

THE CANTERBURY DISASTER SALVAGE TEAM
Working Towards Saving Cultural Collections

NEWSLETTER

Number 23

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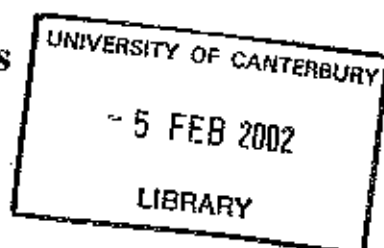
Editor
Cynthia Cripps

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FIRE

Prevention Possibilities Recovery Equipment



Introduction

While heritage collections face potential damage from flood, earthquake, theft, and vandalism, fire can be the most devastating. With fire comes smoke, soot and intense heat, usually in combination with the water and chemicals used to combat the menace in an attempt to protect the collections in its path. Even if the actual flames never reach the area housing collection items, their safety is not assured.

The damages caused to objects by direct contact with flames are easily identified and can range from total destruction to surface charring. But damages suffered by objects that come into contact with soot, smoke, water, fire suppressant chemicals, or combinations of these can be equally devastating. The damages can be diverse and unpredictable, even within the same room.

Due to the variety of materials used in the building, hardware, storage and exhibit areas, not to mention the objects themselves, only very general predictions can be made about how a fire may affect your collections. Several basic preventive measures can be taken to prevent a fire or protect your collections during a fire. The following articles will discuss simple methods you can take to try and protect heritage collections against the threat of fire and all its associated dangers.

Disaster recovery methods will not be covered in this newsletter. Lists of equipment available for hire or loan, and of those experienced with disaster recovery have been included for reference.

Please take the time to fill out the Reader Survey and Subscription Update.

MEMBERS:

Lynn Campbell, Robert McDougall Art Gallery
Cynthia Cripps, Canterbury Museum
Bill Durney, Macmillan Brown Library
Andreas Eng, Canterbury University Library

Brian Lintott, Ferrymead Historic Park
Rosemary O'Neill, Christchurch City Libraries
Graham Penwell, Lincoln University Library
Tony Sellwood, RNZAF Museum
Lynda Wallace, Historic Places Trust

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An Ounce of Prevention...

Obviously it is important to have a disaster recovery plan in place for your institution. Especially, if any type of construction is about to occur. As all conservators, and many other museum personnel are aware, most fires occur during construction work. While the fire itself may be confined to the construction area, it can still affect exhibit and storage areas elsewhere. Soot, smoke and debris are known to travel incredible distances within a building and as a result of their small particle size, are able to penetrate into areas that would otherwise be considered safe. There can also be considerable damage from the chemicals and water used to fight the fire.

So what can be done? Keep storage and surrounding areas clean. Accumulated rubbish provides the perfect starter or accelerant for any fire, especially if it contains highly combustible chemicals or solvent residues. Always have a fire alarm and the proper number and type of fire extinguishers. It is also important to make sure staff have experience using them.

Then have a look at the actual building materials surrounding your collections both on exhibit and in storage. Modern building materials are often made to be less flammable and can help control the spread of the most damaging component of a fire – the flames. Some fire retardant materials will produce more soot and smoke, but less flames. Flames will always be much more damaging to a heritage collection than smoke or soot.

Due to the rapidly changing nature of the building industry, it is best to do your homework whenever construction is planned. Ask your builders, talk to manufacturers, search the internet and read any informational brochures to learn what materials are available.

While it isn't always easy to 'get in the loop' when construction is being planned – often builders will be making decisions without input from those responsible for caring for the collections – try whenever possible to get involved. Even if it is just to present to those directly involved the issues surrounding collection care in heritage institutions.

More control can be exerted over the selection of materials being used in direct contact with collection items in storage or on exhibit.

Four common types of material used to house collections are metal, wood, paper/card, and plastic. There are various factors to considering in

determining which to use.

Metal shelving is expensive, but strong and doesn't emit problematic chemicals. While it can be deformed by the heat of a fire, warping drawers and complicating recovery, it won't burn. Being metal, it might transmit heat to the objects within causing damage, but if the surrounding heat is this high enough there may be more problems to consider.

Wood shelving and containers are less expensive, and unless properly sealed, will emit chemicals (off-gas) that can damage many object materials. In a fire they will be additional fuel, increasing the amount of soot and smoke. They will also swell when exposed to water, making it very difficult to retrieve objects trapped inside. Paper and card are similarly problematic.

Plastics won't off-gas, but can melt onto objects in a fire and several types burn easily. Often the soot and smoke created can be acidic and difficult to remove. On the other hand, the plastic can help protect the object inside from water and chemicals used in fighting the fire.

So what's the solution? Choose the best material for the object that fits within your institution's budget and provide as many layers of protection between the collection items and a fire. Exposed objects are the most vulnerable to flames, soot, smoke, water and fire fighting chemicals. Closed shelving units will be better than open and mobile better than static. Place objects in either a storage box or covered container whenever possible.

