

**STAFFORDSHIRE
ARTS & MUSEUM SERVICE**

COLLECTIONS MANAGEMENT POLICY

Part 2

CONSERVATION POLICY

DECEMBER 2001

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1. INTRODUCTION AND AIMS OF THE CONSERVATION POLICY

- 1.1 This Policy will cover the conservation of objects (including two-dimensional printed, painted and drawn material) and photographs, collectively referred to in this Policy as "items".

A key function of Staffordshire Arts & Museum Service is the care and long-term preservation of the Staffordshire County Museum and Art collection. To this end Staffordshire Arts & Museum Service recognises the importance of good conservation practice and undertakes to maintain the highest standards in the storage, handling, display and conservation of collection items in its care.

Responsibility for the care, management and development of Staffordshire County Council's art and museum collection, and for the implementation of this policy, lies with Staffordshire Arts & Museum Service.

- 1.2 Staffordshire Arts and Museum Service is part of Staffordshire County Council's Department of Cultural and Property Services. Its mission within the Council is:

"to create opportunities for people to get the most from the arts and from museums and to support others involved in promoting museums and the arts in Staffordshire."

2. SCOPE OF THE POLICY

- 2.1 The aims and objectives of the Arts & Museum Service with regard to the care of the County Museum collection are outlined in its Annual Service Plan and Conservation Plan. This Conservation Policy aims to identify those factors which have a bearing on the care and preservation of collection items and to provide a best practice guideline and reference manual for achieving the day-to-day and long-term care of the County Museum collection.

3. RESOURCES AND RESPONSIBILITIES

- 3.1 Overall responsibility for the care of the Staffordshire County Museum collection lies with the Head of Arts and Museums. However, responsibility for the execution of this policy and for the day-to-day care of the collection lies with the Museums Officer.
- 3.2 Limited financial resources prevent the instigation of major remedial conservation work on a regular basis. The resources of the Arts & Museum Service in this area are, therefore, directed predominantly towards preventative¹, rather than remedial² conservation. However the Arts & Museum Service does undertake a limited, annual remedial conservation programme for which outside funding is usually sought.

¹ Preventative conservation: The delaying of object deterioration by providing favourable and stable external conditions.

² Remedial conservation: The active removal of destructive elements from an object and the providing of support for degraded materials enabling its original purpose and qualities to be understood.

4. BACKGROUND TO THE COLLECTIONS

- 4.1 The Staffordshire County Museum collection covers a wide range of subjects mainly within the fields of local, social and agricultural history and contains some 26,000 objects and 40,000 photographs.
- 4.2 With such a wide subject base, the material composition of the collections varies greatly and includes metal, ceramic, wood, glass, textile, plastic and paper, with many objects containing a mix of these materials.
- 4.3 Object size ranges from coins and tokens of 10mm in diameter to farm machinery 5 metres in height and 8 metres long.
- 4.4 The Arts & Museum Service has available limited storage facilities of a varied nature; those for smaller items being based largely within the museum buildings themselves and a large object store containing the reserve collection of carriages and farm machinery (see 3.3).

5 THE COUNTY MUSEUM BUILDINGS

- 5.1 The Arts & Museum Service collections are housed within the County Museum and Park Farm located at Shugborough, and the Shire Hall Gallery in Stafford. All Museum and Gallery buildings and collection storage areas are Grade II listed buildings dating from the 18th century.
- 5.2 The buildings fabric is therefore far from ideal, especially from an environmental control and collections care point of view since its buffering qualities are relatively poor.
- 5.3 Storage areas are additionally limited, not only by the fixed dimensions of available storage rooms and the lack of future expansion space, but also by the type of storage systems which are able to be installed due to floor loading capacities.

6. **Conservation Factors**

6.1 **Conservation Factors and Links**

The following diagram shows the different factors which have a bearing upon conservation within the County Arts & Museum Service and how these factors relate to one another.

"Documentation" and "Materials" relate to all of the other factors shown in the diagram.

