

BOOKS:

Supplies Needed:

Bread trays	Fans	Plexiglas	Silicon release paper
Blotter paper	Freezer/wax paper	Plywood	Sponges
Bookends/bricks	Masking tape	Polyester film	Tools
Dehumidifier	Milk crates	Polyester spunbond	
Extensions cords	Newsprint	Polyethylene film	

CLOTH OR PAPER COVERS

Priority

Freeze or dry within 48 hours. **Coated paper** must not be allowed to air dry in a clump or it will permanently block together. If slightly damp and the pages are separable, air dry interleaved pages before items have an opportunity to dry. If saturated, coated paper must be frozen as soon as possible for subsequent vacuum freeze-drying.

Handling Precautions

Do not move items until a place has been prepared to receive them. Do not open or close books or separate covers. Oversized books need to be fully supported, it may only be possible to move one at a time.

Preparation for Drying

Closed books that are muddy should be rinsed before freezing. If air drying is not possible, books should be frozen within 48 hours. Separate with freezer paper, pack spine down in milk crates, plastic boxes, or cardboard boxes lined with plastic sheeting.

Coated paper requires that each and every page be interleaved with a non-stick material such as silicone release paper, polyester spunbond fabric, or wax paper. If the leaves cannot be separated without further damage, the book cannot be air dried successfully and must be prepared for vacuum freeze drying.

Drying Methods

Air Drying is suitable for small quantities for books (less than 100 volumes) that are not thoroughly soaked. Requires space in an area away from the disaster to spread the books out. Books are stood upright and gently fanned open to dry. Keep air moving at all times using fans. Direct fans into the air and away from the drying volumes. Use dehumidifiers as needed to maintain humidity at or below 50 percent RH.

Oversize volumes must lay flat and should be turned when the blotter is changed. Pages should be interleaved with sheets of uninked newsprint or blotting paper that is changed as it becomes saturated.

Freeze Drying (not vacuum thermal drying) is suitable for large quantities of books and books that are very wet. Pack as described above and ship to drying facility.

Vacuum Freeze Drying is suitable for large quantities of books. Wet *coated* paper can only be dried by this method. Pack as described above and ship to drying facility. Pack carefully, as volumes packed with distortions will retain that distortion permanently after vacuum freeze drying.

LEATHER OR VELLUM COVERS

Priority

Freeze as soon as possible; vellum will distort and disintegrate in water.

Handling Precautions

Do not move items until a place has been prepared to receive them. Do not open or close books or separate covers. Oversized books need to be fully supported; it may only be possible to move one at a time.

Preparation for Drying

Closed books that are muddy should be rinsed before freezing. If air drying is not possible, books should be frozen, preferably blast frozen, as soon as possible. Separate with freezer paper, pack spine down in milk crates, plastic boxes, or cardboard boxes lined with plastic sheeting.

Drying Procedure

Freeze drying is the preferred method. Books should be separated with freezer paper and packed spine down in milk crates, plastic boxes, or cardboard boxes lined with plastic sheeting.

Air Drying may be used for items that are not very wet. This requires space in an area away from the disaster to spread the books out. Books are stood upright and gently fanned open to dry.

Coated paper requires that each and every page be interleaved with a non-stick materials such as silicone release paper, Holytex, or wax paper.

Oversize volumes must lay flat and should be turned when the blotter is changed. Pages should be interleaved with sheets of uninked newsprint or blotting paper that is changed as it becomes saturated.

Keep the air moving at all times using fans. Direct fans into the air and away from the drying records. Use dehumidifiers as needed to maintain humidity at or below 50 percent RH.

FILM

Supplies Needed:

Blotter paper	Clothes line and pins	Falcon squeegee	Plastic trays
Bubble pack	Dehumidifier	Fans	Rust-proof clips
Brushes (soft)	Distilled water	Kodak Photo Flo	Salthill dryer
Cheese cloth	Drying rack	Plastic bags	Sponges

MICROFICHE

Priority

Freeze or dry within 72 hours.

Handling Precautions

Do not move items until a place has been prepared to receive them and you have been instructed to do so. If the fiche cannot be air dried immediately, keep them wet inside a container lined with garbage bags until they are frozen.

Drying Methods

Freeze if arrangements cannot be made to air dry the fiche quickly. Fiche should be removed from the paper jackets to dry. Jackets should be retained to preserve any information printed on them, but this information should be transferred to new jackets once the fiche is dry and ready to be stored again. The best air drying method is to clip the fiche to clotheslines with rust-proof clips. Fiche has been successfully vacuum freeze-dried, though freeze-drying of photographic materials is not widely recommended. If dealing with large quantities of fiche this option should be investigated.

