
Getting Ready to Respond, When Theory and Life Meet

This is a story of when one thing leads to another, and specifically of two related events, a disaster recovery workshop and an actual disaster, and their role in furthering the creation of mobile disaster response carts at the Los Angeles County Museum of Art. Another side effect was to begin investigating and updating the current disaster plans and procedures at the museum, particularly as they apply to the salvage of museum artifacts.

Workshop

In May of 2005 I attended a week long workshop on the “Recovery of Wet Materials Following a Disaster,” which was held in the beautiful setting of the National Conservation Training center in Shepherdstown, West Virginia, on the banks of the Potomac. Our course instructors, Barbara Moore and MJ Davis, led a group of 16 participants with various backgrounds and specialties through an intensive week of lectures and hands-on recovery exercises. The course was extremely instructive and highlighted many of the most important points in disaster recovery situations and actual salvage operations.

Workshop Topics

- Salvage Guidelines and Collection Priorities
- Re-entry, Health and Safety
- Recordkeeping and documentation
- Public relations, insurance, money, business
- Salvage – theoretical and practical methods for recovery of a variety of wet materials. Special session on the recovery of photographic and electronic media
- Supplies and resources
- Discussion of participants experiences with disaster recovery

We covered basics of disaster planning and preparedness, the importance of collections and materials priorities, as well as health and safety issues, before moving into the specifics of recovery and salvage operations. We also discussed in depth the importance of record-keeping and documentation during a recovery operation, and touched on issues of public relations, insurance, and funding. Time was also spent discussing the supplies needed to undertake a salvage operation safely and successfully.

The bulk of the workshop time was spent on a combination of lectures and practical recovery exercises for specific materials, such as books and paper, paintings, textiles, clothing and accessories, furniture and wooden objects, ethnographic and archaeological objects, and photographs and electronic media. At the beginning of the lab sessions, participants divided into teams, then selected a “collection” from a treasure trove of materials, and then we got to have the thrill of being able to pour water all over our “museum artifacts.”

During our salvage exercises we were able to experiment with objects which were housed in various types of archival and non-archival storage containers, to simulate different storage environments. Once wetted, objects were left for almost three days, and we even added muddy water from the Potomac to some pieces.

At the end of our three day period, recovery operations went into play. Each team had pre-assigned roles for its members, including leader, documentation person, and workers. We removed and treated objects according to priorities we had established for which objects were most important in our “collections” and also according to the sensitivity of particular material types. It was also important to note that any labels or identifying materials were kept with the objects throughout all of the steps.

In the drying phase of the recovery exercises, a variety of techniques were carried out, depending on the object, and how wet it had become. The use of secondary supports was emphasized, as many materials were extremely fragile when wet. The use of low-tech solutions and easily available materials was also emphasized. Some practical work in freezing materials was also carried out, including wrapping and packing books, and freezing various types of photographs and other paper-based materials.

We were also fortunate in being able to spend an entire day with guest lecturer, Gary Albright, discussing and carrying out the salvage of various types of photographic and electronic media. Some of the most informative and valuable discussions over the course of the week were those presented by participants who reviewed real-life recovery operations they had participated in and discussed the measures their institutions were taking to set up emergency response teams and procedures.

Fire

Almost two weeks to the day I returned from the workshop, full of motivation to update and reform all of LACMA’s disaster plans, I unfortunately had the real-life opportunity to use much of the knowledge I had gained.

A devastating fire at the studio of Los Angeles artist Joe Goode, which is situated behind the home he shares with his wife Hiromi Katayama, of Hiromi Paper International, began in the early hours of the morning of May 24th. Joe and Hiromi were awakened by their dog barking at around 5am. When Joe went to investigate, he found the studio on-fire. A smaller display space is separated from the main part of the studio by a metal door. This show room had not yet caught fire and Joe ran in and closed the door, which saved the room and its contents from much damage, and also prevented the fire from potentially spreading to the house, which is separated from the studio building by a small garden. By the time the first helpers arrived at 6am, firemen were still present but the fire had been extinguished. There were no smoke detectors or sprinkler system in the studio.

When I was called at 7am, my three other paper conservation colleagues were already on the way to the site, but without any supplies. So, my recent workshop experience in mind, I went to the museum first and ran around as quickly as possible grabbing everything in sight that I thought we might need. I gathered rolls of blotter paper, polyester webbing, brushes, sponges, erasers, swabs, cotton, unframing and hand tools, and personal safety equipment which included our respirators, boxes of gloves, goggles, and dust masks, and lab coats. As we didn't have a clearly identified area of supplies or cart for this purpose, it did take me a little bit of time to gather things, and I was worried that I had forgotten something that might prove to be crucial.

In the main part of the studio the damage was severe. The fire itself started from a pile of oil and solvent soaked rags that had been inadvertently left out and had ignited some time during the night. Tall vertical racks where many framed pieces were stored had works in them three rows deep in some cases, and the works on the outermost side suffered the most damage and were mostly destroyed. Joe's work, as well as the work he had by other artists such as Ed Ruscha, consisted primarily of oil paintings and works on paper.

