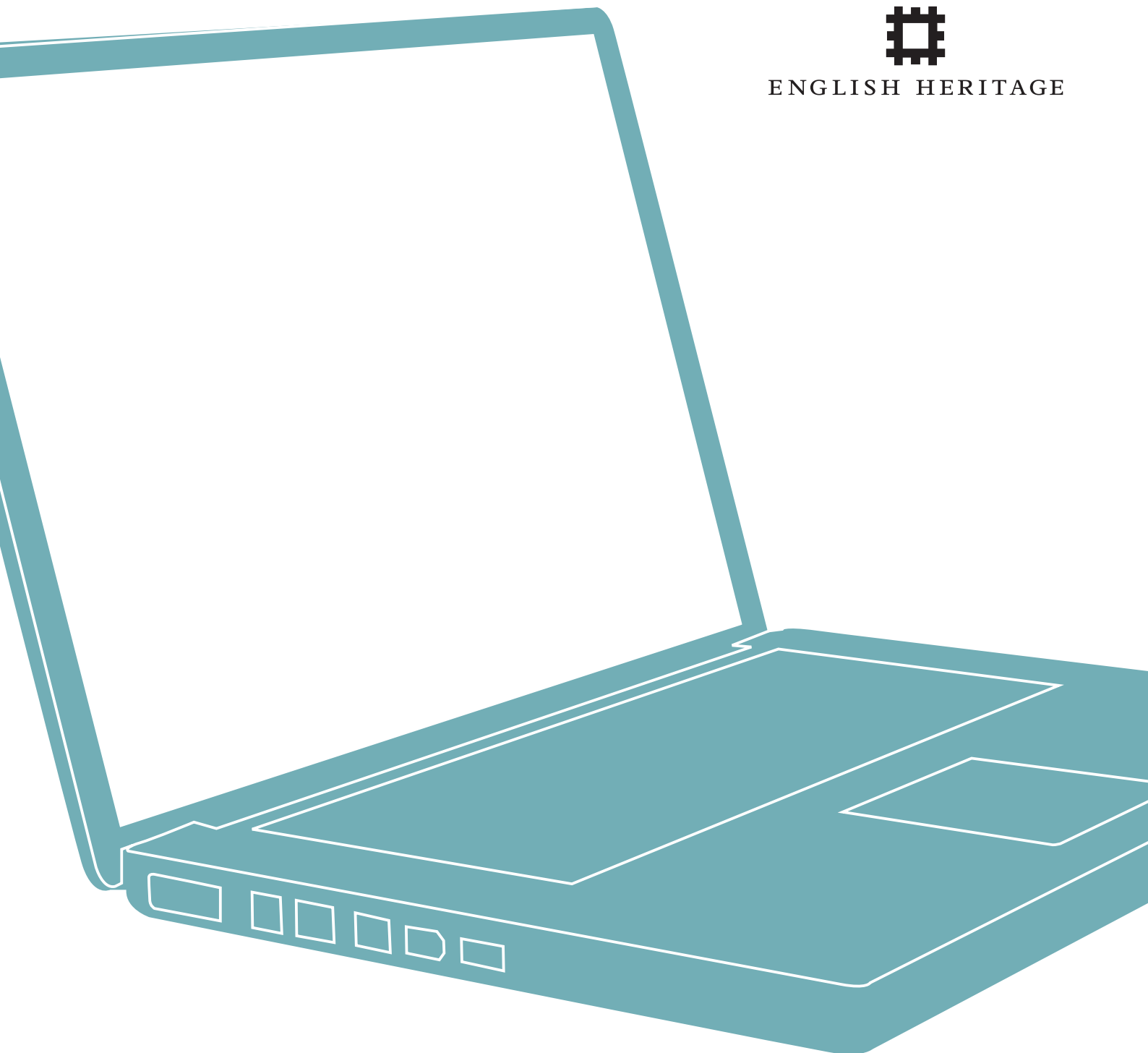




ENGLISH HERITAGE



Management of Research Projects  
in the Historic Environment  
**MoRPHE Technical Guide 1**  
**Digital Archiving & Digital Dissemination**

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# Preface

This technical guide complements the Management of Research Projects in the Historic Environment (MoRPHE) project management methodology, introduced to extend and revise the Management of Archaeological Projects, 2nd edition (English Heritage 1991).

Technical guides provide fuller detail on aspects of project delivery that cut across the boundaries of different project types. They are intended to be presented together with, and read in conjunction with, *'The MoRPHE Project Managers Guide'* which gives generic guidance on project management, and *'Project Planning Notes'* which give more specific guidance on the planning and management of particular types of project.

## 1.0 Introduction

This technical guide is intended to be used by managers and members of Historic Environment project teams who are following the generic MoRPHE project guidance and who want to create and disseminate a viable digital archive and digital publication of the results of their project.

As historic environment recording techniques increasingly use computer technologies to capture information it is becoming more common for projects to generate a considerable amount of the project results in digital formats, and in many cases only in digital formats (e.g. geophysics data which is 'born digital').