MICROFILM AND MOTION PICTURE FILM

Priority

Rewash and dry within 72 hours. Wet film must be kept wet until it can be reprocessed.

Handling Precautions

Wipe outside of film cans or boxes before opening. Cans that are wet on the outside may contain dry film that should be separated from wet material. Do not remove wet microfilm from boxes; hold cartons together with rubber bands. Dry film in damp or wet boxes should be removed and kept together with the box. Do not move items until a place has been prepared to receive them.

Packing Methods

Wet microfilm in plastic trays in the microfilm vault should be filled with water until reprocessed. Pack wet motion picture film in a container lined with plastic garbage bags.

Drying Methods

Contact a microfilm lab or film processor to rewash. The manufacturer or other professional processor should be contacted to rewash and dry motion picture film.

INORGANICS: CERAMICS, GLASS, METALS, STONE

Supplies Needed:

Clear water	Heater or hair dryer	Pallets or lumber	Sponges
Fans	Newsprint	Portable dehumidifier	Towels

Priority

These materials can be dealt with last since they generally will suffer little damage from short term exposure to water.

Handling Precautions

Move items only after a place has been prepared to receive them.

Packing Method

Varies with the fragility of the material; water/wetness has no bearing.

Preparation for Drying

Rinse or sponge with clear water to remove mud or dirt before drying.

Drying Procedure

Sponges, clean towels, paper towels, or unused newsprint may be used to absorb excess moisture. Exchange wet for dry blotting material at least daily until items are dry. Check daily for mold growth. Air dry, using fans to keep air moving without blowing directly on the pieces. Raise items off the floor on trestles or 2x4 lumber to allow air to circulate underneath.

Metal objects can be dried with moderate heat (90-100° F in an oven or using a heater or hair dryer). Use portable dehumidifiers to *slowly* remove moisture from the area/objects. Bring relative humidity down to 50 percent.

LEATHER OR RAWHIDE

Supplies Needed:

Fans	Heater or hair dryer	Pallets or lumber	Sponges
Freezer paper/plastic	Newsprint	Portable dehumidifier	Towels

Priority

Begin drying within 48 hours to prevent mold growth. Leather with the condition known as “red rot” will be irreversibly stiffened and darkened by exposure to water if not treated quickly.

Handling Precautions

Wet leather may be fragile; leather with red rot or which is torn will require support to transport safely. Move items only after a place has been prepared to receive them.

Packing Method

Wrap items with freezer paper or plastic sheeting to prevent red-rotted leather from coming in contact with and soiling adjacent items and to keep it from drying before it can be treated. Support complex-shaped objects with uninked newsprint or other absorbent material.

Preparation for Drying

Rinse or sponge with clear water to remove mud or dirt before drying. Be careful in rinsing red-rotted or painted/gilded surfaces. Keep red-rotted leather damp, if it is still in that condition, until proper consolidation can be done.

Drying Procedure

Some leather was intended to be flexible (e.g., much native tanned “buckskin,” harness leather, and some rawhide) and will need to be manipulated during drying in order to retain its’ flexibility. Other leather was either not intended to flex (e.g., shields, fire buckets) or no longer needs to be flexible and may be padded out and allowed to dry slowly.

Sponges, clean towels, paper towels, or uninked newsprint may be used to absorb excess moisture. Pad out to correct shape using uninked newsprint or other absorbent material. Change padding material as it becomes saturated.

Air dry, using fans to keep air moving without blowing directly on the pieces. Raise items off the floor on trestles, 2x4 lumber, or screens to allow air to circulate on all sides.

Use portable dehumidifiers to slowly remove moisture from the area and objects. Bring the relative humidity down to as close to 50 percent as is practical. Check daily for mold.

MAGNETIC MEDIA: REEL-TO-REEL TAPES, VIDEO & AUDIO CASSETTES

Supplies Needed:

Blotter paper	Clothes line and pins	Falcon squeegee	Plastic trays
Bubble pack	Dehumidifier	Fans	Rust-proof clips
Brushes (soft)	Distilled water	Kodak Photo Flo	Salthill dryer
Cheese cloth	Drying rack	Plastic bags	Scissors

Priority

Air dry within 72 hours.

Handling Precautions

Pack vertically into plastic crates or cardboard cartons. Don't put heavy weight or pressure on the sides of the reels.

Preparation for Drying

Often contamination by water and other substances is mainly confined to the outermost layers of tape. Do not unwind tapes or remove from the reel. In these cases, wash the exposed edges with deionized water or with distilled water.

