment covers etc. to minimise handling. If you can pop photographs of objects on the outside of the boxes, they are stored in then this can help reduce the need to unpack them. Place a contents list in the top of the box.
- Support objects with packing materials so that they do not move around within the box/ drawer/ enclosure but do not overfill boxes, as this puts pressure on objects.
- Where multiple objects are packed within the same box, they should be separated by packing materials to avoid surface to surface contact and subsequent damage.
- When choosing storage containers take into account the internal space required for both the object/s and the packing materials; the strength of the box and the weight of the object/s as well as the storage systems and whether they will fit.
- Store plans alongside numbering and labelling of storage furniture and enclosures should enable easy access to stored collections.
- Implement a programme of regular condition checks, including evidence of insect activity, for items in storage.
- Collection storage areas should be clearly designated as such and should not be used for storing non-collections material.
- That, as far as possible, optimum environmental conditions for mixed collections are maintained and monitored within storage areas.

Particular issues to consider for mixed collections

It is important to use appropriate materials for collections storage and packing. Suitable materials are inert and chemically stable and using these will minimise the risk of damage to collections. The wrong types of materials contain chemicals which emit harmful vapours through 'off-gassing' or through direct contact with objects causing corrosion, discolouration and general deterioration.

Wood emits harmful vapours such as formic acid and acetic acid, but some types are worse than others (particularly oak); the best wood to use for mixed collections storage is well-seasoned pine, walnut, elm or magnolia. Composite boards such as MDF, plywood, chipboard and hardboard cause similar issues to wood and may also emit formaldehyde.

If wood or MDF has to be used for example for shelving, then the amount of harmful vapours emitted can be significantly reduced by sealing it within a barrier foil or film such as Moistop or Marvelseal®. It is better to use metal for

storage shelves or cupboards. Metal is inert and non-flammable and should, if possible, be coated with a baked enamel finish to prevent corrosion caused by high humidity.

The 'Oddy Test' is an accelerated corrosion test developed by Andrew Oddy, the former Head of Conservation at the British Museum, in 1973. It is used to predict potential off-gassing from new materials and to determine whether materials are safe to use with collection items in an enclosed space. The British Museum publishes an online Database of Materials Test Results that can be used to check whether or not a material being considered for storage purposes would be appropriate.

In their guidance on Creating and improving stores, Museums Galleries Scotland lists six materials to avoid when planning stores:

- All PVC-based materials.
- Wood or wood-based products such as medium-density fibreboard (MDF).
- Foam or rubber-backed carpets and PVA carpet adhesive.
- Carpets, which can host pests.
- Exposed brick, concrete and metal.
- Paint or plaster to keep out pollutants.

Packing materials should:

- Be inert.
- Offer protection/ cushioning against physical damage and vibration.
- Act as a buffer against fluctuating relative humidity (RH).
- Effectively support objects so that they don't move around within packing enclosures.
- Be suitable for creating supports, covers, cushioning etc.

Depending on what materials they are composed of objects themselves can also give off a range of harmful substances as they degrade which will cause damage to other collections in close proximity to them. This process can be accelerated by high temperatures and high relative humidity and when materials occupy a confined space such as sharing a storage enclosure.

The following is a summary of suitable materials to use for packing mixed collections; detailed information about the packing and storage of specific collection types is included in the relevant section below

Acid free tissue paper

- Used to protect, shape, pad and support objects.

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- Acts as a buffer against fluctuating temperature and RH when used as a packing material.
- Can be used to make padded corners for frames.
- Should be replaced every few years as it will become acidic over time (test with a pH pen).

Acid free boxes and trays

- Made from acid-free board or inert corrugated plastic such as Correx. (which makes a very robust and rigid box).
- Come in a range of shapes and sizes including Solander Boxes which are used to store prints and drawings.
- Used to store objects and their packing materials.
- Some boxes have a clear acrylic lid, so the contents are visible.

Inert plastic storage boxes

- Examples include Stewart Boxes, Crystal Boxes and Really Useful Boxes.
- Stewart Boxes have a good seal and can be used to create dry boxes and microclimates for vulnerable objects (particularly archaeological metal).

Storage tubes

- Made from acid-free board.
- Textiles and paper storage (rolled around and covered with acid-free tissue or Tyvek).

Unbleached cotton calico

- Prewash without detergent to remove dressings and in case it shrinks.
- Garment covers.
- To cover padded hangers.
- Loose dust covers.
- Stitch with polyester or cotton thread.

Tyvek

- Spun-bonded polyolethin which comes in a range of weights. Lightweight and water repellent.
- Can be stitched, stapled or glued to create garment covers, loose dust covers, covers for rolled textiles or for wrapping unframed paintings.
- For labelling – particularly in damp or wet environments (including spirit collections).

Polyester wadding

- To pad hangers, mannequins and forms before covering them with washed unbleached cotton calico.
- Padded corners for frames.

Unbleached cotton tying tape

- To tie covers over rolled textiles or paintings.
- To attach labels to boxes or large objects.
- Stitched into textiles for marking and labelling.

'Plastazote' and 'Ethafoam'

- Inert, stable polyethylene foams that come in a range of colours and thicknesses.
- To create supporting plinths/ mounts.
- Box and drawer liners – can be cut with a scalpel into complex shapes to safely house specific objects.
- Lining metal shelves in stores to cushion against vibration and prevent slippage.

Acid free board

- To support prints and drawings in storage enclosures.

pHoton High Purity Paper and Argenta

- Available in sheets or rolls.
- To create folders, files and supports for mixed photographic collections.
- To create four-flap enclosures for glass negative storage.

Inert polyester film such as Secol, Melinex or Mylar

- Transparent inert plastic film.
- Used to make enclosures, sleeves or envelopes for paper and photographs.
- Used as a barrier layer between objects and materials that are not acid-free.

Standards to consider

Collections Trust, Benchmarks in Collections Care 2.1.

<https://collectionstrust.org.uk/resource/benchmarks-in-collections-care-2-1/>

BS EN 16893:2018 Conservation of cultural heritage. Specifications for location, construction and modification of buildings or rooms intended for the storage or use of heritage collections.

PAS 197:2009 the code of practice for cultural collections management. This describes a Collections Management Framework that can be adapted and used by cultural collecting organisations (museums, archives and libraries) of all sizes and types.

Useful resources and websites

Database of materials test results.

https://www.conservation-wiki.com/wiki/Materials_Testing_Results

Museums Galleries Scotland, Introduction to storage and display materials.

<https://www.museumsgalleriesscotland.org.uk/advice/collections/introduction-to-storage-and-display-materials/>

Museums Galleries Scotland, Creating and improving stores.

<https://www.museumsgalleriesscotland.org.uk/advice/collections/creating-and-improving-stores/>

Wiltshire County Council Conservation Service, Materials for storage and display.

<https://collectionstrust.org.uk/wp-content/uploads/2017/01/South-West-Museums-Libraries-and-Archives-Council-Signposts-to-Collections-Care-factsheet-2-Materials-for-storage-and-display-March-2006.pdf> The factsheet includes a table which showed storage and display materials to avoid and suggested acceptable substitutes.

In these YouTube videos, Professor Jane Henderson from the University of Cardiff clearly demonstrates basic packing techniques:

- making tissue puffs. <https://www.youtube.com/watch?v=41BZMl0janA>
- packing a box. <https://www.youtube.com/watch?v=XNx4z9t3his>
- making tissue sausages. https://www.youtube.com/watch?v=UnE4_kBfr0g

Museum of London, Packing museum objects for storage.

<https://www.museumoflondon.org.uk/Resources/e-learning/packing-museum-objects-for-storage/> An e-learning tool

Museum of London, Packing museum objects for moving.

<https://www.museumoflondon.org.uk/Resources/e-learning/packing-museum-objects-for-moving/> An E-learning tool

Share Museum East, Packing museum objects – A Collections Care How to Guide.
<http://sharemuseumseast.org.uk/wp-content/uploads/2013/08/How-To-Guides-Packing-Museum-Objects.pdf>

South East Museum Development, How to make tissue puffs.
http://southeastmuseums.org.surfaceimpressions.co.uk/domains/southeastmuseums.org/local/media/images/medium/How_to_make_tissue_puffs.pdf

These are rolls of tissue used for additional support in containers and for padding out sleeves and legs of costume.

5.2 Location and Movement control

Overview

Location and movement control is one of the procedures identified in the Archive Service Accreditation standard. It is also a primary Spectrum procedure for Museum Accreditation and should be applied to all collections.

Location and movement control involves keeping a record of where all objects in the care of the archive can be found and updating locations each time an object is moved. It is particularly important for mixed collections where objects might be moved more often.

An effective collections management system will include a comprehensive location and movement record, including details of all the movements an object has undertaken whilst in your care. If there is a problem or an object is missing, the index of previous location and authorisations will be key to finding it.

Without effective location and movement control organisations are unable to match objects with the information held about them or to effectively find objects.

Information about location and movement control policy and procedure will be described in the archive service procedural manual.

Particular issues to consider for mixed collections

Objects in mixed collections may be affected by consideration of the following:

- Authorisation to move an object.
A procedure must be followed when an object is moved. This may include recording authorisation for the move, completing a movement slip, updating the catalogue record or ensuring information is passed to the individual responsible for updating the record.

- Labelling and marking to ensure parts of an object can be linked together. It is important that there is a written procedure to identify policy and procedure for dealing with objects with multiple parts. Objects in mixed collections can have several parts, which will need to be labelled and marked appropriately to ensure, if separated, they can be re-united. For example, a teapot has a main body and a lid, these parts constitute the whole objects, but they could be separated. It is customary to accession parts of museum objects with a 'part number' of the main accession number, this ensure all parts can be reunited.
- Storage requirements
Ensure each location and display space has a unique identifier/number so it is easy to locate an object.
Mixed collections may need specialist storage to accommodate, size, weight or material.
- Environmental conditions
Mixed collections may require specific environmental conditions to ensure effective display and storage.
- Display requirement
Mixed collections often bring unique display requirements to ensure maximum public access whilst ensuring the object is sufficiently protected.
- Staff training
Training for staff and volunteers in appropriate object handling and moving will be required.
- Recording
Locations should be recorded for internal moves and if an item leaves the premises for conservation or for a loan.
- Security requirements
Mixed collections may require different security requirements to enable an item to move. Appropriate security should be in place to protect location and movement records.

Principles to apply

- There should be organisation wide agreement on who in the organisation is authorised to move objects and who is authorised to edit location and movement records.
- Written procedures should include information detailing when movement should be recorded.
- Ensuring that location records are secure and confidential.

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- When considering moving an object are there health and safety and other risks to consider? How heavy and /or awkward is it? Do you need special moving equipment? Does the object require specialist packaging? Is the route clear? Is it best to move the object when there are no visitors around?
- When moving an object, a condition check should be conducted and the result recorded.
- If the object is leaving the archive service premises, does it require a courier or specialist transport?

Standards to consider

Archive Service Accreditation.

<http://www.nationalarchives.gov.uk/archives-sector/archive-service-accreditation/>

Museum Accreditation Scheme.

<https://www.artscouncil.org.uk/supporting-arts-museums-and-libraries/uk-museum-accreditation-scheme>

SPECTRUM 5.0 - location and movement control is a primary procedure.

Useful resources and websites

Collections Trust, Spectrum 5.0.

<https://collectionstrust.org.uk/spectrum/procedures/location-and-movement-control-spectrum-5-0/>

The National Archives, Managing Your Collections.

<https://www.nationalarchives.gov.uk/archives-sector/advice-and-guidance/managing-your-collection/>

5.3 Transport

Overview

Transporting objects between sites or to outside organisations brings a range of considerations. Moving any object from its home location presents risks and when transported it is exposed to additional hazards of environmental issues, vulnerability to damage, loss and theft.

It is important that transport for objects is meticulously planned, objects should be individually assessed, and risk assessments completed. Staff must be trained in skills to pack and prepare an object for a move and specialist advice should be

sought, if required. Collections management systems and information should be fully maintained, and documentation updated.

A team approach is required to ensure smooth and successful transport of objects.

Particular issues to consider for mixed collections

Issues surrounding mixed collections focus on ensuring that the transport method and procedure followed is appropriate for the object. This will vary depending on material, some areas of consideration include:

- Is the object sufficiently robust to travel? A full condition assessment of an object should be undertaken.
- Is conservation work required to enable an object to travel safely?
- How heavy is an object, will it need specialist lifting?
- What are the risks during transit, from vibration, change in environment, supervision of the object? For example, if using your own transport will you need two people to travel with it to ensure it is never left unattended?
- Ensuring that insurance cover is adjusted for the transport of an object, both in transit and at its new location.
- How will an object be packaged during transit? Packing should be sufficiently robust to protect the object but should ensure any material in contact with an object meets necessary standards.
- How will an object be transported? Some objects may be light enough to be transported by hand, whereas other objects will require robust packing cases and mechanical lifting or specialist movers.
- How can an object be protected during travel? There are specialist materials and containers which can maintain a stable environment for an object in transit.
- Labelling should be detailed enough to ensure the object is maintained in the correct orientation and there is clarity about the most appropriate way to handle the object and its packaging.
- What details are available for handling of the object? – you may need to be specific about who handles an object and to provide detailed handling guidelines.
- Will you undertake your own transport, or will you need to engage external specialists?
- Will a courier be required to accompany an object?
- Packaging materials should be appropriate to the object.
- How will an object be managed once it arrives at its destination?

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- How will the transport costs of an object be met? It is usual for a borrowing institution to cover the costs of a loan, including the transport costs.

Principles to apply

- Ensuring sufficient time is provided to plan the transport of an item.
- Designating an individual staff member with responsibility for the transport of the object 'nail to nail'.
- Undertaking risk assessment to include:
 - Condition of the object.
 - Possibilities for damage, loss and theft.
 - Skills required to manage the packing and moving of an object.
 - Transport methods, i.e., is an object travelling overseas and requires licences and specialist packaging?
 - Staff resource required to manage the movement of the object.
 - Ensuring there is sufficient information with the object to enable it to be safely unwrapped at its destination.
- Ensuring sufficient information travels with an object to maintain best practice on handling throughout the journey.
- Updating collections management systems.

Useful resources and websites

Museum of London, Packing objects for moving - e-learning tool.

<https://www.museumoflondon.org.uk/Resources/e-learning/packing-museum-objects-for-moving/>

Share Museums East, Packing Museum Objects - a How to Guide.

<http://sharemuseumseast.org.uk/wp-content/uploads/2018/07/How-To-Guides-Packing-Museum-Objects.pdf>

South East Museum Development, Packing museum objects.

<https://southeastmuseums.org/support/conservation/conservation-advice-packing-museum-objects/>

BS EN 15946:2011 Conservation of cultural property. Packing principles for transport.

<https://shop.bsigroup.com/ProductDetail?pid=000000000030201448>

5.4 Loans

Overview

Lending to and from the archive collections provides opportunity to enhance exhibitions, support research and enhance public access to collections. It allows organisations to develop new collaborations and can bring collections together to tell stories in new and exciting ways.

Mixed collections can provide additional interest and focus to archive collections and lending or borrowing is a way of enhancing this.

Particular issues to consider for mixed collections

Loans in (borrowing objects)

There is a Spectrum 5.0 procedure for loans

Loans in policy and procedure will normally follow the agreed procedure for the archive service.

Archive services should think carefully before accepting mixed collections on loan or deposit. Mixed collections bring with them a range of challenges and considerations, for example, conservation, environmental conditions, access, storage issues and display, which may be additional and/ or different to the considerations for the archives service.

Archive services should ideally not accept objects on 'permanent loan'. Ideally loans should only be accepted for specific reasons (exhibition, research or special projects) and for identified periods of time, with a specified end date, allowing for renewal, if appropriate.

Principles to apply

Loan agreements must be in place for every item borrowed.

Procedures for Loans In (borrowing objects) should be included in the archive service procedure manual.

Conditions for the loan must be confirmed in advance and include agreement on:

- Conservation work required prior to the loan.
- Transport.
- Couriering.
- Packing, handling and moving.
- Insurance.
- Security.

- Display conditions including requirements for cases and display mounts.
- Environmental conditions.
- Invigilation of a display or exhibition.
- Including packing and moving, storage, exhibition criteria.
- Copyright and data protection.
- Condition checks.
- The arrangements for meeting the costs associated with the loan.

See under Insurance section for the Government Indemnity Scheme.

Loans out (lending)

Lending is an excellent means of increasing access to collections, developing partnerships with other organisations and raising the profile of the archive service.

Loans Out (borrowing) is a Spectrum 5.0 primary procedure.

A Loans Out policy and procedure will normally follow the agreed procedure for the archive service.

Procedures for Loans Out (lending objects) should be included in the archive service procedure manual.

Archive services should think carefully before lending mixed collections ensuring that an assessment of the loan proposal is conducted, and a loan agreement is in place prior to the loan commencing.

Principles to apply

Loans should be approved to organisations meeting agreed standards (preferably Accredited Archive Services or Accredited Museums) or those with agreed conditions in place. Loans should be for specific reasons and for identified periods of time, with an end date, which can be renewed if appropriate.

It can be useful to conduct a site visit and meet the borrowing institution's staff before agreeing a loan.

Archive Services should consider the following before approving a loan request:

- Following a Collections Care risk assessment approach – as specified in the Archives Accreditation standard.
- The impact of the loan on plans the archive service has to use the object.
- Is the request for an object you would normally lend?
- The time frame and the minimum and maximum length of the loan.
- The time required to prepare an object for loan.

- The terms and conditions for lending, which should be included in the loan agreement, this may include:
 - Conservation work required prior to the loan commencing.
 - Transport.
 - Couriering.
 - Packing, handling and moving.
 - Insurance.
 - Security.
 - Display conditions, including requirements for cases and display mounts.
 - Environmental conditions.
 - Invigilation of a display or exhibition.
 - Copyright and data protection.
 - Condition checks.
 - Return of the loan.
 - The arrangements for meeting the costs associated with the loan.

Useful tools to assist in the assessment of a potential borrowing organisation are provided by the UK Registrars Group.

<https://www.ukregistrarsgroup.org/resources/ukrg-docs/>

Standards to consider

Spectrum 5.0 Loans in (Borrowing objects).

<https://collectionstrust.org.uk/spectrum/procedures/loans-in-spectrum-5-0/>

Spectrum 5.0 Loans out (Lending objects).

<https://collectionstrust.org.uk/spectrum/procedures/loans-out-spectrum-5-0/>

PAS 197: 2009 Code of practice for cultural collections management

Museum Accreditation Scheme.

<https://www.artscouncil.org.uk/supporting-arts-museums-and-libraries/uk-museum-accreditation-scheme>

Useful resources and websites

The Collections Trust:

Loans In, including guidelines, example agreements and information

<https://collectionstrust.org.uk/?s=loans&cat=65>

Loans Out, including information and guidelines

<https://collectionstrust.org.uk/?s=loans&cat=80>

UK Registrars Group.

<https://www.ukregistrarsgroup.org/resources/ukrg-docs/>

Museum Accreditation Scheme.

<https://www.artscouncil.org.uk/supporting-arts-museums-and-libraries/uk-museum-accreditation-scheme>

Government Indemnity Scheme.

<https://www.artscouncil.org.uk/protecting-cultural-objects/government-indemnity-scheme#section-1>

5.5 Security

Overview

Collections should be protected within secure, well-maintained buildings. This also includes information held about collections which may include valuations and personal information such as donor details. It is important that security arrangements should consider all buildings where collections are stored or displayed including off-site stores and offices. This should be supported by security guidelines and procedures, known to staff and volunteers (as appropriate) and enforced. The main security risks are likely to be theft, vandalism, arson, data breaches and breakages. Archive services should examine the risks posed to the collection and seek to manage these risks on an ongoing basis.

All access points to the buildings such as windows, doors and skylights should be secured and regularly checked for signs of forced entry. Doors leading out of areas where collections are stored and displayed should have automatic door closers fitted.

As for any archive service, an intruder detection system is recommended and access to keys and security codes for keypads should be strictly controlled. Additionally, access to storage areas should be restricted, recorded and strictly controlled and there should be appropriate security arrangements to protect the collections when contractors are on site. Finally, it is vital that all objects in your care are insured or indemnified against loss or damage.

Principles

- A risk assessment of security threats to collections, buildings and people should be undertaken and used to produce a security assessment which

also includes recommendations for mitigating identified threats. The risk assessment should be regularly reviewed and updated.

- Recommendations for improving security arrangements are presented to the governing body.
- It is advisable to seek expert security advice from an internal specialist; local police; alarm or insurance provider to inform the risk assessment.
- Security arrangements should be proportionate to the size, scope, vulnerability and value of the collections.
- Valuation information is treated as confidential and does not increase the security risk to high value objects.
- The standard of information and images included in catalogue records will help to identify stolen items.

There is a useful table on the best practice in risk assessment for collections produced by Museum Development East Midlands.

<https://mdem.org.uk/resources/emergency-and-risk-resources/>

Particular issues for mixed collections

Be aware of items within your collection that are particularly vulnerable to theft. This could be because they are valuable e.g. metal, jewellery, art works and rhino horn; easily portable or their location.

Consider which objects in your collections may be controversial and at risk of vandalism. This could include items that are political, provocative or controversial. Art works and fur are potential targets.

Standards to consider

Collections Trust, Benchmarks in Collections Care 2.1.

<https://collectionstrust.org.uk/resource/benchmarks-in-collections-care-2-1/>

Museum Accreditation Scheme.

<https://www.artscouncil.org.uk/supporting-arts-museums-and-libraries/uk-museum-accreditation-scheme>

Spectrum 5.0 –Valuation Procedure.

<https://www.artscouncil.org.uk/accreditation-scheme/accreditation-how-apply#section-1>

Spectrum 5.0 – Insurance and indemnity Procedure.

<https://collectionstrust.org.uk/spectrum/procedures/insurance-and-indemnity-spectrum-5-0/>

Spectrum 5.0 – Emergency planning for collections Standard and Procedure.
<https://collectionstrust.org.uk/spectrum/procedures/emergency-planning-for-collections-spectrum-5-0/>

Useful resources and websites

Collections Trust (2013) - The Museum Security Toolkit. (some links in this document are now out of date)

<https://collectionstrust.org.uk/resource/the-museum-security-toolkit/>

Collections Trust (2013) – guide to carrying out a Security Audit.

<https://collectionstrust.org.uk/resource/the-security-audit/>

Collections Trust (2013) – guide to security of buildings and perimeters.

<https://collectionstrust.org.uk/resource/buildings-and-perimeters/>

Collections Trust (2013) – guide to security and access to collections.

<https://collectionstrust.org.uk/resource/access-to-collections/>

Collections Trust (2013) – guide to security and working with contractors.

<https://collectionstrust.org.uk/resource/security-and-working-with-contractors/>

Collections Trust (2013) – guide to key security in museums.

<https://collectionstrust.org.uk/resource/key-security-in-museums/>

Collections Trust (2013) – guide to security and fire prevention.

<https://collectionstrust.org.uk/resource/security-and-fire-prevention/>

William Brown, National Security Adviser for Arts Council England, (2013) Safety and Security of Collections.

<https://collectionstrust.org.uk/resource/case-study-safety-and-security-of-collections/>

UKRG (UK Registrars Group) Standard Facilities Report Security Supplement.

https://www.ukregistrarsgroup.org/wp-content/uploads/2015/12/UKRG_security_supplement.pdf

5.6 Marking and labelling

Overview

Marking or labelling an object with a unique item reference ensures that it is linked to the information held about it. Items should only be marked or labelled after they have been formally acquired. Marking and labelling should only be undertaken using appropriate materials and techniques and organisations

should create and maintain a marking and labelling kit specifically for this purpose.

Detailed information about the packing and storage of specific collection types is included in the relevant section below.

Principles

Collections Trust outlines the key principles for marking and labelling in the *Labelling and Marking Museum Objects Booklet* (2009):

The preference should normally be to physically mark objects: however in some cases this may not be possible. These guidelines will help you label and mark the items in your collections in ways which are:

Secure – The chances of accidental removal of the label or mark from the object must be extremely low.

Reversible – It should be possible for a label or mark to be removed intentionally from an object, even after 50-100 years with as little trace as possible.

Safe for the object – Neither the materials applied to the object nor the method by which they are applied should risk significant damage to the object.

Discreet but visible – The recommended methods should not spoil the appearance of the object, nor obscure important detail. However, the number should be visible enough to reduce the need to handle the object.

Convenient and safe for staff and volunteers – Materials should be easily available in small quantities at a reasonable price and should not pose significant risks to health if used in accordance with the guidelines recommended by a local CoSHH risk assessment.

Particular issues to consider for mixed collections

Labelling and Marking Museum Objects Booklet (Collections Trust, 2009) contains a list of recommended contents for a marking and labelling kit. These are dependent on the types of collections and materials that you will be marking but could include:

- Solvent dispensers (118ml standard top)
- Archival Tyvek Tags
- HMG Paraloid B72
- Pre-diluted Paraloid B72 Fixative
- Paraloid B67 crystals (dilute 20% in white spirit)
- A4 archival quality printer paper
- Needles (size 10, 11 or 12) and polyester thread

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- Scissors - sewing/ embroidery size
- Scissors - large
- 2B Pencils for marking paper objects
- Rubber
- Pencil sharpener
- Cocktail sticks
- Cotton wool/cotton buds
- Distilled water (5 litre bottle)
- Acetone (50ml bottle)
- White spirit
- Laundry Marker Pen
- 'Really Useful Box' to store kit in
- Pigma Pen Set
- Artefact ID Tags (19 x 22 mm)
- Archival Quality Polythene Bags (210 x 264 mm)
- Goggles
- Purple Nitrile Gloves (Medium)
- Purple Nitrile Gloves (Large)
- Windsor & Newton brush, Size 0
- Windsor & Newton brush, Size 00
- Unbleached Cotton Archival Tape (6mm x 100m)
- Pointed Tweezers
- Curved Tip Tweezers
- Solvent dispensers (118ml standard top)

Standards to consider

Spectrum 5.0 – Acquisition and accessioning Standard and Procedure.

<https://collectionstrust.org.uk/spectrum/primary-procedures/acquisition-and-accessioning/>

Useful resources and websites

Collections Trust, (2009) Labelling and Marking Museum Objects Booklet.

<https://collectionstrust.org.uk/resource/labelling-and-marking-museum-objects-booklet/> describes the techniques and materials to use for marking and labelling.

National Museums Liverpool, (2010) Guidelines on Marking and Labelling Methods. <https://collectionstrust.org.uk/resource/guidelines-on-marking-and-labelling-methods/> Provides guidance on how and where to mark different types of objects and materials.

Share Museums East have created a number of short films that demonstrate different marking and labelling techniques:

The Contents of a Museum Labelling and Marking Kit: A Collections Care How To Guide.