Indeed, given that even the printed reports are almost certainly written using a word-processing package and sent to a printer as digital copy, then most projects will have the potential to disseminate results in a digital media.

This guide is primarily concerned with the archiving and dissemination of the research archive material from the type of archaeological investigations (e.g. excavation fieldwork, survey, building recording) where typically the research activities – and therefore the results needing to be archived – are **not** likely to be repeatable (e.g. intrusive archaeological recording).

For projects where the results of activities are repeatable (e.g. some forms of non-intrusive survey or desk-based R&D projects) some or all of the archiving practices set out in this document may still be applicable, but may be considered less essential for creating a viable archive.

This guide is less likely to be applicable to projects that deal with such things as standards development, social research or publication/dissemination projects where the results of the research are repeatable and the archive is composed only of the project document files.

This guide is not aimed at people beginning a project that aims to digitize an existing paper-based or physical resource. Guidance for carrying out such projects is available from organisations such as the [Higher Education Digitisation Service](#) (HEDS).

This guidance is also not aimed at those who are considering setting up their own digital archiving repository. Such a specialist activity requires a full-time commitment of considerable resources and skills. For more information on the work of digital archives see:

[The National Archive](#) (THN)

[The Archaeology Data Service](#) (ADS)

English Heritage – CfA [Digital Archiving Strategy](#)

## 2.0 Planning

This section looks at some of the main reasons why a project team should consider digital archiving and dissemination as a desirable or necessary strategy for making the results of a project available. It then sets out some useful techniques for planning how to achieve successful outcomes.

Digital archiving and digital dissemination may involve different approaches and the application of a range of different techniques at various stages during a project life-cycle. This guidance aims to help make it clearer when these different considerations and decisions need to be made.

Different media can be used for digital dissemination and digital archiving – in the same way that a play by Shakespeare may be printed on paper, can be performed on stage, television or video, or can be recorded as sound files for radio or tape, let alone internet dissemination.

The strategies adopted for digitally disseminating and digitally archiving the results of a project need to be considered together. A viable digital dissemination strategy has to be supported by a coherent digital archiving strategy. The choices made about the best media used to disseminate material may not always be ideal for digital archiving. For example, dissemination of a document may be appropriate in Portable Document Format (PDF), whereas the appropriate archive format for the content could be in ASCII text with accompanying TIFF image files.

It is therefore important that the **strategies for dissemination should at least include that an appropriate copy of any 'born digital' information can be digitally archived as well as being disseminated.** E.g. disseminating digital material on a CD in the back of the monograph, while perhaps being one way of making data more readily accessible to people with computers, does not guarantee that the data on CD will be readable by someone with a computer in fifty years time. The data on the CD, if it is not archived elsewhere, should also be deposited with an appropriate digital repository as part of the digital archive.

## **2.1 Setting Objectives**

To instigate an effective digital archiving and dissemination strategy, digital collection, analysis, dissemination and storage must be planned for from the very outset of a project.

In order to achieve the best records for digital dissemination and archiving the project team should keep a suitable level of digital documentation – often referred to as metadata – to accompany and explain what, why, where and when project information has been recorded digitally. More information on appropriate Metadata standards is included in [section 4.1](#) of this document.

The most cost-effective digital dissemination strategy begins with the capture of data in appropriate digital formats to enable the easiest and most appropriate dissemination and archiving of the results at the end of the project.

A further important step should be to define at an early stage what the appropriate procedures for documentation of digital data will be for the project team, and put some simple mechanisms in place to get people to document the digital products of the project.

### **2.1.1 Planning a digital dissemination strategy**

For digital dissemination, one of the first steps will be to decide on the different types of media that you want to use in order to disseminate the project results.

In many cases the choice will be a mixture of printed publication, digital media such as CD or DVD, and online dissemination using Internet resources.

If planning for a mixed media publication involving print and digital media then there will need to be a consideration of the degree to which the different elements of the dissemination need to interrelate and cross-reference.

It is best to set out the broad plan for which elements of the project results will be published in which formats and specify the media and delivery mechanisms that will be most appropriate in each case. e.g. "A monograph comprising a single volume; a synthetic paper report and digital specialist reports on an accompanying CD. The monograph will be supported by a digital research archive on the Internet."

Although the different elements of a digital dissemination strategy are likely to interrelate, there are particular requirements for preparing a digital archive and these are considered in more detail in the next section.

### 2.1.2 Planning digital archiving of completed work

For the purposes of this document, digital archiving is used interchangeably with the phrase “long-term digital preservation” and is defined by the Digital Preservation Coalition as: “all of the actions required to maintain access to digital materials beyond the limits of media failure or technological change.” (ref: <http://www.dpconline.org/graphics/intro/definitions.html>)

It will be vital that the project team consider the requirements for maintaining their data throughout the lifetime of the project. For some longer-term projects there may be a need to migrate or refresh project data from one digital format (or software version) to a more recent version during the lifetime of the project. Holding archive copies of data in formats that can be most easily migrated (along with the necessary documentation to make this possible) becomes even more critical once the data is deposited in the archive repository.

