MAGGIE L. WALKER NHS

HOUSEKEEPING PLAN

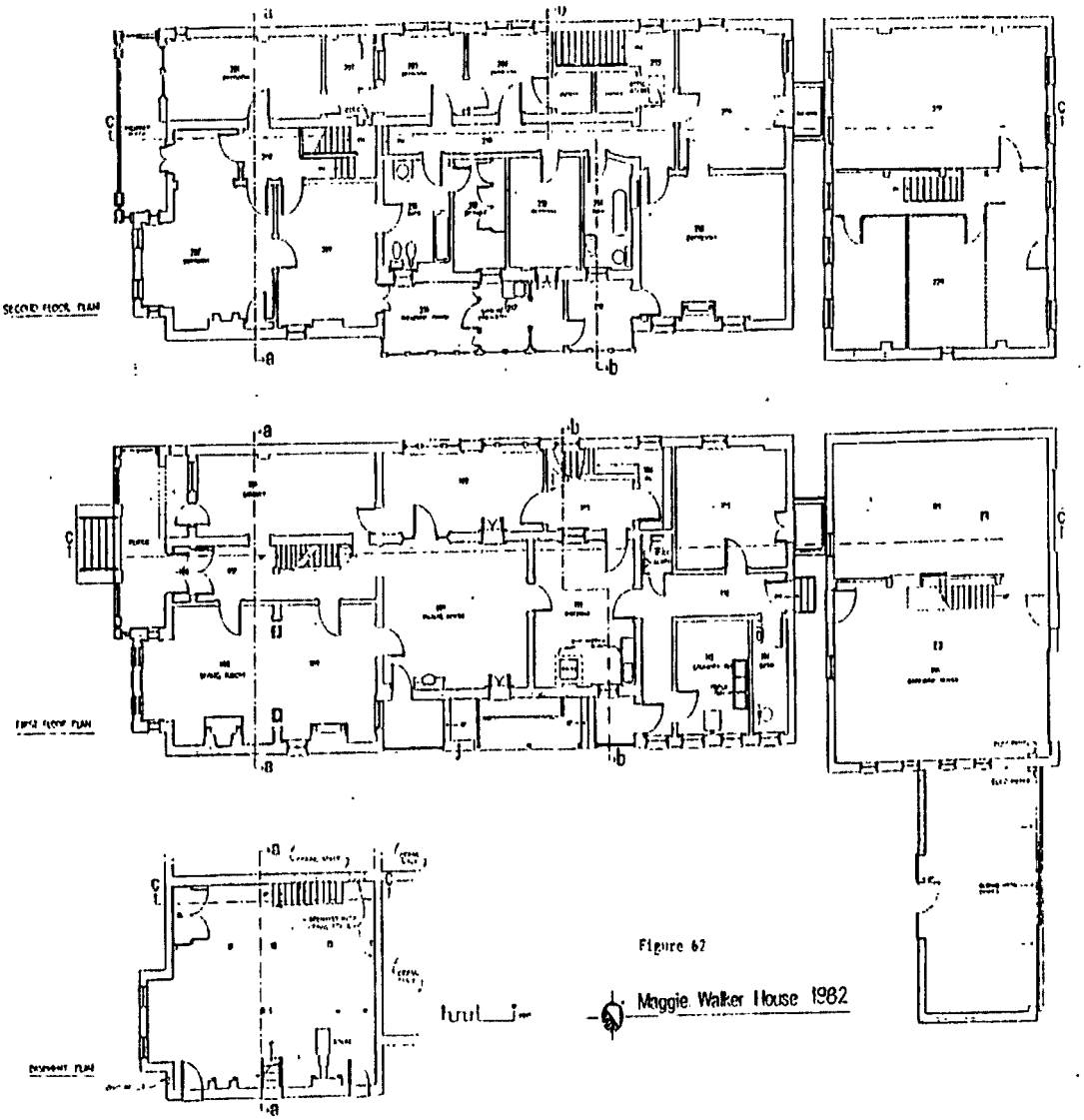


Figure 62

Maggie Walker House 1982

NORTHEAST MUSEUM SERVICES CENTER

Prepared by Brigid Sullivan, January, 2010

MAGGIE L. WALKER NATIONAL HISTORIC SITE

HOUSEKEEPING PLAN

INTRODUCTION

Designated as a National Park Service Site in 1979, Maggie L. Walker National Historic Site was open to visitors in 1985 following extensive building rehab projects informed by the 1982 Historic Structures Report, additional historic fabric studies and the 2004 Historic Furnishings Plan.

The implementation section of the Historic Furnishings Plan, states that

> "...the NPS needs to keep in mind that the home requires a high level of presentation. Maggie Walker took a great pride in her home. She recognized the value of her possessions and their presentation, which were a vital aspect of how she saw herself and how she represented her success to her friends, clients and neighbors. Cleaning should be maintained to a high level, with silver polished, cut glass washed for brilliance, textiles cleaned and pressed, and floors polished and dust free."

The need for dedicated and trained FTE to fill this need was understood shortly after the site designation by former Superintendent Tom Tankersley who wrote in a 1981 Memo on the Status of the MLW Collection that:

> "In addition, a workable routine maintenance program will need to be established and adhered to once the items go on exhibit. This particular maintenance should in all right take priority over many of the daily routines and will need to be thought out with possible assistance from the Regional Curator and Harpers Ferry Center"

In 1988 when the house was open five days a week, a Housekeeping Plan was written by Curator Hyman Schwartzman. In this document, cleaning responsibilities are assigned to a combination of Maintenance staff, Museum Technician and Museum Aide. By the time of the 1999 Collections Conservation Survey by the Collections Conservation Branch, Cultural Resources Center, the house was open for visitation and FTE allocations had changed. Park Maintenance worker Jeff Burroughs was assigned to exterior and interior maintenance of the Maggie Walker site as "other duties as assigned" while continuing similar responsibilities at both Richmond Battlefield sites. Consequently, time spent on maintenance activities at MAWA was usually limited to few hours each week primarily spent on grounds work and visitor pathways rather than in the house.

At the present time, Jeff continues to spend very limited time at the house, and lacking Museum Technician or Aide FTE, Curator Klydie Thomas relies on local museum interns and volunteers to assist with the seven day work-load of housekeeping at Maggie L. Walker NHS.

This Housekeeping Plan is intended to guide MAWA staff in maintenance of museum objects and areas according to professional museum standards to ensure long-term care of the museum collection and historic interiors.

This document results from on-site observations by NMSC Collections Conservation Branch conservator Brigid Sullivan and reflects the comments and concerns of Park Curator Klydie Thomas whose participation was fundamental to its development.

Vigilant and informed housekeeping is a central component of a strong preventive conservation program that serves both the museum collections and historic structures at any park. An approved Museum Housekeeping Plan provides a framework for consistent care of museum objects and historic interiors by institutionalizing this most fundamental preservation effort at the park management level.

The preservation of the museum collection depends on adherence to the plan by the entire park staff over time. No single employee is solely responsible for care of the objects. It requires teamwork on the part of the curatorial, interpretation, maintenance and administrative staff to ensure that preventive conservation at the park is an on-going process.

ALLOCATION OF HOUSEKEEPING DUTIES AND FTE REQUIREMENTS

Recognizing that each park has its FTE limitations and specific primary mission focus, Museum Housekeeping duties are always best shared by the **CURATORIAL, MAINTENANCE** and **INTERPRATATION** divisions at the park, because each brings a set of knowledge and skills that are fundamental to preservation of the park's primary cultural resource.

The 1988 **Museum Housekeeping Plan** provided time estimates for housekeeping tasks, and provided allocation of duties to responsible parties. Although written over 20 years ago, Review of this document should be useful to the Park in understanding the workload and the skill set required for successful performance. The tasks and skill sets have not changed.

BACKGROUND

In 1988 when the house was open five days a week, a Housekeeping Plan was written by Curator Hyman Schwartzman. In this document, cleaning responsibilities are assigned to a combination of Maintenance staff, Museum Technician and Museum Aide. By the time of the 1999 Collections Conservation Survey by the Collections Conservation Branch, Cultural Resources Center, the house was open for visitation and FTE allocations had changed. Park Maintenance worker Jeff Burroughs was assigned to exterior and interior maintenance of the Maggie Walker site as "other duties as assigned" while continuing similar responsibilities at both Richmond Battlefield sites. Consequently, time spent on maintenance activities at MAWA is usually limited to few hours each week primarily spent on grounds work and visitor pathways rather than in the house. At the present time, Jeff continues to spend very limited time at the house, and lacking Museum Technician or Aide FTE, Curator Klydie Thomas relies on local museum interns and volunteers to assist with the seven day work-load of housekeeping at Maggie L. Walker NHS.

GENERAL INFORMATION

The original seven-room two-story Victorian brick row house with Italianate detailing was built in 1883 on 110 ½ Leigh Street in Richmond, VA. In the 1890s, Robert Jones, a black physician added rooms and the west wing for a waiting and examination area. In 1904-1922, Maggie Walker converted gas lights to electric and added central heating, a cellar, 12 rooms and a 2-story front porch.

Unlike many historic sites that are furnished with a combination of acquired original site-associated items and generic period pieces and reproductions, the collections within the Maggie Walker house have great integrity as an intact comprehensive assemblage of household furnishings and goods. Most of the furnishings used by Maggie Walker and her family during her occupancy of 1904-1934 and later, by her family, remain in the house. The Walker family owned the home until 1979 when the NPS purchased it and all of its contents. Excluding the significant amount of archival material in the park's collection, about 13,500 original objects documenting the life, and work of Maggie Walker are displayed in room settings.

The 1999 Collections Condition Survey by Brigid Sullivan, Northeast Museum Services Center, provided a conservation history and an object condition focus to housekeeping recommendations provided in this plan.

GENERAL RULES FOR HANDLING MUSEUM OBJECTS

Refer to the Museum Handbook, Part I, Chapter 6 for general guidelines for handling objects.

- The curator, museum specialist or trained museum technician should be the only staff members to handle museum objects. If a museum object must be moved, ask these staff to perform the task.

- Eliminate all unnecessary handling of objects and handle them as infrequently as possible.

- Avoid wearing wrist jewelry including watches, long necklaces, prominent belt buckles or any other accessory that may scratch or snag when lifting or moving an object, particularly large objects such as furniture.

- Do not "test" the strength of areas that visually appear to be weak by tapping, probing, flexing or any other manipulation that may result in irreversible damage.

- Before lifting an object, evaluate the areas of potential strength and weakness in the structure. Examine the object for loose elements and evidence of damage such as cracks (especially "blind" or incomplete cracks), breaks, tears, and insect channeling and exit holes. Also, look for signs of old repairs like glue seams, patches and other reinforcements that indicate weakened areas,. These areas must be fully supported when the object is lifted or moved.

- Before moving an object, prepare the destination location of the object with suitable padding and support and make sure that the transport path is clear. Transport heavy objects such as metal and stone in a padded cart or dolly. If the piece is large, schedule three people to assist in the move: two to carry a large object, and one to oversee clearance through door, etc.

- Always wear clean white cotton or surgical gloves when handling metal objects to avoid etching the surface with corrosive fingerprint oils, and when handling porous marble or unglazed ceramics likely to be stained by acids and oils in skin perspiration. Wear latex or neoprene gloves instead of cotton when handling any object with a flaking or easily snagged surface.

- Wear surgical latex or neoprene gloves when handling heavy objects with smooth slick surfaces like polished metal and stone, glass, and glazed or highly polished ceramics. Textiles, books and paper may be handled with clean gloves, or, if necessary, with clean, dry hands.

- If pieces are found detached, or in the event of accidental breakage during lifting, moving, or installation, do not attempt to repair the damage. Instead, save ALL pieces, no matter how small, and place them in a Ziploc™ bag, box or other container depending on the size of the fragments, label the container with the name and catalog number of the broken object, record the event in the catalog folder of the object and consult the NMSC for guidance in arranging conservation treatment.

HANDLING LARGE FURNITURE (2 PEOPLE)

Never push or pull furniture. Furniture should always be lifted and carried. Even if adjusting the position of the piece no more than a few inches. Legs of furniture are vulnerable to breakage if pulled in a way contrary to the engineered design of the piece for weight and stress resistance.

If the piece of furniture is made of composite pieces as, for instance, a breakfront cabinet, secretary, or marble topped piece, the pieces were originally constructed to be lifted and moved separately. Secure all all moveable pieces such as drawers, doors and drop lids with flat cloth twill tape. Avoid rope, twine or adhesive tape.

Always pick up furniture by the major area of gravity, e.g. under the seat rail rather than by armrests or backs of chairs which are usually applied by joining with dowelling and adhesives. These are the areas most likely to have been previously repaired. Any applied, and especially, any repaired areaon a peces is always the weakest part structurally and the most likely to break, split or fracture when moved incorrectly.