Works on paper which were stored in the studio in racks were framed with a mixture of glass and acrylic glazing. There was also a flat file of prints in the show room which was much less damaged due to Joe's quick action in closing the separating door. Exact figures on the total number of artworks destroyed are still unknown, but of Joe's recent work of the past year, only 4 paintings survived, and these only because they were not in the studio, which was an incredibly devastating loss.

When I first arrived at the site, tables had been set up in the small garden which separates the studio and house. A triage system was already in place, in which workers in the studio space brought pieces out to the garden for salvage. With one or more people working at each table, we unframed and partially cleaned and blotted items. Pieces were then brought into the house and placed on clean blotters and interleaving layers of polyester webbing to dry, or stacked against the wall in the case of some of the paintings. Fans were placed throughout the drying areas, directed away from the pieces but to keep the air circulating. Windows and doors were also opened to help increase the air flow.

A side area of the yard was also used to lean paintings to dry safely out the way of foot traffic. For the works on paper, we were able to reduce excess moisture and try to prevent tide lines by blotting pieces which were extremely wet. The paper pieces were less sooty as a whole, due to the framing materials. In the case of many of the oil paintings, the sooty residues were able to be brushed and gently vacuumed from the surfaces, and blotters were also placed behind the canvases, where possible, to aid drying.

Of the works on paper, we salvaged about 90%, which came to about 300 artworks. In general, works with framing, matting, and glazing, some of which were also stored in cardboard boxes and/or wrapped in plastic, fared much better. However in some cases paintings that were wrapped in plastic had it fused to the surface. As you might expect, the paintings on canvas fared the worst, as they did not have as many protective layers of framing materials. However in the case of the framed works, broken glass and melted acrylic which had fused to the pieces was also a problem.

In talking with the paper conservators after the event, the general consensus was that in terms of salvage we had done pretty well, at least for the paper objects. We were all familiar with each other and worked well as a team. And fortunately many things which did suffer damage can eventually be treated. Where I think we didn't do so well was personal safety – those of us working outside in the garden were mostly just tired and hot. But those removing artwork from the studio would not consistently wear the masks which were offered, and although they did wear gloves, they were soon covered in soot and other residues.

Roles were also not well identified initially, but evolved over the course of the day into a pretty smooth division of labor. However when extra helpers arrived the flow became interrupted to adjust the work space to make room for more people. Our documentation was also spotty - for example frames which were removed to be discarded were not marked as to which piece they came from, which would have been useful for insurance purposes.

There were also many supplies we wished we had more of – enough tools for each person, more boxes of gloves (we went through about 6 or 7 boxes), paper towels, cleansing wipes for the work surfaces and our hands, and garbage bags. Hats and sunscreen were also missed, though we did eventually get sunscreen. A better separation of dirty and clean work areas would also have been great.

Stress was also a debilitating factor, especially for Joe and Hiromi, however they really put on brave faces that day and helped round up supplies and see that people were fed and watered. Although this event was relatively small in scale, and fortunately no one was injured, it illustrates many of the basic issues which have to be considered no matter the size of the salvage situation.

Salvage carts, revisiting disaster plans

The workshop stressed the advance preparation of supplies for use in a salvage situation, and the fire highlighted this need as having a salvage kit prepared would have greatly facilitated our efforts. Both events also brought home the importance of preparing a disaster plan, or updating a current plan.

Getting Ready to Respond, When Theory and Life Meet, continued

Necessary supplies used in the salvage of cultural materials were outlined at the workshop, which also stressed the importance of personal safety kits for those entering a salvage situation, and which can also be used in general disaster situations where no salvage is being attempted. We also saw a very comprehensive example of the safety and survival gear kept packed and ready to go by the Emergency Task Force team members of the National Park Service. Other examples of personal safety supplies as well as salvage kits were also seen on a recent trip to some of the conservation labs at the Getty Museum where small, brightly colored back packs which contain personal safety supplies hang prominently in each lab.

Also, Getty conservator Nancy Turner showed us her portable disaster kit which is housed in a rolling garbage bin which has been customized for dealing with manuscripts – for example it contained ace bandages for use in binding around books. I was also able to find at least one article¹ for creating and outfitting a custom mobile salvage cart which contains a comprehensive set of supplies. In looking at what was available commercially, as I expected, there is nothing which is exactly suited to the needs of a museum salvage operation. However there are several kinds of spill carts which could be customized for the salvage of cultural heritage materials and are portable enough to be manually brought up stairs, if necessary.

Conclusions

In thinking of salvage efforts and particularly response carts and kits, the workshop and the fire really highlighted some important issues for me.

- Scale of event
- Planning and training of staff
- Collections and material type priorities
- Accessibility and locations of caches

One of scale, in that several levels of supplies are necessary – first, carts that can be brought quickly to a small scale, more common event, like a small leak. As well, larger caches of similar and supplementary materials and also more operational, safety, and clean-up supplies should be created for a more significant event. For very large scale events, the supplies present at the museum may be inaccessible, so forming local networks of institutions that come to each other's aid is critical, as well as having up to date contacts with commercial suppliers of materials and disaster recovery services.