Drying Methods

Air dry by supporting the reels vertically or by laying the reels on sheets of clean blotter. Leave the tapes to dry next to their original boxes. Use fans to keep air moving without blowing directly on the items.

Use portable dehumidifiers to slowly remove moisture from the area/objects. Bring relative humidity down to 50 percent.

Additional Steps

Once dry, the tapes can be assessed for further cleaning and duplication. This procedure is done by specialized professional vendors.

ORGANICS: BONE, HAIR, HORN, IVORY, SHELL

Supplies Needed:

Fans	Heater or hair dryer	Pallets or lumber	Sponges
Plastic sheeting	Newsprint	Portable dehumidifier	Towels

Priority

Begin drying within 48 hours to prevent mold growth.

Handling Precautions

Move items only after a place has been prepared to receive them.

Packing Methods

Individually wrap or plastic bag objects since these materials tend to split and fragment into small pieces when wet or damp.

Preparation for Drying

Rinse or sponge with clear water to remove mud or dirt before drying.

Drying Methods

Sponges, clean towels, paper towels, or unused newsprint may be used to absorb excess moisture. Air dry slowly, using fans to keep air moving without blowing directly on the pieces. Raise items off the floor on trestles, pallets, or lumber to allow air to circulate underneath the items. Use portable dehumidifiers to slowly remove moisture from the area/objects. Bring relative humidity down to 50%.

PAINTINGS ON CANVAS

Supplies Needed:

Blotter paper
Corrugated cardboard

Dehumidifier
Fans

Newsprint
Stretch/strainer

Priority

Begin drying within 48 hours to prevent mold growth.

Handling Precautions

Move items only after a place has been prepared to receive them. If the frame is unstable, remove from painting, pad corners with corrugated cardboard, bubble wrap, or unused newsprint and transport to area dealing with wood objects.

Packing Method

Pad corners of frame or painting with corrugated cardboard, bubble wrap, or newsprint. Transport paintings vertically; stand upright with corrugated cardboard between paintings so painted surfaces do not touch another painted or any rough surface.

Preparation for Drying

Remove painting from frame. Contact a paintings conservator to discuss. See Section: *Framed or Matted, Preparation for Drying*.

Drying Procedure

Prepare a horizontal bed of blotter paper and unused newsprint, equal in thickness to the paint layer, with top-most layer of strong clean tissue. Lay painting, still on stretcher/strainer, face down on this surface. Remove any remaining backing or labels from the painting to expose wet canvas. Retain and tag all associated labels, parts and/or components that are removed or detached from the painting or frame.

Place cut-to-fit blotters or unused newsprint against this back and apply a slight amount of pressure so the blotter makes good contact with the entire exposed canvas surface. Repeatedly change backing blotter, being careful not to create impressions in the canvas. *Do not change facing materials.*

When dry to the touch, remove backing blotter and pick up painting. If front facing tissue is still attached to painting front, do not attempt to remove it, since it will hold the painting surface together until it can be consolidated by a conservator. Consult with a paintings conservator for any questions or problems and all circumstances not adequately covered by the above instructions.

Use fans to keep air moving in the room without blowing directly on the paintings. Use portable dehumidifiers to *slowly* remove moisture from the area/objects. Bring relative humidity down to 50%.

PAPER:

Supplies Needed:

Bread trays	Extension cords	Newsprint	Polyethylene film
Blotter paper	Fans	Plexiglas	Sponges
Bookends/bricks	Freezer/wax paper	Plywood	Tools
Dehumidifier	Masking tape	Polyester spunbond	

UNCOATED

Priority

Air dry or freeze within 48 hours. Records with water-soluble inks should be frozen immediately to arrest the migration of moisture that will feather and blur inks. Records that show signs of previous bacterial growth should also be frozen immediately if they cannot be air dried.

Handling Precautions

Paper is very weak when wet and can easily tear if unsupported while handling.

Preparations for Drying

Pack flat sheets in bread trays, flat boxes, or on plywood sheets covered with polyethylene. Bundle rolled items loosely and place horizontally in boxes lined with a release layer. Remove drawers from flat files; ship and freeze stacked with 1" x 2" strips of wood between each drawer. Framed or matted items must be removed from frames and mats prior to air or freeze drying.

Air Drying — secure a clean, dry environment where the temperature and humidity are as low as possible. Cover tables, floors, or other flat surfaces with sheets for blotter or uninked newsprint.

Freezing — Work space and work surfaces and the following equipment: milk crates and/or cardboard boxes, bread trays, sheets of plywood, and rolls/sheets of freezer or waxed paper.

