Fire Response & Salvage of Cultural Heritage Materials

CARLI & The Illinois Fire Service Institute Burn Simulation & Recovery

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Outline

I. Overview of Fire Damage and Cultural Heritage Materials

II. Assessing Damage and Planning Recovery

III. Salvage Operations

Fires in Cultural Heritage Institutions

Bette Davis in *Storm Center*, 1956, LIFE Photograph Archives

Fires in Cultural Heritage Institutions

Triana Public Library Fire photos (2009)
http://www.flickr.com/photos/hmcpl/sets/72157622301604023/

Connecticut River Museum (2010)
http://www.shorepublishing.com/article/20100812/NWS01/308139999

Assessing Damage & Planning for Recovery

Primary Concern After a Fire:

- Human Safety
- Continuity of Operations (COOp)
- Recovery

Risks Greatly Decreased by Proper Disaster Preparedness:

- D-Plan and other disaster planning (www.dplan.org)
- Preexisting contracts with disaster recovery firms
- Understanding emergency response protocols - ICS

Assessing Damage & Planning for Recovery

First Recovery Steps After a Fire:

- Identify and stabilize structural hazards
- Reduce temperature and RH to <70 degrees and 45% RH, if possible
- Remove
  - Standing water and empty items containing water
  - Wet carpet
  - Wet furnishings
- If everything is soaked, secure commercial dehumidification services ASAP

Assessing Damage & Planning for Recovery

Assess Condition of Collections:

- **Before Salvage**
  - **Maintain items in the conditions found**
  - **Protect materials at risk with loose plastic sheeting**
- **Undamaged Items**
  - **Leave in place if environment/building is stable**
  - **Move only if environment/building is threatening**
- **Check for mold daily – Fire and smoke damage has already occurred, but risk of mold damage can be minimized**

Assessing Damage & Planning for Recovery

What are your salvage priorities?

- **Established prior to disaster, ideally**
- **What type of materials are damaged?**
  - **Loan materials**
  - **High risk materials – iron, skins/leathers/parchment, coated paper, textiles**
  - **Widely held versus unique**
  - **What is your institution known for?**
  - **What do you need to keep the doors open?**
    - **Don't forget business records, personnel files, etc.**

Assessing Damage & Planning for Recovery

What are your salvage priorities? (con't)

- **What type of damage have materials sustained?**
  - **Water, but not fire**
  - **Fire, but not water**
  - **Water and fire damaged**
  - **Submerged in water, very wet, barely damp?**
- **Mold is biggest threat after water damage**
- **Dry, fire damaged materials are reasonably stable, if environment is not a threat**

Assessing Damage & Planning for Recovery

What type of recovery is appropriate?

- **Immediate air drying**
- **Freeze then air dry**
- **Vendor provided drying options**
- **Smoke/Odor reduction**
- **Conservation/Repair**
- **Discard**

Northeast Document Conservation Center (NEDCC)
Leaflet: *Emergency Salvage of Wet Books and Records*
http://www.nedcc.org/free-resources/preservation-leaflets/3.-emergency-management/3.6-emergency-salvage-of-wet-books-and-records

Assessing Damage & Planning for Recovery

(Larger) Disaster Recovery Vendors

- Blackmon Mooring Steamatic Catastrophe – BMS CAT http://www.bmscat.com/
- Belfor http://www.belfor.com/
- Midwest Freeze Dry http://www.midwestfreezedry.com/

Salvage Operations

Organize your disaster recovery team

- **Should already be outlined in a disaster plan**
  - **Disaster Recovery Officer (leader of Disaster Team)**
  - **Recovery Specialist (leader of Recovery Team)**
  - **Recorder/Photographer**
  - **Campus and Public Relations Liaison**
  - **Logistics and Facilities Coordinator**
  - **Administrative Services Coordinator**
  - **Collections Representative**
  - **Pack-Out/Relocation Supervisors**
  - **Systems Recovery Officer**
- **Establish command post and communication methods for the team**

