

Disaster recovery: Water damage to framed works on paper

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When papers get wet, they become vulnerable and difficult to handle. High humidity and water result in expansion, distortion and degradation to sheet integrity. Media may bleed, blister and detach, and adhesives will release. As moisture wicks into papers, staining and “tidelines” result from discolored water-soluble components in the papers or adjacent materials. Paper furnishes, such as sizing, fillers and coatings, will move with moisture, resulting in changes in sheet appearance and density. Water contaminants will contribute to discolorations and distress.

Each work on paper will wet and dry differently. Every disaster situation will be unique. Rapid, but controlled strategic implementation is needed to handle a variety of challenges. Often lacking resources, these circumstances necessitate creative problem-solving. Salvage is a progressive step in full recovery toward moving the affected object into a stable state in preparation for post-disaster conservation treatment.

Clean and equipped work areas are ideal, but unlikely when responding to on-site incidents. The most important initial steps include:

- identifying priority objects
- assigning tasks to the most appropriate personnel
- setting up workspaces and collecting supplies
- implementing safety protocols;
- documenting disaster and object conditions

Triage and identifying urgency for action are subjective skills. Good decisions balance each object's:

- importance, value and rarity
- fragility and condition problems before or after disaster
- sensitivity of paper and media
- factors unique to each incident

Drying the affected materials and controlling secondary damages, such as tearing, mold growth or altered media, are guiding principles.

Wet works on paper need to be unframed and frozen, freeze-dried, air-dried or pressed between absorbent materials and dried, as quickly as possible, ideally within 48 hours. The choice of drying technique is defined by the type of affected materials, the magnitude of the disaster, and the availability of equipment and electricity. Freezing is ideal, as it controls mold outbreaks and allows papers to be systematically thawed and dried post-disaster. Freeze-drying is an alternative, but services may not be available. The time and financial commitment also may deter one from freeze-drying. Furthermore, be aware that the freeze-drying process

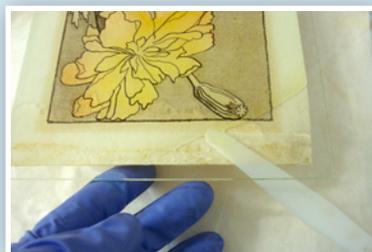


◀ Susan Duhl works with artist Ronnie Landfield in New York City as a volunteer with the American Institute for Conservation Collections Emergency Response Team's (AIC CERT) recovery work from Hurricane Sandy.

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is unsuitable for certain materials, such as some photographic processes and coated papers. Air-drying is convenient and safe, but requires space, good airflow and inventory control. Regardless of drying techniques, most objects require post-disaster conservation treatment to return them to pre-disaster use.

Removal of wet papers from frames is made difficult by compromised papers and media, media and paper stuck to glazing, expanded mat boards, loosened frame joints and rusted hardware. Inspect the framed work to determine potential problems and the best approach to remove it from the frame. Turn the frame upside down and remove hardware, which may be difficult if rusted, or if wood frames have swollen. Isolate moldy materials.

Remove the entire frame package, including the glazing, mat, backboards and work on paper. Protect the package when moving by sandwiching it between two solid supports. Be cautious of paper hinges or other attachments that may have loosened or detached.

- When working with a frame that has been placed glazing-side down, remove the backing boards to reveal the affected material. Individually remove framing boards and back mats. If safe and possible, lift the paper onto a support and move it to a drying area. Compromised papers that are unsafe to remove can be dried in the frame, glazing-side down, with wet backboards removed.
- When working with a frame that has been placed glazing-side up, determine if anything is attached to glazing by sliding a microspatula between the mat layer or work on paper, and the glass. If safe and possible, slowly lift the glazing from one corner, coaxing the mat or paper onto a support.
- Once unframed, maneuver the work on paper onto a support, such as mesh, fabric, blankets, netting, plastic or other available, structurally sound, clean materials.

If air-drying wet works on paper, make sure that air is circulating. Dry individual papers with media side up. If safe and possible, blot excess moisture without disrupting the paper surface or media. Drying can be hastened with fans or slowed with a porous covering, such as a polyester web. Alternately, wet works with stable media can be stacked and interleaved with absorbent materials. Change these absorbent materials as often as possible.

Misting lightly with water while drying is an option to control tidelines. Misting can dissipate the outer margins and darker staining of water damages. Misting a solution of alcohol in water can control drying time and mold growth. Alcohol must be used judiciously, as solvents dissolve many types of media. Bleach, ammonia, biocides and disinfectants should not be used.

Successful salvage operations recognize the unique circumstances of each incident. Employing a rapid, strategic approach with reasonable goals, and using the best judgment in triage and procedures, will effectively guide the response team to a successful outcome for salvage, recovery and conservation treatment.



Susan Duhl is an art conservator and collections consultant, providing assessments, consultations and conservation treatment for institutions and private individuals throughout the United States and internationally. Her specialty in emergency response includes weather, accidental and man-made

disasters in cultural institutions. She is a volunteer member of the American Institute for Conservation Collections Emergency Response Team (AIC CERT). She responded immediately to Mississippi after Hurricane Katrina in 2005 and to Hurricane Sandy in 2012-13.

In addition, Duhl works for the Federal Emergency Management Agency (FEMA) as a specialist archives consultant for governmental collections in New Orleans to recover damages from Hurricane Katrina. She develops strategic disaster recovery plans, including response actions for hurricanes, historic mansion furnace malfunction and fires, including a large -plan developed a for historic sites in the state of New Jersey. She also provides emergency and general assessments surveys of historic collections for the Heritage Preservation Conservation Assessment Program (CAP), including numerous sites after Hurricane Sandy.

Her lectures and workshops include informative and practical information on disaster assessment, prevention, preparation and salvage for all types of collections held by cultural institutions, galleries and private individuals. Examples of her training sessions and lectures programs include:

- Eugenides Foundation and The American School for Cultural Studies, Athens Greece, *Disasters Preparation and Salvage for Cultural Institutions*, Dec. 16-20, 2013
- New York Archivists Roundtable, *Disaster Planning for Archives and Their Communities*, New York Archives Week Symposium, Oct. 2013
- New York Council for the Humanities, *After Sandy Workshop*, June 2013
- Delaware Valley Archivists Group: *Disaster Triage & Recovery*, Philadelphia, Dec. 2012
- Society of Winterthur Fellows, University of Delaware, Winterthur Museum, *Hurricane Katrina Response*, Feb. 2005
- Pennsylvania Federation of Museums /Statewide Conferences, *Disaster Response to Hurricane Katrina*, Oct. 2006

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