

INDIANA HISTORICAL SOCIETY COLLECTIONS ADVISOR

A RESOURCE FROM IHS LOCAL HISTORY SERVICES

Issue 176 | June 2026

The Science of Mold

By Tamara Hemmerlein
Director, Local History Services

A museum colleague was addressing a group of people, and she said that she had learned the fastest way to get a group of collections folk's attention was to ask if they smelled mold. She wasn't wrong. Mold is one of the scariest hazards to museum collections. It damages objects, spreads quickly given the right conditions, and can never be completely eliminated.



[Flood in Montezuma](#) (Indiana Historical Society)

Mold is a micro-organism that is formed by some fungi. Over 250,000 types of mold have

been identified, and they exist all over the world. It's filamentous, meaning that it often looks like tubes or threads. In the case of mold, these tubes are called hyphae. The hyphae create a network called a mycelium that can look like very fine white threads. Mold's primary task is to cause natural objects to decompose and return to the environment.

Mold needs oxygen, moisture, food, and moderate temperatures to grow. It exists on a substrate, a surface with the right conditions and chemical processes. As mold "eats," it extracts the carbon from organic and inorganic materials present on or in the substrate. Then, it releases toxins into the air. Mold doesn't grow under water but can take moisture from the air when RH (relative humidity) is about 80%. If humidity is too low, the mold can't extract the carbon it needs from the substrate. The temperature range in which mold grows is between 40° and 100° Fahrenheit.

Mold produces spores that are dusty or fuzzy and colorful in appearance. Those spores are the mechanism for mold to travel from object to object through cross-contamination from handling, air movement, and HVAC systems. The best option for dealing with mold is prevention – using climate control, monitoring, and maintenance. Objects should be stored in cool, dry conditions to discourage mold growth.

If mold is present, careful remediation is key. Mold remediation often requires professional conservation. Treatments that mitigate mold can damage already weakened objects. The processes are multi-phased and may require repeated cycles of cleaning. Mold infested objects should be segregated to avoid spreading contaminants. Mold spores are tiny and can hide in surface fissures and microscopic cracks.

Remediation can be effective, but there's no good way to ensure that the mold won't spread. To that end, it's important to carefully consider what to do with objects that may have been exposed. If the object is rare and/or truly irreplaceable, then the museum may choose treatment. If there are multiples or duplicates of the object, the best option may be replacement. If there is no way to save the object itself, museums may choose to preserve the information and accept that the physical object is lost.

Resources

FROM THE FIELD

[Mold and Mildew: Prevention of Microorganism Growth In Museum Collections](#)
(National Archives)

[Preservation Matters: Disasters – Mold on Cultural Resources and Collections](#)
(National Park Service)

[The Science of Mold](#)
(Restoration and Mediation)

LOCAL HISTORY SERVICES

[Collections Advisors](#) (Indiana Historical Society)
[Timely Tips](#) (Indiana Historical Society)

Collection Trainings

COLLECTIONS CONUNDRUMS WORKSHOP SERIES IN INDIANA

Join IHS Local History Services for a [Collections Conundrum workshop](#)!

This full-day workshop will focus on the decisions we make about our collections. First, we'll address the decision-making and processes connected to incoming donations. Then, we'll turn our attention to the other side of collecting – how to legally and ethically remove objects from our permanent collections.

Cost: \$35; \$30 IHS members; \$25 Local History Partner Members

Workshop Details:

Each workshop will be held from 9 a.m. to 4 p.m. local time.

> June 11: Fort Wayne

(Hosted by the History Center)

> Aug. 13: Franklin

(Hosted by the Johnson County Museum of History)

VIRTUAL COLLECTIONS TRAININGS FROM THE FIELD

[Handling Photographs for Digitization](#)

June 16 (Conservation Center for Art and Historical Artifacts)

[Intro to Audio Preservation](#)

June 16 and 18 (Northeast Document Conservation Center)

[Writing a Disaster Plan](#)

June 16 and 18 (Northeast Document Conservation Center)

[What is \(Not\) Repatriation and & Go Big When the Ancestors Go Home](#)

June 19 (National Park Service)

[10 Practical Steps for Getting Started with Digital Preservation](#)

June 23 (Northeast Document Conservation Center)

RECORDED WEBINARS

[Connecting to Collections Care](#) (FAIC)

[Local History Services Webinars](#) (Indiana Historical Society)

This is a free publication. Anyone may subscribe.

Read past issues of Collections Advisor [here](#).

[Local History Services](#)

(317) 232-1882 | localhistoryservices@indianahistory.org