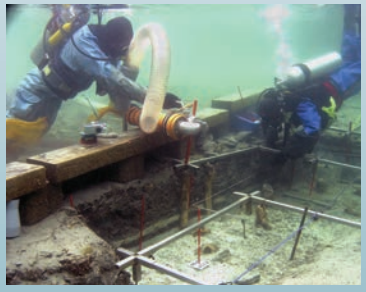
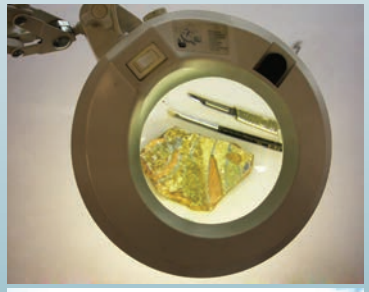
A STANDARD AND GUIDE TO BEST PRACTICE FOR ARCHAEOLOGICAL ARCHIVING IN EUROPE

EAC GUIDELINES 1





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ARCHES Archaeological Resources in Cultural Heritage a European Standard
EAC Europae Archaeologiae Consilium
Culture

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EAC Guidelines 1

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FOREWORD

from the President of the EAC

As archaeology has developed from object-based studies to more complex contextual and scientific analyses, a comprehensive archive has been developed, which comprises written records, drawings, photographs and digital data. Finds assemblages have also diversified, so that they now include, as well as the typical range of artefacts, environmental remains, waste products and a variety of samples taken for further analysis.

From the outset, archaeologists have taken responsibility for the preservation of finds but it was some time before they began to appreciate the importance of the records both as primary evidence and the only thing that will survive of a specific site. This archive is therefore critical to the preparation of the final report and subsequent publications but also constitutes a knowledge base which will be essential in any revisiting of the conclusions and interpretations in the light of new data collected by future archaeologists.

Going beyond the needs of scientific research, and with the increasing popularity of archaeology, this documentation is also of interest to other users, for example teachers and academics needing material for illustrations, and supports public dissemination through exhibitions, conferences and publication. It is also an essential source of information for those authorities responsible for the planning of modern development.

Many large archaeological units or research teams have evolved their own archiving systems, sometimes in a very sophisticated way, and some European states have published guidelines for the preparation of archives but no general principles and overall guidelines for use across Europe had previously been formalised.

In 2008, the Europae Archaeologiae Consilium (EAC) decided to examine the question of archiving archaeological documentation. The working group created by the EAC following that decision brought together several specialists from a number of member countries and secured the establishment of the ARCHES project supported by the Culture Programme 2007-2013 of the Education, Audiovisual and Culture Executive Agency of the European Union.

The authors of this document are fully aware that the structure of archaeological research and services in each country is the result of the history and the political and administrative organisation of that country and of its prevailing economic conditions. The "Standard and Guide" does not require a specific type of organisation but sets the high level principles which all archaeologists should bear in mind when starting an archaeological project or planning an overall organisation of their archaeological archives. It sets out best practice procedures applicable throughout the whole process of archiving, from the very beginning of an archaeological project to the transfer of the archive to a permanent repository. It also includes a checklist of all the issues which need to be considered and makes useful technical recommendations.

The expertise of the members of the working group and their personal involvement in this field, have enabled them to produce the following "Standard and Guide to Best Practice for Archaeological Archiving in Europe". This document represents the state of the art in the field and sets a standard for an ideal archaeological archiving system which the EAC is proud to support and disseminate. We encourage our members to work towards its adoption or integration in national guidance wherever appropriate.

The EAC Board wishes to thank all the many specialists who dedicated their time to the working group and participated in the ARCHES project to develop this Guide, the importance and usefulness of which cannot be doubted.

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Past members, contributors and colleagues of the EAC Archaeological Archives Working Party who have provided many hours of time and expertise to assist the ARCHES project reach its goal, especially:

Uggi Ævarsson, Kenneth Aitchison, Edward Bourke, Barbara Chevallier, Claire Driver, Catherine Hardman, Alena Knechtova, Dana Křivánková, Adrian Olivier, Rosy Phillipson, Jef Pinceel, Gabor Rezi-Kato, Bernard Randoin, Inge Roosens, Christian Runeby, Kristin Huld Sigurdardottir, Reka Viragos, Frederick van de Walle, Jorien de Wilde and Joanna Zieba.

1. INTRODUCTION

Archaeological narratives of past socio-economic and cultural developments can give meaning and context to the present day life of each human being. They position the individual in the continuum of human development and history and help in coming to grips with the temporary nature of human existence and the relative nature of culture.

Archaeological narratives are based on research activities. By its very nature, archaeological field research destroys its own evidence by removing objects from their context by excavation. This makes archaeology unique compared to other scientific disciplines. As observations in the field can never be repeated, the process of excavation must be carefully registered and documented.

The objects found during the research are stored in archives, usually, but not always accompanied by the documentation recording the original find circumstances. This documentation is often called the raw or the primary data, consisting of field drawings, maps, databases registering the finds, reports, photographs, results of laboratory analyses etc. These primary data, together with the physical finds, are the closest we can ever get to the lives of past generations and especially non literate ancient cultures. These data and objects are the primary source of archaeological information. They are essential archaeological heritage which needs protection in its entirety. Only when this heritage is preserved in the archive in its entirety will it be possible for future generations to use the evidence to create their own narratives.

Archaeologists study the remains and their find circumstances before they are moved to the final archive. The results of their researches are published in monographs and articles which are shared among colleagues, sold on the market and made available through various channels of dissemination. These results are “static”, created on the basis of the knowledge of their epoch. Future scientists will have more data and more information available and re-assessment and recombination of the information of earlier research is likely to occur. To make the archaeological evidence and results sustainable, it is of vital importance to ensure that archaeological archives are easily accessible, legible and comprehensible for future generations.

The storage and accessibility of publications in libraries is well organised and governed by international standards of

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annotation and disclosure. The storage of the finds in the archives, together with the descriptive documentation is less standardised. The actual procedures followed are often built on local practice, unregulated by national or international bodies. This hampers the accessibility and the reuse of the available resources for scientific, educational or managerial purposes.

Today a wide spectrum of users needs access to archaeological archives such as: archaeologists operating in excavation units both in the public and the private sector, non-archaeologists such as civil servants responsible for local land use policies, landscape architects who want to incorporate archaeological added value into their development plans, citizens with various purposes, solicitors contesting claims and more. Since archaeological documentation has become increasingly reliant on digital technologies, the archaeological archives are, alongside the libraries, becoming increasingly important as central repositories of our knowledge of the past.

The ARCHES project is aimed at making the archaeological archives throughout Europe sustainable by guiding them into easily accessible collections of finds and documentation by accepted standards of procedures, ready for reuse, now and in the future by all who have a genuine interest in the past.

1.1 THE AIM OF THE GUIDE

The aim of the Standard and Guide to Best Practice in Archaeological Archiving in Europe (hereafter called 'the Guide') is to make archaeological data, information and knowledge available, stable, consistent and accessible for present and future generations. Archaeological archives contain material objects (finds), records and data about our past which are irreplaceable and vulnerable to damage and loss. The Guide consists of a Standard accompanied by best practice Guidance for archaeological archiving, both of which will enable archaeologists to archive properly the material and documentary results of their work. It sets out how to care for and curate that archive both before and after it is placed in permanent storage.

1.2 SUSTAINABILITY

The aim of the Guide is to make archaeological archive practice throughout Europe consistent, in order to facilitate access to and the preservation of the archaeological record. This is achieved by producing standards and best practice for the creation, compilation, transfer and curation of archaeological archives that are sustainable and open to further development.

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An important effect of this initiative will be the management of sustainable archaeological archive repositories that promote the use of the resource they curate.

Once the Guide has been published the aim is to keep it relevant, up-to-date, and in use, thereby contributing to making the Archive repositories sustainable. This will be led and facilitated by the EAC Archaeological Archives Working Party.

The Guide will be:

Cross-domain

The EAC Archaeological Archives Working Party will make connections between archaeology and other relevant domains of cultural heritage like the built environment and cultural landscape, but also the domains of archiving science, digital collection, computer science and information management.

Participatory

It will be demand-driven by stakeholders and communities.

Standards-oriented

It will use and connect to existing international standards in archiving and description of collections on paper and in (advanced) digital environments.

The full sustainability policy produced by the ARCHES Partnership can be downloaded from the ARCHES website[1].

1.3 THE CONTENT OF THE GUIDE

The Guide comprises:

Standards for Archaeological Archiving

The Standard consists of a set of high level principles. It represents the standard for archaeological archiving that *must* be met by an archaeologist or organisation undertaking any form of archaeological work that results in an archive.

Guidance for Archaeological Archiving

The Guidance takes the principles of the Standard and expands them into fuller practical advice on how to archive the products of archaeological work. It is for use across European partner countries as a Guide for the practice of archaeological archiving and as such is designed to work alongside more

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1. The European Archaeological Archiving Standards and Guidance: WP7 - Ensuring the Sustainability. http://archaeologydataservice.ac.uk/arches

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detailed standards specific to international, national, regional or local requirements in archaeological practice, conservation and curatorial care. It is not meant to replace such standards already in existence. As a best practice exemplar it is hoped it will aid and advise the development of fuller local standards in archaeological archiving.

The Guidance is intended as a 'how to' manual which sets out best practice to be applied both to the process of archaeological archiving and to the care and curation of archaeological archives. It is recognised that whilst for some many of these practices may be the norm, for others they may be currently out of reach, therefore this guidance sets out exemplary practice that can be achieved over time. It is hoped that the Guidance will help in this process, by assisting in making the case for improved facilities or local procedures wherever this is necessary.

Checklist of archaeological archiving tasks and roles within an archaeological project.

The checklist is a chart which sets out the archiving tasks as the project progresses and the title of the person or persons who would normally undertake each task, such as project manager, finds specialist etc. These are written as generic tasks lifted from the Guidance section of the Guide and the names of personnel are simply an idealised example. In this format however, the chart can be used as a quick archiving checklist for those who are not familiar with the archiving process.

The Guide recognises that whilst the archaeological process remains basically the same across Europe, more detailed activities, tasks, personnel and responsibilities associated with archaeological archiving can differ from country to country and state to state. More detailed templates, therefore, will eventually be found on the ARCHES website, which tailor those procedures and personnel more specifically to current practice in national, regional or local administrative entities.

Although at the time of publication, the Guide templates have been formally adopted in only seven countries, it is hoped that as the use of the Guide becomes more widespread the EAC Working Party will contact other countries in order to add their own practices for inclusion in the Guide. Blank templates for this purpose can be found at http://archaeologydataservice.ac.uk/arches.

Bibliographies on archaeological archiving.

The final section consists of country, region or state specific bibliographies, which set out related standards and guidance in the practice or archaeology, conservation and curatorial care.

It is also hoped that other countries will provide bibliographical information for inclusion in the future.

1.4 HOW TO USE THE GUIDE

The Guide is aimed at *everyone* involved in any archaeological activity that produces an archive and all those involved in the care and curation of those archives, whether that archive consists of two of sheets of paper detailing an archaeological observation or comprises a wealth of both documentary records and material evidence.

It is accepted that there will always be differing practices and approaches to archaeology within various European countries. For example, in many states or countries the material archive is separated for long term storage from the project documentation, whereas in others they are seen as an integral whole and are always kept together. It is right and just that differing practices exist, and this publication does not seek to challenge or change national, regional, local or other systems which work and which preserve the archive in a good condition for posterity. Rather the Guide sets out best practice principles, actions and tasks for archaeological archiving which can overlay and work alongside more detailed archaeological standards and practices that exist elsewhere.

Here, the term 'archaeologist' applies to all those involved in the archaeological process, such as field and finds workers, illustrators, photographers, conservator-restorers, surveyors and curators. The Guide applies equally to students and amateur archaeologists as it does to those undertaking archaeology in a professional capacity. The Guide is also intended for use by those involved in monitoring and commissioning archaeological activities.

Throughout the Guide reference is made to the practices and standards of various administrative entities that may include nations, states, regions, cantons, shires, cities or towns. It is not desirable to list all of those variants every time such distinctions are made. The phrase national, regional or local is therefore applied throughout to signify geographically defined administrative entities of all types.

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The Guide is comprised of three main sections accompanied by a bibliography and a glossary of terms.

- The Standard sets out standards which must be met by everyone involved in the archaeological archiving process. It is intended as a suite of standards for adoption by all academic, government, practising, commissioning, professional and monitoring bodies in the field of archaeology.
- The Guidance is meant to lead any archaeologist, in whatever capacity, through their responsibilities towards the archive from the very start of the archaeological process to the end result of long term curation in a repository. It follows a logical and chronological line through any archaeological activity, via the broad stages each piece of archaeological work normally follows. It sets out the practices which should be followed during these stages in order to produce a stable, ordered, internally consistent and accessible archaeological archive.
- The Archiving Checklist sets out what archiving tasks the personnel involved in an archaeological project should be doing at each stage of a project. Anyone playing a part in an archaeological project, whether this involves working in the field, laboratory or office, or in any specialist capacity, should be able to look at the templates (country and state specific ones will eventually be downloadable online)[2] and see when and how they need to follow the archive process at any point in an archaeological project.

1.5 BACKGROUND TO THE ARCHES PROJECT AND THE PRODUCTION OF THE GUIDE

This publication has been produced under the auspices of the Europae Archaeologiae Consilium (EAC)[3] and is the product of work undertaken by seven representative partners, taken from six countries in the European Union and Iceland as well Switzerland as an associated partner. It has been made possible by a grant from the Culture Programme[4].

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2. http://archaeologydataservice.ac.uk/arches
3. http://www.european-archaeological-council.org/
4. Culture Programme 2007-2013, Strand 1.2.1: cooperation measures, Agreement Number - 2012- 1399/ 001- 001

13. © Brussels Regional Public Service, Direction of Monuments and Sites
14. © Minjastofnun Íslands, Islands kulturarvsstyrelse

In Metz 2008 the EAC held a symposium on archaeological archiving, which revealed that many member countries shared common problems. The most pressing issues were identified as: variations in archaeological recording practice and the creation of consistent records as a resource; setting and sustaining digital archive standards; maintaining good curatorial practice to ensure the continuing preservation, security, circulation and accessibility of archaeological information and materials in accordance with the Valetta Convention, 1992[5]. It was unanimously agreed that a European guide to best practice and a universal standard for archaeological archives should be developed.

An EAC working party on archaeological archives was formed in 2008, and on being awarded the Culture 2007-2013 grant in early 2012 work began on the ARCHES project. This has culminated in the publication of the Guide. The Guide is based on existing standards and guidance, which have been updated and enhanced by the results of consultations and workshops in the partner countries during 2013.

Further information and downloadable copies of country specific translations of the Guide and associated documentation can be found on the ARCHES website: http://archaeologydataservice.ac.uk/arches. A link to the website can also be found on the ARCHES page of the EAC website http://www.european-archaeological-council.org/13-0-Archives.html

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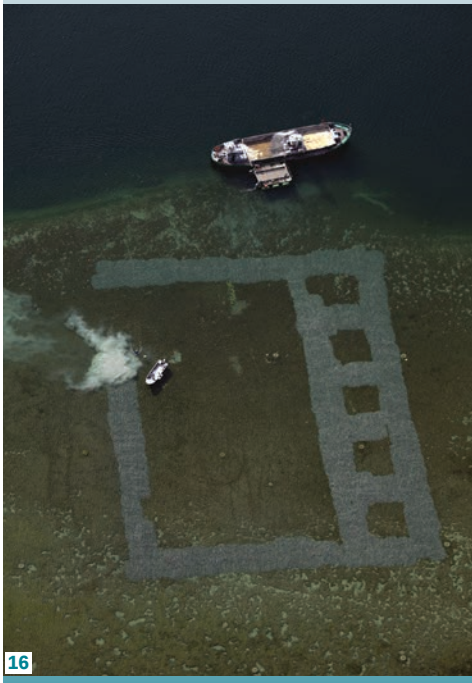

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5. European Convention on the Protection of the Archaeological Heritage (Revised) Valetta, 16.I.1992 http://conventions.coe.int/Treaty/en/Treaties/Html/143.htm

15. © English Heritage

16. © Landesamt für Denkmalpflege Baden-Württemberg, O. Braasch

2. THE ARCHAEOLOGICAL PROJECT

2.1 WHAT IS AN ARCHAEOLOGICAL PROJECT?

Throughout the Guide the term 'archaeological project' or 'project' will be used to describe any piece of archaeological activity that results in an archive.

A project is understood generally to be a temporary piece of work undertaken to meet stated goals and objectives which will operate to a timetable and an end date, deliver a product, and have defined scope and resources. It will usually have a project manager and be undertaken by one or more persons brought together for that particular activity. The term project therefore, is used in the Guide as it fits the practice of archaeology, where it is aimed at completing defined pieces of targeted work.

For the definition of an archaeological project see the Standard 4.1.

2.2 THE STAGES OF AN ARCHAEOLOGICAL PROJECT

The main stages of an archaeological project will be used to describe the archiving process throughout this Guide. They are defined as:

Planning

The start up or initiation stage, a time when: documents such as project outlines and/or designs, tenders, work specifications and methodologies, will be written; research aims and objectives identified; project scope, stages, products and tasks described; a project team identified, specialists consulted and resources allocated; temporary care and long term curation procedures and repositories identified; project review schedules agreed and communication, disaster management and health and safety plans devised. This is the stage where archive creation and compilation begins.

Data Gathering

In archaeology this stage is often applied to fieldwork but for the purposes of the Guide, data gathering means the execution stage of a project, when archaeological data and/or materials (finds) are collected. Whether the archaeologist is undertaking original research in the field, the office, laboratories or stores, this is the stage where factual data is recorded with minimal interpretation.

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Analysis, Reporting and Archive Transfer

This stage is commonly called post-excavation, however not all archaeological projects will involve excavation, as for example in building recording, survey or finds analysis and this stage has been renamed to reflect modern archaeological practice. Analysis involves fuller, targeted recording and interpretation, whether that is of the field records, a finds assemblage or the results of a geophysical survey. The resulting records, such as data and images, will be included in the archive.

This stage will normally end with a final report. Different types of analysis may result in the creation of several reports, some of which will be included in the final project report. The acceptance of those reports into the project archive is an important element of creating an accessible resource.

Once analysis and reporting have been completed, it is expected that the project will no longer generate new records, materials (finds) or samples and the project archive will be compiled and prepared for transfer to a repository for long term curation.

Care and Curation

Curation is the process of ensuring that archive materials remain stable, secure and accessible in the long term. It is an ongoing process that ensures the integrity of an archaeological archive after the project has been completed but the care of all archive components is a process that should start at the beginning of a project, from the point any documentation is created or material objects (finds) are collected. Any archaeological materials or documentation created or collected from the planning stage onwards will require temporary care until transfer to a repository for long term curation. Care of the components selected for archiving is an activity which forms a thread running throughout an archaeological project and will involve both temporary care and long term curation of the documentary and material (finds) archive.

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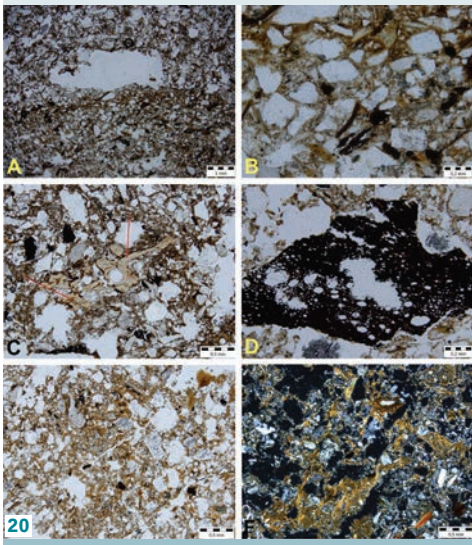

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3. THE ROLE OF ARCHIVING WITHIN AN ARCHAEOLOGICAL PROJECT

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3.1 WHAT IS AN ARCHAEOLOGICAL ARCHIVE?