MEDIUM-SIZED THREE-DIMENSIONAL OBJECTS

Never lift or carry any object by handles or projections. These areas are often too weak to bear the weight of the object. Instead, firmly support the object with both hands around the

heaviest part, usually the base and sides. Move lids and other composite pieces separately. Carry only one object at a time.

SMALL-SIZED THREE-DIMENSIONAL OBJECTS

Always move small objects supported in a tray, basket or box. Never carry light and heavy objects in the same container. Always place one hand cupped underneath the hand lifting the object.

TEXTILES

Handle fabrics as little as possible, and support textiles on an unbuffered acid-free tissue lined tray or other rigid support when moving. Carry costumes and large textiles cradled over both arms to evenly distribute the weight and avoid dragging any portion on the floor. When carrying large pieces like coverlets, rugs, curtains or wall hangings, roll them onto a cardboard tube of an adequate diameter and seek assistance in moving them. Never bend textiles or let them sag in the middle when handling or moving them.

PAINTINGS AND FRAMED WORKS OF ART

Carry paintings and glazed works of art by the bottom and side of the frame. Never lift a painting by the top of the frame or stretcher. Remember that glass has strength vertically but very little strength horizontally. Always carry, exhibit and store glazed framed works vertically.

BOOKS

Never remove books from shelves by pulling their head caps. Instead, push books on either side of the selected book to the back and grasp the exposed book on each side with one hand and slide the book out.

MAINTENANCE PROCEDURES

ARCHITECTURAL SURFACES

WALLS

If the wall surface is secure, dust from top to bottom with a long-handled dust mop fitted with a clean white absorbent cloth or magnetic weave (Dustbunny™) or a Swiffer duster with a spun fiber refillable head. HOWEVER, do NOT use Swiffer products or any other commercial dusting product that contains an added patented formula to sut and shine.

CLEAR-FINISHED AND PAINTED WOOD:

Oily or sticky wood surfaces from visitor hands can be cleaned with a dilute solution of Orvus soap in water on a damp cloth followed by wiping with clean water and drying with a clean soft cloth. Test a small area before cleaning the entire area. If the wood is painted, test first with a cotton swab to see if the paint is water soluble and discontinue if there is any color transfer.

Wood moldings, wainscoting, floors and other with stable surfaces can be dusted with a dust mop, soft dust cloth, or lightly vacuumed using a floor or brush attachment (see caveat about pretreated .

When vacuuming floors, use a soft bristled brush attachment and do not apply pressure to the brush. If the floor shows any evidence of loose decorative inlays or marquetry, do not vacuum! Do not vacuum any splintered area. Vacuum cracks in the floor which may be a possible insect harborage. Do not vacuum around drapes on the floor, and be careful of furniture legs and feet. NEVER drag a vacuum cleaner across a wood floor. Relocate the vacuum cleaner by picking it up and moving it. .

Dust stable painted surfaces with a soft magnetic weave dust cloth, Swiffer Duster or equivalent product. Walls with a secure painted surface can be dusted from top to bottom with a long-handled dust mop.

UNFINISHED, WORN WOOD AND/OR WOOD WITH UNSTABLE SURFACE:

Dust unfinished wood or wood with a deteriorated flaking finish with a soft Hake brush or with directed air using a photograph blow bulb.

Unfinished and excessively worn floors should not be damp-mopped unless absolutely necessary, and then with a minimal amount of water only. Keep wetting to an absolute minimum to avoid raising wood grain and promoting additional deterioration.

Flaking painted surfaces:

Actively flaking original surfaces should not be touched until stabilized by a conservator. Cracked thickly painted surfaces should be gently brushed with a Hake brush or soft artists' brush. Avoid snagging which could result in detachment of lifted areas.

Linoleum:

Wear by heavy traffic and chemical changes through aging and exposure to water are the major causes of deterioration. Linoleum becomes brittle overtime as the linseed oil oxidizes, especially if there is a high ration of wood / cork filler. As the surface becomes worn and cracked, water can penetrate through causing the laminated structure to peel apart. Alkaline or basic cleaning products such as those containing ammonia soften linseed oil, destroy cork filler material and attack the paints in printed designs.

Dust with a magnetic weave floor duster such as the Dustbunny product which leaves no residue and requires no moisture at all. If washing is necessary, limit water contact on sheet flooring during cleaning by using a damp (not wet) sponge mop with water and, if necessary, a small amount of mild non-alkaline soap such as Orvus™ as a cleaning solution.

Windows:

Never use a spray bottle of window cleaner. Aerosol spray, including hand-pumped spray is hard to confine and may contact surrounding material that may be damaged by moisture or by chemical agents in the window cleaning solution.

Avoid commercial glass cleaners that may contain silicone and detergents which can leave a dulling residue. Use the glass and ceramic cleaning solution described in **Conserv-O-Gram 8/1** consisting of 10 parts denatures alcohol, 8 parts distilled or deionized water and 1 part non-detergent household ammonia. Dampen a clean soft cloth (or cotton pad or cotton ball) and gently wipe the glass surface, turning the cloth s dirt is picked up. ***

Mirrors and glazed framed objects can also be cleaned using this method and cleaning formula, but be extremely careful to keep the cleaning solution away from contact with ornamental frames, particularly gilt gesso.

****Windows with applied UV filtering film*: Use only distilled water and a clean soft white cloth to clean any window with a UV filter applied to the glass.

Doorknobs and hardware fixtures:

Clean **ceramic doorknobs** with a clean cloth or cotton pad moistened with a glass-cleaner made of water with the addition of small amounts of ammonia and ethyl or isopropyl alcohol.

Remove grime and greasy dirt residue on **copper alloy doorknobs and door plates** with mineral spirits such as Stoddard Solvent or VM&P Naphtha available at hardware stores applied with cotton cloth pads or cotton balls. First test the area with a swab to see if the grime is removable by this method, and if it is, continue cleaning small areas at a time and wiping off the solvent residue and dirt. Apply a thin coat of Butcher's Bowling Alley Wax and buff dry.

LIGHT FIXTURES:

Electrified gasoliers and other hanging light fixtures can be dusted with a soft artists' brush, and if necessary, remove adherent dirt and film from glass globes and prisms with the standard glass cleaner (Conserv-O-Gram 8/1) recommended for windows applied with cotton swabs, cotton balls or soft cloth depending on the size and configuration of the surface to be cleaned.

Be extremely careful of pendant prisms as the wire attachments may be weak or broken. Be careful of electrical wiring as well. If breakage or detachment occurs, place loose pieces in a protective foam-lines box labeled with the object's catalogue number and date and notify the curator. For ceiling mounted light fixtures, two people are needed to complete this task safely.

FURNISHINGS

GENERAL GUIDANCE

Never use a feather duster in museum housekeeping. The ferrules can break off, the quills can scratch and the duster obscures the object being dusted making visual monitoring of the object's surface impossible. .

Dust only furnishings with a stable finish/surface by surface contact methods. Otherwise, use directed air to dislodge dust.

Water with a small amount of a mild non-ionic soap such as Orvus™ can be used to moisten soft cloths or pads to remove smoke and soot from stable finishes. Never use detergent because it may leave a film on the surface. Always test in a mall area before cleaning the entire surface.

Never use water moisture of any kind on any damaged, veneered or inlaid surface!

WOOD FURNITURE

Use a vacuum to remove dust from wood surfaces if possible (see Conserv-O-Grams 7/5 *Dusting wood Objects* and 1/6 *Choosing a Vacuum Cleaner for Use in Museum Collections*.

When vacuuming is not an option, use a clean cotton cloth or "magnetic" woven cloth (Dustbunny™) to dust furniture. If using a cotton cloth, turn the cloth frequently to keep a

clean surface, and lightly humidify the cloth by placing it on a damp surface to break the electrostatic attraction of the dust to the wood.

Fragile surfaces and intricate carvings with deep undercuts are often best dusted with directed air from a photographer's blow bulb duster or a currant of air blown through a straw at the areas to be dusted. Have the vacuum nozzle in hand to catch the cloud of disturbed dust.

CERAMICS AND GLASS

Dust glazed and polished ceramics with an untreated cloth, humidified if needed, and use a soft artists' paintbrush or directed air from a blow bulb, ear syringe or narrow drinking straw to dust applied high-relief decorative elements such as *bocage* decoration and pendant ornaments such as prisms or girandoles.

Do not wet or damp clean unglazed or porous ceramics without guidance from a conservator.

ORMOLU

True ormolu is made of bronze or brass coated with a thin layer of gold and is often used for candelabra and decorative garniture objects such as mantle clocks and vases. However, ormolu is often imitated by coating enriched brass with lacquer sometimes referred to spirit gilding, a technique widely popular in the mid 19th century and into the 20th century. True ormolu can be quite fragile and should be dusted with directed air and soft artists brush or blow bulb.

TINNED METAL

Dust with an untreated cloth. If surface grime is present, remove with mineral spirits with a soft cotton cloth or pad and lightly wax with microcrystalline wax.

SILVER AND SPECULAR METAL OBJECTS

Always handle metal objects with clean cotton or latex gloves. Choose latex gloves fs the objects is heavy to improve grip. Do not use cotton gloves with plastic grip dots on them. The dots are unstable PVC plastic and will transfer a dot pattern to the specular metal, especially disfiguring and damaging to silver. If the silver has been lacquered, dust only with a soft Hake brush. Hake brushes are recommended because the brush base is attached directly to a wood base with no metal elements that could possibly scratch objects if used too close to the object's surface. Remove loose dust and dirt with a soft brush such as a wood handled Hake brush directed toward the nozzle of a HEPA filtered vacuum.

GILDED GESSO FRAMES AND PAINTED GESSO ORNAMENTAL SURFACES

Virtually all of the painted plaster figurines in the house show corrosive moisture-related damage in terms of flaking and increased porosity. Gesso is essentially a slurry of calcium

carbonate and glue and is chemically similar to plaster. Gesso is traditionally used to seal and smooth wood or canvas surfaces in preparation for application of paint or gilding. Like the unstable plaster figurines in the house, gilded gesso frames throughout the house are also flaking and unstable, and require careful evaluation in selecting a safe housekeeping technique among the options based on brush / directed air methods.

Do not attempt to dust damaged or insecure ornate gilt gesso frames as they are very prone to loss of molded gesso ornamentation. If no cracks or losses are visible, directed air only may be used to reduce dust buildup with released airborne dust caught by a vacuum nozzle held near, but not touching, the frame.

TEXTILES

Upholstered furniture: Brush upholstered furniture with a soft brush using a HEPA vacuum to capture the dust. The soft round brush attachment of the VAC may also be used, dabbing rather than rubbing the surface of the upholstery. Use a screen if the upholstery is fragile or tufted to prevent further abrasion.

Historic rugs: Vacuum all historic rugs with a HEPA vacuum (Miele or Nilfisk) at the lowest power setting. Use a protective screen for damaged or fragile carpets and rugs.

Bedspreads, tablecloths: Lightly brush with a soft brush such as a drafting brush or a clothes brush. Use the HEPA vacuum to capture the dislodged dust.

Curtains and formal drapes (two people): Using a ladder, brush the window treatments with a soft brush or textile vacuum attachment depending on the structural integrity of the textile. Lightly cover or otherwise protect surrounding historic furnishings in the near vicinity and vacuum dislodged dust.

BOOKS

Dust a book by picking it up and holding it firmly closed. Tilt the head of the book forward and slant it down with the spine side up. Dust the top of the pages by brushing toward the forward edge away from the spine to avoid dust getting between pages. Dust all other surfaces as needed Use a HEPA Vacuum on low suction if necessary to remove large accumulations of dislodged dust.

COLLECTIONS STORAGE AREAS

The condition of museum collections in storage must also be regularly inspected for preservation needs and be maintained dust-free as possible. This includes cleaning the storage furniture (cases, shelves, cabinets, etc) as well as keeping the objects dust-free.

When cleaning shelves and cabinets, remove objects to a designated location such as tables equipped with padding and temporary supports. Do not use any harsh chemical cleaning products in the collection storage rooms harmful fumes may linger and precipitate out on surfaces in the collections storage room including the objects.

HOUSEKEEPING TASKS AND SCHEDULES

This section is organized by location within the house which roughly follows the guided tour route. The 2004 Historic Furnishings Plan was instrumental in organizing this section by location and findings of the 1999 Collection Condition Survey informed the approach to housekeeping and specific techniques recommended in this plan.

