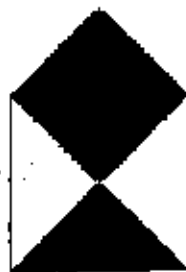


MACMILLAN
BROWN
LIBRARY

AM

141

N558



ISSN NO 1172-8949

DISASTER SALVAGE TEAM

Correspondence to:
the Robert McDougall Art Gallery PO Box 2626 Christchurch
Phone (03) 3650 915 Fax (03) 3653 942

UNIVERSITY OF CANTERBURY

14 JUN 1995

LIBRARY

NEWS LETTER No10 JUNE 1995



Guest Editor: Lynda Wallace

Executive Committee



Robert Appel - Canterbury Regional Council
Lynn Campbell - Robert McDougall Art Gallery
Andreas Eng - Canterbury University
Rosemary O'Neill - Canterbury Public Library
Steve Robson - RNZAP Museum
Lynda Wallace - Canterbury Museum

KAIKOURA: CHRISTMAS 1993

On the evening of 23 December 1993, the town of Kaikoura received a Christmas present it could well have done without. The Kowhai River burst its banks and flooded the town. In the path of the flood waters was the Kaikoura Museum - its lower building inundated to a level of 1.5 metres, and the upper building to 750mm. Warning of the river's rise was insufficient to allow the removal of any of the collections to safety, so the Museum committee was faced with a major salvage operation.

On attempting to open the front door of the Museum on the morning of 24 December the museum's curator found it jammed with a pile of books, files and other precious items which had been deposited there by the flood waters. Fine silt had infiltrated everything, and settled in a layer 100mm thick. Housed in the Kaikoura Museum was a typical small museum collection, a very diverse selection of objects - costume, Maori artefacts, photographs, film, audiotapes, books, harness, printing machinery, horse-drawn vehicles, telephones, and small engines - all of which were affected to some degree.

Before reaching the Museum, the flood waters had passed through a dairy farm and a pig farm, as well as being combined with sewage. The silty sludge was therefore not only smelly, but also a potential health hazard. The Health Department was involved in advising the museum committee what could be safely hosed down and kept, and what had to be destroyed. Any objects which were impossible to clean properly, such as the horsehair padding from the padded cell in the old jail, were disposed of. Liberal quantities of lime were spread under the building and in other hard to clean places where the sludge had settled. Wall linings and floor coverings had to be removed from the museum and destroyed. The local fire service used high pressure hoses to wash the layer of thick mud out of the museum buildings.

The first problem the salvage team faced was finding some secure, dry space to which the damaged objects could be removed. Since the flood had passed through the main street of Kaikoura, there were many other calls on such space. Eventually, the District Council made its old library area available and this became the base for the salvage of paper items, including photographs. Later, an area in the adjacent community hall was used for setting up trestles on which volumes could be air dried.

The timing of the flood, immediately before Christmas, could not have been more awkward. Among other things, it made access to specialist advice very difficult, most people having left for their Christmas holidays. In spite of this however, an impressively large band of volunteers were soon working long hours, interleaving pages of books with paper towels, restoring the museum building and grounds to a habitable state, and cleaning mud off items. A complete record of the number of voluntary hours was not kept, but has been estimated in the thousands: certain members of the museum committee worked daily, week after week. The Canterbury Disaster Salvage Team gathered together the members it could and attended the salvage for two days, and other members of the museum community throughout Canterbury contributed their time and skills.

To aid the drying of museum items, and the building itself, fans and dehumidifiers were put into action. Obtaining this type of equipment is not easy in a small town, and dehumidifiers were gathered in from a variety of different sources, including Canterbury Museum and the McDougall Art Gallery in Christchurch.

The work of restoring the museum building, the collections, and the associated documentation went on for many months, and is still not completely finished eighteen months later. Of course the whole operation cost a considerable amount of money, even excluding the value of voluntary contributions, and was covered from a variety of sources. Unfortunately, insurance was not one of those sources, as the Kaikoura Museum committee discovered that their insurance policy covered only fire, snow, hail and wind damage. Donations and grants had to be relied upon instead. Major sources were the Environment and Heritage Committee of the Lottery Grants Board (\$46,400), the Lions International Relief Fund (\$9,500), and the Kaikoura and Seaward Lions Club (\$2,000).

For Allan Cragg and Pam Garbes (and their families) the flood was a harrowing time. They coped with enormous stress and anxiety at a time when most of us are tucking into our Christmas turkeys and relaxing on the beach. They found themselves making quick decisions, which in the early stages of the disaster at least, had to be made in the absence of on the spot expert advice. However, calling on their common sense and experience, the decisions were in almost all cases the right ones.

