

BE PREPARED

GUIDELINES FOR SMALL MUSEUMS FOR WRITING A DISASTER PREPAREDNESS PLAN



A HERITAGE COLLECTIONS COUNCIL PROJECT
UNDERTAKEN BY SÖDERLUND CONSULTING PTY LTD
MAY 2000

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These guidelines would not have been possible without the enthusiastic response of the museum community around the world. Following requests for information, I was inundated with information, suggestions, sample plans and guidelines—and general encouragement. Experience counts for an enormous amount in the world of disaster preparedness and the generosity shown by these individuals and organisations around the world in sharing their experience and knowledge, was truly inspiring. It is not possible to list all those who responded, and so I can only offer a general and heartfelt vote of thanks to all. Most of these people were conservators but many were not. Some sent their own plans or guidelines as examples, and all gave generously of their opinions with what they felt worked and what didn't. I have used snippets of information and layout examples from many different documents. As there is a wealth of information regarding disaster preparedness available, there were many sources to consult while writing this guide. Those texts which I found most useful are listed in the Bibliography and I hope others benefit from reading them as much as I did. I especially need to thank Sarah Jane Rennie for assisting me in researching the guidelines, and preparing the Salvage Procedures.

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Kay Söderlund May 2000

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PREFACE

These guidelines have been produced as part the National Conservation and Preservation Strategy, with funding from the Heritage Collections Council. The Heritage Collections Council (HCC) coordinates national approaches to caring for, and promoting access to, Australia's heritage collections. The HCC is a collaboration between Commonwealth, State and Territory Governments and Australia's museum sector. Its mission is to promote excellence in the management, care and provision of access to Australia's heritage collections.

Providing guidelines to enable the museum sector to write useful Disaster Preparedness Plans was seen as a vital step towards achieving this mission, and is considered an important component in the suite of resources recently developed. These resources address such issues as conservation assessments and preservation planning; building and storage standards for museums; significance assessment for cultural heritage objects and collections, as well as Disaster Preparedness. The recently published *reCollections: Caring for Collections Across Australia* is a multi-volume compendium of preventive conservation information for the museum sector and will be able to provide further information regarding Disaster Preparedness.

This guide should also be used in conjunction with other resources recently published by Museums Australia, with support from the Department of Communications, Information Technology and the Arts. These include the *Strategic Planning Manual*; *Caring for Our Culture: National Guidelines for Museums, Galleries and Keeping Places*; and *The Resources Directory for the Museum Community*. A standard text like *Museum Methods: A Practical Manual for Managing Small Museums* is always a useful reference.

There is a wealth of material available regarding Disaster Preparedness and many publications were sourced in the development of these guidelines. There were several sources that provided excellent material and were used while writing these guidelines. The two most heavily relied upon were: *Museums Australia (New South Wales) Disaster Preparedness Workshop*; and *reCollections: Caring for Collections Across Australia*.

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INTRODUCTION

In effect, disaster preparedness has been around for a long time. The elements of disaster preparedness — preventing, preparing, responding, and recovering — are in many of our everyday actions in both our homes and our community. Turning off heaters when leaving the house, house maintenance and home insurance, knowing what precious things we would grab if the house was on fire, the emergency services that respond to our disasters — all these are part of being prepared for disasters.

In the world of museums and cultural heritage, disaster preparedness has taken on a more formal role in good museum management — but the principles remain the same. That is, to protect the collection, the museum building and the people working within the museum.

Since the disastrous Florence Flood in Italy in 1966 showed the conservation world the benefits of effective response and procedures to deal with damaged collections, the approach to disaster preparedness has rapidly evolved. The early plans, generally called Disaster Plans, could be the size of telephone books — and were often just as tedious to read. As a consequence, they sat on the shelves of the conservation laboratory, untouched and unread by most of the staff of the museum — even the conservators.

Although disaster preparedness has come a long way since those days, it is still the unfortunate situation that many museums — large and small, country and city based — do not have useful disaster preparedness plans in place. Some still have those telephone books, some have plans that bear no resemblance to the needs of their museum, while most have no plans at all.

This guide is aimed at assisting museums in writing their own disaster preparedness plan. It is specifically written for those museums that have few (or none) trained or paid staff, and certainly no conservators. It is intended to be as practical as possible in guiding the museum through all the steps in writing a useful plan and therefore avoids much of the theory of disaster preparedness that is available. Museums can always undertake further reading and research.

For ease of language, this guide considers 'museums' to cover all collecting institutions, and has referred to all workers in museums — whether paid or voluntary, trained or not — as 'staff' or workers. When the term 'volunteers' is used, it generally refers to those 'extra' volunteers that help out occasionally at volunteer managed museums.

A well-written, useful Disaster Preparedness Plan is a vital part of good museum management. The task of this guide then, is to refine the wealth of available information into a document that is straightforward, informative and easy to use. Its aim is to enable any museum to be well prepared for disasters of any size by working through this guide and producing their own plan. The outcome should be a staff that is more informed about disasters, their consequences and how best to deal with them; and a well-written Disaster Preparedness Plan that will serve them well when that disaster really occurs. It is hoped this guide will assist those many under-resourced museums around Australia in their struggle to manage their museums and collections — thereby ensuring a longer life for Australia's distributed national collection.

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CASE STUDY IN DISASTER UNPREPAREDNESS

(OR 'WHY YOUR MUSEUM NEEDS A DISASTER PREPAREDNESS PLAN')

There was once a small, volunteer-run museum in a council-owned building by a river. This museum was typical in many ways. It had a small, but active, committee and a wider circle of occasional volunteers. The President was a strong, colourful character but was not the 'powerhouse' of the museum — that was left to a couple of the longer-term committee members who preferred to work behind the scenes. While the council provided the building for minimal rent, they had little interest in the museum and had never visited it or been to an opening of an exhibition — but the museum had also never invited them. The council had virtually no understanding of the needs of the museum or what the museum contributed to the community. The museum's collection was a fairly standard one of mixed objects reflecting the history of their town and surrounding community. The museum was a member of Museums Australia but it had not really taken advantage of its membership, nor had it had found the time to read many of the publications made available to this sector.

One night, after heavy rain and rising river levels upstream, the river flooded and the museum was filled with water to a height of two metres. Disaster had struck!

In the morning, the damage was evident. Mud throughout the museum; large objects moved through the museum and some were overturned; water in display cases; the archive collection was sodden; books, papers and costumes were wet; embroidered samplers had run; framed works of art on the wall had moisture inside; the carpet was ruined—the list could go on.

And the museum did not have a Disaster Preparedness Plan.

Most of the committee had rushed to the museum to see what had happened, but some of the crucial members had damage in their own homes to deal with. Much of the town had been damaged and emergency services were stretched beyond their capabilities. No-one from the museum wanted to go into the museum as they were uncertain as to how to determine whether it was safe or not. Eventually, an officer from emergency services arrived and declared the site safe to enter. A few hours later the town was overrun with loss adjustors, carpet cleaners, insurance agents, builders, electricians, plumbers etc. — and very few of them were interested in the museum or understood its special needs. The museum did not have a contact number for their own insurance agent — that number was in the files that were lying sodden on the museum office floor. The council was under strain trying to deal with all the calls for help and the huge number of decisions that had to be made — quickly.

At the museum, things were also happening quickly. Objects were being moved outside, the carpet was being pulled up and the local carpet cleaner was ready for action. He had heard of a drying company that worked in situations like this. The president of the committee had been one of the first to arrive and he had been carrying large pieces of wet furniture outside and had consequently damaged his back. He was constantly on the telephone trying to talk to someone in the council, but didn't know who to contact so kept getting the run around. The committee did not know who to contact to advise them on what to do. They felt quite muddled.

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Meanwhile, a few hours had passed and some volunteers had arrived wanting to help. They started collecting documents and spreading them out to dry. Others took some home to dry as there was a shortage of space. Volunteers from other museums also turned up to help and so there were 25 people pulling objects out of the museum. Everyone expected the President to take charge, but he seemed unable to make any of the necessary decisions, and was either on the telephone or nowhere to be found.

This disaster was in the middle of a very humid summer and the day after the flood was hot and moist. The volunteers, stressed and in shock, now began to tire and tempers began to fray. The President had to go home and lie down, but he wouldn't let anyone else deal with the council or make any decisions. Factions began to develop behind a couple of the other committee members and bickering broke out. No-one could decide which objects to salvage first or who had authority to make decisions. Some of the out-of-town volunteers left in disgust because no-one could tell them what to do. Others left with some objects to salvage, but didn't tell anyone what they took. The furniture that had been left outside in the sun began to crack. Then the drying company arrived and started to take over.

It was all pure chaos and poor decisions were being made.

The council could not contact the President so had hired the drying company without consultation and with no knowledge of the needs of the museum's collection or building.

The drying company had little experience of drying heritage objects and were unprepared to package things properly for freezing. However, they had signed a contract with the council so there was little anyone could do about it. Many of the objects were packed up by the drying company and taken away-no-one knew where. No record was kept of which objects were taken.

Somehow everyone muddled through and a week later the crisis was over. The drying company left after saying that the museum building was dry. New carpets were laid. Objects were moved back into the museum. Unfortunately, that was when the mould growth in the display cabinets and the framed objects was discovered. In the confusion of trying to salvage the collection, people had forgotten to check the display cases and framed objects. One of the museum's most precious objects was in a display case and was now requiring immediate conservation treatment. Many of the other objects were ruined.

Objects taken by the drying company were now returned, but were distorted in the shape of their containers, paper documents were hopelessly out of order and some objects never came back. Some of the objects removed by enthusiastic volunteers were never found again. The museum had lost 20 per cent of their collection.

Unfortunately, a few months after the new carpets were laid a severe mould growth which posed a major health risk was discovered growing underneath the carpets as the concrete floor was still quite damp.

The museum had to be closed. The committee was completely disheartened and they lost their volunteer core. The President resigned. They were back to square one.

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Clearly, this is a fictitious museum. However, this story has been cobbled together by combining different experiences of different museums, and adding a few things along the way. It is all very real and very possible.

If you follow the steps outlined in this guide to produce your own Disaster Preparedness Plan, you will be able to avoid all the pitfalls experienced by this museum.

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HOW TO USE THIS GUIDE

It is not imagined that museums using this guide will sit down and work straight through all the steps. Although it is laid out as a step-by-step process, museums are encouraged to work on whatever sections in whatever order suits them best. It may be that some parts of the plan are finished earlier than others and the entire plan takes longer to complete — it really doesn't matter (unless, of course, you experience a disaster in the meantime!).

All the steps outlined in this plan are part of disaster preparedness. Initially, the museum should try and **prevent** any disasters from occurring. Those it knows it cannot prevent, it should **prepare** for. In being prepared for disasters, it is necessary to understand how to effectively **respond** to and **recover** from disaster. Therefore, the Response and Recovery sections focus on the actions of the museum **during** and **after** a disaster. While this can sometimes seem confusing, it helps to remember that all these things need to be thought of **before** a disaster occurs, which is why it is referred to as Disaster Preparedness.

This guide attempts to keep the elements and the steps involved in disaster preparedness clear and straightforward. Although they are written in a defined order, you can complete many of the steps separately and out of order, and still produce a good plan. Each Step (1–9) is separated into smaller tasks and it would be advisable to complete all the tasks listed under each step. It may also suit some museums to complete a draft plan first and then return and polish the plan at leisure. Just do what you can, when you can — until you complete your plan.

If it seems overwhelming to prepare a plan to cover all identified risks to the museum, just select the most likely disaster scenario and prepare for that — the others can always be done later, and as you go along things will become easier.

Graphics and flow charts are used throughout the guide in an effort to clarify tasks and concepts that can otherwise seem a little convoluted. Templates are also provided for some of the steps and are there for you to 'fill-in-the-gaps' and use in your plan. They can be found in a separate section following the 'Writing The Plan' section. When using a template it most important that you have also read through the section and carried out the relevant tasks, so that you understand what you are putting in your plan. There is no point in having a plan that is not well understood — it will not help you in a disaster situation. Extra support material (response and salvage procedures; disaster bin contents; useful contacts etc.) are provided as Appendices, so as not to 'crowd' the guide's main content.