Successful digital archiving is a relatively specialist activity in its own right and requires addressing issues such as what types of file formats your data needs to be stored in so that it can be migrated in the future, how different data sets are to be delivered to users and what accompanying information or documentation a user might need to go with the data in order to be able to replicate it in the form in which it was originally archived.

**Advice must be sought from an appropriate digital archiving repository at an early opportunity in the project.** (see [section 4.0](#) on relevant standards and guidelines to consider).

In the following sections, this document gives some initial guidance on what you should be prepared to do in managing your project data in preparation for digital archiving. This document does not aim to replace the need for consulting the digital archive repository.

“Any organisation needs to employ the classic principles of good project management to tackle digital preservation.  
(ref. *Your Data at Risk* p8 – The National Archive 2005)

## 2.2 Useful techniques for estimating time and budget

As with any project, there are advantages in preparing a list of the main tasks that need to be carried out to fulfil the plans for digital dissemination and digital archiving.

A first task in implementing a digital dissemination strategy for a project will be to produce a Digital Publication Synopsis. An example of such a publication synopsis is given in [Appendix 1](#). The digital publication synopsis amounts to specifying the different sections of text that will be required for publication and how the different elements need to interrelate and what sort of media they will be produced in. The digital publication synopsis will also help the project manager to gauge the scale of the other different tasks to be carried out.

A task list of all the work needed to prepare the digital archive for deposition should be drawn up and agreed with the digital archive repository. This task list – the digital archiving preparation task list – will cover the work that the project team needs to do to produce a viable digital archive.

The actual costs of preservation will be assessed by the digital archive repository. It is vital that good contact is established with the proposed digital archive so that the work the project team need to do, and the likely scale of costs that the digital archive will charge, can be agreed. "The cost of digital preservation is directly related to whether the issue has been considered from the point of creation". (*Your Data at Risk* p8 – The National Archive 2005).

Archive repositories will make deposition charges to cover the costs of file storage, migration and preservation of data into perpetuity. To give an indication of likely scale of costs (generally in the region of 1-2% of overall project costs), the Archaeology Data Service charges are available at – [ADS Charging Policy](#).

### **2.3 Risks and their management**

Because of the relatively short lifespan of digital hardware and software there is a higher need for risk management in projects that hold information that is only in digital format.

The project manager may need to plan for a number of potential risks:

- People may attempt to archive project data in inappropriate ways or on unsuitable media. E.g. CD or DVD disks are useful for dissemination of digital data, but it cannot be guaranteed that they will be readable in the relatively near future (i.e. 10 years time). We only have to think how much we depended upon 3.5 inch disks only a few years ago to realise how quickly digital media can change.
- Without due consideration of the appropriate digital archiving formats there is a considerable risk that it will not be possible for the archiving repository to store the data in a way that guarantees its future readability.
- If data is not in a format that can be stored or migrated effectively then this may mean that any primary digital data – i.e. data which was only collected in a digital format – is lost. In the case of archaeological sites which have been excavated, then there will be no way of ever repeating the collection of the information.
- If any specific user interfaces or search mechanisms have been developed on project web sites, such interfaces may depend upon proprietary software or specific hardware and software configurations and may be expensive for an archive to mirror or replicate. If it will be necessary not only to preserve data, but also to maintain specific means of accessing it (such as a plan or map-based search tool), then early consideration needs to be given to the essential functionality required, and the archive should be consulted at the earliest opportunity.

- The degree to which these risks can be effectively managed is often subject to a whole range of determining factors, such as limits on project budget, problems with legacy or proprietary systems, and what technologies were available to collect and analyse the data. The likely risks associated with these need to be considered as part of the overall strategy for how best to digitally archive or disseminate the project results.

#### CASE STUDY

A particularly sobering case is the story of the BBC Domesday project which in 1986 cost £2.5m and recorded contributions from thousands of participants from across the country on to 12" videodiscs for viewing on a BBC microcomputer. By the year 2000 the changes in technology had rendered the system obsolete and the information almost inaccessible.

See:

<http://www.nationalarchives.gov.uk/preservation/research/domesday.htm>

## 2.4 Likely list of products or outcomes

The following sections explain some of the main products that can result from digital archiving and dissemination project work funded by English Heritage.

The products have been separated into three distinct types:

- i) products that result from the management processes of digital archiving
- ii) typical digital archive products that might result from historic environment projects
- iii) products that typically result from digital dissemination

### 2.4.1 Digital archiving & dissemination management products

#### Digital Dissemination Strategy

A short overview document which sets out the main aims for the digital archiving and dissemination elements of the project material can be very useful for explaining the dissemination plans. As a minimum requirement this should incorporate a Digital Dissemination Synopsis and a list of the tasks needed to prepare for publication and archiving.