<https://www.youtube.com/watch?v=osEIQsqG3CU&t=17s>

Marking museum objects using the starch paste method.

<https://www.youtube.com/watch?v=XB30xTpYJ00&t=8s>

Labelling and marking textiles in museum collections.

<https://www.youtube.com/watch?v=-zCXNphTv0U&t=21s>

Labelling and marking paper objects in museum collections.

<https://www.youtube.com/watch?v=BF2olxg1hmc>

5.7 Pests

Overview

All archive services take steps to discourage infestations of pests. However mixed collections are not only at risk from different pests, but could introduce different pests to a storage area. Insect pests can cause considerable damage to collections by eating them, very few insects are insect pests, but it is important to be able to identify those that are. Left unchecked, collections can be completely destroyed.

The most common insect pests found in mixed collections are webbing clothes moth, variegated carpet beetle, furniture beetle and silverfish (Institute of Conservation, 2020). Insect pests seek out food shelter, warmth and water to survive – known as ‘harbourage’. They like dark, undisturbed areas such as dead spaces under furniture or wool rugs where there is plenty of dust and dirt to feed on.

The collections that are most vulnerable to insect attack are wool, fur, feathers, silk (soiled), wood, plant based materials, paper based materials (especially if soiled or damp) and starchy materials such as salt dough. In order to minimise the risk of damage, it is important to have a programme of insect pest management in place (prevention, monitoring, identification, treatment).

Steps should be taken to minimise the risk of encouraging insect pests, including removing sources of food that will attract them, such as food and drink waste (which will also encourage rodent pests), dust and dirt. This is one reason to empty food containers which might be part of your collection.

Flowers, plants and bird’s nests are all sources of insect pests so chimneys and gutters should be regularly checked for nests and it is a good idea to avoid bringing real flowers into spaces where collections are stored and displayed. Dried flowers and plant material is particularly attractive to pests.

Rodents (mice and rats) are attracted by food waste and, like insects, can enter the building through gaps under doors and around windows, which should be minimised where possible. Rodent pests sharpen their teeth by gnawing on

objects and shred paper, card, packing materials and textiles to make nests. Two ancient rats' nests were discovered at [Oxburgh Hall](#) in Norfolk which contained over 200 fragments of textiles from the 16th century to the 18th century including silk, velvet, satin, leather and wool. All rodents are incontinent which leads to contamination and staining of collection items.

All organisations where collections are stored or displayed should monitor for insect pest activity. It is also vital to look for signs of damage such as holes, frass (insect faeces), remains of dead insects and live insects.

Remedial treatment will be necessary to treat pest infestations. Options include physical removal; heat and freezing treatments; approved chemical treatments (sprays, dusts and chemical release agents) and low oxygen treatment.

The most common way to treat collections that have been infested with insect pests is to freeze them (though this is not safe for all types of material as described below). Objects should be wrapped in acid free tissue then plastic sheeting and any excess air should be removed if possible before freezing. They should be frozen for 14 days at -18° c to -20° c or for 3 days at -30° c.

Principles

- Good housekeeping practices are essential for reducing the risk of pest infestation, all storage and display areas should be regularly cleaned and checked for pest activity.
- It is very important to undertake a regular visual inspection of all collections on display. Ideally this should take place weekly, and the following issues recorded and addressed:
 - Any deterioration in the condition of objects.
 - Evidence of insect pest or rodent activity.
 - Any physical damage to collections.
 - Signs of damp and mould.
 - Dust and dirt on the surface of objects or in display cases.
- Any collections in storage should also be condition checked annually with a programme of spot checks in between.
- A programme of pest monitoring should be in place, and immediate action should be taken if pests are found on site.
- Comprehensive records of pest activity should be kept – this helps to establish patterns of insect pest behaviour. These records should be cross-referenced with environmental monitoring records as they can be linked e.g. an increase in RH can lead to silverfish activity.

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- All incoming collections must be quarantined on arrival and checked for pest infestations before being integrated with the rest of the collection.
- If you have an outbreak of moths – try to identify the source, it may be something like a dead mouse under the floorboards or some woollen carpet in the bottom of a wardrobe. Remove the source and thoroughly clean the area.

The key to successful pest management:

- **Avoiding pests** – blocking their access to buildings and collections.
- **Preventing pests** – denying them safe havens to live and reproduce – 'harbourage'.
- **Identifying pests** – the most harmful species and signs of their presence.
- **Assessing the problem** – inspection and trapping, identifying high risk areas of the building.
- **Solving pest problems** – improve environment to discourage them and treatment of infestations.
- **Reviewing pest management procedures** and modifying them if necessary – identification, documentation, training, surveys, treatment of infestations.

Particular issues to consider for mixed collections

In *Pests in Houses Great and Small: Identification, Prevention, Eradication* (Pinniger D and Lauder Dee, 2018) the following types of materials are identified as the most vulnerable to attack by insect pests:

- Wool – clothes, carpet and upholstery.
- Fur – clothes and taxidermy.
- Feathers – clothes and taxidermy.
- Silk – clothes and wall coverings.
- Dried plant material – baskets, dried plants and food.
- Paper – books, photographs, wallpaper and archives.
- Wood – furniture, flooring, picture frames and structural timber.

It is usually fine to freeze wooden objects, furniture, natural history collections, textiles and paper. Paintings, furniture with fine veneers or inlays composite objects with large inorganic / small organic component, or plastics may suffer physical damage as a result of freezing at extremely low temperatures.

According to research undertaken by Museum.pests.net materials that should not be frozen include:

- oil and acrylic paintings on canvas.

- plant specimens that are not completely dried.
- audio-visual items: check carefully for the following materials, they may not be at risk for infestation, and freezing may cause damage and permanent loss of information. These materials include:
 - computer media. (tapes, discs, optical)
 - magnetic media. (reel to reel, cassettes, VHS, Betamax)
 - audio grooved media. (cylinders, discs)
 - cased photographs. (daguerreotypes, ambrotypes [pannotypes], tintypes [ferrotypes])
 - glass archival materials including plates negatives (collodion and gelatin [wet and dry plate methods]), glass colour transparencies (autochromes), lantern slides, mounted glass slides.

Standards to consider

Spectrum 5.0 – Object entry Standard and Procedure.

<https://collectionstrust.org.uk/spectrum/primary-procedures/object-entry-spectrum-5-0-spectrum-5-0-primary-procedures/>

Pest management also falls within the Spectrum 5.0 procedures for condition checking and technical assessment and collections care and conservation:

<https://collectionstrust.org.uk/spectrum/procedures/condition-checking-spectrum-5-0/>

<https://collectionstrust.org.uk/spectrum/procedures/collections-care-and-conservation-spectrum-5-0/>

BS EN 16790:2016 Conservation of cultural heritage. Integrated pest management (IPM) for protection of cultural heritage.

Useful resources and websites

What's Eating Your Collection.

<https://www.whatseatingyourcollection.com/>

You can order a free copy of the English Heritage 'Insect Pests found in Historic Houses and Museums' here

https://www.english-heritage.org.uk/siteassets/home/learn/conservation/collections-advice--guidance/eh-bugs-poster-web_240321.pdf

Collections Trust, Pest Fact Sheets.

<https://collectionstrust.org.uk/resource/pest-fact-sheets-01-12-combined/>

The National Archives – Managing mixed collections for archive services

English Heritage – Guidelines for insect pest management in English Heritage Historic Properties.

<https://www.english-heritage.org.uk/siteassets/home/learn/conservation/collections-advice--guidance/2019-eh-guideline-for-insect-pest-management-ipm-in-eh-historic-properties>

Integrated Pest Management Working Group Museum pests.net
<https://museumpests.net/>

David Pinniger and Dee Lauder, Pests in Houses Great and Small: Identification, Prevention, Eradication. (English Heritage, 2018)

Museum of London, Introduction to museum pests.
<https://www.museumoflondon.org.uk/Resources/e-learning/introduction-to-museum-pests/>

ICON (2020) 'Waking Up' Collections: A Post-lockdown Guide.
<https://www.icon.org.uk/resource/waking-up-collections-a-post-lockdown-guide.html>

Bats in Churches (2020) Cleaning your Church with Resident Bats: A Post-lockdown Guide.

<https://batsinchurches.org.uk/wp-content/uploads/2020/06/BiC-Post-lockdown-cleaning-guide-v3-small.pdf>

5.8 Handling

Overview

Good object handling practices are an essential part of collections care. Poor handling can result in damage to collections and injuries to staff, volunteers or visitors. Collections can be vulnerable for a number of reasons including age, past use, composition and uniqueness.

The risk of damage can be minimised by adhering to written guidelines for safe handling. Collections may be handled during routine collections care and storage work; research; photography; loans; exhibitions and display; emergency salvage and activities.

Detailed information about handling specific collection types is included in the relevant section below

Principles

- There should be a set of written guidelines for safe handling and transport of collections available to all staff and volunteers.
- Always undertake a risk assessment when handling and moving large objects.
- Keep handling to a minimum and only handle collections when absolutely necessary.
- Take time to assess an object before handling it, plan carefully and take your time. When assessing an object look for:
 - Loose parts.
 - Missing parts.
 - Handles, spouts, screws, nails, hooks (bits that stick out).
 - Damage and fragile surfaces – cracks, chips, flaking paint/ glazes.
 - Repairs that might fail.
 - Strong points that are safe to handle/ weak points that are not safe to handle.
 - Hazards – hazardous materials, sharp edges etc.
 - Weight – do you need more than one person to lift it safely? Do you need equipment such as trolleys or lifting straps?
 - Does it need padding or protection before moving?
- Always wear appropriate personal protective equipment (PPE) such as gloves, masks, goggles etc. Gloves protect collections from the oils, trapped dirt and sweat present on skin which can damage the surface of objects (particularly metals and photographs) and protect people from toxic substances and sharp edges on collections. Wear the most appropriate gloves for the activity; disposable nitrile gloves are recommended for handling most collection types as they are non-absorbent and do not catch on rough surfaces; latex gloves are generally avoided because some people are allergic to them and latex reacts with silver which is a key component of photographs. Cotton gloves have the advantage of being washable and reusable but can catch on rough surfaces and are permeable. They are good for clean, dry objects but don't give the wearer the tactile properties that nitrile gloves provide.
- Minimise the risk of accidentally damaging objects by removing anything that might catch on or scratch them- remove watches, jewellery (particularly rings), badges and lanyards and tie back long hair.
- Always change your gloves when they become dirty otherwise, they will transfer the dirt to objects.

- Always lift objects from beneath and never by handles or spouts which may be the weakest areas.
- Remove loose parts such as lids and handle them separately.
- Use both hands to support an object, one hand underneath and the other cradling it and supporting the weight.
- Only carry one object at a time.
- Use boxes, trays or trolleys to support objects if they are fragile or being carried over a distance. Nest objects in acid free tissue to prevent them rolling about in trays and boxes. Ensure that objects on trolleys are secured.
- When moving objects check the route is clear and the destination prepared.
- Any damage that occurs to objects during moving should be recorded. Broken pieces should be bagged/ boxed, clearly labelled and kept together so that objects can be repaired in the future.
- Specialist advice is taken when moving large or unusual items.

Particular issues to consider for mixed collections:

Knowing when gloves should be worn; gloves should always be worn when handling:

- Metals.
- Furniture.
- Plaster.
- Taxidermy.
- Geological specimens.
- Plastics.
- Painted, lacquered or gilded surfaces.
- Photographs and glass negatives.
- Unglazed ceramics.

Clean dry hands should be used when handling:

- Slippery objects such as large ceramics or glass.
- Paper, books and glazed ceramics – to be tactile.
- Textiles – where it is necessary to be tactile but textiles are easily damaged and absorb dirt so this should be considered on a case by case basis. Wear gloves where there are metal threads present.

Being aware of what hazards may be present in mixed collections such as arsenic, asbestos, lead, mercury, mould, plastic or radiation. (Further information can be found in the section on Hazards). If you know or suspect that

hazardous materials are present, then seek advice before handling as a risk assessment will be required.

Standards to consider

Collections Trust, Benchmarks in Collections Care 2.1.

<https://collectionstrust.org.uk/resource/benchmarks-in-collections-care-2-1/>

Spectrum 5.0 – Location and movement Standard and Procedure

<https://collectionstrust.org.uk/spectrum/primary-procedures/location-and-movement-control-spectrum-5-0-primary-procedures/>

Useful resources and websites

SHARE Museums East, Handling and moving museum objects.

http://sharemuseumseast.org.uk/wp-content/uploads/2018/07/resource_75-Object-Handling.pdf

Museum of London, Handling museum objects.

<https://www.museumoflondon.org.uk/Resources/e-learning/handling-museum-objects/>

This is a useful article on the impact of hand sanitisers on collections materials – water based hand sanitisers have less impact than alcohol based ones:

<https://www.loc.gov/preservation/scientists/projects/sanitize.html>

British Museum, Why aren't you wearing gloves?

<https://www.youtube.com/watch?v=VAzLunt6Lr0>

Canadian Conservation Institute, Handling heritage objects.

<https://www.canada.ca/en/conservation-institute/services/preventive-conservation/guidelines-collections/handling-heritage-objects.html>

5.9 Hazards

Overview

Hazards are anything that has potential to cause harm to people or the collections themselves. These guidelines focus on the risks to people.

It is important to be aware of where hazards may be present in mixed collections. The risks that hazards in mixed collections pose to people are low and can be minimised by taking sensible precautions. The amount of hazardous material present is often low and often historic.

There are four main types of hazards in collections:

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- Physical e.g. sharp edges, heavy weight, live firearms, broken glass.
- Made from hazardous materials e.g. radioactive materials, lead, mercury, arrows with poison tips.
- Treated with hazardous materials e.g. natural history/ ethnographic specimens treated with arsenic and/ or mercury to prevent pest damage; old woodworm treatments.
- Materials that have degraded and become hazardous. e.g. asbestos, nitrate film, some plastics. (releasing toxic plasticisers as they degrade).

There are legal requirements regarding the storage and safe disposal of some hazards such as keeping firearms and disposing of asbestos and toxic chemicals (further details below). Other dangers could result if untested electrical equipment were used.

Materials can be hazardous through inhalation, ingestion or absorption through the skin. Physical hazards can cause cuts, bruises and injuries, follow guidance for safe handling and moving of collections (2.2.8) to minimise the risk of damage from physical hazards.

Collections should be regularly checked for signs of change that may indicate hazards are present. These include odours, visible degradation, corrosion, dust, powdery surfaces, stickiness and discolouration.

The Museum of London published a comprehensive e-learning tool in 2020 <https://hazardsincollections.org.uk/>. This covers the most commonly found hazards in museum/ archive collections, where you might encounter them and recommended actions:

- Arsenic and its compounds.
- Asbestos.
- Biological Hazards.
- Controlled drugs.
- Explosives and energetic materials.
- Firearms.
- Kinetic hazards.
- Lead and its compounds.
- Mercury and its compounds.
- Mould.
- Nitrate film.
- Radiation.
- Spirit collections.

The following information is provided for each hazard:

- What is it?
- Why is it hazardous.
- What does it look like?
- Where might you find it.
- The law.
- What must a museum (archive) do?
- What can I do?
- Sources and references.

Detailed information about hazards in specific collection types is included in the relevant section below.

Principles

- Be aware of potential and actual hazards in your collections and take sensible precautions to mitigate risks.
- Record hazards in all of the documentation associated with an object.
- Clearly mark and label hazardous objects – use recognized hazard labels where appropriate.
- Store hazardous materials and collections appropriately for example in a locked and clearly labelled hazard storage cabinet.
- Prepare a risk assessment for all hazardous materials/ collections on site.
- Ensure that all practices are compliant with relevant legislation.
- Handling of hazardous materials should be minimal
- There should be written handling procedures for staff, volunteers, visitors and researchers.
- Provide the correct PPE for handling hazardous collections– nitrile gloves, masks, gloves, goggles, lab coats and respirators. Nitrile gloves should be worn and discarded then hands washed with soap and water, especially prior to eating and drinking. Lab coats or overalls should be worn to keep hazardous dust and dirt off clothing and washed frequently to minimise the risk of transferring residual hazards to other surfaces.
- Work with artefacts in well ventilated areas – ideally in a conservation lab with proper ventilation and/ or a fume hood.
- Clean work surfaces thoroughly after using them for hazardous collections. Dust and dirt can trap harmful materials. Use a vacuum with a HEPA filter and empty the bag often.
- Never eat or drink when handling collections.
- Tetanus injections should be kept up to date.

Particular issues to consider for mixed collections

Being aware of where you might find potential hazards in mixed collections:

Hazard	Where it might be found
<p>Arsenic and its compounds. Toxic and can be fatal in large doses.</p> <p>Carcinogenic.</p>	<ul style="list-style-type: none"> • Pigments and dyes. • Natural history – feather and fur. • Geology/ minerals. • Pharmaceutical collections. • Insecticides/ rodenticides.
<p>Asbestos</p> <p>Can potentially cause the development of incurable, fatal, asbestos-related diseases such as cancer and asbestosis.</p>	<ul style="list-style-type: none"> • Gas masks. (particularly those from WWII) • Ironing boards. • Oven gloves. • Gas lanterns. • Fire suits. • Weapons. • Vehicles.
<p>Biological Hazards</p> <p>Cause illness.</p> <p>Spread disease.</p>	<ul style="list-style-type: none"> • Human and animal remains. • Animal skins which have not been fully processed into leather. • Contemporary art. • Contaminated food such as old, canned food contaminated with botulism. • Rodent droppings/ bird droppings. • Clock oil – made from whale oil.
<p>Controlled drugs</p> <p>Could be toxic/ fatal.</p>	<ul style="list-style-type: none"> • Pharmaceutical /medical collections. • Lab chemicals. • Military field kits/ Disaster recovery kits. • Natural history – plant specimens.
<p>Explosives and firearms</p> <p>Could cause injury or death and damage to buildings.</p> <p>May release toxic materials.</p>	<ul style="list-style-type: none"> • Weapons/ military collections. • Fireworks. • Self-activating fire extinguishers. • Vehicles. • Theatrical collections such as pyrotechnics.
<p>Lead and its compounds</p> <p>Toxic and can accumulate in the body and cause long-term health issues such as kidney, nerve and brain damage, and infertility.</p>	<ul style="list-style-type: none"> • Paint/ pigments. • Sculptures. • Food cans. • Old bullets. • Textile weights. • Lead artefacts. e.g. toys, coffins, coins

Hazard	Where it might be found
	<ul style="list-style-type: none"> • Stained glass. • Lead glaze on ceramics.
<p>Mercury and its compounds Toxic.</p> <p>Repeated exposure may cause cumulative poisoning affecting the nervous system with symptoms such as tremors, irritability, nervousness and memory loss.</p>	<ul style="list-style-type: none"> • Herbarium sheets – treated with mercuric chloride. • Tin-mercury silvering on the back of old mirrors. • Barometers. • Beaver and rabbit fur hats. • Clock pendulums. • Pharmaceutical collections. • Cinnabar in lacquerware and vermilion pigments.
<p>Mould</p> <p>Inhaling high levels can cause health problems particularly in people with pre-existing health problems such as asthma or allergies. Some moulds produce irritant and toxic substances (mycotoxins) that can cause symptoms of ill-health or allergic reactions. Symptoms include skin rash, dermatitis, asthma, sneezing, headache, and in extreme cases neurological problems and death.</p>	<ul style="list-style-type: none"> • Can potentially grow on any organic material (such as leather, paper and textiles) at relative humidity (RH) above 65%. Can also grow in dust and dirt on any type of material.
<p>Cellulose nitrate</p> <p>Highly flammable at high temperatures with toxic smoke.</p>	<ul style="list-style-type: none"> • Nitrate film – still and roll photo film from approximately 1890-1950. • In a range of plastics.
<p>Poisons</p> <p>Toxic - fatal in large doses.</p> <p>Can cause a range of health problems.</p>	<ul style="list-style-type: none"> • Weapons – such as the tips of poison arrows. • Fluid preserved collections – wet biological specimens preserved in Industrial Methylated Spirits (IMS) or formaldehyde. • Pigments.

Hazard	Where it might be found
	<ul style="list-style-type: none">• Residue of pesticides and old conservation treatments.
Radiation Carcinogenic. Can cause serious burns in substantial quantities.	<ul style="list-style-type: none">• Radium painted clock faces, watches and dials.• Geological collections.• Gas mantles.• Uranium gas tableware.

Standards to consider

Control of Substances Hazardous to Health (COSHH) Regulations 2002. (Sixth edition)

<https://www.hse.gov.uk/pubns/books/l5.htm>

EH40/2005 Workplace exposure limits to be used in conjunction with the COSHH Regulations 2002.

<https://www.hse.gov.uk/pubns/books/eh40.htm>

Useful resources and websites

Museum of London, Hazards in Collections.

<https://hazardsincollections.org.uk/>

SHARE Museums, East Hazards in Museum Collections.

<https://collectionstrust.org.uk/resource/how-to-guide-hazards-in-museum-collections/>

Canadian Conservation Institute, Care of Plastic Film-based Negative Collections.

<https://www.canada.ca/en/conservation-institute/services/conservation-preservation-publications/technical-bulletins/care-plastic-negative.html>

includes helpful information on how to care for cellulose nitrate film.

5.10 Conservation

Overview

Archive Service Accreditation uses the PAS 197 definition of conservation “Interventive techniques applied to a physical item to achieve chemical and physical stabilisation for the purpose of extending the useful life of items to ensure their continued availability. (NB also known as interventive conservation and remedial conservation).”

It includes the process by which objects are cleaned, consolidated or supported to arrest deterioration and ensure their survival. This can also be described as 'remedial' conservation.

Ideally most interventive conservation is undertaken by a professional conservator however staff and volunteers may remove loose dust and dirt from objects using 'dry methods' (brushes, vacuums, lint free cloths and smoke sponges) and gentle surface cleaning with 'wet methods' using appropriate materials and equipment. Any cleaning that involves immersing objects should be carried out by or under the guidance of a conservator. Robust wooden objects may also be polished using appropriate materials and techniques. A conservator will usually undertake work that involves consolidating or repairing objects (some minor repairs may be undertaken in-house).

The organisation should have a written plan that includes a prioritised programme of interventive conservation for objects in the collection. This should be informed by advice from collections specialists and/ or conservators where appropriate.

Principles

- As in all archive collections care, all interventive conservation work should be guided by the principle of making the minimum intervention necessary to safeguard the future of the object. Unless it is causing harm to the object, no evidence of the past history/ use of the object should be removed.
- Most conservation treatments should be undertaken by a professional trained and qualified conservator. The Conservation Register is a searchable database of ICON accredited conservators <https://www.conservationregister.com/>.
- All conservation treatments should be as reversible as possible and made using appropriate (conservation grade) materials that do not adversely affect the object. Materials used for repairs should match the physical characteristics (e.g. porosity, hardness, flexibility and strength) of the materials of which the object is composed.
- All conservation treatment should be fully documented with accompanying photographs and including details of materials and techniques used. Details of previous repairs should also be included and full details of the condition of the object before and after treatment. Treatment reports should be linked to the organisation's main documentation cataloguing system.

- A conservator's treatment reports should include advice on future care of the object including recommended environmental conditions, storage, display, handling, packing, cleaning and transport.
- All staff and volunteers should undertake training in appropriate cleaning techniques, materials and equipment before working on the collections.

Particular issues for mixed collections

- Understanding the most appropriate techniques, materials and equipment to use for different types of objects.
- Finding a specialist conservator when necessary.
- Ensuring that objects are stored and displayed in appropriate conditions for the materials they are composed of after conservation treatment as described in the conservator's treatment report.

Standards to consider

Collections Trust, Benchmarks in Collections Care 2.1.

<https://collectionstrust.org.uk/resource/benchmarks-in-collections-care-2-1/>

Spectrum 5.0 – Collections care and conservation Standard and Procedure.

<https://collectionstrust.org.uk/spectrum/procedures/collections-care-and-conservation-spectrum-5-0/>

The Institute of Conservation, ICON Professional Standards; ICON Ethical Guidance and Conservation Standards.

<https://www.icon.org.uk/resources/standards-and-ethics.html>

BS EN 16853:2017 Conservation of cultural heritage. Conservation process. Decision making, planning and implementation.

BS EN 17429:2020 Conservation of cultural heritage. Procurement of conservation services and works.

PAS 197:2009 the code of practice for cultural collections management.

Useful resources and websites

Institute of Conservation (ICON)

<https://www.icon.org.uk/>

Canadian Conservation Institute (CCI)

<https://www.canada.ca/en/conservation-institute.html>

National Museums Liverpool

<https://www.liverpoolmuseums.org.uk/conservation/about-conservation>

Association of Independent Museums (AIM) Successful Basic Interventive Conservation.

<https://www.aim-museums.co.uk/wp-content/uploads/2017/03/successful-basic-interventive-conservation-2017.pdf>

5.11 Emergency planning – how does it vary for mixed collections?

Overview

Organisations must have an emergency plan appropriate to the size of the site and the composition of your collections. For mixed collections it is important to consider the potential impact of disasters on the materials within collections.

Principles

Most of these principles will already be followed by archive services, but are provided here as a reminder:

- In an emergency, the safety of people always comes first.
- Liaise with the emergency services, take their advice and ensure they are familiar with your salvage plans.
- Areas where collections are stored and displayed should be protected against water ingress, fire, theft and vandalism. Test all alarm systems regularly.
- Keep documentation such as Accession Registers and object files in fireproof cabinets. Maintain back-up copies of documentation in a different building.
- Priority objects and documentation to be salvaged in an emergency should be identified. There are a number of reasons for prioritising objects including rarity, historical significance, value and vulnerability.
- Ensure all staff and volunteers are familiar with the emergency plan and procedures and test it regularly.
- Provide training in salvage procedures for staff and volunteers.
- Emergency plans should be reviewed annually and after any incident or redevelopment occurs.
- Ideally store all collections at least 10cm above the floor, and a metre above the floor in a basement store with poor drainage.

Particular issues for mixed collections

- Collections may become waterlogged as a result of flooding or after a fire has been put out. If you cannot dry them out within 48 hours, then they

should be frozen to prevent mould growth. However some objects cannot be frozen, and it is important to know which materials those are. Specific information about whether or not an object can be frozen should be included in the disaster recovery instructions, guidance for a range of collections materials can be found here

<https://historicengland.org.uk/content/docs/advice/erp-historic-buildings-pt3/> . This information should be included on the priority grab sheets. It is usually fine to freeze wooden objects, furniture, natural history collections, textiles and paper (most archival material). Disaster recovery information for specific collection types is also included in section 6.

- It is important to be aware of where hazards may be present in mixed collections both during the salvage process and to mitigate any risks, they may be present during day to day storage and use. Further information about hazards in mixed collections is included in section 5.9.
- Consider which types of material are most vulnerable when identifying salvage priorities. Paper, textiles and iron objects are most susceptible to water damage; ceramic, glass, stone and metals (except iron) are moderately susceptible. Any objects stored on the floor or low shelves are also vulnerable if there is a flood.