Drying Methods

Air Drying — This technique is most suitable for small numbers of records which are damp or water-damaged around the edges. Keep the air moving at all times using fans. Direct fans into the air and away from the drying records. Use dehumidifiers as needed to maintain 50 percent RH.

Damp material — Single sheets or small groups of records are to be laid out on paper-covered flat surfaces. If small clumps of records are fanned out to dry, they should be turned at regular intervals to encourage evaporation from both sides. As a last resort to maximize space utilization, clothesline may be strung for the records to be laid across. If an item exhibits water-soluble media, allow it to dry face up. Do not attempt to blot the item since blotting may result in offsetting water-soluble components. Wet blotter or newsprint should be changed and removed from the drying area.

Wet material — When separating saturated paper, use extra caution to support large sheets. If sheets are contained in flat files, standing water should be sponged out first. If items are in L-sleeves the polyester must be removed to allow drying. Cut the two sealed edges of the film in the boarder between the item and the seal. Roll back the top piece of polyester in a diagonal direction. If there are any apparent problems with the paper support or media, stop and seek the assistance of a

Conservator. Support can be given to single sheets by placing a piece of polyester film on top of the document. Rub the film gently and then slowly lift the film while at the same time peeling off the top sheet in a diagonal direction. Lay the sheet flat; as it dries, it will separate from the surface of the film.

Freezing — This option is best if there are large quantities or if the water damage is extensive. Place manuscript boxes in milk crates or cardboard boxes. If time permits, interleave each manuscript box with freezer or waxed paper. If the boxes have been discarded, interleave every two inches of foldered material with freezer or waxed paper. Do not freeze framed items.

COATED (Including linen drawings [Drafting Cloth] and paper with sensitized coatings such as thermofax and fax copies)

Priority

Coated paper must not be allowed to air dry in a clump or it will permanently block together. If saturated, freeze within six hours for subsequent vacuum freezing-drying. If damp, separate and air dry before items have an opportunity to dry.

Handling Precautions

Physical manipulation should be kept to a minimum to avoid disruption of the water-soluble coating and media which may cause obliteration of the information.

Preparation for Drying

Air Drying — Secure a clean, dry environment where the temperature and humidity are as low as possible. Equipment needed: flat surfaces for drying; fans and extension cords; dehumidifier; moisture meter; sheets of polyester film, non-stick interleaving material such as freezer, waxed or silicone release paper, or polyester non-woven fabric.

Freezing — Equipment needed: milk crates; cardboard boxes for large items; large flat supports such as bread trays or pieces for plywood; freezer, waxed or silicone release paper, or polyester non-woven fabric. Remove drawers from flat files; ship and freeze stacked with 1" x 2" strips of wood between each drawer. Framed or matted items must be removed from frames and mats prior to drying.

Drying Methods

Air Drying — This technique is most suitable for small numbers of records which are damp or water-damaged around the edges. Coated paper requires that each and every page be interleaved with a non-stick material such as silicone release paper, Holytex, or wax paper.

Damp material — Lay single sheets or small groups of interleaved records on paper covered flat surfaces. If small clumps of records are fanned out to dry, they should be turned at regular intervals to encourage evaporation from both sides. If an item exhibits water-soluble media, allow it to dry face up. Do not attempt to blot the item since blotting may result in offsetting water-soluble components. Wet blotter or uninked newsprint should be changed and removed from the drying area.

Wet material — When separating saturated paper, use extra caution to support large sheets. If sheets are contained in flat files, standing water should be sponged out first. If items are in L-sleeves the polyester must be removed to allow drying. Cut the two sealed edges of the film between the item and the seal. Roll back the top piece of polyester in a diagonal direction. If there are any apparent

problems with the paper support or media, *stop* and seek the assistance of a Conservator. Support can be given to single sheets by placing a piece of polyester film on top of the document. Rub the film gently and then slowly lift the film while at the same time peeling off the top sheet in a diagonal direction. Lay the sheet flat; as it dries, it will separate from the surface of the film. Keep the air moving at all times using fans. Direct fans into the air and away from the drying records. Use dehumidifiers as needed to maintain humidity at or below 50 percent RH.

Freezing — Freezing is best if there are large quantities or if the water damage is extensive. Place manuscript boxes in milk crates or cardboard boxes. If time permits, interleave each manuscript box with freezer or waxed paper. If the boxes have been discarded, interleave every two inches of foldered material with freezer or waxed paper. Specify vacuum *freeze* drying for coated paper and linen drawings; do not use vacuum thermal drying. Pack flat sheets in bread trays, flat boxes, or on plywood sheets covered with polyethylene. Bundled rolled items loosely and place horizontally in boxes lined with a release layer. Do not freeze framed items.