Throughout the Guide the term 'archaeological archive' or 'archive' will be used to describe *any* documents or materials (finds) produced during an archaeological project and selected for archiving. For the definition of an archaeological archive see the Standard 4.1.

It is accepted that archives from archaeological projects do not strictly fit with the common understanding of the term 'archive', as in most cases an archeological archive mixes together documentary archives and material collections, if not always in the same place, then always by association (in cases where the material archive is stored separately from the documentary archive but is fully cross referenced). However, whilst it is not a perfect term and from country to country the terminology or practice may differ, it is still the best and most widely accepted term for the present purpose.

3.2 WHAT IS ARCHAEOLOGICAL ARCHIVING, WHEN DOES IT HAPPEN?

Archaeological archiving is a dynamic process, which begins the moment a project is planned. Archaeological documentation and materials (finds) which add information to the sum of human knowledge of the past will be selected for archiving as the project progresses and should be managed following the Standard and Guidance presented in this document and also, where applicable, in more detailed international, national, regional or local standards. Archive creation and management are not things that only happen at the end of a project, when transfer to a repository is imminent; it is a process that maintains and protects all archaeological archive components from the outset.

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4. STANDARD FOR ARCHAEOLOGICAL ARCHIVING

4.1 DEFINITIONS

An archaeological archive comprises all records and objects recovered during an archaeological project and identified for long term preservation, including artefacts, ecofacts and other environmental remains, waste products, scientific samples and also written and visual documentation in paper, film and digital form.

An archaeological project is any programme of work that involves the collection and/or production of information about an archaeological site, assemblage or object in any environment, including in the field, under water, at a desk or in a laboratory. Examples of an archaeological project include: intrusive projects such as excavation, field evaluation, watching brief, surface recovery and the destructive analysis of objects; non-intrusive projects such as landscape or building survey, aerial survey, remote sensing, off-site research such as desk-based assessment and the recording of objects or object assemblages. The re-investigation of archives in curatorial care also constitutes an archaeological project.

4.2 COMPOSITION

An archaeological archive consists of two main elements:

- The documentary archive comprises records and associated documentation created during the course of an archaeological project.
- The material (finds) archive comprises objects and associated samples.

Documentary Archive

The documentary archive can be comprised of:

- Drawn, photographic, written and printed material on paper.
- Drawn material on film.
- Photographs on film, transparencies, x-radiographs, videotape and microfilm.
- Digital files on hard drives or transfer media.

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The documentary archive may include:

Analytical results, CAD files, catalogues, correspondence, contracts, databases, digital aerial photograph interpretations, elevations, excavation archives, geophysical and other survey data, GIS files, images, indexes, maps, notes, notebooks, object images, plans, pro-forma, records, reports, satellite imagery, spreadsheets, section drawings, site photographs, specifications, text files, 3-D data.

Material (Finds) Archive

The material (finds) archive may include:

- Artefacts, such as pottery, tile, worked stone, glass, metalwork, worked bone, leather objects and textile.
- Ecofacts or environmental remains, such as animal bone and plant remains.
- Waste products, such as slag, hammerscale and off-cuts.
- Material recovered from scientific sampling, which is often the product of laboratory analysis, such as environmental samples, thin-sections, microfossil slides, casts.
- Human remains, which may require specific treatment in accordance with relevant national, regional or local standards and legislation.

4.3 PRINCIPLES

1. All archaeological projects must result in a stable, ordered, accessible archive.
2. It must be recognised that all the processes of an archaeological project affect the quality of the resulting archive.
3. Standards and procedures for the creation, selection, management, compilation and transfer of the archive must be agreed and documented in the design of every archaeological project and understood by all project personnel.
4. Ensuring the security and stability of the archive is a continuous process and a universal responsibility.
5. The entire archive must be compiled in a way that preserves relationships between each element and facilitates access to all parts in the future.
6. An archaeological project is not completed until the archive has been transferred to a recognised repository and is fully accessible for consultation.

4.4 RESPONSIBILITY

The manager of an archaeological project has responsibility for ensuring that the archive is created and compiled to the standards described in this document.

Every person involved in an archaeological project has a duty of care towards the archive and must make sure that it is created and compiled to recognised standards, using consistent methods, and it is not at unnecessary risk of damage or loss.

Once the archive has been transferred it is the responsibility of the receiving repository to ensure that the archive is stored to recognised standards for long-term preservation, documented according to accepted internal procedures and made accessible for consultation.

4.5 STANDARDS FOR ARCHAEOLOGICAL ARCHIVES

These standards are intended to apply to all parts of the archive and all stages of the archaeological process, from planning to curation of the end product.

General standards

1. All archive items must at all times be treated carefully and handled, packed and stored in conditions that minimise the risks of damage, deterioration, loss or theft.
2. All archive items must be marked or labelled with a unique identifier related to the archaeological project and/or the repository.
3. The archive must be organised in such a way as to preserve the contextual relationship between the documentary and the material (finds) archive elements.
4. Selection criteria and procedures must be fully documented and included in the project archive.
5. Long-term storage must be conducive to preservation, security and accessibility.

Specific standards

The documentary archive

6. All types of record must be indexed and created according to consistent, accepted standards in content, format and file naming and use recognised terminology.
7. Recognised stable materials or media must be used when creating analogue written or visual records.
8. All original records, including those born digital, must be considered for inclusion in the archive.

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Paper

9. Each type of written document must be ordered together prior to transfer to the repository; e.g. all drawing indexes must be packed together in sheet number order.

Visual records

10. All drawings and photographs must identify the subject and where appropriate include a scale and a north sign, or other means of location/orientation.
11. Media suitable for long term storage in its original form must be used for unrepeatable photographs, e.g. those taken on site during an excavation.

Digital

12. A digital back up strategy must be in place at the outset of a project and implemented throughout the project lifecycle.
13. Creation of the digital archive must be fully documented, with information such as software used, operating systems, types of hardware, dates, creators, field descriptions, and the meanings of any codes.
14. Transfer and short-term storage media are not suitable for the long-term preservation of the digital archive and should only be used to submit digital material for permanent archiving.
15. All digital files and transfer media must be free of viruses before submission to the repository.
16. A digital archive index must be compiled and deposited in digital form with the digital archive.
17. Long-term storage must be on permanent servers that are regularly backed up and all software and hardware must be refreshed and the archived data migrated as necessary. Hardware and software refreshment and data migration must be fully documented.
18. The digital archive must be deposited in a Trusted Digital Repository where it can be preserved and maintained for the long-term future and made accessible.

The material (finds) archive

19. All finds must be cleaned and/or conserved as appropriate, according to recognised standards and using consistent methods, to ensure their long-term survival.
20. All finds must be marked or labelled, as appropriate, with project and context identifiers and, where relevant, the individual object identifier.

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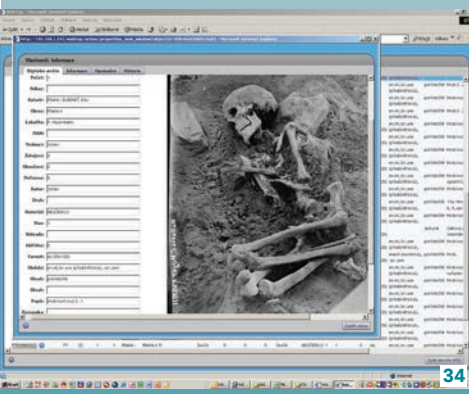

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5. GUIDANCE FOR ARCHAEOLOGICAL ARCHIVING

This section details best practice procedures for archaeological archiving throughout all the stages of an archaeological project. The workflow which follows should be recognisable to all those involved in archaeology but the actions and tasks which are described are specific to the creation, compilation, transfer and curation of a stable, consistent, accessible and sustainable archive.

The actions which apply to archiving in each project stage are explained first then the tasks which apply to these principles are set out as bulleted points.

5.1 PLANNING

During this stage, project documentation will be produced which will set out the aims and objectives of the project, and the personnel, strategies, timetable, tasks and resources necessary for the work to take place.

This is the stage at which the archiving requirements of the project should be determined, as follows.

5.1.1 The structure and character of the future archive

The structure and character of the future archive should be agreed on and understood by all concerned, including the expected final content of the archive and how it will be managed (the Standard 4.3.)

- Standards should be set for project records (e.g. context records, object records, site plans) including their creation in both digital and analogue formats; what media will be used and procedures followed to ensure a consistent record, including digital file formats, file naming and classification schemes, metadata protocols and storage media. Where they exist, standards or conventions set in international, national, regional, local or specialist guidelines should be followed.
- The anticipated material (finds) assemblage and the archiving procedures to be followed during identification, recording, and management should be defined. This should detail the manuals to be used and any packaging, temporary storage, curation or movement requirements.
- Wherever they exist, international, national, regional, local and/or repository standards for archaeological archives and collections management should be followed.

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5.1.2 Selection for archive

A selection strategy should be agreed at the project planning stage. This should set out the criteria for selecting records, documents, data files and materials (finds) for inclusion in the project archive. It should also set out how things that have not been selected for archive will be dispersed or discarded. This strategy should be devised in accordance with the project research aims or management questions (the Standard 4.5). Account should be taken of any national, regional or local research frameworks and also of the collecting policies of the recipient repository.

- All components of the documentary record and the material assemblage should be subject to selection for retention in the archive at any time during the project lifecycle. Documents should be subject to version control and a clear digital management policy should be in place which enables the deletion of duplicate or superfluous digital files.
- A selection strategy should be drawn up with input from all the relevant members of the project team, including specialists and the curator of the repository or repositories into which the final archive will be received.

5.1.3 The security of the archive and disaster management planning

It is vital that security or disaster management plans are devised and implemented that safeguard the archive, and also potential archive components, from damage and loss (the Standard 5.1, 5.3). Such plans, which could be a part of the disaster management plan for the project itself, should be included in the planning documentation.

- Ensure the disaster management strategy includes the means of safeguarding the information that is contained in the archive, including the implementation of security copying or back up systems for both analogue and digital data. It should detail the standards which will be adhered to in order that the documentary and material archive will be created, collected and stored to ensure against damage, cross contamination, loss or theft.
- Ensure the disaster management strategy covers the security of the archive whilst on site/in the field, during transportation or movement of material objects (finds) and information, during analysis in the office or laboratory and in store during temporary care. Disaster plans should also be in place at archive repositories.


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5.1.4 Tasks and resources

At the planning stage the tasks and resources required for the project will be identified and allocated and it is important that the needs of the archiving process are included in these plans (the Standard 4.4).

- During the creation of the project plan, archiving activities and tasks should be programmed and timetabled. Important archiving milestones, for example obtaining landowner agreements, copyright and transfer of title agreements, or fulfilling deposition conditions, should be programmed in, and any scheduling issues which may affect these milestones should be noted.
- Qualified and experienced specialists, including conservator-restorers, should be consulted to ensure sufficient resource is identified and allocated to make the project archive ordered, internally consistent, accessible, stable, secure and properly cared for from the beginning of the project until the archive is safely deposited in an approved repository.

5.1.5 Identification and involvement of the repository

Unless national, regional or local laws or regulations dictate where the archive must go, the recipient repository, or repositories, should be identified and involved at the project outset so that the future of the final archive can be guaranteed, and the archive compiled in accordance with the repository's specifications. It is important to ensure that any national, regional or local legal regulations which apply to the project archive are followed and are described in the project planning documentation.

- Ensure that both the analogue documentary archive and the material (finds) archive are transferred to a repository, or repositories, approved in accordance with national, regional or local accreditation schemes (the Standard 4.3.6) and that the digital archive is deposited with a Trusted Digital Repository (the Standard 4.5.18). Any repository must provide nationally, regionally or locally recognised standards of curatorial care and good access to the archive for all future users.
- Ensure that the repository curators participate in the project planning process from the outset.


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5.1.6 Transfer of title and copyright

The rights of title to the archive and issues over copyright are complex and it is not possible in the Guide to go into any specific detail, as this would involve discussing varying national laws and procedures for several European countries. However, general principles do hold.

- Copyright and transfer of title, where appropriate, should be clarified and agreed during the project planning stage. If there are any copyright or transfer of title issues affecting the project archive, then it is important to ensure that these are resolved in accordance with national, regional or local legislation.

5.2 DATA GATHERING

During this stage of the project, planning is put into effect and archaeological data and materials are collected, either in the field or elsewhere.

5.2.1 Ensuring access to the archaeological archive

Project staff and researchers will need to access the archive contents both during and after the lifetime of the project. It is therefore important to document, organise and index the documentary and material (finds) archive in order to keep it comprehendible and accessible (the Standard 4.3). The following practices should be employed throughout the lifecycle of the project, with the resulting documentation also becoming part of the archive.

- It should be easy to find a way through all parts of the archive. The archive should be fully indexed, beginning with an overall catalogue of contents, which leads on to deeper levels of individual indices for other elements such as context records, finds lists and drawings.
- A project summary should be created that will introduce researchers to the aims and objectives, scope, location, content and results of the project. It should include links to any previous work undertaken on the project/site. The summary should be kept updated and complete until the project is finalised and the archive transferred to a repository.
- Project documentation should make clear how and why the archaeological records and materials (finds) were

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created, collected, selected and analysed. This could include information such as recording methodologies or sampling strategies. This is an essential tool for both the data creator and the researcher. It facilitates data management[6] during the lifecycle of a project and also acts as an aid to understanding and interrogating the archive once the project is complete[7].

- The application of metadata is essential for accessing the digital archive. Metadata provides summary information about a digital file or dataset to enable the user easily to access and use the information, or decide whether it will be useful or not.
- In the case of digital data, it is important to follow international metadata standards[8] to ensure that information can be clearly understood and easily re-used by both people and computers. Choosing the metadata standard best suited for the information can sometimes be difficult. A project should work closely with a Trusted Digital Repository when determining how the digital archive must be described and which metadata standards to choose.
- Metadata can be applied on three levels:
  Project: this should describe the general context, geographical situation and time span of the project and the files that belong to the project.
  Content: this level includes all glossaries, vocabularies and variables that have been used when recording data with a concordance of what the terms mean.
  File: this should describe the specific content of the file.

5.2.2 Validity and comprehensibility of information

It is essential to ensure that all the elements of an archive form a seamless whole facilitating movement between each part of the archive[9] (the Standard 4.3). This is a duty not only for the project manager but for the project team as a whole:


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6. For best practice advice on digital data management in archaeology see http://Guides.archaeologydataservice.ac.uk/
7. Examples of project documentation include: project designs, written schemes of investigation etc and their revisions, recording systems and techniques, selection and sampling strategies, manuals used, classification systems in use such as numbering systems or identifiers and translations of codes or abbreviations.
8. Dublin Core Metadata Initiative: http://dublincore.org/ see especially http://dublin-core.org/documents/dces/ for the basic element set.
CIDOC Conceptual Reference Model, www.cidoc-crm.org
The Inspire Directive, http://inspire.jrc.ec.europa.eu
9. For example, it must be possible to make connections between context records, finds records and photographs and one should also be able to trace individual finds back to the context, layer, trench and location. It should also be possible to research parallels in the wider archaeological record.

- The relationships between the project and the wider archaeological record should be clear. References and links to such things as research frameworks, associated publications and reports, and similar or related projects, will make it possible to interrogate the project archive within international, national, regional and local contexts.
- The relationship between the archive and its origin should be clear, whether that origin is a site or a finds assemblage; and it should be possible to link all parts of the project archive back to their exact point of origin[10].
- The relationships within the project archive should be clear. All data and images should be referenced to associated materials objects or documentation, and vice versa[11].
- Wherever standardised and accepted terminology controls exist, such as glossaries or thesauri, they should be used and cited in the project metadata. If they do not exist then at the very least it should be ensured that terminologies are consistently used throughout the project record and that the relevant glossaries are included in the archive. Digital information retrieval and manipulation is reliant on searching and filtering within the data[12].

5.2.3 The creation of a stable archive

Archiving is a process that aims to preserve information and material for posterity. The physical products of an archaeological project are unique and irreplaceable; therefore the project team should ensure that adequate care is taken of it from the project outset. Procedures and practices should be followed which promote the lifespan of the archive (the Standard 4.3):

- During data-gathering, especially in the field, common sense measures for keeping the archive, clean, dry, appropriately managed, packaged and stored should be applied.
- Objects requiring conservation should be stored in a way that maintains the conditions in which they were found, for example wet organic objects should not be allowed to dry out. They should also be brought to a qualified, experienced conservator-restorer as soon as possible after recovery.
- During the analysis stage, archives are usually held in normal office conditions or in temporary storage facilities

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10. For example, site plans and sections should be geo-referenced; finds should be marked or labelled with both a site identifier and an appropriate context or individual identifier.
11. For example the drawings should be linked to the context record, photographs to the site plans, and object records link accurately back to the correct objects.
12. For example if the term 'posthole' is used in one place and 'post-hole' in others, effective and efficient searching and filtering becomes impossible.

until final deposition in an approved repository. It is essential that facilities and office practice should not endanger the safety and lifespan of the archive[13].

- One of the prerequisites is that digital files must be readable in the future. To make these files sustainable and readable they should be transferred as soon as possible from portable carriers such as local hard disks, CDs, memory cards and data sticks to servers that are under permanently controlled, well managed, safe conditions.
- Standards for care and curation of the archive (see 5.4) should be employed until the archive is transferred to a recognised or trusted repository.

It is the responsibility of all to use methods and materials in the creation of the archive which will aid its durability. Since most individual countries and states have their own specifications on drawing media, storage boxes, etc. it is not possible to specify exact materials in the Guide. Country, regional or state specific bibliographies should be referred to in this instance[14]. However, whether in the field or elsewhere general principles apply:

- Appropriate materials should be used as carriers of information and as packing and containers for the archive[15].
- Appropriate materials and procedures should be used to provide the information and labels on the documents and finds[16].
- Appropriate treatment should be given to all finds before they become part of the archive[17].

5.2.4 Disaster management

During data gathering it is essential, whether in the field or elsewhere, to develop and maintain a strategy for securing the archive against damage and loss. Archaeological archives

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13. For example by not smoking, drinking or eating over site plans, leaving photographs in strong sunlight, or by storing archives in damp cellars, near water sources or where rodents, insects or other pests may be present.
14. http://archaeologydataservice.ac.uk/arches
15. For example, paperwork not in active use should be stored in acid free boxes, analogue photos stored in polyester hangers or acid free inert sleeves, and sensitive finds stored with the appropriate humidity and temperature controls. Good quality drafting film, paper, inks etc should be used which will be durable over time.
16. For example, if drawing on drafting film, the pencils used should not be so soft that the drawing rubs off during handling or storage. All handwriting, whether on paper records, drawings or labels should be clear, durable, legible, securely attached and written in a format specified by project data management strategy.
17. For example, finds should be clean and dry (unless otherwise recommended) before storage and packed in appropriate packaging material. Any sensitive or fragile material should be treated by a conservator-restorer as soon as possible.

are unique and irreplaceable. Whilst any disaster may seem a remote possibility, accidents can and do happen and there can be hazards in all environments.

A good disaster management plan identifies the areas of risk and puts in place a contingency plan in the event of any of those areas of risk developing into something real. The security of the archive should be an important part of this plan.

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The following factors should be taken into account. Is the location in an area susceptible to flood or theft? Are buildings damp, do they leak, are they secure, and are any archive holdings a fire risk? Are all storage areas safe, is the shelving secure, has the electrical wiring been tested? Such a plan includes setting up a disaster reaction team and notification system, an IT security plan, systems for salvage, clearance and cleaning, requirements for equipment, fire prevention systems and telephone numbers for emergency services[18].

- It is important that a project disaster management plan is in place during this stage and that all project staff are aware of its contents and understand their role in its implementation. Conditions will differ according to location whether one is on site, in temporary accommodation or in the office/laboratory/finds/archive store, but developing a disaster management plan is no less valid.
- Information on digital carrier media is vulnerable to corruption or loss. It is of primary importance that a system of security copying and regular back ups is maintained and that the security/back up copy is held in an alternative location wherever possible[19].