Standards to consider

Collections Trust, Benchmarks in Collections Care 2.1.

<https://collectionstrust.org.uk/resource/benchmarks-in-collections-care-2-1/>

Spectrum 5.0 – standard and procedure for emergency planning for collections.

<https://collectionstrust.org.uk/spectrum/procedures/emergency-planning-for-collections-spectrum-5-0/>

Useful resources and websites

Historic England, Emergency Response and Fire Advice.

<https://historicengland.org.uk/advice/technical-advice/emergency-and-fire/>

Historic England, How to treat objects after an emergency.

<https://historicengland.org.uk/content/docs/advice/erp-historic-buildings-pt3/>

Museum Development East Midlands (MDEM) website including an emergency planning template and template for undertaking a risk assessment of threats.

<https://mdem.org.uk/resources/emergency-and-risk-resources/>

South West Federation of Museums and Galleries, Ten Steps to a Museum Emergency Plan.

<https://collectionstrust.org.uk/resource/ten-steps-to-a-museum-emergency-plan/>

Museum of London, Pocket salvage guide.

<https://www.museumoflondon.org.uk/application/files/9414/5615/4887/pocket-salvage-guide.pdf>

Museum of London e-learning tool, Emergency planning.

<https://www.museumoflondon.org.uk/Resources/e-learning/emergency-planning-tool/>

SHARE Museums East (2012) Assess and manage risk in collections care.

<https://collectionstrust.org.uk/resource/assess-and-manage-risk-in-collections-care/>

5.12 Listed buildings and sites

Overview

Listing buildings and sites is the practice of identifying, highlighting and protecting buildings, monuments, parks, gardens, battlefields and wrecks of special architectural and historic interest. Managed by the Secretary of State for Digital, Culture, Media and Sport (DCMS) and based on principles of selection for listed buildings, the scheme protects these sites for future generations. All listed buildings in England and Wales are listed on the National Heritage List for England and Cof Cymru.

Management of listed buildings can sometimes be placed within the responsibility of an archive professional in the absence of any other heritage professionals. Archive professionals are not trained in managing issues relating to listed buildings and specialist advice should be sought in most cases. This section of the guidance is provided as an overview of the issue only.

Useful resources and websites

DCMS, Principles of selection for listed buildings.

<https://www.gov.uk/government/publications/principles-of-selection-for-listing-buildings>

National Heritage List for England.

<https://historicengland.org.uk/listing/the-list/>

Cof Cymru - National Historic Assets of Wales.

<https://cadw.gov.wales/advice-support/cof-cymru>

Historic England, Heritage Protection Guide.

<https://historicengland.org.uk/advice/hpg/>

National Preservation Office, Managing the preservation of Library and Archive Collections in Historic Buildings.

<https://collectionstrust.org.uk/wp-content/uploads/2017/01/National-Preservation-Office-Managing-the-Preservation-of-Library-and-Archive-Collections-in-Historic-Buildings-Nov-2002.pdf>

6. Guidance for working with specific collection types

Overview

The ‘museum environment’ describes the conditions in which collections are displayed, stored and used and includes light levels, relative humidity (RH), temperature, pollution and pests. This section will consider the most appropriate environmental conditions for a range of collections materials. It will also provide specific advice on packing and storage; handling; housekeeping and cleaning, disaster recovery; marking and labelling and list the standards that underpin these.

It is important to store and display collections in the best possible conditions in order to limit the damage that an unsuitable environment can cause. One of the most important factors in the long term preservation of mixed collections is the provision of stable environmental conditions even if the optimum levels of temperature and RH cannot be achieved.

Environmental monitoring is undertaken to establish and understand what the conditions are within areas where mixed collections are stored or displayed and to consider how these relate to the ideal conditions for those collections.

Monitoring includes the measurement, recording and interpretation of the environmental conditions and the results help organisations to:

- control the environment in order to provide the best possible conditions for collections.
- identify problems/ potential problems in the museum environment that have caused/ will cause damage to collections.
- provide evidence to support funding applications and forward planning.
- reduce costs of potential damage.

Principles

- To provide the best possible environmental conditions to ensure collections are preserved for the future.
- To minimise the risk of physical damage to collections by poor handling, inappropriate packing and storage or pest activity.
- To make informed decisions about collections care based upon the specific requirements of a range of collections materials.

Light

Whilst light is essential for visitors to see and enjoy the collections, it also causes considerable damage. The effects of light are cumulative, irreversible and constant and cause fading, discolouration, brittleness and physical weakness in some materials. The only materials not affected are stone, ceramic, glass and metals.

There are two types of light that affect collections: ultra-violet (UV) light and visible light. UV is emitted by daylight and artificial light (particularly fluorescent tubes) and causes the most damage to collections as it is a high energy radiation. It is invisible and should, if possible, be eliminated completely. This can be done by choosing light sources that do not emit UV such as LED or fibre optic light systems. UV absorbing film can be applied to display case glass and windows and UV fluorescent light filters placed over fluorescent light tubes.

Visible light is measured in lux. The recommended visible light levels for very sensitive, moderately sensitive and less sensitive items are:

Very sensitive items <ul style="list-style-type: none">• Prints, drawings and watercolours.• Costumes & textiles.• Fur & feathers.• Dyed leather.• Paper.• Photographs.• Plastics.	50-80 lux
Moderately sensitive items <ul style="list-style-type: none">• Oil paintings.• Wood/furniture.• Horn, bone & ivory.• Undyed leather.• Minerals.	200-250 lux
Less sensitive items <ul style="list-style-type: none">• Stone.• Ceramic.• Glass.• Metal.	300 lux (or below)

Where it is not possible to reduce the light level to which an object is exposed, then the amount of time it is exposed to the light can be reduced instead (by removing it from display) i.e. an object exposed to 50 lux for 12 months will suffer the same amount of damage if exposed to 100 lux for 6 months.

Relative Humidity (RH)

Relative humidity (RH) levels should be as stable as possible and for a mixed collection ideally between 40 and 65%. Organic materials such as wood, paper, textiles, parchment, fur and feathers, ivory, bone, horn and leather contain a high proportion of water. If there is high RH (a damp atmosphere) they will absorb moisture, swell and become damp. Mould, mildew and pests are more likely to occur in RH over 65%. If the atmosphere is too dry (low RH) they will lose their moisture content, shrink, warp, split or crack. Fluctuating humidity will cause them to crack split and warp. High RH will cause inorganic materials such as metals to crack and dyes and pigments to fade and materials with a natural salt content such as glass and ceramics may suffer from efflorescence when the air is dry. The ideal RH for a mixed collection is between 40 - 65%.

Temperature

Temperature and RH are closely related and changes in temperature will lead to changes in RH. Likewise fluctuating temperatures create fluctuating RH. An increase in temperature will accelerate the decay of objects. High temperatures can soften materials and low temperatures make them brittle. The recommended temperature for gallery spaces with mixed collections is between 16 and 20°C, this is a range which is comfortable for people and objects. The temperature in storage areas, where human comfort is not such an issue, can be between 10 and 20°C.

Pollution

There are two types of pollution that can damage collections: gaseous pollution and particulate pollution:

- Gaseous pollution can be caused by traffic fumes, local industry, the museum building, off-gassing from collections, inappropriate storage and display materials. It can lead to discolouration, corrosion and deterioration of a variety of materials.
- Particulate pollution (dust) can become embedded in the surface of objects causing abrasion or scratching when it is removed, acting as food for pests and spoiling the appearance of objects.

Pests

See section 5.7 above.

Particular issues to consider for mixed collections

Different materials will have different needs so always base standards of care on the recommendations for the most vulnerable items in a mixed collection such as setting light levels at the range for 'very sensitive' items or RH parameters for the most sensitive materials.

Standards to consider

Museum Accreditation Scheme.

<https://www.artscouncil.org.uk/supporting-arts-museums-and-libraries/uk-museum-accreditation-scheme>

Spectrum 5.0 Collections Management Standard for Museums.

<https://collectionstrust.org.uk/spectrum/>

PAS 197:2009 the code of practice for cultural collections management.

<https://shop.bsigroup.com/ProductDetail?pid=000000000030175180>

BS EN 15757:2010 Conservation of cultural property. Specifications for temperature and relative humidity to limit climate-induced mechanical damage in organic hygroscopic materials.

Useful resources and websites

The Institute of Conservation (ICON) 'How to care for....'

<https://icon.org.uk/what-is-conservation/caring-your-collection>

Collections Trust.

<http://www.collectionstrust.org.uk/>

Preservation Advisory Centre, British Library (now closed).

<https://www.bl.uk/aboutus/stratpolprog/collectioncare/>

Museums Galleries Scotland.

<https://www.museumsgalleriesscotland.org.uk/advice/collections/>.

SHARE Museums East.

<http://www.sharemuseumseast.org.uk/resources-2/share-resources/>.

Collections Trust, Collections Management: A Practical Guide.

<https://collectionstrust.org.uk/product/collections-management-a-practical-guide/>

Association of Independent Museums, Successful Collections Care.

<https://www.aim-museums.co.uk/wp-content/uploads/2017/03/Successful-Collection-Care-2017.pdf>

Canadian Conservation Institute. (CCI)

<https://www.canada.ca/en/conservation-institute.html>.

6.1 Food and alcohol

Overview

There are a number of ways in which food can be included in collections. This includes foods associated with burials (e.g. Ancient Egypt); military rations; preserved supplies from Polar expeditions; old, packaged food; sweets; dried food; salt dough; seeds in world cultures collections; magic potatoes (carried in the pocket as a cure for rheumatism); remains on archaeological pots. Food may also be included in contemporary art or performing arts collections.

Alcohol can be used as a preservative for wet collections, and this will be covered under natural history below. Sometimes bottles of alcohol associated with an historic event are found in collections or there may be small quantities of wine left in archaeological wine bottles. There are no specific guidelines on how to care for alcohol in mixed collections, but it would be advisable to follow general guidance for wine storage which is to store wine in a dark room with RH below 70%. The ideal temperature range is between 10 - 20° c but the most important thing is that there are no dramatic temperature fluctuations. Corked bottles should be stored horizontally so that the cork remains moist – if it dries out and shrinks then air will get into the bottle.

Particular issues

- Old, tinned food can be contaminated with botulism.
- Heavily deteriorated tinned food where the can is bulging can explode.
- If food has been collected for the packaging, it is advisable to remove and dispose of the food.
- Food collections can attract both insect and rodent pests.
- Food collections can be prone to mould growth – important to control the environment to minimise this risk.
- Food will rapidly decompose if not kept in the correct conditions and can become a biological hazard.

Environmental conditions

Light	Alcohol should be stored in the dark. Food should ideally be stored and displayed at light levels for 'very sensitive materials' 50-80 lux.
Relative Humidity	65% or below to minimise the risk of mould growth.
Temperature	Stable temperatures between 10-15 °c if possible. Refrigerate objects to prevent decomposition e.g. chocolate can be stored in the fridge in a box with silica gel to inhibit mould growth.
Pests	Food objects are very vulnerable to being eaten by insect and rodent pests. A programme of regular checks, pest monitoring and good housekeeping must be in place to minimise the risk.

Safe handling, packing and storage

- Always wear nitrile gloves when handling food – be aware that old food could potentially be a biological hazard.
- Keep handling to an absolute minimum to avoid damage, be aware that many food collections are extremely fragile.
- Look out for signs of insect and rodent pest activity and evidence of mould.
- Place food objects in a tray or box to move them.
- Store food that will deteriorate in the fridge where possible and in dry boxes with silica gel to inhibit mould growth where appropriate.
- Consider removing food from original packaging, retaining the packaging and safely disposing of the contents.
- Be aware of the risk of old bulging cans of tinned food exploding – it is advisable to safely remove and dispose of the contents – ask a conservator for advice before attempting this, wear gloves, masks and goggles and work in a well ventilated space.
- Follow the packing and storage guidance for the type of material your food collections are composed of.

Housekeeping and cleaning

- If in any doubt, do not attempt any cleaning and consult a conservator.
- Cleaning activities should focus on removing loose dust and dirt. Always wear gloves to undertake this.
- Beware – food collections can be easily damaged.
- Protect collections from dust and dirt by keeping them in appropriate containers.
- Undertake regular visual checks for evidence of pest activity and mould. Place food collections on your high risk list for condition checks.

The National Archives – Managing mixed collections for archive services

- Ensure that insect pest traps are regularly checked, replaced and any pests found are identified and appropriate treatments carried out.

Disaster recovery

Follow the guidance for the types of materials your food collections are composed of See Historic England, How to treat and store objects after an emergency. <https://historicengland.org.uk/content/docs/advice/erp-historic-buildings-pt3/>

- Consider freezing wet food objects or air dry as quickly as possible.
- Keep dry and at low RH (if possible) – small items can be placed in a sealed box with silica gel.

Marking and labelling

Follow the marking and labelling guidance for whatever type of material your food collections are composed of:

National Museums Liverpool (2010) Guidelines on Marking and Labelling Methods. <https://collectionstrust.org.uk/resource/guidelines-on-marking-and-labelling-methods/>

Useful resources and websites

Horniman Museum, Keeping Food in our Collections.

<https://www.horniman.ac.uk/story/keeping-food-in-our-collections/>

Auckland Museum, Food as collection object.

<https://www.aucklandmuseum.com/about-us/blog/2016/food-as-collection-object>

6.2 Chemicals

There are a number of ways in which chemicals may be present in mixed collections including:

- oil residues in cans and engines.
- chemical residues in manufacturing items or in original packaging.
- chemical residues from historic pest treatment or conservation.

You may also store chemicals used for activities such as marking and labelling on site.

Any chemical treatment used on collections should be undertaken by a professional conservator.

For further information, please refer to section 5.9 Hazards.

6.3 Metals

Overview

There are numerous collections items made of or partially made of a range of metals. These can include archaeology, weapons, jewellery, sculpture, coins and medals, world collections and cutlery.

The main types of metals you are likely to encounter are aluminium, archaeological iron, copper and copper alloys (bronze and brass), gold, lead, pewter, silver and tin. Information about the specific requirements and characteristics of all of these metals can be found in Museum Galleries Scotland booklet on Metal Collections Care

Corrosion

- Affects all metals except 24 carat gold.
- Mild corrosion can cause metal to appear dull or change the surface colour – if shiny and firmly attached it is not an immediate problem.
- Aggressive corrosion will cause powdery, crusty layers or spots on the surface and should be treated urgently.
- The correct environmental conditions will slow down the corrosion process.
- Some corrosion product layers offer a degree of protection against further corrosion.
- Regular visual checks are essential.

Main causes of deterioration/ corrosion in metal objects

- Moisture/ high RH.
- Salts.
- Pollutants – gaseous and particulate.
- Poor handling.
- The wrong sort of display and packing materials.
- Damage during mounting for display.
- Inappropriate conservation treatments.
- Coatings that do not completely cover a surface.
- The wrong cleaning techniques/ materials.
- Food residues.

Particular issues

- Most common metals develop a coating of metal oxide or 'patina', this shouldn't be removed too often as it protects against corrosion. The patina will be disrupted by fingerprints.
- Tarnishing "*is the loss of metallic lustre and formation of darker surface layers caused by surface oxidation*" (Museum Galleries Scotland, 2021). It is also the term used to describe the dark patina formed on silver and caused by exposure to sulphur compounds in the atmosphere from fossil fuels and industrial activity.
- Look out for powdery corrosion on the surface of objects – this may need treatment and some corrosion products are hazardous to health.
- Metal objects may have components made of other materials such as ivory, bone or wooden handles.
- Metal objects can be much lighter or heavier than they appear. (solid or hollow)
- Always wear nitrile gloves when handling metals. Natural oils and salts on the skin will mark metals surfaces and can leave the imprint of a fingerprint that is very hard to remove – particularly on polished silver, copper, brass and gilding.
- The surface of metal objects is often soft and porous, and they can be easily scratched, dented or damaged by poor handling, cleaning or storage.
- Lead is toxic by ingestion, inhalation and skin wounds and nitrile gloves should always be used when handling lead objects. Caution should also be taken when there is loose surface corrosion (very powdery or flaky) or flakes of lead paint present. Avoid disturbing lead dust.
- Special considerations need to be made when dealing with firearms and bladed weapons. (ref. 6.4 Weapons)
- Archaeological metals will be significantly corroded as a result of long term exposure to salts and water in soil. Consequently they need to be kept in very dry conditions and the easiest way to do this is in a dry box.

Environmental conditions

Light	300 lux (or below)
Relative Humidity	High RH will accelerate corrosion. It may be necessary to use moisture absorbing materials such as ArtSorb or silica gel in storage containers and display cases to maintain ideal conditions.

	40-65% particularly when there are organic components present. 10% for corroding and unstable metals. 15% for archaeological iron – can be stored in a <u>dry box</u> to maintain this.
Pollution	Gaseous and particulate pollution can cause corrosion and tarnishing of some metals. Dust can attract moisture to the surface of metals and accelerate corrosion so maintain as dust free an environment as possible and pack/ cover items as appropriate. Use sulphur-absorbing materials such as Charcoal Cloth and Silver Safe to reduce pollutants in storage containers and display cases.
Pests	Not an issue for metals.

Safe handling

- Always wear nitrile gloves when handling metals.
- Look out for stains or residue and signs of corrosion. Oil and grease residues can lead to deterioration, soiling and slipperiness when handling.
- Check for fragile surfaces such as decoration.
- Metal objects can be constructed of multiple parts - remove loose parts such as lids and pick them up separately.
- Rapid temperature changes such as handling with hot hands or use of photographic lights can be hazardous for unstable enamels.
- If possible, place metal objects in a tray or box to move them.

Packing and storage

Good storage should help to keep metal collections in the best conditions possible and preserve them for the future:

- Use appropriate storage containers and materials such as Stewart Sealfresh boxes, Polythene bags, Polystyrene 'crystal' boxes, Plastazote, Jiffy polythene foam, acid-free tissue and boxes, archival polyester bags, baked enamel metal shelves and cabinets.
- Store objects off the floor and protect them from dust.
- Label everything clearly.
- Monitor and control humidity which should be stable and below 65%.
- Avoid storing metal objects in areas where there is a risk of water leaking.
- If possible, control air pollution.
- Install pollution-absorbing devices and seals.

- Separate metals from their original enclosures. They may be composed of materials that will harm the metal objects or retain moisture, acids or salts (textiles and leather) e.g. swords out of sheaths, pistols out of holsters, medals separate from boxes.

When storing lead, isolate from any materials that might release acidic pollutants, use inert plastics such as polythene or polypropylene, acid free tissue and board and avoid using:

- All types of wood.
- Wood products such as ply/ MDF.
- Most paper products.

When storing silver, avoid close contact with wool, silk or leather as these contain sulphur compounds which will cause tarnishing.

Housekeeping and cleaning

- If in any doubt, do not attempt any cleaning and consult a conservator.
- Cleaning activities should focus on removing loose dust and dirt. Always wear gloves to avoid leaving fingerprints – fresh finger marks can be removed with a clean cloth and a little white spirit.
- Beware – metals can be easily damaged. Be careful not to scratch the surface when dusting – use a soft brush or a soft cotton cloth.
- Much of the corrosion on metals is stable and forms a protective coating, preserving the metal beneath – this should not be removed. Active corrosion will be a bright colour, loose or powdery. Never attempt to remove patinas but buff them with a clean, soft cloth if appropriate.
- Always test methods and materials on small areas. Stop immediately if any scratches appear.
- Ideally remove dirt and tarnish and try to maintain this state.
- Be very careful not to remove coatings or decorative finishes.
- When removing tarnish, part of the original surface is lost so try to protect against tarnishing through providing the best possible environmental conditions. Light tarnish on silver may be removed with a standard silver cleaning cloth. Detailed information about caring for silver can be found on the V&A website.
- Gilded objects should not be polished – the surface is extremely vulnerable.
- Many metal surfaces can be treated with lacquer, Renaissance wax or polish but these treatments should be considered on a case by case basis and, ideally, discussed with a conservator first.

The National Archives – Managing mixed collections for archive services

Disaster recovery

Historic England, How to treat and store objects after an emergency

<https://historicengland.org.uk/content/docs/advice/erp-historic-buildings-pt3/>

- Blot wet object with paper towels to remove excess water.
- Don't blot if there is an applied finish – air dry whilst keeping flaking surfaces horizontal.
- Air dry as quickly as possible unless there are organic components (such as wood, ivory or bone) – in which case air dry slowly.
- Do not freeze if wet.
- Loosely pack small metal objects into crates, nest them with packing materials and allow as much air circulation as possible.
- Fixed and large items should be covered with polythene.
- Keep dry and at low RH (if possible) – small items can be placed in a sealed box with silica gel.

Marking and labelling:

Follow the marking and labelling guidance for metal objects in:

National Museums Liverpool (2010) Guidelines on Marking and Labelling

Methods <https://collectionstrust.org.uk/resource/guidelines-on-marking-and-labelling-methods/>

Useful resources and websites:

Canadian Conservation Institute Care of objects and collections – metals.

<https://www.canada.ca/en/conservation-institute/services/preventive-conservation/guidelines-collections/metal-objects.html>

Museum Galleries Scotland, Metal Collections Care.

<https://www.museumgalleriesscotland.org.uk/advice/collections/metal-collections-care/#:~:text=Key%20preservation%20points&text=Avoid%20paints%20if%20possible%2C%20as,vapours%20that%20can%20damage%20metals.>

English Heritage, 2013, Guidelines for the Storage and Display of Archaeological Metalwork.

<https://www.english-heritage.org.uk/siteassets/home/learn/conservation/collections-advice--guidance/guidelines-for-the-storage-and-display-of-archaeological-metalwork.pdf>

Victoria and Albert Museum, Caring for your Metal Objects.

<http://www.vam.ac.uk/content/articles/c/caring-for-your-metal-objects>

Victoria and Albert Museum, Caring for your Silver.

<http://www.vam.ac.uk/content/articles/c/caring-for-your-silver>

Portable Antiquities Scheme, Safe storage for metal finds.

<https://finds.org.uk/documents/file/drybox-leaflet.pdf>

6.4 Weapons

These guidelines should be read alongside the guidance for caring for metals and any other materials that your weapons are composed of.

Overview

There are a wide range of objects and materials that can be included in a collection of weapons including bladed weapons such as swords and knives; firearms; cross bows; firearms; arrows and pikes.

The principal metals used to make arms and armour such as swords, axes, pikes, chain mail, plate armour and firearms are iron and steel. Brass and bronze were also used for gun barrels, cannon, helmets and other major elements. Firearms and armour may be embellished and decorated with gold, silver, copper or steel.

Arms and armour may also include elements made of wood such as pike handles, gunstocks and scabbards. Scabbards and armour may be lined with leather or textiles. Textiles such as silk velvet may be used decoratively on ceremonial weapons. Parts of weapons may also be made of bone, ivory, mother-of-pearl, precious and semi-precious stones.

A firearm is broadly defined in UK law as *"a lethal barrelled weapon of any description from which any shot, bullet or other missile can be discharged"*. This can include both real and replica objects of any age. The definitions result in a very diverse range of objects being classified as firearms including ammunition; 3D printed guns; blowpipes; flare guns; flintlocks; handguns; machine guns; matchlocks; muskets; pistols; revolvers; rifles and shotguns.

If there are firearms in your collection, then you must comply with the Firearms Act (1968) and subsequent amendments. It is also advisable to consult a Police Firearms Liaison Officer about security and authorisation to possess firearms.

Particular issues

- Risk of serious injury or death from poor handling and use.

- Sharp edges and blades.
- Some weaponry in world cultures collections may have stains or residues that are poisonous, for example the tips of poisoned arrows.
- Some 20th century firearms contain asbestos and/ or radioactive materials. Refer to the Hazards in Collections eTool for further information. <https://hazardsincollections.org.uk/firearms/why-are-they-hazardous>

If concerned seek professional advice.

- Awkward shapes and sizes such as long handles.
- Moveable, loose and detached elements.
- Damaged mechanisms and missing parts.
- Assume any gun is loaded until you know otherwise.
- May contain corroded metal parts.

Environmental conditions

Light	Organic components such as wood, bone, ivory and undyed leather are moderately sensitive to light and recommended levels are 200-250 lux. Textiles and dyed leather are very sensitive to light and recommended levels are 50-80 lux. Metals are less sensitive and can be exposed to light levels of up to 300 lux. Always set your light levels for the most sensitive materials in a display.
Relative Humidity	40-65% for mixed collections. High RH (above 65%) will lead to corrosion of iron and steel and loss of decoration. Corroding iron will attack other materials such as leather and ivory. High RH will also encourage mould growth on organic materials. Low RH (below 40%) will lead to organic materials such as wood and ivory shrinking and cracking.
Temperature	Maintain stable temperature and RH to minimise damage to collections from fluctuating environmental conditions. 16-20°C in areas shared by collections and people; 10-20°C in stores.
Pollution	Gaseous and particulate pollution can cause corrosion and tarnishing of some metals. Dust can attract moisture to the surface of metals and accelerate corrosion so maintain as dust free an environment as possible and pack/ cover items as appropriate.
Pests	Insect pests may attack wood, leather and textile (wool and silk) components of weapons.

Safe handling, packing and storage:

- Always wear gloves – nitrile gloves for handling metal objects and tough leather gloves (or chain mail gloves) when handling weapons with sharp blades.
- Always place bladed weapons on padded work surfaces (use acid free tissue, inert foam or bubble wrap with the bubble side down.)
- Do not try to operate parts.
- Be aware that blades can fall out of handles.

The following checklist of do's and don'ts for handling arms and armour was compiled by Simon Metcalf, Royal Armourer with the Royal Collection Trust and is taken from the V&A website.

<http://www.vam.ac.uk/content/journals/conservation-journal/issue-44/shooting-yourself-in-the-foot-the-dos-and-donts-of-working-with-weapons/>

Firearms

- Treat firearms as if they are loaded.
- Never point a gun at anyone.
- Never cock or fire a gun mechanism. Apart from the obvious risk that it could go off, the springs inside the gun lock are vulnerable to snapping. Firing the hammer or cock of a gun without the flint in position can cause the cock to break off.
- Keep the muzzle pointing upwards and away from colleagues/visitors when moving a firearm.

Swords and Bladed Weapons

- Most blades are sharp. There is always the risk of either being cut or stabbed.
- Avoid handling the cutting edge and the surface of the blade as much as possible.
- Be aware of the danger of a blade cutting through a scabbard. There is a real risk of a slicing or cutting injury when removing a blade from its scabbard. If it gets stuck, stop, and contact conservation.
- Be aware that blades can drop out of scabbards. Daggers especially are often ill-fitting.
- Carry blades vertically or in a basket.
- If using a basket take care with the pointed ends.
- Never use corks to contain a point. Corks cause corrosion.
- Scabbards can be rigid OR very floppy once the blade has been removed.