FRAMED OR MATTED, PREPARATION FOR DRYING

Priority

Wet paper must be frozen or air dried within 48 hours. Framed and matted items must be disassembled prior to air drying or freezing.

Handling Precautions

Caution must be exercised so as to not puncture or tear the wet paper artifact in the process of removing the frame, gazing, and mounting materials.

Preparation for Drying

Place frame face down on a smooth, flat surface covered with blotter paper or plastic bubble pack. Carefully remove dust seal and hardware (place these metal pieces in container so that they do not come in contact with the wet paper and inadvertently cause damage). Check if the paper object is adhered to rabbet of frame by gently pushing up on the glazing to see that the assemblage will release without resistance. Place a piece of board (mat board, asonite, or plexiglass) over the back of the frame with all contents still in place. Using two hands, invert frame assemblage as that the glass and image are facing up. Lift off the frame then lift off the glass.

When the paper is in direct contact with the glass, carefully remove them together and lay face down on a flat surface. Consult a Conservator if the paper is sticking to the glazing.

If the glass is broken, the pieces may be held together with tape applied lightly over the breaks. The frame may then be laid face down and the paper removed from the back. If pieces of glass have dropped behind the remaining glass, hold the frame in a vertical position to remove the mat and/or paper.

To remove the item from its mat, place the image facing up. Lift window mat board carefully and detach paper object from back mat by carefully cutting hinges. If the object is attached firmly and directly to mat or backing board, do not attempt to remove. Proceed to air dry paper object as recommended in Sections: *Paper: Uncoated* or *Paper: Coated*, as appropriate.

If difficulty is encountered at any point, consult a Conservator for assistance.

PHOTOGRAPHS AND TRANSPARENCIES

Supplies Needed:

Blotter paper	Clothes line and pins	Falcon squeegee	Plastic trays
Bubble pack	Dehumidifier	Fans	Rust-proof clips
Brushes (soft)	Distilled water	Kodak Photo Flo	Salthill dryer
Cheese cloth	Drying rack	Plastic bags	Scissors

Priority

Salvage Priorities. *Within 24 hours:* 1) ambrotypes, daguerreotypes, tintypes, silver gelatin glass plate negatives, wet collodion glass plate negatives; *Within 48 hours:* 2) color prints and film, silver gelatin prints and negatives; 3) albumen prints and salted paper prints. Cyanotypes in alkaline water must be dried as soon as possible; in acidic water they drop to priority 3.

Handling Precautions

Do not touch emulsion, hold by the edges or margins. Always lay with emulsion side up.

Preparations for Drying

Secure a clean area to work, free from particulates. Keep the photos and/or negatives in containers of fresh cold water until they are either air dried or frozen. *If allowed to partially dry in contact with each other, they will stick together.* To maintain wetness until the drying process can take place, pack photos inside plastic garbage pails or boxes lined with garbage bags.

Equipment and materials needed: plastic trays, cold water, clothesline, clothespins and/or photo clips, soft bristle brushes, Kodak Photo Flo Solution, Holytex and clean photographic blotter paper, Falcon squeegee and drying racks for resin-coated prints; and Salthill dryer for recent fiver based prints.

Carefully remove prints and film positives and negatives from the enclosures. Keep the enclosure or the file number with each film item as it contains vital information to maintain intellectual control.

Daguerreotypes, Glass, and Metal-based Collodion Emulsions such as ambrotypes, tintypes, wet collodion glass plates (which include some negatives, lantern slides, and stereo graphs on glass):

Cased photographs — Carefully open the case and place the photograph face up on blotters. Do not attempt to disassemble the components, remove debris, or wash the photograph. If the affected photo has water or debris trapped within the assemblage, contact a conservator for proper disassembly.

Uncased images — Air dry side up on clean absorbent blotters. Remove and retain cover slips from glass lantern slides if present. Do not attempt to clean debris or wash these images. These procedures should only be performed by a conservator.

Black and white prints — Place the prints in a tray and fill with cold water. Agitate the tray and change the water several times. After 15 minutes, drain the water and air dry. Reduce washing time for

deteriorated and card mounted prints.

Color prints — Use the same procedure as for black and white prints but with decreased washing time: ten minutes. Reduce washing time further for deteriorated prints.

Negatives (glass and film) – silver gelatin — Soak the films in clean, cold water for 30 minutes. If there are particulates on the film, rinse for 10-15 minutes while gently brushing surfaces under water with a soft bristle brush, then continue washing for an additional 15 minutes. Rinse with Kodak Photo Flo Solution.