5.2.5 Selection and retention

During this stage a clear strategy for what documentary and material (finds) archive elements are to be selected for retention should be both understood and implemented by the project team and it's use monitored by the project manager. The selection and retention strategy should be flexible and open to amendment; for example the discovery of unexpected finds or stratigraphy may affect the decision about what was previously identified for dispersal.

18. For fuller advice see 'Disaster Management Planning for Archaeological Archives, IFA Paper no 8, Kenneth Aitchison, 2004, IFA and AAF' http://www.archaeologists.net/publications/papers
19. See ADS.

5.3 ANALYSIS, REPORTING AND ARCHIVE TRANSFER

During this stage the principles outlined in section 5.2 Data Gathering still apply, but there are some extra considerations.

5.3.1 Maintaining the integrity of the original data when creating new information

Documentation created during the data gathering stage should not be altered as it contains scientific facts or results with minimum added interpretation and holds information that cannot easily be obtained again. Once the project enters the analysis stage more layers of an analytical and interpretative character begin to be added to this data.

- If original written records are to be amended or enhanced, use inks or pencils of a different colour. This enables future researchers to understand the thought processes and sequences of interpretation that apply to the analysis of those records.
- Digital datasets created during data gathering should be 'frozen' and secured and any subsequent work should be carried out on copies of this data. This procedure maintains the integrity of the original data and provides a back up should subsequent versions become corrupted or unusable.
- Practice version control in the creation of new digital files that contain data from existing files; name files with different version numbers to show the order in which they were created and amended or updated.

5.3.2 The care and treatment of materials during analysis

During analysis both documents and materials (finds) are normally dispersed to various specialists for investigation and conservation procedures.

- It is important that all internal and external specialists are made aware of and are obliged to follow, the project data management and archiving strategy as developed in the planning stage and outlined in the previous section, including for example, file naming, terminology and glossary controls, indexing and ordering systems and version control management.
- The integrity of the archive should be maintained as information and material gets re-ordered or moved around. If any material archive is re-ordered, repacked or re-boxed during these analyses or treatment then this must


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be fully documented and this information included in or returned with the archive.

- If destructive methods of analysis, such as thin sectioning or carbon dating, are employed then a record of this procedure, its result and its effects on any remaining material must be recorded in the archive.
- The security of the archive must be maintained, and any dispersal of material objects (finds) and/or records to and from external specialists should be recorded in the archive management documentation, and the chosen method of transportation should be sufficiently secure.

5.3.3 Special treatment of human remains

- In some cultures human remains have significant meaning or an ethical or religious importance. Where applicable the national, regional or local law or guidelines regarding their treatment should always be followed.

5.3.4 Implementing and refining selection strategies

The original selection and retention strategy should remain in force, but should be kept under regular review. This is especially useful at the stage where finds assemblages are evaluated for their potential for analysis and again during analysis when a secondary selection process may be undertaken after re-identification procedures.

- It is important that the selection and retention strategy is reviewed against the project research or management objectives as the project progresses and that any changes to the selection and retention strategy are recorded and agreed by all concerned, including the recipient repository.
- Any finds discarded as a result of this process should be documented as having been discarded and when and why this happened. If any finds have been reburied, then their reburial location should be recorded.
- Selection and discard should not lead to any substantial loss of information which detracts from the project research or management objectives.

5.3.5 Data management

During the analysis stage, it is likely that more than one person will be working on the project data and creating new files in the project records.

- Everyone involved in this process should be conversant with the file naming and structure protocols that were defined at the planning stage, in order that all the project information is easily maintained and able to be accessed.

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- During the analysis stage it is important to employ version control methods to keep track of edits and different versions of the project documentation. This will also provide an audit trail of revisions and updates, up to and including the final versions.

5.3.6 Preparation for the transfer of the archive to a recognised or trusted repository

The curator of the recipient repository/repositories should be involved in the project from the planning stage and the project should follow the repository's requirements for deposition guidance from the outset in order that preparation for transfer will be easy (the Standard 4.3). The following should be standard for any submission:

- The project archive should be accompanied by a project summary and overall contents list.
- All parts of the archive should be fully indexed and ordered, and the archive should contain a master index to its component parts.
- All parts of the project documentary and material archive should carry the project ID and classification information (object, photo, context number etc).
- Project documentation, such as recording systems and techniques, selection and sampling strategies, project designs, recording manuals etc should accompany the archive.
- All digital files should be ordered in a clear directory structure and employ folder and file naming conventions which aid retrieval of information. The metadata and metadata policy for the digital archive should accompany the archive.
- The digital archive should be virus free on transfer and a copy should be retained until successful transfer is assured.
- The material and documentary archive should be packaged in materials and boxes suitable for long term preservation in storage in accordance with national, regional, local or repository standards and in sizes as specified by the repository.
- Where appropriate, material objects (finds) should be cleaned before being put into storage. Any cleaning should have been undertaken by or after consultation with a conservator-restorer and in accordance with any national, regional, local or specialist guidelines.

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- Prior to long term storage any wet or damp objects (finds) should have received the appropriate conservation treatment. Wet or damp objects should have been dried out in a controlled way, with the exception of metal from wet contexts. Artefacts which have dried out must not be re-hydrated.
- Finds selected for x-radiography, either for identification purposes or during the conservation process, should be x-rayed prior to long term storage and the associated x-ray records (which should be stored with the digital/photographic/paper archive as appropriate) should be fully cross referenced to the objects.
- The material (finds) archive should be ordered according to its material type, packing and storage requirements. Different types of objects, such as pottery and animal bone, should be kept separate.

5.4 CARE AND CURATION OF THE ARCHIVE

Although this section appears after those on planning, data gathering and analysis and report writing, it should be made clear that care of the archive components should actually begin to take place as soon as any data is created or material collected and continue on throughout the project; it is not something which should only take place once the archive has been deposited at the end.

The project team should ensure that all elements of the archive are maintained to the best standards possible throughout the lifecycle of the project (see the Standard 4.3).

Therefore this section should be read as applying to every stage of a project up to and including permanent storage of the archive. As such it has been necessary to target the advice to different situations identified for the purpose of the Guide as:

Active use: applies to when the project team members including conservator-restorers and specialists are actively working on project data and archaeological materials.

No longer in active use: applies to when some or all parts of the project have been completed and the use of some or all items from the documentary and/or material archive is finished, but the project archive has not been deposited into a repository for long term curation.

Temporary storage: applies to the storage of documentary and material archive components after the archive has been

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compiled for transfer, and project work is thus completed, but before it has been deposited with a repository for long term curation.

Long term curation: applies to the long term care and management of an archaeological collection in a repository.

5.4.1 Care of documentary and material archive components in active use

- During data gathering, analysis and report writing, archive components in active use must be maintained in the best conditions possible, and every effort must be made to ensure that the risks of damage, deterioration, fading, damp, theft and loss are minimised.
- Whilst in general use by project teams and specialists, all documentary and material archive should be handled with due care and attention. Wherever possible both material and documentary archives should be protected in the appropriate storage boxes, sleeves or cabinets. Digital data should be subject to internationally, nationally, regionally or locally recognised information technology management procedures.
- Appropriate storage conditions for all elements of the documentary and material (finds) archive must be maintained throughout the phase of active use. It is important, for instance, to recognise that conserved and un-conserved objects may require different environments.

5.4.2 Care of documentary and material archive components no longer in active use

Once digital data are no longer in active use a system of regular back ups along with good data management housekeeping may no longer be enough to protect the data, especially in cases where transfer to a digital repository can take a number of years. Technological change can be rapid and the physical media on which data are stored are not permanent. What went into storage may quickly become obsolete and unreadable. Therefore the Guide recommends the preservation of digital data by migration: i.e. continually migrating information from older hardware and software to newer systems. Some archaeological practices may not have the resources to act as a de facto digital preservation repository, however there are a few simple steps which can be taken to ensure the maintenance of the digital archive once the data is finalised and out of active use:

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- Once documents and images created on analogue media are complete they should be moved as soon as possible from active office use into archive storage until eventual deposition.
- The Guidance provided in sections 5.4.3 – 5.4.5 should be followed as far as is practically possible for all documentary and material archive in temporary storage prior to deposition.
- Once work on individual digital files has ceased they should be moved to the project archive and that should be recorded.
- Digital files should be fully indexed within the project archive and certified as virus free before storage.
- Once in the project archive all digital files should be actively managed as set out in 5.4.4 below, in order to prevent obsolescence.

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5.4.3 Accommodation for archives in temporary storage

It is highly desirable that the temporary storage time prior to final deposition is kept as short as possible. However it has to be accepted that in some cases, especially where projects are large or long running, temporary accommodation of the archive can last many years whilst analysis and report writing are undertaken. Wherever possible, temporary storage conditions should adhere to the national, regional or local rules for permanent storage of archaeological collections.

- Ensure that any stores housing the documentary or material archive are not at risk of destruction or damage by vibration, contamination or breakage through natural or man-made causes such as fire, floods or tidal waves, earthquakes or landslides, explosions or pollution, either on-site or in the vicinity. Avoid and protect against rodents, insects and other pests.
- Ensure that supply systems for electricity, gas, and especially for water are kept well away from storage areas, and that the building has a fire detection system.
- Minimise the amount of movement of stored objects and store archive materials in the dark.
- Ensure that stores are kept at the temperature and relative humidity appropriate for the objects according to national, regional or local recommendations. It is generally accepted that there is an increasing risk of microbiological activity above 60% relative humidity, and increased brittleness at a very low relative humidity. However across Europe with its variety of climatic zones, different limits have been recommended and there is no general agreement, either upon temperature or humidity, but it is established that

most archive categories last longer at lower temperatures and at lower relative humidity. Reference should be made to national, regional or local standards and bibliographical information for these can be found on the ARCHES website[20].

5.4.4 Long term curation of the documentary archive

(the Standard 4.2)

Digital data

- All files should be provided with data documentation. Data documentation enables clear access to the data and helps prevent loss of information during the process of data refreshment and migration, as the character of the data is well understood. All files should be provided with sufficient metadata to ensure that the data in the file can be easily accessed and understood. This will enable digital data to be useful to someone other than its creator in years to come.
- Data refreshment should be practised. Digital data should be checked for readability on a regular basis, and where necessary data should be copied from one magnetic or optical medium to another as the original nears the end of its useful life.
- Data migration should be undertaken according to current best practice principles in data and information management, which can change rapidly. To make files independent of the machines and the software they were made with, files for archiving should wherever possible be transferred from proprietary formats onto stable and persistent preservation formats, and migrated onto successive versions of these formats as software updates or changes[21]. All files and metadata should be validated during this process and earlier versions should not be discarded until the newer one has been checked.

It is not possible to discuss in detail the standards for digital archiving in the Guide. Detailed guidance on digital archiving can be found in the OAIS reference model [22], the Guide to Good Practice section of the Archaeology Data Service website[23], The Digital Archiving and Networking Services (DANS), and websites that follow or instigate developments

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20. http://archaeologydataservice.ac.uk/arches
21. Examples are .xml for text and spreadsheets, .jpg and .tiff for images, and .dxf and .svg for vector drawings. Proprietary formats such as .doc, .pix, and .ai should be avoided. Sometimes a proprietary format is allowed because it is widely accepted –de facto- standard such as the .pdf format (PDF/A (ISO 19005)
22. «OAIS - Open Archival Information System (ISO 14721)» http://public.ccsds.org/publications/archive/650x0m2.pdf
23. http://Guides.archaeologydataservice.ac.uk/

and discuss these, such as JISC[24] and the Forum on Information Standards in Heritage (FISH)[25]. For more information on how data can be linked and openly accessed and re-used the site of Linked Open Data is a good starting point[26]. A practical guide on how to organise research data is given by the UK Data Archive[27].

Analogue documentation

Analogue images and documents may take different forms with specific archiving requirements. Several general points may be articulated:

- All paper should be stored flat in acid free, dustproof cardboard boxes.
- Drawings on drafting film should be stored flat in dust free containers.
- All paperwork should be fully indexed and separate classes of documents should be grouped together. An overall archive index and a title sheet marking different groups of documents should be present.
- Documents of the same type should be organised in a logical order, by context, date and object number as appropriate.
- Any binding or labelling which could damage analogue information, such as elastic bands, staples, paperclips or self adhesive labels or tapes should be removed.
- Boxes should be stored in a dust free, dry and preferably dark environment, and well away from environmental hazards such as damp, insects or rodents.

Photographic (analogue) material

Generally, photographs should be treated as specified in the section above. However since photographic images are very vulnerable to deterioration in poor storage conditions, several particular points apply:

- Prints, negatives and transparencies, including x-radiographs should be stored in acid free paper enclosures or polyester sleeves in archival boxes or dust proof cabinets.
- All films and photographs should be fully indexed and labelled with the project identifier and other appropriate

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62. © Duncan H. Brown
63. © Archeologický ústav AV ČR, Praha, v.v.i.

24. http://www.jisc.ac.uk/about
25. http://www.fish-forum.info/
26. http://linkeddata.org/home
27. Van den Eynden, V. et al 2011. "Managing and sharing data; best practices for researchers" University of Essex, Colchester, Essex (http://www.data-archive.ac.uk/media/2894/managingsharing.pdf)

information such as the film or frame number, in a manner which does not damage the image or have the potential to rub off during handling.

- Photographic material is especially sensitive to light damage, which causes fading, and it keeps better in a cold environment. Photographic material should be stored in boxes or cabinets in a dark, cool, dust free environment and well away from any potential environmental hazards.

5.4.5 Long term curation of the material archive

(the Standard 4.2)

General Guidelines for all classes of material

- Where appropriate, material objects (finds) should have been cleaned before transfer to long term storage.
- Any conservation work, including the cleaning of sensitive objects (finds), should be undertaken by a qualified conservator-restorer, be carried out prior to long term storage, be fully documented and the documentation added to the project archive.
- The material archive should be stored according to type, sensitivity, packing and storage requirements and different classes of material should be kept separate.
- The material archive should be fully indexed and cross referenced to its record, which should accompany the material archive into long term storage and be stored with the digital/photographic/paper archive as appropriate.
- The material archive should be labelled or marked with all object, site and context information as appropriate, and with identifiers that are legible, visible, permanent and not easily separated from the object.
- Boxes should not be overfilled and should contain adequate cushioning such as inert foam or acid free tissue between any fragile objects.
- Boxes should be stored in darkness, off the floor, in an environment appropriate for their contents, which minimises the risks of damage or deterioration.
- The storage environment should be monitored regularly and protected against large fluctuations of temperature and humidity. Checks or monitoring traps should be set to warn of any rodent or insect infestation.

Special types of finds

- Before accepting the material archive for long term storage, ensure that any objects that were recovered wet or damp have been dried out and received the appropriate conservation treatment.


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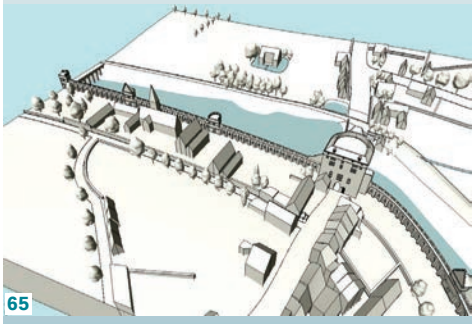
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64. © Archeologický ústav AV ČR, Praha, v.v.i.
65. © Brussels Regional Public Service, Direction of Monuments and Sites
66. © Riksantikvarieämbetet, CC By

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67. © Duncan H. Brown

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69. © Landesamt für Denkmalpflege Baden-Württemberg, David Bibby

- Metal objects should be packed in accordance with current conservation guidelines and specialist advice. Any humidity strips or silica gel must be monitored on a regular basis and regenerated, dried or changed as necessary.
- Ensure that all x-radiography has been carried out as appropriate and the associated images and records are fully cross referenced to the objects.

Material recovered from scientific sampling

Generally, scientific samples should be treated as specified in the general Guidelines above. However several particular points apply:

- Some samples may be subject to destructive analysis, so that nothing or little is left of the sample. This should have been recorded in the archive and the data from analysis stored with the documentary archive.
- Sample analysis, (such as thin sectioning, soil or pollen analysis) may result in the preparation of microscope slides. If the originals are to be kept in the laboratory as reference material, then the documentation should be in the archive in long term storage and where possible a duplicate set of slides should accompany these records.
- Column samples can be stored in cool dark conditions. Analysis should be carried out as promptly as possible and the data preserved in the archive.
- Wet or damp samples, such as waterlogged wood and flotation samples, must not dry out and should be kept cool, refrigerated if advised, in watertight containers. The condition of the samples should be monitored on a regular basis.

Human Remains

Human remains may be subject to special licences or permissions, including the requirement for reburial or restrictions in time allocated to the analysis period. When human remains enter storage, conditions relevant to their curation should be highlighted in the archive documentation and those conditions should be monitored and followed during storage.

- Wherever possible human bone should be packed and boxed in such a way that individual skeletons can be distinguished.
- The treatment and curation of soft tissue remains should be subject to specialist advice.

6. CHECKLIST OF ARCHAEOLOGICAL ARCHIVING TASKS AND ROLES WITHIN AN ARCHAEOLOGICAL PROJECT

The following chart sets out archiving tasks which occur as the project progresses through its main stages. These are generic tasks lifted from the best practice section of the Guide and in this form they can be used as a quick archiving checklist for those who are not overly familiar with the archiving process.

More detailed templates will eventually be found online which will describe the activities and tasks specific to each country, region or state and which will align better with country, regional or state agreed practice.

The checklist in the Guide also offers a general idea of who would normally undertake these tasks, emphasising the point that everyone involved in an archaeological project will have an impact on how the archive is created, compiled, cared for or curated. 'Every person involved in an archaeological project has a duty of care towards the archive and must make sure that it is created and compiled to recognised standards, using consistent methods, and it is not at unnecessary risk of damage or loss' (the Standard 4.4 Para 2)

The personnel identified in the checklist represent an ideal situation which serves a purpose as a best practice example. In the country, regional or state specific checklists which will follow the Guide, the title of the person (such as curator, conservator-restorer etc) who will normally undertake each task in this country or state will be specified, thus tailoring the checklist to actual procedure in each area.

The fully completed forms for each country, state or canton can be found on the ARCHES website http://archaeologydataservice.ac.uk/arches.

Those countries who wish to join the ARCHES programme and include their own archiving checklist in our online Guide can find blank templates for completion on the ARCHES website.


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70. © Landesamt für Denkmalpflege Baden-Württemberg, Y. Mühleis

71. © Brussels Regional Public Service, Direction of Monuments and Sites

72. © Rijksdienst voor het Cultureel Erfgoed

6.1 DEFINITIONS OF ROLES OF PROJECT PERSONNEL

The titles given to archaeological project personnel are endlessly variable, so it is important, before describing the particular responsibilities of individual team members, to establish common terminology. This is a list of the job types identified in the following checklist, with a brief description of their role, which it is hoped will enable each ARCHES partner to match the checklist with their own practices.

Archive Manager The person responsible for ensuring the project archive is fully compiled and transferred to the archive repository.

Conservator–Restorer A specialist in the conservation or restoration of archaeological objects.

Digital Information Manager The person within an archaeological project team who is responsible for managing the creation, preservation and accessibility of digital data.

Facilities Manager The person responsible for managing the premises in which archaeological projects are undertaken, especially during the stages after data collection in the field.

Finds Manager The person responsible, during an archaeological project, for managing the materials (finds) collected, including cleaning, marking/labelling, packing, recording, storage and specialist liaison.

Project Initiator The person who has identified the need for an archaeological project to be undertaken, will monitor the project outcomes but does not necessarily manage the project team.

Project Manager The leader of the project team during an archaeological project, with responsibility for ensuring the aims are met.

Project Team All personnel working on an archaeological project.

Repository Curator The person responsible for ensuring the preservation and accessibility of archaeological archives after they have been transferred to a repository for long-term care.

