

Introduction to Disaster Planning and Recovery

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Why should conservators be concerned about disaster planning and disaster recovery? Conservators who work in regional conservation centers, or who are in private practice, may be called upon by many of their client institutions for advice in writing a disaster plan or for help in recovering from a disaster. Conservators in museums must be concerned about the safety and security of objects in their own collections. Disasters on the scale of the recent catastrophic fire at the Los Angeles Public Library are not frequent occurrences. However, small disasters, such as water damage from a roof leak or a burst pipe, happen with surprising frequency.

The Northeast Document Conservation Center, where I work, in Andover, Massachusetts, has operated a disaster hotline throughout our 13 year history, in order to aid collection-holding institutions in our region. During this time we have received nearly 750 disaster calls. Our role goes beyond restoring of individual objects or advising disaster victims on the salvage of quantities of wet materials. In advising an institution which has experienced a disaster, we

focus first on restoring the environmental conditions. Our primary concern is for the safety of the mass of collections, even the materials which have not been directly damaged, in order to avoid potential damage from exposure to high humidity.

In her booklet, Disaster Prevention and Disaster Preparedness<sup>1</sup>, Hilda Bohem offers two definitions of a disaster. The first is: "an event whose timing is unexpected and whose consequences are seriously destructive." The second is: "A disaster is what happens only if you are not prepared for it." She does not mean to suggest that if you bring your umbrella, it won't rain. Rather, she is advising that if you are prepared for a disaster, the consequences may be far less disastrous.

It is safe to say that most museums and libraries do not have disaster plans. The major point which I would like to stress is that every institution needs a written disaster plan. When we think about disasters, most of us tend to say, "It will never happen to me." We tend to put off the writing of disaster

1. Hilda Bohem, Disaster Prevention and Disaster Preparedness, Office of the Assistant Vice President, Library Plans and Policies, Statewide Administration, University of California, Berkeley, California, April 1978.

procedures. NEDCC has developed a simple checklist for developing a disaster plan, available through our Field Service Office, which can be filled in fairly readily. It requires pulling together names and phone numbers of staff members, emergency services, sources of supplies and lists of priorities for salvage. The checklist can serve as the basis for major portions of a local disaster plan.

The first step of writing a disaster plan is understanding the risks of your geographic location and your building. Are you in an area where earthquakes are frequent, or near a river which floods periodically?. If you live in a coastal area which has experienced hurricane damage in the past, then your disaster plan should certainly include provisions for coping with high winds, flooding and intense rain. As you develop your plan, try to envision the worst-case scenario: no power, no electricity, no telephone communication, no fresh water.

Understand the history of your building. If there has been a previous problem with the structure, chances are the same problem will recur. If your institution has had trouble with roof leaks, find out whether the roof has truly been repaired, or whether it has merely been bandaged. If the repair was merely cosmetic, chances are it will leak again.

Make an inspection of your building for potential fire hazards, such as overloaded circuits, faulty wiring and free-standing stacks with openings between the floors which can serve as conduits for flames. Checklists are available from the National Fire Protection Association in Quincy, Massachusetts. Make a check for water risks to the building and to the collections. If collections are stored under leaky pipes, move them. If they are stored in basements or on the floors, transfer them to higher levels, or at least raise them up several inches on palettes.

The next step in developing your disaster plan is to appoint a disaster team. In a small institution, this may be a single individual plus volunteers. In a larger institution, it may consist of several individuals, including the head of maintenance, an administrator, the conservator if there is one, and a curator or bibliographer. The members of the disaster team should keep copies of the written disaster plan at home as well as at their desks.

A list should be prepared of the telephone numbers of the members of the disaster team, including telephone numbers of the local police and fire departments. Copies of the list should be distributed to all members of the team and should be updated regularly. Copies should also be given to the fire and police departments.

As part of your preparation for coping with disasters, brief the members of the disaster team on the safety features of the building. Make sure they know how to handle the fire extinguishers. Hold a fire drill. Teach them emergency or evacuation procedures. Make sure the members of the team know where the cutoff valve for the water is.

Another important step in developing a disaster plan is identifying objects and collections which are a priority for salvage. Provisions should be made for transferring these collections to a place of safety at a time of disaster. An institution's catalog or inventory has an exceptionally high replacement value, and it should always be included as one of the priorities for salvage.

Prepare a list of last-minute emergency procedures which should be carried out before vacating the building when natural disaster strikes (e.g. hurricane). This should include evacuating the staff and the public, shutting off the electricity and gas, and removing priority collections and valuable materials which are stored in places where they are endangered. If there is time, collections should be covered with polyethylene sheeting. Appoint the most stubborn member of the staff to carry out these last-minute safety procedures.