Since heat, smoke, and soot travel along ceilings, the tops of storage units or exhibit areas will receive the highest amount of damage. Only fully sealed cases and storage areas such as freezers or cold stores can resist soot penetration. To reduce the loss of high priority collections, place them in these or similar units, or on bottom shelves.

Soot and smoke will also travel through any areas such as aisle spaces, ducting, and ceiling spaces that allow free movement of air. Areas opened while fire fighters search the building during a fire are more likely to suffer from soot deposits. Talking with fire department officials before hand can help mitigate some of these issues.

Hazardous materials can also be present in the objects themselves; cellulose nitrate, foams, batteries, chemicals, etc. can either start a fire or turn a fire into a very nasty place for people and

objects to be. Many release toxic or caustic chemical compounds when they burn. Recovering objects from an area where these materials have burned can present a very real health hazard and appropriate precautions need to be taken. Isolating these items may help mitigate damage to neighboring collections. Creating a map of storage areas for fire fighters and recovery personnel will make fire fighting and object recovery safer for those involved.

Whatever you do, always consult a trained conservator, a fire mitigation expert and your local fire department.

Conservators and Experienced Personnel on the South Island

Lynn Campbell, Paper Conservator, Robert McDougall Art Gallery, Christchurch
Phone: (03) 3650 915, **Fax:** (03) 3653 942
E-mail: campbelll@ccc.govt.nz

Experience: Co-ordinator of the Canterbury Disaster Salvage Team. On-site conservator for several salvage operations involving fire and flood including Okains Bay, Kaikoura Museum and The Press.

Cynthia Cripps, Objects Conservator/Collections Manager, Canterbury Museum, Christchurch
Phone: (03) 366 5000, **Fax:** (03) 366 5622
E-mail: ccripps@cantmus.govt.nz
Experience: Researched and written Emergency Recovery Plans for archival and museum collections.

Nicola Edwards, Objects Conservator, Otago Museum, Dunedin
Phone: (03) 477 2372, **Fax:** (03) 477 5993
E-mail: nic.edwards@otagomuseum.govt.nz
Experience: Training and professional experience in the conservation of archaeological and heritage collections.

Sasha Stollman, Conservator, Canterbury Museum, Christchurch
Phone: (03) 366 5000, **Fax:** (03) 366 5622
E-mail: sstollman@cantmus.govt.nz

Experience: Past member of the CDST. Has helped organise several workshops on disaster recovery/salvage. Has been involved in flood recovery in New Zealand, and with flood, fire and earthquake damage assessment and recovery in the United States.

Lynda Wallace, Historic Places Trust, Heritage Advisor, Christchurch

Phone: (03) 377 3996, **Fax:** (03) 374 2433

E-mail: lyndahpt@xtra.co.nz

Experience: Involved in organising and running the regular CDST workshops. Member of the salvage teams at both the Kaikoura Museum and Okains Bay Museum emergencies.

All members of the Canterbury Disaster Salvage Team are available for assistance or advice during a salvage situation. Names and organisations are listed on the front cover.

Disaster Recovery Equipment Available for Loan or Hire in the Canterbury Region

- 1 Large dehumidifier
- 3 Small dehumidifiers
- 1 Generator
- 1 Large wet and dry vacuum
- 4 Fans

Equipment is located at the Robert McDougall Gallery. Please contact Lynn Campbell for further information on availability and costs.

WORKSHOP 2001

The Canterbury Disaster Salvage Team would like to announce its annual workshop for the year 2001.

"Handle With Care"

The theme is the care and handling of heritage objects during transport and in storage. Topics covered will include the process of planning a new building, the transportation of artworks, and storage containers for the storage of books. Representatives from Dunlop Foam and Hydestor will also be present to discuss foam products and shelving units for the storage of heritage collections. An integral component of the workshop will be a discussion forum for participants to bring forth past preparations, current conundrums, and future frustrations. We look forward to seeing you there!

Cost: \$30.00

Date: April 6, 2001

Application Deadline: March 23, 2001

Pre-registration required.

For further information contact Lynn Campbell at the McDougall Art Gallery, PO Box 2626, Christchurch, 8001, Phone: (03) 3650 915, Fax (03) 3653 942, e-mail:

READER SURVEY 2001

The Canterbury Disaster Salvage Team has been producing the newsletter since April 1992. During the past nine years a wide variety of topics have been covered. We are in the process of reassessing the newsletter and would like to get a better idea of what issues and concerns our readership are facing. With this information we will be better able to address your concerns in future newsletters and workshops.

Thank you for taking the time to fill out the following questionnaire and posting it to;
Cynthia Cripps, Canterbury Museum, Rolleston Avenue, Christchurch 8001

Name:

Institution:

Postal Address:

Phone:

Fax:

E-mail:

Three of the most useful editions/articles:

Suggestions for future issues/topics/articles:
