

# OMA Learning Lab Summer Series

1

**Presented by:**



**Webinar 2: Conservation 2.0**

# Webinar Agenda

2

- **Introduction**
  - Mary Collier, PD Program Manager, OMA
- **Presentation and Q&A (55 min)**
  - Fiona Graham, Associate & Conservator, GBCA
- **Q&A with Ministry of Tourism, Culture and Sport (15 min)**
  - Museum & Heritage Advisor Elka Weinstein
  - Questions about the Ministry of Tourism Culture and Sport Conservation standard

# Conservation 2.0



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**JUNE 20, 2013**



**OMAAMO**  
ONTARIO MUSEUM ASSOCIATION  
ASSOCIATION DES MUSÉES DE L'ONTARIO

# Overview

- Introduction
- Preventive conservation
- Temperature and relative humidity
- Light
- Storage
- Treatment
- Training
- Final questions



# Introduction

5

- **Purpose of webinar**

- A refresher to address common misunderstandings with regard to conservation in Ontario's community museums.
- Based on responses to Conservation Standard questionnaire and, in part, to Physical Standard and Collections questionnaires
- This webinar is not a substitute for proper training (e.g. OMA courses) or a forum for more advanced conservation questions
- We have tried to respond to many of your questions; in some cases we will be referring you to other resources
- Disaster planning will be covered by Bill Nesbitt in his webinar
- Climate control will be covered in more depth in the next webinar

# Preventive Conservation

6

- Conservation includes preventive conservation as well as treatment
- Ethical and efficient > stop artifacts from falling apart in the first place
- Integrate conservation into all aspects of museum work (in response to question “what can we do without a conservator?”)
- Use a multi-level approach to get around “we can’t do that because...”