Armour

- Armour is very articulated and can become very floppy once removed from its mount.
- Care needs to be taken not to pinch your hands between the plates.
- Armour often has fragile leather or textiles – care must be taken not to squash these elements or make them bear weight.
- Mail, and particularly butted mail, can snag and catch on itself.
- Armour can often be very thin and fragile due to wear and corrosion.
- Armour can be much lighter or heavier than it appears.

Storage

- Refer to the packing and storage guidance for the materials that the weapons are composed of such as section 6.3 metals and section 6.8 wood.
- Separate metal objects from their original enclosures because they may be composed of materials that will harm the metal objects or retain moisture, acids or salts (textiles and leather) e.g. swords out of sheaths, pistols out of holsters, medals separate from boxes.

Housekeeping and cleaning

- Establish the legal status of firearms before undertaking cleaning.
- If in any doubt, do not attempt any cleaning and consult a conservator.
- Always wear gloves to avoid leaving fingerprints on metal surfaces – fresh finger marks can be removed with a clean cloth and a little white spirit. Fingerprints can severely damage the surface of blades.
- Cleaning activities should focus on removing loose dust and dirt with a soft natural bristle brush, lightly flicking the dust into the nozzle of a Museum Vac. A piece of net, gauze or a pop sock should be attached over the end of the nozzle of the Hoover with an elastic band to prevent accidentally sucking up any loose pieces of the object. This should be periodically removed and cleaned by picking or hoovering off the dust.
- Follow specific cleaning guidance for the different materials that comprise the weapon.

Disaster recovery

Follow the guidance for the types of materials your weapon collections are composed of in Historic England, How to treat and store objects after an emergency <https://historicengland.org.uk/content/docs/advice/erp-historic-buildings-pt3/>

- If an object becomes wet this needs to be dealt with urgently – particularly if there are fine decorative surfaces or organic components.
- Support weapons by laying them on inert foam.
- Loose parts should be ‘bandaged’ with inert padding or polyethylene foam held in place with cotton tying tape.

Marking and labelling

Follow the marking and labelling guidance for weapons in:

National Museums Liverpool (2010) Guidelines on Marking and Labelling Methods <https://collectiontrust.org.uk/resource/guidelines-on-marking-and-labelling-methods/>

Useful resources and websites

V&A, 2003. Shooting yourself in the foot, the dos and don'ts of working with weapons.

<http://www.vam.ac.uk/content/journals/conservation-journal/issue-44/shooting-yourself-in-the-foot-the-dos-and-donts-of-working-with-weapons/>

The Firearms Act 1968. (Crown, 2019)

<http://www.legislation.gov.uk/ukpga/1968/27>

Home Office, Firearms licensing law. (2016)

<https://www.gov.uk/government/publications/firearms-law-guidance-to-the-police-2012>

Home Office, Firearms Security Handbook. (2005)

<https://www.gov.uk/government/publications/firearms-handbook-2005>

6.5 Costume and textiles

Overview

Costume and textile collections can include a really wide range of objects such as clothing, accessories, carpets, embroideries and upholstery. They may be flat, three-dimensional and/ or composed of a mixture of materials.

Textiles include natural fibres such as silk (animal), wool (animal), linen (cellulose) and cotton (cellulose); synthetic fibres such as nylon and polyester and semi-synthetic fibres such as rayon or viscose which are derived from cotton.

Particular issues

- Textiles are particularly vulnerable collections and can be easily and often irreversibly damaged by light, fluctuating RH, heat, pests, mould, contact with other materials, dust and poor handling:
- Light causes the greatest damage to textiles; it breaks down textile fibres and fabrics become weak and brittle, eventually breaking down into fragments and dust. The first sign of light damage is fading or discolouration though some dyes, particularly some reds, are more fugitive (fade more quickly) than others.
- Fluctuating humidity will also cause significant damage to textiles as fibres will expand and shrink as humidity rises and falls, eventually becoming brittle as the fibres break down. High temperatures will also cause textiles to become brittle.
- High RH (above 65%) will promote mould growth which can permanently stain and weaken fabrics; encourage insect pest infestations; cause some dyes to run and metal threads to corrode and cause stains.
- Textiles are easily damaged by insect pests leading to holes, grazed areas and staining. The most common pests affecting textiles are clothes moths and carpet beetles that will attack protein (animal) fibres, so the most vulnerable materials are wool, silk, fur, hair and feathers. Where objects are comprised of textiles, wood and/or paper they can also be damaged by wood-boring beetles and silverfish. Rodents may also attack textiles to use them for bedding materials. Dust and dirt can attract insect pests to all types of textiles especially if the RH is high, so a programme of integrated pest management and good housekeeping is essential to protect textiles in mixed collections.
- Inappropriate packing and display materials can cause irreversible damage to textiles such as yellowing, embrittlement and physical damage. Fastenings and decoration made from metals or plastics can stain costume items as they corrode and degrade.
- Costumes are particularly prone to damage caused through being worn in the past. This includes wear around the neck, cuffs, under the arms and on the hem of long garments. There may be sweat stains under the arms and stains on the front caused by spills. Be aware that food stains and sweat on costume will attract insect pests.
- Crushing, creasing and folds will all create areas of weakness leading to physical damage of costumes and textiles. Good packing and storage should reduce this risk.

- Textiles are at particular risk of being damaged by poor handling and moving. If fibres are already weakened by light, heat and moisture then they can be easily torn when handled carelessly. Wear fine cotton or nitrile gloves when handling costume and textiles as natural oils and salts on the skin can cause staining. If a textile is particularly fragile and you need to handle it with full manual dexterity, then clean dry hands are better than gloves.

Environmental conditions

Light	Costume and textiles should be stored and displayed at light levels for 'very sensitive materials' 50-80 lux. Ideally store items in the dark.
Relative Humidity	Stable RH between 45-65%.
Temperature	Stable temperature between 10-20°c to ensure stable RH. Lower temperatures will discourage insect pests and mould.
Pollution	Dust and dirt will attract insect pests. Dust can also damage textiles by scratching fibres. Good housekeeping, packing and covers will protect items from dust.
Pests	Costume and textiles are very vulnerable to being eaten by insect and rodent pests. A programme of regular checks, pest monitoring and good housekeeping must be in place to minimise the risk.

Safe handling, packing and storage

- Only handle collections when it is absolutely necessary as they are so easily damaged by poor handling.
- Always wear cotton or nitrile gloves when handling textiles. Clean dry hands may be better when it is necessary to be tactile but textiles are easily damaged and absorb dirt so this should be considered on a case by case basis. Wear gloves where there are metal threads present.
- Remove jewellery that may snag textiles.
- Reduce the risk of stains by not using pens or markers around textiles.
- Always support textiles with trays, boxes or acid-free boards when lifting and moving them.
- Lay textiles on a clean dry surface with plenty of room when examining them.

There is comprehensive guidance on storage methods for a wide range of costume and textiles in *An Illustrated Guide to the Care of Costume and Textile Collections* (pages 24-36)

<https://collectionstrust.org.uk/wp-content/uploads/2017/02/Museums-Galleries-Commission-An-Illustrated-Guide-to-the-Care-of-Costume-and-Textile-Collections-2000.pdf> .

The following is a brief summary:

- Use inert conservation grade materials for packing and storing textiles such as:
 - Acid free tissue and boxes.
 - Archival polyethylene and polyester materials, such as Tyvek™, non-woven polyester sheeting, and Melinex™, colourless, transparent polyester film.
- Remove impurities from cotton and calico to be used for costume and dust-covers by washing them in advance. This also prevents them from shrinking and no longer fitting when washed in the future.
- If you have to use unstable materials for storing and displaying, put in acid-free tissue paper or Melinex™ to serve as a barrier.
- If you have to store other materials such as paper, plastics and metals with textiles, prevent damage to textiles by wrapping and interleaving the other materials with barriers such as acid-free tissue paper and Melinex™.
- Avoid folding textiles as folds create weak areas and lines. Lightly pad out costume with acid-free tissue (but don't stretch it) to maintain the shape, cushion curves and prevent creases and folds.
- Store small flat textiles flat in single layers in boxes, trays or drawers surrounded by conservation quality materials. Small textiles in clean condition can be stored in Melinex™/ archival polyester sleeves which protect them from dust and dirt and makes handling safer.
- Larger flat textiles and carpets should be rolled in a layer of acid-free tissue around a chemically inert tube. If it's not possible to use an inert tube, then cover the tube with a barrier film then two layers of unbleached cotton or acid-free tissue. Large, rolled textiles can then be stored on storage racks where the tube is suspended on a pole housed in a bracket.
- Costumes may be stored in acid free costume boxes which are then placed on metal racking. Folds and creases should be cushioned with acid-free tissue and the costume should be packed so that it is easy to see the contents when the box lid is removed, reducing the need for handling.
- Costume can also be hung on padded hangers in garment bags made from washed unbleached cotton calico or Tyvek™. The garment bags are then hung on clothing rails. Hanging is not suitable for all costume and

can cause garments to sag and tear under their own weight, particularly if they are heavy/ heavily decorated. Heavier garments should be laid out in boxes and drawers. Each costume needs to be individually assessed before storage methods are chosen.

- It is a good idea to attach photographs to the outside of costume boxes and garment covers to make it easy to identify the contents.
- Hats usually need to be supported internally with acid free tissue to maintain their shape. The brim may also need support. Hats should be placed on a handling board in an acid free box.
- Specific guidance for the storage of fans, umbrellas, shoes and jewellery can be found on page 34 of *An Illustrated Guide to the Care of Costume and Textile Collections*.

Housekeeping and cleaning

- If in any doubt, do not attempt any cleaning and consult a conservator.
- Cleaning activities should focus on removing loose dust and dirt with a soft natural bristle brush, lightly flicking the dust into the nozzle of a Museum Vac. A piece of net, gauze or a pop sock should be attached over the end of the nozzle of the Hoover with an elastic band to prevent accidentally sucking up any loose pieces of the object. This should be periodically removed and cleaned by picking or Hoovering off the dust. Always wear gloves to undertake this. (There are detailed instructions on how to do this on page 21 of *An Illustrated Guide to the Care of Costume and Textile Collections*).
- Never wash any textiles with proprietary brands of detergent or bleach. Specialist dry cleaners can treat historic items, seek advice from a conservator first.
- Beware – costume and textiles can be easily damaged.
- Protect collections from dust and dirt by keeping them in appropriate containers such as boxes and garment bags.
- Undertake regular visual checks for evidence of pest activity and mould. Place costume and textile collections on your high risk list for condition checks.
- Ensure that insect pest traps are regularly checked and replaced, and any pests found are identified and appropriate treatments carried out.
- Keep dust levels to a minimum through good housekeeping.

Disaster recovery

Historic England, How to treat and store objects after an emergency.

<https://historicengland.org.uk/content/docs/advice/erp-historic-buildings-pt3/>

- Beware – wet textiles can be extremely heavy.
- Minimal handling – textiles are easily torn.
- Place on dust sheets or polythene for support.
- Avoid excess folding.
- Roll carpets – pile side out.

If textiles are wet...

- Drain and blot with clean towels or kitchen towel to remove excess water.
- Do not unfold delicate fabrics.
- Do not stack wet textiles.
- Do not wring or twist.
- Remove metal elements if possible, but keep and label, or separate metal from textile with polyester film or polythene.
- Nylon netting can be used to pad out costumes and textiles to increase air flow. Place on netting, or in bread crates and air dry.
- Do not use heat to dry.
- Consider freezing if there are a large number of wet textiles or dyes are running.

Pack dry textiles in labelled boxes lined with acid-free tissue. Keep folds to a minimum by padding them out with acid-free tissue rolls (sausages). Separate textiles with acid-free tissue.

Marking and labelling

Follow the marking and labelling guidance for costume and textiles in:

National Museums Liverpool (2010) Guidelines on Marking and Labelling

Methods <https://collectionstrust.org.uk/resource/guidelines-on-marking-and-labelling-methods/>

Useful resources and websites

Museums and Galleries Commission (2000), An Illustrated Guide to the Care of Costume and Textiles.

<https://collectionstrust.org.uk/wp-content/uploads/2017/02/Museums-Galleries-Commission-An-Illustrated-Guide-to-the-Care-of-Costume-and-Textile-Collections-2000.pdf>

Museums Galleries Scotland, Protecting your textiles.

<https://www.museumsgalleriesscotland.org.uk/advice/collections/protecting-your-textiles/>

Canadian Conservation Institute, Care of objects and collections – textiles and costumes.

<https://www.canada.ca/en/conservation-institute/services/care-objects/textiles-costumes.html>

6.6 Plastics

Overview

The care of plastics in mixed collections can be challenging as explained by the Canadian Conservation Institute guidance on caring for plastics and rubber *"Plastics are a new class of materials and their individual weaknesses are little known and often unexpected. Traditional display and storage methods accelerate deterioration of plastics, and the ensuing chemical and physical damage can be unattractive, highly corrosive, irreversible—and largely untreatable. Because of the diversity and versatility of plastics, they have been used in a huge range of common objects since their introduction in the 19th century. Unfortunately, for the first part of their history, their long-term properties were not well understood. Older plastic objects can deteriorate more rapidly and in a greater variety of ways than those made from traditional materials. More recent plastics may also deteriorate rapidly as a result of planned obsolescence, such as biodegradability."*

Most plastics are derived from organic material, including oil, cotton, sugar cane, coal, corn and many others. There are some exceptions such as silicone which is derived from sand. Rubber is a natural polymer based on latex extracted from certain types of tree.

The principal components of plastics are polymers (long chain organic molecules) and plasticizers. Plasticizers are compounds such as oils or esters which make the plastic stronger and more flexible. Other materials or fillers can also be added to make plastics harder, tougher and more rigid including glass fibre, clay or metal powder. Pigments and dyes may be added to colour plastics and chemical stabilizers may be added to decelerate deterioration caused by heat, oxygen or light. Different plastics have different 'ingredients' which will affect how they age. Most plastics are fairly stable if cared for appropriately, but degradation is irreversible.

There is a huge range of objects made from plastics that may or may not have component parts made from other materials such as metal, textile and wood. These include costume accessories, combs and brushes, handles, clocks, radios, kitchen gadgets, containers, toys, footwear, luggage, picnic sets and jewellery.

A number of objects are made of rubber or contain rubber components such as scientific instruments; tyres on vehicles and prams; moulded picture frames; bottles; hot water bottles; shoes; toys; tool handles; book bindings and album covers. Vulcanised rubber is chemically altered through the addition of heat and sulphur and was principally used to mould and fabricate objects between 1839 and 1939. It is usually black or red but fades to a grey/ green shade of brown when it deteriorates. It is sometimes known as 'Vulcanite' or 'Ebonite'.

It is important to identify the type of plastic that objects in your collection are composed of in order to be able to care for them appropriately. The identifying plastics pages on the Museum of Design in Plastics website will help you do this.

Particular issues

- The degradation of plastics can be a complicated process because of the different materials from which they are composed and the way in which they are affected by environmental conditions. As they deteriorate, they can become brittle and increasingly susceptible to water damage. One of the principal causes of deterioration is when the plasticizer migrates to the surface appearing as droplets or a sticky residue on the surface. The loss of the plasticizer will cause the plastic to shrink and become brittle, it may also crack and break. Most plasticizers are inert, but some are toxic, and they are the ones that tend to be sticky. Always seek advice from a conservator when dealing with deteriorating plastics.
- All plastics are affected to a greater or lesser extent by light. This can lead to fading, darkening or discolouration, yellowing and embrittlement.
- High temperatures will accelerate degradation and the loss of plasticizers. Plastics will soften at high temperatures and absorb dust and dirt that cannot be removed.
- High RH causes the chemical breakdown of some plastics.
- Fluctuating temperature and RH are particularly damaging to plastics and will cause them to expand and contract and eventually craze and crack.
- Gaseous pollutants and the exhaustion of stabilisers leads to a chemical breakdown of the structure of the plastic.
- Vulcanised rubber emits hydrogen sulphide and carbonyl sulphide, gaseous pollutants that are the main agents responsible for tarnishing silver and causing photographs (which include a silver component) to fade

and yellow. Rubber bands are made from vulcanised rubber, so it is important to ensure they are not used in close proximity to photographic materials.

- Exposure to air and ozone makes rubber highly unstable and can result in the surface becoming powdery, cracked or sticky leading to the rapid destruction of rubber components of objects. Rubber can decompose or collapse for example in rubber tyres.
- Certain smells including mothballs (camphor), sweetness, vinegar, vomit, rancid butter can indicate that plastics are degrading. Other early signs of degradation can be a white powdery bloom on the surface; corrosion of metal parts or surrounding objects; discolouration; distorted shape; a wet or sticky surface.
- There are four plastics that are much more unstable than others and these are cellulose acetate, cellulose nitrate, polyvinyl chloride and polyurethane. Objects made of these materials should be identified and managed separately, according to their specific needs which are described in detail on the problem plastics page of the Museum of Design in Plastics website. Plastics containing cellulose nitrate are highly flammable at high temperatures and emit toxic smoke.

Environmental conditions

It is difficult to give generic advice for the ideal parameters for RH and temperature for plastics because there are so many different types of plastic, but it is important that plastics are kept as cool and dry as possible. These parameters need to be compatible with those appropriate for other materials where there are mixed collections – try to maintain levels that suit the majority of collection items (which may mean a mid-range RH). The ways in which plastics deteriorate are complicated and it seems that cellulose acetate or cellulose nitrate photographic film degrades differently to an object that contains cellulose acetate or cellulose nitrate (due to the difference in other chemicals that are present).

Light	Plastics are very sensitive to light damage and should not be on permanent display. Store in a dark room. Display between 50-80 lux for limited periods.
Relative Humidity	Generally as low as possible. Refer to BS 4971:2017 for parameters for photographic materials and the Museum of Design in Plastics website for plastic objects.

Temperature	As low as possible, photographic materials that are inherently unstable such as cellulose nitrate film and cellulose acetate film, transparencies and negatives as well as colour photographic prints should be stored in a freezer at -20°C.
Pests	Not an issue for plastics.

Safe handling, packing and storage

- Only handle plastic objects when it is absolutely necessary as they can be very brittle and easily damaged (chips, cracks and breaks).
- Always wear nitrile gloves when handling textiles.
- Assume that any plasticizer on the surface (wet or sticky) may be harmful and absorbed through the skin.

Use inert conservation grade materials for packing and storing plastic objects such as:

- Acid free tissue paper and boxes.
- Charcoal cloth for wrapping objects that have the potential to off-gas acidic fumes, e.g. cellulose acetate and cellulose nitrate objects.
- Tyvek™, non-woven polyester sheeting to protect objects from dust.
- Melinex™, colourless, transparent polyester film, an inert material to lay over degraded objects to protect them from dust and to put between them to discourage contamination. Also good as a buffer on painted surfaces.
- Silicone release paper for objects with tacky surfaces.
- Objects can be stored on polypropylene trays.
- Store objects using methods that minimise handling –nesting not wrapping, objects visible when box lids are lifted, photographs of the contents on the outside of boxes.
- Where possible store objects apart with space for air to flow freely around them.
- Ideally store different types of plastic separately.

These products help to maintain good environmental conditions for plastics:

- Ageless oxygen scavengers for an oxygen free environment. This is suitable for preventing the crumbling of polyurethane foams.
- Silica gel, as a buffering agent moderating the effects of change in relative humidity.
- Scavengers such as charcoal cloth and molecular sieves to remove polluting vapours.

Housekeeping and cleaning

- If in any doubt, do not attempt any cleaning and consult a conservator.
- Always wear nitrile gloves when cleaning plastics.
- Cleaning activities should focus on removing loose dust and dirt with a soft natural bristle brush, lightly flicking the dust into the nozzle of a Museum Vac. A piece of net, gauze or a pop sock should be attached over the end of the nozzle of the Hoover with an elastic band to prevent accidentally sucking up any loose pieces of the object. This should be periodically removed and cleaned by picking or hoovering off the dust.

Disaster recovery

Historic England, How to treat and store objects after an emergency.

<https://historicengland.org.uk/content/docs/advice/erp-historic-buildings-pt3/>

- Wear nitrile gloves.
- Toxic and harmful chemicals may be present if the object has been exposed to heat for example in a fire.
- Foams may become heavy after absorbing water.
- Objects may be composed of more than one plastic plus other materials.
- Some plastics swell or dissolve in water.

If plastic objects are wet,

- Blot gently with kitchen roll (not if there is an applied finish).
- Remove and dispose of any batteries.
- Air dry with no heat.
- Do not freeze.

Store in crates and keep dry, separate objects with bubble wrap.

Marking and labelling

Follow the marking and labelling guidance for plastics in:

National Museums Liverpool, Guidelines on marking and labelling methods and positions.

<https://collectionstrust.org.uk/resource/guidelines-on-marking-and-labelling-methods/>

Useful resources and websites

Canadian Conservation Institute, Care of objects and collections – plastics and rubbers.

<https://www.canada.ca/en/conservation-institute/services/preventive-conservation/guidelines-collections/caring-plastics-rubbers.html#a1>

A Curator's Guide on the Museum of Design in Plastics website.

<https://www.modip.ac.uk/projects/curators-guide> provides a Plastics SSN (subject specialist network) resource for those with little or no prior knowledge of plastics and as a starting point for further exploration. It will help you identify and look after objects made of plastics, demonstrates how plastics have increasingly become significant, and suggests themes for their interpretation and presentation.

BS 4971:2017 Conservation and care of archive and library collections

A SAFE PLACE: Storage Strategies for Plastics by Yvonne Shashoua (2014)

https://www.getty.edu/conservation/publications_resources/newsletters/29_1/storage.html

V&A Conservation Journal (1996) Plastics? Not in My Collection.

<http://www.vam.ac.uk/content/journals/conservation-journal/issue-21/plastics-not-in-my-collection/>

POPART - Preservation of Plastic ARTefacts in Museum Collections.

<https://popart-highlights.mnhn.fr/index.html>.

6.7 Leather

Overview

Many different mixed collections items are made or partially made of leather. These can include clothing, boots and shoes; bags; scabbards; weapons; upholstery; book bindings; jugs; wall hangings; decorative screens; saddlery and archaeological leather objects.

A large of other materials that can be found combined with leather in composite objects including wood, metals glass, porcelain, plaster, plastics, textiles, ivory and bone. Leather is usually stitched with waxed linen thread.

Leather is made from tanned animal skin. The most common skins are calves, sheep and goat but deer and pig skins are also used.

Tanning leather makes it flexible and durable. The earliest tannins were vegetable-based; fish oil tannins are also quite common. From the end of the 19th century mineral tanning with chrome was used and this form of tannage accounts for 75% of modern leather production.

Type of Tannage	Tannins	Use
Vegetable	Tree bark, acorn cups, seed pods, leaves and roots.	Produces dark, firm leather with a sheen.
Oil	Fish oil.	Cream to ochre leather – buckskin, chamois (wash leather) and buff leather. (widely used for military garments)
Mineral	Chrome.	Leather garments and footwear.
Semi-tanning	Alum mixed with egg yolks, oils and flour rubbed into skins also known as alum 'tawing'.	White leather for fine gloves and shoes. A similar method was used to preserve fur – the mixture was applied to the flesh side of skins.
Not tanned	Hair and any material that will decay is removed by soaking in an alkali solution, skins are then stretched out and dried before chalk and pumice are rubbed into the surface. Finally the surface is 'shaved' with a special knife.	Parchment (fine sheep or goatskin) and vellum (fine calf skin).

The production of thinner leather which could be dyed began in the 18th century.

The National Trust Manual of Housekeeping (National Trust, 2011) describes four additional leather treatments:

- Colouring – by immersing in dye or staining the surface. Some leathers are also decoratively painted.
- Gilt leather – vegetable tanned leather panels, coated with silver leaf then embossed, stamped or hand tooled then decoratively painted.
- Cuir bouilli – hardened vegetable-tanned leather coated on the inside with pitch/ bitumen to make waterproof containers such as tankards, bottles, buckets, scabbards and helmets.
- Enamelled, japanned and patent leather – made by coating vegetable-tanned leather with layers of linseed oil mixed with black pigment. The leather was then heated to a temperature above 80 °c to produce a smooth black water-resistant surface with a high shine. Can be found in a

range of objects costume, military uniform riding boots, shoes and armour.

Particular issues

- Exposure to light will cause leather to fade and lose strength and flexibility. Dyed leather is more light-sensitive than undyed leather.
- Leather is an organic material and therefore very sensitive to fluctuating humidity which will cause it to expand (high RH) and contract (low RH) and eventually split and crack.
- High RH will encourage mould and mildew growth on the surface of leather.
- Whilst leather is not particularly vulnerable to insect pest attack, mice and rats like to gnaw it. Fur is very attractive to insect pests.
- Leather can be easily damaged by water which can cause staining, hardening, darkening and distortion.
- Heat sources such as radiators and spot lights can dry leather out and lead to splitting and cracking.
- Acidic vapours can cause 'red rot' in some vegetable-tanned leathers (most commonly those produced after the mid-1850s). The leather begins to breakdown and will eventually become powdery. In the early stages of red rot, leather reddens and emits an acrid smell.
- The biggest cause of damage to leather objects is poor handling and misuse which can lead to scratches, dents, tears and stains.
- Leather can harden over time due to oils being lost from the surface during handling and use. Leather that hasn't been used for a while will harden and 'set', sometimes permanently – think of an old pair of shoes that haven't been worn for a while. Trying to reform hardened leather objects into their original shape can cause it to break. Supporting leather objects effectively in storage and display can help to maintain their original shape.
- Dust and dirt can become embedded in the surface of leather objects, particularly if the surface is sticky from old wax or oil dressings.
- Corroding metal fixings will stain and damage leather objects.
- Some animal skins in world collections may not have been fully processed into leather and can be a biological hazard as a result. Further information can be found in SHARE Museums East Hazards in Museum Collections and in the Hazards in Collections eTool.

Environmental conditions

Light	200-250 lux (ideally 200 lux or below) for undyed leather which is 'moderately sensitive' to light. 50-80 lux (ideally 50 lux) for dyed leather which is 'very sensitive' to light. Always set the light level for the most vulnerable components of composite objects.
Relative Humidity	Stable RH between 40-60% for stores and display areas. Leather may crack at RH below 40%. Keep RH levels below 65% to prevent the outbreak of mould and mildew. Be aware of the RH and temperature parameters for other materials of which the leather object is comprised.
Temperature	Stable temperatures between 16-20 °c, sudden fluctuations can be damaging. Avoid very low temperatures (below 5 °c) which can cause loss of fatty components and hardening of the leather. Avoid heat sources such as radiators and spotlights which can dry out leather and lead to cracking and splitting.
Pollution	Good housekeeping, packing and storage are important to protect items from dust which can scratch the surface of leather objects and negatively affect their appearance. Acidic gases can cause 'red rot' in some vegetable-tanned leathers.
Pests	Leather is not particularly attractive to insect pests but be aware of other materials within objects that are vulnerable to pest attack – such as wood or wool. Silverfish can attack the surface of leather. A programme of regular checks, pest monitoring and good housekeeping should be in place to minimise the risk.