6.1 Conservation Factors and Links

6.2 Environmental Monitoring and Control

6.2.1 One of the most effective and fundamental ways in which the Arts & Museum Service is able to arrest the degradation of objects is by the careful monitoring and control of environmental conditions in which the collections are stored and displayed.

6.2.2 Temperature, relative humidity¹ and light can be monitored and to some extent controlled with fairly basic equipment and resources.

6.2.3 Ideal Conditions:

Different materials each have their own preferred conditions. However, for mixed collections, both in storage and on display, the following stable, controlled environment is regarded as ideal:

Temperature	18°C +/- 1°C
Relative Humidity	50% +/- 2%
U.V. Light	less than 75 microwatts per lumen
Illuminance	less than 250 lux

All airborne particulates such as dust and soot should be removed from the atmosphere.

All airborne gaseous pollutants such as sulphur dioxide and nitrogen dioxide should be removed from the atmosphere.

6.2.4 Practical Aims:

It would be very difficult to achieve the above environmental conditions even with state of the art equipment and an extremely stable building. The Arts & Museum Service must have practical environmental objectives which take into account the nature of the buildings and the monitoring and control equipment available.

The following represent practical targets in environmental control:

Temperature	14-20°C (display areas) 12-18°C (storage areas)
Relative Humidity	35-60% (display areas) 45-60% (storage areas)
Ultra Violet Light	less than 75 microwatts per lumen
Illuminance	less than 250 lux (50-100 lux for textiles and other light susceptible items)

6.2.5 At present the Arts & Museum Service has no way of measuring particulates or gaseous

¹ Relative Humidity: The amount of water in a given quantity of air as a percentage of the maximum amount the air can hold at that temperature.

pollutants. The investigation of relevant monitoring equipment is therefore regarded as a long-term objective.

6.2.6 Although some of the above limits fall well outside the ideal, the stability of the environment is of paramount importance to the collections. Rapid fluctuations generally cause more damage to objects than permanently high or low temperatures and humidity.

6.2.7 There are two forms of equipment available to the Arts & Museum Service at present for environmental monitoring. The MEACO telemetric monitoring system automatically takes continuous readings of the museum stores at the County Museum site, together with 7 museum galleries. Monitoring of other display and storage areas generally takes the form of "spot check" devices. Although useful, they do not give a full picture of conditions over time or allow the achievement of targets to be accurately recognised. Regular recordings are, however, taken (see Appendix I) especially in sensitive areas.

6.2.8 The method generally used for control is the introduction of heating devices which, with careful manipulation, can retain relative humidity to acceptable limits (especially in the colder months) although this is far from ideal with obvious problems arising during warmer periods. A report was, however, compiled in 1996 and comprehensive humidity control equipment for the museum social history storage areas has been purchased and is awaiting installation.

6.2.9 Light can be effectively controlled with the widespread use of opaque blinds and U.V. window filters throughout the museum buildings and storage areas.

6.3 **Storage**

6.3.1 The collections for which the Arts & Museum Service is responsible vary greatly in material, size, shape and therefore have widely ranging storage requirements. The available storage areas are restricted by the nature of the museum buildings. In particular, the three social history stores, housing the museum photographic collection and the majority of three-dimensional domestic items, two costume stores and the art collection stores are located in historic Grade 2 listed buildings. This causes problems in terms of accessibility, floor loading, climate buffering and limits store expansion.

6.3.2 It is the policy of the Arts & Museum Service to store items, where possible, in such a way as to best preserve their physical integrity and inhibit degradation, whilst still allowing easy identification and access. This generally involves the covering or boxing of objects and costume using archival quality materials and inert, acid free packaging with their location off the ground. The vast majority of small objects are stored in this way with larger items being housed in an uncovered state on open, Dexion shelving. Boxes are clearly labelled with their content details.

6.3.3 The substantial collection of farm machinery, carriages and wagons is stored in either the museum's large-object store or in a series of adjacent lean-tos which are only covered from above. Clip-on protective air-weave covers for the front of the lean-tos have been purchased, allowing circulation of air whilst protecting the objects from physical damage.

