



# Consortium on Recovery of Works of Art Damaged by Flooding

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# American Institute for Conservation Collections Emergency Response Teams (AIC-CERT)

- Provides 24/7 disaster assistance
- Emergency number - (202) 661-8068
- On-site assistance can be arranged
- Provides the names of experts in various areas of conservation



# Other Local Resources

- Alliance for Response, NYC/ Heritage Preservation
- Local Conservation Community & the New York Regional Association of Conservation (NYRAC)
- Health and Safety Professionals
- Materials Suppliers, Art Storage Warehouses
- Disaster Recovery Vendors

# Health and Safety

- Personal Safety
  - Your safety is the most important factor
  - Nothing is worth the risk of injury or illness
- Assessment
  - Make sure to continually do personal assessments
  - Identify emergency egress paths and exits
  - Assess your own ability to respond in terms of physical stamina, general health, and emotional strength

# Building & Environmental Hazards

After the building is deemed safe to enter you still have to consider the following hazards:

1. Asbestos
2. Lead
3. Pesticides and chemicals, including solvents
4. Electrical (live wires)
5. Gas lines
6. Carbon Monoxide
7. Structural
8. Water
9. Biological material (e.g. mold, pathogens)

**Personal safety is paramount!**

# Re-Entry Tips

- Use the buddy system
- Communication devices (two way radios, cell phones)
- Practice good hygiene - wash hands frequently
- Alleviate stress
  - take frequent breaks, stay hydrated, and nourished
  - prepare for the possibility of sacrificing some collections to permit salvage of others

# Chemicals and Other Hazards

- Paint and paint thinner
- Acetone, ethanol
- Pesticides
- Heavy metals – arsenic, mercury, lead
- Corrosive materials (bleach, acids, etc.)

Resource:

Arts, Crafts and Theater Safety, Monona Rossol, Industrial Hygienist

[www.artscraftstheatersafety.org](http://www.artscraftstheatersafety.org)

# Personal Protective Equipment (PPE)

- Wear the right type of equipment for the environment
- Gloves (Nitrile/Latex, leather, gardening, etc.)
- Hard Hats (overhead hazards)
- Safety Glasses/Goggles
- Face Shields
- Tyvek
- Ear Plugs
- Respirators (particulate, organic vapors, etc.)
- Proper Footwear



# RECOVERY

## 8 Rules for Successful Recovery

1. **Be creative.** Make informed decisions.
2. **Stabilize** ASAP.
3. Provide stable **environment** for damaged objects.
4. **Protect** materials not affected.
5. Select best recovery methods for **kind of damage**.
6. **Avoid irreversible damage** in recovery.
7. **Reduce effects** of disaster on materials as possible.
8. **Prevent future problems** from disaster or aftermath.

# Organizing Recovery

## Human Safety First!

Don't RUSH! Unless the event is ongoing, the damage has already occurred. Take time to EVALUATE and PLAN actions.

1. DOCUMENTATION
2. PRIORITIZATION and PLAN
3. MOVEMENT
4. TRIAGE
5. STABILIZATION/DRYING
6. STORAGE
7. LONG TERM SALVAGE

# Documentation

1. Take Pictures – overall, individual object conditions, and storage environments following the hurricane
2. Develop succinct sequence of events with objective reporting and document best practices prior to the hurricane
3. Write down priorities and logic for determining them
4. Develop worksheet for tracking object movement
5. Supplies: Camera, paper/pen, clipboard, iPad, computer

# Plan

Maintain security of items throughout the recovery process

- Identify alternate storage location and confirm its environment
- Develop your team
- Clear a path to the new storage location
- Create adequate work space – tables, shelves, blocks/padding for paintings
- Source and collect supplies

# Develop your team

- Identify and collect human resources – volunteers, staff, etc.
- Identify a leader and establish a chain of command
- Inform your team
  - Tell your team your priorities
  - Everyone should have clearly defined roles
  - Tell people to ask questions when needed