Specialist Any person engaged in the collection or analysis of specialised information during the course of an archaeological project, for instance a specialist in pollen or pottery.

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6.2 ARCHIVING CHECKLIST CHART

Project Stage	Guid. No	Action	Archive Tasks	Person
PLANNING	5.1.1	The structure and character of the future archive, including the expected final content of the archive and how it will be managed, should be agreed on and understood by all concerned	• Set the standards for the creation and format of project documentation, as well as the media to be used and the procedures to be followed in order to ensure a consistent record • Define the archiving procedures for the identification, recording, and management of the material assemblage. Detail the manuals to be used, and any packaging, care or movement requirements • Incorporate national/regional/local /repo-sitory standards for archaeological archives and collections management	Project Initiator Project Manager Project Manager Finds Manager Conservator-restorer Project Manager Archive Manager Repository curator
	5.1.2	A selection and retention strategy should be devised and agreed at the project planning stage, which should not only set out the selective activity that will take place in the field, but should also set out what will be selected or retained for archiving as the project progresses	• Draw up a selection or retention strategy with input from all the relevant members of the project team, including specialists and the curator of the repository or repositories into which the final archive will be received	Project Initiator Project Manager Finds Manager Repository curator Specialists
	5.1.3	Security or disaster mana-gement strategies should be devised that safeguard the archive from damage and loss	• Prepare an archive security or disaster management plan that sets out the standards which will be adhered to in order that the documentary and material archive will be created, collected and stored to ensure against damage, cross contamination, loss or theft	Project Manager Archive Manager Facilities Manager Finds Manager Conservator-restorer
	5.1.4	It should be ensured that the needs of the archiving process are included in establishing the resources and planning the tasks and timetable for the project	• Archiving activities and tasks should be programmed and timetabled and important archiving milestones should be programmed in • Allocate sufficient resource to archiving tasks in order to ensure that the project archive is ordered, internally consistent, accessible, stable, secure and properly cared for until it is safely deposited in a recognised or trusted repository	Project Manager Archive Manager Project Manager Archive Manager
	5.1.5	The recipient repository, depot, or museum should be identified and involved at the project outset so that the future of the final archive can be guaranteed, and the archive compiled in accordance with the repository's specifications	• Invite the repository curator, or curators if more than one repository is involved, to be a participant or participants in the planning process about the archive from the outset of the project	Project Initiator Project Manager Repository Curator
	5.1.6	Copyright and transfer of title, where appropriate, should be clarified and agreed during the project planning stage	• Establish copyright or transfer of title pro-cedures. Resolve issues affecting the project archive in accordance with national, regional and/or local legislation	Archive Manager Repository curator

Project Stage	Guid. No	Action	Archive Tasks	Person
DATA GATHER-ING	5.2.1	Document, order and index the documentary and material archive in order to keep it understandable and accessible	• Compile a full archive index, including an overall contents index and individual indices for all other aspects such as context records, finds lists and drawings • Produce project documentation which makes it clear how and why the archaeological data and materials were selected, created or collected • Provide metadata for both the digital and analogue documentary archive to enable the user to access and use the information easily, or take a decision as to whether this information will be useful or not • Create a project summary that will introduce researchers to the aims and objectives, scope, location and content of the project	Project Manager Archive Manager Project Manager Digital Information Manager Project Manager
	5.2.2	All the elements of an archive should form a seamless whole facilitating movement between each part of the archive	• Ensure the project is linked into the wider archaeological record • Reference all data to its exact point of origin • Link all data to its associated materials or documentation, and vice versa • Use standardised and accepted terminology controls where they exist. If they do not exist then use terminology consistently throughout the project documentation and include the relevant glossaries in the archive	Project Team Specialists Project Team Project Team Project Team
	5.2.3	Adequate care should be taken of the project archive from the outset. Procedures and practices should be followed which promote the lifespan of the archive The strategy for securing the archive against damage and loss (either a stand alone strategy or part of a wider disaster manage-ment plan) should be put into action	• Apply common sense measures on site to safeguard documentary information and archaeological material • Ensure that office facilities and practice do not endanger the safety and lifespan of the archive • Ensure digital material is backed up in accordance with accepted procedures • Transfer digital files as soon as possible from portable carriers such as local hard disks, CDs and memory cards and sticks to servers under permanently controlled, well managed, safe conditions • Use appropriate materials for all carriers of information and containers for the archive • Use appropriate materials and procedures to provide the information and labels on the documents and finds • Provide appropriate treatment to all finds before they become part of the archive • Employ the standards set out in 5.4.1 – 5.4.5 wherever possible until the archive is transferred to a recognised or trusted repository • Implement the archive security strategy or the disaster management plan during this stage and ensure that all project staff are aware of its contents and understand their role in its use	Project Team Archive Manager Digital Information Manager Digital Information Manager Project Team Project Team Project Team Conservator-restorer Archive Manager Project Manager Archive Manager

Project Stage	Guid. No	Action	Archive Tasks	Person
	5.2.4	The strategy for what documentary and material archive is selected for retention should be understood and used by the project team and monitored by the project manager	• Implement the selection and retention strategy • Ensure the selection and retention strategy is amended if and where required	Project Manager Project Team Project Manager
ANALYSIS, REPORT-ING and ARCHIVE TRANSFER	5.3.1	The documentation created during data gathering should be 'frozen' and archived and any subsequent work should be carried out on copies of this data	• 'Freeze' and archive the digital documentation created during data gathering stage • Ensure any subsequent work is carried out on copies of this data	Archive Manager Digital Information Manager Project Manager
	5.3.2	Ensure that the integrity is maintained of documentary and material archive dispersed to various specialists for investigation and conservation procedures	• Ensure that all internal and external specialists are aware of and follow the project data management and archiving strategy • Ensure that, as information and material gets re-ordered or moved around, the integrity of the archive is maintained • Ensure that a documentary record of all destructive methods of analysis is present in the archive • Document movement to and from external specialists in the archive management documentation, and choose a secure method of transportation	Project Manager Finds Manager Archive Manager Project Manager Finds Manager Archive Manager Finds Manager Finds Manager Archive Manager
	5.3.3	The national law or guidelines regarding the treatment of human bone should always be followed	• Follow national law or guidelines regarding the treatment of human bone	Project Team Finds Manager Specialists
	5.3.4	The selection and retention strategy should remain in force, and be kept under regular review	• Review the selection and retention strategy against the project research or management objectives as the project progresses • Ensure that any changes to the selection and retention strategy are recorded, and agreed by all concerned, including the recipient repository • Document any discard and ensure the record of the discard is included in the archive, including details of any reburial locations • Ensure that selection and discard procedures do not lead to any substantial loss of information which detracts from the project research or management objectives	Project Initiator Project Manager Repository Curator Finds Manager Digital Information Manager Project Manager Repository Curator Specialists Finds Manager Specialists Project Initiator Project Manager
	5.3.5	Project digital data management policies should be enforced (such as version control, file naming and structure protocols)	• Ensure that everyone is conversant with the project file naming and structure protocols • Ensure that version control is practiced by all project personnel	Project Manager Digital Information Manager Project Team

Project Stage	Guid. No	Action	Archive Tasks	Person
	5.3.6	Preparation for transfer to a repository or into long term storage	• Ensure the project archive is accompanied by a project summary and overall archive contents list	Archive Manager
			• Ensure all parts of the archive are fully indexed and ordered, and the archive contains a master index to its component parts	Archive Manager
			• Ensure all parts of the project documentary and material archive carry the project ID and classification information (e.g. object, photo, context number)	Archive Manager
			• Ensure that project documentation, such as recording systems and techniques, selection and sampling strategies, project designs, recording manuals etc accompanies the archive	Archive Manager
			• Ensure that all digital files are ordered in a clear directory structure and employ folder and file naming conventions which aid retrieval of information. Ensure the metadata for the digital archive accompanies the archive	Digital Information Manager
			• Ensure the digital archive is virus free on transfer and a copy of the archive is retained until successful transfer is assured	Digital Information Manager
			• Ensure the archive is packaged in materials and boxes suitable for long term preservation in storage in accordance with national, regional, local or repository standards and in sizes as specified by the repository. Ensure any metal or adhesive fastenings or labels are removed prior to deposition	Archive Manager
			• Ensure the material archive is ordered according to its material type, packing and storage requirements. Ensure the finds types are kept separate	Archive Manager

Project Stage	Guid. No	Action	Archive Tasks	Person
CARE AND CURATION	5.4.1	Care of documentary and material (finds) archive components in active use	• During data gathering, analysis and report writing, maintain the best conditions possible for archive components in active use and ensure that every effort is made to minimise the risks of damage, deterioration, fading, damp, theft and loss • Handle all documentary and material archive with due care and attention. Wherever possible keep both material and documentary archives protected in the appropriate storage boxes, sleeves or cabinets. Digital data should be subject to international, national, regional or local information technology management procedures wherever possible	Project Team Project Team
	5.4.2	Care of documentary and material (finds) archive components no longer in active use but not yet transferred to a repository	• Move final versions of digital files to the project archive and record the completion of that task • Index digital files fully within the project archive and certify as virus free before storage • Once in the project archive actively manage all digital files as set out in 5.4.3 below in order to prevent obsolescence • Once documents and images created on analogue media are complete move as soon as possible from active office use into archive storage until eventual deposition • Follow the guidance provided in sections 5.4.3 – 5.4.5 as far as is practically possible for all documentary and material archive in temporary storage prior to archive transfer	Digital Information Manager Digital Information Manager Digital Information Manager Archive Manager Project Team Archive Manager
	5.4.3	Ensuring appropriate accommodation for archives in temporary storage	• Ensure that any stores housing the documentary or material archive are not liable to subsidence or flooding, especially at risk from earthquakes, tidal waves or landslides, at risk from fire or explosions in adjacent sites, near a place or a building which attracts rodents, insects and other pests, near a plant or installation emitting harmful gases, smoke, dust, etc, or in an especially polluted area • Ensure that supply systems for electricity, gas, and especially for water are kept well away from storage areas, and the building is provided with a fire detection system • Keep stores at a cool temperature and at a relative humidity below the point where microbiological activity occurs. Reference should be made to national, regional or local specific standards wherever applicable	Archive Manager Facilities Manager Archive Manager Facilities Manager Archive Manager Facilities Manager

Project Stage	Guid. No	Action	Archive Tasks	Person
	5.4.4	Long term curation of the documentary archive	• Ensure the documentary archive complies with the standards set out above and the standards maintained by the repository	Repository Curator
			• Copy data from digital transfer media to servers supported by regular backup procedures	Repository Curator
			• Practice digital data refreshment. Check files for readability on a regular basis, and where necessary	Repository Curator
			• Undertake data migration in accordance with current best practice principles in data and information management. Transfer files from proprietary formats onto stable more persistent preservation formats, and migrate onto successive versions of these formats as software updates or changes. All files and metadata should be validated during this process, and earlier versions should not be discarded until the newer one has been checked.	Repository Curator
			• Store all paper horizontally in acid free, dustproof cardboard boxes	Repository Curator
			• Store drawings flat in dust free containers	Repository Curator
			• Ensure boxes are stored in a dust free, dry and preferably dark environment, and well away from environmental hazards such as damp, insects or rodents	Repository Curator
			• Store prints, negatives and transparencies, including x-radiographs in acid free paper enclosures or polyester sleeves in archival boxes or dust proof cabinets	Repository Curator
			• Store photographic material in boxes or cabinets in a dark, cool, dust free environment and well away from any potential environmental hazards	Repository Curator

Project Stage	Guid. No	Action	Archive Tasks	Person
	5.4.5	Long term curation of the material (finds) archive	• Ensure the material (finds) archive complies with the standards set out above and the standards maintained by the repository	Repository Curator
			• Store boxes off the floor, in a cool, dry and preferably dark environment and in conditions that minimise the risks of damage or deterioration	Repository Curator
			• Store the material archive according to type, sensitivity, packing and storage requirements and keep separate each different class of material	Repository Curator
			• Monitor the storage environment regularly and protect against large fluctuations of temperature and humidity. Checks or monitoring traps should be set to warn of any rodent or insect infestation	Repository Curator
			• Ensure that wet or damp samples, such as waterlogged wood and flotation samples, do not dry out and are kept cool, refrigerated if advised, in watertight containers. Monitor the condition of the samples on a regular basis	Repository Curator
			• Meet national, regional or local standards for the curation of human remains	Repository Curator

7. GLOSSARY

Archaeological archive see definitions in Sections 3.1 and 4.1. In many European countries where the Guide has not been adopted, this term is used only to mean the records created during a project and excludes the material objects (finds).

Archaeological project see definition in Sections 2.1 and 4.1.

Archive component a specific part of the array of items that make up an archaeological archive, usually distinguished by their concomitant archive storage requirements; examples include the finds, written records, graphic images and digital data.

Analogue for the purposes of the Guide the term analogue is used to describe data or documents created in non digital formats such as on paper or drafting film or as a photographic print, negative or transparency.

Artefact something manufactured or given shape by a human being, such as a tool or a work of art; archaeological examples include pottery, stone tools, objects made of metal or worked bone, brick and tile. In some countries an artefact is any object whose formal properties and/or position have been intentionally created to support a specific purpose (practical function, social meaning, symbolic significance; cf. Neustupný 1998, 134). Artefacts can be moveable (like pottery, stone tools, etc.) or immoveable (like a house, burial mound, etc.).

Assemblage for the purposes of the Guide, a group of finds found during the course of an archaeological project and thus associated with a specific context or site of human activity.

Back up to duplicate digital data files as a reserve resource should the originals become unusable.

Born Digital data or files originally created in digital form, such as a photograph taken with a digital camera, CAD files and GIS data.

Collection a group of records and/or material objects owned, stored and curated by a single institution for the purposes of future study and enjoyment. Archaeological project archives are understood to be individual components of a collection, which represents a greater, unified resource.

Compile / compilation used here to mean the activity of finally gathering together all archive materials and organizing them in readiness for transfer to a repository.

Conservation used here to mean the procedures of cleaning, stabilising and examining sensitive objects in controlled conditions.

Context a single stratigraphic unit recorded separately in the field; usually the extant structures, cut features and deposits that represent and contain archaeological evidence and finds.

Context record the record of the details (such as location, dimensions, character and stratigraphic relationships) of a context identified during archaeological investigation.

Curation the work of a curator.

Curator the person who cares for and manages access to a collection.

Digital Data files or records comprised of code that is read by a computer; digital data can be born digital or digitised.

Digital data migration preservation of digital data through the method of transferring it into current software formats and hardware configurations in order to prevent it from becoming obsolete and unreadable.

Digital transfer media portable digital data carriers, such as external hard drives, data sticks or CD rom.

Digitised data that has been entered or scanned into a computer from an analogue original, such as a hand-written context record or drawing.

Ecofact an object or find of natural material that represents evidence for human activity; examples include animal bones, seeds, charcoal. Some countries understand an ecofact also to be a natural object or an artefact possessing ecofactual properties that originate through unintentional human action, quite often without human awareness (Neustupný 1998, 136).

Environmental remains used here to mean materials collected as evidence for the state of the natural environment at any given period, such as pollen and molluscs, also some ecofacts.

Finds artefacts, ecofacts, environmental remains and waste products recovered archaeologically.

Long term storage the principle of curating collections in repositories for as long as possible.

Material meaning here substance and materiality, as applied to material objects and some records.

Material (finds) archive the material objects collected during an archaeological project and selected for long term storage.

Material object an artefact, ecofact, environmental remain, waste product or sample that could be preserved in the archaeological archive.

Metadata data about data; mainly used to summarise the content and character of digital files and datasets, with the aim of informing potential users.

Microfilm see Microform

Microform film, paper or other medium containing micro-reproductions; microfiche or microfilm are the common forms used for the long-term preservation of written records.

Project design a document that describes the plan for undertaking a project; usually including the research aims, methodology, specific tasks and stages, the timetable for undertaking each task and the resources required, such as staff and finances.

Recognised repository a repository that meets the standards required by national, regional or local schemes for maintaining required levels of curation, care and access.

Recording systems a systematic method for creating records; examples include the use of different pro-forma for describing contexts or finds.

Records used here to denote the written, digital and graphic documentation created during the description, analysis, ordering and reporting of archaeological sites, contexts, assemblages, finds or samples.

Repository the store and point of access for a collection.

Sample a fragment or part of a larger whole (usually a context or a find) collected for more detailed analysis. Some samples do not survive analysis, such as soil collected for sieving or flotation, or organic material retained for C-14 dating; others, such as pieces of ceramic made into petrographic microscope slides are objects that can be included in the archaeological project archive.

Security copy a duplicate version of any element of the documentary archive retained to preserve the information it contains should the original become lost, destroyed or unusable.

Selection the procedure for selecting archive components for inclusion in an archaeological archive intended for long term storage.

Sensitive objects / finds material objects that require specific treatment, packing and storage conditions; examples include iron objects, which should be stored in a dry environment, or textile, which requires a higher humidity.

Transfer of title the procedure by which ownership of the archaeological archive is transferred from one owner to the other; here meaning to transfer ownership to the repository.

Trusted digital repository a repository that is certified as meeting international standards of digital preservation and access; one whose mission is to provide reliable, long-term access to managed digital resources to its designated community, now and in the future.

Version control the method of identifying successive versions of a document or digital file to show which one pre-dates another.

Waste products material objects or finds created as by-products of human activity, usually in the manufacture of artefacts; examples include debitage, metal slag, hammerscale and bone or leather off-cuts.

X-Radiography the production of an image as a result of x-rays being passed through an object; commonly used in archaeology to identify, characterise, record and assess corroded metal objects. Similar methods include computer tomography (CT scanning).

8. BIBLIOGRAPHY

Adriaenssens I., Verhelst J., Schram F., Maclot P., Charles L., d'Hondt J., de Maego C., Gils R., Jaspers P., 2001 : *Introductie tot Erfgoedzorg en Archieven, 2000 Jahre Varusschlacht / Verslagboek van het jaarthema*, VCM, Antwerpen.

AG Grabungstechnik (BLfD), 2012 : *Vorgaben zur Dokumentation archäologischer Ausgrabungen in Bayern*, (Stand Mai 2012), Bayerisches Landesamt für Denkmalpflege. http://www.blfd.bayern.de/medien/dokuvorgaben_05_2012.pdf

AG Grabungstechnik (BLfD), 2012 : *Vorgaben zur Fundbehandlung auf archäologischen Ausgrabungen in Bayern*, (Stand Mai 2012), Bayerisches Landesamt für Denkmalpflege. http://www.blfd.bayern.de/medien/fundvorgaben_05_2012.pdf

Ahrndt W., Deimel K., Geissdorf M., Lenk C., Roessiger S., Rosendahl W., Schluschke A., Schindlbeck M., Schnalke T., Thielecke C., von Selle C., Wesche A. & Wittwer-Backofen U., 2013 : *Empfehlungen zum Umgang mit menschlichen Überresten*, Deutscher Museumsbund e.V. http://www.museumsbund.de/fileadmin/geschaefts/dokumente/Leitfaeden_und_anderes/2013_Empfehlungen_zum_Umgang_mit_menschl_UEberresten.pdf

Aitchison K., 2004 : *Disaster Management Planning for Archaeological Archives*, (*IFA Professional Practice Paper* No 8), IFA & AAF.

Allen S.J., 1994 : *The Illustration of Wooden Artifacts: An Introduction to the Depiction of Wooden Objects* (*AAI&S Technical Paper No 11*), AAI & S, Oxford.

Amacher D., 2005 : *Dépouillement de l'enquête sur les archives des services communaux et cantonaux d'archéologie et des monuments historiques*, Office fédéral de la culture, Berne.