An essential part of the disaster plan should be a list of the names and telephone numbers of sources of emergency services and supplies. Some of the services that should be included in a disaster plan are an emergency conservation facility, a cold storage facility, and a freeze-dry facility. A space for air drying of wet materials should be identified. Lists of potential volunteers may be included. In addition, the plan should include a list of sources of emergency supplies, such as plastic milk crates, polyethylene sheeting, paper toweling, freezer wrap, humidifiers, portable generators, and pumps.

Once the plan has been written, hold a meeting of the entire staff to brief them about the provisions of the plan. This is a way of transmitting important information, which will be useful to them at the time of a disaster. Holding such a meeting also helps to give the staff a message that security and disaster prevention are serious concerns of the administrators of the institution.

Let us now move from the subject of planning for disaster to the subject of recovery once a disaster does occur. In most cases, the damage caused by water from the fireman's hose is more seriously destructive than the fire itself. Fire may

reduce your object to cinders, in which case, no salvage measures are needed. Or, as is more often the case, the damage may be superficial. But no matter what the extent of the loss, fire damaged objects are in stable condition. Objects which have become wet during the course of a disaster present a more serious problem, requiring immediate action. This is because of the danger of mold growth on wet or damp materials, which can cause irreversible damage.

Water is seriously harmful to books and paper. It causes books to stain, warp and cockle. Paper is hygroscopic, which means that it absorbs water. Wet books often swell to such an extent that they break their bindings. Wet books on shelves will swell until they become tightly wedged in place. They can swell with such force that they actually twist the metal shelving, causing it to topple over.

After a disaster has occurred, do not attempt to reenter the building until the fire is put out or until the water subsides. Enter with caution and follow the direction of the fire department. Protecting your own life must come before protecting your collections.

Upon entering the building, your first concern should be re-establishing environmental conditions which are non-damaging to the collections. If there is climate control equipment, use it to keep temperatures below 70°F and to reduce humidity below 50%. If not, and the air outside is cooler and drier than inside, open the windows (but not if freezing might occur). Employ fans in order to step up the circulation of air, and keep the area as cool and dry as possible. Commercial dehumidification services are available to reduce the moisture in damp buildings. Their equipment may be needed to reduce the humidity, especially if water has been absorbed in carpets, flooring material, and furniture.

Organize the staff to begin removing the wet materials to air conditioned space, either within the building or off premises. Begin with any material on the floor, in order to clear a path for the movement of personnel and objects. Keep careful records of all materials which are moved.

Decide which materials should be discarded, which should be replaced, which should be freeze-dried, and which require further restoration by a professional conservator. Contact your insurance company to see if insurance coverage applies. The extent of your insurance coverage will almost certainly have an impact on your decision about the conservation options for



damaged materials. Almost any individual object can be restored, but the cost is apt to be prohibitively high except for extremely rare and valuable objects.

Determine whether materials can be air dried right away or whether they will be frozen to stabilize them. For a small amount of wet material, if the weather is not excessively humid or hot, or if dehumidification equipment is available, it may be possible to air dry all of the material at once. Or it may be possible to air dry the high priority material right away. However, if there is a larger quantity of wet material, books and documents which cannot immediately be air dried should be frozen. Prior to placing them in a freezer, place freezer wrap between books to prevent sticking. Documents should be wrapped in small bundles. The contents should be identified on the outside.

Larger amounts of materials can be packed in plastic milk crates and moved to a cold storage facility. Virtually any commercial cold storage locker is suitable for this purpose. It is best to freeze materials at a temperature of  $-20^{\circ}\text{F}$ . Freezing the material, in effect, buys time, until you are able to determine what further action will be taken. At this point, there are two options: air dry or freeze dry. If you decide to air dry the materials, they can be thawed in small batches and air dried a few at a time, as space and staff time permits.

For large amounts of wet material, vacuum freeze-drying may be the most practical alternative. This is a service which is available through commercial firms. Books with coated stock should be vacuum freeze-dried. It is difficult to air dry them since the pages tend to stick together. Some materials, such as glass plate negatives, should not be frozen. For photographs, furniture, paintings, and works of art in other media, consult a conservator. Wet microforms should be submerged in water and kept wet until they can be washed.

It seems highly appropriate that this session on disaster planning and recovery is being held in Chicago, the scene of the notorious Chicago fire of 1871. We are fortunate to have excellent speakers, and it is my pleasure to turn over the floor to the panels on disaster planning and on disaster recovery.