Salvage Operations

Document the damage before recovery starts

- **Once safe the enter building, complete a preliminary tour**
- **Do not remove materials without documenting conditions**
- **Document conditions with a camera and or video recording**
- **Make notes and voice recordings to accompany photos**
- **Assign a recorder for decision-making**

Salvage Operations

Communication and Funding

- Media liaison responsible for communicating disaster to public/media
  - Also responsible for making call for volunteers, if needed

- Establish availability of funding resources
  - May be OK from business office for reimbursements
  - Institutional charge card
  - OK for charges incurred by disaster recovery firm

Salvage Operations

Establish Recovery Workflow

- Identify recovery worksite (clean water, facilities, data, parking, etc.)
  - Cleaning station
  - Packing station
  - Air drying areas
  - Pick up and delivery sites
  - Rest area for staff/volunteers

Salvage Operations

Set up Transportation Plan

- **Need to move books in an organized fashion from shelf to recovery site**
  - **Book trucks**
  - **Bucket brigade**
  - **Boxes/crates**
  - **Van or truck**

Salvage Operations

Storage and Documentation

- Temporary storage must be easily accessible space
  - May serve as temporary access point
  - May serve as holding tank for vendor pickup
- Establish documentation procedures for materials pulled from the recovery site
  - Freeze
  - Air dry
  - Discard
  - Low/high priority salvage

Salvage Operations

- Sort materials by salvage type and priority
  - Some materials cannot be frozen

    Betty Walsh *Salvage at a Glance* http://cool.conservation-us.org/waac/wn/wn19/wn19-2/wn19-207.html
  - Some may need to be cleaned before freezing
  - Some may be discardable
  - Some may not be wet, just dirty or burned

Salvage Operations

Air Drying Library Materials

Set up in cool, dry space with good air circulation and fans

See Cornell University Library's excellent guidelines for recovery included in handout (website appears to be unsupported ☹)

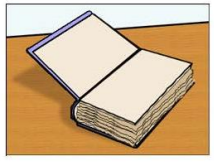
Procedures for air drying wet books and records

Books

The main objective in **air drying** wet books is to remove water as efficiently as possible while also trying to prevent structural distortion. Structural distortion (excessive swelling of the fore-edge, concavity of the **backbone**) can be avoided if proper judgment is used in determining the point at which the book should be opened. The following steps assume that the covers are in good condition and still attached to the book. If the covers must be removed (because of delamination, color running out of the binding materials, board swelling and warping, and the like), the book should be stood on edge as described below, but supported by loose pieces of binder's board, blocks of wood, or bookends. (See also Cautions at the end of this section.)
NOTE: Depending on the degree of saturation, a book can take from a day to a week to dry.

1. *Books that are thoroughly wet.* Do not attempt to open the book. Do not attempt to fan the leaves. Do not remove the covers. Place the book in a closed position (with **boards** slightly open) on its **head** on sheets of absorbent paper. To permit water to drain efficiently, place small pieces of binder's board at the fore-edge. Place absorbent sheets of paper between the text block and the binding. Change the paper on the table when it becomes wet. If the book is placed in a moving current of air, it should soon dry to the point at which it may be opened for the next step.

2. *Books that are partially wet.* With care, partially open the book (at a fairly shallow angle) and interleave with absorbent paper. Paper towels are ideal. Begin at the back of the book and interleave every 20 or so leaves. Given good drying conditions, the book may be left flat until the interleaving material has absorbed some of the water, probably after one hour. Change interleaf material periodically until the book is only very slightly damp, then go to step 3.



Salvage Operations

Cleaning & Packing for Freezing

1) Clean books in clean water, only if necessary. Squeeze out any excess water.

2) Wrap wet books in waxed paper or freezer paper to separate, if possible.

3) Place books in box or crate for shipping. Label and document contents of each container.