Arbeitsgruppe Bauforschung in der Vereinigung der Landesdenkmalpfleger in der Bundesrepublik Deutschland, 2009 : "Empfehlungen zum Umgang mit digitalen Baudokumentationen für eine Langzeitarchivierung", *Arbeitsblatt* Nr. 30 (Stand November 2009), Vereinigung der Landesdenkmalpfleger in der Bundesrepublik Deutschland. http://www.denkmalpflege-forum.de/Download/Nr30.pdf

Arbeitsgruppe Normen und Standards, 2012 : *Katalog wichtiger, in der Schweiz angewandter archivistischer Normen*, VSA-AAS Verein Schweizerischer Archivarinnen und Archivare. http://www.vsa-aas.org/uploads/media/Normenkatalog_Version1-3_201203.pdf

Archaeological Ceramic Building Material Group, 2000 : *Draft Minimum Standards for the Recovery, Analysis and Publication of Ceramic Building Material*. http://www.in-situ.be/contrib_3_en.pdf

Archaeology Data Service & Digital Antiquity, *Guides to Good Practice*. http://Guides.archaeologydataservice.ac.uk/g2gp/Contents

Archaeology Data Service, 1996 : *Archiving electronic documents*, Archaeology Data Service, York.

Archaeology Data Service, 1997 : *Guidelines for Cataloguing Datasets with the ADS*, Archaeology Data Service, York.

Archaeology Data Service, 1997 : *Guidelines for Depositors Version 1.2*, Archaeology Data Service, York.

Archaeology Data Service, 2002 : *The Handbook, Digital Preservation Coalition*, ADS, York.

Archaeology Data Service, 2013 : *Caring for Digital Data in Archaeology: A Guide to Good Practice*, Archaeology Data Service, Oxbow Books.

Archaeology Data Service, s.d. : *Archaeology Data Service Guidance on the Deposition of Sensitive Digital Data*, Archaeology Data Service, York.

Archaeology Data Service, s.d. : *Archaeology Data Service Visual Exploration of Underwater Sites, Digital Preservation Handbook*, Archaeology Data Service, York.

Archaeology Data Service, s.d. : *Digital Archives from Excavation and Fieldwork: Guide to Good Practice*, Archaeology Data Service, York.

Archaeology Data Service, s.d. : *OASIS: Online access to the Index of archaeological investigations*, Archaeology Data Service, York.

Ashok R. & Smith P. (ed.), 1994 : *Preservative Conservation, Practice, Theory and Research*, Preprints of the Contribution to the Ottawa Congress 12-16 September 1994, London.

Baerten J., Scheelings F. & Verhelst J., 1991 : *Archiefinitiatie(f): archiefproblemen en -oplossingen . 1: De eerste resultaten van de verhandelingen van de bijzondere licentie Archiveringstechnieken . 2: Stadsarchieven en bedrijfsarchieven. 3: Besparen en degelijk archief- en documentbeheer*, VUBpress, Brussel.

Ball Al., 2013 : *Preserving Computer-Aided Design (CAD)* (*DPC Technology Watch Report 13*) Digital Preservation Coalition. http://dx.doi.org/10.7207/twr13-02

Balsamo I. (dir.), 2001 : « Tri, sélection, conservation, Quel patrimoine pour l'avenir ? », in : *Actes de la table ronde organisée sous l'égide de l'Ecole Nationale du Patrimoine les 23, 24 et 25 juin 1999*, Centre des Monuments Nationaux, MONUM, Editions du Patrimoine, Paris, p. 70-71.

Bartel A., 1998 : *Bodendenkmalpflege. Vor- und frühgeschichtliche Textilien (1) und (2) (Arbeitsblätter des Bayerischen Landesamtes für Denkmalpflege* 4 bzw. 2, juil-98), Bayerisches Landesamt für Denkmalpflege, München.

Benediktsson G., Sigurðardóttir S., 2011 : *SAMSTARF. Hver er staðan og hvert stefnum við? Skýrsla farskólanefndar um Farskóla Félags Íslenskra safna og safnmanna sem haldinn var í Menningarhúsinu Miðgarði í Skagafirði dagana 5.-7. október 2011*,FÍSOS. http://www.skagafjordur.is/upload/files/Skyrsla%20Farskola%20FISOS%202011(1).pdf

Berducou M.-C. (dir.), 1990 : « Introduction à la conservation en archéologie », in : *La conservation en archéologie*, Masson, Paris, p. 3-35.

Bergeron A. & Rémillard F., 1991 : *L'archéologie et la conservation, vadémécum québécois*, Les publications du Québec, Ministère des affaires culturelles du Québec, Ottawa.

Bergmeyer W., von Hagel F. & Rohde-Enslin S., 2012 : "Langzeiterhaltung digitaler Daten in Museen. Tipps zur dauerhaften Bewahrung digitaler Daten", *Nestor Informationsblätter* 30/03/2012. http://www.langzeitarchivierung.de/Subsites/nestor/DE/Publikationen/Infoblaetter/infoblaetter_node.html;jsessionid=F102215B6A9AB59D295A57AD0DCDF5EF.prod-worker2

Bewley R., Donaghue D., Goffney V., van Leusen M. & Wise A. (eds.), 1999 : *Archiving Aerial Photography and Remote Sensing Data*, Archaeology Data Service, Exeter.

Biel J. & Klenk D. (eds.), 1998[2] : *Handbuch der Grabungstechnik,im Auftrag des Verbands der Landesarchäologen in der Bundesrepublik Deutschland und der Arbeitsgemeinschaft der Restauratoren*, Stuttgart.

Borsboom A.J & Verhagen J.W.H.P., 2012 : *KNA Leidraad inventariserend veldonderzoek Deel: Proefsleuvenonderzoek*, (IVO-P),SIKB, ,4/12/2012. http://www.sikb.nl/upload/documents/archeo/leidraden/KNA%20Leidraad%20proefsleuvenonderzoek%20definitief_04122012%20v%201.02.pdf

Bos M., 2009 : Principes d'archivages des Archives Fédérales Suisses, Archives fedérales suisses, Berne.

Bosch J.H.A., 2008 : *Archeologische Standaard Boorbeschrijvingsmethode versie 1.1*, 29/09/2008. http://www.sikb.nl/upload/documents/archeo/leidraden/Leidraad%20ASB%20versie%205_2%20geactualiseerd%20september%202008.pdf

Bradley S. (ed.), 1997 : "The interface between science and conservation" in: *British Museum Occasional Paper* no 116, The Trustees of the British Museum, London, p. 123-132.

Brandenburgisches Landesamt für Denkmalpflege und Archäologisches Landesmuseum, 2012 : *Richtlinien zur Grabungsdokumentation (in Brandenbug).* http://www.bldam-brandenburg.de/images/stories/PDF/dokumentationsrichtlinien_2012.pdf

Brandt R.W. & *al.*, 1992 : *Archeologisch Basis Register Versie 1.0* , ARCHIS expertise Centrum, Amersfoort. http://www.cultureelerfgoed.nl/sites/default/files/u4/ABR_website2.pdf

Brickley M. & McKinley J.I., 2004 : *Guidelines to the Standards for Recording Human Remains* (*IfA Professional Practice Paper 7*), IFA.

Brown A. & Perrin K., 2000 : *A Model for the Description of Archaeological Archives,* English Heritage.

Brown D.H., 2004 : *A Review of Standards in England for the Creation, Preparation and Deposition of Archaeological Archives*, Archaeological Archives Forum.

Brown D.H., 2007 : *Archaeological Archives, A Guide to best practice in creation, compilation, transfer and curation*, AAF.

Brown, D.H., 2007 : *Archaeological Archives. A Guide to best practice in creation, compilation, transfer and curation*, Archaeological Archives Forum.

Brown, D.H., 2011 : *Safeguarding Archaeological Information. Procedures for minimising risk to undeposited archaeological archives*, English Heritage.

Bundesamt für Archive, 2010 : *Sauvez vos bases de données - SIARD : la solution d'archivage pour les bases de données relationnelles*, Archives fedérales suisses. http://www.bar.admin.ch/dokumentation/00445/00527/index html?lang=fr&download=NHzLpZeg7t,lnp6I0NTU042l2Z6ln1ae2IZn4Z2qZpnO2Yuq2Z6gpJCDdYN2gGym162epYbg2c_JjKbNoKSn6A--

Bütikofer N., Hofman H. & Ross S. (eds.), 2006 : *Managing and Archiving Records in the Digital Era. Changing Professional Orientations*, Baden.

Cardinal L. et al., 2000 : *Manuel de traitement des archives d'architecture XIXe-XXe siècles*, Conseil International des Archives, Paris.

Carmiggelt A. & Schulten P.J.W.M. (ed.), 2002 : *Veldhandleiding Archeologie* (*Archeologie Leidraad 1*),College voor de Archeologische Kwaliteit, Zoetermeer. http://www.sikb.nl/upload/documents/archeo/veldhandleiding_leidraad1.pdf

Cassar M., 1995 : *Environmental Management, Guidelines for museums and galleries*, Routledge, London.

Cassar M., 2006 : *Interdisciplinarity in preventive conservation*, Centre for Sustainable Heritage. http://www.bartlett.ucl.ac.uk/graduate/csh/attachments/policy-transcripts/interdisciplinarity.pdf

Cassar M., 2006 : *Value of preventive conservation*, Centre for Sustainable Heritage. http://www.bartlett.ucl.ac.uk/graduate/csh/attachments/policy-transcripts/value_conservation.pdf

CEN European Committee for Standardization : *EN 16095:2012 (WI=00346012) - Conservation of cultural property - Condition recording for movable cultural heritage*, CEN, Brussels. http://standards.cen.eu/dyn/www/f?p=204:110:0::::FSP_PROJECT:30976&cs=1182A4C629854DBCD241B0201B34DB7A4

CEN European Committee for Standardization, 2009 : *EN 15801:2009 (WI=00346004) - Conservation of cultural property - Test methods - Determination of water absorption by capillarity*, CEN, Brussels. http://standards.cen.eu/dyn/www/f?p=204:110:0::::FSP_PROJECT:28483&cs=1B64AB8CFB95AB825093AEB84180C3B58

CEN European Committee for Standardization, 2009 : *EN 15802:2009 (WI=00346005) - Conservation of cultural property - Test methods - Determination of static contact angle*, CEN, Brussels. http://standards.cen.eu/dyn/www/f?p=204:110:0::::FSP_PROJECT:28484&cs=15F479213B424F92AA4B30E13A06B43BC

CEN European Committee for Standardization, 2009 : *EN 15803:2009 (WI=00346006) - Conservation of cultural property - Test methods - Determination of water vapour permeability (δp)*, CEN, Brussels. http://standards.cen.eu/dyn/www/f?p=204:110:0::::FSP_PROJECT:28485&cs=16D8222916C735FF74B3F264B0CCA3B55.

CEN European Committee for Standardization, 2010 : *EN 15757:2010 (WI=00346008) - Conservation of Cultural Property - Specifications for temperature and relative humidity to limit climate-induced mechanical damage in organic hygroscopic materials*, CEN, Brussels. http://standards.cen.eu/dyn/www/f?p=204:110:0::::FSP_PROJECT:28487&cs=1CA6AC7E107FE7F852A4F9C8D11CCD217

CEN European Committee for Standardization, 2010 : *EN 15758:2010 (WI=00346009) - Conservation of Cultural Property - Procedures and instruments for measuring temperatures of the air and the surfaces of objects*, CEN, Brussels. http://standards.cen.eu/dyn/www/f?p=204:110:0::::FSP_PROJECT:28488&cs=18FBB4BE512863FD1F25E8415D5BA9ACE

CEN European Committee for Standardization, 2010 : *EN 15886:2010 (WI=00346007) - Conservation of cultural property - Test methods - Colour measurement of surfaces*, CEN, Brussels. http://standards.cen.eu/dyn/www/f?p=204:110:0::::FSP_PROJECT:28486&cs=1FF83393AD998524009F97687337A1662.

CEN European Committee for Standardization, 2011 : *EN 15759-1:2011 (WI=00346010) - Conservation of cultural property - Indoor climate - Part 1: Guidelines for heating churches, chapels and other places of worship*, CEN, Brussels. http://standards.cen.eu/dyn/www/f?p=204:110:0::::FSP_PROJECT:28489&cs=1CB1DAFB236BE1D81B1734F3757E1964F

CEN European Committee for Standardization, 2011 : *EN 15898:2011 (WI=00346002) - Conservation of cultural property - Main general terms and definitions*, CEN, Brussels. http://standards.cen.eu/dyn/www/f?p=204:110:0::::FSP_PROJECT:28481&cs=1CD6F3893ED49CC6C660EDA219131F8CF

CEN European Committee for Standardization, 2011 : *EN 15946:2011 (WI=00346016) - Conservation of cultural property - Packing principles for transport*, CEN, Brussels. http://standards.cen.eu/dyn/www/f?p=204:110:0::::FSP_PROJECT:30981&cs=16C35EFDBFF393364E318FD6B6F40620F

CEN European Committee for Standardization, 2012 : *EN 16085:2012 (WI=00346017) - Conservation of Cultural property - Methodology for sampling from materials of cultural property - General rules*, CEN, Brussels. http://standards.cen.eu/dyn/www/f?p=204:110:0::::FSP_PROJECT:32989&cs=1946E1A528FBF94CD49ABB4F4EC7E64C7

CEN European Committee for Standardization, 2012 : *EN 16096:2012 (WI=00346013) - Conservation of cultural property - Condition survey and report of built cultural heritage*, CEN, Brussels. http://standards.cen.eu/dyn/www/f?p=204:110:0::::FSP_PROJECT:30977&cs=1863AD500968D584DC6BEEDD6807176D6

CEN European Committee for Standardization, 2012 : *EN 16141:2012 (WI=00346014) - Conservation of cultural heritage - Guidelines for management of environmental conditions - Open storage facilities: definitions and characteristics of collection centres dedicated to the preservation and management of cultural heritage*, CEN, Brussels. http://standards.cen.eu/dyn/www/f?p=204:110:0::::FSP_PROJECT:30978&cs=19D7899D83F3E1FAFF740C53B6D9C068F

CEN European Committee for Standardization, 2012 : *EN 16242:2012 (WI=00346020) - Conservation of cultural heritage - Procedures and instruments for measuring humidity in the air and moisture exchanges between air and cultural property*, CEN, Brussels. http://standards.cen.eu/dyn/www/f?p=204:110:0::::FSP_PROJECT:34048&cs=1000E6B80FEC23200296847848BFD8390

CEN European Committee for Standardization, 2013 : *EN 16302:2013 (WI=00346021) - Conservation of cultural heritage - Test methods - Measurement of water absorption by pipe method*, CEN, Brussels. http://standards.cen.eu/dyn/www/f?p=204:110:0::::FSP_PROJECT:35030&cs=1736123F96288E0A2F9B4E80ACAB7BA65

CEN European Committee for Standardization, 2013 : *EN 16322:2013 (WI=00346022) - Conservation of Cultural Heritage - Test methods - Determination of drying properties*, CEN, Brussels. http://standards.cen.eu/dyn/www/f?p=204:110:0::::FSP_PROJECT:35031&cs=1C16C40749DAA4DDC33903FF57C04EAA1

CEN European Committee for Standardization, 2014 : *EN 15999-1:2014 (WI=00346035) - Conservation of cultural heritage - Guidelines for design of showcases for exhibition and preservation of objects - Part 1: General requirements*, CEN, Brussels. http://standards.cen.eu/dyn/www/f?p=204:110:0::::FSP_PROJECT:36801&cs=1798AE7FC08CDE3D7A9E2D16828A6921E

Centre de Conservation du Quebec, s.d. : *Plan de prévention et d'intervention en cas de sinistre. Plan modèle à l'intention des musées, des centres d'archives et des bibliothèques*, Centre de Conservation du Québec, Québec.

Chabin M.-A., 2000 : *Le management de l'archive*, Hermès, Paris.

Chabin, M.-A., 1999 : *Je pense donc j'archive : l'archive dans la société de l'information*, L'Harmattan, Paris, Montréal.

Chevallier B., 2008 : *Gestion et conservation du mobilier archéologique - la place de la conservation préventive en Suisse*, Mémoire de diplôme de Bachelor en conservation - Haute école de conservation-restauration Arc, Neuchâtel.

Chirollet J.-C., 2005 : *Numériser, Reproduire, archiver les images d'art*, L'Harmattan, Paris.

CIDOC Conceptual Reference Model. www.cidoc-crm.org

Collins C., 1995 : *Care and Conservation of Paleontological Collections*, Butterworth-Heinemann, Oxford.

Condron F., Richards J., Robinson D. & Wise A., 1999 : *Strategies for Digital Data*, ADS.

Contesse E., 2008 : « Pour une gestion planifiée de la documentation archéologique », in : *Archäologie Schweiz / Archéologie suisse* n°31, p. 36-39.

Contesse E., 2009 : « La normalisation documentaire : une nécessité pour toute collaboration entre systèmes d'information patrimoniaux », in : Robert O. (ed.), *Les archives dans l'université : actes du Colloque international, Université de Lausanne, 30 et 31 octobre 2008*, Peter Lang, Berne, p. 193-198.

Coomans Th., 1991 : *Le Service du Répertoire des Biens Culturels aux Musées Royaux d'Art et d'Histoire (1952-1960) et le Fonds de Plans de Monuments Belges conservé à la Bibliothèque des Musées, in : Bulletin van de Koninklijke Musea voor Kunst en Geschiedenis 62*, Koninklijke Musea voor Kunst en Geschiedenis, Brussel.

Coppens H., 1990 : *Archiefterminologie: archieftermen voor gebruik in het Rijksarchief (Miscellanea Archivistica 5),* Algemeen Rijksarchief en Rijksarchief in de Provinciën, Brussel.

Coutaz G., Huber R. & Kellerhals A. (eds.), 1997 : *Archivistik in der Schweiz / L'archivistique en Suisse (Schweizerische Zeitschrift für Geschichte / Revue Suisse d'Histoire / Rivista Storica Svizzera* vol. 47, n° 3).

Crespo Nogueira C., 1988 : *Glossary of basic archival and library conservation terms : English with equivalents in Spanish, German, Italian, French and Russian (ICA handbook series / Conseil International des Archives 4),* International Council for Archives, Saur, München, Paris, London.

Cronyn J.M., 1996[4] : *The Elements of Archaeological Conservation*, London, New York.

Dauen S., 2004 : *Aufbewahrungspflichten: von Originaldokumenten bis zur elektronischen Archivierung. Tabellen nach amtlichem Material mit umfangreichen Erläuterungen für die Praxis*, Haufe, Freiburg im Breisgau.

Davison S., 2003 : *Conservation and Restoration of Glass*, Butterworth-Heinemann, Oxford.

DCMS, 2005 : *Guidance for the care of human remains in museums*, Department for Culture, Media and Sport.

De Guichen G., 1984 : *Climat dans les musées*, ICCROM, Rome.

De Guichen G., 1999 : *Preventive conservation: A mere fad or far reaching change? (Museum international* vol. LI, n°1). http://unesdoc.unesco.org/images/0011/001149/114933e.pdf

de Tapol B., 2001 : « De l'évaluation au plan de conservation préventive : réflexion sur l'évolution de la gestion de la conservation », in : *Conservation Restauration des Biens Culturels CRBC* n°17/18, p. 81-94.

Dean M., Ferrari B., Oxley I., Redknap M. & Watson K. (eds.), 1995[2] : *Archaeology Underwater (The BAS Guide to Principles and Practice),* Nautical Archaeology Society, NAS, London.

Deggeller K., Ganz-Blättler U. & Hungerbühler R., 2007 : *Gehört - Gesehen. Das audiovisuelle Erbe und die Wissenschaft*, Baden.

Deyber-Persignat D. (coord.), 2000 : *Le dépôt archéologique, conservation et gestion, Actes des Assises nationales de la conservation archéologique, Bourges 26, 27, 28 novembre 1998*, Service d'Archéologie Municipal / Editions de la Ville de Bourges, Bourges.

Dhaene L. & Michielsen E., 2007 : *Archiefzorg en registratie in archiefbank Vlaanderen (Handleiding tot het vermijden van uitschuivers* 4), Culturele Biografie Vlaanderen - Archiefbank Vlaanderen, Berchem - Gent.