GENERAL TASKS FOR ALL LOCATIONS

DAILY

- Walk through all furnished rooms in the house to visually inspect for signs of disturbance or movement of objects. Use photograph records of each room interior for verification and contact the Curator if any signs of disturbance are detected. Look for signs of structural problems such as roof leaks or window condensation and alert Maintenance.
- Replace any burnt-out light bulbs.
- Dust and clean hand and foot marks from visitor traffic areas. Use damp cleaning methods when necessary.
- Sweep front porch and visitor entrance walkway.
- Clean Plexiglas exhibit cases as needed in room 105 with an appropriate cleaner such as Brillianize™,
- Vacuum visitor path and runners in the house.
- As needed, dust **highly visible** surfaces that would be in daily use.

WEEKLY

- Dust and/or vacuum floors and windowsills in historic furnished rooms within viewshed of visitors.
- Dust mirrors.
- Dust ledges, windowsills, baseboards and stair rails in visitor contact areas, all hallways and room viewing areas.
- Dust highly visible surfaces within furnished rooms.
- Wash or replace dirty dust cloths.

MONTHLY

- Dust furniture and objects in exhibit rooms.
- Vacuum carpets in exhibit rooms.
- Download Data loggers, print temperature and relative humidity graphs and place in a binder for reference.
- Inspect IPM Insect Traps and record findings in logbook. Replace traps as necessary.
- Dust interior woodwork such as doors, doorframes and moldings. Pay attention to molding profiles that catch dust.

QUARTERLY

- Clean interior windows as needed.
- Clean glass-fronted doors of historic cabinets.
- Vacuum upholstered furniture.
- Vacuum beneath beds and under moveable furniture. (2 people).
- Vacuum floors and dust storage units in **collections storage** areas.
- Dust objects on open shelving in **collections storage** areas
- Survey collections in storage for biological activity including mold, and treat accordingly.
- Reset data loggers and continue monitoring at 15 minute intervals.
- Inspect objects and interior surfaces for signs of biological activity (including mold) and address issues as needed.

ANNUAL TASKS

- Dust objects within glass-fronted historic cabinets and clean the cabinet interior.
- Dust all books and the interior of all bookcases
- Dust window cornices (2 people)
- Dust curtains in historic rooms with the brush/vacuum technique (2 people).
- Clean windows on exterior.
- Dust stable ceilings with a mop covered with a dust cloth or a magnetic weave Dustbunny™. (2 people)
- Dust stable walls and tops of door and window moldings requiring a ladder for access.(2 people)
- Prepare a yearly summary of environmental monitoring data.
- Inspect all fire extinguishers and conduct a safety walk through the house with fire department personnel.

SEASONAL EVENTS:

Christmas

The Christmas season is celebrated at the park with limited decorations including a decorated tree. Live trees, garlands, wreaths and seasonal plants are discouraged in the house. Park Interpreters must work closely with the Park Curator in selection and scope of seasonal decorations, protection of historic furnishings and both installation and de-installation for the event. Only curatorial staff should handle or move museum collections.

Specific concerns, vulnerable objects and guidance by rooms

Kitchen (rm 111)

Painted porcelain kitchen sink.

The porcelain kitchen sink is significantly stained and worn, presumably by decades of use by the family. At some time in the past (post occupancy), the porcelain was painted with a cosmetic application of unidentified white paint which is now flaking and shows large areas of loss. Because the paint is non-historic, the sink can be dusted by vacuuming using a soft brush attachment. Arrange for condition analysis and possible cosmetic treatment by a conservator. The visual result should be appropriate to the interpretive goals for the kitchen.

Kitchen stove

The cast iron stove has also been cosmetically treated at one time in the past with unknown compound (possibly some kind of stove blacking compound applied over a over a dirty surface) which is now streaked and clouded in certain areas. Rust formation is visible on the iron pipes. Both stove and sink can be treated on-site by a conservator.

Melvin's Den (Rm 102)

This sitting room was converted to a den as part of the 1922 renovations that was used by Mrs Walker's son Melvin and reflects his social interests in popular entertainment, A hand-operated Victrola record player and a bar cabinet for entertaining friends are present in this room.

Open back of the radio/phonograph player cabinet (MAWA 533)

The historic radio-phonograph **(MAWA 533)** has many component parts which are frequently handled and even removed from the cabinet by interpreters to show to visitors. The cabinet is also frequently turned around so that the machine's inner working components can be seen as well as the overly dusty interior.

The placement of the joined wood and veneered cabinet directly in front of a heat register is unfortunate, but dictated by the Historic Furnishings Report. Move the cabinet further away from the register as much as possible.

Excessive handling by interpreters should be discouraged, and the cabinet's interior should be dusted with appropriate tools quarterly.

Dining Room (Rm 110, hanging fringe and glass pendant lamps

Fringed chandelier above Dining Room Table

All hanging textiles, including fringe, act as a filter to collect airborne dust carried by air currents. Fringe is also very delicate, and if aged and brittle, can be quite fragile. Dust the fringe in sections by placing a white piece of heavy paper behind sections and bend slightly upward. Put lightweight soft tissue paper on the table below the section and dust with a directed air followed by brushing with a soft long-handled watercolor brush. Make sure that the section being brushed is not obscured by the hand and visual contact is maintained throughout the procedure. This procedure can be done annually.

Other similar objects in the house which should be dusted in the same way include lamps in the parlor and bedroom (verify locations):

Pendant glass lamps are a similar challenge to dust, but are even more fragile as the glass straw pendants have no capacity to bend and are easily broken with horizontal pressure. Evaluate the strength of the wire attachments and dust with directed air and/or with a long handled watercolor brush. If the wire attachments are insecure, use only directed air to dislodge dust, and contact of conservator for base-line cleaning of the candelabra.

Decorative glass and crystal elements in the table candelabra are cloudy with adherent dirt. Dust with directed air / soft brushing after evaluating the strength of the pendant wire attachments. Do not attempt to clean the glass.

Front parlor (rm 108)

Painted chair

A painted chair is displayed in the path of direct sunlight in the bay window area of the Front parlor, and is significantly damaged and disfigured with flaking paint, losses and fading. The chair should be moved back from direct sunlight. It is so fragile at this point that it should not be dusted by staff, and requires professional conservation.

"Francesca da Rimini" (MAWA 30)

The painted plaster bust of Francesca DaRimini is actively flaking with many areas of lifted paint and losses primarily on the lower face. Avoid this area when dusting, even when using directed air. Dust the top of the head with a long-handled artists brush keeping visual contact with the surface at all times. This object designated as a Priority 1 in the 1999 Collection Condition Survey.

Also in Rm.108 is **MAWA 13,** a painted plaster figurine of a man appears to be water-damaged along the proper left side in areas of the shoulder, chin and hand. Dust only with directed air. Any painted plaster object in the house with a flaking lifted surface should not be dusted more aggressively than with directed air. This includes the painted plaster figurine if a man with an eagle **(MAWA 50)** and the painted plaster bust of the woman "ATALA" **(MAWA 44)** in the **Back parlor (rm 109).**

Back parlor (rm 109)

Vase with ceramic bocage ornamentation

Dust the ceramic bowl's delicate bocage decoration on top of the piano with directed air on a quarterly basis. If necessary, a soft artists brush may be used as well. A cotton swab moistened with glass cleaner solution can be gently rolled across the surface to pick to adherent dirt in stable areas where the bocage is well supported. .

Previously repaired leather couch

Detail of couch

The couch appears to have been treated in the past, possibly by the company in Richmond in 1981. Old patch reinforcements are visible, but the splits are opened and vulnerable to continued fabric loss. Dust lightly with a low-suction vacuum cleaner over a screen to protect the damaged upholstery.

Library (rm 101)

The torn wicker chair in the Library is fragile and quite susceptible to further damage and loss if mishandled. Dust only with directed air and consider repair by a reputable caning specialist.

A leather upholstered chair similar to the Library couch in condition and treatment history is also displayed in the Library (verify). Dust with a low suction vacuum through a protective screen if lifted areas are present.

Frayed and weakened table cloth beneath the Bible

The embroidered table scarf beneath the bible in the Library is frayed and quite fragile at the weak drape edge. If possible, consider replacing it with a similar scarf in better condition if there is one in the collection. In the meantime, place a thin liner of inert felt beneath the scarf to support it at the drape edges to reduce the mechanical stress. Make sure that there is a barrier such as Mylar™ or Tyvek™ between the leather bound Bible and textile.

Formal photographs in decorative mat

Insect-damaged molded decorative papier mache surface

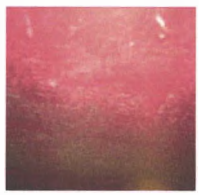
Dust the damaged papier mache frame with directed air. If the decorative molding is secure around the loss areas, a brush can be used.

In addition, the extended arm of an antiqued plaster statuette of a man **(MAWA 530)** on corner table is broken at the shoulder, forearm and wrist and has been poorly repaired. This object is listed as Priority 2 in the 1999 Collection Condition Survey and should be dusted with directed air and a soft long-handled artist brush.

Also listed as conservation Priority 2 is a painted plaster figurine with shells **(MAWA 172).** The object has been previously repaired and is flaking on the neck, face and feet. .

The prominent Majolica umbrella stand **(MAWA 531)** is very unstable and is listed as conservation Priority 1. Dust only with directed air and have the object conserved.

Maggie Walker's bedroom (Rm 207)



Sticky film on synthetic upholstery material

The sides, front and backside of a red synthetic material chair **(MAWA 77)** in MLW's bedroom (Rm 207) are sticky to the touch as if some preservative compound had been applied to keep the leather-like upholstery supple and has now polymerized into a sticky film on the surface. The upholstery material is probably an early externally plasticized synthetic material whose plasticizer has migrated to the surface over time, particularly in the presence of high light levels and radient heat. The effect is similar to sticky film formation inside of older cars when the interior plastic materials begin to break down. In its present condition, this chair cannot be effectively dusted.

Sitting / guest room (rm 208)

Dolls on Sitting / Guestroom bed

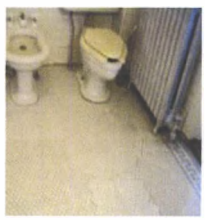
The brittle painted celluloid face of the Indian doll is cracked, and unstable lifted areas surround multiple losses. Avoid dusting the face. The fabric body and dress can be dusted with a soft brush.

Maggie Walker's Bathroom (Rm 211)

Visitor view of Mrs. Walker's bathroom behind stanchions

There are three bathrooms in the house that can be viewed by visitors, but Maggie Walker's bathroom attached to her suite of rooms on the second floor is the most visually prominent and the most significant in terms of interpretation of the site.

However, the surfaces of the bathroom are discolored, deteriorated or sometimes cosmetically retouched or repaired with techniques that detract from the visual presentation. All surfaces are significantly dirty and require a cleaning campaign beyond the normal scope of Museum Housekeeping.



Poorly repaired floor

Rust on bathroom scales

Consider arranging for a site visit by a conservator to scope on-site treatment projects throughout the house.

Housekeeping

TASK SCHEDULES

DAILY HOUSEKEEPING SCHEDULE

Dates_____ **Housekeeper**_____

LOCATION: FIRST FLOOR EXHIBIT ROOMS AND TRAFFIC AREAS

TASKS

- Walk through all furnished rooms in the house to visually inspect for signs of disturbance or movement of objects. Use photograph records of each room interior for verification and contact the Curator if any signs of disturbance are detected. Look for signs of structural problems such as roof leaks or window condensation and alert Maintenance.
- Replace any burnt-out light bulbs.
- Dust and clean hand and foot marks from visitor traffic areas.
- Sweep front porch and visitor entrance walkway.
- Clean Plexiglas exhibit cases as needed in room 105 with an appropriate cleaner such as Brillianize™,
- Vacuum visitor path and runners in the house.
- As needed, dust **highly visible** surfaces that would be in daily use.

	WEEKDAYS						WEEKDAYS						WEEKDAYS						WEEKDAYS					
	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Visitor Entrance room 105																								
Kitchen, 111																								
Laundry Rm, 113																								
Melvin's Den, 102																								
Dining Room, Rm 110																								
Front Stairwell, 107																								
Front Parlor, 108																								
Back Parlor, 109																								
Hallway, 101																								
Front porch and visitor entrance / front sidewalk																								

OBSERVATIONS:

MAGGIE L. WALKER NATIONAL HISTORIC SITE

DAILY HOUSEKEEPING SCHEDULE

Dates / *Starting*_____/ *Ending*: _____ **Housekeeper (s):**_____

LOCATION: SECOND FLOOR EXHIBITS AND TRAFFIC AREAS

TASKS

- Walk through all furnished rooms in the house to visually inspect for signs of disturbance or movement of objects. Use photograph records of each room interior for verification and contact the Curator if any signs of disturbance are detected. Look for signs of structural problems such as roof leaks or window condensation and alert Maintenance.
- Replace any burnt-out light bulbs.
- Dust and clean hand and foot marks from visitor traffic areas.
- Vacuum visitor path and runners in the house.
- As needed, dust **highly visible** surfaces that would be in daily use.
- Clean Plexiglas exhibit cases in Room 105 with an appropriate cleaner such as Brillianize™
- Sweep front porch and visitor entrance walkways.