# This is preventive conservation

7

Before



After

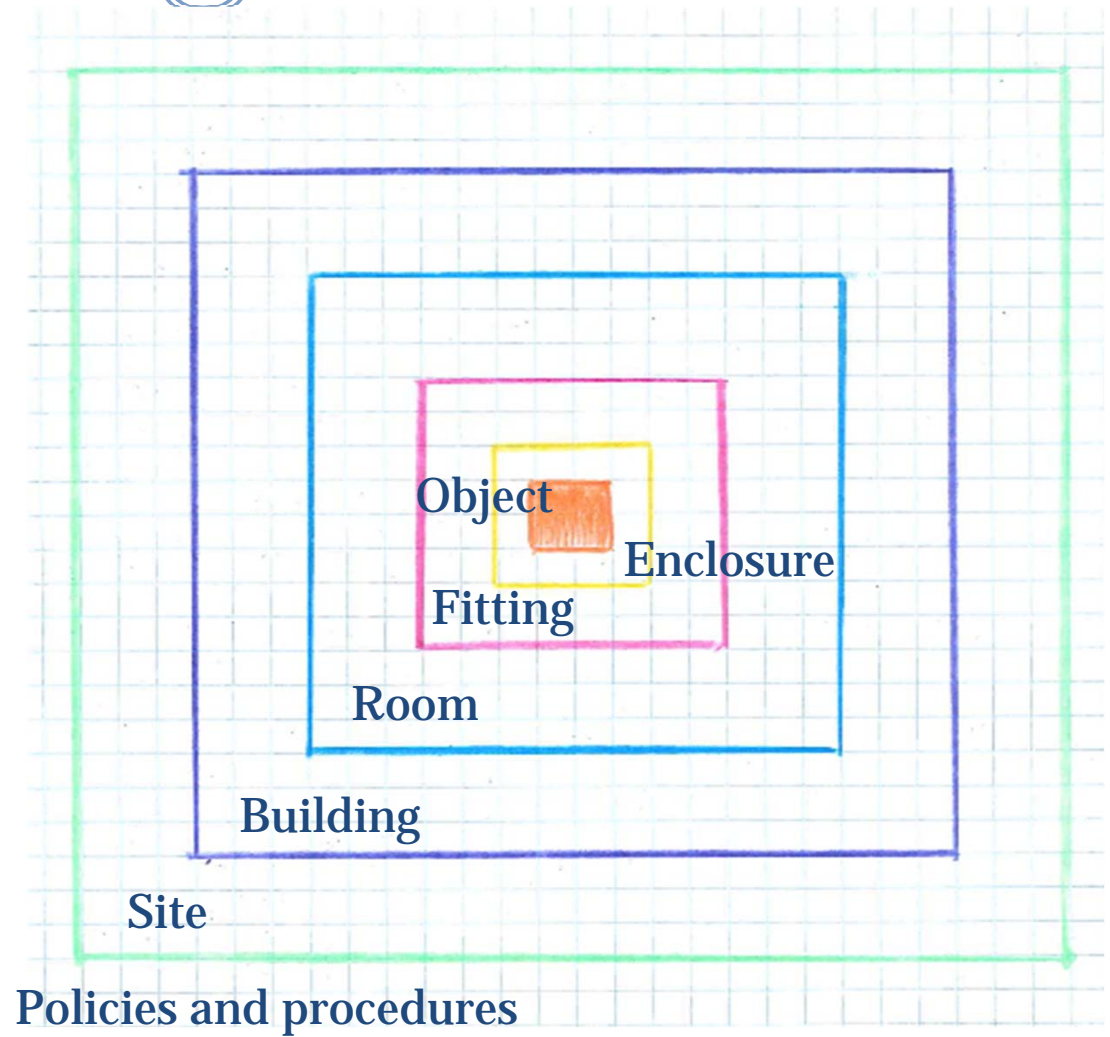


If you have taken a CCI workshop in the last 25 years, you may recognize these slides :)

# Multi-Level Approach

8

If there are obstacles to meeting the Standards at one level, you may be able to protect collections at a different level.





# Review - Agents of Deterioration

9

- Physical forces
  - Thieves & vandals
  - Dissociation
  - Fire
  - Water
  - Pests
  - Pollutants
  - Light
  - Incorrect temperature
  - Incorrect relative humidity
- For excellent information on how these agents affect different collection materials, how to control them, and guidelines for levels of light, etc. go to:
    - [www.cci-icc.gc.ca](http://www.cci-icc.gc.ca)
    - Caring for: Collections
    - ten agents of deterioration

# Inappropriate Temperature

10

- **Too high**
  - Increases rate of chemical degradation (half the lifetime for each 5 degree increase)
  - Softens glues and waxes
  - Deforms records, magnetic media
- **Too low**
  - Seldom a problem
  - Do not freeze: encaustic, acrylic and oil paintings; fossils and rocks
- **Fluctuating**
  - Causes RH to fluctuate

**NEWS FLASH!!**

**COLD IS (mostly) OK! COLD IS GOOD!**



Cold is a mainly a problem when it results in damp conditions.

# What's a good temperature?

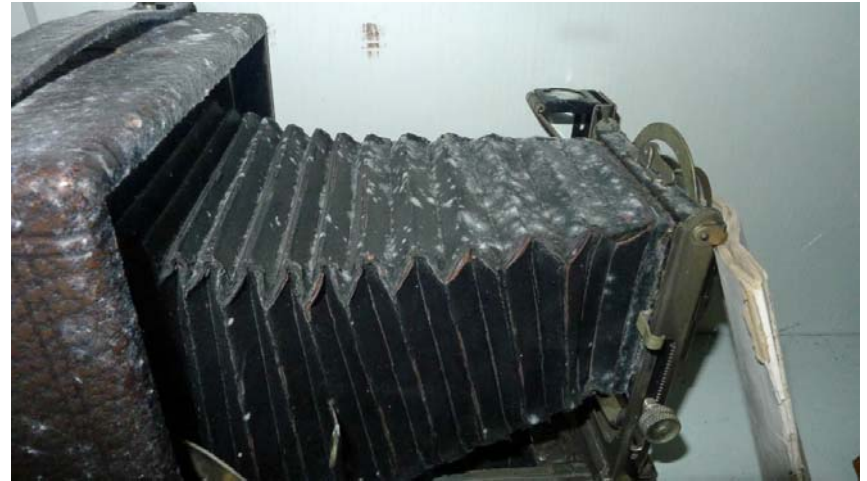
11

- Human comfort levels (18 – 23C) are appropriate for most materials
- Collections that should preferably be stored at temperatures lower than human comfort levels
  - Electronic media
  - Colour photographic prints
  - Plastics including rubber and polyurethane foam
  - Acidic paper
  - Acetate and nitrate films

# Inappropriate Relative Humidity

12

- **Too high (damp)**
  - 75% - 100% for most materials
  - Mould, metal corrosion, buckling veneers, sticking films and photo prints
- **Special cases**
  - Archaeological metals may need as low as 20%
  - Unstable glass needs 40 – 55%
  - Certain minerals need specific RH
- **Fluctuating**
  - +/- 5%, 10%, 20%
  - Short term and seasonal
  - +/- 10 OK for most collections



Mould on leather

# Monitoring vs. Controlling

13

- Monitoring = measuring and recording
- Don't assume, monitor
- Hygrometer vs. hygrothermograph vs. datalogger



- Controlling = adjusting heat, light, etc.
- Monitor + Identify causes before controlling
- Example: Wet basement – dehumidify or fix the foundation?