#### Digital Dissemination Synopsis

A structured list of the main chapters, headings and sections to be used as part of planning the actual text to be disseminated. The aim is to show clearly which elements and sections of the publication will appear on digital media, and how the relationship between the digital dissemination elements and any printed sections, or other media, will be structured and managed.

see example [Appendix 1](#))

### Digital archive preparation task list

When considering a project for digital archiving and dissemination, the project manager should discuss the options for deposition of the material with the digital archive repository (e.g. ADS) in order to agree, and estimate the cost of, any tasks that need to be carried out to prepare the archive for deposition and/or dissemination. The resulting task list may include such things as preparing lists of files for deposition and preparing documentation to explain the archive when online. Tasks required for the preparation of archives by the project team should be included in project designs, but note that the actual costs of the storage of the digital archive once deposited should only be applied for by the digital repository in the same way as a museum applies for the costs to store physical archives.

### Metadata documentation of digital files for archiving

Metadata is commonly described as “data about your data”. At its simplest it should provide the information that someone would require to successfully regenerate your digital records from the files deposited in the archive. Projects should maintain metadata on the digital files they plan to archive as the project progresses, although in some circumstances it can be generated when the material is deposited. Metadata for files can be as simple as a text file listing all the file formats, hardware and software used and the record of how the files have been processed. However, usually more detailed Metadata requirements will be defined by the digital archiving repository taking the archive and “these might include technology, location, changes to digital object through preservation actions, a description of content, persistent identifiers, IPR and related Actors” (Jones 2004). For more specific guidance on metadata see also [ADS Guide to Good Practice Excavation & Fieldwork \(2nd ed\) section 4.3.1](#)

### 2.4.2 Typical digital archive products for Historic Environment projects

There are a growing range of different data types produced by archaeological investigations. As a guide, the following table lists the most common and the formats recommended by ADS for digital archiving.

Table 1 – common data types and archival formats

Data Product Types	Digital Archiving Formats
Databases & spreadsheets	ASCII delimited text, XML
GIS	DXF, DWG, Esri SHP
CAD	DXF, DWG
Word-processed texts	ASCII text, XML
Digital images	Uncompressed TIFF
Digital video & digital audio	MPEG (most suitable format to date)
Geophysics	ASCII plain text, AGF
Statistics	ASCII delimited text,
Virtual Reality	VRML 2.0

Such digital products can be archived as a group of files, and, with the appropriate documentation (metadata) about their contents and structures, can be re-used by researchers to re-establish or re-investigate the original records of a project.

## CASE STUDY

A relatively early example of the sort of project archives that can be made available online can be seen as part of the Digital Archiving Pilot Project – Excavation Records ([DAPPER](#)).

Further guidance on archiving and dissemination formats for very large data sets, such as marine geophysics, aerial laser scanning (Lidar) and terrestrial laser scanning is currently being investigated. For projects funded by EH that have data sets of this 'Big Data' type please contact ADS through the [Big Data](#) website.

### 2.4.3 Digital dissemination products for Historic Environment projects

This section distinguishes the products and media used to disseminate archaeological information from the previous section which gives guidance for digital archiving.

While an important aim of this guidance is to emphasize that digital dissemination should not be undertaken without due consideration of the digital archiving requirements, it also recognizes that in recent years a number of new ways of disseminating archaeological information have been developed and the following seeks to distil some 'best practice' guidance on the most common of these.

Project Web Pages (HTML, XML, etc).

Many projects choose to set up their own web pages which are a very effective means of disseminating information while the project is ongoing. Web pages can include a wide range of multi-media content and are therefore a popular and extremely versatile means for dissemination of digital material to different audiences. Most online dissemination will have some element based upon using web pages and it is now as much a skill in producing online content as in designing a printed publication.

Web pages can be produced in many varied forms and the different editing software used to write them can incorporate a range of coding and proprietary information that is often difficult to archive in a digital preservation format.

Web pages should therefore primarily be viewed as an excellent dissemination format for inclusion of a range of multi-media material. If any of the content of web pages needs to be archived then it is usually advisable to archive the text in XML format with any embedded content to be kept and archived as separate images or in other archival formats (see [Table 1](#) above)

Digital Reports in Portable Document Format (PDF)

This has become a popular and efficient method for digital dissemination of documents which have also been published in print, or documents disseminated online which need to maintain a more formal structure when downloaded and printed out.

Before creating a PDF, it is advisable to prepare the document thoroughly in a word-processing package first with good attention to style sheet layout. This will ensure that when the document is converted to PDF it will incorporate the main chapter headings and style sheet conventions to enable much better navigation of the PDF copy. For example, if you create a document in Microsoft Word, use the styles to format the titles, headings and paragraphs as this will provide the structural information for displaying these elements when the document is converted to PDF. For more detailed guidance on this and other recommendations for preparing accessible PDFs, Adobe has produced some helpful online guidance documentation on '[how to create accessible PDFs](#)'.

When having any publication printed it is worth asking the printer to provide you with a digital copy of the document, which they will almost certainly be able to provide in PDF as that has become the print industry's de facto digital interchange format.