14 JUN 1995

LIBRARY

General Storage 2.

By Steve Robson - RNZAF Museum

Stacking, racking and binning.

1. The method of stacking, racking and binning to be adopted will depend upon the nature of the artefact to be stored and the size of the collection. Ideally, shelves or racks should be adjustable to accommodate a wide variety of artefacts. When erecting racks, consideration is to be given to the weight likely to be borne and they are to be braced accordingly. Heavy items should be placed on the lower shelves. Straight lengths should be laid flat on shelves and other items which are liable to distortion are to be suitably supported. Some items should be stored in suitable-to-type racks or cupboards.

2. Stacked artefacts should be placed a metre away from walls and sufficient space left between each stack to permit easy access to each stack. Suitable dunnage (a pallet or 3 pieces of untreated 100x100) should be used to raise each stack clear of the ground.

NOTE: Stacking means that artefacts have been properly packaged and NOT just thrown in a heap in top of each other!

3. The contents of racks, stacks, bins and cupboards should be readily identifiable at ALL times (In the event of an emergency, this will assist salvage team members in their determinations of what to get out or action first!).

4. An accurate and workable system of stock location is essential for every storage area. All stacks, racks, and bins should be located by a system of letters and numerals.

IE.

CS-10-08-A

Where: CS = Ceramic Store

10 = Row 10

08 = Tier 8

A = Shelf

Mechanical Handling Aids

There is an impressive range of mechanical handling aids on the local market at present, and maximum use should be made of these. Properly exploited, these aids allow greater economy in time and labour and are a lot safer to use than some of the methods currently employed in different work places (eg. brute force and ignorance). Where large and heavy equipment is to be handled they cannot be dispensed with without loss of efficiency. When not in use these aids should be kept in predetermined locations in order that

they will be readily available when required. Frequent inspection for serviceability and regular servicing is necessary and should be carried out by qualified personnel. The safe working load of all mechanical handling devices should be marked on the item in a conspicuous position and no account are these safe limits to be exceeded.

Inspection

Artefacts in store should be inspected periodically to ensure that no signs of deterioration and/or infestations have occurred.

Security Of Warehouses

1. Suitable locks should be fitted whenever rooms and buildings, not provided with special lock-up facilities, are taken into use for storage purposes. New locks should be supplied if keys of other rooms or buildings are found to fit the existing locks. The catches of windows, particularly of ground floor or basement rooms, should also be examined and weak or faulty catches are to be replaced immediately (prior to new owner/tenant occupying premises), guard bars being provided for the windows if necessary.

2. Outbreaks of fire in storage buildings are a constant hazard and every precaution is to be taken to reduce risks to a minimum. One point springs to mind in this regard, and that is the use of shredded paper as a packaging material - shredded paper is about as volatile as petrol when a match is dropped in it! (If you don't believe me, fill a small office rubbish bin - take it outside - flick a match into it from about 4-6 feet away and stand back!). If smoking is permitted in your warehouses take steps to have it banned. Smoking is banned in all RNZAF warehouses.

SOME CONSERVATION TECHNIQUES

AIR DRYING

Air drying can be used to dry material which is not too wet. It is a technique which works best on objects such as books and papers which are not too thick, because each item needs to be fanned out and stood on its end so that as large a surface area as possible is exposed to a current of air. Air drying should be carried out in a stable environment, so as to inhibit mould growth. The ideal environment is 10-15 deg. C, and 25-35% RH.

Equipment and materials required are fans, paper towels, and tables on which to lay out the damp material. Although this is not an expensive technique it requires an enormous amount of time and patience, and large quantities of paper towels. If the flood which has caused the problem was a widespread one, it might also be difficult locating a large, secure space in which to spread out the material.

The procedure for drying saturated volumes involves removing as much mud as possible from the binding by dabbing gently with a sponge. Brushes or rubbing motions should not be used as this forces mud into the spine or the wet pages. The motion of running water will clean off the dirt. The book should be squeezed gently and with even pressure to remove excess water and to reshape the binding. Do not open saturated volumes - wet paper tears easily. Place volumes on their heads on absorbent paper and allow the water to drain onto the paper. Change the paper frequently, and reverse the position of the volume each time the paper is changed. When most of the water has drained, proceed as for damp volumes.

Damp volumes should be carefully opened to not more than a 30 deg. angle and kept in an upright position. Absorbent interleaving sheets can be placed at intervals of about 25 leaves, or less if there is a likelihood of distorting the volume. Paper towels or other absorbent material can be used to interleave pages, but must be changed frequently as they take up the moisture from the pages. Although it is not recommended, it could be necessary to dry and reuse the paper towels if supplies are limited.