Safe handling

- The surface of leather is easily scratched but most leather objects can be carefully handled with clean dry hands - remove rings. Always wear nitrile gloves (and an appropriate face mask) if mould or red rot is present. Always wear nitrile gloves where gilding is present.
- Support leather objects at all times when handling – this could be on a padded board or on trays supported with acid-free tissue or polyester wadding.
- Assess the leather object prior to handling and look out for cracks, splitting (splitting leather and splitting seams), powdery areas, stiffness, brittleness, paint or gilding. Consult a conservator if you find powdery areas as this could be red rot. Avoid handling damaged areas.

- In composite objects, look for evidence of damage being caused by corroding metal parts or sticky plastic.
- Look for evidence of mould, mildew and insect pest activity.
- When dealing with composite items, also follow the handling guidance for the other materials the object is composed of.

Packing and storage

Good storage should help to keep leather objects in the best conditions possible and preserve them for the future:

- In order to retain the shape of leather objects they should be padded internally. The padding should not stretch the leather or put it under tension, just retain the original shape. Shoes, boots and bags can be padded with acid-free tissue or polyester wadding. Larger boots can also be padded with plastazote cut to shape. The legs of boots can be supported by bespoke forms made from rolled plastazote covered with Tyvek. Heavy weight gloves can be padded with acid-free tissue, but delicate evening gloves should just be stored flat to avoid distortion. It may be helpful to read these guidelines alongside those for costume and textiles.
- Store leather objects on racking and protect from dust with loose covers or curtains made from acid-free tissue or Tyvek. Alternatively they can be stored in acid-free boxes or padded, lidded polyethylene crates.
- Furs and small leather items can be stored in drawers, trays or boxes. They should be interleaved with acid-free tissue and where they are stacked on top of each other the heaviest items should be at the bottom and the lightest at the top.
- Monitor and control humidity. (stable and below 65%.)
- Avoid storing leather objects in areas where there is a risk of water leaking.

Housekeeping and cleaning

- If in any doubt, do not attempt any cleaning and consult a conservator. Always consult a conservator before cleaning gilt leather and painted screens.
- Do not clean leather objects if the surface is fragile, flaking or powdery.
- Remove loose dust from robust surfaces with the softest natural brush such as a pony hairbrush and flick the dust into the nozzle of a Museum Vac (on a low setting). A piece of net, gauze or a pop sock should be attached over the end of the nozzle of the Hoover with an elastic band to

prevent accidentally sucking up any loose pieces of the object. This should be periodically removed and cleaned by picking or Hoovering off the dust.

- If the surface of the leather is in good condition but is tacky from old dressings, this can be carefully reduced by gently wiping the surface with a lint-free cloth and white spirit. If the surface is damaged it may be possible to gently swab it with white spirit to reduce the tackiness – but great care should be taken.
- If the surface of the leather is in good condition, then it is possible – after any loose dust has been removed - to buff up the surface (and any existing wax finishes) with a dry lint-free cotton cloth. Buffing with a dry chamois leather will help to maintain the high gloss finish of enamelled, japanned and patent leather.

Disaster recovery

Historic England, How to treat and store objects after an emergency.

<https://historicengland.org.uk/content/docs/advice/erp-historic-buildings-pt3/>

- Wear gloves.
- Support wet leather objects underneath with a board or in a tray.
- Rinse dirty objects with clean, dry water then drain and blot with kitchen towel.
- Reshape wet objects and pad with nylon netting.
- Air dry but do not apply heat – saturated objects can be dried slowly by gently blowing cold air over them with a fan.
- Wet objects can be frozen.
- Pack dry leather objects with acid-free tissue or polyethylene.
- If water is spilt onto leather items, it should be blotted with kitchen towel as quickly as possible then left to air dry.

Marking and labelling

Follow the marking and labelling guidance for leather in:

National Museums Liverpool (2010) Guidelines on Marking and Labelling

Methods <https://collectionstrust.org.uk/resource/guidelines-on-marking-and-labelling-methods/>

Useful resources and websites

SHARE Museums East, Hazards in Museum Collections.

<https://collectionstrust.org.uk/wp-content/uploads/2016/11/SHARE-Museums-East-How-To-Guide-to-Hazards-in-Museum-Collections.pdf>

Hazards in Collections eTool.

<https://hazardsincollections.org.uk/>

Canadian Conservation Institute, Caring for leather, skin and fur.

<https://www.canada.ca/en/conservation-institute/services/preventive-conservation/guidelines-collections/caring-leather-skin-fur.html>

6.8 Wood

Overview

There are numerous collections items made of or partially made of wood. These can include furniture, archaeology, weapons, sculpture, frames, boxes, musical instruments, models, toys, games and world collections.

There is an enormous range of other materials that can be found combined with wood in composite objects including stone, metals glass, porcelain, plaster, plastics, leather, textiles, ivory and bone.

Some wooden items are composed of veneers and inlays glued onto a wooden substrate.

Some wooden objects, such as the handles of tools, have no surface coating. Otherwise there are several different finishes that may have been applied which include:

- Beeswax.
- A thin flat oil varnish e.g. linseed, poppy seed or walnut.
- A natural resin varnish e.g. dammar, sandarac, rosin or copal.
- 'French polish' made from shellac (from the late 19th century onwards).
- Modern 20th century finishes such as cellulose, acrylic or polyurethane lacquers and synthetic waxes.

All wooden objects are susceptible to mechanical, surface and structural damage.

Particular issues

- Wood is an organic material and therefore very sensitive to fluctuating humidity which will cause it to expand (high RH) and contract (low RH) and eventually split and crack. Veneers and inlays will break away from the wooden substrate when exposed to fluctuating RH.
- Both high and low RH will breakdown adhesives and open joints in furniture, ultimately resulting in structural failure.

- High RH can also lead to mould and attack by wood boring insects, most commonly the larvae of woodworm. Signs of pest damage include fresh exit holes and frass (insect faeces which looks like sawdust). Insect pest infestation only usually occurs in wood with a high moisture content and the most susceptible types of wood are softwoods, beech, walnut, lime, oak and ash.
- Wooden objects can contain chemical residues of historic pest treatments; these can be hazardous to health. Further information can be found in the Hazards in Collections eTool.
- High temperatures will accelerate the deterioration of polished and varnished surfaces.
- The surface of wood is easily scratched.
- Exposure to light will cause timbers and pigments to fade, most wood is light sensitive, and some woods are extremely sensitive. UV radiation will accelerate the breakdown of wax polishes and shellac and significant exposure will cause a crazed and crystallised appearance.
- Dust and dirt can become embedded in the surface of wooden objects, particularly if the wood is coated with a varnish that has become tacky (this can be as a result of high RH).
- Water will stain wood and leave white marks which are difficult to remove.
- Corroding metal fixings such as iron nails will stain and damage wooden objects.
- Metal cleaning products used on fixtures and fittings can stain surrounding wood.

Environmental conditions

Light	200-250 lux. (ideally 200 lux or lower) Where wood is combined with very light sensitive materials such as textiles, then set the light level for the most vulnerable components of objects.
Relative Humidity	Stable RH between 40-60% for stores and display areas. Keep RH levels below 65% to prevent the outbreak of mould.
Temperature	Stable temperatures between 16-20°c, sudden fluctuations can be damaging. Avoid placing wooden objects near sources of heat as this will dry them out.
Pollution	Good housekeeping, packing and storage are important to protect items from dust which can scratch the surface of wooden objects and negatively affect their appearance.

Pests	Attack by wood boring insects occurs in wood with high moisture content and particularly when RH is above 70%. A programme of regular checks, pest monitoring and good housekeeping must be in place to minimise the risk.
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Safe handling

- It is generally best to wear nitrile gloves when handling wooden objects or to have clean, grease-free hands. Always wear gloves if there is gilding present or if you suspect they may be residues of historic pest treatments present.
- Furniture and other wooden items can be heavy and awkward shapes. Secure or remove drawers and tie cupboard doors shut with cotton tying tape before moving them. Separate objects into smaller, lighter units if that can be easily done. Consider how many people may be needed to lift items safely. If possible, use a trolley to move heavy items.
- Lift straight up rather than tipping or dragging heavy items when moving them and always lift furniture by its strongest point e.g. legs rather than tabletops and seat rails rather than chair arms. Dragging furniture can loosen or break joints, break legs and damage feet.
- Assess the wooden object prior to handling and look out for cracks, splitting, lifting surfaces, damaged or open joints, loose parts, splinters and projections such as nails and hooks. Do not touch damaged or fragile decorative surfaces.
- Look for evidence of insect pest activity and for mould.
- When dealing with composite items, also follow the handling guidance for the other materials the object is composed of.
- There is detailed guidance on how to move specific types of furniture in Furniture Care and Handling (Museum Conservation Institute, Smithsonian).

Packing and storage

Good storage should help to keep wooden objects in the best conditions possible and preserve them for the future:

- For smaller objects, use appropriate storage containers and materials such as acid-free tissue and boxes, Plastazote, Jiffy polythene foam, baked enamel metal shelves and cabinets.
- Store larger objects and furniture off the floor and on robust racking if possible and protect them from dust. Ideally furniture should be free-standing with space around it for air flow and easy access.
- Label everything clearly.

- Monitor and control humidity (stable and below 65%).
- Avoid storing wooden objects in areas where there is a risk of water leaking.

Housekeeping and cleaning

- If in any doubt, do not attempt any cleaning and consult a conservator.
- Beware – wood can be easily damaged. Be careful not to scratch the surface when dusting and not to clean too frequently. Don't dust damaged surfaces.
- Remove loose dust from simple polished surfaces with a soft lint-free cloth. Dust uneven surfaces with a soft natural brush such as a pony hairbrush and flick the dust into the nozzle of a Museum Vac. A piece of net, gauze or a pop sock should be attached over the end of the nozzle of the Hoover with an elastic band to prevent accidentally sucking up any loose pieces of the object. This should be periodically removed and cleaned by picking or hoovering off the dust.
- Use a banister or hogs-hair brush and a vacuum cleaner to remove dust from underneath, round the back and inside drawers and cupboards of furniture. This should be done at least once a year.
- It may be possible to undertake some careful wet cleaning of some wooden objects but always consult a conservator first to establish if this is appropriate. If it is then use warm water with a drop of conservation grade detergent and gently wipe the surface with damp (not wet) swabs, avoid drips and over-wetting the surface. Then use the same method but with water only to 'rinse' the surface.
- Use smoke sponges to remove ingrained dirt and grease from wooden objects. Cut the sponges into small pieces and throw them away as they become blackened with dirt.
- Wax should only be applied to surfaces that have been previously wax polished. Be careful not to polish too frequently or generously as wax can build up, creating a sticky surface that attracts dust and dirt. Use a good quality furniture wax with beeswax, apply sparingly with a clean duster and buff with another. Never use spray polishes or those containing silicone, they will damage historic surfaces and leave residues. It is often sufficient to just 'buff' previously waxed surfaces with a clean dry duster.
- It may be possible to clean a waxed surface with a micro-crystalline wax such as Renaissance Wax. This should be undertaken with caution and only after a spot check has been carried out.

Disaster recovery

Historic England, How to treat and store objects after an emergency.

<https://historicengland.org.uk/content/docs/advice/erp-historic-buildings-pt3/>

The following guidance is particularly relevant for furniture but most of the principles will apply to smaller wooden objects too.

- Wear gloves if possible.
- Be aware that some furniture/ wooden objects may be heavy and ensure there are enough people available to lift and move them safely. It might be best to dismantle large and heavy items if time allows. Use carrying straps if necessary.
- Remove drawers from furniture.
- Lock or tie cupboards shut.
- Remove and detachable upholstered parts, rinse if necessary, blot and air dry.
- If possible, remove metal components, dry with kitchen towel and put in labelled bags.
- Blot wooden objects with kitchen towel then air dry slowly to prevent warping and shrinkage.
- Do not freeze if wet. Do not freeze painted wooded objects or musical instruments.
- Keep dry and cover with a labelled dustsheet or polyethylene sheeting.

Marking and labelling

Follow the marking and labelling guidance for furniture and wooden objects in:

National Museums Liverpool, Guidelines on marking and labelling methods and positions.

<https://collectionstrust.org.uk/resource/guidelines-on-marking-and-labelling-methods/>

Useful resources and websites

Canadian Conservation Institute Furniture, wooden objects and basketry.

<https://www.canada.ca/en/conservation-institute/services/care-objects/furniture-wooden-objects-basketry.html>

Museum Conservation Institute, Smithsonian Furniture Care and Handling.

https://www.si.edu/mci/downloads/taking_care/MCIFurnitureCare.pdf

Museums, Libraries and Archives Council, (2005) Standards in the museum curation of musical instruments.

<https://collectionstrust.org.uk/resource/standards-in-the-museum-curation-of-musical-instruments/>

6.9 Architectural Models

Overview

Architectural models are scale models of structures and buildings that are used to communicate design ideas. They can be made from a range of materials such as card, plastic and wood and at a variety of scales.

- Sometimes archives hold architectural models of the buildings they are based in or of other buildings that are significant to the company or organisation they are based in. Other models may be of local interest and sometimes townscape models are also held.

Particular issues

- Models can be very fragile and easily broken – careful handling and storage is key to their long-term survival.

Environmental conditions

- Follow the recommended levels for light, RH and temperature appropriate to the materials that your model/s are made from.
- Models made from wood may be susceptible to attack by insect pests and should be checked regularly for signs of activity.
- The construction and fragility of the models makes removing loose dust and dirt challenging. Ideally models should be boxed or covered to minimise this risk.

Safe handling, packing and storage

- Wear nitrile gloves for handling models made of metal, plastic or wood. Handle models made from paper and card with clean dry hands.
- Beware – models can be very fragile, keep handling to a minimum and carry by base or in a tray when moving around the building.
- Follow packing and storage guidelines for fragile objects – models should ideally be boxed to protect them from dust, dirt and physical damage.
- Large and heavy models may require two or more people to move them.

Housekeeping and cleaning

- If in any doubt, do not attempt any cleaning and consult a conservator.

- Cleaning activities should focus on removing loose dust and dirt. Always wear gloves to undertake this.
- Beware – models can be easily damaged.
- Undertake regular visual checks for evidence of pest activity on wooden models. Ensure that insect pest traps are regularly checked, replaced and any pests found are identified and appropriate treatments carried out.

Disaster recovery

Follow the guidance for the types of materials your collections are composed of in Historic England, How to treat and store objects after an emergency.

<https://historicengland.org.uk/content/docs/advice/erp-historic-buildings-pt3/>

Marking and labelling

Follow the marking and labelling guidance for whatever type of material your architectural models are composed of:

National Museums Liverpool, Guidelines on marking and labelling methods and positions

<https://collectionstrust.org.uk/resource/guidelines-on-marking-and-labelling-methods/>

6.10 Material from performing arts

Overview

The performing arts include film, television, music, theatre, opera, dance, live art, circus and magic. Therefore performing arts collections contain a broad range of objects and materials and the guidance for those specific materials should be followed. These could include:

Textiles	<ul style="list-style-type: none">• Costumes.• Props for magic tricks.• Puppets/ ventriloquist dummies.
Leather	<ul style="list-style-type: none">• Footwear.• Props for magic tricks.
Wood	<ul style="list-style-type: none">• Musical instruments.• Puppets/ ventriloquist dummies.• Props for magic tricks or weapons used as props. (ref.6.4)• Awards.
Metal	<ul style="list-style-type: none">• Musical instruments.

	<ul style="list-style-type: none"> • Puppets/ ventriloquist dummies. • Props for magic tricks or weapons used as props. (ref.6.4) • Awards • Jewellery.
Paper and card	<ul style="list-style-type: none"> • Designs for sets, costume and make-up. • Model theatres. • Programmes. • Scripts. • Personal ephemera. • Letters. • Posters. • Books.
Film and digital media	<ul style="list-style-type: none"> • Video. • CD rom. • Archive film. • Digital recordings. • Oral history recordings. • Broadcasts.
Artworks	<ul style="list-style-type: none"> • Paintings. • Drawings. • Set designs.
Photographs	<ul style="list-style-type: none"> • Prints. • Negatives. • Transparencies. • Digital images.
Human hair/ synthetic hair	<ul style="list-style-type: none"> • Wigs and hairpieces. • Puppets/ ventriloquist dummies.
Film and photography equipment	<ul style="list-style-type: none"> • Film cameras. • Still cameras. • Tripods. • Lights.
Other	<ul style="list-style-type: none"> • Make-up.

Particular issues

Some live art collections may be contaminated with biological hazards such as bodily fluids and blood. The archive of FrankoB in the Theatre Collection at the University of Bristol includes material contaminated with human blood as some of his live performances include blood-letting. Further information about potential hazards in collections and how to deal with them can be found in the Hazards in Collections eTool.

Environmental conditions

The National Archives – Managing mixed collections for archive services

Follow guidance for the types of materials your collections are composed of.

Safe handling, packing and storage

Follow guidance for the types of materials your collections are composed of.

Housekeeping and cleaning

Follow guidance for the types of materials your collections are composed of.

Disaster recovery

Follow the guidance for the types of materials your collections are composed of in Historic England, How to treat and store objects after an emergency.

<https://historicengland.org.uk/content/docs/advice/erp-historic-buildings-pt3/>

Marking and labelling:

Follow the guidance for the types of materials your collections are composed of in

National Museums Liverpool, Guidelines on marking and labelling methods and positions.

<https://collectionstrust.org.uk/resource/guidelines-on-marking-and-labelling-methods/>

Useful resources and websites

Museum of London Hazards in Collections.

<https://hazardsincollections.org.uk/>

The Canadian Conservation Institute, The care of objects and collections.

<https://www.canada.ca/en/conservation-institute/services/care-objects.html>

Collections Trust.

<http://www.collectionstrust.org.uk/>

The Preservation Advisory Centre, British Library.

<https://www.bl.uk/aboutus/stratpolprog/collectioncare/>

Museums Galleries Scotland.

<https://www.museumsgalleriesscotland.org.uk/advice/collections/>

6.11 Large objects

Overview

In 2018, the Association of British Transport and Engineering Museums (ABTEM) updated the Guidelines for the Care of Larger and Working Historic Objects which are available as a downloadable PDF on their website or to purchase from the Collections Trust. The guidelines are comprehensive and provide more detailed information on all of the issues raised in this guidance.

The guidelines explain that “the term ‘Larger/Working’ is not tightly defined but is taken to mean anything too big for one person to carry and which broadly refers to industrial, transport, military and agricultural objects, which may or may not be preserved in working order. Typically, these objects will need to be moved by a team of people with specialist equipment, ranging from jacks and trolleys to cranes and powered transport. These guidelines are also applicable to other types of objects, from social history to automata and computers.”

Whilst the guidelines cover a wide range of objects, they also signpost readers to specialist organisations that can provide more specific advice if required.

Particular issues

- There are a number of ways in which large objects can be hazardous including their size, weight and the materials from which they are composed. Some large historic working objects do not meet modern safety standards and care must be taken to ensure that they are not a danger to staff, volunteers and visitors. Hazardous materials that could potentially be present include asbestos, heavy metals, polychlorinated biphenyls (PCBs), solvents and chemicals, lead-based paints, radioactive substances including luminous paint. There may be high voltages in electrical or electronic equipment.
- If objects are operated, then organisations must have a safety policy which covers arrangements for dealing with potential hazards that may occur during operation. There are also issues around whether objects should be conserved or restored in order that they can be safely operated.
- Most larger and or working objects have a number of different components and some of these can be made of fragile or unstable materials such as textiles or rubber.
- Some larger and working objects, particularly vehicles, electrical and electronic equipment may present an increased fire risk when held in collections. Organisations should undertake risk assessments and take

action to mitigate the risk of fire, for example ensuring that all fuel has been drained and fuel lines flushed through.

- It is vital to have appropriate insurance to cover the full range of risks that large and or working objects may present.
- Wherever possible, large objects should be kept under cover rather than stored outdoors where they will deteriorate much more quickly. Having sufficient undercover storage space may be challenging.
- Working objects, such as steam locomotives, will produce pollutants which could be damaging to other collections in close proximity.

Environmental conditions

Follow guidance for the types of materials your collections are composed of.

Safe handling, packing and storage

The following is an extract from the Guidelines for the Care of Larger and Working Historic Objects:

“Sometimes, moving an object to a more suitable location might be deemed necessary. The logistics of a move may involve lifting, hauling and transporting. These activities are safety critical and require people with specialist knowledge who are competent to carry them out safely and without causing further damage to the object.

Any move, from a major logistical exercise to the simplest hand-carriage of an object for a short distance, requires careful planning and consideration of several factors:

- Has the move been properly assessed for any risks?
- Are the people involved trained to manually handle or lift objects?
- Can the move be carried out using lifting equipment? For example, trolleys, forklifts or other carriers can be used for smaller moves. Similarly, cranes, trucks or low loaders may be deployed for large, complex moves. Note that lifting equipment requires annual safety checks and that a safety certificate must be provided.
- Is any information available from previous moves or moves for similar objects? Seeking advice from others who have carried out similar activities will help prevent potential pitfalls.
- Can the object sustain the stress of the move? Weight alone is not a sufficient guide to whether an object can be safely lifted. Objects such as aircraft or boats are particularly prone to damage when they are lifted or moved due to their design and construction materials. The distribution of

weight, the stability of the object and the condition of any lifting or jacking points should be carefully examined.

- In the case of wheeled objects, are the wheels and axles sufficiently robust to enable the object to be moved without specialist equipment? In particular, farm carts and wagons kept in a dry environment may have little or no strength left in their seemingly robust wheels.
- Has the route been examined carefully, and any access points measured to ensure that the move is feasible? Moves via the road network will require checking for load clearance or restricted access. In the case of very large loads, permission from the local highways and/or police departments may be necessary.
- Are there appropriate access routes for the transport of the vehicle? There may be local or national highways regulations that restrict certain routes or require an escort vehicle to accompany the move.
- Has the new location been prepared for the object?"

Housekeeping and cleaning

Follow guidance for the types of materials your collections are composed of.

Disaster recovery

Follow the guidance for the types of materials your collections are composed of in Historic England, How to treat and store objects after an emergency.

<https://historicengland.org.uk/content/docs/advice/erp-historic-buildings-pt3/>

See also section 8 Emergency Planning in the Guidelines for the Care of Larger and Working Historic Objects.

<https://collectionstrust.org.uk/product/guidelines-for-the-care-of-larger-and-working-historic-objects/>

Marking and labelling

Follow the guidance for the types of materials your collections are composed of in the National Museums Liverpool guidelines on marking and labelling methods and positions.

National Museums Liverpool (2010) Guidelines on Marking and Labelling Methods <https://collectionstrust.org.uk/resource/guidelines-on-marking-and-labelling-methods/>

Useful resources and websites

Association of British Transport and Engineering Museums, (2018) Guidelines for the Care of Larger and Working Historic Objects

<https://collectionstrust.org.uk/product/guidelines-for-the-care-of-larger-and-working-historic-objects/>

Canadian Conservation Institute, Care of objects and collections – industrial collections

<https://www.canada.ca/en/conservation-institute/services/care-objects/industrial-collections.html>

Conserve O Gram (1999) Preparing Historic Motorized Vehicles For Storage Or Exhibit

<https://www.nps.gov/museum/publications/conserveogram/10-03.pdf>

6.12 Human remains

Overview

- Human remains should always be treated with care, respect and dignity during handling, storage and display. Whilst some human remains in archive collections are historic and prehistoric remains excavated in the UK, there may also be more recent remains as well as human remains that were obtained in unacceptable circumstances such as those acquired from indigenous peoples in colonial circumstances when there was an uneven balance of power.
- You may be approached by individuals or groups seeking the repatriation of human remains. It is advisable to have a clear procedure for dealing with such requests. Further information can be found in Part 3: Claims for the return of remains in the Guidance for the Care of Human Remains in Museums (DCMS 2005).
- “When appropriate and possible, the handling, storage and transportation of human remains should take into account any cultural preferences and sensitivities of communities that have cultural continuity with the remains or for whom they have cultural importance.” Regarding the Dead: Human Remains in the British Museum, Chapter 5: Collections Care: Handling, Storage and Transport of Human Remains. (Daniel Antoine and Emily Taylor)
- The definition of human remains in the Human Tissue Act 2004 does not include hair and nails though it is recognised that these have a sacred importance to some communities. It does include osteological material (whole or part skeletons, individual bones or fragments or bone and teeth), soft tissue including organs and skin, embryos and slide

preparations of human tissue. The definition also includes artworks composed of human bodily fluids and soft tissue.

- Human remains include skeletal, cremated, mummified or bog remains. They may be associated with funerary objects.
- It is a good idea to create an inventory of human remains in your collection which includes information on the number of remains; physical nature of the remains; date of death (if known) and provenance.

Particular issues

- Well preserved soft tissue from archaeological excavations of burials, such as mummies, can be a potential source of surviving biological hazards – but the risks are very low.
- Some mummies have been treated with pesticides in the past which may present a residual hazard – check treatment records and conservation reports for evidence of this.
- Human remains that have been buried in lead coffins may contain hazardous amounts of lead. They should be stored in clearly labelled sealed bags and nitrile gloves must be worn when handling them.
- Can be heavy and have uneven weight.
- Fluctuating temperature and RH and exposure to light can lead to the delamination of bone.
- Objects in human remains collections often have porous surfaces – e.g. human tissue and bone. Porous surfaces can absorb dust from the atmosphere and grease and dirt from bare hands.
- Human remains may be associated with metal which can cause damage when it corrodes.
- Be aware of sensitivities around viewing and handling human remains.
- Mummified remains and bog bodies are especially fragile – consult a conservator in order to develop an appropriate storage solution.
- Storage areas containing human remains should be secure with access restricted and monitored.

Environmental conditions

Light	Minimal – store in the dark and display at 50-80 lux ideally. 200 lux for skeletal material.
Relative Humidity	Stable RH between 40-60% for mixed collections. Ancient Egyptian Mummies 35-45%. Bog bodies 50-60%. Skeletal material 40-60%. High RH will encourage mould growth.

	Low RH may result in cracking or flaking bones.
Temperature	Stable temperature between 16-25 °c.
Pollution	Human remains can be damaged by acidic vapours and sulphur-based gases emitted by unsuitable storage and display materials. Dust can cause permanent soiling and encourage mould growth. Use packing materials/solutions that are inert and protect collections from dust and dirt
Pests	Human remains that are composed of protein and cellulose-based materials are very vulnerable to attack by clothes moths and carpet beetles. A programme of regular checks, pest monitoring and good housekeeping must be in place to minimise the risk.