6.3.4 For the storage of the costume collection it is Arts & Museum Service policy to hang the majority of items but, where fragility is a problem, boxes will be used. A phased conservation survey of the costume collection has been undertaken and recommendations are being acted on where possible, including disposal of certain duplicate items. However, a shortage of storage space will still result in more items remaining boxed than is desirable.

6.3.5 The art and craft collection is stored in a store in the basement of the Shire Hall Gallery. A condition and conservation survey of the collection has been commissioned and recommendations are being acted on where possible. However, limited storage space means that physical access is difficult and necessary circulation of air around watercolours and oils is inadequate.

6.4 **Object Access**

6.4.1 It is one of the main aims of the Arts & Museum Service to make the collections more widely accessible through permanent displays, temporary exhibitions, loans, digitisation and object research.

6.4.2 Such activities could incur significant, irreversible damage to collection items if carried out in an undisciplined manner. However, in order to eliminate/minimise the risk of damage and deterioration the Arts & Museum Service operates within a set of guidelines for the handling, movement and display of collection items. The guidelines are outlined in Appendices II and III.

6.4.3 Public access to collections for research purposes is encouraged but can only be accommodated when supervision is given by a member of the Arts & Museum Service staff.

6.4.4 Where objects are actively used, for example in the Museum's working kitchen or laundry, it is the policy of the Arts & Museum Service to use only reproduction items, those which are duplicated within the collection, or those whose deterioration will not increase if used carefully.

6.5 **Condition Checking**

6.5.1 The regular checking of objects within the museum collections is vital in identifying those in need of remedial attention and for evaluating the effectiveness of preventative conservation measures.

6.5.2 As those objects on display receive their annual cleaning they are also given a brief, superficial inspection. Those in storage are inspected as and when they are used apart from the wooden objects which are checked annually when treated for woodworm.

6.5.3 Since the Arts & Museum Service is committed to the regular condition checking of objects, the framework for a more disciplined approach has now been put in place (see Appendix V). This involves the checking of items on a more frequent basis, depending upon their condition and/or importance and written records completed. Section 3 of the Condition Check Form forms the basis of future checking frequency and work required.

6.5.4 Not only will this provide detailed records of which objects were checked and their condition, but also ensure that those items have been checked using a standard and predetermined set of criteria.

6.5.5 It is also Arts & Museum Service policy to employ Re:source registered conservators and specialists to survey valuable or important areas of the collections, thus providing detailed reports and highlighting items in need of remedial work.

6.6 **Conservation Cleaning**

6.6.1 The cleaning of collection objects and their surroundings, particularly for those on display, is an obvious and vital aid to preventative conservation.

6.6.2 The internal cleaning of the Museum buildings is the responsibility of a group of three Shugborough Estate contracted cleaners. The responsibility for the cleaning of the collection objects falls to the Museums Officer and Assistant Museums Officer.

6.6.3 The regular tasks carried out by the team of cleaning staff within the museum keeps the fabric of the buildings clean under difficult circumstances and therefore also reduces the amount of particulates finding their way onto displayed objects.

6.6.4 With many objects on open display it is the policy of the Arts & Museum Service to clean these items annually. Those displayed within cases are less susceptible to particulates, however, the aim is also for them to be cleaned annually.

6.6.5 Some objects require more frequent cleaning, such as the carriage collection which suffers badly from dust carried in from the Midden Yard and Courtyard by visitors. The frequency of future cleaning is determined in conjunction with the object checking exercise (see 5.6.3) and written records are completed (see Appendix V). These records are kept in conjunction with Condition Check Forms to build up a comprehensive conservation history.

6.6.6 The majority of display objects are cleaned by the Arts & Museum Service staff, however, where appropriate, help is given by the Shugborough Estate contracted cleaning staff. It is the Arts & Museum Service's aim to develop skills within the cleaning team to enable them to take an increased conservation cleaning role in the future.

6.6.7 The Museum stores are cleaned frequently, however only the walkways are tackled by the QCO contracted cleaners whilst objects and shelving are attended to by Arts & Museum Service staff on an annual basis.