Di Franco M.L., [1985] : *The conservation of library and archive property : Rome, 3th - 12th April 1980 : European intensive course organised by the Istituto Centrale per la Patologia del libro,Pact (Revue du groupe européen d'études pour les techniques physiques, chimiques, biologiques et mathématiques appliquées à l'archéologie / Journal of the European Study Group on physical, chemical, biological and mathematical techniques applied to archaeology* 12), European University Center for the Cultural Heritage, Ravello.

Didelot C., 2010 : *Aide-mémoire technique portant sur la mise en œuvre de la conservation à long terme des mobiliers archéologiques et de la documentation scientifique au sein d'un centre de conservation et d'étude*, UTICA, CCE. www.archeologie.culture.gouv.fr/pdf/cce_aide_memoire.pdf

Djaffar B., 2012 : *Archives : pour une (re)connaissance de l'architecture. Livre blanc des archives de l'architecture en Fédération Wallonie-Bruxelles, Fédération Wallonie-Bruxelles*. Cellule architecture ; Université Libre de Bruxelles (ULB). Faculté d'architecture La Cambre-Horta, Bruxelles.

Dobrusskin S., Hesse W., Jürgens M., Pollmeier K. & Schmidt M., 2001 : "Faustregeln für die Fotoarchivierung: ein Leitfaden", in: *Rundbrief Fotografie, Sonderheft* 1, Göppingen, Arbeitsgruppe «Fotografie im Museum» des Museumsverbands Baden-Württemberg e.V.; Sektion Geschichte und Archive der Deutschen Gesellschaft für Photographie e.V.; Sächsischer Museumsbund e.V., p. 125.

Don P., Gaalman A. & Van de Voort J.P., 2000 : *De archieven en collecties van de Rijksdienst voor de Monumentenzorg; Project Nederlandse versie van de Art & Architecture Thesaurus* (RKD Bulletin), Rijksbureau voor Kunsthistorische Documentatie, Den Haag.

Dublin Core Metadata Initiative. http://dublincore.org/

Ducatel N., Kissel E. & Orvas F., 1999 : *Modèle de plan de prévention des sinistres pour les musées, centres d'archives et bibliothèques. Adaptation pour utilisation en France,* Office de Coopération et d'Information Muséographiques, Dijon.

Duchein M., 1977 : *Conseil International des Archives-Paris, Archive Buildings and Equipment (ICA handbook series / Conseil International des Archives* 1), Verlag Dokumentation, München.

Duchein M., Walne P. & Thomas D., 1988 : *Conseil international des Archives-Paris, Archive Buildings and Equipment (ICA handbook series / Conseil International des Archives* 6), K.G.Saur, München, Paris, London, New York.

Duval M., 2004 : *Étude de la situation et le statut des collections archéologiques appartenant à l'État*, Direction des musées de France, Paris.

Eiteljorg H.I., Fernie K., Huggett J. & Robinson D., 2002 : CAD, *a guide to good practice*, Archaeology Data Service.

English Heritage, 1991 : *Management of Archaeological Projects*, English Heritage.

English Heritage, 1995 : *Guidelines for the care of waterlogged archaeological leather*, English Heritage.

English Heritage, 1995 : *Waterlogged wood. Guidelines on the recording, sampling, conservation, and curation of waterlogged wood*, English Heritage. http://www.english-heritage.org.uk/publications/waterlogged-wood/waterlogged-wood.pdf

English Heritage, 1998 : *Dendrochronology. Guidelines on producing and interpreting dendrochronological dates*, English Heritage. http://www.english-heritage.org.uk/publications/dendrochronology-guidelines/dendrochronology.pdf

English Heritage, 2006 : *Management of Research Projects in the Historic Environment. The MORPHE Project Manager's Guide*, English Heritage.

English Heritage, 2006 : *Science for Historic Industries. Guidelines for the investigation of 17th- to 19th century industries*, English Heritage. http://www.english-heritage.org.uk/publications/science-for-historic-industries/science-historic-industries.pdf

English Heritage, 2006 : *Understanding Historic Buildings: a guide to good practice*, English Heritage.

English Heritage, 2008 : *Guidelines for the Curation of Waterlogged Macroscopic Plant and Invertebrate Remains*, English Heritage. http://www.english-heritage.org.uk/publications/curation-of-waterlogged-macroscopic-plant-and-invertebrate-remains/waterloggedremains.pdf

English Heritage, 2008 : *Investigative Conservation. Guidelines on how the detailed examination of artefacts from archaeological sites can shed light on their manufacture and use*, English Heritage. http://www.english-heritage.org.uk/publications/investigative-conservation/investigative-conservation.pdf

English Heritage, 20112 : *Environmental Archaeology. A guide to the theory and practice of methods, from sampling and recovery to post-excavation*,English Heritage, English Heritage. http://www.english-heritage.org.uk/publications/environmental-archaeology-2nd/environmental-archaeology-2nd.pdf

Environment and Heritage Service, 2004 : *Excavations. Excavation Standards Manual*, 2004, Dept. of Environment for Northern Ireland (DOENI).

European Convention on the Protection of the Archaeological Heritage (Revised), Valetta, 16.I.1992.

Feihl O., Bertholet D. & Napi L., 1992 : « Classement des archives et mise en place d'un système général de gestion de l'information », in : *Rapport du comité de l'association de Chillon*, p. 21-27, Chillon.

Fell V., Mould Q. & White R., 2006 : *Guidelines on the X-radiography of Archaeological Metalwork*, English Heritage. http://www.english-heritage.org.uk/publications/x-radiography-of-archaeological-metalwork/xradiography.pdf

Ferguson L.M. & Murray D.M., 1997: *Archaeological documentary archives (IFA Paper* 1), IFA.

Fernie K. & Richards J.D, 2002 : *Creating and Using Virtual Reality: a Guide for the Arts and Humanities*, Archaeology Data Service.
Fjaestad M. m fl (red), 1999: *Magasinshandboken. Tidens Tand. Förebyggande konservering*, Riksantikvarieämbetet (RAÄ). http://www.raa.se/publicerat/9172091355.pdf
Flügel C., Suhr G. & Stäbler W., 2007 : *« Nur altes Eisen und Scherben » vom Wert einer Sammlung. Archäologische Funde im Museum: erfassen - restaurieren - räsentieren (Collection MuseumsBausteine Landesstelle für die nichtstaatlichen Museen in Bayern vol.* 12), Deutscher Kunstverlag, München Berlin.
Forum on Information Standards in Heritage, 2006 : *A six step guide to Digital Preservation (FISH Factsheet* 1), ADS.
Garretson Swartzburg S., Bussey H. & Garretson F., 1991 : *Libraries and archives: design and renovation with a preservation perspective,* Metuchen / Scarecrow Press, New Jersey, London.
Gilbert C. & *al.*, 2007 : *Archivpraxis in der Schweiz / Pratiques archivistiques en Suisse*, Baden.
Gilling M. & Wise A., 1998 : *GIS Guide to good practice*, Archaeology Data Service.
Gillis C. & Nosch M.-L., 2007 : *First Aid for the Excavation of Archaeological Textiles (The Danish National Research Foundation's Centre for Textile Research* 41), Oxbow Books, Oxford.
Giovaninni A., 2004 :*De Tutela Librorum. La conservation des livres et des documents d'archives / Die Erhaltung von Büchern und Archivalien*, ies Editions, Genève.
Glutz R., Grewe K. & Müller D., 1984 : *Zeichenrichtlinie für topographische Pläne der archäologischen Denkmalpflege*, Rheinland-Verlag, Köln.
Gregorio S. & Stepanovic A.-E., 2008 : *Metadaten bei stehenden digitalen Bildern (Guidelines KGS* n°3/2008), Bundesamt für Bevölkerungsschutz. http://www.bevoelkerungsschutz.admin.ch/internet/bs/de/home/themen/kgs/publikationen_kgs/guideline.parsys.55074.downloadList.75605.DownloadFile.tmp/guidelines03d.pdf
Griffin D., s.d.: *Sources of information* (Conservation Guidelines 2), Department of the Environment, Irish Georgian Society, Dublin.
Gschwind R., Rosenthaler L. & Frey F., 2000 : *Konzept: Neue Technologien und Kulturgüter*, Abteilung für Wissenschaftliche Photographie, Universität Basel. http://www.bevoelkerungsschutz.admin.ch/internet/bs/de/home/themen/kgs/publikationen_kgs.parsys.00015.DownloadFile.tmp/konzeptneuetechnologiend.pdf
Guillemard D. & Laroque Cl., 1999 : *Manuel de conservation préventive. Gestion et contrôle des collections*, Office de Coopération et d'Information Muséographiques- OCIM, Dijon.
Hagedorn-Saupe M., 2011 : *Leitfaden für die Dokumentation von Museumsobjekten*, Deutscher Museumsbund, Berlin.
Handley M, 1999 : *Microfilming archaeological archives (IFA Paper* 2),IFA.
Hendrick A., 1993 : *Archives et documentation : guide à l'usage des associations et des particuliers, Chronique sociale*, CARHOP; EVO, Lyon - Bruxelles.
Henker M. (Hrsg.), 2013 : *Inventarisation als Grundlage der Museumsarbeit,Museumsbausteine Landesstelle für die nichtsaatlichen* Museen in Bayern, Deutscher Kunstverlag, München.
Herzig F. (BLfD), 2012 : *Hinweise zum Umgang mit organischen Materialien während der Ausgrabung*, Bayerisches Landesamt für Denkmalpflege. http://www.blfd.bayern.de/medien/organische_materialien_05_2012.pdf (Stand Mai 2012)
Hilbert G.S. & Fischer B., 2002 : *Sammlungsgut in Sicherheit: Beleuchtung und Lichtschutz, Klimatisierung, Schadstoffprävention, Schädlingsbekämpfung, Sicherungstechnik, Brandschutz, Gefahrenmanagement,Berliner (Schriften zur Museumskunde* 1), Institut für Museumskunde, Berlin.
Hilbert G.S., 2002[3] : *Sammlungen in Sicherheit*, Gebrüder Mann Verlag, Berlin.
Historic Scotland, 1996 : *Project Design, Implementation and Archiving (Archaeological Procedure Paper* 2), Historic Scotland.
Hoc C., 2011 : *Préserver son patrimoine numerique. Classer et archives ses e-mails, photos, vidéos et documents administratifs*, Eyrolles.
Hoppe P. & *al.*, 2002 : *Gesamtschweizerische Strategie zur Dauerhaften Archivierung von Unterlagen aus elektronischen systemen*, Konferenz der leitenden Archivarinnen und Archivare auf Kantonss- und bundesebene sowie des Fürstentums Lichtenstein (KLA CH/FL). http://www.vsa-aas.org/uploads/media/d_strategie.pdf
Hourcade J.-C. & Laloe F., 2010 : *Longévité de l'information numérique*, EDP Sciences, Courtaboeuf.
Huber J. & von Lerber K., 2003 : *Handhabung und Lagerung von mobilem Kulturgut: ein Handbuch für Museen, kirchliche Institutionen, Sammler und Archive,Rheinisches Archiv- und Museumsamt (Schriften zum Kultur- und Museumsmanagement, Publikationen der Abteilung Museumsberatung* 19), Landschaftsverband Rheinland, Bielefeld.
Inspire Directive: Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE). http://inspire.jrc.ec.europa.eu/
Institute of Field Archaeologists, 1991 : *Guidelines for Finds Work*, IFA.
Institute of Field Archaeologists, 2001 : *Standard and Guidance for the collection, documentation, conservation and research of archaeological materials*, IFA.
Institute of Field Archaeologists, 2001 : *Standard and Guidance for archaeological excavation*, IFA.
Institute of Field Archaeologists, 2009 : *Standard and Guidance for the collection, documentation, conservation and research of archaeological materials*, IFA.
Jan J., 2010 : "Úvod do preventivní konzervace", in: Buriánková M., Komárková A. & Šebek F. (eds.): *Úvod do muzejní praxe [Introduction into the Museum Practice],* Asociace muzeí a galerií ČR - Czech Association of Museums and Galleries, Praha, p. 161-244.
Jiráň L. & Kuna M., 2008 : "Modell eines einheitlichen Systems zur Verbreitung archäologischer Daten in der Tschechischen Republik", in: Chytráček M., Gruber H., Michálek J., Rind M.M. & Schmotz K. (eds.): *Fines Transire (Archäologische Arbeitsgemeinschaft Ostbayern/West- und Südböhmen/Oberösterreich* 17), 13. 06. 2007 - 16. 06. 2007, Freistadt.
Jiráň L., Tomášek M., Venclová N., Šoufková E., Broncová A., Ochrana F., Frolík J. & Kuna M., 2003 : "Archeologický ústav AV ČR v Praze: rok poté", in: *Archeologické rozhledy* 55-1, Praha, Archeologický ústav AV ČR, Praha, v.v.i., p. 451-457.
John H. & Kopp-Sievers S. (Hg.), 2001 : *Sicherheit für Kulturgut! Innovative Entwicklungen und Verfahren, neue Konzepte und*

Strategien (Tagungsband Fortbildungszentrum Abtei Brauweiler / Rheinisches Archiv- und Museumsamt 30.09.-01.10.1999) transcript Verlag, Bielefeld.

Kaenel G., 2001 : « Musée et archéologie de terrain en Suisse », in : Balsamo, Isabelle (dir.) : *Tri, sélection, conservation, Quel patrimoine pour l'avenir ? Ouvrage collectif réunissant les Actes de la table ronde organisée sous l'égide de l'Ecole Nationale du Patrimoine les 23, 24 et 25 juin 1999*, Centre des Monuments Nationaux, MONUM, Editions du Patrimoine, Paris, p. 81-84.

Karsten A., Graham K., Jones J., Mould Q., Walton Rogers P., 2012 : *Waterlogged Organic Artefacts. Guidelines on their recovery, Analysis and Conservation,* English Heritage. http://www.english-heritage.org.uk/publications/waterlogged-organic-artefacts/woa-guidelines.pdf

Kattenberg A. & Hessing W.A.M., 2013 : *Toelichting bij de Guidelines Geophysical Survey in Archaeological Field Evaluation van English Heritage*, SIKB, ,18/03/2013. http://www.sikb.nl/upload/documents/archeo/Toelichting%20en%20introductie%20KNA%20Leidraad%20Geofysisch%20onderzoek%2013052013.pdf

Keene S., 1991 : "Audits of Care : a framework for Collections Condition Surveys", in: Norman M., Todd V. (eds.).: *Storage - Preprints of the RAI/UKIC Conference (Restoration* 91) The United Kingdom Institute for Conservation, London, p. 6-16.

Kenmerk : SIKB-CCvD Archeo_S_11_47169,WIJZIGINGSBLAD KNA 3.2 Landbodems, SIKB-CCvD Archeo_S_11_47169, ,12/09/2011. http://www.sikb.nl/upload/documents/PRJ144/Wijzigingsblad%20KNA%2032%20landbodems%20120911.pdf,

Kissel E., 1999 : *De l'usage du restaurateur en conservation préventive (Museum international* vol. 51. n°1, janvier-mars 1999), En français. [date de cons. 16.06.2008]. http://www.ffcr-fr.org/pdevue/kissel.html

Koesling V., 2001 : *Vom Feuerstein zum Bakelit. Historische Werkstoffe verstehen (AdR Schriftenreihe zur Restaurierung und Grabungstechnik* 5/6), Theiss Verlag, Stuttgart.

Komárková A. (ed.), 2008 : *Klimatizace v muzeích, knihovnách a archivech. Sborník příspěvků ze semináře*,e-book (CD), Praha, Asociace muzeí a galerií ČR - Czech Association of Museums and Galleries.

Koutamanis A., Timmermans H.J.P. & Vermeulen I., 1995 : *Visual databases in architecture: recent advances in design and decision making*, Aldershot, Avebury.

Křivánková D. & Kuna M., 2009 : *Databáze dokumentů pro Digitální archiv Archeologického ústavu v Praze. Uživatelská příručka*, Praha, Archeologický ústav AV ČR, Praha, v.v.i.

Kulturrådet, 2007 : *Riksantikvarieämbetets föreskrifter och allmänna råd avseende verkställigheten av 2 kap. 10-13§§ lagen om kulturminnen m.m.* (KRFS 2007:2), Kulturrådets författningssamling. http://www.kulturradet.se/upload/kr/forfattningssamling/KRFS07_2.pdf

Kuna M. & Křivánková D., 2005 : *Archiv 3.0. Systém Archeologické databáze Čech. User manual*, Praha, Archeologický ústav AV ČR, Praha, v.v.i.

Kuna M., 1994 : "The State Archaeological Database", in: *Památky archeologické Supplementum* 1, Praha, Archeologický ústav AV ČR, Praha, v.v.i., p. 221-228.

Kuna M., 1997 : "Archeologická databáze Čech", in: Macháček J. (ed.): *Počítačová podpora v archeologii*, Masarykova univerzita, Brno, p. 105-110.

Kuna M., 2002 : "The Bohemian Archaeological Record - an attempt at an analytical information system", in: Wheatley, D. (ed.).: *Mapping the future of the past. New information technologies for managing the European archaeological heritage*, Universidad de Sevilla, Sanjuán, L.G., p. 45-52.

Kuna M., 2010 : "Digitální archiv české archeologie", in: *Informace* 2, Praha, Knihovna AV ČR, v.v.i., p. 18-21.

Kuna M., 2010 : "Digitální archiv české archeologie", in: *Rekonstrukce a experiment v archeologii. Živá archeologie* 11, Hradec Králové, Univerzita Hradec Králové, p. 109-112.

Kuna M., Bžatek M., Křivánková D., Kundera M., Mazancová M., 2007 : *Digitální archiv Archeologického ústavu v Praze. Uživatelská příručka*, Praha, Archeologický ústav AV ČR, Praha, v.v.i.

Kuna M., Jindáček M., Křivánková, D., Tomášek M. & Vlašaný M., 2009 : *Internetová databáze terénních archeologických výzkumů. Uživatelská příručka,* Praha, Archeologický ústav AV ČR, Praha, v.v.i.

Kuna M., Křivánková D. & Krušinová L., 1995 : ARCHIV 2.0. *Systém archeologické databáze Čech. Uživatelská příručka*, Praha, Archeologický ústav AV ČR, Praha, v.v.i.

Lacroix L. (dir.), 1995 : *La conservation préventive dans les musées*, Centre de conservation du Québec, ICC, UQAM, Montréal.

Landesarchiv Nordrhein-Westfalen / Verband deutscher Archivarinnen und Archivare e.V., *Archivar*. Zeitschrift für Archivwesen,Nordrhein-Westfälisches Hauptstaatsarchiv, Düsseldorf; VdA, ,seit 1947,Düsseldorf.

Lange A.G., 2004 : *The European Reference Collection: founding the future*, in: Lange A.G. (ed.): *Reference Collections. Foundation for Future Archaeology*, ROB, Amersfoort. http://www.cultureelerfgoed.nl/sites/default/files/u4/RefColl_web2.pdf

Lauwerier R.C.G.M., 2011 : *KNA Leidraad Archeozoölogie 1.01*,SIKB, ,10/10/2011. http://www.sikb.nl/upload/documents/archeo/KNA%20Leidraad%20Archeozoologie%20versie%201.01%2010-10-2011.pdf

Lavédrine B., 2003 : *A Guide to preventive Conservation of Photograph Collections*, Getty Conservation Institute, Los Angeles.

Letellier R. (ed.), 2007 : *Recording, Documentation, information management for the Conservation of Heritage Places. Guiding Principles* (Reedition with revision in 2011 by Donhead Publishing Ldt, Shasftesbury), Getty Conservation Institute, Los Angeles.

Longworth C. & Wood B., 2000 : *Standards in Action Book 3. Working with Archaeology*, Museum Documentation Association.

Marechal G., 1988 : *Organisatie van het Belgisch archiefwezen (Miscellanea Archivistica),* Manuale Preprint, Algemeen Rijksarchief en Rijksarchieven in de Provinciën (AGR-ARA)Brussel.