This guide deliberately avoided using a complete 'fill-in-the-gaps' template approach to disaster preparedness, which is available in different formats around the world, as it was felt that this would not assist museums in really understanding the plan that they prepared. A combination approach of guidelines and templates, where appropriate, was felt to be more useful. Thorough knowledge of your disaster preparedness plan is critical for effective response to and recovery from a disaster. However, some of the Appendices provide information that can be copied directly into your plan — such as the Emergency Response Procedures and the Salvage Procedures — so as to avoid re-inventing the wheel.

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OVERVIEW OF DISASTER PREPAREDNESS

WHAT IS A DISASTER?

Different countries, different professions, and different services define disasters in different ways. For the sake of clarity, this guide will refer to **all** situations and **all** levels of impact as disasters. This is important to understand as the term ‘disaster’ does imply something large and catastrophic. It is often the case in museums that it is something relatively small and definitely not catastrophic, that can cause a serious disaster. Therefore, ‘disaster’ in this context, will equally apply to — a small leak through the storage area window that has drenched the newspaper collection; a pest invasion; a major flood; a piece of vandalism; an earthquake; theft of your most precious object; a fire; etc.

Do not think of a disaster as something that is always large and obvious.

WHAT IS DISASTER PREPAREDNESS?

Much has been written about Disaster Preparedness, or Prevention, or Planning — whatever you care to call it — in fact, the resources seem endless. Most texts agree on the basic elements of disaster preparedness:

- prevention;
- preparation;
- response; and
- recovery.

These elements are based on common sense:

- understand the risks your museum is exposed to;
- try to alleviate those risks; and
- get prepared for potential disasters.

Having a Disaster Preparedness Plan means a museum has implemented action to prevent disasters from occurring and has prepared for disasters by developing the necessary procedures to effectively respond to and recover from a disaster when it does occur — thereby reducing the impact on the staff, the collection and the museum.

One of the most critical aspects of Disaster Preparedness is **planning** — allowing time to assess the current situation of the museum and to prepare for a variety of disaster ‘scenarios’. It is crucial that all involved in the management of the museum support the development of the plan as a critical document for the museum to have in place and that it must remain high on the priority list within the strategic plan. You will find that many of the tasks involved in preparing this plan are also important for good museum management.

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ELEMENTS OF DISASTER PREPAREDNESS

There are a variety of ways of describing the basic elements of disaster preparedness, some of which have been mentioned. The simplest way is to separate a disaster into three stages:

- before a disaster;
- during a disaster; and
- after a disaster.

Each of these stages needs to be considered while writing a Disaster Preparedness Plan.

Before (This part of the Plan can also be referred to as **Prevention** and **Preparation**)

Before a disaster strikes is the time for assessment. This assessment will involve a close look at your museum and its current situation — both the collection and the building. What poses a risk? What can you control and what is out of your hands? Are you making sure that you are protecting your museum against disasters as well as you are able? What steps do you need to put in place to address all the identified problems?

This time of assessment, before a disaster strikes, is also the time to recognise the threats to your museum that are out of your hands — i.e. natural disasters, industrial accidents, bomb threats, vandalism etc. The nature of these threats must be looked into and the possible scenarios imagined — what would, or what could, the museum staff do in these situations? What steps could be taken in response to one of these threats? What equipment would be needed, what help could you get?

During (This part of the Plan can also be referred to as **Response**)

At this stage the disaster is actually occurring. All that preparation is about to pay off. The material developed by the museum during your planning and preparation time will have identified all the various steps to be taken during a disaster. Is it a storm warning — do you have to evacuate all visitors and staff? Do you need to get to the museum to make sure all the defences against flooding are in place? A bomb threat — use that sheet of instructions by the 'phone. An internal fire — the plan will show where the fire extinguishers and exits are. The priority list of objects will detail which objects should be saved, if possible, in the order of significance. A small leak has been discovered in the object store — grab the Disaster Bin. If this part of the plan is thoroughly researched and prepared, but also kept simple, it may well prevent a minor disaster becoming a major one.

After (This part of the Plan can also be referred to as **Recovery**)

The disaster has occurred and the museum responded well. No lives were lost, but substantial damage has occurred. How will the museum (and staff) recover from the disaster and damage? If you have prepared well, your Disaster Response Team will know what to do and have the resources at hand. The first 48 hours after a disaster are the most critical as far as the collection is concerned — and effective action here will limit damage and save more of the collection. It is

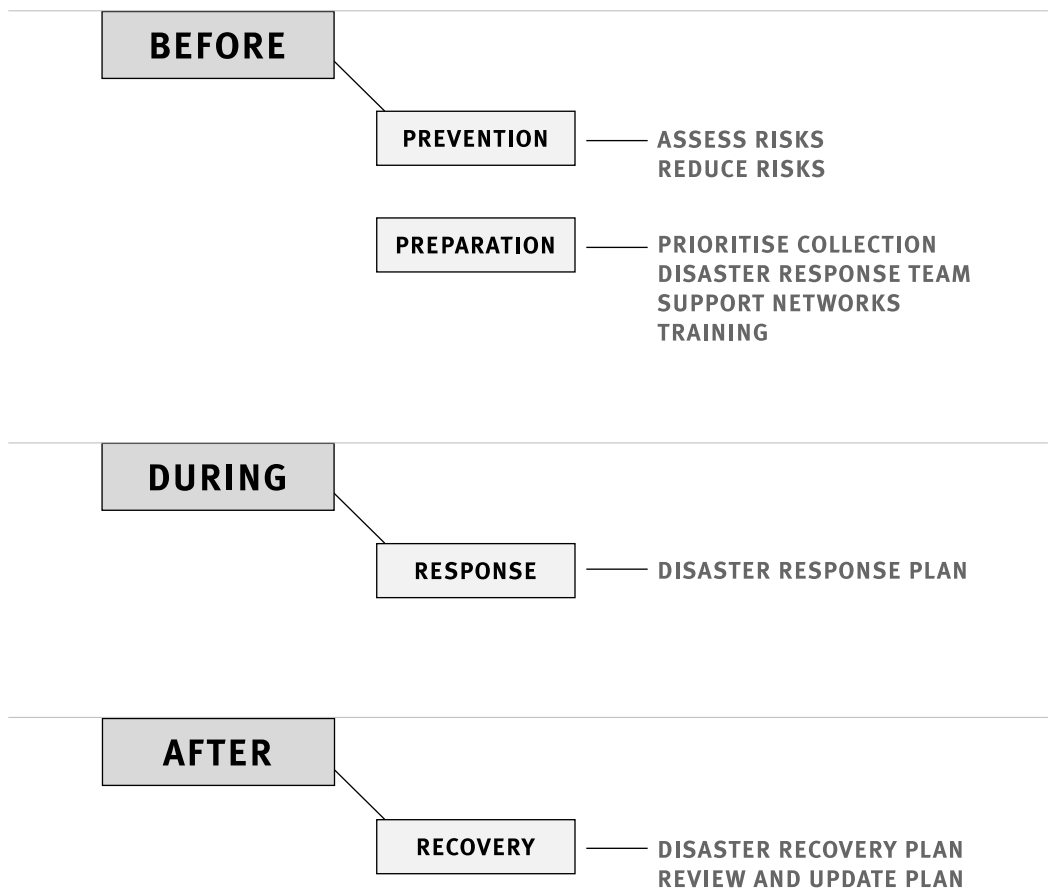
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often the case that water damage is involved in disasters (flood, storms and leaks, fire suppression etc.) and time is of the essence.

In preparing for a disaster, knowing what to do in response to most types of disasters is of utmost importance. The museum building must be declared safe to work in first — who will do this? The area must be stabilised to prevent further damage occurring. The level of damage to the building and collection needs to be assessed and a Disaster Recovery Plan prepared. Insurance issues will arise. Calls for assistance have to be made and the media needs to be dealt with. All these issues, and more, will have been identified in the Before/Preparation stage of your planning and all the appropriate steps will have been decided on. Now, it is simply a matter of using your plan to guide you through these most critical and difficult of days.

Elements of disaster preparedness



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BASIC STEPS IN WRITING A DISASTER PREPAREDNESS PLAN

1. Assess all risks and threats.
2. Reduce or remove those risks.
3. Prioritise collection.
4. Establish Disaster Response Team.
5. Establish support networks.
6. Prepare the Disaster Response Plan.
7. Prepare the Disaster Recovery Plan.
8. Train all staff.
9. Review the Plan.

(NB. These are the order of the steps used in the ‘Writing the Plan’ section of this guide)

All these steps should be considered as ‘preparing for disasters’ and should be completed **before** a disaster strikes. Once all the material is collected and the writing is complete, it will form one main document — your museum’s Disaster Preparedness Plan.

Both the Response Plan and the Recovery Plan will then be copied into one smaller plan-ready to be used in the case of an actual disaster. Copies of this Response and Recovery Plan will be kept both in the museum and **off-site** (in cars, for example) with members of the Disaster Response Team.

WHAT IS YOUR PLAN GOING TO LOOK LIKE?

There are many different possible layouts for a good Disaster Preparedness Plan and as long as all the basic elements are included, one cannot be said to be better than another.

A possible approach is outlined below, and includes the steps involved in these guidelines. However, you may feel that your museum needs another approach. By the time you have worked through these guidelines, you will be able to put your plan together in whatever way best suits your needs.

PLAN HEADINGS

- **Introduction**
 - management support (who has authorised the writing of the plan);
 - policies that the plan will support;
 - the team working on the plan;
 - what the plan intends to cover; and
 - how it should be used.
- **Disaster prevention**
 - risk assessment (threats to the museum and its collection); and
 - actions to reduce or remove risks.

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- **Disaster preparation** — collection priorities;
 - Disaster Response Team;
 - resources, networks; and
 - training (of staff in the response and recovery procedures).

- **Disaster response** — response procedures (evacuation, emergency procedures);
 - checklists;
 - assess and stabilise; and
 - disaster bin.

- **Disaster recovery** — recovery procedures;
 - teams;
 - recording and evaluating;
 - stabilising environment;
 - materials and equipment; and
 - returning the museum to normal.

(**NB:** The Response and Recovery Plan (During and After) will also need to be reproduced as a separate document and kept in several different locations. This is because when a disaster strikes and a museum needs to respond and recover, these are the only parts of the Disaster Preparedness Plan that will be used — they need to be accessible, short and very clear.)

However, it is important to understand that while a Disaster Preparedness Plan will include all the sections mentioned above, they need to be seen as separate documents also. This is because they are used in different ways. The section of the plan where the museum addresses the areas of risk and potential threat to the collection, can also be used as a guide for strategic planning for the museum — in identifying tasks that need to be completed. Preventive procedures established during this stage will also assist in the general maintenance of the museum. The preparation section should be used in developing training for the staff of the museum and as part of the induction procedures for new staff and volunteers.

It is also most important to remember to write an ‘active’ plan, one that is for your museum only. It will not be very helpful to have a step in your Response Plan saying only ‘stabilise the situation’. It needs to be more direct and explicit, for example, ‘stabilise the situation by:

- a) turning off the water at the mains tap (in the outside building);
- b) pull the polyethylene sheets over the shelves in the textile storage area; and
- c) open the small windows above the shop area...’.

Remember also to put all the information under the headings listed above, and to include any actions necessary. It will make your Plan much clearer, and much easier to insert updated Action Lists.

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INTRODUCTION AND MANAGEMENT SUPPORT

An **Introduction** is very useful as it describes the reasoning behind the Disaster Preparedness Plan and is helpful for newcomers to the museum — volunteers and staff. This is also the place to address all the management issues such as who authorised the plan, all those involved in writing the plan, and the fact that everyone approves of the plan.

It is important that the management committee (and any other bodies involved in the governance of the museum) and staff all agree that a Disaster Preparedness Plan should be developed for your museum — or if one has already been developed that it is reviewed and updated if necessary. This gives the plan authority and makes it easier to ensure agreement and approval of the various roles and responsibilities given to staff as the plan is developed.

Given the nature of many museum committees and staffing, it is also probably best if the writing (and development) of the plan is the responsibility of one person — the coordinator — rather than the entire committee. This person is then able to coordinate a group of people (the disaster committee) that will assist in the collection of information necessary to write the plan, and will then present the plan to the full committee for approval and any modifications required.