#### OASIS record

For those carrying out investigative archaeological projects there is now the possibility to disseminate the results of fieldwork online through the OASIS – Online Access to the Index of Archaeological Investigations – form. The form enables submission of an index level record of an investigation to be submitted online. Importantly for dissemination, it is possible to attach a digital copy of an associated report to the OASIS record, thus helping to widen the dissemination of so-called archaeological 'grey-literature'.

It is a condition of grant for investigative projects funded through the Historic Environment Enabling Programme that the commissioned organisation must complete the online record of the project using the OASIS form. For HEEP funded projects, guidance on EH requirements is available at [HEEP OASIS guidance](#) (see [appendix 2](#))

The OASIS online form is available at <http://ads.ahds.ac.uk/project/oasis> where further guidance on completing the form and other associated matters is also given.

#### Online publication – [Internet Archaeology](#)

A possible route for digital dissemination is to publish a complete article online. For most archaeological articles one of the best available methods would be to submit the article to Internet Archaeology the first fully refereed e-journal for archaeology. The advantage of publishing with Internet Archaeology is that the journal specifically aims to publish articles that enable the use of searchable data and interactive content within the articles (see Integrated Dissemination Archives below), thus enabling authors to use a range of methods to present different material that makes most sense in digital format. Further guidance on submissions to IA is available on the [Internet Archaeology website](#) and English Heritage makes publication grants available for digital publications of the results of projects already funded by HEC (see [section 5.2](#) of this guide).

### Integrated Dissemination Archive

This type of dissemination uses a very similar approach to that of Internet Archaeology (see above), but it usually is on the scale of a monograph publication and therefore may incorporate much larger data sets within the integrated archive. The integration of the digital (and possibly the printed) publication with the material that is deposited in the digital archive should present the researcher with a report of the main findings from a project, along with the data to support the research questions that have been addressed. The integrated dissemination archive may use digital images, plans, video or other multi-media or data types to present a much richer and inter-active view of the project results than can be done in a printed publication. The digital archive from the project should be integrated with the report in such a way that a researcher can themselves follow the main arguments of the author but also can explore and re-examine the available data to produce additional views or interpretations of the data in the archive. Because this approach to dissemination requires close integration with the digital archive material not all projects are suitable for this type of approach and it is strongly recommended that this strategy should be planned from the inception of the project so that the data can be recorded and preserved in the best formats for archiving and integrated publication.

### **2.5 Likely project stages**

Most projects funded by EH will be expected to proceed through the following main stages to successful completion:

- Start up and Initiation
- Execution (this might be broken down into sub-stages depending on the type of project) this will typically include:
  - Data collection
  - Assessment / Evaluation
  - Analysis/R&D
  - Dissemination and/or archive
- Closure

Depending upon the complexity of the project, it is likely that digital archive material will be generated as a result of each of the above stages. It is common for large projects to deposit archive material towards the end of the project, at, or after, the dissemination stage.

For digital archives from archaeological investigations there can be four main stages, or levels, during the project where a decision needs to be made about depositing digital archives, see below.

The four main Levels of Digital Archiving:

- **Index level archive** – (e.g. an OASIS record including an archive copy of the report of an investigation).  
This will be a simple record that an investigation took place and should include a summary of the project details and any findings. For some investigations, such as watching briefs with negative or very limited archaeological potential, this may be a sufficient digital record.
- **Assessment level archive**  
This will result from assessment work on the results of an investigation. If the outcome of the assessment is that no further analysis is merited then an assessment level archive should be deposited.
- **Research level archive**  
When a project has carried out detailed analysis and research work, aimed towards a formal publication of the results, then the resulting material can provide a valuable research archive and may merit a digital dissemination strategy.
- **Integrated dissemination archive**  
Where the project has carried out analysis and research and has planned from inception for digital dissemination to be integrated with the digital archives.

For a fuller explanation of the different products that would be included within the different levels of archaeological archive see [ADS Guide To Good Practice Excavation and Fieldwork \(2nd Edition\) section 3](#) and especially the explanatory figure 1 in the ADS guidance.

# 3.0 Project Implementation

Ideally the decision to disseminate and archive digitally should have formed one of the main drivers from the beginning of the project. This will then mean that plans are put in place to collect, store, analyse and document digital data in the most appropriate manner for final dissemination.

This guide does not, and indeed should not, attempt to provide a 'template' for digital dissemination. When considering the options for how to present digital information there are a range of factors to consider, many of which will depend upon the actual content and style of the publication to be produced.

The first and probably the most important will be based on what audience you intend to reach with the information. If the project wishes to attract a wider audience then there is less value in disseminating large amounts of detailed technical data. Alternatively, if it is necessary to present the results of the project to a specialist group of academic peers, then producing an online publication without the relevant links to the supporting digital archive will appear superficial. Some thought should be given to the abilities of the end users to access and use any technological innovations.

It will be important to consider the appropriateness of the repository for holding digital records. Only a recognised digital archiving repository should be used. Other considerations, including the skills required by the project team and what sort of standards and best practice they should follow, are dealt with in the following sections.