Martingell H. & Saville A., 1996[2] : *The Illustration of Lithic Artefacts: A Guide to drawing Stone Tools for Specialist Reports (Association of Archaeological Illustration & Surveyors Technical Paper 9)*, AAI&S, Oxford.

Martiny V.-G., 1970 : *Archives des édifices et habitations vénérables en Belgique* (*Bulletin de la Classe des Beaux-Arts*, 52/6-9,181-186), Académie Royale de Belgique, Bruxelles.

Mc Cord M., 1994 : "Preventive Conservation and the Holistic Approach to Restoration", in: *Museum Management and Curatorship* 13, n°4, p. 335-339.

Medieval Pottery Research Group, 1998 : *A Guide to the Classification of Medieval Ceramic Forms* (*Occasional Paper* 1), MPRG.

Medieval Pottery Research Group, 2001 : *Minimum Standards for the Processing, Recording, Analysis and Publication of Post-Roman Ceramics* (*Occasional Paper* 2), MPRG.

Memoriav (ed.), 2006 : *Memoriav Empfehlungen Video - Die Erhaltung von Videodokumenten*, Memoriav - Association for the preservation of the audiovisual heritage of Switzerland. http://en.memoriav.ch/dokument/Empfehlungen/empfehlungen_video_de.pdf

Memoriav (ed.), 2006 : *Memoriav Recommendations Video - La sauvegarde de documents vidéo*, Memoriav - Association for the preservation of the audiovisual heritage of Switzerland. http://en.memoriav.ch/dokument/Empfehlungen/empfehlungen_video_fr.pdf

Memoriav (ed.), 2007 : *Memoriav Allgemeine Empfehlungen Film - Film in Archiv, Was tun?,* Memoriav - Association for the preservation of the audiovisual heritage of Switzerland. http://en.memoriav.ch/dokument/Empfehlungen/empfehlungen_allgemein_film_de.pdf

Memoriav (ed.), 2007 : Mem*oriav Empfehlungen Foto - Die Erhaltung von Fotografien, Memoriav* - Association for the preservation of the audiovisual heritage of Switzerland. http://en.memoriav.ch/dokument/Empfehlungen/empfehlungen_foto_de.pdf

Memoriav (ed.), 2007 : *Memoriav Recommendations générales Film - des films dans vos archives, que faire?,* Memoriav - Association for the preservation of the audiovisual heritage of Switzerland. http://en.memoriav.ch/dokument/Empfehlungen/recommandations_generales_film_fr.pdf

Memoriav (ed.), 2007 : *Memoriav Recommendations Photo - La conservation des photographies,* Memoriav - Association for the preservation of the audiovisual heritage of Switzerland. http://en.memoriav.ch/dokument/Empfehlungen/recommandations_photo_fr.pdf

Memoriav (ed.), 2008 : *Audiovisuelle Archive machen Schule / Les archives audiovisuelles font école. Colloque Memoriav Kolloquium 2007*, Baden.

Memoriav (ed.), 2008 : *Memoriav Empfehlungen Ton - Die Erhaltung von Tondokumenten*, Memoriav - Association for the preservation of the audiovisual heritage of Switzerland. http://en.memoriav.ch/dokument/Empfehlungen/empfehlungen_ton_de.pdf

Memoriav (ed.), 2008 : *Memoriav Recommendations Son - La sauvegarde de documents sonores*, Memoriav - Association for the preservation of the audiovisual heritage of Switzerland. http://en.memoriav.ch/dokument/Empfehlungen/recommandations_son_fr.pdf

Memoriav (ed.), 2009 : *Bilder und Töne entziffern / Des images et des sons à déchiffrer. Colloque Memoriav Kolloquium 2008*, Baden.

Memoriav (ed.), 2010 : *L'audiovisuel: source ou illustration? / Audiovisuelle Dokumente: Quelle oder Illustration? Colloque Memoriav Kolloquium 2009*, Baden.

Meyer N., 1990 : « *Gérer le matériel archéologique* », in : Berducou M.-C.(dir.) : *La conservation en archéologie*, Masson, Paris, p. 408-418.

Michalsky S., 1992 : *A systematic Approach to the Conservation (Care) of Museum Collections,* Canadian Conservation Institute, Ottawa.

Michielsen E., Verhaert R., Kwanten G. & *al.*, 2004 : *Archiveren kun je leren. Erfgoedzorg en archief.* Syllabus, VCM Contactforum voor Erfgoedverenigingen, Antwerpen.

Ministère de la Culture et de la Communication/ Direction de l'Architecture et du Patrimoine / Direction de Musées de France /Agence ABCD, 2008 : *Du dépôt archéologique au centre de conservation et d'étude (CCE) : programmation du projet scientifique et culturel. Guide méthodologique*, Ministère de la culture et de la Communication. http://www.archeologie.culture.gouv.fr/pdf/cce_guide.pdf

Museum Documentation Association, 1997 : *Archaeological Object Thesaurus*, MDA.

Museums and Galleries Commission, 1992 : *Standards in the Museum Care of Archaeology Collections*, MGC.

Museums and Galleries Commission, 1996 : *Standards in the Museum Care of Photographic Collections*, MGC.

Museums Libraries and Archives, 2003 : *Accreditation Scheme for Museums and Galleries*, MLA.

Nachbar P. & Richert P., 2003 : *Rapport d'information fait au nom de la Commission des affaires culturelles par la mission d'information chargée d'étudier la gestion des collections des musées / «Collections des musées : là où le pire côtoie le meilleur» ; Rattaché pour ordre au procès-verbal de la séance du 2 juillet 2003 ; Enregistré à la Présidence du Sénat le 3 juillet 2003 (Les rapports du Senat),* Senat, Paris.

National Library of Australia (ed.), 2003 : *Guidelines for the Preservation of Digital Heritage*, UNESCO, Information Society Division CI-2003/WS/3,170. http://unesdoc.unesco.org/images/0013/001300/130071e.pdf

Nazet J. & Vincent J.-P., 1992 : *Actes de la journée d'étude franco-belge sur « la préservation des documents », organisée aux Archives de l'Etat à Tournai le 5 juin 1991 (Miscellanea Archivistica, Studia* 19), Archives générales du Royaume, Bruxelles.

Neuroth H., Osswald A., Scheffel R., Strathmann S. & Huth K. (Hrsg.), 2010 : *nestor Handbuch: Ein kleine Enzyklopädie der digitalen Langzeitarchivierung,* Kompetenznetzwerk Langzeitarchivierung und Langzeitverfügbarkeit digitaler Ressourcen für Deutschland. http://www.nestor.sub.uni-goettingen.de/handbuch/index.php Version 2.3

Neuroth H., Strathmann S., Osswald A., Scheffel R., Klump J.& Ludwig J. (Hg.), 2012 : *Langzeitarchivierung von Forschungsdaten. Eine Bestandsaufnahme (nestor Handbücher* version 1.0,378,2012), Boizenburg. http://www.nestor.sub.uni-goettingen.de/bestandsaufnahme/index.php

Neustupný E.(ed.), 1998 : *Space in Prehistoric Bohemia*, Institute of Archaeology, Prag.

Niederhäuser P., 2004 : *Archive und Archivierung*, Merkblätter des Bundesamt für Bevölkerungsschutz, Kulturgüterschutz, Bundesamt für Bevölkerungsschutz, Bern. http://www.bevoelkerungsschutz.admin.ch/internet/bs/de/home/themen/kgs/publikationen_kgs/merkblatt/merkblatt_archiv.parsys.0001.downloadList.00011.DownloadFile.tmp/archivd.pdf

Nijssen R., 1993 : *Archives et documentation : guide à l'usage des associations et des particuliers (Miscellanea Archivistica, Manuale* 14), Algemeen Rijksarchief / Archives générales du Royaume, Brussel/Bruxelles.

OAIS – Reference model for an Open Archival Information System. http://public.ccsds.org/publications/archive/650x0m2.pdf

Oakley V. & Jain K.K., 2002 : *Essentials in the Care and Conservation of Historical Ceramic Objects*, Archetype Books, London.

Ohnesorg K. & Gerber U., 2010 : "Geodaten (fast) für die Ewigkeit", in: *eGov Präsenz* n°1/10, p. 58-60.

Ólafsson G., 1995 : *Documentation Standards for Archaeological Field Surveys in Iceland*, Þjóðminjasafn Íslands, Reykjavík.

Ólafsson G., 1999 : "*Recording standards for archaeological field surveys* in Iceland", in: *Our Fragile Heritage. Documenting the Past for the Future,* The National Museum of Danmark, p. 75-81.

Ory Lavollée B., 2002 : *La diffusion numérique du patrimoine, dimension de la politique culturelle: rapport à Mme la Ministre de la culture et de la communication, Ministère de la Culture et de la Communication*, Paris.

Ostrow S.E., 1998 : *Digitizing Historical Pictorial Collections for the Internet*, Council on Library and Information Resources / European Commission on Preservation and Access, Washington D.C., Amsterdam.

Owen J., 1995 : *Towards an Accessible Archaeological Archive ,Society of Museum Archaeologists*.

Pacifico M.F. & Wilsted T.P., 2009 : *Archival and special collections facilities: guidelines for archivists, librarians, architects and engineers,* Society of American Archivists, Chicago.

Païn S., 2003 : *Normes pour le versement des collections et de la documentation de fouille*, Service archéologique départemental des Yvelines, Montigny-le-Bretonneux.

Pálsdóttir S.U., 2013 : *Skráningarstaðlar fornleifa*, Minjastofnun Íslands. http://www.minjastofnun.is/media/skjol-i-grein/skraningarstadlar_2013_fornleifar.pdf

Papinot J.-Cl. & Verron G., 2008 : *Rapport de synthèse à Monsieur le directeur de l'architecture et du patrimoine sur la conservation du mobilier archéologique,* Ministère de la Culture. http://www.culture.gouv.fr/culture/conservation/fr/preventi/papinot/papinot1.pdf

PDF/A Competence Center. http://www.pdfa.org/competence-centers/pdfa-competence-center/

Pearson C., 1987 : *Conservation of Marine Archaeological Objects, (Butterworth Series in Conservation and Museology* 297), Butterworth & Co, London.

Pedersen K.B., Glud K.R. & Kejser U. (translated by Sigurðardóttir M.K., Baldvinsdóttir I.L.), 2011 : *Varðveitum myndina. Leiðbeiningar um varðveislu á ljósmyndum og filmuefni,* Þjóðminjasafn Íslands, Ljósmyndasafn Reykjavík, Reykjavík. http://www.thjodminjasafn.is/media/rannsoknir/vardveitum_myndina.pdf

Perrin K., 2002 : *Archaeological Archives: Documentation, Access and Deposition. A Way Forward*, English Heritage.

Peyceré D., 2008 : *Architecture et archives numériques, l'architecture à l'ère numérique: un enjeu de mémoire = Architecture and digital archives, Architecture in the Digital Age : a Question of Memory (Archigraphy Thématiques)* Éditions Infolio, Gollion.

Pfenninger K., 2001 : *Bildarchiv digital (Rundbrief Fotografie, Sonderheft* 7), Arbeitsgruppe «Fotografie im Museum» des Museumsverbands Baden-Württemberg e.V.; Sektion Geschichte und Archive der Deutschen Gesellschaft für Photographie e.V.; Sächsischer Museumsbund e.V., Esslingen.

Poggiani-Keller R. & Oosterbeek L., 2009 : *Rock art data base: new methods and guidelines in archiving and cataloguing, Proceedings of the XV world congress IUPPS 29*, Archaeopress, Oxford.

Poole N. & Dawson A., 2013 : *Benchmarks in Collection Care. Using Benchmarks to Sustain Collections*, Collections Trust. http://www.collectionslink.org.uk/programmes/benchmarks-for-collections-care

Prehistoric Ceramics Research Group, 1997 : *The Study of Later Prehistoric Pottery: General Policies and Guidelines for Analysis and Publication (Occasional Paper* 1 & 2), PCRG.

Prytherch R.J., 2000 : *Harrod's Librarians' glossary and reference book: a directory of over 9,600 terms, organizations, projects and acronyms in the areas of information management, library science, publishing and archive management*, Gower / Ashgate Pub, Aldershot / Brookfield.

Putt N. & Slade S., 2004 : *Teamwork in Preventive Conservation* , ICCROM, e-doc 2004/01. http://www.iccrom.org/eng/02info_en/02_04pdf-pubs_en/ICCROM_doc01_Teamwork.pdf

Rehm C. & Reininghaus W. (Hrsg.), 2011 : *Richtlinien zu Kulturgut und Notfallbewältigung (Veröffentlichungen des Landesarchivs Nordrhein-Westfalen* 42), Landesarchiv NRW, Düsseldorf.

Rensink E., 2008 : *KNA Leidraad Beekdalen in Pleistoceen Nederland*, SIKB 01-07-2008 versie 1.0, ,1/07/2008. http://www.sikb.nl/upload/documents/archeo/leidraden/KNA%20Leidraad%20Beekdalen%20in%20Pleistoceen%20Nederland%20versie%201_0.pdf

Repp B. (Red.), 1998 : *Das Museumsdepot. Grundlagen - Erfahrungen - Beispiele*, Weltkunst-Verlag, München.

Richards J. & Robinson D, 2000 : *Digital Archives from Excavation and Fieldwork: Guide to Good Practice*, Archaeology Data Service.

Richards J. (ed.), 2000² : *Digital archives from excavation and fieldwork: a guide to good practice*, Archaeology Data Service, Arts and Humanities Data Service, Oxbow Books, Oxford.

Rietsch J.-M., Pascon J.-L. & Morand-Khalifa N., 2010 : Mise en œuvre de la dématérialisation, Dunod, Paris.

Riksantikvarieämbetet, 2012 : *Kapitel 7, Fornfynd, i Vägledning för tillämpning av Kulturminneslagen. Uppdragsarkeologi (2 kap, 10-13§§) Tillämpning av Riksantikvarieämbetets föreskrifter och allmänna råd avseende verkställigheten av 2 kap.10-13§§ lagen (1988:950) om kulturminnen,* Riksantikvarieämbetet. http://old.raa.se/cms/showdocument/documents/extern_webbplats/2012/mars/varia2012_31.pdf

Riksantikvarieämbetet, 2012 : *Fysiskt omhändertagande av arkeologiskt fyndmaterial*, Riksantikvarieämbetet. http://www.raa.se/wp-content/uploads/2012/09/rapp2012_5.pdf

Riksantikvarieämbetet, 2012 : *Kapitel 8, Rapportering och dokumentationsmaterial, i Vägledning för tillämpning av Kulturminneslagen. Uppdragsarkeologi (2 kap, 10-13§§) Tillämpning av Riksantikvarieämbetets föreskrifter och allmänna råd avseende verkställigheten av 2 kap.10-13§§ lagen (1988:950) om kulturminnen*, Riksantikvarieämbetet http://www.raa.se/publicerat/varia2012_33.pdf

Riksantikvarieämbetet, 2012 : *Vägledning för tillämpning av Kulturminneslagen. Uppdragsarkeologi (2 kap, 10-13§§) Kapitel 1-9 Tillämpning av Riksantikvarieämbetets föreskrifter och allmänna råd avseende verkställigheten av 2 kap.10-13§§ lagen (1988:950) om kulturminnen,* Riksantikvarieämbetet.
http://www.raa.se/wp-content/uploads/2012/06/Vägledning-Uppdragsarkeologi-avsnitt-1-9.pdf

Riksantikvarieämbetet, 2012 : *Arkivering av arkeologiskt dokumentationsmaterial. Bilaga till kapitel 8, Rapportering och* dokumentationsmaterial, i Vägledning för tillämpning av Kulturminneslagen. Uppdragsarkeologi (2 kap, 10-13§§), Riksantikvarieämbetet. http://www.raa.se/publicerat/varia2012_32.pdf

Riksarkivet, 1991 : *Riksarkivets föreskrifter och allmänna råd om arkiv hos statliga myndigheter (RA-FS* 1991:1), Riksarkivets författningssamling. http://www3.ra.se/ra-fs/ra-fs_1991-01.pdf

Riksarkivet, 2006 : *Riksarkivets föreskrifter och allmänna råd om handlingar på papper (RA-FS* 2006:1), Riksarkivets författningssamling. http://www3.ra.se/ra-fs/ra-fs_2006-01.pdf

Riksarkivet, 2006 : *Riksarkivets föreskrifter och allmänna råd om handlingar på mikrofilm (RA-FS* 2006:2), Riksarkivets författningssamling. http://www3.ra.se/ra-fs/ra-fs_2006-02.pdf

Riksarkivet, 2006 : *Riksarkivets föreskrifter och allmänna råd om handlingar på ritfilm och reprografisk film (RA-FS* 2006:3), Riksarkivets författningssamling. http://www3.ra.se/ra-fs/ra-fs_2006-03.pdf

Riksarkivet, 2006 : *Riksarkivets föreskrifter och allmänna råd om tekniska krav och certifiering (RA-FS* 2006:4), Riksarkivets författningssamling. http://www3.ra.se/ra-fs/ra-fs_2006-04.pdf

Riksarkivet, 2009 : *Riksarkivets föreskrifter och allmänna råd om elektroniska handlingar (upptagningar för automatiserad behandling) (RA-FS* 2009:1), Riksarkivet. http://www3.ra.se/ra-fs/ra-fs_2009-01.pdf

Riksarkivet, 2009 : *Riksarkivets föreskrifter och allmänna råd om tekniska krav för elektroniska handlingar (upptagningar för automatiserad behandling) (RA-FS* 2009:2), Riksarkivet. http://www3.ra.se/ra-fs/ra-fs_2009-02.pdf

Riksarkivet, 2013 : *Riksarkivets föreskrifter och allmänna råd om planering, utförande och drift av arkivlokaler (RA-FS* 2013:4), Riksarkivets författningssamling. http://riksarkivet.se/Media/pdf-filer/doi-t/RA-FS%202013-04.pdf

Rohde-Enslin S. & Allen K., 2009[2] : *Nicht von Dauer. Kleiner Ratgeber für die Bewahrung digitaler Daten in Museen (nestor / Institut für Museumskunde, ratgeber* 1). http://files.d-nb.de/nestor/ratgeber/ratg01_2_en.pdf

Rombauts W. & de Stobbeleir D., 1999 : *Exigences minimales pour la construction et l'équipement de dépôts et de locaux d'archives* (*Miscellanea Archivistica*, *Manuale* 32), Algemeen Rijksarchief / Archives générales du Royaume, Brussel/Bruxelles.

Rowell R.M. & Barbour R.J. (eds.), 1990 : *Archaeological Wood. Properties, Chemistry and Preservation* (*Advances in Chemistry Series* 225), American Chemical Society, Washington D.C.

Roy A. & Smith P. (eds.), 1996 : "Field conservation at Kaman-Kalehoyük: An holistic approach", in: *Archaeological conservation and its consequences. Preprints of the Contributions to the Copenhagen Congress, 26-30 August 1996*, London, p. 22-26.

Royal Commission on the Ancient and Historical Monuments of Scotland, 2005 : *Digital archiving: guidelines for depositors,* RCAHMS.

Royal Commission on the Ancient and Historical Monuments of Scotland, 1996 : *Guidelines for archiving of archaeological projects*, RCAHMS.

