Te Papa **National Services**

Te Papa Manaaki

Resource Guides

Minimising Disaster

Damage from a burst water pipe? Or devastation by earthquake, fire or flood? Is your museum ready for disaster? This guide looks at how you plan for recovery from emergencies.

Preparing for **disaster**

Every year, at least one museum somewhere in New Zealand has to cope with a disaster from which collections have to be salvaged.

With good planning, you can prevent emergency turning into disaster, or disaster becoming tragedy. In emergencies, confusion can be the worst enemy. If you minimise the chances of confusion, you can minimise the chances of damage.

Think and plan ahead. Minimise the effect of foreseeable emergencies.

INSIDE

A note for smaller museums

All museums need to be prepared for disaster. But regional and isolated museums may have to plan for it in different ways from larger urban museums. For example, fire fighters will take longer to arrive, and the help of conservators and other specialists may be many hours away.

The bigger picture

This guide suggests ways in which you can develop a contingency plan for emergencies. Your contingency plan ensures documentation and systems are in place to effectively respond to and recover from an emergency at any museum site.

- See *Preventive Conservation* (Te Papa National Services Resource Guides 5) for help in taking a proactive approach to all matters of protection, safety and security in your museum.
- See *Emergency Procedures* (Te Papa National Services Resource Guides 7) for help in developing an emergency response plan and procedures.

Minimising Disaster should be read in conjunction with these two guides.

JUNE 2001

ISSN 1175-6462 ISSUE NO.6

Developing a contingency *plan*

What is contingency planning?

A contingency plan sets out what you will do in the event of emergencies - how you will handle them and how you will recover from them. When you plan for contingencies, you:

- identify physical threats that may arise with little or no warning
- identify physical threats that may develop insidiously and then trigger an emergency
- decide on priorities in safeguarding against threats
- decide on priorities in the event of an emergency
- decide on resources to be made available to put the plan into action
- seek the commitment of people and organisations who can provide what's needed to respond to emergency.

SWOT **analysis**

What are your Strengths, Weaknesses, Opportunities and Threats? The versatile SWOT analysis is a useful tool in planning for an emergency. Work your way through the issues in small groups, including all staff and trustees.

You know best your strengths, weaknesses, opportunities and threats. For example:

- a long-serving member of staff is a volunteer fire fighter: a Strength
- all staff live at least thirty minutes from the museum: a Weakness
- a local business will sponsor a sprinkler system: an Opportunity
- ten years ago a river flooded to within metres of the museum: a Threat.

PLANNING FOR **DISASTER PREPAREDNESS**

HAS TO BE LED FROM THE TOP.

Who plans?

Experience shows that unless senior management and funders see the need for - and commit to - planning for emergencies, a museum is likely to be unprepared when disaster strikes.

The plan need not be a formal document. What's important is the process - make sure that people at all levels of the organisation see emergency preparedness as important. Involve everybody in understanding and addressing the issues.

Don't be tempted to put development of your contingency plan out to contract. The report of an outside expert is likely to gather dust on a shelf, little read.

Disasters and **damage**

Cause	Damage
Flooding • Surface flooding from heavy rain • Burst water pipes • Water used to extinguish fire	• Physical damage from water, mud and silt • Mould from damp
Fire • Electrical equipment • Tobacco smoking • Hazardous chemicals • Adjoining properties	• Structural damage • Destruction by combustion • Chemical change from heat • Smoke damage
Earthquake	• Structural damage • Breakage and disarray • Flooding • Fire
Landslip • Fall from above • Collapse from below	• Structural damage • Physical damage from water, mud and silt • Breakage and disarray
Volcanic eruption • Ash and mud • Radiant heat	• Structural damage • Physical damage from ash • Fire
Tsunami	• Flooding
Vandalism	• Breakage • Defacing
Atmospheric pollution	• Damage from chemical particles

Global warming may bring further risks from, for example, rising sea levels, climate change and greater extremes of weather.

The **issues** in *detail*

HERE'S A **FRAMEWORK FOR THINKING** ABOUT SOME OF THE MAIN ISSUES RELATED TO YOUR CONTINGENCY PLANNING.

Priorities

In an emergency, you'll need to set priorities. What's most important? What happens first? The Museum of New Zealand Te Papa Tongarewa states that its policy is 'to protect in order of priority, visitors and staff, buildings, collections and property.' For this purpose, 'an emergency is an event which either disrupts or threatens the normal activities of the museum, human life, collections or property.'

Are these your emergency priorities? If so, build them into your plan.

Foreseeing disaster

Your location

- How stable are soils and rock under your buildings? Have you confirmed this from a microzoned earthquake risk map (often obtainable from your local authority)?
- Do nearby businesses hold or use hazardous, explosive or combustible materials?
- If you're located close to a motorway or airport, the air may contain fine particles of oil and pollutants from aircraft and car exhaust. Are your filter systems adequate?