	WEEKDAYS						WEEKDAYS						WEEKDAYS						WEEKDAYS					
	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Hattie Walkers Room, 201																								
Maggie Laura's Rm, 207																								
Sitting / Guest Rm, 208																								
MLW Study, 209																								
MLW Bathroom, 211																								
MLW Bathroom, 211																								
Enclosed porch, P-2																								
Back Parlor, 109																								
MLW Dining Rm, 216																								
MLW Kitchen, 217																								

OBSERVATIONS:

WEEKLY HOUSEKEEPING SCHEDULE

Date:_____ **Housekeeper(s):**_____

LOCATION: ALL ROOMS AND TRAFFIC AREAS

TASKS

- Dust mirrors.
- Dust and/or vacuum floors and windowsills in historic furnished rooms within viewshed of visitors
- Dust ledges, windowsills, baseboards and stair rails in visitor contact areas, all hallways and room viewing areas.
- Dust highly visible surfaces within furnished rooms.
- Wash or replace dirty dust cloths

TASK	WEEK DATE	WEEK DATE	WEEK DATE	WEEK DATE
Dust mirrors.				
Dust and/or vacuum floors and windowsills in historic furnished rooms within viewshed of visitors.				
Dust ledges, windowsills, baseboards and stair rails in visitor contact areas, all hallways and room viewing areas.				
Dust highly visible surfaces within furnished rooms.				
Wash or replace dirty dust cloths				

OBSERVATIONS:

MAGGIE L. WALKER NATIONAL HISTORIC SITE

MONTHLY HOUSEKEEPING SCHEDULE

Date:_____ **Housekeeper:**_____

LOCATION: ALL ROOMS AND TRAFFIC AREAS

TASKS

- Dust open and visible accessory objects and furniture with appropriate tools and techniques.
- Vacuum stable carpets in exhibit rooms.
- Dust interior woodwork such as doors, doorframes and molding. Pay attention the molding profiles that catch dust.
- Download dataloggers, print out temperature and RH% graphs and place in a binder for reference.
- Inspect IPM traps and record findings in a logbook. Replace traps as necessary.

TASK	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
Dust open and visible accessory objects and furniture with appropriate tools and techniques.												
Vacuum stable carpets in historic rooms.												
Dust interior woodwork such as doors, doorframes and molding. Pay attention the molding profiles that catch dust.												
Download data logger, print chart and reset to continue monitoring												
Inspect IPM traps and record findings in a logbook. Replace traps as necessary												

OBSERVATIONS:

MAGGIE L. WALKER NATIONAL HISTORIC SITE

QUARTERLY HOUSEKEEPING SCHEDULE

Date:_____ **Housekeeper:**_____

LOCATION: ALL ROOMS AND TRAFFIC AREAS

TASKS : See below

TASK	QUARTER / DATE	QUARTER / DATE	QUARTER / DATE	QUARTER / DATE
Clean interior windows.				
Clean glass-fronted doors of historic cabinets.				
Vacuum upholstered furniture.				
Vacuum beneath beds and under moveable furniture (2 people)				
Vacuum floors and dust storage units in **collections storage** areas				
Dust objects on open shelving in **collections storage** areas.				
Survey collections in **storage** for biological activity including mold, and treat accordingly.				
Reset data loggers and continue monitoring at 15 minute intervals.				
Inspect objects and interior surfaces for signs of biological activity / address.				
Measure both **UV and visible light** levels and record in an Environmental Monitoring Log				

OBSERVATIONS:

YEAR

MAGGIE L. WALKER NATIONAL HISTORIC SITE

ANNUAL HOUSEKEEPING SCHEDULE

Date:_____ **Housekeeper(S):**_____

LOCATION: ALL ROOMS AND TRAFFIC AREAS

Dust objects within glass-fronted historic cabinets and clean the cabinet interior.	
Dust window cornices.	
Clean windows on exterior. (Maintenance. / contract)	
Dust stable ceilings with a mop covered with a dust cloth or a magnetic weave Dustbunny™.	
Dust stable walls and tops of door and window moldings requiring a ladder for access.(	
Dust all books and the interior of all bookcases.	
Dust curtains in historic rooms with the brush/vacuum technique..	
Prepare a yearly summary of environmental monitoring data.	
Inspect all fire extinguishers and conduct a safety walk through the house with fire department personnel.	
Conduct Annual Inventory of Museum Collections	

YEAR

MAGGIE L. WALKER NATIONAL HISTORIC SITE

ANNUAL HOUSEKEEPING SCHEDULE

Date:_____ **Housekeeper(s):**_____

LOCATION: ALL ROOMS AND TRAFFIC AREAS

Dust objects within glass-fronted historic cabinets and clean the cabinet interior.	
Dust window cornices.	
Clean windows on exterior. (Maintenance. / contract)	
Dust stable ceilings with a mop covered with a dust cloth or a magnetic weave Dustbunny™.	
Dust stable walls and tops of door and window moldings requiring a ladder for access.(	
Dust all books and the interior of all bookcases.	
Dust curtains in historic rooms with the brush/vacuum technique..	
Prepare a yearly summary of environmental monitoring data.	
Inspect all fire extinguishers and conduct a safety walk through the house with fire department personnel.	
Conduct Annual Inventory of Museum Collections	

CARING FOR YOUR TREASURES

AIC
AMERICAN INSTITUTE FOR CONSERVATION OF HISTORIC AND ARTISTIC WORKS

CARING FOR CERAMIC AND GLASS OBJECTS

Many special objects are made of ceramics or glass. These materials include porcelain, earthenware, "crystal," pottery, and art glass to name just a few. Jewelry, dolls, sculpture, tableware, tiles, kitchenware, and many other items can be made from ceramics and glass.

Ceramics are often classified by their body type. *Earthenwares* are porous ceramics that have been fired at relatively low temperatures. *Stonewares* are fired at a high enough temperature that the stoneware body is impermeable to water. *Porcelains* are very fine bodied ceramics that are fired at very high temperatures to create a vitrified, or glasslike, body.

Ceramics are often decorated with colored slips and glass slurries and are then glazed for decorative purposes or, in the case of earthenwares, to provide water impermeability.

Glass objects are made from a mixture of ground silica (sand) and other mineral modifying agents (usually metallic salts) that are melted together to create a molten glass. The molten glass is formed by a variety of methods, including molding and blowing, into a shape that is allowed to slowly cool and harden. If a glass object is not allowed to cool slowly and properly by a process called annealing, it will crack or shatter from uneven internal stresses.

The primary means by which ceramics and glass objects deteriorate is through accidental cracking and breaking. This is often a result of improper handling, shipping, storage, or display. Other sources of deterioration for ceramics and glass can include deterioration of the clay body or the glass as result of poor manufacturing methods or materials. Porous ceramics can also deteriorate due to the presence of soluble salts deep within the ceramic body itself. The salts dissolve and re-crystallize as the relative humidity fluctuates. When the salts re-crystallize they expand in size and crush the surrounding ceramic structures. You may have seen this happen with a flowerpot that has become saturated with fertilizer salts over time. Freezing water within the ceramic body may also damage porous ceramics that are left outdoors during winter.

Leaving liquids inside vessels for long periods of time can damage glass. Some constituents of the glass dissolve into the liquid, making the interior of the vessel appear cloudy or appear to have residue inside. All efforts to remove this "residue" will fail because the inside of the vessel has actually been etched away and may have a very fine network of surface cracks.

One might guess that earthenwares are more subject to deterioration than other ceramics due to their higher level of water permeability. Porcelains can be extremely fragile due to their highly vitrified nature. They are often made to have paper-thin, delicate walls and thus are subject to cracking and breakage.

HANDLING CERAMICS AND GLASS

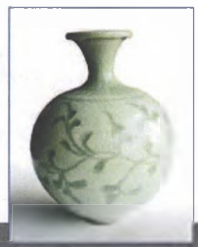
A major source of damage to ceramics and glass can be improper handling and carelessness. A thoughtless tap of a glass goblet on the storage shelf can result in a chip or complete breakage. Careless handling can also lead to the formation of internal cracks that weaken the ceramic or glass structure. It is always best to overestimate the brittleness and underestimate the strength of an artifact. Of course, anyone who has poured hot water into a cold glass or mug and heard a delicate "chink" sound will recall the heartache of breaking a favorite piece.

When moving ceramic and glass objects, always carry one object or one part of an object at a time. It is best to place your hands around the body of the object rather than using an existing handle, rim, or spout for support. Be sure you have a level space of adequate size available to place the object, and a clear path to move, before removing the piece from its original location. Carry objects from room to room or up and down stairs in a padded basket or box rather than in your hands. If you were to trip or fall with your hands full, you would crush the object and most likely injure yourself as well. Use soft padding to prevent ceramic and glass objects from clinking against each other during transport or in overcrowded conditions.

STORAGE AND DISPLAY

Ceramics and glass, in general, should be stored and displayed on sturdy, level surfaces that are secure from bumps and jarring. Objects should be covered or enclosed to protect them from dirt and dust. If this is not possible for storage, pieces can be wrapped in acid-free, lignin-free tissue and stored in acid-free cardboard boxes. Newspaper and acidic newsprint paper can cause discoloration and stains and should not be used for wrapping or long term storage of ceramics and glass. Any box used for storage should be strong enough to support the weight of the objects inside and should have a secure bottom. The container should also be large enough to enclose the entire object. Objects should not be allowed to bump or fall against each other.

Ceramics are often displayed vertically on walls with spring-loaded mounting brackets. These brackets may exert too much pressure on ceramic plates and often cause cracks and damage. Other vertical plate racks are made that do not exert undue pressure and are much safer for your prized objects. Separate prongs can also



A GUIDE FOR CLEANING, STORING, DISPLAYING, HANDLING, AND PROTECTING YOUR PERSONAL HERITAGE

CERAMICS & GLASS

> "LEAVING LIQUIDS INSIDE VESSELS FOR LONG PERIODS OF TIME CAN DAMAGE GLASS"

be used in place of either type of mounting device. It helps to pad the part of the mount with a synthetic felt to prevent any scratching onto the surface of the object.

Another common problem in the display of ceramic and glass pieces involves the gradual, incremental movement of objects on surfaces due to underground vibrations. The movement can be caused by any constant, transmitted vibration source like subways, trains, underground equipment, and normal building vibration. Objects in museums are often carefully secured to their display surfaces with very small dots of soft wax to prevent them from "walking" off their display vitrines. Caution should be used, however, when using wax. One must take into consideration whether the wax may be safely removed from the object. There are expert conservators who have researched and studied ways to reduce earthquake-related damages to displayed objects. If you live in earthquake area and display important objects, you can get information about these experts and their methods by contacting a local objects conservator.

CLEANING PRACTICES

Ceramics and glass objects should be kept free of dust, debris, and oily residues. In general, it is not a good idea to routinely wash these pieces. Each time a piece is handled for cleaning there is a greater risk of breakage through accidents and mishandling. It is better to protect pieces from soiling and dust in the first place, rather than wash them too often.

Porous ceramics, like earthenware, should never be immersed in water. They will absorb the water into the body like a sponge and draw surface stains of residues deeper into the ceramic body if left to soak. For cleaning any important ceramic or glass artifact, a conservator should first be consulted to ensure the objects stability and recommend safe cleaning methods.

OLD REPAIRS AND RESTORATIONS

A very common problem found with ceramic and glass objects is the presence of old repairs and restorations. Be very wary of previous repairs and restorations. They are sometimes very difficult to detect. Sometimes shining a black light on the object may help in distinguishing areas of previous repair. Older glues are weaker and more brittle than glues used today, and as a result, old restorations may have aged enough that they no longer support the broken pieces of the object. They often yellow and peel and become unsightly, as well as dangerous. Objects can sometimes just fall to pieces by themselves. Be extra careful when lifting or handling repaired ceramics and glass. Also, think very carefully before you decide to take a repaired object apart yourself. If the object is important to you, you might consider having a professional objects conservator examine it first and provide advice. A conservator can also carefully remove the old repairs and replace them with more stable and visually acceptable adhesives and paints.

WHEN DISASTER STRIKES

For ceramic and glass objects, the most serious threats during disaster situations are scratching and breakage. Objects that have become wet during an emergency should be rinsed with clean, distilled or deionized water and then dried with clean cotton or paper towels. Be careful not to scratch objects by wiping off grit or soil or by using towels that are dirty or gritty. If conditions are such that dry towels are not available, objects can be placed in the warm sun to dry.

Porous ceramics should not be allowed to remain wet or submerged in liquids. The permeable body will draw the dirty water and stains into the ceramic. If earthenware is already submerged or waterlogged you should contact a local conservator for advice about rinsing and drying the object.