## 3.1 Skills required

The following skills will be important to a project of this sort

- Information management: a nominated member of the project should be aware of and responsible for the structuring, organising and managing of the information created by the project. They must also be able to create the necessary metadata to describe the digital files.
- Data archiving liaison: accessioning and conserving the project data in the long term will be the responsibility of the data archive repository. However someone in your project team should understand the processes to assist preparing the material for deposition.
- Digital publication liaison: a digital publisher will probably carry out the final mark-up of texts and illustrations. They will, however, need to be able to liaise with someone in the project team who can produce material in the appropriate formats.
- Web design: This will be important for a more graphically rich or technically complex web-based dissemination project.
- Intellectual Property Rights management: a member of the project should be responsible for requesting permission from authors and agreeing with project team members and specialists that their data will be available online. Any data acquired from third parties under licence may need to include a specific licensing agreement to allow for dissemination on the internet.

- Museum and Archive liaison: The team should be aware of how best to ensure that the digital and physical archives from the project can be integrated. One simple way to do this is to complete the archives section of the [OASIS](#) form, which should be done in liaison with any repository that is identified as holding any parts of the physical or digital archive. Skills in these areas within the project team will be advantageous. However, it is still advisable to liaise with the digital archive repository that will receive the digital archive. They will provide more specific guidance in relation to your project requirements.

### **3.2 Website requirements**

if a website for a project is to be created there are several key points to consider:

- Who is responsible for the upkeep of the website? – identify at least one project team member
- What is the audience you are aiming to address through online dissemination? – consider different requirements for different audiences
- Where will the web pages reside? – a suitable web-hosting option should be found that can maintain the site for the required length of time.
- What is the exit strategy for the website? – the length of time the website will be needed depends on the nature and length of the project
- What information from the website will need archiving? – is there material on the website which is not documented anywhere else?

# 4.0 Assessment – quality controls and checks

The work to check that the project results comply with the necessary standards should be carried out by the project team as part of preparation for deposition or publication. The archive repository, or publication outlet, are likely to have particular guidelines to follow so they should have been contacted as soon as possible during the planning stage to establish this. Some commonly recommended standards and guidelines are discussed in the following sections.

## 4.1 Relevant standards and guidelines

There are a range of different standards and guidance documents that are relevant to the different types of data that may be contained in your project and there are a number of specialist centres dealing with digital archives. Those of particular relevance to archaeological and other historic environment material are highlighted below.

### *Archaeology Data Service Guides to Good Practice*

For projects that aim to deposit and disseminate with the ADS they have some very useful guides available in both print and online:

- [GIS: A Guide to Good Practice](#)
- [Archiving Aerial Photography and Remote Sensing Data: A Guide to Good Practice](#)
- [Digital Archives from Excavation and Fieldwork: Guide to Good Practice 2nd Edition](#)
- [Geophysical Data in Archaeology: A Guide to Good Practice](#)
- [CAD: A Guide to Good Practice](#)
- [Creating and Using Virtual Reality: a Guide for the Arts and Humanities](#)

### *Metadata Standards*

English Heritage adheres to and would recommend the following metadata standards:

- Resource Discovery: Dublin Core is the standard recommended by government for the provision of metadata about your archive material. This is one of the key standards that ADS use in the guidance documents listed above. See also the [Dublin Core](#) website.
- A specific application relevant to UK central and local government agencies is the [e-Government Metadata Standard](#)
- Geospatial datasets: these should be described using metadata from the [UKGEMINI](#) standard
- Educational resources: these should be described using the – [UK-Learning Object Metadata Core](#)

### Conceptual modelling

English Heritage recommends that the design of new schema for historic environment information resources should be informed by the CIDOC CRM Conceptual Reference Model to facilitate interoperability or the migration of data to new systems. EH has produced a mapping of archaeological concepts to the [CIDOC CRM](#) based upon a [model of the CfA archaeological information resources](#) (ref: [Cripps et al](#)).

For data intended for deposition with the National Monument Record or local Historic Environment Records, English Heritage recommends the use of the MIDAS standard and Interoperability Toolkit developed by the [Forum on Information Standards in Heritage](#) (FISH).

### English Heritage CfA Digital Archiving Strategy

The English Heritage Centre for Archaeology has produced a specification for how digital archives should be curated and archived. This can give very useful guidance on how best to hold digital material, both prior to and after long-term deposition. (See CfA [Digital Archiving Strategy](#))

### Electronic Records Management

Further guidance on the closely related subject of Electronic Records Management which can greatly aid in the preparation, management, appraisal and preservation of digital records, is available from The National Archives (see [Electronic Records Management](#)).

### English Heritage Historic Environment Enabling Programme – Digital Archiving Requirements

English Heritage Historic Environment Enabling Programme (HEEP) has produced a number of guidance notes explaining the requirements for projects funded by HEEP. The guidance on digital archiving is available from the EH website [Digital archiving requirements](#). A similar guidance note is available explaining when to log HEEP funded projects on the [OASIS online form](#) (see [Appendix 2](#))

### ***Digital Curation Centre – Digital Curation Manual***

The Digital Curation Centre (DCC) provides access to digital curation expertise and best practice for the creation, management and preservation of digital information to enable its use and re-use over time. Currently the DCC is working towards the creation and maintenance of a modular [Digital Curation Manual](#) to cover a range of topics including Open Source digital curation, different types of metadata and rights management.