# Creating work space: Repurposing materials

- Furniture – Tables, carts, flat storage drawers, plywood shelves, empty crates, sawhorses, pallets
- Materials – plastic sheeting, bubble wrap, foam sheets (Volara/Nalgene/Ethafoam), Mylar sheets
- Self healing mat board
- Extension cords
- Cameras/lights
- Mops, buckets, ladders

## Sourcing Materials: Local (hardware/grocery stores)

- Wet/dry vacuum, mops
- Fans, dehumidifiers
- Plastic sheet to line tables/shelves – drop-cloths, tarps, etc.
- Interfacing/stabilizer for interleaving between materials – fabric/sewing supply stores
- Plastic Screening – metal will rust and stain
- Absorbent materials without dyes/colorants – blank newsprint, white sheets/towels/blankets, non-printed paper towels
- Wax paper for book/freezer prep

# Handling and Moving Wet/Dry Materials

- Have clear path to destination before moving objects
- Don't lift more than you're capable - get help if needed
- Don't drag or push items
- Assess the condition before picking up items, and support as fully as possible - two hands
- Inspect for weakened materials, old repairs and weakened adhesives, unsound structure



# Handling and Moving Wet/Dry Materials

- Support items that drape – paper, photos, films, woven materials
  - Wet textiles are heavy and weak
- Avoid touching fragile surfaces
  - Painted/gilt furniture and frames; painted or cracked ceramics, friable media, emulsion layers
- Keep broken parts together and clearly identify them
- Minimize manipulation – resist temptation to fix

# Prioritization

- Priority: What is most valuable?

Should be considered first

- Monetary
- Scientific
- Historic

- Priority: What is the damage?

Collections prone to damage if untreated (e.g. paper and other organics – mold)

- Materials most likely to be saved
- Materials that can be placed in holding pattern (frozen/stable cool storage) until time/resources are available for treatment

## Triage by Condition

- Items in good condition salvaged first
- Wet items – Value priority, then vulnerability
- Requires an understanding of vulnerability of materials and an understanding of appropriate salvage methods
  - Most artist materials are water vulnerable
  - Some materials are more vulnerable to water damage than others

# Artist Materials

Most  
Vulnerable



- Paper, books and parchment
- All textiles
- Iron (in water emergencies)
- Leather, ivory, shell
- Mixed materials objects
- Paintings on canvas
- Wood veneer, gilt and painted surfaces
- Photographs and films
- Porous stone and ceramics
- Sound and video recordings
- Glass and non-porous ceramics
- Metals other than iron

Less  
Vulnerable

# Business Records

- Paper Records
  - **Artist/inventory records**
  - **Client Records**
  - Photographic records
  - Staff Records
  - Library – 1<sup>st</sup> editions, artist's books, visual library (slides, photos)



*Collection records  
damaged by flood*

# Prioritizing Records

- Are these records duplicated, backed up or protected?
  - Are they gathered in a single place?
    - If not, could at least two people find them quickly?

**Paper records can be frozen to buy time!**

# Recovery sequence

1. Accessible
2. Most Valuable
3. Most Vulnerable
4. Least Damaged
5. Most Damaged

# Troubleshooting

- Items are very large/awkward/heavy
- Items are exceptionally fragile
- Number of items is daunting/insufficient help
- Lack of communication



# Problems and solutions

- What can you do to address these problems?
  - List possible solutions
    - Requiring minimal resources
    - Requiring moderately substantial funding
    - Requiring major expense

# Review: Prioritization

## Factors for order of recovery

**PRIORITY** valuable objects

**VULNERABILITY** to event damage

**URGENCY** danger: mold, rust  
more damage

**DAMAGE** degree and stability

**RESOURCES** need special  
equipment, expertise

**OPTIONS** staff and money

# Stabilization/Drying

- Establish objects in a safe, stable environment and reduce possibility of further damage
- Good stopping point – where object is stable – consult with conservators
- If feasible and safe, remove any debris, salts or soil prior to drying – consider washing in clean water