Your insurance

- Is insurance cover adequate?
- Do you have a photographic record of displays and valuable objects for insurance and replacement purposes?

Your maintenance

- Are buildings adequately maintained? Are there regular checks for blocked gutters, drains and roof leaks (frequent causes of damp)?
- Could pipes burst from frost, corrosion or other damage?
- Could any faults or breakdowns develop into hazards, for example, blocked drains, dripping taps, accumulated rubbish, waste chemicals, potentially explosive empty chemical drums?
- Do you have a rodent or insect problem? Where are they coming from - within the walls or neighbouring properties?
- If bad weather is forecast, are all gutters, downpipes and drains known to be unblocked? Are other leaks possible? Is flooding possible?
- Are work areas kept clean and tidy?

Your safeguards

- Are collections stored in boxes and containers? Are these acid-free?
- Do low-cost drapes or blinds protect objects on storage shelves from smoke, light and water damage?
- Do you make sure tradespeople use tools and equipment in ways that minimise risk from fumes, sparks, dust, grit and vibration?
- Are all fragile and delicate objects held in environmentally controlled conditions?
- Are valuable objects secured against toppling?
- Do you have smoking restrictions?
- Is electrical equipment unplugged when not in use?
- Are fire protection systems in place? Are they tested at recommended intervals?
- Are important documents or fragile objects left uncovered on tables or workbenches? Is incomplete work adequately fenced off and protected?
- Have you made copies of your most important documents, and are the copies kept off-site?
- Do you regularly back up important computer files, and keep back-ups off-site?
- Do you examine incoming collection material for insects and mould?
- Do you take part in disaster training and practice courses, such as those organised by Te Papa National Services?
- Do you have an emergency equipment locker? Are its contents regularly checked?
- Do you have an emergency manual? Is it complete and kept up to date?

Planning for a disaster

Finance

- Will your budget allow for emergency funding?
- Who will pay for different stages of recovery from a disaster?

Outside support

- What organisations will give what assistance in different emergencies, and in recovery stages?
- What freezers are available, where?
- What temporary storage is available?
- What temporary work space is available?

Media

- In an emergency, who will be the museum's sole source of information to the media?
- Who will prepare and authorise press statements?
- How will you use the media to seek public support?

(See *Working with the Media,* Te Papa National Services Resource Guides Issue 1.)

Personal safety

- What protective clothing will be worn?
- What electrical or other hazards must be neutralised before starting work?
- How will you ensure someone is present who is trained in first aid?
- How will you ensure regular breaks to avoid overwork and exhaustion?
- What buddy systems are in place to ensure nobody works alone?

Worker welfare

- How will workers be able to contact relatives and friends?
- What about food and drinks?

Transport

- Will you need hire trucks or vans?
- What are the best sources?

Communications

- Who will provide cell phones or radio telephones?

Emergency materials and equipment

- Make sure your emergency equipment locker contains at least the essentials recommended in this guide.
- Where will you go for additional supplies?

Clearance with emergency services

- Who will inform Fire, Ambulance or Police as soon as you are in control of any emergency situation? Note that these services are authorised to stop salvage if they consider you're not in control or may endanger yourself or others. They may stop all access into the area for days if there's a major emergency.

Other

- How will you prevent further loss when moving damaged collections?
- Who'll be responsible for tracking what's moved where?

Emergency manual

An emergency manual is a book or other source of essential information for an emergency, and contains contact names, phone numbers, tips on salvage procedures, sources of further emergency supplies, etc.

An emergency manual can never be allowed to gather dust. Needs, sources and contacts will change.

It's a good idea to set dates for regular reviews of the manual.

In **any** *emergency*

IF **DISASTER STRIKES,** HERE ARE SOME POINTERS ON WHAT TO DO.

Every situation will be different, but familiarising yourself with the principles and tips here will help you to be better prepared for the unforseeable.

Seek help

If things are getting worse and you can't deal with the cause, seek help. If you can, protect objects from further damage.

Don't take excessive risks

Don't put yourself or others at excessive risk. Turn off power and gas at mains. Consider structural safety and chemical dangers.

Think about method for salvage

After stabilising the situation and before starting salvage, think about method as far as possible. Your first instinct may be to lay things out to dry over all available surfaces, but this may just add to the confusion. If you relocate temporarily, you're likely to need at least twice your present floor area.

Emergency **equipment** locker

Keep a cupboard or cabinet for anything that may be in short supply in an emergency. In a public emergency many of these items will be sold out and unobtainable almost immediately. Make sure the locker is used only for emergency supplies. Perhaps keep a key behind a glass panel, to be broken only in emergency.