It is the responsibility of the disaster committee to identify how the disaster preparedness plan will relate to other policies and plans of the museum (e.g. Collection Policy, Preservation Plan, Strategic Plan). This information should be included in the Introduction.

It is most important that all those involved in the running of the museum — committee, staff, volunteers etc. — have a chance to read and comment on the plan **before** it is approved and becomes an official document. It is these people that will have to use the plan in the case of a disaster and they must have a sense of ‘ownership’, otherwise they may not be interested in using the plan. It also allows for any issues or disagreements to be dealt with before they become a problem. It is not useful to nominate Malcolm as the media liaison person if he gets tongue-tied in front of a camera and it’s the last thing he wants to do. Everyone must approve and agree to their own role in disaster response and recovery and, ideally, to everyone else’s! Certainly, they must agree to recognise the authority of those given responsibilities within the Disaster Response Team. It is also important that everyone understands how and when the disaster preparedness plan is to be used.

All this information forms the **Introduction** section to your Disaster Preparedness Plan.

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WRITING THE PLAN

The following steps will guide you through the process of writing a useful Disaster Preparedness Plan. Remember, you do not have to do them in the order below, nor do you need to finish one step before moving onto the next. It is possible you will already have much of the information available, and will just need to put it into a useful form.

Use the Progress checklist provided in the 'Templates...' section to record your progress towards developing the Plan, and to note areas that still require further information and work.

- STEP 1. ASSESS ALL RISKS AND THREATS (What could go wrong?)
- STEP 2. REDUCE OR REMOVE THOSE RISKS (How can we prevent it?)
- STEP 3. PRIORITISE COLLECTION (Which objects do we grab?)
- STEP 4. ESTABLISH DISASTER RESPONSE TEAM (Who are we going to call?)
- STEP 5. ESTABLISH SUPPORT NETWORKS (Who else can help us?)
- STEP 6. PREPARE THE DISASTER RESPONSE PLAN (What do we do?)
- STEP 7. PREPARE THE DISASTER RECOVERY PLAN (How do we cope with this?)
- STEP 8. TRAIN ALL STAFF (Do we all know what to do?)
- STEP 9. REVIEW THE PLAN (What worked, what didn't?)

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PREVENTION

STEP 1. ASSESS ALL RISKS AND THREATS TO THE MUSEUM

Aim: The aim of this step is to become quite familiar with any risks — both external and internal-posed to your museum and its collection, and to understand what effect they would have on your museum should those risks become real events. A clear understanding should follow regarding those risks that pose the greatest threat to the museum, and those with least likelihood of occurring.

Tasks:

1. Review history of disasters in museum and community.
2. Identify all risks to your building and collection.
3. Rate all risks according to probability and impact on collection.

Risk assessment, or analysis, is an area that has received much attention in recent years, particularly with regard to applying its principles to museum management and disaster preparedness. There are many references that can be accessed to gain a greater understanding of the proper use of risk assessment techniques — some of these are listed in the bibliography. In the case of disaster preparedness for museums, it is relatively straightforward.

Once a comprehensive **assessment** of all possible risks to the museum is completed, the likelihood, or **probability**, of those risks occurring must be rated. The **impact**, or damage, on the collection of each of those risks is then estimated and given a rating. The combination of these two ratings will provide an overall numerical rating of each risk — putting it in the category of a high, medium, or low risk. This, in turn, will guide you as to what risks you prepare for first, if at all. It will also allow you to prioritise the actions required to remove or reduce those risks, leading to a well-developed action plan for the museum.

While this process may feel arbitrary (how can you really know whether a bomb threat is a high or low risk, or what impact an earthquake would have on your collection?) and an estimation, at best, remember it is meant to act as a useful tool to help you prioritise your planning and disaster preparedness actions. Your calculations may well change as you review your plan, carry out preventive actions, experience disasters, and learn more about your museum.

Use the templates and Hazard Checklist, provided at the end of Step One, to guide you as you work through this step.

Tip: This process can initially be undertaken by a ‘brain-storming’ session with all personnel, especially when reviewing the history of disasters in the museum and community. This could then be followed by a ‘walk through’ the museum, looking at all areas from the perspective of possible causes of disasters — large and small. Including the builder, plumber, electrician and others that are used by the museum may also prove useful.

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Task 1 Review past accidents, disasters and emergencies that have occurred both at your museum and in your community

- Develop a list of the known disasters that have occurred in the past, both in the museum and your community. Include the consequences to the museum and its collection, if known. Don't limit yourselves in any way, and think about both large and small disasters, accidents, emergencies etc. Be sure to talk to other members of your community.
- This review should include those disasters that have occurred in the museum itself — in the building, the storage and display areas, in the grounds etc. These would include leaks, fires, thefts etc. The list should also include all the disasters (once again both large and small) that have occurred in the community that either did impact, or had the potential to impact, on the museum and its collection. These would include fires, floods, earthquakes etc.
- Write all these events into a formal list (see example below and use the template provided in the 'Templates...' section for your own review) and add to it whenever something else is remembered.

Disaster review at...

Type of Disaster	Damage	Cause	Duration
Bushfire	Building burnt, lost several objects from fire and water damage	Cigarette thrown from car	One day of fire, two days of clean-up at museum
Flood in museum	Entire storage area wet, shelves collapsed, most objects damaged	Burst water pipe	Two days dealing with water damage, ongoing work with damaged objects
Human error	Dropped art-works	No training in proper handling	Occasional

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Task 2 Identify all risks to your building and collection

- Draw up a list of all possible risks to your collection and museum. Be sure to consider all types of risks—those over which you have no control, such as natural disasters or external industrial accidents; and those that you can do something about, such as leaks, potential fire hazards, and poor security. Be sure to use the information provided by the review of past disasters completed in Task 1.

Consider risks in the major categories of:

- Natural disasters — floods, storms, earthquakes, fires etc.
- Industrial and technological disasters — spills of hazardous materials, blackouts, equipment failure, air conditioning failure etc.
- Human disasters — poor maintenance leading to leaks in building, vandalism, accidents, human error etc.
- Geographical risks — flood plain, dams/weirs, trainlines, major chemical plant nearby etc.

Make sure you also assess the risks that may be posed by your building and collection, by taking into account:

- storage systems for the collection (are they solid, made of stable material?);
- the storage area (is it too crowded-may cause accidents, or be a fire hazard);
- building construction or renovation (a major cause of disasters in museums);
- security systems (do you have one?);
- fire suppression systems (which can also lead to water damage);
- environmental conditions and controls (temperature, relative humidity, pests etc.);
- lighting, light and ultraviolet radiation;
- wet specimens that may contain inflammable liquids;
- historic objects that may contain unstable chemicals (e.g. picric acid);
- dangerous chemicals stored on-site for use in the museum;
- exits and evacuation points (are they always clear and clearly identified?); and
- condition of roof and guttering.

Try looking at your museum in a completely different way. You may want to use a floor plan of your museum as you walk around and mark it as the risks are identified.

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Also include any disasters that may be caused by activities immediately outside the museum. For example, what happens in the building next door?

Remember: A high percentage of water damage to collections is caused through blocked drains or gutters and roof leaks; and 25 per cent of fires are caused through construction and renovation work, 72 per cent through arson.

[*Emergency Management: Protecting Collections During Renovation*, Technical Leaflet, North East Document Conservation Center, USA]

Use the Hazard Checklist, and the Risk Assessment template provided in the ‘Templates, Checklists and Sample Sheets’ section, as a guide.

Task 3 Rate all risks according to probability and impact on collection

- Once potential risks are identified, you need to determine the probability of them occurring and the impact they will have on your museum and collection. This process will be useful in guiding you while developing your immediate action plan. It will also allow you to decide which potential disasters you need to prepare for first. Those disasters with a low probability and a low impact on your collection can be dealt with last, if at all.
- The **probability** of each risk occurring can be estimated by using the historical information you collected in Step One, combined with common sense and knowledge of the museum and your community. The Insurance Council of Australia may be able to provide some assistance in identifying what risks your region is exposed to, especially from natural disasters, as they have collated this information and divided Australia into ‘zones’ depending upon the history of events in that region. Also consult with your local emergency services regarding their views on the risks to the museum.
- The calculation of the **impact** of each risk on your collection is a little more complicated. Each risk identified has a consequence. For example, a flood will result in the collection being water damaged; a fire will result in water damage, soot and smoke damage, and burnt and charred objects. You need to consider:
 - what material types are held in your collection?; and
 - which risk are they most vulnerable to? i.e. what will they be damaged by the most?
- Textiles, for example, are very vulnerable to fire and water damage (as are paper based objects), but are less vulnerable to structural damage caused by earthquakes. Ceramics, on the other hand, will be less affected by water but could be completely destroyed by an earthquake.
- Take into account the proportion of each type of material in your collection and estimate the impact accordingly.

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- There are a variety of different models for this **risk analysis** tool— you may even want to devise your own. It is the end result that is the most critical — a category for each type of disaster identified — **High, Medium, Low**. This category will indicate what level of threat the potential disaster is to your museum and therefore provide a priority list for actions necessary to address that risk.
- A simple way of calculating the category is provided in the example on the next page, where the end result is a number — the higher the number, the greater the threat to your museum and collection.

Use the Template provided in the ‘Templates, Checklists and Sample Sheets’ section for your own assessment.

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RISK ASSESSMENT

RISK (event and consequence)	PROBABILITY High-Low (5-1)	IMPACT High-Low (5-1)	TOTAL (number)	CATEGORY OF RISK (High 10-8, Medium 7-4, Low 3-1)
Examples:				
Earthquake — shelves may collapse	2	4	6	Medium
Bushfire — Buildings and collection burnt	5	5	10	High
Vandalism — display cases smashed, graffiti	4	5	8	High
Flood — low level objects water damaged	1	2	3	Low
Leak (from pipes) — objects in storage area water damaged	3	2	5	Medium
Bomb Threat — museum temporarily closed	1	2	3	Low

- Following this example, a bushfire threat has a high numerical rating and is therefore a 'High' risk category to this museum. A bomb threat is considered a 'Low' risk category. This means that in developing an action plan to reduce or remove risks to the museum, any actions regarding reducing the threat of bushfire should be undertaken before those that would deal with a bomb threat. This would also be the case when developing response and recovery procedures later in the process—fire first, bomb threat later.

NB. The Risk Assessment template provided, also includes a column for identifying preventive actions to be undertaken to reduce or remove the potential risks. These preventive actions will be addressed in Step Two, and the template is to be used for both steps.

STEP 2. REDUCE OR REMOVE THE IDENTIFIED RISKS

Aim: The aim of this step is to plan and initiate actions to deal with all of the identified risks to the museum and its collection — dealing with those in the high risk category first. These actions may aim to eliminate the risk (by timely maintenance work, for example) or simply reduce the effect of the risk (by raising objects off the floor in case of flood, for example). Not all these actions will be carried out immediately, but they must be put into some sort of action plan and maintenance schedule.

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- Tasks:**
1. Prepare an action plan for activities to reduce or remove the risks.
 2. Incorporate preventive actions into the museum maintenance schedule

Task 1 Prepare an action plan for activities to reduce or remove the risks

- In developing this action plan, concentrate on those identified risks over which you have some control. These would include leaks, poor security, susceptibility to fire, pests etc.
- The disasters over which you have no control (flood, earthquake, bushfire etc.) can be dealt with by:
 - reducing the risk as much as possible (eg backburning to reduce bushfire risk);
 - reducing the impact (e.g. implementing storage and display techniques that will reduce earthquake damage to the collection; and raising water sensitive objects above floor level); and
 - preparing well for the event should it occur (Response and Recovery Plans).
- Simple and logical steps will help reduce the impact of some disasters. It is just a matter of thinking ahead and imagining possible threats. For example, during construction or renovation (a high risk time) workmen may use inappropriate or unsafe equipment if they do not understand the risks to the collection.
- Use the Risk Assessment template you have already filled in, and now identify simple actions that would deal with each risk and put them in the ‘Preventive Actions’ column. These actions can then form the basis of a more developed Action Plan
- The action plan should be realistic-particularly in regard to funding, equipment, time and staff. This plan should also be included as part of any strategic plan that the museum may have or is considering preparing. Many of the actions that will be identified as necessary may already be on the museum’s work plan, as they will involve good museum management methods as well as disaster preparedness.
- Those risks that fall into the ‘High’ risk category (Step One, Task 3) in the risk analysis (ie pose the greatest threat to your museum) should receive the highest priority when it comes to developing actions, and allocating time and money to implement those actions.