Safe handling, packing and storage

- Handling should be undertaken with great care and respect in a dedicated and appropriate environment over a clean padded work surface. Anyone handling human remains should be aware of their ethical obligations (ref.3.9 Ethics and legislation – Managing human tissue).
- Always wear nitrile gloves when handling human remains and particularly when preserved soft tissues are present. Wash hands thoroughly after removing your gloves.
- Beware some human remains are very fragile.
- Secure loose sections to ensure not material is lost.
- Only handle one skeleton at a time to avoid unmarked bones getting mixed up.
- Support fragile articulated bodies such as mummies on a board when lifting and moving. The mummy should be horizontal, and the board cushioned with plastazote covered with unbleached cotton calico. It may be necessary to place a barrier layer of Melinex, acid-free tissue or Tyvek between the mummy and the textile. Or, if possible, move them in their coffins for support.
- Human remains come from many different cultural contexts and burial environments so need appropriate storage solutions. From a collections care perspective, all storage materials – boxes, bags packing materials and labels should be conservation grade and inert but other cultures may have different views on appropriate packing which need to be taken into account.
- Generally objects, such as grave goods, that are associated with human remains are stored separately as their specific requirements are probably

different. However, the wishes of genealogical descendants, cultural communities or relevant faith organisations should also be considered if known.

- Store skeletal remains in individual storage containers – it is possible to buy storage boxes specifically for skeletons. Bag all of the elements separately in clear sealed polythene bags. This reduces handling by researchers and provides some padding and protection. Place Tyvek labels in each bag. Store heavier long bones of the arms at legs at the bottom of the box so they are flat and do not cross and more fragile bones (such as the pelvis) on top.
- If bones are fragile then pack them in supportive nests of acid-free tissue or plastazote and do not place them on top of one another.
- Recently excavated bones may be damp. If they are placed in polythene bags, then make small holes in the bags to prevent condensation and mould growth.
- Pack skulls separately in a box lined with plastazote and supported by acid-free tissue 'doughnuts'.
- Don't store teeth in occlusion (upper teeth on top of lower teeth as they would be in the jaw).
- Smaller individual body parts in collections like hands, feet and fingers can be stored in conservation grade boxes and carefully supported with plastazote and acid-free tissue.
- Boxed remains should be placed on inert metal shelving. The bottom shelf should be at least 15cm above the floor to protect from flooding, pests and to make it easier to clean underneath.

Housekeeping and cleaning

- If in any doubt, do not attempt any cleaning and consult a conservator.
- Cleaning activities should focus on removing loose dust and dirt and keeping storage areas clean. Always wear gloves to undertake this.
- Beware – human remains can be easily damaged.
- Protect collections from dust and dirt by keeping them in appropriate containers.
- Undertake regular visual checks for evidence of pest activity and mould. Place human remains collections on your high risk list for condition checks.
- Ensure that insect pest traps are regularly checked and replaced, and any pests found are identified and appropriate treatments carried out.

Marking and labelling

Follow the marking and labelling guidance for archaeological bone and bone in:

National Museums Liverpool (2010) Guidelines on Marking and Labelling Methods <https://collectionstrust.org.uk/resource/guidelines-on-marking-and-labelling-methods/>

- Although marking bone using the reversible ‘Paraloid sandwich’ method is standard practice for British remains, it is not always acceptable for remains from other cultures and this should be carefully researched. When in doubt use tie-on labels.
- Place Tyvek labels in sealed polythene bags used to store skeletal material.
- Storage containers should be clearly labelled ‘contains human remains’ and if those remains are less than 100 years old and covered by the Human Tissue Act 2004 that should also be clearly stated on the outside of the box.

Useful resources and websites

Museums Galleries Scotland, Introduction to human remains in museums.

<https://www.museumsgalleriesscotland.org.uk/advice/collections/introduction-to-human-remains-in-museums/>

Regarding the Dead: Human Remains in the British Museum is a series of essays about the issues surrounding human remains in museum collections, offering possible solutions to the dilemmas relating to their curation, storage, access management and display.

https://www.britishmuseum.org/sites/default/files/2019-11/Regarding-the-Dead_02102015.pdf

DCMS (2005) Guidance for the Care of Human Remains in Museums.

<https://www.britishmuseum.org/sites/default/files/2019-11/DCMS-Guidance-for-the-care-of-human-remains-in-museum.pdf>

Museum of London Human Remains Working Group, (2011) Policy for the Care of Human Remains in Museum of London Collections.

https://www.museumoflondon.org.uk/application/files/5714/8129/0350/Museum_of_London_Policy_for_the_Care_of_Human_Remains.pdf

6.13 Art collections - Sculpture

Overview

Sculptures can be composed from a broad range of materials including marble, limestone, sandstone, plaster, terracotta, alabaster, metal, wood, textiles, precious and semi-precious stones (such as jade, malachite and Blue John) and plastic. They can be composite objects with detachable plinths or stands and may have surface decoration including paint, gilding and inlay.

This guidance will focus on stone and plaster sculpture and on sculpture that is stored and displayed indoors. Please refer to the guidance for plastics, wood, metals and textiles where appropriate.

Particular issues

- Hard, non-porous stones such as granite are usually very robust (though easily broken or chipped if dropped) but porous stones such as marble, alabaster, plaster and terracotta will absorb moisture if the RH is high, or they are placed on a damp floor. Porous stones can also become stained by absorbing dust and dirt and through poor handling practices.
- Problems can occur when materials present in composite sculptures such as metal, textiles and wood deteriorate or are attacked by insect pests or mould.
- High RH can cause wooden armatures to swell and metal fixings to corrode weakening joints and causing damage and stains. Fluctuating RH will also cause organic materials within sculptures to expand and contract causing cracks, splits and breaks.
- Plaster will absorb moisture and become soft when the RH is high.
- Alabaster and plaster are very soft and easily scratched.
- UV and natural light will damage some materials within sculptures – depending on what they are composed of.
- Joints such as knees and ankles in figurative sculptures can be load bearing and therefore areas of weakness which may crack and break.

Environmental conditions

Light	Stone and plaster are not generally vulnerable to light damage but other materials in composite objects may be. Set light levels for the most vulnerable materials.
Relative Humidity	Stable RH between 40-65%. (because of the possibility of wood or metal armatures) Keep RH levels below 65% to prevent the outbreak of mould.

Temperature	Stable temperature of 16-20° c in areas shared by collections and people and 10-20° c in stores.
Pollution	Gaseous pollutants are not a big issue for stone sculpture kept indoors but dirt and dust can become ingrained into the surface. This is a particular issue for porous stone. Good housekeeping, packing and storage will protect items from dust.
Pests	Not an issue for stone and plaster but may affect other materials from which sculptures are composed such as paper, textiles and wood. A programme of regular checks, pest monitoring and good housekeeping must be in place to minimise the risk.

Safe handling, packing and storage

- Beware – sculptures can be very heavy and may also have slippery surfaces. Handle with clean dry hands or in gloves – depending on how good a grip you need. Assess weight and support the sculpture fully, consider how many people may be needed to lift and move it.
- Always wear gloves when handling plaster objects.
- Avoid handling damaged areas.
- Where sculptures are composed of mixed materials such as wood and textiles, look for evidence of mould and insect pest activity during handling.
- Sculptures may have loose and detachable components such as plinths or stands, be aware of the risk of dropping and breaking these as they become detached during handling.
- Be careful not to damage surface applications such as paint and gilding.

Storage

- Always raise porous stone and plaster sculpture off the floor on wooden pallets; otherwise they may absorb damp from the floor. Ideally, they should be stored on robust racking.
- Smaller sculptures can be stored on powder coated metal shelving, a layer of plastazote on the shelf will help to prevent them rocking if the shelves vibrate.
- Plaster sculptures are very brittle and can also be stored in robust padded plastic crates which will offer more protection than being placed on shelves.
- Protect sculptures from dust and dirt by covering them with acid-free tissue or Tyvek™

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- If sculptures are to be moved, they should be soft wrapped with a barrier layer of acid-free tissue then polyethylene foam, bubble wrap and a dust sheet before being placed in a hard packing crate that is strong enough to support the weight.

Housekeeping and cleaning

- Cleaning activities should be limited to removing loose dust and dirt with a soft natural bristle brush, lightly flicking the dust into the nozzle of a Museum Vac. A piece of net, gauze or a pop sock should be attached over the end of the nozzle of the Hoover with an elastic band to prevent accidentally sucking up any loose pieces of the object. This should be periodically removed and cleaned by picking or Hoovering off the dust.

Disaster recovery

Historic England, How to treat and store objects after an emergency.

<https://historicengland.org.uk/content/docs/advice/erp-historic-buildings-pt3/>

- Wear gloves that are appropriate for the surface texture and weight of the sculpture.
- Be aware that stone and plaster objects may be heavy and ensure there are enough people available to lift and move them safely.
- Wet plaster can become soft so keep handling to a minimum.
- Be careful not to scratch the surface or damage any paint or gilding present.
- If there is no applied finish, then blot wet objects with kitchen towel. Any spillage on alabaster or plaster should be quickly blotted with kitchen roll or cloth.
- Air-dry if wet.
- Regularly check for any efflorescence of salts (crystals on the surface).
- Wet stone and plaster should not be frozen.

Marking and labelling

Follow the marking and labelling guidance for sculpture in:

National Museums Liverpool (2010) Guidelines on Marking and Labelling

Methods <https://collectionstrust.org.uk/resource/guidelines-on-marking-and-labelling-methods/>

Useful resources and websites

Canadian Conservation Institute, Care of objects and collections – stone and plaster. <https://www.canada.ca/en/conservation-institute/services/care-objects/stone-plaster.html>

Saffron Art, ART GUIDE - Sculpture Conservation.
<https://www.saffronart.com/sitepages/sculpturecare.aspx>

Victoria and Albert Museum, Caring for Plaster.
<http://www.vam.ac.uk/content/articles/c/caring-for-plaster/>

6.14 Art Collections – Oil Paintings

It may be helpful to look at this guidance in conjunction with the section on framed items. This guidance on art collections covers oil paintings and sculpture. Watercolours, prints and other works on paper are usually part of an archival rather than 'mixed' collection so are not included.

Overview

The most common support for oil paintings is canvas stretched over a wooden frame and attached with tacks or staples.

Oil paintings can be composed of a number of layers of different materials which can all deteriorate in different ways. These usually include:

- A base layer of size which stiffens the canvas and creates a surface on which to apply paint.
- Paint - a mixture of pigment and medium. The medium will depend on the type of paint. In oil paints it is linseed oil, in acrylic paints a synthetic resin and in watercolours it is gum arabic.
- Most paintings will have a final layer of varnish which was applied to protect and enhance the surface. These tend to be natural resins until the 20th century when synthetic resins became more common. Varnishes often discolour with age and natural resin varnishes will yellow, sometimes dramatically changing the appearance of a painting. From the late 19th century onwards, some artists chose not to varnish their work to avoid this yellowing, and this can result in fading and degradation caused by light damage.

Alternatively, some paintings have been applied to rigid supports rather than canvases. These can include stone, wood, glass, metal and ivory. In the 20th

century new modern materials were sometimes used such as hardboard and plywood.

Miniatures may be painted on a range of materials including vellum, ivory, paper, metal or porcelain. It is advisable to seek specialist advice if you have miniatures in your collection.

Preserving paintings and frames (Museums Galleries Scotland) gives a more detailed description of the materials that may be found in paintings.

Particular issues

- Prior to the mid-19th century, canvases were made of flax and linen. Later fabrics can be of a poorer quality and conservators sometimes need to apply a canvas lining to support them.
- Fluctuating RH can cause stretchers, wooden panels, canvases, canvas linings and the paint layer to expand and contract leading to splitting, distortion and cracking of the paint surface. The stretcher can split and distort and cause the painting canvas to sag.
- Paintings on a rigid support rather than canvas can be prone to damage from the support splitting or distorting, woodworm and reconstituted boards can delaminate and/ or weaken. These problems are all accelerated by fluctuating RH.
- The way in which paint deteriorates can be as a result of the way it has been applied and the materials that have been added combined with environmental conditions. There can be a wide range of issues when artists have used experimental materials and techniques and it is important to consult a conservator for specialist advice if the surface of the painting is cracked/ cracking.
- High RH (above 65%) can lead to the development of mould on paintings. Mould can also develop between the painting and glass in a framed work and on the back of the painting canvas.
- Low RH can cause paintings to dry out, becoming brittle and easily damaged.
- Paintings can be easily damaged if they are not securely fitted in their frame or are unprotected at the back of the frame. They should be carefully refitted to minimise risks.
- The wooden stretcher is particularly vulnerable to being attacked by woodworm. Look out for evidence such as flight holes and frass (excrement from insect larvae which looks like dust).

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- Miniature paintings can be very fragile, if they have been applied to an ivory or copper alloy substrate, they are extremely vulnerable to fluctuating RH.
- Miniatures are highly sensitive to light damage because of the dyes and pigments used in their creation.

Environmental conditions

Light	200-250 lux for oil paintings (ideally 200 lux or below). 50 lux for miniatures.
Relative Humidity	Stable RH between 50-60% for stores and display areas. Keep RH levels below 65% to prevent the outbreak of mould.
Temperature	Stable – around 20°c – sudden fluctuations can be damaging.
Pollution	Gaseous pollutants are not a big issue for paintings, but dust can become ingrained into the paint surface. This is a particular issue for unvarnished paintings. Good housekeeping, packing and storage will protect items from dust.
Pests	Frames, stretchers and wooden panels are particularly vulnerable to woodworm. A programme of regular checks, pest monitoring and good housekeeping must be in place to minimise the risk.

Safe handling, packing and storage

- Handle paintings with clean dry hands or in gloves – depending on how good a grip you need. Never touch the surface of the painting or the back of the canvas or panel, handle unframed paintings on canvas by the stretcher. Framed works can be moved by handling the frame only.
- Poor handling can puncture and tear paintings on canvas.
- Assess paintings prior to handling and look out for: loose, damaged or weak areas and projections such as nails and hooks. If the painting is framed and glazed then check that the glass is secure.
- Never pick up a painting by the top of the frame – it can detach and the painting, glass and the rest of the frame will drop to the ground. Always carry paintings by the bottom edge and one side and keep them vertical – unless the paint is flaking – in which case keep it horizontal.
- A small painting can be carried by one person. Larger paintings will require at least two people. You may need webbing straps or trolleys to move larger paintings.

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- Check frames, stretchers and wooden panels for evidence of insect pest activity.
- Make temporary backboards if a painting does not have one and cover the front of a painting with acid free board during transport.
- When moving glazed framed items, protect the glass with low-tack tape
- Miniatures are very susceptible to damage from changes in humidity and shouldn't be moved quickly from a cold damp area to a warm dry area. They can also be slippery to hold and, if that is the case then handle them with clean dry hands, not gloves.

Storage

Use inert conservation grade materials for packing and storing textiles such as:

- Acid free tissue, card and boxes.
- Archival polyethylene and polyester materials, such as Tyvek™, non-woven polyester sheeting, and Melinex™, colourless, transparent polyester film.
- If you need to wrap a painting, then always place a barrier layer of acid-free tissue or Melinex™ on the surface of unglazed paintings. Never place Bubblewrap directly against a painted surface. Label wrapped paintings on the back and front. Protect frames and the corners of frames with padding. Use cotton tying tape to hold wrapping materials in place.
- Always store paintings and frames vertically unless a paint layer is unstable or the frame is weak and damaged, in which case store horizontally and speak to a conservator.
- Ideally paintings should be hung on a wall or racking - very ornate frames must be hung to minimise the risk of damage. Do not store framed items on the floor.
- For sliding rack systems, attach 'S' hooks, not stretchers and strainers to framed paintings. Be careful not to scratch or damage gilded surfaces.
- Remove protruding hooks, nails and chains if necessary, to avoid damage to collections and people.
- Store paintings away from direct sources of heat and damp surfaces.
- It is best to store miniatures in drawers lined with plastazote and in individual inserts in the plastazote (inert polyethylene foam) that have been cut to fit each specific miniature. There are companies that will laser cut these to ensure they are exactly the right size.

Housekeeping and cleaning

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- Never clean the surface of a painting, even to remove dust as paint and varnish can be accidentally removed at the same time. If in doubt, do not attempt any cleaning and ask a conservator.
- Dust can damage paintings. Fit glass into frames to protect unvarnished paintings which can absorb surface dust. Keep dust levels to a minimum through good housekeeping.
- Undertake regular visual checks for evidence of pest activity and mould. Place framed items on your high risk list for condition checks.
- Ensure that insect pest traps are regularly checked and replaced, and any pests found are identified and appropriate treatments carried out.

Disaster recovery

Historic England, How to treat and store objects after an emergency

<https://historicengland.org.uk/content/docs/advice/erp-historic-buildings-pt3/>

- Be aware that some framed paintings may be heavy and ensure there are enough people available to lift and move them safely,
- Always support and lift framed paintings from the bottom.
- Wet frames can become soft so keep handling to a minimum.
- If the framed painting is wet then it is best, if possible, to separate the frame from the painting and to dry them separately without the application of heat. Lay paint side up raised on blocks to allow air circulation whilst the painting dries.
- Wet paintings should not be frozen.
- Do not remove paintings from their stretcher.
- Lay wet panel paintings flat and support under weak areas.
- Ensure nothing touches the paint surface.
- Dry paintings should be stacked vertically, face to face or back to back in a dry area. Separate the frames with acid-free tissue.

Marking and labelling

Follow the marking and labelling guidance for oil paintings, miniatures and framed works in:

National Museums Liverpool (2010). Guidelines on Marking and Labelling Methods <https://collectionstrust.org.uk/resource/guidelines-on-marking-and-labelling-methods/>

Useful resources and websites

Museums Galleries Scotland, Preserving paintings and frames.

<https://www.museumsgalleriesscotland.org.uk/advice/collections/preserving-paintings-and-frames/>

Canadian Conservation Institute, Caring for paintings.

<https://www.canada.ca/en/conservation-institute/services/preventive-conservation/guidelines-collections/paintings.html>

The Cornwall Museums Partnership has five short instructional films on their website:

http://www.cornwallmuseumspartnership.org.uk/resource-results/?sft_resource_cat=all+collection-handling

- 1) Hanging a small painting on racking.
- 2) Moving a small painting.
- 3) Moving a large painting.
- 4) Rotating a large painting.
- 5) Setting down a large painting.

6.15 Framed items

It may be helpful to look at this guidance in conjunction with the section on Art collections – oil paintings.

Overview

An original frame may be an integral part of an artwork. Picture frames can be composed of a number of materials. The substrate (base) is most likely to be wood, moulded composition or hollow moulded papier-mâché. When a frame is gilded, it will usually consist of:

- layers of gesso (a chalky mixture of whiting and size to create a smooth surface for gilding).
- a layer of bole (a smooth coloured mixture of clay and size).
- a layer of gold size.
- a layer of metal leaf (usually gold or silver though other metals are sometimes used).
- a toning layer of coloured glaze or varnish (natural or synthetic resins and solvents).

There may also be inlays and metal fixings, mounts, textiles and glazing (glass or acrylic).

Preserving paintings and frames (Museums Galleries Scotland) gives a more detailed description of some of the materials that may be found on frames.

Particular issues

- High RH (above 65%) can lead to the development of mould on paintings and frames. Mould can also develop between the painting and glass in a framed work and on the back of the painting canvas.
- Low RH can cause the joints of frames to dry out and open up.
- Paintings can be easily damaged if they are not securely fitted in their frame or are unprotected at the back of the frame. They should be carefully refitted to minimise risks.
- Frames can also be damaged by unsuitable metal fixings such as using screws that are too long when attaching metal brackets.
- Fluctuating RH can cause frames to split and the mitre joints to open. It can also cause gesso, bole and gilding to flake off.
- Gilding can be easily scratched by poor handling. Poor handling can also cause toning layers to curl and become patchy and flaky.
- The frame substrate (wood, composition or papier-mâché) is particularly vulnerable to being attacked by woodworm. Look out for evidence such as flight holes and frass (excrement from insect larvae which looks like dust).
- A fragile frame may not be able to support the weight of glass in a glazed picture. It may need adapting or it may be better to replace the glass with acrylic which is much lighter.

Environmental conditions

Light	Store and display at appropriate light levels for the items in the frame: <ul style="list-style-type: none">• 50-80 lux for prints, drawings, watercolours and photographs.• 200-250 lux for oil paintings.
Relative Humidity	Stable RH between 50-60% for stores and display areas. Keep RH levels below 65% to prevent the outbreak of mould.
Temperature	Stable – around 20°c – sudden fluctuations can be damaging.
Pollution	Gaseous pollutants are not a big issue for frames, but impure gold leaf is more susceptible to tarnishing than pure gilding.

	Good housekeeping, packing and storage will protect items from dust.
Pests	Frames are particularly vulnerable to woodworm. A programme of regular checks, pest monitoring and good housekeeping must be in place to minimise the risk.

Safe handling, packing and storage

- Handle frames with clean dry hands or in gloves – depending on how good a grip you need. Always wear nitrile gloves when handling gilded frames – gilding can be easily damaged by fingerprints.
- Assess the framed item prior to handling and look out for loose, damaged or weak areas and projections such as nails and hooks. If the framed item is glazed check that the glass is secure.
- Never pick up a framed item by the top of the frame – it can detach and the painting/artwork, glass and the rest of the frame will drop to the ground. Always carry framed items by the bottom edge and one side and keep it vertical – unless the framed item is a painting with flaking paint – in which case keep it horizontal.
- A small, framed item can be carried by one person. Larger framed items will require at least two people.
- You may need webbing straps or trolleys to move larger framed items
- Secure loose sections of moulding before moving a frame. If any parts of the frame fall off during handling or moving, then collect the pieces and keep them with the frame until it can be repaired.
- Check for evidence of insect pest activity.
- Make temporary backboards if a painting does not have one and cover the front of a painting with acid free board during transport.
- When moving glazed framed items, protect the glass with low-tack tape but ensure no adhesive tape comes into contact with gilded or decorative surfaces.
- Make protective corners for frames using acid-free tissue, bubble wrap and packing tape or polyester wadding covered with unbleached calico.

Storage

- Always store paintings and frames vertically unless a paint layer is unstable or the frame is weak and damaged, in which case store horizontally and speak to a conservator.
- Ideally paintings should be hung on a wall or racking - very ornate frames must be hung to minimise the risk of damage. Do not store framed items on the floor.

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- For sliding rack systems, attach 'S' hooks, not stretchers and strainers to framed paintings. Be careful not to scratch or damage gilded surfaces.
- Remove protruding hooks, nails and chains if necessary, to avoid damage to collections and people.
- Use appropriate wrapping to cushion the corners of vulnerable frames.
- Store paintings away from direct sources of heat and damp surfaces.

Housekeeping and cleaning

- If in doubt, do not attempt any cleaning and ask a conservator.
- Dust can be damaging to frames and paintings. Fit glass into frames to protect unvarnished paintings which can absorb surface dust. Keep dust levels to a minimum through good housekeeping.
- When cleaning the glass in frames, carefully protect the gilded edges with a piece of card to prevent damage.
- Carefully remove dust from frames with soft natural hairbrushes with tape around the metal ferrule to prevent scratching. Gently brush the dust in the nozzle of a Museum Vac which has been covered with a piece of gauze or a pop sock secured with an elastic band. Take care not to know gilded surfaces with the nozzle. Cloths can scratch gilded surfaces.
- Over cleaning will wear gilded surfaces away. Ideally dust once a year.
- Organic solvents such as turpentine and white spirits will damage oil gilding. Moisture will damage water gilding.
- Undertake regular visual checks for evidence of pest activity and mould. Place framed items on your high risk list for condition checks.
- Ensure that insect pest traps are regularly checked and replaced, and any pests found are identified and appropriate treatments carried out.

Disaster recovery

Historic England, How to treat and store objects after an emergency

<https://historicengland.org.uk/content/docs/advice/erp-historic-buildings-pt3/>

- Be aware that some framed paintings may be heavy and ensure there are enough people available to lift and move them safely.
- Always support and lift framed items from the bottom.
- Wet frames can become soft so keep handling to a minimum.
- If the framed item is wet then it is best, if possible, to separate the frame from the painting and to dry them separately without the application of heat. Wet frames should not be frozen.
- Dry framed items should be stacked vertically, face to face or back to back in a dry area. Separate the frames with acid-free tissue.

Marking and labelling

Follow the marking and labelling guidance for frames and framed works in:

National Museums Liverpool. (2010) Guidelines on Marking and Labelling Methods <https://collectionstrust.org.uk/resource/guidelines-on-marking-and-labelling-methods/>

Useful resources and websites

Museums Galleries Scotland, Preserving paintings and frames.

<https://www.museumsgalleriesscotland.org.uk/advice/collections/preserving-paintings-and-frames/>

Canadian Conservation Institute, Caring for paintings.

<https://www.canada.ca/en/conservation-institute/services/preventive-conservation/guidelines-collections/paintings.html>

The Cornwall Museums Partnership has five short instructional films on their website.

http://www.cornwallmuseumspartnership.org.uk/resource-results/?_sft_resource_cat=all+collection-handling

- 1) Hanging a small painting on racking.
- 2) Moving a small painting.
- 3) Moving a large painting.
- 4) Rotating a large painting.
- 5) Setting down a large painting.

7. Collections Information

7.1 Cataloguing objects in archive collections

Overview

At a basic level, the cataloguing of traditional paper archives and objects should be very similar as in both instances the aim is to have enough information in the catalogue to be able to identify and understand the item and its provenance. However, object and archival cataloguing have both emerged from different traditions and are often driven by quite different end audiences, with not many object catalogues designed to be public facing.

Museums catalogue object collections according to a Spectrum Procedure. This cataloguing is not hierarchical and there is usually one catalogue entry for each

object or group of objects. The catalogue entry is accessible via an index of fields such as artist/maker, source, production date and subject. There is also usually a set of object history files kept separately that record additional information, usually relating to ownership, acquisition and loan.

Particular issues to consider for mixed collections

There are several fundamental decisions for cataloguing mixed collections. The first decision is whether you have the conditions and resources to manage the whole collection. This is fundamental. Once you have decided that the object is best preserved within the archive and not elsewhere, you should begin to consider its intellectual control. Archive services have approached this in different ways. Some services intellectually retain the object within the archive collection to which it relates, while storing the items separately. Other services have created separate artificial collections of objects e.g. a medal collection and cross referenced to the relevant archive collections. This approach causes some extra work in the catalogue to ensure that the descriptions are connected.