Essential	Useful
First aid kit	Wet and dry vacuum cleaner
Hard hat	Portable generator with petrol can
Overalls	Extension cords
Gumboots	Multi-plugs
Protective gloves	Inspection lamp - also useful as emergency lighting
Torch	Oscillating fan
Basic tool kit	Safety switch adaptors RCD (residual current devices)
Scissors and/or knife	Roll of 'Keep Out' message tape
Broom, brush and pan	
Assorted kitchen sponges	
Mop and bucket	
String	
Adhesive tape	
Assorted polythene waste bags	
Plain paper - for covering surfaces, interleaving pages of books, etc	
Industrial rolls of transparent cling wrap - to wrap items, or a filled basket or crate	
Industrial rolls of foil - for quick wrapping without need for tape	

Speak to your insurer

Speak to your insurer before incurring further costs, to find out how far you're covered. If insurance won't pay for hire of vehicles to move collections, should things be moved by other means?

Secure essential supplies

If your emergency locker doesn't have what you need, get what you can before it is sold out.

Make the building safe

If you can make the building safe, relocation may not be necessary. If damage is severe, begin preparing to move collections to a safe place with a good roof. After fire or flood, the whole area will probably need to be cleared.

Seek advice from conservators

Get advice from professional conservators as soon as possible. With wet objects, the first 48 hours are critical. After that time, mould will start to appear in a damp atmosphere (above 70% relative humidity) and this may, in addition, be a health risk. In damp conditions, metal objects must be kept separate from other items - to prevent staining.

Seek support from your local radio station

Consider advertising for help on a local radio station. Be specific about your needs or you may have difficulty handling the response. Consider the risks of letting unknown people handle or remove valuable objects, and arrange for security - perhaps suitable staff - to be stationed strategically.

Keep staff and volunteers cool

Try to control overzealous staff and volunteers, who may be blocking passageways and moving things inappropriately. Make sure someone's responsible for recording what is being moved where.

Crate stuff

Apple, fish and bread crates make good containers, as they allow drainage and air circulation. Record where things came from on the crates.

Record the damage

Insurance claims will need to be supported by lists of destroyed, missing and damaged items. Take a full photographic or video record of the damage. Check off recovered items against your inventories.

Sequence things for removal

Remove things in a sequence that prevents further damage. Start with objects on the floor, then remove things that will be treated by other agencies (film, slides, photos, etc).

Further reading

Museum of New Zealand Te Papa Tongarewa (2001). 'Preventive Conservation'. *Te Papa National Services Resource Guides 5*: 2001.

Museum of New Zealand Te Papa Tongarewa (2001). 'Emergency Procedures'. *Te Papa National Services Resource Guides 7*: 2001.

Be Prepared guidelines for small museums for writing a disaster preparedness plan: put out by the Heritage Collections Council in Australia. This can be downloaded from the AMOL website: www.amol.org.au/craft/publications/hcc/beprepared/beprepared.asp

CCI Notes 14/1 Emergency Preparedness for Cultural Instutions: Introduction, and *CCI Notes 14/2 Emergency Preparedness for Cultural Institutions: Identifying and Reducing Hazards*. Both available from Canadian Conservation Institute, 1030 Innes Road, Ottawa Ontario K1A OM5, Canada.

Emergency Response Salvage Wheel: turn the wheel to find the answer to common problems in emergencies. Available (at $US10) from National Task Force on Emergency Response, Heritage Preservation, Suite 566, 1730 K Street NW, Washington DC, United States.

New Zealand Directory of Conservators of Cultural Property: available from The Secretary, New Zealand Professional Conservators Group, c/o National Library of New Zealand, PO Box 1467, Wellington.

Glossary

Contingency plan A plan of actions to be taken should some possible event occur in the future

Microzoned earthquake risk map A map of an area that shows in detail the geological structure of the ground and defines its risk in an earthquake

Environmentally controlled conditions Conditions in which air quality, humidity and temperature are kept within a controlled range

Acknowledgements

The photographs on pages 2, 3 (left), 8, 9, and 10 are reprinted by courtesy of Alexandra Museum. The photograph on page 3 (right) is reprinted by courtesy of Kawhia Regional Museum Gallery.

Te Papa National Services Resource Guides | He Rauemi are published by Te Papa National Services in support of its work with museums, galleries, iwi, and related organisations throughout New Zealand to enhance the museum services offered within communities.

For further information or to discuss training opportunities related to this topic please contact:

National Services Museum of New Zealand Te Papa Tongarewa

Cable Street, PO Box 467, Wellington

Phone (04) 381 7000

Fax (04) 381 7080

email natserv@tepapa.govt.nz

Website www.tepapa.govt.nz/National_Services/