WHEN TO CALL A CONSERVATOR

If you have questions about the care of your objects, call a professional conservator to get answers and additional information. If your object requires special intervention like cleaning, repair, restoration, or replacement of missing parts, you should contact an objects conservator. They will give you advice about the safest means by which to preserve and restore your special items. AIC's Find a Conservator at www.conservation-us.org can direct you to a qualified conservator in your area.

ABOUT AIC

The American Institute for Conservation of Historic and Artistic Works (AIC) exists to support the conservation professionals who preserve our cultural heritage. AIC plays a crucial role in establishing and upholding professional standards, promoting research nand publications, providing educational opportunities, and fostering the exchange of knowledge among conservators, allied professionals, and the public. AIC's 3,500 members all of share the same goal: to preserve the material evidence of our past so we can learn from it today and appreciate it in the future.

To learn more about AIC or to become a member, please visit www.conservation-us.org.

American Institute for Conservation of Historic and Artistic Works (AIC)
1156 15th Street NW, Suite 320 • Washington, DC 20005 • PH: (202) 452-9545 • FX: (202) 452-9328 • info@conservation-us.org • www.conservation-us.org

CARING FOR YOUR TREASURES

AIC
AMERICAN INSTITUTE FOR CONSERVATION OF HISTORIC AND ARTISTIC WORKS

Throughout human history, textiles have played a rich part in the lives and traditions of people of all cultures. They have been constructed using a wide variety of materials and techniques—from natural fibers such as cotton, silk, flax, and wool to regenerated or manufactured fibers such as rayon, nylon, and polyester.

Textiles can be simple in structure and composition or can be part of complex composite objects that incorporate other materials like paper, leather, glass, metals, paint, stone, horn, bone, shell and feathers.

Contemporary household furnishings, clothing, many fashion accessories, and even fragmented archaeological finds are all textiles. Textiles, such as quilts, tapestries, embroideries, flags, and christening gowns are often treasured for their artistic, technical, cultural, and sentimental value.

Most textiles, at some time in their history, have served as functional objects. This history of use, along with environmental and handling factors, can affect a textile's condition, resulting in the need for special care to ensure its long-term preservation. Making careful and informed decisions regarding the handling, display, and storage of a textile can make the difference between a short life span and a textile's preservation for future generations.

ENVIRONMENT

The deterioration of textiles is often due to a combination of physical, biological, and/or chemical factors working together to cause damage. Inappropriate lighting; improper temperature and relative humidity levels; excessive dust, dirt, and other pollutants; insects; mold and mildew; and incorrect handling all contribute to damage.

LIGHT

Both natural and artificial light can fade color and contribute to the degradation and permanent damage of many textile fibers. The rate at which damage occurs is determined by the level of illumination and the duration of exposure. And, unfortunately, light damage is cumulative and irreversible. If long-term preservation is a concern, protecting textiles from light exposure is key. To this end, several simple and practical steps can be taken: keep draperies drawn to protect textiles from strong, direct light; use ultraviolet light filtering glazing when framing textiles for display; and install ultraviolet light filtering films on windows and over other light sources. Keep in mind, however, that all types of light damage textiles. The risk of light damage can be further minimized by periodically rotating your textiles on and off display.

TEMPERATURE AND RELATIVE HUMIDITY

High temperatures speed up the rate of many chemical reactions, and as a result, speed up the rate at which damage can occur in fibers, dyes, and other component materials of textiles. For this reason, textiles are best stored and displayed as far away from heat sources (fireplaces, spotlights, windows, etc.) as possible. Areas inclined to high temperatures (above 80°F) and those subject to sudden or great temperature changes, such as unfinished attics and basements, are not appropriate for the safe storage of textile artifacts.

Relative humidity is a measure of the amount of moisture in the air. Because many organic materials contain moisture, fluctuations in temperature and relative humidity can cause these materials to expand and contract as they take in or lose moisture. A painted silk banner, for example, can be adversely affected when the pigment and binder in the painted design do not expand and contract at the same rate as the fibers in the silk fabric. As a result, the paint layer will tend to crack and flake off. Other potential problems associated with high relative humidity are mold and mildew, the corrosion of metals, and the bleeding of some dyes. Relative humidity is best maintained at a constant level between 35 and 65 percent.

POLLUTION AND AIRBORNE SOILING

Smog, car exhaust, and ozone are common pollutants that can cause physical and chemical damage. Textiles are particularly susceptible to abrasion and physical damage caused by dust and other gritty particulate surface soiling. Eliminating exposure to these contaminants is an important aspect of preventive conservation care. The use of particulate air filters and protective display and storage enclosures is recommended when planning for the long-term preservation of textiles.

DISPLAY AND STORAGE

Textiles are best preserved when displayed and stored in clean, well-ventilated areas that are routinely and adequately maintained. Controlling dust, clutter, and other accumulations of extraneous material will greatly reduce the possibility of damage caused by insects, rodents, and microorganisms such as molds and fungi. Inspect your textiles often, ideally at six-month intervals, to identify problems early on. Indications of active deterioration are an increase in textile discoloration, tarnishing of metal components, and the presence of a

A GUIDE FOR CLEANING, STORING, DISPLAYING, HANDLING, AND PROTECTING YOUR PERSONAL HERITAGE

TEXTILES

> "MOST TEXTILES BECOME WEAKER WHEN WET AND WILL NEED SUPPORT FOR SAFE HANDLING"

sweet or musty odor. Signs of insect infestation include small, irregularly shaped holes, and/or the presence of insect casings and excrement.

Controlled vacuuming can be an effective means of reducing dust and other particulate soiling, though not all textiles, can be safely vacuumed. There are various methods of vacuuming depending upon a textile's condition, component materials, and method of construction. Specially-modified equipment allowing for low suction is often necessary for vacuuming to be accomplished safely. For large or sturdy textiles, vacuuming with an up and down motion (lifting, not dragging the vacuum nozzle) over a protective sheet of flexible plastic screening may be recommended. For fragile three-dimensional textile artifacts, dusting lightly with a soft brush into a specially-modified low-suction vacuum nozzle may be preferable. Contact a professional conservator to discuss appropriate techniques before you begin.

HANDLING

Proper handling is important for the long-term preservation of textiles. Textiles are frequently more fragile than they first appear. Before attempting to handle or move a textile, familiarize yourself with its weak areas. Physical damage can occur suddenly as a result of even careful handling. Support a textile in a manner that distributes its weight evenly. A delicate silk embroidery may be supported by sliding a piece of paper or cardboard underneath, while a heavier textile such as a carpet or tapestry is best rolled on a large tube or carried in a fabric sling.

Clean hands are important when handling textiles, as human skin contains oils and perspiration. Refrain from using skin creams as they may be readily absorbed by textile fibers and later contribute to staining. Wash your hands frequently or wear inexpensive white cotton gloves that are available through photographic and conservation suppliers. Remove jewelry or anything that may snag and be careful not to rub or drag your hands against the textile. Be aware that yarns and fibers can be easily pulled, frayed, and weakened depending upon the textile's condition, its component materials and method of construction.

HOUSING: FRAMING, DISPLAY AND STORAGE

The materials used in frames and storage enclosures must be carefully selected to ensure a protective and stable environment. Most wood, packing cardboards, and some plastics are chemically unstable. Use archivally-stable materials such as barrier films, acid-free unbuffered matboards and paperboards, rolling tubes, and storage boxes that are available through conservation supply catalogues and at some art supply stores instead. Contact your local museum for sources near you.

DISASTERS

The two most common forms of disaster damage are those caused by water and fire. Prompt attention to textiles following a disaster can greatly reduce the likelihood that they will suffer permanent damage.

In the case of wet artifacts, remember that most textiles become weaker when wet and will need support for safe handling and transport. If handling is possible, separate colored textiles from others to reduce the risk of dye transfer. Rinse any silt or debris off with clean, cool water, then blot the textiles carefully with absorbent toweling to remove as much moisture as possible. Lay the textiles flat to dry in a room with good air circulation. Cover them with clean, thin, cotton sheets to absorb impurities and provide protection during drying. If the water-damaged textiles are already dry, deposited soiling may often be removed with a soft brush and special low-suction vacuum, as previously described.

When there are too many water damaged textiles to dry immediately, it is advisable to contact a conservator or local museum for advice. It may be possible to freeze the wet textiles to prevent mold growth and arrest bleeding dyes. Arrangements can then be made to examine and dry the textiles under controlled conditions.

Fire, soot, and smoke damage pose special problems for textiles. It is always advisable to contact a conservator before handling a soot-damaged artifact. Handling can irreversibly drive sooty surface soiling deep into the fibers of a textile. The use of ozone to remove smoky and/or mold and mildew odors from a textile is not recommended as ozone will accelerate aging and degradation in many textile artifacts.

WHEN TO CONSULT A CONSERVATOR

Before attempting to repair, clean, or mount a textile artifact, contact a professional textile conservator for advice. The conservator will examine your textile, evaluate its composition and method of manufacture, document its condition, and make note of inherent problems and areas of damage. A treatment option will then be proposed, taking into account your concerns and any relevant historical information.

AIC's Find a Conservator at www.conservation-us.org can direct you to a qualified conservator in your area.

ABOUT AIC

The American Institute for Conservation of Historic and Artistic Works (AIC) exists to support the conservation professionals who preserve our cultural heritage. AIC plays a crucial role in establishing and upholding professional standards, promoting research nand publications, providing educational opportunities, and fostering the exchange of knowledge among conservators, allied professionals, and the public. AIC's 3,500 members all of share the same goal: to preserve the material evidence of our past so we can learn from it today and appreciate it in the future.

To learn more about AIC or to become a member, please visit www.conservation-us.org.

American Institute for Conservation of Historic and Artistic Works (AIC)
1156 15th Street NW, Suite 320 • Washington, DC 20005 • PH: (202) 452-9545 • FX: (202) 452-9328 • info@conservation-us.org • www.conservation-us.org

CARING FOR YOUR TREASURES

AIC
AMERICAN INSTITUTE FOR CONSERVATION OF HISTORIC AND ARTISTIC WORKS

HOW TO PROTECT YOUR METAL OBJECTS

Tools, jewelry, toys, sculpture, tableware, furniture, kitchenware, and almost any other item can be made from metal. Metals—gold, silver, copper alloy, pewter, and iron to name just a few—are produced from ores that are found in nature and are processed, or smelted, from a stable mineral state to a less stable metallic state. Almost every metal material you will encounter will be an alloy—a mixture of more than one metal. Metals are mixed to achieve certain qualities in the finished alloy like color, strength, or corrosion resistance. Metals are also often layered together, as in the case of silver plated on a base metal substrate or tin plated on an iron substrate.

The primary means by which metals deteriorate is through corrosion. Most metals corrode on contact with water, acids, bases, salts, oils, aggressive metal polishes, and other chemicals. They will also corrode when exposed to gaseous materials. Other sources of deterioration for metal objects include breakage, dents, and scratches from accidents or mishandling.

Noble metals like gold and silver corrode less readily than baser metals like iron, tin, and lead. Gold, for example, truly does not corrode. Silver can suffer from sulfide-related tarnish and can corrode under very aggressive conditions such as in archeological contexts, but is fairly stable. Less noble metals, such as copper alloys, corrode more readily; base metals such as iron corrode very easily. Because metal is electrically active, galvanic corrosion can occur when two metals are in direct contact with each other. The base metal will contribute electrons to the more noble metal creating an electric circuit. This causes preservation of the more noble metal and corrosion of the more base metal.

CLEANING AND HANDLING

One of the sources of damage to metal is improper handling and carelessness. Oils and acids that are continuously secreted through human skin are deposited on metal surfaces during handling, where they cause corrosion and pitting. As experienced gun collectors and jewelers can attest, the actual pattern of a person's fingerprint can corrode into a metal surface. Metal objects should always be handled with clean, white cotton gloves, or vinyl gloves with a pair of cotton gloves over them to further prevent sweat from passing through to the object. If items are handled with bare skin or are used, as in the case of tableware, they should be carefully cleaned before storage or display to remove these deposits and prevent corrosion from skin acids and oils. White gloves are recommended because it is easy to determine when they become soiled and need to be washed.

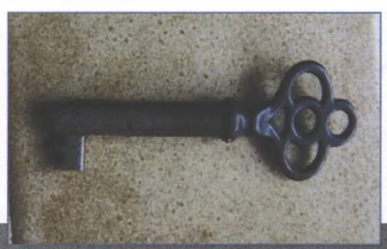
Careless handling can also lead to denting, bending, or breaking metal artifacts. It is best not to overestimate the strength and resiliency of metal pieces; they are often weaker or more brittle than one anticipates. Extra caution in handling can prevent serious damages that can be expensive to repair.