Principles to apply

This guidance recommends that wherever possible, objects remain intellectually with the archive collections to which they relate. This is the best way for researchers to understand the connections between the objects and archives. The objects should be catalogued within the hierarchy of the archive catalogue with their location dependant on the original order of the collection and the original management of the items. For example, if you were cataloguing the collection of a performer and they kept their diaries, scripts etc together, but managed stage props and costumes elsewhere, you would seek to retain that system.

If your collection is mainly traditional archival material, you should continue to follow the requirements of ISAD(g). However, for objects you will want to record additional information that you may not normally include in every catalogue entry. There are two possible approaches:

1. Referring to the document below which maps ISAD(g) to Spectrum 5.0, ensure that you record the additional information that an object requires within the relevant ISAD(g) field.
2. Add additional Spectrum fields that are relevant to your objects into your catalogue. Examples might include fields recording dimension, colour, material, technique. Some of these fields might be produced using a standard terminology e.g. colour and material.

Your choice of approach may be directed by the limitations of your cataloguing software. The second of these approaches has some advantages as you would more easily be able to search and group items based on material etc.

Standards to consider

Spectrum Standard on Cataloguing.

<https://collectionstrust.org.uk/resource/cataloguing-the-spectrum-standard/>

Spectrum suggested procedure on cataloguing.

<https://collectionstrust.org.uk/resource/cataloguing-suggested-procedure/>

Useful resources and websites

Mapping of ISAD(g) to Spectrum 5.0.

<https://collectionstrust.org.uk/wp-content/uploads/2018/06/ISADG-Spectrum.docx>

Collections Trust, Terminology Control.

<https://collectionstrust.org.uk/wp-content/uploads/2021/02/2021-Terminology-control.pdf>

8. Stakeholders and their needs

8.1 User Access in reading rooms

Overview

Archive services are built around providing direct access to collections for the public and/or staff to enable their research. Alongside this they provide access to collections information and to digitised copies of some of the collection.

Museums focus on access being via exhibition and interpretation, usually mediated by staff in a variety of ways.

As a result, the Spectrum Standard says little about how access to a mixed collection might be provided in a reading room. It recommends developing a collections access policy and provides you with a list of questions you might like to consider. Key issues to consider when providing access to objects in a reading room include:

- Assessment of risks.
- Condition checking before moving.
- Any legal and ethical issues.

- Recording how long an object has been exhibited or accessed to ensure that it is not over-exposed to light.
- Ensuring security.
- Providing the correct equipment to enable access to objects.

The archive service should also follow its standard methods for managing access to archive collections.

Standards to consider

Spectrum Standard, Use of Collections Procedure.

<https://collectionstrust.org.uk/resource/use-of-collections-the-spectrum-standard/>

8.2 Developing exhibitions

Overview

Developing exhibitions allows users increased access to collections. With clearly thought through interpretative plans, archive services can engage a range of audiences. Developing clear storylines, supported with displays of archive material and objects, use of interactives and the potential to include learning packages presents opportunity for engagement on many levels.

Mixed collections provide additional focus and detail for exhibitions, enabling enhancement of the narrative, additional engagement for audiences and an opportunity to understand and explore the subject matter further.

Particular issues to consider for mixed collections

Mixed collections support the archive focussed interpretative storylines by engaging visitors with additional and more 3D material, this may be through using original historic objects, through use of handling collections or replicas, exhibition interactives and digital engagement.

Mixed collections present challenges for exhibition development, with potential issues to consider focused around:

- Developing a clear and engaging storyline.
- Display cases and mounts.
- Conservation of objects.
- Environmental conditions, including light levels, temperature and humidity, pests.
- Security.

- Supporting exhibitions with learning packages for schools and other groups.

Principles to apply

When developing exhibitions which will include mixed collections the following principles should be considered:

- What space is available to house the exhibition? Are there physical barriers to access for visitors and how might these be overcome?
- Assembling a relevant exhibition team is important. In some cases this should include archivists, curators, learning specialists, conservators and design specialists. In others, staff teams will be much smaller or comprise of a solo staff member. In these cases developing an understanding of interpretation and securing conservation support will be imperative.
- The budget available to create the exhibition.
- Is the exhibition a permanent feature of the archive service, a temporary exhibition or will it be travelling to a range of venues?
- Exhibition design should follow the results outlined in an interpretative plan:
 - What is the unique story for the exhibition?
 - Which audiences is the exhibition aimed at?
 - What is the key narrative and storyline the exhibition will follow?
- Exhibitions need to consider visitor flow and how long people will stay in the exhibition or dwell at certain key points. This is important in developing a space that works effectively and provides a quality visitor experience.
- Exhibitions and displays should contain layers of information to meet the needs of a range of audience and learners. Ensuring clarity of the story is key to building engagement throughout the exhibition.
- Text should be concise and to the point, building layers of information to accommodate a general visitor through to a more specialist audience.
- Exhibitions should reflect the needs of all audiences and allow access for anyone wishing to visit or engage. It will be helpful to consider whether you should develop information in different languages to ensure you can encompass the needs of all your potential visitors.
- When developing an exhibition, it is useful to consult with a range of potential audience. This will allow consideration of physical access to exhibits alongside removing any barriers that exist around intellectual, sensory, language and social access.

- Mixed objects should be used to enhance and focus the narrative story their impact is in the added value they bring to the archive; in the connections the stories hold and how they can engage members of the public.
- Interactives can enhance audience enjoyment and add hugely to understanding and learning.
 - Low tech interactives can be easy to create and maintain and generally tend to be low cost.
 - High tech interactives can provide impact and additional engagement, but they are generally expensive to develop and maintain.
- Exhibition design should include a range of ways for audiences to engage, for example using interpretation and text panels with objects in cases. Archive Services should also expand the reach of the exhibition with digital engagement available on a website or as a download, providing first person interpretation, tour guides, handling collections. These will all enhance the experience and education or learning packages that schools and groups can use.
- Security is essential to maintaining the exhibition. An exhibition may need specialist display cases and mounts for certain objects or specialist invigilation.

Standards to consider

The Equality Act 2010 legally protects people from discrimination in the workplace and in wider society.

<https://www.gov.uk/guidance/equality-act-2010-guidance>

Useful resources and websites

Exhibition design

Glasgow Museums Display guidelines.

https://www.britishcouncil.in/sites/default/files/guidelines_for_museum_display.pdf

Museum Next.

<https://www.museumnext.com/article/designing-exhibition-5-tips-mantra/>

Gallery text

Gallery Text at the V&A.

https://www.vam.ac.uk/_data/assets/pdf_file/0009/238077/Gallery-Text-at-the-V-and-A-Ten-Point-Guide-Aug-2013.pdf

Leeds Museums and Galleries: A practical guide for text interpretation.

<https://www.museumdevelopmentyorkshire.org.uk/wp-content/uploads/2017/12/Practical-guide-for-text-interpretation-2017.pdf>

Writing Effective Text - Helen Hales, Pitt Rivers Museum.

<https://www.slideshare.net/HelenHales/writing-effective-museum-text-8243677>

What makes a great museum label, Anne Faherty.

<https://www.museumnext.com/article/what-makes-a-great-museum-label/> 2020

Display cases

Collections Trust provides information about the security requirement for display cases.

<https://collectionstrust.org.uk/resource/security-specification-attack-resistant-display-cases/>

Security in museums: a specifiers' guide to display cases.

<https://collectionstrust.org.uk/resource/security-in-museums-a-specifiers-guide-to-display-cases/>

A useful guide to choosing display cases is provided by Museums and Galleries Scotland.

<https://www.museumsgalleriesscotland.org.uk/advice/collections/choosing-new-display-cases/>

8.3 Digitisation of 3D objects

Overview

Archive services have come a long way in developing policies and workflows to digitise their collections, but not many have included 3D objects from mixed collections in that digitisation. Where this has occurred, most have limited their work to making digital still photographs of objects, which often don't fully represent the item.

Museums have recently begun to develop techniques to represent 3D objects more effectively. Which 3D creation technique is used is usually limited by resources and staff skills but there are a few options including photogrammetry and laser scanning:

- Photogrammetry is the taking of 2D pictures of an object from many angles. This is the most accessible technique as it can be undertaken using technology as simple as a smart phone or a digital camera. A range of free software can be used to produce a 3D output and made available online.
- Laser scanning is using a laser to scan the 3D coordinates of an object. These coordinates can be used to generate a digital model of the object.

As for any digitisation project in archive services you should consider not only why you want to digitise but what the output will be before embarking on a digitisation programme. This will affect how you will manage the born digital files as well as the output. The European Commission, Expert Group on Digital Cultural Heritage explains that “The raw data for one 3D asset may be 200 gigabyte or more” and provides step by step guidance on how to tackle the long-term preservation of these objects. The case studies and guidelines below provide more background on digitisation of 3D objects and making these accessible to others.

Useful resources and websites

European Commission, Expert Group on Digital Cultural Heritage, Basic principles and tips for 3D digitisation of cultural heritage. (March 2021)

<https://digital-strategy.ec.europa.eu/en/library/basic-principles-and-tips-3D-digitisation-cultural-heritage>

Culture 24, Digital Pathways.

<https://digipathways.co.uk/>

Collections Trust, Digitisation a simple guide for museums.

http://326gtd123Dbk1xdkdm489u1q.wpengine.netdna-cdn.com/wp-content/uploads/2016/12/Edited_-_Digitisation_-_A_Simple_Guide_24.11.15.pdf

Share Museum East, A guide to Digitisation.

<http://sharemuseumeast.org.uk/wp-content/uploads/2013/08/digitisation-FINAL-FULL.pdf>

The Postal Museum, Making a 3D model of the Iconic Ashes Urn.

<https://www.postalmuseum.org/blog/the-iconic-ashes-in-3D/>

GLAM 3D demonstrates the entire process of planning, creating, and launching an Open Access 3D scanning program.

<https://glam3D.org/>

Historic England, 3D Laser Scanning for Heritage.

<https://historicengland.org.uk/images-books/publications/3D-laser-scanning-heritage/heag155-3D-laser-scanning/>

8.4 Audience development and interpretative planning

Overview

Interpretation and exhibition design is how organisations use objects and collections to tell important and relevant stories to their audiences. It is an opportunity to increase public access to collections.

Interpretative planning is routed in effective audience development, which archive services should embed within the heart of the organisation.

Understanding visitors and developing approaches to attract new and wider audiences is an important factor in remaining sustainable and ensuring the archive service maintains relevance to contemporary society.

Understanding the needs of audiences and potential audiences should enable development of a clear interpretative strategy. This can be employed for an entire archive service or developed for individual projects.

Effective interpretation uses a range of techniques to engage audiences with objects and their associated stories. This can be through provision of exhibitions, events, publications, digital engagement activities, first person interpretation and temporary exhibitions.

Providing layers of interpretation, supported with fascinating objects from the archive should provide an opportunity to meet the needs of a spectrum of audiences from children to older people, young families and schools and from a diverse range of people.

Particular issues to consider for mixed collections

Mixed collections provide a wonderful added opportunity for archive services to enhance interpretation with objects, which provide a visual focal point and additional point of enquiry for an otherwise flat paper exhibition.

Key areas for consideration are:

- Audience development needs and priorities should focus on the creation and development of an interpretative strategy and plan.
- Objects are used to enhance and illustrate the interpretative themes of the display.

- Objects are assessed for damage and vulnerability and displayed and used according to their needs, i.e. material type, security requirements.
- A range of interpretation techniques is used to engage visitors, for example, interpretative panels, audio, digital, object handling, labels, first person interpretation, activities for families and schools' audiences.
- Objects are appropriately protected during display depending on issues of care and conservation and security.
- Legal, ethical or other issues may need to be taken into account when considering proposed uses of your collections.

An audit trail of object use, and movement should be kept, and updates made to the collections management system including a record of locations, condition and how objects are used.

Visitors gain access to additional information about the subject matter through a 3D object, and if additional object handling opportunities are also available, audiences can engage first hand with the objects.

Principles to apply

Audience development

Developing a plan for audience development will ensure clear objectives for engagement and the allocation of sufficient resources to implement it. The Audience Agency describe the development of an audience development plan as:

The plan – and importantly the process by which we arrive at it – is a route-map for change. It is a practical blueprint for growing audiences, increasing reach, building deeper relationships and doing those things to the best of our abilities and resources, through the combined effort of our colleagues and stakeholders.

<https://www.theaudienceagency.org/resources/guide-to-audience-development-planning>

In developing a plan archive services should consider:

- What information is collected about current audiences?
- Who are the current audiences? How do you know this?
- What are the views of the current audience for future development and engagement?
- Which audiences you have not yet engaged with? How do you know who these audiences are?
- How can you find out what these audiences would like from the archive service?

The National Archives – Managing mixed collections for archive services

- What activities, access and engagement can the archive develop which will meet the needs of people not currently using you?
- Are there partnerships and collaborations the service can develop to maximise audience reach.
- Developing a plan which meets the needs of everyone you would like to engage with.

Interpretative planning

Museums Galleries Scotland provide useful information for developing an interpretative plan, an effective plan will:

- Give structure and direction to individual projects or long-term work and promote the efficient use of potentially limited resources.
- Confirm that everyone is agreed on objectives. Having these written down provides a point of reference to keep ideas on track.
- Ensure that interpretation is relevant, appealing and accessible to your audience.
- Provide the basis for funding applications or design briefs.
- Identify and confirm opportunities for change, in an on-going process of evaluation and development.

<https://www.museumsgalleriesscotland.org.uk/advice/collections/planning-your-interpretation/>

Standards to consider

Accreditation for Archive Services includes Section 3 Stakeholders and their Experiences, which includes a focus on access and community engagement. Archive Service Accreditation.

<https://www.nationalarchives.gov.uk/archives-sector/archive-service-accreditation/>

Museum Accreditation Scheme.

<https://www.artscouncil.org.uk/supporting-arts-museums-and-libraries/uk-museum-accreditation-scheme>

There is a wide range of good practice for interpretation to follow, but there are no recognised national standards for interpretation.

Spectrum 5.0 - standard and procedure for Use of Collections.

<https://collectionstrust.org.uk/spectrum/procedures/use-of-collections-spectrum-5-0/>

Useful resources and websites

The following resources will be helpful in developing interpretative resources and the links to audience needs.

Audience development

The Audience Agency - Guide to Audience Development Planning.

<https://www.theaudienceagency.org/resources/guide-to-audience-development-planning>

Museum Development North West, Knowing Your Audience.

<https://museumdevelopmentnorthwest.files.wordpress.com/2012/06/known-your-audiences1.pdf>

Association of Independent Museums (AIM).

[Understanding your Audiences](#)

Culture 24: Support arts and heritage organisations to connect meaningfully with audiences. They run [action research](#) projects and a range of [conferences and workshops](#).

<https://weareculture24.org.uk/>

Culture Hive. Arts Marketing Association online library of free resources.

<https://www.culturehive.co.uk/>

The National Lottery Heritage Fund digital resources for heritage.

<https://www.heritagefund.org.uk/good-practice-guidance/digital-skills-heritage-digital-resources>

Digital Culture Network.

<https://digitalculturenetwork.org.uk/>

Kids in Museums.

<https://kidsinmuseums.org.uk/>

Open Up Museums A practical guide to support museums to increase the diversity of their visitors.

<http://www.openupmuseums.com/wp-content/uploads/2018/06/Open-Up-%E2%80%94-Guidebook.pdf>

Open Up Museums Case studies to support museums to increase the diversity of their visitors.

<http://www.openupmuseums.com/wp-content/uploads/2018/06/Open-Up-%E2%80%94-Case-studies.pdf>

Interpretation

Sensing Culture provides a resource for Technology, access and the museum sector.

<https://sensingculture.org.uk/resources/technology-access-and-the-museum-sector/>

Museums Galleries Scotland: Planning your interpretation.

<https://www.museumsgalleriesscotland.org.uk/advice/collections/planning-your-interpretation/>

Museum Development Yorkshire 10 top tips for Museum Interpretation.

<https://www.museumdevelopmentyorkshire.org.uk/wp-content/uploads/2017/12/10-Top-Tips-for-Interpretation-2011.pdf>

The Association of Heritage Interpretation.

<https://ahi.org.uk/>

8.5 Managing the use of collections as set dressing

Overview

Many mixed collections managed by archive services will at some time feel pressure to use their collections to decorate offices or commercial premises. Although beneficial in conveying the heritage of organisations, using heritage objects as set dressing has risks which need to be managed, as described in the scenario described at the start of this guidance.

Particular issues to consider for mixed collections

There are a number of threats to collections outside the direct care of archive staff:

- Light will fade and weaken items such as upholstery, watercolours, books and furniture.
- Humidity about 65% relative humidity will allow mould to grow on books, textiles and pictures. Very dry environments will result in the cracking of pictures and furniture.
- Dust and dirt themselves won't necessarily damage items but dusting and cleaning can.

- Pests such as insects and rodents can cause irreparable damage and are more likely outside the archive store.
- Lack of disaster management planning outside the archive store can place the objects at risk.
- Damage through use. Objects such as furniture that are housed outside the direct care of archive staff are more likely to be used as originally intended and therefore damaged.
- Theft and loss are more likely and more difficult to spot outside the direct care of archive staff.

Principles to apply

Once collections are identified as worthy of permanent preservation as part of the archive collections, they should not be displayed on a permanent basis and any exhibition should follow the guidance in the relevant section on collection type above.

If the collection has to be outside the direct care of archive staff for temporary display the following guidelines are suggested:

- Temporary display should be governed by a written procedure, including a maximum time period for display.
- Temporary display is treated as a loan and procedures for loans are followed.
- Wherever possible security levels should match those of the archive store.
- A staff member should have responsibility for the object while on display.
- Archive staff should undertake condition assessments on exit and re-entry of the objects to the care of the archive service. A link to examples is available below.

Standards to consider

See sections on exhibition and specific collection types.

Useful resources and websites

SHARE Museums East, examples of condition reports.

<https://collectionstrust.org.uk/resource/condition-report-examples/>

8.6 Managing handling collections

Overview

Handling collections enable people to touch and engage with real objects, which will normally remain displayed behind glass cases. Object handling can be an

enriching experience for visitors and groups external to the archive service and adds significantly to people's enjoyment and engagement with the interpretative experience. Providing access to real objects allows people to understand how an object was used, as well as an appreciation of its texture, weight, and its material.

Handling collections are rarely accessioned objects, they tend to be objects which are duplicates or objects lacking provenance or links to the Collections Development Policy. They may also be replicas, purchased items or, on occasion, objects which have been de-accessioned as part of a wider rationalisation process.

As non-accessioned items, an inventory list of objects should be maintained as a minimum documentation requirement. This enables identification and assists with auditing. Handling objects should be marked/labelled to ensure they are clearly identifiable as handling objects. This prevents future ambiguity and objects becoming accidentally accessioned at a later date.

Handling collections often echo subjects contained in the permanent archive collections or they emphasise themes to support temporary exhibitions.

Particular issues for mixed collections

If objects offered for donation are unsuitable for adding to permanent accessioned collections, they could possibly be added to the handling collections. It is important that the donor agrees to the object's use as a handling object during transfer of title.

Objects are generally not afforded the same level of care as accessioned permanent collections. Handling objects are managed in the understanding that objects can become damaged or used beyond reasonable repair.

Handling collections need adequate storage, so they should be included in planning for stores and access arrangements.

A regular stock check against the inventory is recommended, to ensure objects managed beyond repair can be removed and new objects obtained to fill the gap.

Objects provided for handling must be screened for potential hazards and supervision of use should be considered.

Handling objects can add an enhanced learning experience for visitors and as part of a loan boxes available to schools and other community groups. They can

be an excellent means of encouraging interaction with the objects and the story you are telling.

If an object has entered the handling collection as a result of a deaccession, the catalogue and accession information must be updated.

Principles to apply

The handling collection is reflected in the Collections Development Policy and it needs careful management, which reflect the priorities identified.

Procedures should be developed for management and use of handling collections.

Ensure you provide information about the objects for the users, including how to handle them and as well as information about the interesting history and heritage behind them.

Developing handling collections which support school groups and learning can be linked directly to the national curriculum and bring a visit to the archives service to life without putting accessioned objects at risk.

Useful resources and websites

Handling Museum Objects – Museum of London e-learning tool.

<https://www.museumoflondon.org.uk/Resources/e-learning/handling-museum-objects/>

Handling Collection: Good Practice – Wellcome Collection.

<https://wellcomecollection.wordpress.com/category/handling-collection-2/>

8.7 Mixed collections during unplanned service closures

Any archive professional will have procedures to be followed for closing down sites, but occasionally these happen quicker and for longer periods than expected. e.g. Covid pandemic lockdowns. Mixed collections will have some of the same requirements as traditional archive collections, along with some additional needs. We have therefore provided a full checklist for preparing to close your building and leaving your collections in sudden closures, which should be read alongside guidance from The National Archives:

- Turn off electrical equipment if appropriate but not heating, alarms and monitoring systems. Only leave dehumidifiers on if they are to be regularly emptied, otherwise they are a flooding risk.

- If it doesn't affect your heating system, turn off water to prevent water escaping from leaking pipes, dripping taps etc.
- Reduce the risk of pest activity by emptying bins and disposing of food waste. Empty the fridge, switch off if possible and leave doors open.
- Carry out security checks – are cases and drawers locked? Are keys secure and are CCTV and alarms working? Remove anything that could be used to climb up the building (such as ladders and wheelie bins). Check that doors, skylights and windows are shut and locked. Keep a record of everything you do for insurance purposes.
- Update your local Fire & Rescue team – tell them about any changes such as the site being unstaffed or different working patterns.
- Cover collections on open display or in open storage with acid free tissue or Tyvek. If there is a risk of leaks that might drip onto them then cover with tissue and then polythene – avoid placing polythene directly onto the object. Take vulnerable items off display and put into storage.
- Review loans; contact lender to make arrangements about care, security and environmental conditions; revise your loan agreement, keep photographic records. Also check on any collections that you have loaned out.
- Contact your insurers and update them on any change of circumstances, update your policy and contact details as appropriate.
- Update risk assessments and focus resources towards managing risks. The biggest risks during lockdown are likely to be poor environment, pests and security breaches.
- Review your emergency plan – will it still work if colleagues are shielding or furloughed? Does it rely on external contractors? Are they available? Does the plan assume that equipment, materials and personal protective equipment will be purchased when needed or hired? What alternatives are available? Is there a section in your plan covering what to do if you're closed for a considerable period of time?

Collections care in unplanned closures

It is important to have an agreed system for undertaking on-site checks during unplanned closures, with associated resources and training, particularly if these are to be done by staff who do not usually work with the collections. Schedule regular condition checks of high and medium risk collections if possible and provide guidance on which objects are a priority and what to look for.

It is a good idea to create a checklist to use during on-site visits. Museum Development East Midlands in partnership with the Collections Trust, Museum

of London and SWMD has created a Museum Site Visit Template Checklist that you can adapt and use for this purpose. Take equipment and tools during site visits which will enable you to record changes such as mould growth and signs of deterioration. This should include mobile phones (camera), a ruler/ scale, pens, your checklist and a notebook.

The main things to check for are:

- Evidence of insect pest activity particularly in vulnerable collections like wool, silk and natural history. Make sure that any food and other rubbish has been disposed of. Check and change insect pest traps. Quarantine items that show signs of an infestation. Look at previous pest records for patterns of behaviour. Also check for signs of rodent activity.
- Environmental monitoring – check for fluctuating RH and temperature. Try to maintain as stable an environment as possible which may mean leaving the heating on. Check monitors/ data loggers and record findings (can be analysed off site). If you are using silica gel or Prosorb cassettes to control humidity in containers or cases, then check if these need to be changed or reconditioned. Empty dehumidifiers if necessary.
- Evidence of mould growth - an increase in mould growth has been a common problem during unplanned closures due to high humidity combined with poor air circulation in closed sites. It is a good idea to photograph any mould growth and include a ruler or scale in the photograph. This will enable you to see if the mould is growing between visits.
- Light damage – ensure that everything on open display or in open storage is covered or boxed and that all shutters, curtains and blinds are kept closed.
- Dust – cover things that are stored or displayed in the open. Dust provides food for pests and mould can grow on dust and dirt on any type of material.
- Building issues – sources of water ingress including leaking pipes and radiators and leaking roofs; blocked chimneys (bird's nests); dust and debris in fireplaces; blocked gutters and trees that might fall. (use your maintenance checklist and pay particular attention to known issues.)
- Security – check display cases, stores and storage equipment are locked, and keys stored safely. Ensure alarms and CCTV are working. Check windows and doors are secure. Look for signs of theft and/ or vandalism. If it looks like someone may have broken into your building, do not enter in case they are still on site and call the police.

New acquisitions during unplanned closures

- Consider how you will deal with donations during unplanned closures and develop a policy or statement to reflect this. Some organisations have suspended taking in donations whilst others have a quarantine system for new acquisitions.
- Does your Collections Development Policy cover contemporary collecting during the time of the sudden closure? Would this be through collecting objects/ archival material/ ephemera or digital materials such as oral history, photographs and film?

Cleaning and disinfecting

- Good housekeeping during unplanned closures is essential to reduce the risk of a pest infestation. Unplanned closures have created excellent conditions for pests at some sites.
- Collections should not be cleaned with any sort of disinfectant, only with the approved conservation grade materials used under normal circumstances. Removing surface dust with soft brushes and a vacuum should be sufficient in most cases. Keeping collections in containers, cases, drawers or covered during unplanned closures should prevent deposits of surface dust.
- Disinfecting is the use of chemicals to eliminate or reduce harmful microorganisms such as viruses and bacteria. In the cases of closure caused by pandemic there is a potential risk of touching a contaminated surface. You should seek to follow all government/healthcare advice in this situation.
- In terms of spreading a virus through handling collections, the biggest risk is probably books, records and study collections that are handled by multiple users. It is recommended to have clear procedures for minimising this risk which may include quarantining materials after they have been handled or suspending research and study services.
- Some hand sanitisers and liquid disinfectants can cause irreparable damage to historic surfaces because they contain alcohol, bleach and other chemicals. This is a useful article on the impact of hand sanitisers on collections materials – water based hand sanitisers have less impact than alcohol based ones
<https://www.loc.gov/preservation/scientists/projects/sanitize.html>
- Where a virus is the cause of closure, wash hands with soap and water rather than hand sanitiser when handling collections. Coronavirus is an 'enveloped virus' with a protective outer layer or 'lipid bilayer'. Soap

disrupts the lipid bilayer and running water dissolves it thereby killing the virus. This also means that conservation detergents are effective against the virus if they are suitable for the historic surface, you are cleaning.

- Do not carry out fogging, misting and spraying with disinfectant solutions in spaces with historic surfaces, fixtures and fittings, objects or collections – even if they are in display cases.
- Protect historic surfaces when disinfecting adjacent non-historic surfaces.
- Historic England has produced a really helpful guide: Covid-19: Cleaning and Disinfecting Historic Surfaces. This gives advice about the length of time the virus may persist on a wide range of materials and whether alcohols, peroxygen compounds or detergent and water are suitable cleaning solutions.