# Recovery Techniques

## **FREEZE**

Holding pattern, buying time – best for paper, books and records

## **AIR DRY**

Effective for most materials

Labor intensive, low material cost

## **TREATMENT**

Best results for severe stains or compromised/sensitive media

Requires expertise/high cost

**Consult conservator**

## **MOLD**

**Must isolate in cold storage/freeze, assess to treat?**

# Mold

## SAFETY

Enters body through inhalation, breaks in the skin, and even the eyes

## PPE

Protective gear is necessary for safety in dealing with mold outbreaks.

## ANALYSIS

Document outbreaks through third-party sampling and scientific analysis/spore identification

**VACUUM** Minor mold outbreaks can be removed using HEPA vacuums and brushes

## ISOLATE

**Must isolate in cold storage/freeze**

**\*\*Freezing is not appropriate for all materials.**



# Mold

Once mold spores form, they can never be completely removed.

They can only be arrested through controlled humidity and temperature.



# Freezing

- Buys time by preventing/minimizing mold, arrests bleeding dyes and running inks, etc.
- Wax paper
- Depending on the volume of material involved, consider using:
  - Freezer pods
  - Freezer trucks
  - Local freezer facility
  - Home freezers (may need to sacrifice after use due to safety concerns)

# Air Drying

- Normal room conditions (70-75°F at 50-55% RH\* – heaters, dehumidifiers)
- Hair dryers, clothes lines and pins, weights
- Good air circulation (fans)
- Spread wet items on tables with absorbent coverings (blotter, unprinted newsprint, towels, sheets etc.)
- Stuff out layered objects
- Change absorbent materials often





# Air Drying (continued)

## Advantages

- Gentle
- Low cost (existing space, simple equipment)
- Easy to monitor
- Collections remain in situ
- No risk of over-drying

## Disadvantages

- Risk of mold
- Very labor and supply intensive
- Requires large spaces
- Some materials (coated papers/photographic emulsions) require special attention

# Other Drying Methods

- **Freezing:**

- Advantages - good for large quantities; very gentle; low cost if equipment is available
- Disadvantages - very slow (4 – 18 months) and poor accessibility

- **Desiccant Drying**

- Advantages - gentle method; access is always possible; large quantities can be dried; moderately wet materials can be dried
- Disadvantages - mold is still possible, skill is needed for a successful result; not appropriate for all materials

- **Vacuum/ Thermal:**

- Advantages - good for large quantities
- Disadvantages – liquid phase causes damage to many materials

- **Vacuum Freeze Drying:**

- Advantages - effective for most materials, less distortion
- Disadvantages - expensive, takes more time, may over-dry

# Storage

- Develop a packing plan and recording system prior to implementation
  - Consider barcode system
  - Organize into material classes and minimize fluctuations in RH and temperature
- Provide adequate support and use interleaving layers
- Document and label all boxes
  - Take pictures

Needed supplies: camera, paper/pen, clipboard, iPad, computer

# Some Storage Tips

- Take your time and do not hurry
- **NEVER** move anything more than once if possible
- If possible, use standard size boxes
- Storage boxes with easy to see/read labels identifying contents
- Avoid using felt-tipped pens/markers
- If smell is an issue following disaster, utilize inert activated charcoal packets
- Roll up sleeves and avoid wearing dangling clothing and accessories
- **ALWAYS, ALWAYS** wear gloves and personal protection

# Long Term Storage

- **Contract Outside Vendors**
  - Freezer or freeze-dry facilities
  - Independent conservators
  - Storage facilities
  - Clean-up and HAZMAT specialists
- **Insurance**
  - What it covers, what is required, language
- **Disaster Aid/Fund Raising**



# Contact Us

AIC CERT

Emergency number - (202) 661-8068

Thank You MOMA