# Effects of heat vs. light vs. relative humidity

14

- **Heat causes:**

- Embrittlement of paper, textiles and leather due to increased rate of fibre breakage
- Warping of plastics
- Yellowing

- **Heat does NOT cause:**

- Fading
- Warping of wood
- Cracks

- **Light causes:**

- Fading

- **Fluctuating RH causes:**

- Warping of wood
- Cracks

- **Fluctuating RH does NOT cause:**

- Corrosion
- Mould
- These are due to damp, not fluctuations



# Effects of Light vs. Ultraviolet

15



- **Light damage looks like:**
  - Fading
  - Darkening Of some pigments
- **UV damage looks like:**
  - Yellowing
  - Powdering/chalking
  - Embrittlement/weakening

# Measuring Light and UV Levels

16



- Buy or borrow monitoring equipment
- Measure levels when setting up new displays; adjust lighting or artifact position as necessary
- Are your UV filters still working? Measure to make sure.

# Controlling Light

17

- Control visible light as well as UV; eliminating UV is simple and should be done, but it's not sufficient!!!
- Light damage is cumulative and irreversible.
- Light damage is a function of exposure time as well as light levels. 2 years at 50 lux is the same as 6 months at 200 lux. Controlling exposure time allows more flexibility in light levels. For extremely light sensitive items, controlling both exposure time and light intensity is essential.
- A lighting policy/procedure helps guide decisions about exposure times and light levels, but is less straightforward than a simple 50/150/300 lux rule.
- Following the simple rule will allow highly sensitive artifacts to fade within a few decades. 50 lux does not prevent damage, it simply reduces the rate of damage.

# Lighting in Storage and Display Areas

18

- **Storage:** Do NOT try to achieve low light levels unless the lights are on all the time. Good overall lighting is preferred for better visibility during inspections and cleaning.
- **Display:** Consider alternatives to traditional incandescent and fluorescent, such as LED and fibre optic.
- Flash photography does NOT cause light damage to museum artifacts unless you have the Mona Lisa or equivalent, photographed 10,000 times per day.

# Storage Questions

19

- **Storage solutions that maximize space**
  - Store like with like
  - Pallets on wheels
  - Compact (a.k.a. mobile) storage
- **Cheap tricks**
  - Dust covers over shelves
  - Padding on shelves



# Storage Questions

20

- Cotton vs. plastic dust covers
  - Use cotton if you need to protect against light as well as dust
  - Use plastic if there is a risk of water leaks from above



- Acid-free materials
  - Do not stay acid-free forever
  - Test them with a pH pen





# Prioritizing Objects for Treatment

21



- **Urgent**

- Any object where significant damage is imminent if nothing is done
- Anything wet, mouldy or pest-infested
- Powdery orange rust accumulating rapidly under iron artifacts

# Treatment Questions

22

- **Treatments for metals, textiles, acidic paper, etc.**
  - Consult CCI Notes for basic information
  - Contact CCI directly for specific advice
  - Canadian Conservation Institute  
1-866-998-3721  
[www.cci-icc.gc.ca](http://www.cci-icc.gc.ca)
- **When to call a conservator**
  - Anything beyond what CCI Notes covers
  - Anything to do with paintings or photographs
- **How to find a conservator**
  - [www.capc-acrp.ca](http://www.capc-acrp.ca)
  - [www.cac-accr.ca](http://www.cac-accr.ca)
  - Large museum

# Labeling Materials

23

- Use Acryloid B-72 instead of clear nail polish
- The latter tends to peel off after a while
- B-72 is available in ready-to-use form as Liquid Label from Carr McLean
  - Just buy the clear one
  - Use white ink for dark objects