Glass plate negatives – collodion — Do not wash or expose plates to further moisture; if any image remains, air dry immediately, emulsion side up.

Kodachrome transparencies — Wash as described above for negatives C silver gelatin.

Ektachrome transparencies — Wash as described above for negatives C silver gelatin, omitting the Photo Flo, then dry. Consult a photo conservator after transparencies have dried, as some may require stabilization.

Color negatives — Wash as described above for negatives C silver gelatin, omitting Photo Flo, then dry. Consult a photo conservator after negatives have dried, as some may require stabilization.

Drying Method

Order of preference: 1) air dry; 2) freeze/thaw and air dry; 3) vacuum freeze dry. *Do not vacuum thermal dry or freeze dry.*

Prints and Films — Dry film by hanging on a clothesline at room temperature in a dust free area. Lay glass plates and prints emulsion side up on a clean absorbent blotter.

Photo Albums — To air dry, place sheets of blotter covered with Holytex between each leaf. Change the blotter paper as it becomes damp or wet. If the binding structure is no longer intact or the album can be dismantled, separate the leaves and air dry on clean blotters covered with Holytex; periodically turn from recto to verso to promote even drying. If drying cannot proceed immediately, wrap the volume in plastic and freeze. The volume can then be thawed and air dried at a later date.

Keep the air moving at all times using fans. Direct fans into the air and away from the drying records. Use dehumidifiers as needed to maintain humidity at or below 50 percent RH.

If air drying is not possible due to media solubility or unacceptable disruption to the structural integrity of the volume, vacuum freeze drying is recommended.

If difficulty is encountered, consult a conservator for assistance.

RECORD ALBUMS

Supplies Needed:

Blotting materials
Distilled water

Grease pencil
Kodak Photo Flo Solution

Padded plastic crates

Priority

Dry within 48 hours. Freezing is untested; if there are not options, freeze at above 0 degrees F.

Handling Precautions

Hold disks by their edges. Avoid shocks.

Packing Methods

Pack vertically in padded plastic crates.

Preparation for Drying

Remove the disks from their sleeves and jackets. If labels have separated, mark label information on the center of the disk with a grease pencil and keep track of the label.

Separate shellac, acetate, and vinyl disks. If dirt has been deposited on the disks, they may be washed in a 1 percent solution of Kodak Photo Flo in distilled water. Each disk media should be washed in its own container (i.e., do not wash shellac disks with vinyl disks). Rinse each disk thoroughly with distilled water.

Drying Methods

Jackets, sleeves, and labels may be air dried like other paper materials. See Sections: *Paper: Coated* and *Paper: Uncoated*, as appropriate.

Air dry disks vertically in a rack that allows for the free circulation of air. Dry slowly at ambient temperature away from direct heat and sources of dust.

SCRAPBOOKS

Supplies Needed:

Bread trays	Extension cords	Newsprint	Polyethylene film
Blotter paper	Fans	Plexiglas	Sponges
Bookends/bricks	Freezer/wax paper	Plywood	Tools
Dehumidifier	Masking tape	Polyester spunbond	

Priority

Freeze immediately.

Handling Precautions

Do not move items until a place has been prepared to receive them. Large scrapbooks should be supported with boards.

Preparation for Drying

If the scrapbook is not boxed and the binding is no longer intact, wrap in freezer paper. Freeze as quickly as possible, using a blast freezer if available.

Freezing — Equipment needed: milk crates; cardboard boxes for large items; large flat supports such as bread trays or pieces of plywood; freezer, waxed, or silicone release paper, or polyester non-woven fabric.

Air Drying — Secure a clean, dry environment where the temperature and humidity are as low as possible. Equipment needed; flat surfaces for drying; fans and extension cords; dehumidifier; moisture meter; sheets of polyester film, non-stick interleaving materials such as freezer, waxed, or silicone release paper, or polyester non-woven fabric.

Drying Methods

Vacuum freeze drying is the preferred method, although this should not be used for photographs. See Section: *Photographs and Transparencies*. If the book is to be vacuum freeze dried, the photographs should first be removed. Wrapped scrapbooks should be packed laying flat in shallow boxes or trays lined with freezer paper.

Air drying may be used for small quantities which are only damp or water-damaged around the edges. The books should not have large amounts of coated paper or soluble adhesives.

Pages should be interleaved with uninked newsprint or blotter and the books placed on tables. The interleaving and page opening should be changes regularly and often to speed the drying. If the binding has failed, it may be advisable to separate the pages and lay them out individually to dry. Care must be taken to maintain page order. Keep the air moving at all times using fans. Direct fans into the air and away from the items. Use dehumidifiers as needed to maintain humidity at or below 50% RH.