Metal objects should be kept free of dust, debris, and oily residues. In general, it is not a good idea to routinely polish or aggressively clean metal pieces. Each time a piece is polished or cleaned, a thin layer of the surface is ground off by the cleaning tools, the abrasives in the polish, or is dissolved away by strong chemicals in cleaning solutions. Repeated polishing or cleaning with chemicals such as dipping solutions will gradually eat away plating, surface decoration, engraving, maker's marks, and monograms. Eventually, holes will form in the body of the metal object. As an example, many people will use a wire brush on an electric drill to clean away rust on old iron objects like tools. This is very aggressive and may remove important surface features like the maker's stamps or historically important signs of use. It is best to use the most mild and non-abrasive methods for cleaning metals.

THE ENVIRONMENT

A controlled environment is one of the most important elements in the preservation of your metal objects. Excessive humidity is a leading contributor to the corrosion of metal. It is important to keep the relative humidity below 55 percent in areas where you keep important metal artifacts. You can use dehumidifiers and air conditioning to limit the amount of moisture in the air. Avoid storing your items in the basement, where the relative humidity is often far too high. Metal artifacts from an archeological context such as bronze and iron should ideally be kept at an even lower relative humidity, below 40 percent.

Another aspect of the environment that is critical to the preservation of metals is air pollution. Fine dust and debris in the air can accumulate on metal surfaces, where it attracts



A GUIDE FOR CLEANING, STORING, DISPLAYING, HANDLING, AND PROTECTING YOUR PERSONAL HERITAGE

METAL OBJECTS

"THE PATTERN OF A PERSON'S FINGERPRINT CAN CORRODE INTO A METAL SURFACE"

moisture and encourages corrosion. Keeping metal objects dust-free or carefully covered with dust covers can prevent this type of corrosion.

Gasses in the air also attack metals. Gasses from car exhaust, rubber products, and cigarette smoke cause silver and copper alloys to discolor and corrode. The characteristic tarnish on silver is black silver sulfide. Acidic gasses from wooden cabinets and cases can also cause metal corrosion. Vapors produced by plywood and other products that off-gas formaldehyde cause lead alloys and other metals to corrode, forming wispy white crystals often confused with mold growth. Keeping metal objects in a clean, dry, safe environment can prevent deterioration from environmental sources.

STORAGE AND DISPLAY

Metals, in general, should be stored with inert storage materials. For example, metallic cabinets and shelving should be used rather than wood cabinets and shelving as many woods and wood products, like plywood, emit acids and other gasses that cause metals to corrode. Acidic newsprint and cardboard boxes also should be avoided. Acid-free, lignin-free wrapping paper and boxes are better. Clean, soft cotton cloth can also be used.

Silver, for example, can be stored in "silver cloth" available through jewelers' and fabric stores. Silver cloth will drastically slow the rate at which your silver will tarnish by preventing sulfur gasses in the air from reaching the surface of your silver piece. Silver cloth, however, should be changed every few years to remain effective. As the compounds in the cloth complex with gasses, they become used up and may eventually be holding the oversaturated pollutants in close contact with your silver. Washing and re-using silver cloth is not effective so it is advised to buy new.

Storage containers, called housings, should also provide adequate physical protection for your objects. They should be suitably padded to prevent direct contact with other metal surfaces that can lead to corrosion. Padding also prevents denting, scratches, and other physical damage. For example, silver cloth is soft and will not scratch. It is thick, like flannel, and provides padding that will help prevent small dents and dings.

Metals objects, even large ones like farm implements or automobiles, should always be covered to protect from dust build up. Clean cotton sheeting can be used to make removable dust covers.

WHEN DISASTER STRIKES

For metal objects, the most serious threat from a disaster is water damage. Metal objects that have become wet during an emergency should be rinsed with clean distilled or deionized water as soon as it is practically possible. If distilled or deionized water is not available, tap water will suffice until the object can be examined by a conservator. The rinsed objects should then be dried as quickly as possible to prevent corrosion. Clean cotton or paper towels can be used. If conditions are such that dry towels are not available, objects can be placed in the warm sun to dry. Be very careful not to scratch objects by wiping off grit or soil or by using towels that are dirty or gritty. Metal objects should not be left wet; they will quickly corrode. Other questions about preserving your metal objects after a disaster can be answered by a local conservator.

WHEN TO CONSULT A CONSERVATOR

If your object requires special intervention like repair, replating, or replacement of missing parts, you should contact an objects conservator. They will give you advice about the safest means by which to conserve and restore your special items. Visit AIC's Find a Conservator at www.conservation-us.org to find a qualified conservator in your area.

ABOUT AIC

The American Institute for Conservation of Historic and Artistic Works (AIC) exists to support the conservation professionals who preserve our cultural heritage. AIC plays a crucial role in establishing and upholding professional standards, promoting research nand publications, providing educational opportunities, and fostering the exchange of knowledge among conservators, allied professionals, and the public. AIC's 3,500 members all of share the same goal: to preserve the material evidence of our past so we can learn from it today and appreciate it in the future.

To learn more about AIC or to become a member, please visit www.conservation-us.org.

American Institute for Conservation of Historic & Artistic Works (AIC)
1156 15th Street NW, Suite 320 • Washington, DC 20005 • PH: (202) 452-9545 • FX: (202) 452-9328 • info@conservation-us.org • www.conservation-us.org

CARING FOR YOUR TREASURES

AIC
AMERICAN INSTITUTE FOR CONSERVATION OF HISTORIC AND ARTISTIC WORKS

Paintings are fragile creations that require special care to ensure their continued preservation. Paintings consist of various layers. The paint is applied to a support, typically canvas or wood, which is usually first primed with a glue-sizing and/or ground layer. Traditional paintings are finished with a coat of varnish. Contemporary paintings, naive, or folk art may not have a ground layer or varnish coating. Paintings that do not have all of the traditional layers may be more fragile and susceptible to change or damage.

The paint layers can be made of pigments in oil, acrylic (or other synthetics), encaustic (wax), tempera (egg), distemper (glue), casein (milk), gouache (plant gum), or a mixture of media. The paint can be applied on a wide variety of supports. Although the most common are canvas and wood, other supports include paper, cardboard, pressed board, artist's board, copper, ivory, glass, plaster, and stone. Paintings on canvas are usually stretched over an auxiliary wood support. An adjustable support is called a stretcher; a support with fixed corners is called a strainer. Paintings change over time. Some inevitable results of aging, such as increased transparency of oil paint or the appearance of certain types of cracks, do not threaten the stability of a painting and may not always be considered damage. One of the most common signs of age is a darkened and/or yellowed surface caused by accumulated grime or discolored varnish. When a varnish becomes so discolored that it obscures the artist's intended colors and the balance of lights and darks, it usually can be removed by a conservator, but some evidence of aging is to be expected and should be accepted. However, when structural damages or unstable conditions occur in a painting such as tears, flaking paint, cracks with lifting edges, or mold, consult a conservator to decide on possible courses of treatment for your painting.

SUITABLE ENVIRONMENT

It is important to maintain a proper environment for your paintings. The structural components of a painting expand and contract in different ways as the surrounding temperature and humidity fluctuate. For example, the flexible canvas may become slack or taut in a changing environment, while the more brittle paint may crack, curl, or loosen its attachment to the underlying layers. Paintings generally do well in environmental conditions that are comfortable for people, with relative humidity levels between 40 and 60 percent.

Environmental guidelines have been developed for different types of materials. Paintings on canvas may react more quickly to rising and falling humidity levels than paintings on wood panels, but the dimensional changes that can occur in a wood panel can result in more structural damage. Owners of panel paintings should be particularly conscientious about avoiding unusually low or high relative humidity and temperatures to prevent warping, splitting, or breaking of the wood. Museums strive to maintain constant temperature and humidity levels for works of art, but even with expensive environmental control systems this task can be difficult. In most cases, gradual seasonal changes and small fluctuations are less harmful than large or rapid environmental fluctuations. Avoiding large fluctuations is very important.

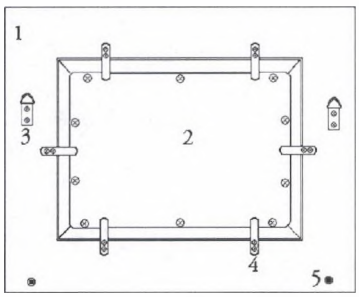
One of the simplest and most important preservation steps you can take is to have a protective backing board attached to paintings. A Fome-Cor (or archival cardboard backing) secured to the reverse of a painting with screws (not staples or tacks) will reduce exposure of the canvas to rapid environmental changes, keep out dust and foreign objects, and protect against damage during handling. Be sure that the backing board covers the entire back of the picture; do not leave air vent holes, which can create localized environmental conditions and lead to cracks in paint. The backing board should be attached to the reverse of the stretcher or strainer, not to the frame. Have a conservator or reputable framer attach it for you.

DISPLAYING PAINTINGS

The display of paintings requires careful consideration. Direct sunlight can cause fading of certain pigments, yellowing of varnish, and excessive heating of the paint surface. If paintings are placed on uninsulated exterior walls, it may help to place small rubber spacers on the back of the frame to increase air circulation. Although a fireplace is often a focal spot for a room, a painting displayed above a mantel will be exposed to soot, heat, and environmental extremes. Hanging paintings above heating and air conditioning vents or in bathrooms with tubs or showers is also inadvisable because the rapid environmental fluctuations will be harmful. Select a safe place away from high traffic areas, moveable seating, or other hazards. When lighting paintings, use indirect lighting. Lights that attach to the top of the frame and hang over the picture can be dangerous. These lights cast a harsh glare, illuminate and heat the painting unevenly, and can fall into the artwork causing burns or tears. Indirect sunlight, recessed lighting, or ceiling-mounted spotlights are best for home installations.

A GUIDE FOR CLEANING, STORING, DISPLAYING, HANDLING, AND PROTECTING YOUR PERSONAL HERITAGE

PAINTINGS



Reverse of Properly Framed Painting: (1) Back of a traditional picture frame (2) Backing board attached to stretcher with screws and washers (3) "D" rings to hang painting (4) Brass mending plates screwed into frame to secure the painting (5) Rubber spacers for air circulation

"A PAINTING DISPLAYED ABOVE A MANTEL WILL BE EXPOSED TO ENVIRONMENTAL EXTREMES"

HANDLING PROCEDURES

Pictures are usually safest when hanging on a wall, provided that they are well framed, with the picture and hanging hardware adequately secured. If you must store a painting, avoid basements, garages, and attics. A good storage method is to place the paintings in a closet with a stiff board (cardboard or Fome-Cor) protecting the image side of each artwork and a backing board attached to the reverse. Do not risk damaging your paintings by moving or touching them any more than is absolutely necessary If you must remove a painting from the wall or move it to another room, clear the pathway of furniture and obstructions and prepare a location to receive it. The frame must be stable and secure; if it is old or there is glazing (glass), ensure that it can withstand being moved. If the frame is massive or the picture is wider than your shoulders, ask someone to help you. If the painting is of a manageable size, lift the frame with both hands by placing one hand in the center of each side. Always carry it with the image side facing you. Remove jewelry, tie clips, belt buckles, or other clothing that might scrape the surface.

Hang paintings from picture hooks (not plain nails) placed securely in the wall; a heavy picture requires two hooks. Before hanging, examine the back of the painting to ensure that the hanging hardware is strong and secure. If the painting is framed, the hardware should be attached to the back of the frame, not to the stretcher or strainer. If picture wire is used, attach a double strand of braided wire to the sides of the frame (not to the top edge) with "D" rings or mirror plate hangers (see diagram above). These types of hangers are secured to the wooden frame with two to four screws. Hanging can be more complicated with contemporary paintings that do not have protective frames. Moving and hanging unframed or large paintings safely may require the services of professional art handlers.

FRAMING

If you intend to buy a new frame for a painting or have a painting treated by a conservator, take the opportunity to have it framed properly. Ideally, a painting should be held in the frame with mending plates that are attached to the frame with screws. Brass mending plates can be bent and adjusted so there is light pressure on the back of the stretcher or strainer. Although nails are often used to frame paintings, nails are not recommended because they can rust, fall out, or protrude through the canvas. Ask the framer or conservator to pad the rabbet, the part of the frame that touches the face of the painting, with felt or another suitable material to protect the edges of the image.

HOUSEKEEPING GUIDELINES

After carefully examining your paintings for loose or flaking paint, dust them every four to six months. Feather dusters can scratch or snag on paintings. Instead use a soft bristle brush, such as a white-bristle Japanese-type, sable (such as a typical makeup brush), or badger-hair brushes (called "blenders" and used for faux finishes). Never try to clean a painting yourself or use any liquid or commercial cleaners on a painted surface. Commercial preparations can cause irreparable damage to the fragile layers of a painting. Avoid touching the surface of paintings with your fingers. The natural oils in your skin can also cause damage or leave marks that may appear later. Avoid using pesticides, foggers, air fresheners, or furniture sprays near artworks. Remove paintings from a room before plastering, painting, or steam-cleaning carpets or wallpaper. Return the artworks only when the walls and floors are completely dry.