<https://historicengland.org.uk/coronavirus/historic-places/cleaning-disinfecting-historic-surfaces/>

Emergency planning:

- Review salvage kits and add hand sanitiser, face masks, visors and a sudden closure checklist to kits. Laminate all written instructions so they can be cleaned. Ensure there is sufficient Personal Protective Equipment available for all salvage team members.
- Create a kit for cleaning and disinfecting historic surfaces based on the Historic England guidance.
<https://historicengland.org.uk/coronavirus/historic-places/cleaning-disinfecting-historic-surfaces/>
- Think about how your salvage team will work during unplanned closures. Are the people listed in your emergency plan still available for call out (shielding, carer responsibilities, distance from work)? How will you communicate? This could mean there will be some new Salvage Team members who will need training during unplanned closures (including potential hazards). Think about measures for providing food and drink for your salvage team during unplanned closures such as everyone having their own dedicated crockery set.
- Keep an eye on the weather as it could help with predicting when problems might occur such as storms, flooding etc.
- There will be a greater risk of water ingress over the winter. Provide images of things to look out for. Place buckets under potential leaks etc.
- Issues are often raised by people who have gone on site to do checks rather than through environmental monitoring.

- Consider the impact of being caught up in a bigger disaster such as a major flood or fire during the pandemic.

Planning for future unplanned closures

- It would be advisable to produce an action plan for how to close down again if this is necessary in the future. This should be based on the lessons learned from the experiences of previous unplanned closures and cover buildings, grounds, collections (including loans), insurance, security, staff and volunteers.
- Create guidelines for ‘putting the collections to sleep’ when closing the archive including covering items on open display or moving them into the store (record object movement); close shutters and blinds etc; check that cases and stores are locked, and keys kept safely; ensure alarms and CCTV are working; maintain environmental monitoring and control measures; lay insect pest traps.
- Risk assessments and emergency plans should be updated. The biggest risks during unplanned closures are likely to be poor environment, pests and security breaches.
- The situation can change rapidly during unplanned closures, so a flexible and responsive approach is essential.
- Consider whether it would be best to move some objects to a safer place off-site during future unplanned closures. This could be because of security or environmental concerns.
- Take into account disruptions to supplies of materials and equipment during unplanned closures.

Useful resources and websites:

Museum Development East Midlands in partnership with the Collections Trust, Museum of London and SWMD, Museum Site Visit Checklist

<https://mdem.org.uk/resources/caring-for-collections-in-lockdown-training-film/#.Xw8EUChKjIU>

Historic England, Covid-19: Cleaning and Disinfecting Historic Surfaces

<https://historicengland.org.uk/coronavirus/historic-places/cleaning-disinfecting-historic-surfaces/>

ICON has also produced Waking Up Collections: A Post-lockdown guide

<https://www.icon.org.uk/resource/waking-up-collections-a-post-lockdown-guide.html> this is designed to help organisations address collections care issues that might have occurred during unplanned closures.

9. Case studies

9.1 Anglesey Archives and Oriel Môn: Collaboration between the archive and museum

Anglesey Archives and Oriel Môn are the archive and museum services for the Isle of Anglesey County Council. They both sit within the learning directorate the Isle of Anglesey County Council. The services work collaboratively to manage mixed collections. This was not always the case, and the archive and museum managers are currently working together to review the status of mixed collections in the archive and formalise the process of accessioning/accepting future collections.

The collection

With records dating back over 500 years, Anglesey Archives' mission is to identify, collect and preserve historical documents relating to the Island of Anglesey and make them available to anyone who wishes to use them. Oriel Môn changes lives by caring for, interpreting and promoting Anglesey's unique heritage and culture, seeking to inspire creativity, and to provide learning opportunities for everyone. Both services manage collections and work together to ensure their future preservation.

Anglesey Archives is a small local authority archive service. It holds records on education, church, clubs, personal papers, archaeology, land taxes, electoral lists, charities, the court of Quarter Sessions, roads and bridges. The vast majority of the collection is paper based. However, there are also 56 objects and 28 cap badges in the collection. Objects include medals, printer's blocks, a clock, silk handkerchiefs, a leather purse, glasses and a time capsule.

Collaborative working

At the time the objects were deposited with the archive there were no procedures in place for managing these collections. Most items were taken in without question or paper trail to show if consultation with Oriel Môn took place.

The museum and archive now work collaboratively to decide where the best place is to hold collections. In most cases objects will be deposited with the museum. In general all paperwork goes to the archive and objects go to museum. This way of working has come about quite recently. There is no formal process in place for this arrangement and the only area where there are clear

procedures in place is archaeology. There are currently no guidelines for depositing archives and objects.

There may be instances where a connected mixed collection is being deposited (for example photos, letters and memorabilia relating to a person) and the decision about whether the collection stays together or is separated will be left to the person depositing. Otherwise they would be considered on a case by case basis.

The objects which are currently in the archive are kept in same conditions as documents. The previous archivist packed items appropriately. There has not yet been a review of the existing collections. Current practice is focused on current and future deposits. There is not a full awareness if the conditions for collections management are correct. The archive is not in a position to professionally care for objects. Staff and time are the key constraints facing the service. There is no conservator on staff.

Formalising procedures

Formalising the existing procedures is the current priority for the archive. This will take the form of a policy, a 'what to do' document which can be used by anyone. It will form a part of succession planning for the archive and museum, ensuring the procedures which are being implemented now are recorded and can be passed on to new staff.

The archive and museum intend to achieve the following from the development of a formal policy:

- clarify the systems and procedures in place for staff and people looking to deposit items with the archive and museum.
- make accessioning official and clear.
- enable the museum and archive to share more information, such as document reference numbers. Even though two different collection management systems are used (Archives use CALM and Oriel use MODES) it is possible to cross reference objects with archives.
- ensure that information is captured in the best possible way. For example, the depositors form should include the depositor's name and all permissions. This has made it easier to work together on exhibitions.

Anglesey Archives and Oriel Môn are still in the process of defining their procedures and processes. The key lessons they have learned to date are:

- recognising constraints and what can be achieved with limited capacity and resources. This has led them to focus on current and future accessions as a priority.
- the importance of talking to colleagues and working across service provisions to meet the needs of visitors, customers, donors, staff and the collections.
- Looking at where it is working well (archaeology) helps as a starting point for identifying how best to approach the wider collections.

9.2 Canterbury Cathedral Archives and Library: Managing working collections

Canterbury Cathedral Archives and Library care for a wide range of objects from books to vestments. They are undertaking a lottery funded project which will see the creation of a display space using mixed collections within the Cathedral. It will also enable the library and archive to take a more integrated approach to mixed collections.

The collection

Canterbury Cathedral is one of the oldest Christian structures in England. Founded in 597 it forms part of a World Heritage Site. Canterbury Cathedral archives and library holds the library collection of Canterbury Cathedral and a few small mixed collections. They also hold the archive collection of Canterbury Cathedral, Canterbury City Council and the Church of England parishes in eastern Kent.

The Cathedral's archive collection dates back to late 8/9th century and is a continuously running collection. The printed books are physically in a library building and the archives are physically together. There are a significant number of artefacts in the cathedral collection overall. The collection includes working items such as vestments, paintings on walls of houses occupied by clergy members and silver ceremonial pieces which are used in services.

Cathedral inventory

At present there are three different software systems: a printed books catalogue, library catalogue and objects catalogue. Cathedrals have a requirement to maintain an inventory of items of architectural significance and the object catalogue acts as this inventory. There is legislation and specific guidance around the management of this inventory. It means that there is a

need to get permission to do certain things such as loaning items from the inventory.

A museum code is used for object collections, a specific set of letters to recognise the items. There are plans underway to bring everything together on one system as part of a lottery funded project.

Accessions

There is an established policy for accessioning archive collections and a collections management committee considers complex issues and artefact acquisitions.

In instances where archive items are offered to the library and archive which don't align with the collections policy, they work with the County Council archive and University of Kent archive to see if it links with their collecting policies. Where an acquisition relates to objects discussions take place with the City Council museum service and Lambeth Palace library.

Collection care

Some objects in the collections are mixed media. For example; a parchment may also have some textile and a wax seal. This can make it challenging to define it as an archive, a book or an object. There is a default to cataloguing items to the archive.

There are also some surprising items such as human remains, including a finger. When considering relics (items associated with holy individuals, for example fragments of bone or clothing), it is important to bear in mind the sacred nature of these items and that they may be venerated.

Opening up the collections

The displays which are currently under development will be fixed with rotation items. There will be a full range of items from the collections displayed around particular themes. Through the project the library and archive have recognised a need to:

- Use fully Spectrum compliant standards for all objects.
- Apply museum style numbers. Historically, the instructions for cathedral inventories were to number everything in numerical sequence, which is not ideal.
- Formalise a system for managing archaeological finds.

9.3 The Mountain Heritage Trust: A people centred approach

The Mountain Heritage Trust in Cumbria houses some of the most significant material on British climbing and mountaineering. The Trust cares for records, objects, books, journals and magazines related to British climbing and mountaineering and British climbers abroad. A lengthy consultation process in 2019/2020 has underpinned the development of the revised Collections Development Policy. This has led to the Trust taking a more people focused approach. Thinking about audiences and what the collections mean to them. The principles of archive management are applied behind the scenes.

The collections

The Mountain Heritage Trust is the only organisation solely dedicated to British mountain heritage. The collections include:

- Archives which include the papers of Joe Tasker and Sir Chris Bonington, two of Britain's greatest mountaineers. There is a full range of paper records within the collection including tickets, photographs, research notes and various ephemera items.
- The Chorley Hopkinson Library: A collection of over 700 climbing and mountaineering books built up over three generations of the Chorley family beginning in the mid-nineteenth century.
- Objects: Over 400 items including historic climbing equipment such as; boots, ice axes, clothing, nuts, pitons, karabiners, harnesses, rucksacks, skis and crampons, awards and board games. There is also some film and digital files.
- Journals and magazines, including those which relate to major climbing clubs such as the Alpine Club, the world's first mountaineering club.
- Learning resources for teaching purposes.

Management of the collections

There is one single member of staff, the collections manager, who tends to make most of the decisions working with a volunteer board. There are currently plans to undertake a resilience project and appoint three additional staff members, a general manager, project archivist and finance assistant.

The Trust implemented CALM in 2018. Prior to this there was a mix of excel sheets, word documents, PDFs, an adapted online shop system for web searching and paper records. They still maintain signed paper records for acquisitions.

All items are managed in the same way and it is important to keep items together. Donors often want collections to be managed in the whole. They usually have a very strong emotional connection to items they are donating as they are often the belongings of family members some of whom have died in the mountains.

Different templates within CALM are used to make sure standards are met for different items. The fields had to be considered carefully to ensure search functions were user friendly. The museum and archive workflows work across both in the system.

The Trust tries to avoid collecting outside of their remit. The updated Collections Development Policy follows the Arts Council England template to meet museum accreditation. It incorporates guidelines and best practice for managing collections including how to manage hazards and human remains. Other archives were consulted in the process of developing the policy.

9.4 Wordsworth Trust: Why do we collect?

The Wordsworth Trust celebrates the life of the poet William Wordsworth. The Trust looks after Dove Cottage which is based in the Lake District village of Grasmere. Wordsworth and his sister Dorothy Wordsworth lived at the cottage between 1799 and 1808. The Trust have been begun reflecting on the purpose of collecting, why do they collect items?

The collection

The collection held by the Trust consists of around 70,000 items. It was awarded Designated status in 1997. At the heart of the collection are the manuscripts which were largely written by Wordsworth and Dorothy. The wider collection includes art works, letters, financial and estate papers, autograph albums and first edition manuscripts from fellow Romantic contemporaries. There is also a strong collection of Lake District guides and pictures and some furniture once owned by the Wordsworth family.

Collections management

The collection which is primarily paper based is managed as a museum collection. The software used is SPECTRUM (UK Documentation Standard) compliant, using a hierarchical approach to data structures. The Trust don't view themselves as an archive or solely a manuscript library.

A lot of deposits come to the Trust as individual items. Sometimes there are acquisitions which come as a group of items but more often than not it's a mixed collection of individual objects that aren't necessarily closely related by subject or type.

From the 1970s, and particularly during the 1990s, there was a drive to develop the collection. It increased quite significantly during this period. The Trust continued to amass a wide collection, in areas across the spectrum of Romantic authors. Since then, and like many museums, there has been a shift in focus from collections growth to learning programmes using the collections already held.

Alongside this is a focus on making sure that what they have is looked after and properly documented rather than resources spent on unlimited growth. They are thinking more about the purpose of collecting. Asking the question - what is the archive and library for? How many versions of the same book are really needed? (The issue of 'sameness' is, of course, open to debate, as is the notion of completeness.) There are bibliographical variances across books and manuscripts but simply, it is not possible to collect everything as space is at a premium.

The collecting remit is relatively broad. If something to be considered for acquisition was found which lay outside the collecting remit it would be raised with the trustees.

Challenges

The Trust is very fortunate as alongside the curator there is an assistant curator dedicated to managing the collections and at least one trainee in post. The main challenges relate to collections management and making this as much a priority as deadlines driven by other priorities: exhibitions, education, research. An additional challenge facing the collections team is raising the question of why?

- Why are we cataloguing this?
- Why are we accessioning this item?
- What is it for?

The right people

The Trust have a really good database of records. There is a bit of backlog due to the impact of the pandemic but overall finding items is very easy thanks to the database. The team have collections management knowledge and experience alongside a great attitude to service. They want people to find answers and they want to create enjoyment through the collections.

“Having the right people has put us in a really strong position. It gives you confidence. It is also really good for the reputation of the Trust.”

Jeff Cowton, AMA, Curator and Head of Learning

9.5 De Montfort University: Cataloguing Mixed Collections

De Montfort University (DMU) Special Collections plays a dual role for the University, preserving the history of the University and its activities, as well as providing resources for teaching, learning and research. The University is home to the International Centre for Sports History and Culture and as a result Special Collections has a particular specialism in this area. It holds collections such as England Boxing, Ski Club of Great Britain, Special Olympics Leicester and the papers of Sir Norman Chester relating to football. Sporting collections often contain objects, and these are as diverse as trophies, clothing, badges, medals, skis and boots.

This case study was collected specifically to talk about cataloguing mixed collections.

What are the main challenges you face in managing the collections?

The majority of the Special Collections are traditional archival materials. The challenge for DMU staff was to catalogue the collections in a holistic way while still reflecting original order and meeting archival cataloguing guidelines. It was imperative that the objects and archives in the collection were retained intellectually together and integrated into a single hierarchy, rather than treating objects as separate ‘add-ons’ to the archive papers that might be left in a ‘misc objects’ series.

They began to develop their approach by examining the Spectrum standard and exploring how other sporting organisations and archive services had dealt with the issue.

How do you overcome these challenges? What is working well?

Having examined the approach of other archive services, DMU decided to take a 3 point approach. Firstly they would intellectually retain objects in their position in the collections. Secondly, they would create a new template of fields for cataloguing objects. These fields are partially from the archive catalogue, but some are Spectrum compliant. Descriptions sit within an ISAD(g) hierarchy. Thirdly they developed a series of controlled vocabularies for fields such as

colour, material, object type etc which help to standardise these fields. These were based on vocabularies from a range of museums, but bespoke for their collections.

Special Collections were fortunate in that they had recently installed new cataloguing software and were able to ask for a custom objects module to be created. They hope that this approach will help their future cataloguing of hybrid born digital/paper collections and enable them to be similarly integrated into one hierarchy.

9.6 Unilever: Soap to Soup: collecting consumer habits

Unilever is an Anglo-Dutch 'Fast Moving Consumer Goods' (FMCG) company which celebrated its 90th birthday last year¹. The Unilever Archives and Records Management (UARM) collections encompass a wide range of material from packaging, advertising, contemporary art and promotional material through to records of the business transactions. The collections and team are Anglo-Dutch and split between Port Sunlight and Rotterdam. The UK base in Port Sunlight is the historic home of Unilever in the UK and where Lever Brothers built their first factory and worker village in 1888. The Netherlands base in Rotterdam hold collections relating to the Dutch foundation of the business. In addition, a contemporary art collection used on sites around the UK and stored in London spans from the 1970's to the present day.

The mission of UARM is to collect the corporate memory and protect intellectual property.

The collection

Unilever has over 400 brands and many more no longer available, and many of these are represented within the archive collection. Alongside the records of the business (corporate records, financial records, research, plant and premises records) the archive aims to capture how Unilever connects with consumers through advertising, commercials, promotion and communications. In essence UARM are interested in what people end up picking off the shelves and what went into getting it there.

¹ Many of the companies which form Unilever predate this.

The collections include an unparalleled collection of original packaging, dating back to the 1880s with Sunlight and Lifebuoy soap. It includes well known brands such as Persil, Walls, Colmans, Vaseline and Knorr. The objects include dried soup, promotional novelty items, PG Tips character costumes from advertising campaigns, statues and busts, a narwhal tusk, beaded cushions, uniforms and a bull's head.

Archive staff are actively involved in collecting. They attend site closures throughout the UK and Benelux to assess which items should be kept. This has included the Colmans factory in Norwich and Warrington factory where the team accessioned a printing press roller used to print boxes of Persil.

Working with museums

In general, the archive will take in and care for items related to the company. On occasions where there isn't the space to take in items, such as large-scale industrial items, the archive will liaise with local museums and other organisations with similar collecting policies to try and secure a home for the object. It is not always possible to do so.

During 2020 UARM worked with Port Sunlight Museum on the co-curation of a new permanent gallery, which will tell the story of soap. Items have been loaned from the collection for the gallery, including printing plates which can be used for crayon rubbings as part of an activity, and Unilever scientists have been interviewed talking about how soap is made and fragranced.

Stakeholders

UARM's primary purpose is to serve the company and employees. However, it also has a role with the general public. The team handles in the region of 14,000 enquiries a year and the majority of these are external.

UARM are responsible for the records management for Unilever. They ensure records are kept for a defined period of time in line with Unilever's Data Retention Standard, and then either those of long-term historical value are kept or records no longer required are confidentially destroyed. As part of this UARM also manage all of Unilever's global trademarks which involves routine trademark registrations and responding to legal challenges. These activities can save the company hundreds of thousands of pounds. For example, Unilever were looking to export Colmans Mustard to China. In order to clear customs, the company had to prove they had been awarded the medals which are displayed on the front of the tins. The medals were in the archive and the team were able to provide a photo of them. This meant the company could still export to China without an expensive pack redesign and it was authentic.

Unilever can trace the origins of its purpose today through the archive collections. For example, Lifebuoy soap, launched in 1894, campaigned that it 'saved lives' by tackling germs and health and this message continues to be of vital importance today through Unilever's Global Handwashing campaign. Lifebuoy's brand origins were celebrated during the relaunch of Lifebuoy in the UK in Sept 2020. The collection is not just objects stored in boxes; they contain stories which are embedded throughout the fabric of the company.

Access and engagement

Before COVID the team hosted workshops for Unilever teams which allowed people to see behind the scenes, and they also ran temporary exhibitions at different sites in Blackfriars, Kingston and Leatherhead. Temporary exhibitions have challenged the way the archive team considers its collection, displays materials and accessions items. It has made them think more about the importance of interpretation and their role as enablers for others in making sense of the collection.

Since the pandemic more has been done through the internal portal including the creation of a virtual gallery and a weekly film club. The Port Sunlight Illuminated app charts the origin of Port Sunlight Factory and Village, free to download from the app stores, it is used by both employees and the general public.

In order to remove barriers to access and make collections accessible online UARM is making additional investment in digitisation.

Alongside this the team are developing an internal training pathway which will highlight the history of the company. It will be open to all staff, not just new starters.

Caring for mixed collections

From a 50 year old jar of Hellmann's mayonnaise to Knorr wet sauces, food stuffs raise significant challenges for the team. When faced with an accession of food stuffs the team empty packaging to make sure it is empty and clean, thereby avoiding issues with rotting food and possible rodent infestation. They aim to photograph material as it comes prior to emptying the packaging. This can be time consuming, smelly and resource intensive; one large acquisition can have an impact on service availability.

It is also a challenge to the team to ensure that what is being taken in won't have an impact on the environment in which it will be stored. They have a machine which can pierce the bottom of an aerosol which ensures these containers are

depressurised and not a risk. All objects are held in the same store as more traditional business archives, and all store areas are temperature and humidity monitored. The only exception to the collection is film and video which is stored at a cooler temperature than the rest of the collection. In addition to packaging, film and aerosols the collection includes uniforms, props, plate signs, cosmetics, and a mix of items which can be a challenge to store in traditional storage areas. Some, such as 'Boris' the bull's head are stored on trolleys so they can be easily moved.

The team don't have a conservator on site but do subscribe to National Conservation Service for advice and use external conservators. They do have space which can be used to isolate quarantine items when they are first received.

Looking ahead the challenges facing the team could be around the longevity of sustainable and recycled packaging. There is a concern about caring for 50 year old plastics which can become dry and fragile. The team are working with brand teams to collect design files to counteract this.

9.7 Tottenham Hotspur Football Club: Guardians of heritage assets

Tottenham Hotspur Football Club has been on the same site for 135 years. The collections tell the story of the club and its fans. The earliest items date back to 1895 and the most recent from 2020. There is a vast range of items in care including paper documents, audio, objects, film and photographs. The collection also includes all records from the directors of the club and a set of gate records².

The collection is overseen by a historian and recently a consultant was contracted to develop a plan to make the collection more accessible. Understanding the ethos and the needs of the organisation and using that to influence change in collections management was key to the success of the project. That alongside not being precious about what is an archive and what is a museum collection.

The collection

The collection holds the corporate memory of the club and that of the fans. It tells the story from its foundation onwards. All items in the collection help to tell

² These are records of the numbers of people coming in for each match spanning across 50-60 years

the story of the club and they celebrate the past and promote the club going forward. The collections are the guardians of the past and future history of the club. At the moment the collection is very official, it has a lot on the establishment and players and less on the fans and their experience.

Within the collection there are a lot of gifts from other clubs, memorabilia and shirts, programmes and handbooks. After every match there is an exchange of gifts between the teams. The items gifted include club vases and Maltese boats. In addition, there are a thousand cartoons drawn for match day programmes from the 1920's and 30's. Equal importance is given to paper and objects within the collection.

The collection is not about Tottenham or the stadium site. Items which specifically relate to the local area would be referred to the local museum (Bruce Castle). The only time where there may be blurred lines is when a collection relates to a famous player who lived in Tottenham.

There is no differentiation made between traditional archive and museum objects. The collection now works as a hybrid. The collecting policy covers both areas.

Policies and procedures

Initially there were no systems in place, no policies and no procedures. There was a need to consider how to manage a collection which was referred to as 'the archive' but in reality, contained a real mixed collection of archive and objects. There was the option of following archival rules or museum rules and a decision was taken to use a mix of both.

A decision was taken to use the term heritage asset to describe the collections, as it was a term that stakeholders were familiar with. In order to effectively manage these assets it was outlined that policies and procedures were needed. An access policy was developed which follows archive guidelines and a loans and donations policy follows Spectrum. These are outlined in a detailed handbook which includes guidelines on how to manage movement of items within the club. The club has a training centre, a hotel, a warehouse, 5 - 6 sites so location and movement control are essential for effective management of the collection.

There are object entry forms which are filled in as a basic record of where everything comes from. Then they have transfer of titles and donations procedures which differ depending on if they are a donation from public or a former player. There has been a process of tightening loans-in procedures.

As part of the project a review was undertaken of what items were for permanent preservation and what weren't. This included making decisions about what is a memorial and what's not, for example a scarf on a gate. As a result of the project the club are more in control of the collection, items can be easily located, enquires can be responded to quickly and items can be used for promotional activity more easily.

The Future

The club are committed to the museum and archive. They can see the value in being a visitor attraction, to having a connection with their local communities and fans.

There are plans underway to develop the 'Tottenham Experience'. It will include museum in a Grade 2 listed building, museum, shop and archive space which will offer digital and real access, with a separate off-site store. Located at the centre of the stadium building, it will be open every day and during match days. The archive space and experience will have a role in the community, playing its part in local community engagement and providing a place to engage former players, fans and investors. There are plans to embed the archive into the work of the academy (their work with young players) and to use the collection to outline the history of the club and with their work with club legends involved in community work.

The club is also working with the Sporting Heritage Network to host a collaborative PhD supporting heritage which will investigate how to engage people with sporting collections.

9.8

10. Appendix – Glossary

Term or organisation	Definition	Source
AIM	Association of Independent Museums	
ACE	Arts Council England	
Collections Care	Range of activities intended to safeguard a collection NOTE These activities can include organisational policies, security, storage, cleaning, maintenance, handling, scientific investigation, environmental monitoring and control, exhibitions and loans, conservation, provision of surrogates and emergency planning.	PAS 197
Collections Information	Information an organisation collects, creates, holds and maintains about its collections and/or collected items (NB collections information can include a broad range of knowledge, such as interpretations, stories, research and conversation).	PAS 197
Conservation	Interventive techniques applied to a physical item to achieve chemical and physical stabilisation for the purpose of extending the useful life of items to ensure their continued availability. (NB also known as interventive conservation and remedial conservation). The term 'preventive conservation' applies to actions that support the longevity of the archive material but do not involve techniques that are invasive to the material e.g. managing the temperature and humidity is preventive conservation whereas mending a tear in a paper document is not.	PAS 197
Loan	Description given to the status of ownership whereby archival material is physically held by the archive service but legally owned by another organisation or individual.	Archive Service Accreditation
Mixed collections	Collections which are primarily archive collections, but which also include other heritage materials such as objects, costumes, food, venerated objects, artworks, and non-traditional media including digital engineering records, punch cards and even tally sticks.	

The National Archives – Managing mixed collections for archive services

Plans	Plans are forward looking documents that set out the objectives of the organisation and identify the actions needed to achieve those objectives. Plans implement the organisation's policies and fulfil the organisation's mission. Plans may be tiered from high level and long term, to detailed and short term e.g. strategies (3-5 years), business plans (annual), departmental/individual action plans (often related to projects or reporting cycles.)	Archive Service Accreditation
Procedures	Procedures describe a specified way to carry out an activity or a process (a set of interrelated or interacting activities), in order to deliver a particular output or outcome. Procedures may be documented in the form of operational guides, manuals, handbooks, instructions, flowcharts etc.	Archive Service Accreditation
Policies	Policies describe the overall intentions and direction of an organisation as formally expressed by top management. They set out the principles and framework that then guide planning and decision-making. Policies should be endorsed by the organisation's governing body (e.g. the senior management team, the Board of Trustees, the Council or Portfolio holder.)	Archive Service Accreditation
SPECTRUM	The UK collection management standard for museums.	