TEXTILES AND CLOTHING

Supplies Needed:

Blotter paper
Cheese cloth

Muslin
Polyethylene sheeting

Sponges
Terry cloth towels

Priority

Dry archaeological textiles and textiles with bleeding dyes as quickly as possible, all other textiles within 48 hours to prevent mold growth.

Handling Precautions

Move textiles only after a place has been prepared to receive them. Handle wet textile objects only when necessary and as little as possible because textile materials are weaker when wet and can be easily damaged or torn. Be particularly careful with wet archaeological textiles, which can be extremely weakened by contact with water. It is important to support wet textile objects thoroughly when moving them, either on a solid support or in a sling made from a length of fabric, because the added weight of the water increases the possibility of damage. Wet hanging costumes should be carried on a sling and not re-hung. Be sure that all identifying information, such as accession number tags, is retained with the objects, and label any parts that become detached. If it is possible to do so without excessive handling, remove all wet packing materials such as cardboard and tissue from contact with the textiles. Do not unfold or spread out wet textiles at this time, and do not stack wet textiles on top of each other.

Textile objects often have associated non-textile materials such as metal and leather. See the salvage instruction sheets for these materials, keeping in mind that the textile component will probably be the most vulnerable.

Preparation for Drying

A large area is needed to dry wet textiles, as they cannot be placed on top of each other. Floor space can be used; if possible, clean floors before using the space. Table and floor surfaces should be covered with clean polyethylene sheeting, and then with clean blotters or other absorbent material. Fans can be used to increase air circulation and speed drying; place them so that air flow goes across the surface of the textiles for optimal drying.

Drying Procedure

Quick drying is essential for best recovery of wet textile objects. Excess water can be removed from very wet textiles in good condition by gentle blotting with sponges. Absorbent materials such as blotters or terry cloth toweling should then be placed on top of the objects, removed when saturated, and replaced with dry ones. When the textiles have dried to an appreciable level, they can be gently handled to open out folds and expose new areas to the air. Costumes can be padded out slightly with acid-free tissue, polyester batting, or nylon tulle to speed drying and prevent creasing.

Textiles with bleeding dyes should be dried first and as quickly as possible; use absorbent materials to remove as much water as possible. Concentrate drying activity on the areas that are bleeding so that they will dry before the surrounding areas; hair driers on low heat can be used. Cover the textile with cheesecloth and be sure the cheesecloth is in close contact with the textile; leave the cheesecloth undisturbed until the textile is completely dry.

COSTUME ACCESSORIES

Priority

Begin drying within 48 hours to prevent mold growth.

Handling Precautions

Support all accessories when moving them; use a solid support. Keep handling to minimum as these complex objects can be greatly weakened by water.

Preparation for Drying

Prepare the room and surfaces for drying as for textiles and clothing.

Drying Procedure

Do not attempt to open fans or parasols, and do not reshape hats while wet. Gently blot water from the objects with sponges, blotter, terry cloth toweling, or paper towels. As hats dry, they can be gently reshaped and padded with acid-free tissue or polyester batting for drying. Shoes and gloves should be treated as for leather historical objects; in general gloves do not need to be padded out for drying. Fans and parasols should be dried as is; do not attempt to open or reshape them. If any of the objects have bleeding dyes, follow the procedure outlined under *Textiles and Clothing*.

VELLUM AND PARCHMENT

Supplies Needed:

Blotters

Weights

Polyester spunbond fabric

Priority

If the textblock of the book is wet, priority should be placed on getting it dry over saving the binding, unless the binding has been assigned the higher priority by a curator. If the item has gotten wet, successful salvage will probably not be possible, so other high priority items should be treated first.

Handling Precautions

Do not move items until a place has been prepared to receive them.

Drying Procedures

Drying must take place slowly and be carefully controlled. The item needs to be restrained as it dries for it to retain its shape.

Documents that have only been exposed to high humidity should be interleaved with dry blotters and placed under weights. Blotters should be checked after about a half hour to see if they need to be exchanged for drier ones.

For drying of slightly damp documents, the edges should be clipped and pinned or at least weighted. As the item dries, it should be checked at least every 15 minutes and the tension adjusted as necessary. Once the item is almost dry, the clips or weights can be removed and the item should be placed between blotters and weighted overall to complete drying.

Vellum bindings need to be watched carefully. Blotters should be placed between the covers and text, and on the outside of the cover. The book should then be weighted or put in a press. As the binding dries, it may shrink and cause damage to the text block, in which case it should be carefully removed before more damage is caused.