WHEN TO CONSULT A CONSERVATOR

If your painting requires special intervention, you should contact a paintings conservator. They will give you advice about the safest means by which to conserve and restore your special items. Visit AIC's Find a Conservator at www.conservation-us.org to find a qualified conservator in your area.

ABOUT AIC

The American Institute for Conservation of Historic and Artistic Works (AIC) exists to support the conservation professionals who preserve our cultural heritage. AIC plays a crucial role in establishing and upholding professional standards, promoting research nand publications, providing educational opportunities, and fostering the exchange of knowledge among conservators, allied professionals, and the public. AIC's 3,500 members all of share the same goal: to preserve the material evidence of our past so we can learn from it today and appreciate it in the future.

To learn more about AIC or to become a member, please visit www.conservation-us.org.

American Institute for Conservation of Historic & Artistic Works (AIC)
1156 15th Street NW, Suite 320 • Washington, DC 20005 • PH: (202) 452-9545 • FX: (202) 452-9328 • info@conservation-us.org • www.conservation-us.org

CARING FOR YOUR TREASURES

AIC
AMERICAN INSTITUTE FOR CONSERVATION OF HISTORIC AND ARTISTIC WORKS

A photograph can be one of many processes in which light-sensitive media are employed to create a visible image. The prevalence of photographs allows us to forget that they are potentially fragile objects that can be easily damaged by careless handling, improper storage, and exposure to environmental influences such as light, humidity, and temperature.

In caring for a photographic collection, it is important to know that various components comprise the structure of a photograph. The interaction of these components, with each other and with their environment, has a lasting effect on the longevity of the image. Most photographs consist of a final image material, a binder layer, and a primary support. The final image material—commonly silver, platinum, organic dyes, or pigments—creates the image we see. The binder layer is a transparent substance such as albumen, collodion, or gelatin in which the final image layer is suspended. The binder and final image material are applied to a primary support, usually paper, glass, metal, or plastic. Although many photographs have this three-part structure, individual images may have additional components. For instance, color, coatings, original frames, and cases need to be considered as part of the photographic object.

MAINTAINING A SUITABLE ENVIRONMENT

Photographic materials benefit from a cool, dry, well-ventilated storage environment. High temperature and relative humidity increase deterioration and promote the growth of mold and mildew, which could mar surfaces and break down binder layers. Avoid storing photographs in the attic, the basement, or along the outside walls of a building where environmental conditions are more prone to extremes and fluctuations and where condensation may occur. In some storage situations, seasonal adjustments such as dehumidifiers or fans may be necessary to improve problematic environmental conditions.

The optimal storage conditions for most photographs are a temperature of 68°F and relative humidity in the range of 30–40 percent. Film-based negatives and contemporary color photographs benefit from storage in cooler environments of 30–40°F and 30–40 percent relative humidity.

CHOOSING STORAGE ENCLOSURES

Keep photographic materials in enclosures that protect them from dust and light and provide physical support during use. Chemically stable plastic or paper enclosures free of sulfur, acids, and peroxides are recommended. Plastic sleeves should be constructed of uncoated polyester, polypropylene, or polyethylene. They should not be frosted. Paper enclosures should have passed the Photographic Activity Test (PAT), a test designed to determine the safety of an enclosure in contact with a silver photographic image. If PAT test results are not available, choose paper enclosures that are lignin-free, 100 percent rag or alpha-cellulose fibers, and have a white or off-white color. Film-based negatives, which can produce acidic gasses as they age, should be stored separately from other photographic materials. Store cased objects, such as daguerreotypes and ambrotypes, in their original cases or frames with the addition of custom-made, four-flap paper enclosures to reduce wear and tear on fragile cases. Place individually housed prints, negatives, and cased objects in acid-free, durable boxes that will afford further protection.

The storage of photographs in albums serves the dual purpose of organizing groups of images while protecting them from physical and environmental damage. Albums can be wonderful sources of historic and genealogical information. Preserve them intact when possible and store them in custom-fitted archival boxes. Magnetic or self-adhesive albums can damage photographs and should not be used.

DISPLAYING PHOTOGRAPHS

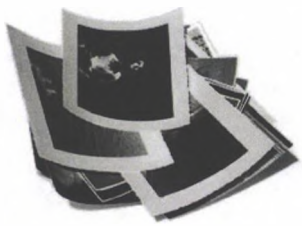
Photographs should be protected from extended exposure to intense light sources. Limit exhibition times, control light exposure, and monitor the condition of the photographs carefully. Prolonged or permanent display of photographs is not recommended. Use unbuffered ragboard mats, and frame photographs with archivally sound materials. Use ultraviolet-filtering plexiglass to help protect the photographs during light exposure. Reproduce vulnerable or unique images and display the duplicate image; in this way, the original photograph can be properly stored and preserved.

HOUSEKEEPING GUIDELINES

An overlooked area of collection maintenance is keeping the areas where photographs are handled or stored clean and pest-free. Paper fibers, albumen, and gelatin binders are just some of the components in photographic materials that provide an attractive food source for insects and rodents. It is vital that collection areas be free of debris that might encourage pests. Food and beverages should not be allowed. Apart from the potential for attracting pests, accidental spills can irreversibly damage most photographic objects.

A GUIDE FOR CLEANING, STORING, DISPLAYING, HANDLING, AND PROTECTING YOUR PERSONAL HERITAGE

PHOTOGRAPHS



> "MAGNETIC OR SELF-ADHESIVE ALBUMS CAN DAMAGE PHOTOGRAPHS AND SHOULD NOT BE USED"

HANDLING PROCEDURES

Most damage to photographs results from poor handling. A well-organized and properly housed collection promotes respect for the photographs and appropriate care in handling. When images can be located quickly, there is less possibility of physical damage. Establish handling procedures and adhere to them whenever photographs are being used. View photographs in a clean, uncluttered area, and handle them with clean hands. Wear clean white cotton gloves to lessen the possibility of leaving fingerprints and soiling the materials; however, be aware that gloves may reduce the manual dexterity of the user. Support photographs carefully and hold them with both hands to avoid damage. Keep photographs covered when they are not being viewed immediately. If it is necessary to mark a photograph, write lightly with a soft lead pencil on the reverse of the image. Do not use ink pens.

DISASTER PREPAREDNESS

Disaster preparedness begins by evaluating the storage location and the potential for damage in the event of a fire, flood, or other emergency. It is important to create a disaster preparedness plan that addresses the specific needs of the collection before a disaster occurs.

The location and manner in which photographs are housed can be the first line of defense. Identify photographic materials that are at higher risk of damage or loss. Remove all potentially damaging materials such as paper clips and poor-quality enclosures. Store negatives and prints in separate locations to increase the possibility of an image surviving a catastrophe. If a disaster occurs, protect the collection from damage by covering it with plastic sheeting and/or removing it from the affected area. If using plastic, make sure not to trap in moisture as this could lead to mold growth. Evaluate the situation and document the damage that has occurred. Contact a conservator as soon as possible for assistance and advice on the recovery and repair of damaged materials.

COMMON CONCERNS AND SOLUTIONS

The following problems are commonly encountered in photographic collections:

Broken, torn, or cracked photographs: If the primary support of a photograph sustains serious damage, place it carefully in a polyester sleeve with an archival board support. If the photograph has a flaking binder layer or friable surface components, such as the pastel coloring often seen on crayon enlargements, place it in a shallow box, not a polyester sleeve. Do not use pressure-sensitive adhesive tapes to repair torn photographs.

Soiled photographs or negatives: Do not clean photographs with erasers. Brush soiled photographs carefully with a clean, soft brush. Proceed from the center of the photograph outward toward the edges. Do not attempt to clean photographs with water- or solvent-based cleaners, such as window cleaner or film cleaner. Improper cleaning of photographic materials can cause serious and often irreversible damage, such as permanent staining, abrasion, alteration, or loss of binder and image.

Photographs or negatives adhered to enclosures: High-humidity environments or direct exposure to liquids can cause photographs to adhere to frame glass or enclosure materials. This is a very difficult problem to resolve, and great care must be taken to reduce the possibility of further damage. If a photograph becomes attached to adjacent materials, consult a photographic materials conservator before attempting to remove the adhered materials.

Deteriorated negatives: Chemical instability is a major factor in the deterioration of early film-based materials. If film-based negatives are brittle, discolored, sticky, or appear wavy and full of air bubbles, separate the negatives from the rest of the collection and consult a photographic materials conservator.

Broken glass negatives or ambrotypes: Place broken glass carefully in archival paper enclosures. Use a separate, clearly marked enclosure for each piece to reduce the possibility of scratching or further damage. For long-term storage, construct a custom sink mat that holds the pieces of broken glass, separated by mat-board shims, in one enclosure.

WHEN TO CONSULT A CONSERVATOR

If your photograph requires special attention or you are unsure about how to protect it, you should contact a conservator. AIC's Find a Conservator at www.conservation-us.org can direct you to a qualified conservator in your area.

ABOUT AIC

The American Institute for Conservation of Historic and Artistic Works (AIC) exists to support the conservation professionals who preserve our cultural heritage. AIC plays a crucial role in establishing and upholding professional standards, promoting research nand publications, providing educational opportunities, and fostering the exchange of knowledge among conservators, allied professionals, and the public. AIC's 3,500 members all of share the same goal: to preserve the material evidence of our past so we can learn from it today and appreciate it in the future.

To learn more about AIC or to become a member, please visit www.conservation-us.org.

American Institute for Conservation of Historic and Artistic Works (AIC)
1156 15th Street NW, Suite 320 • Washington, DC 20005 • PH: (202) 452-9545 • FX: (202) 452-9328 • info@conservation-us.org • www.conservation-us.org

CARING FOR YOUR TREASURES

AIC
AMERICAN INSTITUTE FOR CONSERVATION OF HISTORIC AND ARTISTIC WORKS

Documents, manuscripts, and works of art on paper such as prints, drawings, and watercolors are inherently fragile but can be easily and effectively protected from damage.

PROPER CARE AND HANDLING

Handle paper objects as little and as gently as possible. When doing so, be sure that your hands are freshly washed. Window mats provide maximum protection for works of art on paper because they allow items to be viewed and transported without direct handling. Unmatted artwork and documents are more vulnerable. Transport them in folders and remove individual items with both hands.

When consulting documents, place them flat and at least three inches away from the edge of the table on a clean blotter or sheet of paper. Fragile or frequently used documents may be placed in polyester sleeves for added protection; surrogate copies may be substituted for the originals for display or use.

Do not undertake repairs on your own and never apply pressure-sensitive (self-adhering) tapes to valuable documents or artwork. Use folders to organize documents rather than attaching paper clips, staples, or rubber bands—all of which can cause damage.

STORAGE

Because paper is damaged by prolonged contact with chemically unstable materials, the choice of materials for storage and exhibition is critical. Mats, folders, and storage boxes should be made of cotton rag or 100 percent chemically purified woodpulp with an alkali reserve equivalent to two percent calcium carbonate and buffered to a pH of 7.5 to 10. Matboard and folders should be rigid enough to provide adequate support. Store artwork in mats or within individual enclosures that are larger than the items. Documents in good condition may be stored in groups within folders; the number of items per folder depends upon their size, thickness, condition, and the depth of the folder. Isolate newsprint and other highly acidic materials by storing them separately. Individual enclosures offer the best protection for damaged and fragile items.

Store matted works or foldered items in flat files or in appropriately sized boxes specifically designed for storing works of art or documents. Oversized objects should be stored flat whenever possible, not rolled or folded. They are best kept in the drawers of flat files (map cases), made of anodized aluminum or powder-coated steel.

If done properly with sound materials, matting and framing provides the best protection for art on paper. A brown cut edge at the window opening is a common sign of poor quality mat board. It is essential to choose a framer who uses proper materials and techniques. Adhesives used to attach the artwork to the mat must be chemically stable, non-staining, and readily removable. The essentials of proper matting and framing are described in a companion AIC guide, *Matting and Framing Works of Art and Artifacts on Paper.*

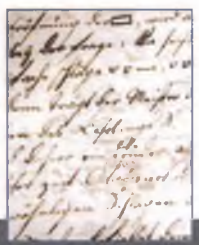
LIMITING LIGHT EXPOSURE

Exposure to light can cause fading of media, such as watercolor and writing inks. Such exposure can also yellow, darken, and weaken paper. Light damage is determined by the wavelength of the light, the length of the exposure, and the intensity of the illumination. Damage is cumulative and irreversible. Because all light causes damage, display works on paper for finite periods of time. Keep light levels low and eliminate daylight whenever possible. Block windows with shades, blinds, or curtains.