### ***Web Accessibility standards***

This is particularly relevant for dissemination using web pages, but should ideally be considered for all relevant types of digital information. The World Wide Web Consortium's (W3C) [Web Accessibility Initiative \(WAI\)](#) has produced a series of guidelines for websites to follow in order to ensure they maximise accessibility. As an example of how such standards can be implemented, the [English Heritage website](#) adheres to, or uses, the following, mainly W3C, recognised standards:

- Extensible mark-up language (XML)
- Extensible Stylesheet Language Transformations (XSLT)
- Extensible HyperText Markup Language (XHTML)
- Cascading Style Sheets (CSS)
- Resource Description Framework (RDF)
- Web Accessibility Initiative (WAI)
- Dublin Core Metadata

### ***Copyright and Intellectual Property Rights***

Copyright and IPR are both legal matters and as such it is always advisable to check your own organisational policies on reproduction of copyright material, as the law can change and evolve over time. For guidance on the type of considerations applicable to government and public sector material the Office of Public Sector Information has produced a useful [OPSI guidance note](#). Although this guidance is principally aimed at government departments, other users of Crown copyright or similar material may also find it helpful. Advice from the Higher Education sector can be found at the Higher Education Digitisation Service ([HEDS](#)) [website](#) and the Joint Information Systems Committee (JISC) [JISC legal information service](#) has a range of useful guidance on copyright, IPR, data protection and other related matters.

## **4.2 Approaches to assessment of quality**

For digital archives or digital publications there are a number of measures of quality and ways of assessing whether the final products are 'fit for purpose'. These will include measuring digital resources against the relevant standards and guidance on best practice as recommended above and may require specialist academic or peer review of digital resources or publications.

### **Academic refereeing of digital publications**

Academic digital publications funded by EH will follow a similar commissioning practice to printed publications and will therefore be refereed by an appropriately nominated referee before submission for digital dissemination. It is recommended that non-EH funded publications should follow similar practice and most journals or series will require academic refereeing.

#### **Peer review**

For some types of digital publication it may be most appropriate to plan for a process of peer review of the digital products, prior to dissemination. This will be particularly relevant if the publication or archive contains relatively complex or innovative methods of digital dissemination.

### **Fulfilling user needs – can people use it?**

Ultimately the test of a good online publication or archive will be whether people want to read it and use it. It is worth considering including a request for feedback as part of your digital dissemination.

## *5.0 Digital Archiving and Digital Dissemination grant processes*

The whole of this project planning guide has dealt with the strategies for disseminating the results of a project. The intention of this section is to explain the main processes which a digital archiving or digital dissemination project will pass through if it is submitted for either an English Heritage digital storage or digital publication grant.

To have reached this stage a project should already have passed through all the preparation work by the project team to deposit a viable digital archive or publish digitally (see Sections 2 – 4 of this guide). This work should have been agreed, and the digital archive or digital publication assessed, by the digital archiving repository or publisher that will apply for the archiving or publication grant.

### **5.1 Digital archiving – English Heritage Grants process**

Once they have received a viable archive for deposition, the archiving repository that will actually curate the digital archive should apply to English Heritage for a digital storage grant using [form S2](#). The application should include a list of the file numbers, sizes and formats (ideally based on a list supplied by the depositor) along with the amount of money requested for archiving them.

On approval of the application the archive repository will prepare the digital archive for digital storage and mount any associated pages needed for viewing the archive contents online.

When the archive contents are ready for release to the public, the archive repository should contact English Heritage Historic Environment Enabling Programme (HEEP), providing appropriate links to the archive material for review. On verification of the content of the digital archive, English Heritage will confirm that the archive can be made publicly available and release the storage grant payment to the archive repository. Further explanation and guidance on this procedure is available on the [HEEP guidance section of the English Heritage website](#).

## 5.2 Digital dissemination – EH Grants process

If the dissemination strategy includes publishing an article in an appropriate online journal, such as Internet Archaeology, then the editor of the journal (or appropriate member of staff ) should submit an application [form P2](#) for a publication grant to English Heritage Historic Environment Enabling Programme (HEEP).

There may be specific digital preparation tasks that need to be carried out as part of preparing the digital publication. A task list and related costs for these should be prepared in liaison with the author of the publication, and these should be submitted along with the application for a digital publication grant.

Once the digital publication grant is approved the publication outlet should carry out the work in order to prepare a draft of the publication and this should be prepared on the same publication media as the end product (e.g. online) to enable effective review. When it is ready the publisher should notify HEEP that the publication is ready for review.

For academic digital publications (including integrated dissemination archives) an academic editor will be appointed and paid for by English Heritage. There will be a period when the text of the publication is reviewed and appropriate comments provided to the author and/or the online publisher, as necessary, to make amendments to the final publication.