# Pesticides

24

- Pesticides are seldom required in Ontario museums
  - Use Integrated Pest Management techniques for prevention
  - Use freezing, heating or anoxic techniques for treatment
- If a municipality uses them as a matter of course in the museum, ask why.
    - What pests are being targeted?
    - What are they using?



frass   pencil   skins   casings



Preparing to  
freeze artifacts



Museum pests



Harmless pests

# Operating Artifacts

26

- Policy recommended
  - How to choose which artifacts to operate
  - Classify these artifacts as part of Education Collection
  - Different standard of care, including level of restoration
- Health & safety issues





# Inspections – Conservation Issues

27

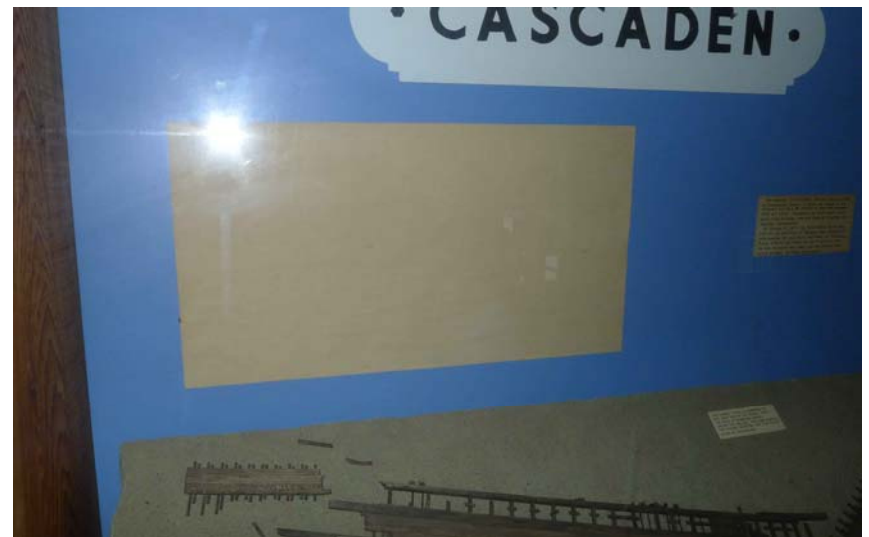
- Municipal Health & Safety inspections are not sufficient for museum purposes
- They are not looking for issues that affect collections
- You need site-specific inspection checklists that cover:
  - Water leaks
  - Pest problems
  - Missing or damaged artifacts
  - Dust accumulation
  - Overcrowding/placing stuff on floor
  - Light levels
  - Presence of food & drink in storage, etc.

# Would your inspection catch this?

28



Pest infestation



Faded artifact

# Conservation Training

29

## Non-academic

- OMA's "Artifacts" and "Care of Collections"
- CCI workshops
- Museum Classes Online
  - [www.museumclasses.org](http://www.museumclasses.org)
- Request a workshop from a conservator
  - Use museum networks to share the training and the cost

## Academic

- Queen's University
- Fleming College
- Algonquin College
- Athabasca University

# Final Questions

30

- What are the three (plus one) most important conservation issues for small museums to focus on?

Every museum will have different priorities but...

- Keep the water out
- Keep the pests out
- Reduce light damage and
- Train your staff

WARNING – The preceding is a completely unscientific, subjective list based on personal experience!

- What is the best way for a small museum to create a standard for everyone to follow?

- Written policies and procedures
- Training

# Questions for your Museum and Heritage Advisor?

31



Read the Standards for Community Museums in Ontario at  
[http://www.mtc.gov.on.ca/en/museums/museums\\_standards.shtml](http://www.mtc.gov.on.ca/en/museums/museums_standards.shtml)

Download the Standards Questionnaires at  
[http://www.mtc.gov.on.ca/en/museums/museums\\_reporting.shtml](http://www.mtc.gov.on.ca/en/museums/museums_reporting.shtml)

# What's Next?

32

- The link to the recording of this webinar and this slide deck will be available on the CMOG Standards Resources page of the OMA website.
- You will receive a link to a short webinar feedback form
- Thank you for your participation!



# OMA Learning Lab Winter Series

33

## Upcoming PD Opportunities

- Registration is now open for four more webinars on:
  - Climate Control
  - Outcomes-Based Planning & Evaluation for Programs
  - Outcomes-Based Planning & Evaluation for Exhibits
  - Emergency & Disaster Plans and Maintenance Manuals

## Presented by:



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