A possible layout would look something like this one below, and a template for your use has been provided in the Template section of these guidelines:

RISK	ACTION	RESOURCES	ASSIGNED TO	DUE BY
Leak in collection store	Repair roof	\$500	Roger (building manager)	End June
Poor security	Install security system	\$1 500	Local Council	End May

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- In the action plan, make sure you include training workshops for the various parts of the Response Plan and Recovery Plan that will be developed (Steps Six and Seven), and that this training is repeated at regular intervals (such as once a year), and includes all new staff, volunteers etc.

NOTE: This action plan may take months, or even years, to fully implement or complete. This should not be considered a problem and should not deter you from moving onto the next sections of the plan.

Task 2 Incorporate preventive actions into the museum maintenance schedule.

- Develop (or review) your maintenance procedures and schedule for the building and the collection, taking into account all the information gathered and the procedures developed during the risk assessment and action plan exercise.
- All the preventive actions should be incorporated into this maintenance schedule and the daily activities of the museum. For example, these activities would include:
 - regular checking for any pest activities, with specified actions should any pests be found;
 - immediately rectifying any leaks found during regular inspection of the building and collection areas;
 - ensuring that regularly occurring problems and their solutions are identified in the schedule, such as blocked gutters and regular removal of blockages.
- Preventive actions would also include keeping a record of any problems as they occur and are rectified (such as increased pest activity) as this will allow your maintenance schedule to be regularly modified and updated, and to identify areas of weakness and potential disasters.
- It may be useful to incorporate a six monthly formal inspection of your building and site, to ensure all risks are addressed.

Steps One and Two were aimed at dealing with those risks over which you have some control, by **preventing** them from occurring.

The next three steps — Three, Four, and Five — aims to deal with the risks that you cannot eliminate, by **preparing** for them.

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PREPARATION

STEP 3. PRIORITISE COLLECTION (SIGNIFICANCE ASSESSMENT)

AIM: The aim of this step is to develop an awareness of those objects or collections that are most important to your museum. It is these objects that would be retrieved (if possible) in the face of a disaster, or dealt with first when salvaging the collection after the disaster.

- Tasks:**
1. Determine the most significant objects and collections.
 2. Write priority list for entire collection.
 3. Write separate priority lists.
 4. Confirm agreement and responsibilities.

Templates to assist you in developing your lists are included in the Template section of these guidelines.

Task 1 Determine the most significant objects and/or collections within your museum

- While it is tempting to consider all objects in your collection as irreplaceable and priceless, the fact is, that there are some objects which are more significant than others. This significance will relate to your community, the region, the state and Australia, and also to the rest of the collection. Significance can be defined as ‘...the historic, aesthetic, scientific/technical and social values that an object or collection has for past, present and future generations’ (Users’ Manual for Assessing the Significance of Cultural Heritage Objects and Collections, Australian Heritage Projects, K. Winkworth, L. Young)
- You may well already have a clear idea of which objects are the most important, it is now a question of ensuring that you are correct (and that everyone agrees).
- Referring to the Collection Policy of the museum will be a good place to start when determining which objects hold the most significance for the museum:
 - which are the objects which most clearly reflect the scope of the collection and the mission of the museum?
 - which are the objects that have great significance to the community?
 - which are the objects that are well documented with a full provenance attached?

This same line of questioning is also relevant for discrete collections within your collection. A collection may be considered to be of great significance simply because it was donated to the museum by an esteemed member of the community.

- In deciding on significant objects, it is most important to ensure that agreement is reached between all those involved. This agreement should be based primarily on the factual information to hand, as outlined above, and should not be overridden by an emotional attachment to an object or collection.

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- This is not to say that emotion should not play a role in prioritising objects, but it should not be the primary decision-making factor. It has been the unfortunate experience of many museums recovering from a disaster, that time and money were spent on saving objects that had no real significance to the museum or were easily replaceable, while the more significant objects were lost. This can result both from not having a priority list, and from people ignoring the list at the time of the disaster because they didn't agree with it in the first place.
- Another important thing to consider in this process is to ensure that everyone is aware of objects that can be easily replaced and have no relevant history attached, and any objects which are 'props' for display purposes only and have not been accessioned into the collection. These items would not be part of your object priority list.
- A full significance assessment is a valuable process for a museum to work through, and the forthcoming *'User's Manual for Assessing the Significance of Cultural Heritage Objects and Collections'* will be a useful tool to achieve this. However, a simple list of which objects are considered to be the most important to the museum and the community is a good place to start and will suffice for the purposes of developing a Disaster Preparedness Guide. When time permits, a full significance assessment should be done (put it in the Strategic Plan now!).

Task 2 Write priority list for the collection

- Working with the significance information you have developed, write a priority list of those objects or collections with the highest level of significance. This list will be your guide when you are responding to the threat of a disaster, or a disaster that has just occurred. For example, you have just received a flood warning and have 15 minutes to evacuate the museum and retrieve some objects — which objects do you take? You may well have developed this scenario in your mind for your own home and the things most precious to you, the principle is the same here.
- This priority list will also prove useful when the time comes to salvage objects from your damaged museum. As time and funding are often short, the priority list will ensure that you do not waste valuable resources in salvaging unimportant or easily replaceable objects.
- Clearly, the objects that are of greatest significance to your museum, and the wider community, will be high on the priority list. Also, the objects that have been purchased at great cost to the museum (for whatever reason) may be high on the list, simply because it would take a great deal of the museum's resources to replace that object.
- It is not useful to include every object in your collection on the list. This would create a most unwieldy situation and it is unlikely that you would have the time to retrieve the entire collection with an impending disaster. However, a general idea of order of retrieval of most collections or areas of the museum would be useful.
- It is also important to include security and display information on your list, to assist in speedy removal of objects. This information would include:

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- whether frames are secured to the wall;
- how display cases are locked and where the keys are kept; and
- what sort of hanging systems are used.

This information will be most useful when it comes to quick retrieval.

- It is important to include all relevant documentation for the collection in your priority list. This documentation should include all registration and cataloguing information, and all original documents. There is little point in saving your collection if all records and provenance information have been lost. A useful approach to this issue is to keep a back-up copy of all records off-site in a safe place.
- Remember to update the priority list with any new acquisitions or donations.

The following table is an example of a Priority List, and a full template for you to use is included in the Template section of these guidelines.

Priority list – by object

Collection/Object	Location	Security
John Glover watercolour	Main exhibition room-left wall	Screwed to wall – need flathead screwdriver
John Glover sketc.hbook	Display case in back room	Locked case – keys in office.
John Glover smock	Front room display	On mannequin – lift off.

Task 3 Write separate priority lists for each area of the museum and types of material

- This task simply requires a separation of the main priority list into smaller lists identifying the object priorities for each area of the museum. These lists will be used when the disaster is a small one, confined to one area of the museum – a leak, for example (a very high percentage of disasters in museums are caused by leaks); or for speedy, emergency retrieval after a major disaster. Remember to include objects in display cases, storage areas etc. as well as all the separate rooms.
- It is also a good idea to develop separate lists of priority objects depending on their material type and the differing levels of impact of different types of disasters. For example, if the disaster is a major leak then the high priority textile and paper objects should be retrieved before the high priority metal or ceramic objects.
- Remember, keep these lists short.

[An example of this priority listing can be found in the Sample Sheets section]

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SECURITY WARNING: The priority lists should not be kept in the main body of the Disaster Preparedness Plan but should be copied onto separate sheets and kept separately where they are able to be easily accessed when each disaster threatens.

If these priority lists were available to anyone who looked at the Disaster Preparedness Plan it could be an open invitation to theft of your most valuable objects. If you are sending your plan to other museums to assist them in the writing of their plan, make sure you **do not** include your priority lists.

Priority list – by location

Location	Collection/Object	Security
Main exhibition room	John Glover watercolour— on left wall	Frame is screwed to wall—need flathead screwdriver
	John Glover easel—in left corner	Tied to window catch
	Mineral collection—centre display case	Locked case—keys in office
Back room	John Glover sketchbook— display case	Locked case—keys in office
	1850's rifle—back wall	Attached to wooden support with wire
	Settlement documents— display case	Locked case—keys in office
Front room	John Glover smock— in right corner	On mannequin—lift off
	Jewellery collection—in small display case by door	Locked case—keys in office
	Williams family bible—in large display case by window	Locked case—keys in office

Task 4 Agreement of all involved

- It is most important that during the process of prioritising your collection, all those who feel they have a 'stake' in the museum have been able to make known which objects or collection they consider to be important to the museum. This is particularly important for those who will be involved in any disaster response and recovery.
- It is important that all parties involved confirm agreement about the priority list. Hopefully, any disputes and disagreements will have been resolved during the first three tasks of this

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process. If disagreements have not been resolved now, then they will re-appear when the disaster has struck and the plan has been activated. That is not the time for disputes to occur over whether to first save the organ or the newspaper collection. People are stressed and in shock when in the throes of disaster response, and it will not help to be at odds with one another or confused about the actions to be implemented.

STEP 4. ESTABLISH A DISASTER RESPONSE TEAM

Aim: The aim of this step is to establish who will be part of your Disaster Response Team and what roles they will play, and to understand the need for each of the different 'jobs'.

Tasks:

1. Define core roles and responsibilities needed.
2. Match people with those roles.
3. Brief each member of the team.

- The Disaster Response team is responsible for the museum's response and recovery from a disaster. Their role will be to:

'.. respond when a disaster is reported; assess the situation; and plan the recovery phase'

[*reCollections: Caring For Collections Across Australia*, pp 72 'Managing Collections']

- They will have separate and assigned responsibilities that need to cover all the response and recovery actions that are identified during the writing of the plan. This team may also be involved in the preparation and writing of all the material needed for the Disaster Preparedness Plan.

NOTE: Many of the disasters that occur at museums are relatively small and confined, and will not necessarily require the full Disaster Response Team to be called.

Task 1 Define core roles and responsibilities needed

- The following list is a guide for the main roles that need to be assigned in the course of responding to or recovering from a disaster. These roles have been identified through the disaster experiences of museums, libraries and many other, quite diverse, organisations. Many are roles that are relevant to any disaster response and recovery, while others are specific to organisations with collections of cultural material. Use these roles as a guide and develop others that are more relevant to your own situation. They are not listed in order of importance.

Disaster Coordinator — This person will oversee and coordinate all the actions during and after the disaster, and make all the final decisions. They will also map out the Recovery Plan after assessing the situation. You must choose the best person for this role (and they must accept). It will not necessarily be the President of the committee, the single paid staff member of the museum, or the Director. It may also not be the person co-ordinating the development and writing of this preparedness plan. It needs to be a person who will not be overwhelmed by the

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need to think quickly, who is able to prioritise needs and make hard decisions. The coordinator needs to be a person who is generally available and can get to the museum quickly. This person also needs to have the authority to liaise with local government, emergency services, insurance officers and loss adjusters, contractors and consultants etc. and to be able to make decisions regarding all these areas. It might be the person who was in charge of developing this plan-or it might not. Whoever it is, they need to understand the plan well, and have the respect of the other members of the response team — and these other members need to all agree that the coordinator has the final say and must be aware of all decisions that are made regarding the disaster response and recovery. Otherwise chaos will reign and the collection will suffer.

NB: It is important to inform all outside volunteers, contractors, and experts in specialised areas that it is the Disaster Coordinator that will make all final decisions. Outside ‘experts’ can sometimes tend to take charge and they need to be made aware that the museum has a Disaster Response and Recovery Plan and the staff have been trained.

Volunteer Coordinator — Apart from the Disaster Response Team, there may be other people coming forward to volunteer in the wake of a disaster. Some will be volunteers at the museum already and will be familiar with the museum and its Disaster Preparedness Plan, and may have even attended some of the training workshops. Others will come forward from the community and will know little about the museum. It is the role of the volunteer coordinator to make sure:

- a) they are matched to suitable tasks and receive the proper training in that task (see Recovery Action Sheets in Step Seven — Disaster Recovery Plan);
- b) that they are cared for regarding food and drink (and sleep if necessary!);
- c) transport is provided, if necessary;
- d) a timetable for volunteers is developed so they do not get overtired; and
- e) any other tasks as they arise.