Ruppel J., 1998 : *Magazinierung von archäologischen Eisenobjekten,* Diplomarbeit am Institut für Technlogie der Malerei (unpubl.), Staatliche Akademie der Bildenden Künste, Stuttgart.

s.n., 1949 : *Tryckfrihetsförordningen (TF 1949:105)*, Svensk författningssamling. http://www.notisum.se/rnp/sls/lag/19490105.htm,

s.n., 1954 : *Haager Konvention zum Schutz von Kulturgut bei bewaffneten Konflikten vom 14. Mai 1954.*

s.n., 1968-2001 : *Arbeitsblätter für Restauratoren* 1-34, Arbeitsgemeinschaft der Restauratoren, Arbeitsgemeinschaft des Technischen Museumspersonals, RGZM, Mainz.

s.n., 1988 : *Förordning (1988:1188) om kulturminnen m.m.,* Svensk författningssamling. http://www.riksdagen.se/sv/Dokument-Lagar/Lagar/Svenskforfattningssamling/Forordning-19881188-om-kult_sfs-1988-1188/?bet=1988:1188

s.n., 1988 : *Lag (1988:950) om kulturminnen m.m.,Svensk författningssamling*. http://www.riksdagen.se/sv/Dokument-Lagar/Lagar/Svenskforfattningssamling/Forordning-19881188-om-kult_sfs-1988-1188/?bet=1988:1188

s.n., 1990 : *Arkivlag (1990:782),* Svensk författningssamling. http://www.riksdagen.se/sv/Dokument-Lagar/Lagar/Svenskforfattningssamling/Arkivlag-1990782_sfs-1990-782/?bet=1990:782

s.n., 1990 : *The elements of Archaeological Conservation*, Routledge, London.

s.n., 1991 : "Audits of Care: a framework for Collections Condition Surveys", in: Norman M. & Todd V. (eds.): *Storage - Preprints of the RAI/UKIC Conference* (*Restoration* 91), The United Kingdom Institute for Conservation, London, p. 6-16.

s.n., 1994 : "Learning from the history of the Preventive Conservation", in: Roy A. & Smith P. (eds.): *Preventive Conservation, Practice, Theory and Research. Preprints of the Contributions to the Ottawa Congress, 12 – 16 September 1994,* The International Institute for Conservation ,London, p. 1-7.

s.n., 1995 : *Guide méthodologique pour la création d'un espace documentation* (*Les Cahiers du Praticien* 11), Association nationale pour la formation professionnelle des adultes, Montreuil.

s.n., 1996 : "Developing a conservation strategy in a rescue archaeology environment", in: Roy A. & Smith P. (eds.): *Archaeological conservation and its consequences. Preprints of the Contributions to the Copenhagen Congress, 26 – 30 August 1996,* International Institute for Conservation, London, p. 133-136.

s.n., 1997 : *Dem «Zahn der Zeit» entrissen. Neue Forschungen und Verfahren zur Schädlingsbekämpfung im Museum (Publikationen der Abt. Museumsberatung, Landschaftsverband Rheinland* 2), Rheinisches Archiv- und Museumsamt, Abt. Museumsberatung, Köln.

s.n., 1998 : *Archieftoezicht: handelingen van de studiedag gehouden te Brussel op 15 september 1997 = Surveillance d'archives: actes de la journée d'étude tenue à Bruxelles le 15 septembre 1997 (Miscellanea Archivistica, Studia* 109), Algemeen Rijksarchief / Archives générales du Royaume, Brussel/Bruxelles.

s.n., 1998 : *Nicht ausgestellt! Das Depot - der andere Teil der Sammlung*, Tagungsbericht zum 9. Bayerischen Museumstag, Schweinfurt 9.-11.J Juli, München.

s.n., 2000 : *Manuel de traitement des archives d'architecture XIXe-XXe siècles*, Conseil International des Archives, Paris.
s.n., 2000 : *Recommendations for the storage and exhibition of archival documents*,BS5454.
s.n., 2002 : *Trusted Digital Repositories: Attributes and Responsibilities. An RLG-OCLC Report*, RLG. http://oclc.org/research/activities/trustedrep.html
s.n., 2003 : *Archaeological field manual. 3rd edition*, Fornleifastofnun Íslands ses. http://www.instarch.is/instarch/upload/files/utgafa/archaeological_field_manual__3rd_ed.pdf,
s.n., 2003 : *Information and documentation – Document storage requirements for archive and library material,* ISO 11799.
s.n., 2004 : *Conservation at the Getty. Sustainable Access: A discussion about implementing Preventive Conservation* (*Conservation at the Getty Newsletter* 19,1) Getty Conservation Institute. http://www.getty.edu/conservation/publications/newsletters/19_1/dialogue.html
s.n., 2007 : *Documenten klasseren, selecteren, archiveren*, Provincie Antwerpen, Antwerpen.
s.n., 2009 : *Gestion des archives d'une unité administrative*, Ministère de la Région de Bruxelles-Capitale. Secrétariat général. Cellule Archivage, Bruxelles.
s.n., 2009 : *Offentlighets och sekretesslagen (OSL 2009:400),* Svensk författningssamling. http://www.riksdagen.se/sv/Dokument-Lagar/Lagar/Svenskforfattningssamling/Offentlighets--och-sekretessla_sfs-2009-400/?bet=2009:400
s.n., 2011 : *Handbók um varðveislu safnskosts,* Þjóðskjalasafn Íslands, Þjóðminjasafn Íslands. http://www.thjodminjasafn.is/minjar-og-rannsoknir/forvarsla/handbaekur/nr/2935
s.n., 2011 : *Lexique de terminologie archivistique*, Fédération Wallonie-Bruxelles, Bruxelles.
s.n., 2011 : Lög *um Þjóðminjasafn Íslands* nr. 140/2011. http://www.althingi.is/lagas/nuna/2011140.html
s.n., 2011 : *DIN 31645 Information und Dokumentation - Leitfaden zur Informationsübernahme in digitale Langzeitarchive,* DIN - Deutsches Institut für Normung e.V., Beuth Verlag. http://www.din.de
s.n., 2012 : *Guidelines On the Care of Archaeological Artefacts,* Þjóðminjasafn Íslands. http://www.thjodminjasafn.is/media/adofinni/Guidelines-on-the-Care-of-Archaeological-Finds-for-Archaeologists_10--2012.pdf
s.n., 2012 : *Lög um menningarminjar* nr. 80/2012. http://www.althingi.is/lagas/nuna/2012080.html
s.n., 2013 : *Reglur um veitingu leyfa til forleifarannsókna sem hafa jarðrask í för með sér,* Minjastofnun Íslands. http://www.stjornartidindi.is/Advert.aspx?ID=fdf2a2a7-2de0-426f-ac7c-ae1cc57334bc
s.n., 2013 : *Spectrum 3.1 - The UK Museum Documentation Standard, deutsche erweiterte Fassung.* http://www.ag-sammlungsmanagement.de/images/Gesamtdokument/Stand_Marz_2013/spectrum-3-1-de_2013-03-26.pdf
s.n., s.d. : *CCI Notes*, Canadian Conservation Institute (CCI) / Institut Canadien de Conservation (ICC), Ottawa.
s.n., s.d. : *Forvarsla - Þjóðskjalasafn Íslands,* Þjóðskjalasafn Íslands, Reykjavík.
s.n., s.d. : *Gestion des archives au sein du M.R.B.C. Conservation des archives au centre d'archivage du C.C.N.,* Ministère de la Région de Bruxelles-Capitale (AED), Bruxelles.
s.n., s.d. : *Digital archive of Šechtl & Voseček Studios,* Tábor, CR. http://sechtl-vosecek.ucw.cz/en/cml/dir/index.html
s.n., s.d. : *Web page of the AREA IV Project (Archives of European Archaeology).* http://www.area-archives.org/index.html
s.n., s.d. : *Web page of the Museum Fotoatelier Seidel,* Český Krumlov. http://www.seidel.cz/docs/de/seidel_home.xml
s.n., s.d. : *Web page of the State Regional Archives Třeboň.* http://digi.ceskearchivy.cz/DA?lang=en& ,
Satchell J. & Ransley J., 2009 : *Securing a Future for Maritime Archaeological Archives,* Hants and Wight Trust for Maritime Archaeology.
Sayer-Degen L., 2012 : *Langzeiterhaltung von 3D-Röntgen-Computertomographien in der Archäologischen Denkmalpflege* (*nestor edition* 5). http://files.dnb.de/nestor/edition/05-sayer-degen.pdf
Schäfer U. & Bickhoff N. (ed.), 1999 : *Archivierung elektronischer Unterlagen (Werkhefte der Staatlichen Archivverwaltung Baden-Württemberg, Serie A Landesarchivdirektion Heft* 13) Landesarchivdirektion Baden-Württemberg, Stuttgart.
Schärer M. R., 2008 : "Musealisation is an unstable and subjective sign collecting process", : *Muzealizace v soudobé společnosti a poslání muzeologie. Sborník [Musealization in contemporary society and the role of museology. Anthology],* Asociace muzeí a galerií ČR - Czech Association of Museums and Galleries, Praha, p. 100-103.
Schieweck A. & Salthammer T., 2006 : *Schadstoffe in Museen, Bibliotheken und Achiven: Raumluft - Baustoff - Exponate,* Fraunhofer Wilhelm-Klauditz-Institut, Braunschweig.
Schmidt A. & *al*., 2001 : *Geophysical Data in Archaeology, a guide to good practice,* Archaeology Data Service.
Schüpbach H., 2009 : *Mikroverfilmung im Kulturgüterschutz* (*Forum KGS* n° 14/2009), Bundesamt für Bevölkerungsschutz, Bern. http://www.bevoelkerungsschutz.admin.ch/internet/bs/de/home/themen/kgs/publikationen_kgs/forum_kgs.parsys.000100.DownloadFile.tmp/2009forum14print.pdf
Schüpbach H., 2011 : *Archäologie und Kulturgüterschutz* (*Forum KGS* n° 17/2011), Bundesamt für Bevölkerungsschutz, Bern. http://www.bevoelkerungsschutz.admin.ch/internet/bs/de/home/themen/kgs/publikationen_kgs/forum_kgs.parsys.00014.DownloadFile.tmp/2011forum17print.pdf
Schüpbach H., 2011 : *Sicherstellungsdokumentation und Kulturgüterschutz* (*Forum KGS* n° 18/2011), Bundesamt für Bevölkerungsschutz, Bern. http://www.bevoelkerungsschutz.admin.ch/internet/bs/de/home/themen/kgs/publikationen_kgs/forum_kgs.parsys.00013.DownloadFile.tmp/2011forum18print.pdf
SIKB, 2007 : *Kwaliteitsnorm Nederlandse Archeologie (KNA) Waterbodems Versie 3.1,* SIKB, 10/12/2007. http://www.sikb.nl/upload/documents/KNA30/INHOUDSOPGAVE%20KNA%20WATERBODEMS_KNA%20versie%203_1.pdf
SIKB, 2009 : *Officiële doc._S_08_32913,Boordelingsrichtlijn voor het procescertificaat voor Archeologisch Onderzoek,* SIKB, ,8/09/2009. http://www.sikb.nl/upload/documents/archeo/BRL%204000%20versie%201_1_S_08_32913.pdf
SIKB, 2010 : *Kwaliteitsnorm Nederlandse Archeologie (KNA) Landbodems Versie 3.2,* SIKB, 1/03/2010. http://www.sikb.nl/richtlijnen_detail.asp?id=10182&tag
SIKB, 2012 : *Protocol Uitwisselmodel Deponeren Archeologische Vondsten,* SIKB, 23/11/2012. http://www.sikb.nl/upload/documents/BRL0100/SIKB0102_2.1.0_UML_20121123_S_12_53317.pdf

Staatssammlung für Anthropologie und Paläoanatomie München, 2005 : *Bergung/Anlieferung von Skelettmaterial*,(Stand 2005), Staatssammlung für Anthropologie und Paläoanatomie München. http://www.sapm.mwn.de/index.php?option=com_content&view=article&id=59&Itemid=67

Stadlin D., 2006 : *Anforderungen an die KGS-Sicherstellungsdokumentation* (*Guidelines KGS* n° 2/2006), Bundesamt für Bevölkerungsschutz, Bern. http://www.bevoelkerungsschutz.admin.ch/internet/bs/de/home/themen/kgs/publikationen_kgs/guideline.parsys.0004.downloadList.00041.DownloadFile.tmp/guidelines2.pdf

Stanley Price N. P., 1995[2] : *Conservation on Archaeological Excavations*, ICCROM, Rome.

Stanley Price N.P., 2014 : *Conservation Practices on Archaeological Excavations: Principles and Methods,* Getty Conservation Institute, Los Angeles.

Statens historiska museer, 2007 : *Regler för inlämning av arkeologiska fynd till Statens Historiska Museer,* Statens Historiska Museum, Statens Historiska Museer. http://www.shmm.se/Documents/regler_anvisningar/Inlamningfynd.pdf

Stiff M. & McKenna G., 2000 : *Standards in Action Book 2,SPECTRUM IT Guide,* MDA.

Streinz R., 1998: *Handbuch des Museumsrechts 4: Internationaler Schutz von Museumsgut (Berliner Schriften zur Museumskunde)* Opladen.

Study Group for Roman Pottery, 1994 : *Guidelines for Archiving of Roman Pottery*, SGRP.

Sullivan L.P. & Childs S.T., 2003 : *Curating Archaeological Collections From the Field to the Repository,* (*Archaeologists Toolkit* 6), AltaMira Press.

Suter R., 2011 : *Mikroklima in Kulturgüterschutzraümen. Bericht im Auftrag des Fachbereichs Kulturgüterschutz (KGS) im Bundesamt für Bevölkerungsschutz (BABS) (KGS Experten Report n°03.2011),* Bundesamt für Bevölkerungsschutz, Berne.

Swedish Standard Institute, 2000 : *SS-ISO 11798 Dokumentation - beständighet och hållbarhet hos skrift på papper - krav och provningsmetoder,* Swedish Standard Institute.

Szczepanowska H.M., 2013 : *Conservation of Cultural heritage : Key Principles and Approaches,* Routledge, London, New York.

Taylor, J, 2005 : "An integrated approach to risk assessments and condition surveys", in: *JAIC* 44, Nb. 2, art. 6, p. 127-141. http://aic.stanford.edu/jaic/articles/jaic44-02-006_appx.html

The Church of England & English Heritage, 2005 : *Guidance for best practice for treatment of human remains excavated from Christian burial grounds in England,* The Church of England and English Heritage.

The Historical Metallurgy Society Ltd, 2002 : *The Care and Curation of Metallurgical Samples* (*Archaeology Datasheet* 15),The Historical Metallurgy Society Ltd.

Tjalsma H., 2006 : *Archiveren van digitaal academisch erfgoed : een verslag als voorbeeld* (*DANS Studies in digital archiving* 2), DANS (Data Archiving and Network Services), Den Haag.

Toebak P. M., 2007 : *Records Management. Ein Handbuch*, Baden.

Tol A.J., Verhagen, J.W.H.P. & Verbruggen M., 2012 : KNA Leidraad inventariserend veldonderzoek Deel: karterend booronderzoek, SIKB, 4/12/2012. http://www.sikb.nl/upload/documents/archeo/leidraden/KNA%20Leidraad%20IVO%20karterend%20booronderzoek%20definitief_04122012%20v%202.0.pdf

Van den Eynde S., 2001 : *Wat archiveren en hoe ? : Op zoek naar de rol van PKI voor digitale archieven,* Digitale Archivering in Vlaamse Instellingen en Diensten:Stadsarchief; Katholieke Universiteit Leuven. Interdisciplinair Centrum voor Recht en Informatica, Antwerpen, Leuven. http://www.edavid.be/davidproject/teksten/Rapporten/Rapport6.pdf

Vaudou M.-O., 2004 : « Inventaire et gestion globale en archéologie : l'exemple du Musée de Neuchâtel », in : *Museum International* 223, p. 66-74.

Verhagen J.W.H.P., Rensink E., Bats M. & Crombé Ph., 2011 : *Optimale strategieën voor het opsporen van Steentijdvindplaatsen met behulp van booronderzoek. Een statistisch perspectief,* Rijksdienst voor het Cultureel Erfgoed. http://www.sikb.nl/upload/documents/archeo/RAM%20197%20Optimale%20strategieen%20eindversie.pdf

Von Lerber K. & Huber J., 2005 : *Werden Normen den spezifischen Anforderungen der Kulturgüter- Erhaltung gerecht?* Nike Bulletin. http://www.nike-kultur.ch/fileadmin/user_upload/Bulletin/2005/05/pdf/von_lerber_huber_normen.pdf

Vonesch G.-W., 2004 : « Les Archives fédérales des monuments historiques – un abri pour plus de deux millions de documents » in : *Journal OFC* 13 p. 4-5.

VSA-AAS, 2013: *KOST-CECO Terminologie : Verzeichnis Nützlicher Begriffe für Schweizer Archive,* VSA-AAS Verein Schweizerischer Archivarinnen und Archivare. http://www.vsa-aas.org/de/doku/hilfsmittel/terminologie/

Walker K., 1990 : *Guidelines for the preparation of excavation archives for long-term storage,* UKIC Archaeology Section, London.

Waller R. & Michalski S., 2004 : *Effective Preservation: From reaction to prediction* (*Conservation at the Getty Newsletter* 19,1), Getty conservation Institute. http://www.getty.edu/conservation/publications/newsletters/19_1/feature.html

Waller R., 1994 : "Conservation risk assessment: a strategy for managing resources for preventive conservation", in: Roy A. & Smith P. (eds.): *Preventive Conservation, Practice, Theory and Research. Preprints of the Contributions to the Ottawa Congress, 12 – 16 September 1994,* The International Institute for Conservation, London, p. 12-16.

Walne P., Evans F.B. & Himly F.-J., 1984 : *Dictionary of archival terminology = Dictionnaire de terminologie archivistique* (*ICA handbook series / Conseil International des Archives* 2), Saur, München, Paris, London.

Wansleeben M. & van den Dries M.H., 2008 : *Wegwijzer digitaal deponeren: archeologie,* Aksant, Amsterdam,

Ward A., 1990 : *A manual of sound archive administration,* Gower, Aldershot / Brookfield.

Watkinson D. & Neal V., 1998[3] : *First aid for finds,* Rescue (Trust), Institute for Conservation of Historic and Artistic Works, Archaeology Section Museum of London, Hertford.

Welter G., 1975 : *Die Reinigung und Erhaltung von Münzen und Medaillen,* Braunschweig.

Wendowski-Schünemann A., 2013 : *Archäologisches Zeichnen: Keramik-Metall-Glas (Archäologische Berichte des Landkreises Rotenburg (Wümme)* 18), Archäologische Kommission für Niedersachsen, Oldenburg.

Whyte A. & Wilson A., 2010 : *How to Appraise and Select Research Data for Curation (DCC How To Guides),* Digital Curation Center, Edinburgh.

Willems W.J.H. & van den Dries M.H., 2007 : "Quality assurance in archaeology, the Dutch perspective", in: Willems W.J.H. & van den Dries M.H., *Quality management in archaeology*, s.l.

Willems W.J.H., 2005 : *Contract Archaeology and Quality Management in the Netherlands*, in: *Innovatie in de Nederlandse Archeologie*, Gouda.

Winghart S. (Hrsg.), 2013 : *Archäologie und Informationssysteme* (*Arbeitshefte zur Denkmalpflege in Niedersachsen* 42), Niedersächsisches Landesamt für Denkmalpflege, Hameln.

Winsor P., Henderson J. & Hughes S., 2002 : *Benchmarks in collection care for museums, archives and libraries : a self-assessment checklist, Resources,* The Council for Museums, Archives and Libraries. http://www.collectionslink.org.uk/programmes/benchmarks-for-collections-care/691-benchmarks-in-collection-care-for-museums-archives-and-libraries

Žalman J., 2006 : *Přiručka muzejníkova II. Metodické texty a právní normy,* Asociace muzeí a galerií ČR - Czech Association of Museums and Galleries.

Žalman, J., 2010 : *Příručka muzejníkova I. Tvorba sbírek, evidence, inventarizace a bezpečnost sbírek v muzeích a galeriích*, Praha, 2nd edition, Asociace muzeí a galerií ČR - Czech Association of Museums and Galleries

Zidda G., 2005 : *Archaeological excavations and conservation. APPEAR Project – Accessibility Project. Sustainable Preservation and Enhancement of Urban Subsoil Archaeological Remains,* APPEAR Position paper 7, ICOMOS. http://www.in-situ.be/contrib_3_en.pdf

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ENGLISH HERITAGE

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