Salvage kits

- Multiple kits, i.e. several locations, sizes, purposes
- Regularly update and check contents of kits
- Salvage kits ensure rapid response and reduce stress!

And finally, a few more thoughts to leave you with: as I mentioned, having multiple kits in various sizes, locations and geared to specific purposes is very important. As well, regularly updating and inspecting the contents of all your kits and caches of supplies is a necessity not only to replace expired materials such as batteries, but also to remain familiar with all the contents.

Salvage kits are an essential disaster recovery tool which aids in a rapid but thoughtful response thereby reducing stress for those responding and hopefully minimizing damage to collections materials.

General issues

- Planning, preparation, and drills
- Prioritizing collections items and material types
- Importance of assigning roles

In terms of more general issues, it is important to repeat that planning, preparing for a wide range of events (including the worst case scenarios) and practical training exercises are all obvious but extremely important. Along with this establishing priorities within your collections by relative importance as well as by the sensitivities of different material types is a crucial part of the planning process. And last but not least, preparing teams whose members have assigned roles such as leader, documentation person, salvage workers, and some one authorized to purchase services and supplies, for example, is another essential component of a good plan.

At LACMA, we are just in the beginning phase of planning our salvage kits, which I hope will give us further impetus to revisit and update our existing disaster plans.

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(Footnotes)

¹ “Emergency Cart for Protecting Collections from Water Damage” by Michael R. Harris, p.285-287 in *Storage of Natural History Collections: Ideas and Practical Solutions*, vol. II, Carolyn R. Rose and Amparo R. de Torres, editors, Society for the Preservation of Natural History Collections, 2002.

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List of salvage supplies for emergency response cart

Note: this list does not consider operational supplies for a major event, site clean-up/rehab supplies, or survival supplies for people, but focuses more on a small to medium event. It also does not include quantities as that would be customized depending on institution size and collections.

Basic supplies to consider – Add customized materials based on collections type.
Plan to have several sets of tools and safety equipment.

<p>Operational/Containment</p> <ul style="list-style-type: none">• A clearly marked cart, garbage pail or other type of mobile container to house supplies• Buckets, mops• Copy of emergency plan/procedures, contact numbers of staff and materials/freezer suppliers• Disposable cameras• Door wedges, caution tape• Extension cords• Flashlights and spare batteries• Flood light with extra battery• Garbage bags• Handiwipes• Label tags for objects• Notepads, clipboards, pencils, sharpener, pens, markers• Plastic sheeting• Spill snakes or pillows• Suction cups to lift vitrines• Tapes – polyethylene, duct, low tack (for taping broken glass)• Wood blocks to support larger objects	<p>Treatment/Drying</p> <ul style="list-style-type: none">• Ace bandages• Alcohol• Blotter paper, sheets or rolls• Clothes pins, plastic• Clothesline, string (also useful to keep electrical cords out of water)• Cotton rags• Cotton swabs, cotton• Film cleaning solution• Freezer bags in various sizes, (used to protect and also to transport objects for freezing)• Hand tools – spatulas, tweezers, brushes• Paper towels, blank newsprint• Plastic totes with handles for tools – one for each set of tools• Polyester webbing such as Reemay or Hollytex• Sponges• Squeegee• Tools – screwdrivers, wire cutters, pliers, box cutters, extra blades, scissors, also consider hammer, nails, crowbar, hatchet• Water• Waxed paper• Weights	<p>Safety</p> <ul style="list-style-type: none">• Dust masks• First aid kit, inc. alcohol wipes• Gloves – variety of kinds, nitrile, lantex, leather palm, solvent• Hard hats• Protective clothing – jumpsuits or aprons, rubber overshoes• Safety goggles• Sunscreen, visors
		<p>Other basic supplies too large to accommodate on cart</p> <ul style="list-style-type: none">• Additional lighting• Crates for packing items for freezing, such as milk crates or polyethylene boxes (ResCubes)• Dehumidifiers• Environmental monitors• Extra garbage cans• Fans• Folding tables• Greater quantities of plastic sheeting, blotter paper, and polyester webbing• Greater quantities of safety supplies• Pallets• Pressing equipment, such as a book press, and/or blotter stacks• Shallow trays for rinsing items• Shovel• Wet-dry vac

Adapted from 'Recovery of Wet Materials Following a Disaster' handout "Emergency Response Equipment and Supplies" by MJ Davis and Barbara Moore, which was adapted from *Disaster Preparedness Workbook for U.S. Navy Libraries and Archives*, prepared by Lisa L. Fox.

and

"Emergency Cart for Protecting Collections from Water Damage" by Michael R. Harris, p.285-287 in *Storage of Natural History Collections: Ideas and Practical Solutions*, vol. II, Carolyn R. Rose and Amparo R. de Torres, editors, Society for the Preservation of Natural History Collections, 2002.