Freeze drying can be used as a last resort for drying vellum and parchment, but the limited experience with these procedures shows there will be much distortion and change in the object.

WOOD

Supplies Needed:

Brush (soft)	Fans	Pallets or lumber	Sponges	Wooden spatula
Dehumidifier	Newsprint	Plastic sheeting	Towels	

Priority

Begin drying within 48 hours to prevent mold growth. Polychromed objects require immediate attention; notify a conservator.

Handling Precautions

Move items only after a place has been prepared to receive them. Lift from the bottom of an object; tables from the apron; chairs by the seat rails, not by the arms, stretchers, slats, headpiece, or crest rails; trunks from the bottom, etc.

Packing Methods

Partially wetted objects can be packed with dry blotting materials such as uninked newsprint or acid free blotters to remove as much moisture as possible. Thoroughly wetted, unpainted objects should be wrapped with blotting materials, then wrapped in polyethylene sheeting to retain as much moisture as possible, since fast drying will cause irreversible damage.

Preparation for Drying

Rinse or sponge with clear water to remove mud or dirt before drying. Be careful not to wipe or scour as grit will damage remaining finish. Use a soft bristle brush to clean carvings and crevices. If mud has dried, dampen with a sponge and remove with a wooded spatula; rinse. Remove wet contents and paper liners from drawers and shelves.

Drying Procedure

Absorb excess moisture with sponges, clean towels, paper towels, or uninked newsprint. Blot, do not wipe, to avoid scratching the surface.

Air dry, using fans to keep air moving without blowing directly on the pieces. Tent the objects with polyethylene sheeting to slow the drying. Raise items off the floor on trestle or 2x4 lumber to allow air to circulate on all sides. Open doors and drawers *slightly* to allow air to circulate inside the items.

Use portable dehumidifiers to slowly remove moisture from the area and objects. Drying quickly will cause warping and cracking. Bring relative humidity down to 50-55 percent.

Salvage Glossary

AIR DRYING

Use a cool, low-humidity area with good air circulation. Place absorbent material (see interleaving) under objects; replace as it becomes wet. If possible, air-dry materials on plastic racks (e.g., commercial bread trays or rust-proof screens) to allow more evaporation. Exposure to light may reduce the threat of mold. Bright sunlight can cause fading.

BLOCKING

The irreparable sticking of glossy/coated paper upon uncontrolled drying.

INTERLEAVING

The placement of absorbent material between leaves to hasten drying. Interleaving sheets should be clean and dry, unprinted, and, ideally, acid-free. In books the total number of interleaving sheets should constitute no more than one-third the thickness of the volume in order to limit physical distortion. When air drying is the only option, despite the risk of severe distortion, coated (glossy) papers should be interleaved between each sheet to prevent blocking.

FREEZING

If objects cannot be dried within 48 hours, freeze them until action can be taken. Freezing is an effective way to stabilize collections for days or even months; it stops mold growth, ink running, dye transfer, and swelling. If possible, use a commercial freezer that provides sub-zero freezing or a home freezer. A refrigerated truck may at least keep materials cool enough to prevent mold growth. Wet paper will increase in size as much as 8% upon freezing; some physical distortion should, therefore, be expected.

ON-SITE DEHUMIDIFICATION

A useful technique for drying damp library and archival collections without the need to move them. Available from several companies in the U.S. Super-dry air is pumped into the building and moist air drawn out. In limited damp, not wet, situations this technique may be quite effective.

RINSING

Mud or dirt: rinse items under a gentle stream of clean running water or gently agitate them in containers filled with water, before drying. Never scrub items in a way that might drive dirt in deeper. Use a sponge/soft cloth to blot off mud and debris. Hold books and file folders closed while rinsing.

VACUUM DRYING

Also called "thermal drying." Available from many companies in the U.S. Items are dried in a vacuum chamber, often at temperatures above 100°F. Slower than vacuum freeze drying, but generally less expensive. Because high temperatures accelerate aging, THIS METHOD SHOULD NOT BE USED FOR LIBRARY AND ARCHIVAL MATERIALS. If materials have previously been frozen, most of the water in the ice becomes liquid before changing to the gaseous state, thus making feathering of inks and other water-related problems such as staining and blocking likely.

VACUUM FREEZE DRYING

Frozen items are placed in a vacuum chamber and dried at below-freezing temperatures to minimize swelling and distortion. The water, in the form of ice, undergoes sublimation directly from a solid to a gas. Generally provides the most satisfactory results and is recommended for library and archival materials. This service is available throughout the U.S.