Documenter — The site of the disaster, the areas of damage, damaged objects etc. will all need to be documented—for museum purposes, as well as insurance needs. Also, a register will need to be kept of objects as they are moved or sent off-site, or placed into salvage procedures. It may not be possible or appropriate that the documenter will actually do all of this, but they need to coordinate all the necessary activities and make sure that all the documentation is done according to the Recovery Plan. This could be quite a lengthy task and certainly requires someone meticulous, focused and organised. If the recovery process takes some time, this register will become pivotal in keeping track of your collection. It will also be useful to note down major decisions that are made during the Recovery process, if there is time.

Finance Officer — Many decisions will need to be made early in the recovery plan — and many of them will depend on finances available. Hopefully, you have prepared well and know what your insurance will cover, what funding may be available from the council etc. There will be the need to make other financial decisions with regard to the recovery (what materials to buy, should the carpet be replaced, hiring of equipment and space etc.) and the finance officer will need to keep

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an account of monies spent or allocated, and be able to advise on the financial picture. They will also be the person to liaise with the loss adjustor and the contracts manager from council. **It is essential that the finance officer also has the authority to make these financial decisions.**

Assessor — This role requires someone with the ability to assess the condition of the collection and objects after a disaster, in a variety of circumstances — water damage, fire and smoke damage, structural damage etc. They will need to be able to quickly determine to what extent the objects are damaged, prioritise objects that need attention, and decide what sort of salvage procedures are suitable. It is possible that they will have to work with a trained conservator who can only provide advice over the telephone. They will play a major role in developing the Recovery Plan after a disaster.

Materials and Equipment Coordinator — This member of the team has an ongoing role, even when you are not recovering from a disaster. It will be their responsibility to source the supplies to be put in the Disaster Bin (See **Step Six — Disaster Response Plan**), and also the supplies, materials and equipment needed for the disaster recovery (See **Step Seven — Disaster Recovery Plan**). Many of the things needed will be easily found in the local hardware shop, while others will be specialist equipment that will require a little more searching out. Contacts need to be made with providers of specialist equipment and relationships established — before a disaster strikes. You need to be confident that should your museum end up with a water-logged collection, there is either a freezer store nearby large enough to take your objects or that you have arranged for a freezer truck to arrive at the museum after a single telephone call. (Freezing water-logged objects can be a salvage option to prevent mould growth)

The supplies in the Disaster Bin also need to be prepared beforehand and a regular check made of the contents to ensure it is kept well stocked.

When in the recovery stage after a disaster, it will be the Materials and Equipment coordinator's responsibility to ensure that all the material and equipment needed for the recovery is in place. Often this will be a coordinating role, as general helpers (if there are enough) should be sent out to collect the various items.

A full list of items needed for a Disaster Bin and a Disaster Store will be found in the Appendices.

Media coordinator — While not all museums in the wake of a disaster will find hoards of media on their doorstep, it is generally the case that there will be at least the local newspaper or radio wanting to know what the situation is and the likely effect of the disaster on the museum. To avoid unpleasant or inaccurate media coverage ('Our Heritage Lost While Museum Staff Flounder...') it is wise to designate a person to liaise with the media. This person will provide all quotes, radio interviews etc. and will be the only person the media talk to at the museum. They need to be kept up to date with the situation by the coordinator and be the type of person able to remain calm and tactful at all times! Keep in mind that effective media liaison can be of assistance to the museum after the event also — increasing community support, funding etc.

Networker — This person will be responsible for ensuring that communication lines are open (land lines, mobile phones etc.), that the telephone tree had been activated and that all support

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networks and emergency services had been contacted. If there are no telephones immediately available in the wake of the disaster, it is the networker who must find **some means** of communication with the outside world (and in the case of large museums, with each other while inside the museum). It is also the networker who is designated as an initial point of contact for those who need to ring into the museum following the disaster. They can then decide on a case-by-case basis where the call needs to be directed, without having to bother the Disaster Coordinator. However, it is critical that this person works closely with the Coordinator, otherwise things could get quite chaotic.

Security person — When a museum has suffered a major disaster there will be many people on-site, and the museum may also not be secured. It is important that there is someone who has the responsibility of ensuring that the collection is safe, that no-one is there who is not supposed to be there, and that the site is not open to anyone off the street. This need for security will also apply to any off-site recovery areas that may be used for object salvage.

General helper — Someone who will run around collecting extra supplies, materials and equipment, food for workers, people to assist in recovery, an extra pair of hands whenever they are needed etc.

'OH&S' person — (Occupational Health and Safety) Someone to be aware of health and safety issues while the response and recovery plan is in operation. That is, to ensure those dealing with mouldy or sooty objects are wearing their dust masks, and that people are lifting heavy objects correctly, and enough rest breaks are being taken etc. This is most important as it is easy to overdo things in the stress of disaster recovery.

Task 2 Match people with those roles

- Once the roles are clearly defined people can be sought to fill them. It may be that it is very clear to everyone who should take on which role, or it may be that you would prefer to call for volunteers to fill the different roles.
- Ideally, people should be allocated roles and responsibilities that have some relationship to their areas of interest and/or expertise. It is most important that people are prepared to take on the role, committed to carrying it out in a disaster, understand fully what the role entails, are prepared to be trained in Disaster Preparedness, and will generally be available should a disaster strike.
- An important thing to keep in mind during this exercise is that some members of your committee/Disaster Response Team may also have community roles to play in the event of a local and regional disaster, or may be ill at the time of the disaster and hence unable to be part of the museum's response team. It is wise, therefore, to delegate stand-ins for the various roles, if possible, so that the team will still be able to function should a member not be available. Make sure these stand-ins are also trained in the roles.

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Comment: Sometimes a difficult situation can arise during disaster recovery, when it becomes clear that someone is unsuited to their role. How do you deal with this without hurting their feelings? What if it is the disaster coordinator that is not coping well? There are no easy answers to this problem (certainly none are in this guide!), but the problem will have to be solved rather than ignored. Otherwise it will put the disaster response and recovery at risk, particularly if it is the critical role of disaster coordinator. It may be possible to call in an outside ‘authority’ such as someone from the council, or from Museums Australia or similar organisations, or a consultant. If not, you will have to deal with it internally, but that person cannot continue in the role if they are not performing well — there is too much at stake.

NOTE: It is important that the Disaster Response Team consists of dedicated people committed to carrying out their designated roles. It may be that you have an active group of workers and can find enough people to fill each role. If your museum only has a few reliable staff and volunteers, then you may need to double up on some roles. Many of the roles combine logically, such as the Disaster Coordinator and the financial adviser/treasurer, and the networker and the volunteer coordinator. The critical thing is to ensure all these identified roles are allocated to somebody, even if one person has several roles. These people can always delegate their tasks when in Disaster Recovery, so they do not get too tired too quickly.

Task 3 Brief each member of the team

- Once the assigned roles have been allocated and accepted, each member should be fully briefed as to what their role entails. This may take many forms—attending the training workshops; preparing the Recovery Action Sheets (see Step Six); reading the Disaster Preparedness Plan from cover to cover; training their own group of volunteers etc. There is little point in having a person responsible for assessing damage if they have no idea how to make that judgement.

STEP 5. ESTABLISH SUPPORT NETWORKS

Aim: The aim of this step is to ensure a focus on developing and maintaining outside support and contacts. All necessary expertise should be identified and deliberate efforts made to obtain their support. This support is critical in times of a disaster.

- Tasks:**
1. Establish regional museum network.
 2. Contact specific expertise outside the museum.
 3. Develop register of volunteers.

Given the perilous state of the resources of most small museums, developing support networks is a logical approach to resourcing your museum. This applies to nearly all areas of managing a museum, not just Disaster Preparedness. So it is highly likely that you already have a well developed support network of other museum workers and general community supporters. These will form a sound basis for developing regional disaster preparedness networks.

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Task 1 Regional museum network

- Contact the other museums in your region (especially larger ones) and determine what stage they have reached with their Disaster Preparedness.
 - Do they have a Plan?
 - Have they found sources and suppliers for some of the more specialised equipment and materials?
 - Is it possible to share the cost of some of these materials by joining in a bulk order?
 - What about setting up a centralised Disaster Store (see Case Study ‘Disaster Store’ at the back of this guide).
 - Can you share training workshops and develop a higher level of skill amongst the wider museum community?
- It would be useful to organise a meeting of all the museums in your region to discuss some of these ideas. Some of the materials and equipment needed for disaster recovery are expensive and any way of reducing costs should be considered. Comparing Disaster Preparedness Plans (without the collection priorities) would also be useful, as some museums are bound to have thought of things that you (and this guide!) have missed. Many useful decisions will spring from this meeting-joint training days (sharing the cost of consultants, if necessary), identification of what supplies are available and accessible at the other museums should a disaster strike, telephone numbers of the other museum contacts to alert them of a disaster and ask for help, the identification of secure spaces for recovery work etc.
- Once your regional network is established, contact the Regional Emergency Management Officer (see Step Six — Disaster Response Plan) and inform them of its existence. They may be able to offer some training days in emergency response and what museums should do, suggestions regarding the content of your plan, and may also be able to assist in the maintenance of the network. Establishing local and regional networks to respond to disasters is a practice that is becoming more common around the world and will be of great assistance in a country as large as Australia.
- A support network with other museums will be an enormous benefit to all involved — not just in Disaster Preparedness — but in all aspects of managing a museum. Many problems may be solved, community spirit developed, energies renewed and maintained, badly needed support provided, ideas exchanged and so on. In short, it is invaluable and should be considered as a high priority for any museum.

Task 2 Contact specific expertise outside the museum

- Do not complete this task until you have worked through all the steps in this guide — particularly the Response Plan and the Recovery Plan — and are aware of what resources and expertise can be provided from within your museum, and what you will need to source outside of the museum.

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- Prepare a list of what expertise you need and consider what may be available in the immediate community and what you will probably need to find further afield. Areas to consider may include: conservators, electricians, plumbers, roofers, insurance agent, moisture control company, specialist equipment suppliers, freezer trucks/cool stores.
- Consider the knowledge currently held in the community (police, fire brigade, ambulance service, insurance agent, lawyer etc.) and develop a relationship between the museum and these people. Your insurance agent, in particular, should be regarded as an ally, especially when it comes to disaster prevention issues and addressing the needs of the museum in disaster recovery.
- Contact the various providers of the expertise or equipment you need and inform them of your requirements. Establish what their costs might be and what they may require from the museum. Determine if they are willing to be involved in any of your training workshops (see Step Eight — Training) or have any suggestions to make regarding the content of your Disaster Preparedness Plan. Secure an after hours contact number and establish accounts with relevant companies.
- Spend time in developing a relationship with these providers — it will prove most worthwhile when a disaster occurs. It is much easier to assist a museum recover from a disaster when a provider knows the people involved and the capabilities of the museum—as well as exactly what is expected from their services.
- Make sure you maintain this relationship by regular contact and be sure to inform them of any changes in your plan that may affect their position.
- Make sure that all outside helpers understand that it is the Disaster Coordinator that is in charge of the recovery operation, and that all final decisions will be made by that person.

Task 3 Develop a register of volunteers

- Let your local community know that you now have a Disaster Preparedness Plan and would like to have a register of volunteers willing to be called on if a disaster strikes. Let them know what tasks they will be asked to do and that training will be provided.
- Find what skills or interest each volunteer has and try to match these with the identified needs of the museum.
- Develop a register with name, contact numbers and the area they would probably be working in. Example — salvage, assessment, general helper, supplies etc. Make a copy of this register as part of the Disaster Recovery Plan. Be sure copies are kept up to date and that all members of the Disaster Response Team have the list at home.
- Provide regular training opportunities for all these volunteers and encourage them to attend.

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Templates for Emergency Contacts and the Disaster Recovery Volunteer Register are provided in the 'Template, checklists and sample sheets' section in these guidelines.

RESPONSE

Having identified necessary steps for preventing disasters occurring and preparing for those that do occur, the following section of the guide deals with the steps necessary for **responding** to disasters and then **recovering** from their impact.

STEP 6. PREPARE THE DISASTER RESPONSE PLAN

Instead of listing 'tasks' under each step, the plans are separated into their 'headings' and the information that must be developed for each one.