Slightly damp volumes should be stood on edge with pages fanned out, and positioned in the path of circulating air. When they are almost dry they can be laid flat and weighted to minimise distortion.

Fans are positioned to direct a constant flow of air over the damp materials, which will eventually dry them. Heat should not be used.

Materials dried using this technique can often become misshapen and cockled, but once dry, books can be flattened in a book press.

Note that books made of stock coated paper will need to have every page interleaved, otherwise pages will permanently bond together. They need to be kept wet, even submerged, until they can be interleaved. Vacuum freeze-drying of coated stock volumes is rarely successful.

FREEZE DRYING

"Freeze drying has been used since 1972 as a technique for drying water-damaged paper-based material. Wet items are first prepared for freezing. Wet books are put into polythene bags and then placed spine down in a plastic crate or a box made of strong cardboard. They are then frozen, usually in a commercial blast freezer at a temperature of -21 C or lower; the faster the freezing process the better because the ice crystals formed will be smaller and less damaging to the material. They can be kept frozen for a long period, until such time as money, manpower and equipment are available for drying them. The frozen items are then placed in a vacuum chamber in which a vacuum lowers the boiling point of water and causes the ice to evaporate without going through the liquid state. The water vapour is drawn off as it is produced. It is a slow process, with drying runs taking from one and a half to three weeks, but it can be hastened by heating the walls or shelves of the chamber up to about 37 C."

(Extract from *Preservation in Australian and New Zealand Libraries: Principles, Strategies and Practices for Librarians*, Harvey, 1990)

POINTS TO CONSIDER IN PREPARING FOR FLOODS

A flood through a museum, even a relatively small one, is a major traumatic event for those involved, and no amount of planning can really prepare you for the actuality. To lessen the damage and the confusion though, the following points should be considered by everyone responsible for the care of cultural material.

- **building location:**
is there a history of flooding?
- **storage design:**
shelf heights from floor, drainage
- **insurance:**
are you covered for flood damage?
- **equipment:**
do you know where to obtain dehumidifiers, fans, wet vacuums, crates?
- **materials:**
do you have a supply of plastic, paper towels, tags, pencils etc
- **freezer space:**
do you know where there is a large volume of commercial freezer space you could use if necessary?
- **documentation:**
are your documentation systems for objects in your museum up to date, and is there a copy kept in another location?
- **training:**
are key people in your organisation trained in methods of salvage?
- **disaster plan:**
do you have a disaster plan?

RECOVERY STRATEGIES

After the salvage is over, there are still many things to take care of. Perhaps most important is to ensure that you take some time off to recover! Others include:

- Restoration of premises to a habitable state
- Hold a de-briefing to evaluate the exercise
- Applications for funding to aid recovery
- Following up insurers
- Amending disaster plan to take account of lessons learnt.

DISASTER SALVAGE TEAM'S FLOOD WORKSHOP

Early in November last year, people working in cultural institutions all over the country gathered in Christchurch to take part in a two day workshop on dealing with a flood - the event and the aftermath.

On the first day a range of speakers talked about conservation (including freeze-drying), the role of the Disaster Salvage Team and Civil Defence, and representatives of Kaikoura Museum gave a first hand account of coping with a museum full of flood damaged objects.

On the second day everyone was transported to Weedons, an old Air Force base on the outskirts of Christchurch, to put into practice what had been learnt from the lectures. Steve Robson, a member of the Disaster Salvage Team, had prepared a large puddle by flooding a depression in the ground with a tanker load of water. He thoughtfully left a variety of materials (including clothing, photographs, books, loose papers, and other assorted objects) soaking in this small pond for workshops participants to deal with.

The group divided into three teams - salvage, registration and conservation - and set about rescuing the material. Time allowed the teams to swap around so that everyone experienced different aspects of the operation.

Although carried out under rather less fraught conditions than a real situation, the workshop was a useful experience for everyone. Comments recorded on the evaluation forms testified to the value of having input from people who had experienced an actual salvage of flood damaged material from a museum - thanks Pam Garbes and Allan Cragg from the Kaikoura Museum.

BIBLIOGRAPHY:

- HARVEY, Ross. *Preservation in Australian and New Zealand Libraries*. Centre for Information Studies, Charles Sturt University, Australia, 1990.
- UPTON, M.S., and PEARSON, C. *Disaster Planning and Emergency Treatments in Museums, Art Galleries, Libraries, Archives and Allied Institutions*. The Institute for the Conservation of Cultural Material Incorporated, Canberra, Australia, 1978.