Light sources containing ultraviolet (UV) rays are especially harmful. UV is found in all daylight, most abundantly in sunlight, and in many fluorescent and metal halogen lamps. Incandescent or tungsten lights are preferred, but because they emit heat, place these light sources a distance from the artwork. UV filters to screen out UV radiation may be purchased for fluorescent tubes, windows, or cases.

CONTROLLING TEMPERATURE AND RELATIVE HUMIDITY

Keep objects in a cool, dry environment. Maintain a temperature below 72 degrees Fahrenheit with relative humidity (RH) between 30 percent and 50 percent. Warm or moist conditions accelerate deterioration, and encourage mold growth and insect activity. Keep temperature and RH within a narrow, constant range. Climatic fluctuations cause papers to expand and contract. This movement, although



A GUIDE FOR CLEANING, STORING, DISPLAYING, HANDLING, AND PROTECTING YOUR PERSONAL HERITAGE

DOCUMENTS AND ART ON PAPER

> "DUST, SOOT, AND SOIL ARE DIFFICULT TO REMOVE SAFELY FROM DELICATE, POUROUS PAPER"

slight, can lead to structural weakening of paper, undermine the attachment of media, and cause distortions such as buckling of paper.

Frames and storage enclosures provide some degree of protection against daily fluctuations but will not protect paper from long-term or seasonal changes. Portable dehumidifiers can help control high levels of RH and fans that help circulate air can discourage mold growth. Humidifiers may be used in areas where extremely low RH occurs during the winter. Do not store works of art in basements or attics, or hang them in bathrooms or over heat sources.

LIMITING EXPOSURE TO GASEOUS POLLUTION AND AIRBORNE PARTICULATES

Pollutants from industrial gases, auto emissions, and heating sources are readily absorbed into paper and media and may form compounds detrimental to their stability. Dust, soot, and soil are difficult to remove safely from delicate, porous paper surfaces. Sources of indoor air pollution, such as ozone from copying machines and fumes from new construction materials, paint, new carpets, janitorial supplies, and wooden cabinets, can also degrade paper and media. One way to protect paper is to fully enclose each object in housing made with appropriate materials. Frames must be glazed and well sealed. Documents and unframed artwork should be protected by storage in folders within containers made of permanent durable material.

WHEN DISASTER STRIKES

Most natural or man-made disasters, such as floods or fire, involve water. Even a small amount of water from a leaky roof or pipe can do significant damage to a paper collection. When such a disaster occurs, contact a paper conservator, regional agency, or cultural institution for assistance. Immediate response within the first 48 hours is crucial to the successful salvage of materials and the prevention of mold growth.

WHEN TO CALL A CONSERVATOR

Some conditions require immediate attention. Wet or moldy materials or those with actively flaking media have high priority. If you notice pressure sensitive tapes and labels, brittle matboard, or changes in condition such as tears, detached hinges, or disfiguring stains, contact a conservator trained to address the special needs of works of art and artifacts on paper. Visit AIC's Find a conservator at www.conservation-us.org to find a qualified conservator in your area.

ABOUT AIC

The American Institute for Conservation of Historic and Artistic Works (AIC) exists to support the conservation professionals who preserve our cultural heritage. AIC plays a crucial role in establishing and upholding professional standards, promoting research nand publications, providing educational opportunities, and fostering the exchange of knowledge among conservators, allied professionals, and the public. AIC's 3,500 members all of share the same goal: to preserve the material evidence of our past so we can learn from it today and appreciate it in the future.

To learn more about AIC or to become a member, please visit www.conservation-us.org.

American Institute for Conservation of Historic & Artistic Works (AIC)
1156 15th Street NW, Suite 320 • Washington, DC 20005 • PH: (202) 452-9545 • FX: (202) 452-9328 • info@conservation-us.org • www.conservation-us.org

CARING FOR YOUR TREASURES

AIC
AMERICAN INSTITUTE FOR CONSERVATION OF HISTORIC AND ARTISTIC WORKS

HOW TO PROTECT YOUR BOOKS

The book is an ingenious invention. Compact and portable, it has been the primary means of transmitting and preserving mankind's accumulated knowledge for hundreds of years. Throughout that time, printers and bookbinders have used a wide variety of materials and structures. Some have proven to be remarkably durable; others have been vulnerable to chemical deterioration and mechanical stress. While these problems can be quite complex, a few simple preventive measures can greatly extend the life of a book.

ENVIRONMENTAL CONDITIONS

Books are composed of a variety of materials: paper, cloth, leather, paste, and glue. These, like all organic materials, are vulnerable to conditions and changes in the environment in which they are kept. Key factors are light, temperature, and humidity.

Books should not be exposed to excessive amounts of light. Daylight and fluorescent light, which have high levels of ultraviolet radiation, cause the most rapid deterioration and fading. Normal incandescent house lights are less harmful, although all light causes some damage. Keep lights turned off in rooms that are not in use. Block daylight by using curtains, shades, or plastic filtering films.

Similarly, books should not be exposed to rapid changes or extremes in temperature and humidity. Hot and dry conditions will desiccate and embrittle leather and paper; damp conditions will encourage mold growth. Therefore books should not be kept near sources of heat, such as radiators or fireplaces. Bookshelves should not be placed against outside walls, where pockets of cool damp air can develop. Air conditioners, dehumidifiers, and humidifiers can be used to remove or add moisture or heat. A cool, dry, and stable environment is ideal. Where the book rooms are in regular use, around 70 degrees Fahrenheit and 50 percent relative humidity is recommended.

SHELVING

It is extremely important that books stood vertically on shelves are squarely upright and firmly supported by neighboring books or by bookends. Leaning at an angle puts stress on the entire book structure, deforming the spine and the joints where the covers are attached. Bookends must be stable and smooth so as not to damage the covers. Books should not be packed together so tightly, however, that they are difficult to remove without causing damage. Large, oversized books are best laid horizontally in stacks of no more than two or three high. Protective pads, such as squares of polyester felt, may be placed between stacked books to prevent them from rubbing.

Books on a shelf should be kept an inch or so back from the edge. The bare ledge of shelf will show up dust and droppings signaling insect activity. However books should not be pushed to the back of the shelf. Good air circulation is imperative to prevent stagnant air pockets where condensation will collect and mold will grow.

Important or fragile books may require additional protection. Check with a conservator about the variety of available solutions: polyester book jackets and wrappers, wrappers made of lightweight alkaline paperboard, double-tray boxes, and book shoes.

STORAGE

When books must be packed away for storage, do not wrap them in common household plastics (plastic kitchen wrap, garbage or cleaner bags) because these emit harmful gases as they degrade. Storage boxes made from alkaline corrugated cardboard designed for the purpose are available from conservation suppliers. Avoid storing boxes of books in attics, garages, or basements, where temperature and humidity fluctuations are great, where pests may be a problem, and where leaks or floods are common. Always allow at least four inches of space between the boxes and the walls, ceilings, and floors.

Many book materials are attractive to pests. Rats and mice, silverfish, and a host of smaller insects are common troublemakers. Watch carefully for signs of their presence. Vigilant housekeeping discourages them. If there is an infestation, consult a conservator.

HANDLING AND USE

Most books are not museum objects: their purpose is to be used and read. The handling of books, however, provides opportunities for accidental damage.

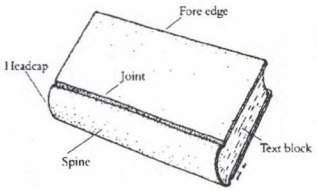
Handle books only with freshly washed hands. Most of the dirt on book covers and pages is accumulated grime from oily fingerprints. While invisible initially, finger grease becomes all too visible as it oxidizes and collects dirt. Wearing white cotton gloves for handling rare bindings is a good preventive measure, but turning fragile or brittle pages with gloves may cause damage and is not advised.

When removing a book from the shelf, do not pull it out by its headcap, which is apt to break. Either push the two neighboring books back in order to grab the spine in the middle, or stretch a finger along the top edge of the book and rock it back in order to grab the spine.

Avoid carrying tall, unstable stacks of books that may fall. If it is necessary to transport more books than can be held securely in two

A GUIDE FOR CLEANING, STORING, DISPLAYING, HANDLING, AND PROTECTING YOUR PERSONAL HERITAGE

BOOKS



> "MOST BOOKS ARE NOT MUSEUM OBJECTS: THEIR PURPOSE IS TO BE USED AND READ"

hands, pack them snugly in boxes to prevent shifting and sliding. Never pack or shelve books fore edge down as this position suspends the entire weight of the book from its joints and pulls the text block out of its cover.

A book is designed to be cradled in the reader's hands or lap; in this position very little stress is put on its spine or joints. Placing a book flat on a table can put tremendous stress on the structure, flattening the spine and stretching the joints. If a book must be opened on a flat surface, protect both covers by placing a support, such as another book, on either side. Alternatively, cradle the book in a towel with the two ends rolled up to support the covers.

Similarly, never place an open book face down onto a flat surface, which forces the book open to a 180-degree angle. If a book must be photocopied, use a photocopier with an edge platform that requires only a 90-degree opening.

Other important tips: Use pencil, never pens (especially ball point and felt tip pens) on books as ink may run, bleed, or transfer onto other pages. Use only paper bookmarks, rather than metal or leather, which will tear or stain the pages. Avoid paper clips and other mechanical fasteners. Do not use the popular self-sticking memo slips as these leave an invisible residue of adhesive on the page to attract dirt. Avoid storing newspaper clippings, flowers, letters, or other miscellaneous material in books as they leave stains and stress the binding. And of course avoid eating, drinking, and smoking around books as the spills and stains are generally permanent.

CLEANING AND MAINTENANCE

Books and book collections need to be cleaned regularly to remove accumulations of dust and dirt and to monitor their condition.

When dusting the edge of a book, be sure to wipe away from the headcap toward the fore edge, with a clean cloth or soft brush. Dirt brushed down the spine of the book is trapped there forever. A vacuum cleaner can also be used with the suction reduced. Cheese cloth or soft screening can be tied over the nozzle as an extra precautionary measure to catch any loose bits that might accidentally break off. More difficult dirt often can be removed by rubbing gently with a white plastic drafting eraser. Brush away the crumbs with a soft brush.

In the past, leather books were often oiled to improve their feel and appearance. Unfortunately this can also cause stains, make the leather sticky, and degrade paper. Recent tests have shown that dressings are only cosmetic and do nothing to prolong the life of the leather. Consult a conservator before using dressings on books.

EMERGENCIES AND MINOR DISASTERS

If books get wet, the affected material needs to be stabilized as rapidly as possible to avoid further damage. Mold growth is likely if the temperature is over 70 degrees and the relative humidity is over 60 percent for more than 48 hours. Wet books may be frozen to stabilize them; they can be thawed and dried at a later time. Wrap individual books in paper or interleave large numbers of books with paper. Pack each book's spine down in waterproof containers or cardboard boxes lined with plastic. Freeze the books as rapidly as possible in a commercial freezer, a home freezer (for a few books), or outdoors if conditions are right. There are commercial companies that specialize in the salvage and treatment of books in large-scale water disasters.

Small numbers of wet books can be air-dried. The books should be stood up, fanned open, alternating spine to fore edge, with sturdy bookends at each end to prevent them from falling over like dominoes. Use fans to circulate the air and increase evaporation. Drop the room temperature as low as practical to discourage mold and use dehumidifiers or air conditioners to reduce the humidity. Books are-dry when they feel warm to the touch. Once dry, place them flat with a weight on top to minimize warping. Most books air dry satisfactorily although some residual staining and distortion is to be expected. Unfortunately, clay-coated (glossy) paper will stick together irreversibly unless the pages are separated while the book is still wet. Interleave every wet page with absorbent paper; repeat the process (exchanging the wet paper for dry) until the pages no longer cling to each other. Stand the book up and fan it open to finish drying completely.

WHEN TO CONSULT A CONSERVATOR

Problems that are beyond an owner's capabilities should be referred to a conservator. Visit AIC's Find a Conservator at www.conservation-us.org to find a qualified conservator in your area.

ABOUT AIC

The American Institute for Conservation of Historic and Artistic Works (AIC) exists to support the conservation professionals who preserve our cultural heritage. AIC plays a crucial role in establishing and upholding professional standards, promoting research nand publications, providing educational opportunities, and fostering the exchange of knowledge among conservators, allied professionals, and the public. AIC's 3,500 members all of share the same goal: to preserve the material evidence of our past so we can learn from it today and appreciate it in the future.

To learn more about AIC or to become a member, please visit www.conservation-us.org.

American Institute for Conservation of Historic & Artistic Works (AIC)
1156 15th Street NW, Suite 320 • Washington, DC 20005 • PH: (202) 452-9545 • FX: (202) 452-9328 • info@conservation-us.org • www.conservation-us.org