6.7 **Pest Control**

6.7.1 The Museum buildings and county collections suffer from three main pests:

- woodworm (furniture beetle)
- clothes moth
- mice (in winter)

6.7.2 The comprehensive programme of condition checking carried out throughout the year

is able to highlight any active pest problems and results in immediate action. Conservation cleaning is supplemented by a comprehensive anti-woodworming programme carried out on all the collections in the spring of each year as the furniture beetles become active.

6.7.3 Insect and moth traps are distributed liberally around the museum and especially in the storage areas where results are frequently monitored. Being situated in a rural area, the buildings do suffer occasionally from mice, particularly over the winter months, however they are kept in check by humane traps and poisons.

6.8 **Remedial Conservation**

6.8.1 Only very basic levels of remedial work are tackled by the Arts & Museum Service and these actions are generally limited to collection objects of lesser importance, or reproduction items. Any processes carried out are first checked to ensure they are reversible.

6.8.2 Any remedial work carried out by the museum is generally undertaken by the Museums Officer or Assistant Museums Officer or occasionally by the Technician: Collections Management (see Appendix IV). No conservation work is ever undertaken by an untrained or unsupervised member of staff.

6.8.3 For any larger projects or work on objects of greater importance, outside assistance is always sought from specialist, Re:source registered conservators. The planning of such projects is determined by condition checking and collections surveys and usually requires some form of external grant-aid assistance.

6.9 **Materials**

6.9.1 It is the policy of the Arts & Museum Service where conservation materials or equipment are required, to use those which are recommended by individual conservators, professional bodies or appropriate literature (see Appendix VI).

6.9.2 The store of materials, housed in a secure, metal cabinet, is also frequently updated to take into account new advances and techniques within the field of conservation work and updated COSHH¹ guidelines.

6.9.3 All chemicals used and stored by the Arts & Museum Service are listed under a separate COSHH register with the list being updated as new materials are introduced. Under COSHH guidelines appropriate health and safety measures are taken and protective clothing available, when any of the conservation chemicals are used.

6.9.4 As with the overall approach to conservation by the Arts & Museum Service, the majority of materials and equipment are geared towards preventative conservation and a useful network of contacts has been built up within this wide ranging field.

6.10 **Disaster Plan**

6.10.1 The effort and hard work put into preventative conservation can easily be eradicated if a major disaster (such as fire or flood) takes place for which there are no contingency

¹ Control of Substances Hazardous to Health

plans. Consequently, a Disaster Manual is currently being drawn up which will take account of measures required during and after such an event. It will cover both preventative measures such as the safe removal and alternative storage of objects, (action to be taken 'during' the disaster) and remedial measures for those items which may have been damaged. This will then be linked with the Arts & Museum Service's Collections Management Policy.

6.11 **Documentation**

6.11.1 One of the most fundamental aspects of any conservation programme is the accompanying documentation; recording the object's condition, and detailing conservation work and materials used.

6.11.2 Ensuring the consistent recording of conservation data can be time consuming and difficult if it is not undertaken using a predetermined format and criteria. A simple "Conservation Day Book" has been in operation for a number of years which records abnormal or extreme occurrences such as breakages and floods. New recording media and methods have, however, now been developed covering such areas as remedial conservation, environmental monitoring and condition checking (see Appendices) in order to provide a more comprehensive and readily accessible format for both the recording and retrieval of data.

6.11.3 It is also the aim of the Arts & Museum Service to include all written reports and object information in a computer database so that the conservation history of individual items is easily retrievable. This is currently being investigated by the Museums Officer as part of a wider need to improve the collections database.

6.12 **Training**

6.12.1 The Arts & Museum Service is committed to the training and updating of members of its staff involved with conservation issues and practice.

6.12.2 This is predominantly 'on the job' training, including update through written material - books and periodicals, professionally run seminars and short courses and occasionally distance learning qualifications such as the I.A.P. "Chemistry For Conservators" course.

6.12.3 By the very nature of its conservation work, Staffordshire Arts & Museum Service has developed strong links with a wide variety of professional conservators, conservation groups and specialist equipment suppliers. These links enable the Arts & Museum Service to remain up to date on new initiatives and best practice ideals.