Aim: The aim of this step is to understand the steps involved in effective response to the threat and immediate aftermath of a disaster, and to prepare all the relevant information and material.

- The Disaster **Response** Plan is used when a disaster threatens, or during and immediately after a disaster has occurred. This plan needs to be able to guide you through those initial responses and first steps that are so critical. The plan will cover all actions to the point of preparing the Disaster **Recovery** Plan, which is when you will move into salvage of your collection.
- A simplified way of looking at the difference between the two plans is to think of the response plan as dealing with the smaller disasters (both response and recovery) and the initial response to a major disaster, while the recovery plan will deal with the process of recovery from a major disaster.
- The following sections cover the areas that need to be included in your response plan. Use them as the headings in your plan and as tasks that need to be completed now to prepare your plan.
 1. Emergency responses to identified risks.
 2. Floor plans etc.
 3. Emergency contacts.
 4. Safety checklist.
 5. Assess and stabilise.
 6. Telephone tree.
 7. Disaster Bin.
 8. Effective Disaster Response Steps.
 9. Collection Priority List.

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1. Prepare emergency responses to identified risks

- Return to your Risk Assessment information prepared in Step One. Prepare a list of the disasters you have identified to be a risk to your museum. Put them down in the order of likelihood of them occurring — the first on the list being the disaster most likely to occur.

(These risks will be those that you have not removed during the course of preparing and implementing your Action Plan and maintenance schedule, covered in Step Two — that is, the ones you need to be **prepared** for.)

- Use the Emergency Response Procedures supplied in the Appendices to prepare specific response sheets for your museum. Clear, standard responses to most emergencies have evolved through experience — and these can be found in most texts regarding Disaster Preparedness. Rather than ‘reinventing the wheel’, you will find that many of those listed will be useful just as they are, while others will have to be adapted to suit your particular situation.
- As you will see from the lists supplied in the appendix, each type of disaster and risk should have its own response sheet. These sheets should be short, simple and very clear. They will deal with minor disasters such as a small leak or discovered pest activity, as well as major disasters, such as floods and fires.
- These sheets should be included in the overall Disaster Preparedness Plan, but should also be copied as the individual Response Sheets which are kept in appropriate places for easy accessibility in the case of a disaster. A good place to keep these sheets is by the telephone as it seems to be the first place most people look.
- The Response Sheets can also be used when training volunteers in disaster response and recovery. It is very reassuring for a new volunteer to be able to see exactly what is required of them.

(This ‘action sheet’ approach is also used for all the salvage procedures in the recovery plan. See ‘Template, Checklists and Sample Sheets’ section in the back of this guide)

2. Draw up floor plans

- Simple floor plans of the museum should be drawn up to show:
 - all entrances and exits, and main evacuation points;
 - powerpoints;
 - fire extinguishers (and for what sort of fire);
 - Disaster Bin location/s (see section on Disaster Bin); and
 - main utilities and services, and their shut off points-water, gas, electricity, air-conditioning, sprinkler system etc.

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- Keeping in mind the security aspect, prepare a separate floor plan that shows the location of all the priority objects. This floor plan should be kept with the Object Priority List and retrieval instructions, and used when necessary. It is important to keep this plan updated if objects are moved from their marked location, or with new acquisitions and loans.
- Make sure your local emergency services have copies of the floor plan, with any of the information on it that they might require to assist them in responding to an emergency at your museum.

3. Develop list of emergency contacts

- From the response procedures that you have now prepared, it will be clear that some of the responses will involve outside expertise. The most common of these will be the Emergency Services organisations in your area — Fire Brigade, Police, Ambulance.
- Other useful emergency contacts will include local services like plumbers and electricians. Still others may require expertise from further afield — such as conservators, Museums Australia (or similar organisation), AICCM, Munters Moisture Control Services, insurance agent etc.
- Prepare a list with the organisation, contact name and contact details and keep it somewhere **easily accessible** and make sure everyone **knows where** it is. It is useful to establish contact and a relationship with these organisations before you may need them in a disaster.
- It would also be advisable to invite your local fire brigade to inspect your museum and talk to them about the nature of your collection — they may need to use a different approach to fires at the museum due to the fragility of the objects and they need to have this information **before** they are called to a fire. The police may also like to know about your most valuable objects — if they are ever stolen then they will already know what they are and what they look like.
- A good point to start in regard to emergency services is to find your District or Regional Emergency Management Officer. Depending on the situation in your area this person could be located in any one of the emergency services. Contact the local council and they will be able to advise you where to find this officer. This person is your link to all the emergency services in the area in the case of a **local or regional disaster** (not your museum!) and would also be an excellent person to advise you on disaster preparedness from the emergency services perspective. They may even be able to assist in training the staff of the museum.
- Many other sources of expertise will be able to advise and assist you in developing the response procedures and may also offer training in various procedures and use of equipment. Show them your plan and ask for comments and suggestions.
- The insurance broker or insurance company that the museum uses should also be consulted at this stage as they may have particular requirements that the museum has to fulfil. The insurance agent should also be consulted in regard to all the action that the museum is undertaking to prevent or prepare for disasters e.g. security systems, fire detection and suppression systems etc.
- A template 'Emergency Contact List' is provided for your use at the back of these guidelines.

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4. Prepare a safety checklist

- One of the most important tasks in dealing with a disaster is to first ensure the safety of all people still at the museum or responding to the disaster. Human life and safety **always** comes before the care of the collection (although sometimes it does not seem that way at committee meetings!).
- If your museum has just suffered a disaster, it is critical that people do not enter the site until it is quite safe to do so. Identifying potential safety risks and hazards can be a relatively straightforward matter and a simple safety checklist needs to be prepared. Use this checklist to determine if the site is safe after the disaster.
- This checklist should be used if the Emergency Services have not yet arrived (in the case of a major disaster), or if the disaster is considered a minor one that can be dealt with by the museum staff.
- **Anything more complex should be left to the emergency service personnel. You should not enter the site until they have declared it safe.**

(This is why it is important to have your response and recovery plans kept off-site as well as at the museum — you may not be able to enter the museum to find your plans).

- An example of a safety checklist for museum staff prepared by the conservation department of the Australian National Maritime Museum can be found in the 'Templates, checklists and sample sheets' section at the back of the guide.

5. Prepare a procedure to assess and stabilise the situation

- Once it is determined that the area is safe, the situation can be assessed in order to decide on the next few steps:
 - is this a minor disaster that can be dealt with using the Disaster Bin and a couple people from the Disaster Response Team?
 - or this a major disaster that requires the Emergency services to be called and the full disaster response team?
- At this stage, it is also important to attempt to stabilise the situation to prevent further damage. This may involve stopping a flow of water, covering display cases or shelves in the storage area, opening windows to allow moisture to escape — anything that may prevent further unnecessary damage from occurring.
- Develop a list of criteria or questions that will guide you through the decision-making process. Some useful questions are listed below:
 - Is the cause of the disaster still ongoing?
 - What can be done to prevent further damage?

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- Does the full Disaster Response Team need to be called?
 - What is the extent of damage to the collection?
 - Have any of the priority objects been damaged?
 - Does the environment need to be stabilised? (eg water or smoke damage)
 - Do you need to call for outside help or expertise?
 - Is this going to be a major or minor recovery effort?
 - What needs to be done to allow that recovery to begin?
 - Do we need to move off-site?
- An ‘Assess and Stabilise the Situation’ checklist has been provided in the back section to assist and guide you.
 - If there has been water damage and you have a wet building, you need to consider what to do to in order to stabilise the environment and prevent mould growth. If you have air-conditioning (and it is working), use it to try to bring the moisture levels down. Otherwise, open the windows, remove as much water as possible etc.

6. Draw up a telephone tree

- A ‘telephone tree’ should be prepared and placed beside every telephone in the museum. This ‘tree’ is essentially a prioritised list of the order in which people should be contacted and who is responsible for contacting them. That is, ‘First call..., she then calls... and, they will call... and...’ etc.
- This list should include the numbers of all of the Disaster Response Team (and who is responsible for contacting them) as well as the Emergency Services. The list may also contain some of the same contacts listed on the Emergency Contact List developed earlier.
- The tree should be updated regularly, and all those on the Disaster Response Team should have a copy at home. The local council and all emergency services should also have some of the critical contact names from the museum-such as the Coordinator of the Disaster Response Team, the President of the committee, Director (if there is one) etc.

Remember — you may not be at the museum when the disaster occurs.

- A telephone tree template has been provided as a guide in the ‘Templates....’ section in the back of the guide.

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7. Prepare a disaster bin

- In order to deal efficiently with those smaller disasters such as leaks, dust and dirt deposits, very small fires etc., it is useful to have a small supply of materials on hand. These supplies should also address the basic requirements for the initial response to a larger disaster.
- The materials should be kept in one place and not used for anything other than disasters. Rather than having to run around and find paper towels, mops, garbage bags and the like, a small amount of these materials are kept in a small container, such as a 'wheelie' bin, ready for any emergency.
- Many museums use the 'wheelie' bins (rubbish bins on wheels) as their Disaster Bin as they are easy to move and protect the contents from mud, water etc. However, there are some disadvantages such as the depth of the bin making it hard to reach materials at the bottom. There are smaller versions of these bins available which may be more suitable, or perhaps bulky items such as buckets could be placed at the bottom of the bin with the smaller items on top.
- The bins should be clearly marked as containing **only** disaster response materials so that people do not use it as a rubbish bin. Staff should also be discouraged from using the materials in the bin for anything apart from disaster response. A regular check of the contents is important to ensure that necessary materials are always present.
- Although the contents of well-stocked Disaster Bin are not extensive the costs can still add up. For many small museums these costs may prove prohibitive. In these cases, it may be useful to look at alternatives for the contents listed and to go to the community for assistance and donations. For example, paper towels could be replaced with old towels donated by friends of the museum. The local hardware shop may consider donating a few items, and so on. With a bit of imagination and effort, you should still be able to have a usefully stocked Disaster Bin.
- A list of useful items to have in your Disaster Bin, and what they can be used for, can be found in the Appendices. Those that are considered absolutely essential have been marked with an asterisk. Equipment and materials that are needed for disaster recovery and are too large for the disaster bin are listed under Disaster Store contents.

NB: It is wise to keep your Disaster Bin in an area that is the most likely to be accessible at all times — even in the case of a major disaster.

8. Draw up a 'steps in effective disaster response' sheet

- To complete your Disaster Response Plan, draw up a step-by-step action sheet that outlines exactly what to do in response to a disaster. These steps should not include all the details involved in the Response Plan (the previous seven steps). This sheet should be a one page guide for what actions must be carried out for effective response. It should act as a memory jog for the person responding to the disaster and guide them in that first stressful period.

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- Include this sheet as the first page of the Response Plan.
- A checklist has been provided in the back section and this sheet may well be all you need. Or you may need to add steps appropriate for your museum.

Main points about response

- Human safety overrides everything — know the evacuation procedures.
- Try to control the source of the problem.
- Know who to call immediately.
- Know how to assess safety of the site.
- Know your museum layout — especially where the disaster bin is located.
- Know your collection priorities — where they are and how to retrieve them.
- Know how to stabilise the situation.
- Be able to assess the situation and any damage.
- Have identified areas to move damaged objects into.
- Know who to call for help.

[from Museums Australia (NSW) workshop on Disaster Preparedness; and National Library of Australia 'Collection Disaster Plan']

Not thinking clearly can result in oversights that allow further damage to occur. For example — a large, national museum suffered a major flood due to burst overhead water pipes. The first person to discover it did not think to turn off the water at the mains (or did not know where they were) before raising the alarm. Consequently, there was much more water damage than there would have been had he simply turned the water off first, then called for help.

Follow the procedures outlined in your Disaster Response Plan and situations like these can be avoided.

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RECOVERY

STEP 7. PREPARE THE DISASTER RECOVERY PLAN

Aim: The aim of this step is to have gathered and prepared all the information necessary to be able to put together an effective Disaster Recovery Plan under the stress of an actual disaster. It should enable a museum management to feel prepared in the face of a disaster.