When the final form of the publication has been agreed the editor of the journal should notify and claim payment from HEEP using [form P3](#) who will pay the publication grant.

# 6.0 Further Information

## **Bibliography**

Cripps, P., Fellows, D., Greenhalgh, A., May, K., Robinson D., 2004 [Ontological modelling of the work of the Centre for Archaeology \(CIDOC CRM\)](#)

Jones, C 2004 'The implications of the increasing creation of digital archaeological archives for English Museums' Leicester: University of Leicester. (Unpublished)

The National Archive, 2005 *Your Data at Risk* – Guidance document

## **Online references and resources**

[Archaeology Data Service \(ADS\)](#) – supports research, learning and teaching with high quality and dependable digital resources. ADS does this by preserving digital data in the long term, providing technical advice, and by promoting good practice and disseminating a broad range of data in archaeology.

[CIDOC – CRM](#) – ongoing work by interest groups towards an ISO standard that provides definitions and a formal structure for describing the implicit and explicit concepts and relationships used in cultural heritage documentation.

[Digital Curation Centre](#) will support UK institutions who store, manage and preserve digital data to help ensure continuing long-term use.

[Digital Preservation Coalition](#) – established in 2001 to foster joint action between different agencies to address the urgent challenges of securing the preservation of digital resources in the UK.

[The Dublin Core Metadata Initiative](#) is an open forum engaged in the development of interoperable online metadata standards that support a broad range of purposes and business models, particularly for resource discovery.

[English Heritage](#) – Guidance is available online for applicants and project managers about specific digital aspects of Historic Environment Commissions projects and procedures.

[GovTalk](#) – latest information on policies and standards for e-government.

[Internet Archaeology](#) – Internet Archaeology is a not-for-profit academic electronic journal, which publishes an international range of research articles of a high academic standing, utilising the potential of electronic publication.

[The National Archives](#) – The National Archives are playing an active role in storing and preserving digital material and have several useful guidance documents on digital preservation, and related strategies for electronic records management

## 7.0 Acknowledgements

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## 8.0 Contact Details

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Comments are welcome to assist future revision.

# Appendix 1 Example of digital publication synopsis for Elms Farm

## **PUBLICATION REPORT: STRUCTURE OUTLINE**

**Volume 1: Synthesis** (conventional paper EAA monograph + internet)

Abstracts (include French and German)  
List of Contents  
List of Figures  
List of Tables  
List of Plates  
Acknowledgements

8 Introduction & background  
9 Chronology  
10 Settlement morphology  
11 Artefact, ecofact & scientific analyses  
12 Status and economy  
13 Politics and society  
14 Religious activity  
15 Burial Practice  
16 Environment & landscape  
17 Conclusions  
18 Critique  
Bibliography  
Index

**Volume 2: Site narrative and artefactual, environmental & scientific analyses**  
(CD-Rom & internet)

2 Introduction  
3 Site narrative  
4 Coins  
5 LIA & Roman pottery  
6 Saxon pottery  
7 Artefacts by function category (1-23)  
8 Environmental analyses  
9 Scientific analyses  
(Individual bibliographies)  
Index

**Research archive** (internet)

Copy of Volumes 1 & 2  
Databases, spreadsheets  
Specialist archive reports (but no illustrations)  
Other supporting text/data  
Metadata  
Project documentation (Project designs, etc.)

# Appendix 2 Logging Historic Environment Enabling Programme (HEEP) projects on the *Online Access to the Index of Archaeological Investigations (OASIS)*

English Heritage, in partnership with the Archaeology Data Service (ADS) and Archaeological Investigations Project (AIP), has developed the *Online Access to the Index of Archaeological Investigations (OASIS)*. A key aim of OASIS is to provide an online index to information about archaeological investigations and so to facilitate access to and dissemination of 'grey literature' that is being produced in the course of archaeological fieldwork of all kinds.

It is a condition of grant for investigative projects funded through the Historic Environment Commissions Programme that the commissioned organisation must complete the online record of the project using the OASIS form at <http://ads.ahds.ac.uk/project/oasis> where further guidance on form completion and other associated matters is also given.

Project types that automatically require OASIS entry are:

- Desk-based assessments
- Field evaluations
- Environmental assessments
- Recording projects (eg excavations)
- Research projects
- Estate management surveys
- Building recording

An OASIS form must therefore be completed for any of the following Historic Environment Commissions project stages. If a project goes through one or more of these stages then an OASIS record must be completed for each separate stage.

- DT – Desk-based assessment
- EVAL – Evaluations
- SURV – Survey projects
- REC – Recording projects
- ASS – Assessment projects
- ANL – Analysis projects
- PUB – Publication projects
- ARCV – Archiving projects

Depending upon the nature of the project other stages, especially MAIN, may also require a completed OASIS form. Any doubt about this should be resolved during project planning and confirmed in the Project Design. The Project Officer can advise on this.

Notification to Historic Environment Commissions that the OASIS form has been completed will be a formal Performance Indicator in the project agreement.