6.12.4 It is of vital importance for the Museum guides and cleaners to be aware of basic conservation practice in order to be able to answer visitor queries accurately and to deal with any localised emergency, such as breakages. Training sessions and guidelines are therefore organised from time to time to update existing staff and train new staff.

APPENDIX 1 : ENVIRONMENTAL MONITORING FORM

The Environmental Monitoring Forms used by the Arts & Museum Service (of which the following is an example) are used to build up a history of conditions for an area over time.

The current limited monitoring equipment dictates this very manual recording exercise.

These histories are then used to produce environmental reports, highlight trends, changes or problems within a given area and are, therefore, often the basis for future action.

APPENDIX II: HANDLING AND MOVING OF OBJECTS

STAFFORDSHIRE ARTS & MUSEUM SERVICE

Handling and Moving of Objects **Good Practice Guidelines**

Handling

- Do not handle any object unless absolutely necessary. Check with Museums Officer or member of Arts & Museum Service staff that it is safe to handle an object.
- Look first for any actual or potential weaknesses and cracks.
- **Do Not Lift Using Handles.**
- Lids and other separate parts should be removed and handled separately.
- Pick up using both hands. Support from beneath as much as possible using as wide an area as possible.
Wear cotton gloves when handling all materials except glazed ceramic and glass but do ensure you can grip securely. (Cotton gloves available from Museums Officer or Assistant Museums Officer).
- Watches, rings and other jewellery will scratch delicate pieces even through gloves and should be removed.
- Always seek assistance when handling large objects.

Moving

- Follow the above guidelines for handling objects.
- Before moving an object make sure its destination area and your route to it is clear from obstructions - even for moves of only a few feet.
- Even for relatively short moves it is advisable to place objects in a crate if possible in order to give greater protection.
- If an object needs to be taken outside for any reason make sure it is well covered to protect it from the elements.
- Avoid moving objects between areas of greatly differing temperature or humidity.
- Always follow the Manual Handling instructions issued by the County Council.

If in doubt about the handling/movement of an object please contact the Museums Officer or Assistant Museums Officer on ext. 210 or any other member of the Arts & Museum Service staff.

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APPENDIX III: DISPLAY OF OBJECTS

STAFFORDSHIRE ARTS & MUSEUM SERVICE

DISPLAY **GOOD PRACTICE GUIDELINES**

The aim of any display is for objects to be viewed clearly and easily without any undue risk of deterioration or to their security.

Object Selection

- objects should not pose a threat to other display material (eg. infestation) or be at risk themselves from being displayed.
- material which is in poor conservation condition, or unstable, should not therefore be placed on display.
- always check the Object Conservation History File for any relevant display requirements.

Environment

- temperature and Relative Humidity should fall within the following limits:

Temperature	14-20°C
Relative Humidity	35-60%
- large differences between an object's display and storage conditions should be avoided.
- fluctuations in conditions whilst on display should be minimised.

Light

- lighting levels should fall within the following limits:

Ultra Violet Light	less than 75 microwatts per lumen
Illuminance	less than 250 lux (50-100 lux for textiles and other light susceptible items)
- controls on both natural and artificial lighting should be employed where necessary (eg. UV film, window blinds).
- the occurrence of "hot spots", resulting from artificial lighting, should be avoided.
- for items very susceptible to light damage such as textiles and paper, limits on the amount of time they are continually illuminated should be introduced.

Materials

- care must be taken when deciding which materials to use in both the construction of display cases (where necessary) and object stands/supports, fabric backings etc.
- the use of conservation materials must be adhered to at all times. Check with the Museums Officer or Assistant Museums Officer before any materials are used.
- the following provides a brief overview of "good" and "bad" materials:

Good

glass
perspex
unbleached, undyed cotton
acid free paper/card
metals
silica gel
polythene, polypropylene, polyester

Bad

adhesives
felt
oak, cedar and compound woods
PVC and other compound polymers
silicone

Access and Security

- where possible objects are generally shown on open display. However, lockable cabinets should be used for smaller, valuable or sensitive objects.
- objects on open display should be discreetly secured with nylon line and movement-sensitive alarms employed.
- displaying objects within visitors' reach should be avoided where possible.