- The Disaster Recovery Plan is used once you have responded and dealt with the immediate issues of the disaster (i.e. the Response Plan) and you have time to pause and consider the situation. It has become clear that it is a major disaster that cannot be dealt with by one or two people. The Response Plan has been followed well and the site is now safe and secure. What happens now? How does the museum recover from this disaster and get back to normal?
- It can be very tempting, when you find yourself in the middle of a disaster, to immediately rush around 'doing' things. This can ultimately cause more problems than it solves. It is most important to take the time to plan, and this is where the information contained in this section will be of most value. Try to avoid rushing into any decisions until you have taken the time to sit down and review your plan.
- Take the time to:
 - a) sit down with this Recovery Plan outline;
 - b) look at each section; and
 - c) use the details to prepare the recovery plan for the disaster that has just occurred.
- It is important to be as prepared and practised as possible, so that putting together your recovery plan in the throes of a disaster will not prove overwhelming. This is where all the training workshops in Disaster Preparedness that the museum has run will be of great value! (see Step Eight — Train All Staff)

The main objectives to keep in mind while recovering from a disaster are:

- safety for all those working at the museum;
- reduce damage to the collection and the building (and minimise cost);
- record damage (for insurance and record-keeping purposes);
- stabilise the museum environment;
- save as much of the collection as possible; and
- return to normal museum activities as soon as possible.

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The following sections cover the areas that need to be included in your Recovery Plan. As with the Response Plan, use them as headings in your plan and as the tasks that need to be completed now.

1. Organising the team.
2. Recording and evaluating damage.
3. Recovery needs.
4. Modifying (stabilising) the environment.
5. Salvage procedures.
6. Action Sheets.
7. Locating supplies.
8. Maintaining morale.
9. Returning to normal.

1. Organising the team

- The main issues to be dealt with will be all the steps outlined above as the essence of the Recovery Plan, so you need to make sure you have allocated responsibilities for all of these steps and everyone is clear about what they are to do.
- At this stage the Disaster Coordinator needs to organise the Response Team. Hopefully, all those members of the team that have specific roles to play will be present — if not, other people need to take on those roles (See Action Sheets section). Make sure you have your list of the team members, their responsibilities and their contact details. Ensure they are all aware of what they need to do in this situation.
- Try to find an area that can be used as the ‘command centre’ that has office equipment and telephones. A secure area may also need to be found, if objects are going to be removed from the museum prior to setting up salvage procedures
- A schedule or timetable needs to be developed so that workers receive adequate food, breaks, and relief. If volunteers are already beginning to arrive, they need to be quickly organised to avoid people initiating activity without discussion and approval.
- This planning needs to happen before any removal of objects or cleaning up, and should be reviewed every few hours to make sure you are on track.

2. Recording and evaluating damage

- Develop a Damage Checklist based on the example in the Sample Sheets section at the back of this guide (You may need to edit this list so it is appropriate for your museum). Filling in this checklist will provide much of the information needed to plan the recovery — what is the extent of the damage, what objects are damaged, what is the type of damage? etc.

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- The Disaster Coordinator, the documenter and the assessor should all walk through the museum with copies of this checklist and the camera (keep a disposable camera in your Disaster Bin), and record all the damage.
- A thorough documenting of the damage will allow you to plan your recovery from an informed state. This information can also be referred to when necessary during the later stages of recovery, to ensure that everything noted during this evaluation has been dealt with. This, in turn, will avoid wasting time and making incorrect decisions.
- All damage should be recorded by both photographs and written documentation. This is most important for insurance purposes and when you come to review your Disaster Preparedness plan after the recovery. It will also assist any conservators if they need to advise you from a distance. It is useful to have a pencil to do this as inks may run if high moisture levels are present. Be sure to keep a photograph register, recording the subject of each photograph frame.
- Once the damage has been viewed and recorded, the team will be able to evaluate the damage. This evaluation will guide the recovery process. The damage checklist will also assist you in this process. You need to assess:
 - what kind of damage has occurred;
 - what is the scale of damage — small, moderate and large;
 - what type of material was damaged (organic/inorganic, books, photos and textiles);
 - have any priority objects been damaged;
 - if any objects have to be moved and if they will be further damaged by this;
 - what type of salvage is going to be required (wet organic material, smoke damaged material etc.); and
 - if the museum has to be closed.

Make sure you write all of this down. An example of a possible table that could be used to record all the information regarding the objects is provided in the Salvage Procedures section in this Step. A template of this table is provided in the ‘Templates, checklists and sample sheets’ section at the back of this guide.

3. Recovery needs

- This is one of the more critical parts of your recovery plan. It is now you need to decide how you are going to proceed and what resources you will require. By working through the Damage Checklist you will have determined the type of damage that has occurred. This will tell you what **salvage procedures** are required (See later section). The salvage procedures (See Appendices) will identify what **materials and equipment** are needed, and what sort of **assistance** you are going to need.

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- These three areas — salvage procedures, resources and assistance — will be the main focus of your recovery plan.
- Use the damage checklist to ensure you cover all the necessary areas:
 - Do you need to call for more volunteers? If so, use your register.
 - What expertise do you need (conservators, moisture control, engineers, Museums Australia etc.). Use the contacts you have already put in place.
 - What expertise do you have ‘in-house’?
 - Do you need to call for outside help (plumbers, electrician etc.)?
 - Develop a list of people to call-include insurance agent, local council contact etc.?
 - What extra equipment and materials are needed?
 - Do you need access to freezing facilities?
 - Do you need a secure, off-site area to work in (as you need to move the objects)?
 - Is pest control necessary?
- Members of the Disaster Response Team can now start going to work. Volunteers can be called, resources found and brought on-site, salvage systems put into place, calls made etc.
- Remember, a major disaster may mean that will have to work off-site while salvaging your collection, and this will complicate the recovery process. You need to ensure that the movement of the collection to the off-site recovery area does not damage the collection further, that the off-site space is large enough, and that there is security on-site. And, of course, all your volunteers need to know where to go.

4. Modifying (stabilising) the environment

- The museum environment (i.e. the air temperature and relative humidity, amount of moisture present, dirt and soot etc.) needs to be stabilised as quickly as possible, particularly if it also has to be the recovery area. If there is water damage (and there usually is) it is important to quickly reduce the relative humidity to prevent mould growth and further damage to the collection.
- If the museum has air-conditioning:
 - set the controls to as low as possible — both relative humidity and temperature;
 - monitor the environment with a thermohygrograph or sling psychrometer to determine when the relative humidity has been lowered sufficiently (approx. 35 per cent);
 - keep the relative humidity and temperature stable — 35 per cent relative humidity and 18° C temperature, **while drying objects**. (Once everything is back to normal, the temperature and relative humidity should gradually be brought back to the usual settings.)
- If there is no air-conditioning:
 - remove all standing water;

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- open all the windows and doors (check security issues);
- set up fans (cool air);
- remove all wet carpets, curtains etc.;
- remove water-logged objects, if safe to do so; and
- keep the environment as cool as possible.

(NB. Some objects become very fragile when they are water-damaged. Extreme care is needed when moving them, and some may best be left undisturbed. Call a conservator if in any doubt.)

- Consider the undamaged objects in the museum — do they need some form of protection, should they be removed to a safe, secure site? If necessary, cover objects, display cases and storage shelving with strong plastic (from your Disaster Bin).
- What about the security of the museum — is it open to theft or vandalism?

The main objective here is to prevent further damage to either the museum or the collection. Consider all the possibilities and make sure you have identified possible solutions.

5. Salvage Procedures

- Consider the material in your collection and the risks/threats to your collection that you have identified during the preparation of this plan. What type of damage would result from each disaster actually occurring? What damage has the highest likelihood of occurring? Water damage, smoke damage, pest infestation, mould outbreak?
- Use the salvage procedures in the Appendices to prepare easy to follow steps in salvage for **each type** of damage. Much initial salvage can be undertaken by museum staff and extra volunteers, especially if you have run regular training workshops in the salvage procedures.
- More complicated salvage of damaged objects needs to be left to conservators. If funding permits, it would be useful to engage a conservator to come and advise on what can be done at the museum and what will need to be salvaged by conservators.
- **If in any doubt leave it for the conservators.**

Salvage categories

- Establish a simple classification system for sorting the damaged objects prior to beginning salvage procedures. A four level system can work well:

Priority A: immediate treatment necessary — by staff at museum. Includes damaged objects from the Collection Priority list.

Priority B: immediate treatment necessary—by conservators.

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Priority C: essentially stable and can be treated later.

Priority D: unsalvagable, and should be discarded (i.e. no treatment at all), following documentation.

- When deciding on salvage options, keep in mind the relative costs (in time, money and energy) – if it is not a high priority object within your collection, would it be simplest to replace the object at a later date?
- A sorting system will also need to be established for the type of salvage procedure appropriate for each object. This will depend upon the material of the object and the nature and extent of the damage. For example, if dealing with a disaster that involves water damage there are several salvage and treatment options-air dry on-site, freeze (until work can be undertaken), or send out to specialist conservators.
- Keep in mind that freezing water-logged objects is only undertaken to buy time with regard to mould growth, and if objects can be safely air-dried that is a better alternative.
- When sorting your damaged collection into salvage categories, make sure you keep your collection priorities in mind and salvage high priority objects first.
- Although it is essential to prepare salvage procedures as part of your Disaster Preparedness, **there is no substitute for training**. Until you have simulated most of your disaster scenarios and actually tried handling damaged material such as water-logged newspapers and books, or charred furniture, you are not really prepared for an effective disaster recovery. (See **Step Eight – Training all staff**).
- Identify a possible off-site, secure work area for salvage operations. It may be that when the disaster occurs, your museum building will also be damaged and will not be suitable as a place for salvage of the collection. It is surprising how much space you need for an effective recovery operation.
- When planning your salvage operation you will need to assess the condition of your building, whether you can stabilise it quickly and whether you can conduct salvage there.
- At the time of your disaster recovery, you will need to assign a **team leader** to each of the salvage procedures you will be undertaking. These leaders will set up the procedure, prepare the materials and equipment, oversee the procedures, train new volunteers in the procedure etc. If possible, they should be nominated before the disaster so they are able to train thoroughly in their particular salvage procedure.
- **One of the most critical, and often overlooked, tasks during recovery from a disaster is the documentation needs.** It is absolutely vital to record what happens to each object during the course of the disaster recovery. This may include whether it is moved to another location, sent to a freezer facility, or sorted into appropriate salvage procedures. Catalogue numbers must be recorded, and if the number has been lost in the disaster this should be noted. It has been

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the case that some museums have saved their objects from the disaster only to have them disappear during salvage, never to be seen again.

- Prepare a form that can be used to document the movement, treatment, position etc. of all the objects affected by the disaster. This form can also be used during the Recording and Evaluating Damage stage. An example is provided on the next page and a template of such a sheet can be found in the ‘Templates...’ section at the back of the guide.

Object documentation list – example

(TO RECORD DAMAGE, TREATMENT AND MOVEMENT)

Object	Number	Damage	Category (of salvage)	Treatment	Location
Metal casket	Lost	wet — on surface	C	Air-dry	Main Hall
Birth register	MO-492	wet (water-logged)	A	Freeze	Freezer truck
Newspaper collection	AR-781	none	none	none	Local council store room
John Glover watercolour	PI-358	wet — window mat & w/c have water marks	B	Conservator	Safe room (until conservator arrives)
Farming book collection	DO-179	water-logged	D	Document before discarding	Back verandah

6. Action Sheets

- For each of the salvage procedures, prepare an separate Action Sheet that covers all the steps involved in that particular procedure. Be sure to include any tips on handling etc. (See example in the ‘Templates, checklist and sample sheets section at the end of this guide). The salvage team leader could be responsible for preparing these sheets.
- The leader of each salvage team (i.e. air-drying, packing etc.) should have several copies (preferably in plastic covers) of their Action Sheet only. These sheets should be given to new volunteers as they are assigned to the team, to act as a training guide until they are familiar with the techniques.
- Many of the steps involved in Recovery (and Response) procedures outlined in this guide would be suitable for Action Sheets, and should be considered in this manner.

