

INDIANA HISTORICAL SOCIETY
COLLECTIONS ADVISOR
A RESOURCE FROM IHS LOCAL HISTORY SERVICES

Issue 155 | September 2024

Endangered Heritage: Risks to Museum Objects, Part 1

By Tamara Hemmerlein, Director, Local History Services

Museums and other nonprofits operate in the public trust; we exist to serve the public. This means that we have a responsibility to care for the objects in our collections that best way we are able. One of the primary ways that we can provide appropriate care is identifying the risks to our objects and knowing how to mitigate those risks.



Damaged Table and Chairs

Light

Around collections, careful control of illumination is important. Light is energy, and it causes permanent damage to many objects and documents. Ultraviolet (UV) light is particularly harmful and is present in sunlight and fluorescent lighting. Photographs, watercolors, paper items, textiles, and certain plastics are especially sensitive to light.

To decrease exposure to light and mitigate damage:

- Use light meters to check light levels at different times of day.
- Install UV-filtering covers for fluorescent lights.
- Consider using UV filters on windows and exhibit cases.
- Switch out fluorescent and incandescent bulbs with LED lighting for collections and exhibit areas.

Temperature

Temperature changes—as well as extreme heat or cold—can cause cracking, brittleness, and deterioration. Paper items, photographic materials, textiles, and natural science specimens are especially susceptible to damage from temperature extremes. Uncontrolled areas such as attics and warehouses can be blistering hot part of the time and freezing cold at other times. Climates of all collections areas, including storage, need to be monitored and regulated.

To provide appropriate temperature controls:

- Use dataloggers to track and record temperatures in storage and exhibit areas.
- Adjust HVAC settings according to the needs of museum objects.
- In older buildings, use the building structures like transom windows and doors to help control temperatures in individual rooms.

Humidity

When levels of humidity drop too low, wood can split, and laminates and veneers can peel. When indoor humidity levels get too high, fungi and other pests become active. Mildew creates stains. Rot can occur. Metals can pit and corrode from exposure to excessive humidity. Many objects are composed of more than one material. When these materials expand or contract at different rates, bonds can break, and the object can start to come apart.

To aid in controlling humidity:

- Use equipment like dataloggers and hygrometers to measure humidity.
- Deploy humidifiers and dehumidifiers to help adjust relative humidity (RH) levels.
- Make upgrades to heating, ventilating, and air conditioning systems.
- Be sure the museum building provides a stable envelope by checking for water incursion, roof leaks, blown gutters, and water pooling at the base of exterior walls.

Pollutants

Dust and pollutants are part of the natural world and of human activity, and all are hazards for collections. Some pollutants actually alter materials chemically. Many metals corrode from airborne pollution. Other pollutants, like many types of dust, are abrasive and scratch objects. Some embed into objects and cause soiling. Some effects of dust and pollutants are irreversible.

To protect object from pollutant damage:

- Update ventilation systems and add HVAC and HEPA filters.
- Develop a system for checking collections objects and reporting any changes that occur.
- Be careful when cleaning an object to prevent pollutants from causing further damage.

These are just some of the risks to museum collections. There are many other risks that we need to be aware of so the objects we care for can continue to help us tell the stories of the communities we serve. More risks will be covered in future editions of Collections Advisor.

Further Resources

- [Collections Advisors](#) (Indiana Historical Society)
- [Conserve-o-grams](#) (National Park Service)
- [Timely Tips](#) (Indiana Historical Society)

Collection Trainings

[Mastering the Art of Oral History Projects: From Planning to Execution](#)
September 19 (Texas Historical Commission)

[Care and Reformatting of Microfilm](#)
September 24 (Northeast Document Conservation Center)

Recorded Trainings

- [Conservation Center for Art and Historic Artifacts](#)
- [Document and Heritage Preservation Services for New York](#)
- [Indiana Historical Society](#)

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[Local History Services](#)
(317) 232-1882 | localhistoryservices@indianahistory.org