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APPENDIX IV : CONSERVATION REPORT FORM

The following forms are completed whenever any cleaning or conservation work is carried out on an object or group of objects.

The form for multiple objects is used when the same treatments are carried out on a number of similar, or related items. This avoids time consuming repetition of the same information on individual forms.

Completed forms are filed together with Condition Check Forms (see Appendix IV) in order to build up a comprehensive conservation history for objects by area.

CONSERVATION / CLEANING REPORT FORM

Actioned By :

Date :

1. Object Data : General

Accession

Number.....

Name /

Description.....

Location.....

.....

Storage/Display

Conditions.....

.....

.....

2. Object Data : Technical

Part/Area for

Treatment.....

Material(s)

Involved.....

Dimensions of

Part/Area.....

Problem.....

.....

.....

.....

Photograph.....

.....

3. Object Treatment

Treatments/Materials/.....

.....

Tools

Used.....

.....

.....

.....

.....
.....
.....
.....

4. Recommendations

Further
Work.....

.....
.....

Usability/Handling.....

.....
Storage/Display
Requirements.....

.....
.....

Future
Monitoring.....

CONSERVATION / CLEANING REPORT FORM - MULTIPLE ITEMS

Actioned By :

Date :

Area:

1. Object Data : General

Location (in area).....

Name/Description.....

Storage/Display Conditions.....

2. Object Data : Technical

Part/Area for Treatment.....
Material(s) Involved.....

Problem.....

Photograph.....

3. Object Treatment

Treatments/Materials/.....

Tools Used.....

.....

.....

.....

.....

4. Recommendations

Further

Work.....

.....

.....

Usability/Handling.....

.....

Storage/Display

Requirements.....

.....

.....

Future

Monitoring.....

APPENDIX V : CONDITION CHECKING FORMS

Since the checking of all objects within the Museum on a regular basis would be virtually impossible, the task has been broken down by display area, with a list of the more important or vulnerable objects being made for each.

The Condition Check - Control Sheet for each area lists those objects and the dates on which they are to be checked.

The Condition Check Form provides a detailed report for each object which will build up into a comprehensive history over time and enable changes in an item's condition to be easily recognised.

CONDITION CHECK FORM (upd. July 1997)

Actioned By :

Date :

1. Object Data : General

Accession

Number.....

Name /

Description.....

Location.....

.....

Storage/Display

Conditions.....

.....

.....

2. Object Data : Condition

Condition Code (see
below).....

Detail (Vis.
Appearance).....

.....

.

(Stability).....

(Damage).....

..

.....

(Other).....

.

.....

Photograph.....

.....

3. Recommendations

Work

Required.....

.....

.....

Usability/Handling.....

.....

Storage/Display

Requirements.....

.....

Future

Monitoring.....

Condition Codes :

1 - Good. The Object is in good conservation condition and/or is stable.

2 - Fair. Fair condition, disfigured or damaged but stable; needs no immediate action.

3 - Poor. Poor condition and/or unstable; action desirable; use should be limited.

4 - Unacceptable. Completely unacceptable condition and/or severely weakened and/or

highly unstable and/or actively deteriorating and/or affecting other objects; immediate

action should be taken.

APPENDIX VI : CONSERVATION MATERIALS

STAFFORDSHIRE ARTS & MUSEUM SERVICE

Conservation Materials

Acetone
Ammonia
Araldite Epoxy Adhesive
Artists Clear Picture Varnish
Autochrome
Biox conservation liquid
Copydex Adhesive
Goddards Silver Polish
Goddards Silver Dip
Harglit Metal Polish
HMG Heat & Waterproof Adhesive
Loctite Superglue
Methylated Spirit
Milliput - epoxy putty
Orkin Leather Groom
Paraloid B72 Acrylic resin
Primal WS24 Acrylic resin
Renaissance Wax
SC6000 Wax Polish
Silica Gel
Spraymount Adhesive
Synperonic N
Turpentine
White Spirit
Wykamol Woodworm Killer
WS 3978 Reversible PVA Adhesive
Xylamon Hardening Agent

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