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7. Locating supplies and equipment

- Part of writing your recovery plan at the time of the disaster, will be to determine what equipment, materials and supplies are needed. These will depend, once again, on the nature of the damage and the type of objects that were damaged, and the salvage procedures to be used. Specialist equipment (pumps, de-humidifiers) for stabilising the building may also be required.
- The Supplies and Equipment Coordinator (in the Disaster Response Team) should prepare a register of all the sources of extra equipment and material that may be accessible around the community for use during response and recovery from a disaster. This register should be developed by working through each appropriate salvage procedure and identifying needed equipment and materials that the museum would not have in the building. For example, a pump may be needed to remove standing water from the museum building; de-humidifiers and fans required to reduce the relative humidity in the museum; or freezer facilities required to freeze water-damaged objects.
- Sources of common materials such as garbage bags, paper-towel, butcher's paper, plastic sheeting etc. should also be identified.
- Contact should be made with the suppliers of these materials and equipment and a relationship established. An agreement should be reached, particularly with owners of freezing facilities, that the museum can call for the use of this equipment should the museum have a disaster. The suppliers of materials and equipment should know exactly what will be expected of them **before** the disaster.
- It is particularly important to source and make contact with suppliers of specialist equipment such as de-humidifiers, thermohygrographs etc. There may not be a point of supply in your town, or even nearby, and you need to be aware of the steps involved (including any costs) in getting this equipment to your museum. You may want to ensure that you have the support of your local council in dealing with these larger issues, and that your insurance agent and the loss adjustor are also aware of these issues.
- It is also important for the museum to know, in advance, the likely costs involved in using this equipment or purchasing any of the other supplies. This financial information will be vital when the Finance member of the Response Team has to make rapid decisions regarding expenditure of museum funds.
- Ensure that the Disaster Bin has a good stock of the most commonly required materials. If you are fortunate enough to also have a Disaster Store, this would be the place for bulk items and large equipment.
- If there are other museums in your region make sure you know what supplies they have and if they are willing to share these with you in the time of a disaster. Or perhaps you could all set up a shared Disaster Store? An example of this approach and what may be kept in such a store is included in the Case Study section at the back of the guide.
- A sample list of materials and equipment that may be needed in disaster recovery is provided in the Appendices.

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8. Maintaining morale

- Disaster recovery can be a long and arduous task. While there may be an initial high level of response from the community and many enthusiastic volunteers, experience has shown that this level of support lasts for about 72 hours after a disaster has occurred.
- When planning your recovery, consider the workers and their needs. The recovery period is a time of stress, shock and confusion (unless you have a well-written Disaster Preparedness Plan!) and if you do not prepare for this and understand the consequences, it will make the recovery all the more difficult. Confusion and chaos can ruin the best planned disaster recovery unless you are prepared to recognise it and deal with it. **The effect of shock on people's abilities cannot be underestimated.**
- A well organised disaster recovery can actually be a team builder and moral booster for the museum and the community, if it is well handled. It may even generate more community support regarding volunteers and funding from a long-term perspective — something every museum needs.
- The volunteer coordinator in the response team should be taking care of needs such as food and drink, rest breaks, training, and home breaks. It is also wise to plan for keeping up the morale of the entire team working on the disaster recovery:
 - make sure any issues are dealt with as soon as possible, rather than letting them simmer. Let the volunteers know who makes the decisions;
 - keep everyone well-informed regarding the progress of the recovery;
 - establish attainable milestones during the recovery process, that can be celebrated when they are achieved. For example:
 - when the environment is stabilised;
 - when all the objects have been retrieved;
 - when all the salvage procedures are in place;
 - when the objects have been dried etc.;
 - make sure everyone gets enough rest; and
 - communicate, communicate, communicate.
- And, of course, when the recovery is complete, celebrate with a big party to which everyone who has contributed in anyway (including businesses, council, insurance agents, loss adjustors etc.) is invited.

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9. Returning to normal

The building is stable, the collection salvaged, the volunteers have gone home — the disaster feels over. However, there are still some things to keep in mind and to put into place before everything can return to normal.

- If your building was water damaged you may need to clean the floors, walls, and even the ceiling with a fungicide to prevent mould growth. Seek advice regarding this from your pest management contact.
- Objects that were water damaged need to be monitored for a period of time to ensure that further damage does not occur—such as splitting, mould growth, rusting and corroding of metals etc. While an object may appear dry on the surface, it may still have a high moisture content that will take some time to level out.
- Wet floors need to be closely watched also. New carpets should not be put down until it is determined that the floors are really dry. This is particularly the case for concrete floors and brick buildings which can retain moisture for a very long period of time, often more than six months. It is best if a company such as Munters Moisture Control Services, which specialises in drying building and material, can measure the moisture content before you lay down new carpets or move back into the museum. If a building is not completely dry when the collection is re-installed, mould problems may develop. Keep in mind that not all companies that claim to control moisture understand the complexities of drying a building and its contents. Try to determine whether (and how) they will measure the moisture content of the building fabric before declaring the building to be dry.
- Equipment that has been used or been wet during the recovery phase will need to be cleaned and checked that it is still in working order.
- The disaster bin or store will need to be restocked with the materials that were used during the recovery process.
- If there has been a fire in the museum, the air-conditioning ducts will need to be cleaned before the system is turned on again.
- When replacing objects in display cases be sure that both the object and the display case are quite dry. Otherwise, a microclimate with a high moisture level will be set up, with mould growth as a rapid consequence.
- Make sure you re-open your museum with great fanfare and that the public knows it can now return to its favourite museum.

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Outline of steps In response and recovery

Museum and collection threatened
(Beginning of Response)



Emergency response



Emergency contacts called



Disaster response coordinator called



Safety check



Assess and stabilise situation



Determine recovery type

(End of Response)



(Beginning of Recovery)

Call Disaster Response Team



Team organised



Assessment and recording of damage



Needs determined- equipment and support



Recovery plan formulated



Environment stabilised



Salvage procedures established



Collection salvaged



Return to normal

(End of Recovery)

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STEP 8. TRAIN ALL STAFF

Aim: The aim of this step is to foster an understanding of the importance of training in the overall scheme of Disaster Preparedness. It aims to assist in the development of a schedule of training programmes and workshops to make sure that workers at the museum are very familiar with their Disaster Preparedness Plan, and the activities involved in Disaster Response and Recovery.

Tasks:

1. Prepare and run training workshops.
2. Organise specialist workshops.
3. Schedule regular update workshops.

- Practice makes perfect — effective training is the essence of any plan succeeding. While something may look wonderful on paper, unless it is trialed in a realistic setting you cannot be certain it will work. Nor can you be certain that all those involved actually understand their roles in disaster response or recovery. By practising and training in all the procedures involved, you will discover the things you have completely overlooked and find all the weak links. Training will also inspire confidence in the Disaster Response Team in both the team members and other volunteers involved in Disaster Preparedness.

NB. Preparing good training workshops can be quite difficult. If you feel you need assistance, contact training and service organisations in your state — such as Museums Australia and the arts training organisations. A poorly organised training workshop may confuse participants and do more harm than good. Take advantage of training opportunities in your state.

Task 1 Prepare and run training workshops in disaster response and recovery

- Training workshops are intended to allow participants to learn techniques and to understand procedures they have so far only seen written in the Disaster Preparedness Plan. While handling water-logged books may seem straightforward when reading about it, it is not until you actually try to do it without damaging the book that the issues become reality. Training in all the areas identified in response and recovery should focus on the practical and the unknown — so they become straightforward and understood.
- Do not attempt to try to prepare a workshop covering both the response and recovery plans. It is too large a task and will not provide effective training. Instead, select elements of the plans that are easily separated, such as — Disaster Response procedures for two or three of your identified risks; salvage procedures for wet organic material; establishing a recovery plan after a flood; dealing with a leak in the store room etc.; handling all the equipment (are you aware of the weight of a fire extinguisher?).

A workshop aimed at training all staff in the Response Procedures is probably one of the first training sessions that should be held.

- Once you have workshops prepared for the separate elements, try preparing a two or three day workshop for practising both the Response and Recovery Procedures for all your major disaster risks. This is a large task and you may want to seek advice from training organisations

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or secure funds to bring an outside person in to run your workshops. Service organisations such as Museums Australia will be able to assist you with these workshops also.

- Make sure that all staff on the Disaster Response Team attend all workshops. This is most important and should be mandatory if they want to remain on the team. Also encourage all those volunteers on your register for Disaster Recovery to attend workshops. Clearly, the more trained staff you have, the better you will deal with a disaster.

Task 2 Organise specialist workshops

- Take advantage of workshops from other specialist organisations such as the fire brigade, St John's Ambulance, police department etc. and arrange for some focused training for the museum staff. Show them your plan, ask for comments and feedback.
- Organise training days for focussing on the salvage procedures you have developed. Salvaging water-logged material is a particularly useful one as it is one of the more likely disaster scenarios you will confront. Practice handling wet paper and books, building wind tunnels, packing into crates for freezing.

Task 3 Schedule regular update workshops and training opportunities

- Make sure the workshops happen regularly by scheduling them into the museum's timetable or strategic plan. It is most important to ensure that any new staff members and volunteers receive training in all aspects of the plan.
- It is important that the Disaster Preparedness Plan remains a current document, and by practising it regularly things that may have become obsolete will be identified and rectified. It will also give you the opportunity to refine and add more depth to the plan, once you have the time and knowledge.
- Make sure staff members take advantage of any training opportunities offered by other museums, Museums Australia and other organisations.

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STEP 9. REVIEW DISASTER PREPAREDNESS PLAN

Aim: The aim of this step is to ensure that the Disaster Preparedness Plan is regularly reviewed and updated. This should happen after each disaster, minor or major; after each training session; and whenever anyone learns something new about Disaster Preparedness.

Strategies:

- Develop de-briefing process.
- Review plan and procedures after each training.
- Regularly update plan.
- Maintain a record book.

Every time you respond and recover from a disaster, large or small, you will learn something new about your plan. Hopefully, it will be useful things to include the next time, but it may also involve realising that part of your plan does not work.

Make sure that you set aside time for 'de-briefing' after each disaster. Go through your response and recovery procedures and evaluate them for their effectiveness:

- what worked and what didn't?
- was your plan useful, and logical?
- was it easy to follow? Could you find everything you needed?
- did you have enough materials and equipment?
- did everyone know what to do?

Do this as a round-table with all those involved in the disaster — it is amazing how ideas may flow. Do it as soon as possible after the disaster — once everyone has recovered themselves — so it is still fresh in everyone's mind.

This approach should also be used after each training session in the various elements of the plan. What step was out-of-place? Who moved that high priority object and why was its position not changed on the floor plan?

Keep your plan alive by making sure you regularly re-visit it, even if it is only once a year. Make sure you update all areas that may become out-of-date, such as telephone numbers or members of the Disaster Response Team.

Maintain a record of all disasters, minor and major, to develop a picture of the areas of weakness within your museum.

Be sure to date your plan when it is first written, and again after every review.

Regular reading and research about Disaster Preparedness (see Bibliography) will also allow you to refine your plan once you have it in place.

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SUMMARY OF PLAN CONTENTS

Having completed all the steps in the writing of a Disaster Preparedness Plan, you now need to compile your documents. All the information you have prepared should be collected into one document and called the **Disaster Preparedness Plan**. This is the main, overall document, with all the museum's information about its disaster preparedness, and it should be regularly reviewed and updated. A guide for the order of the documents is provided below.

Then, relevant documents should be copied and compiled separately as the **Disaster Response and Recovery Plan**. These documents are outlined over the page.

DISASTER PREPAREDNESS PLAN

Introduction

- Management authority
- Why the plan was prepared and what it covers
- Team who prepared the plan
- How it should be used
- Date of plan

Disaster prevention

- Risk assessment table
- Action Plan (should be regularly updated)

Disaster preparation

- Collection Priority List
- Disaster Response team
- Volunteer Register
- Emergency Contact List

Disaster response

- Steps in Effective Disaster Response list
- Emergency Procedures Sheets
- Safety Checklist
- Damage Checklist
- Floor plans
- Assess and Stabilise Checklist
- Telephone tree

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Disaster recovery

- Steps in Effective Disaster Recovery list
- List of headings for Recovery Plan
- Salvage Procedures and Action Sheets
- Disaster Response Teams
- Object Documentation Checklist

DISASTER RESPONSE AND RECOVERY PLAN

(Copies to be kept off-site with Disaster Response Team, as well as at the museum)

Should include:

- Collection Priority List
- Floor plans
- Disaster Response team
- Volunteer Register
- Emergency Contact List
- Steps in Effective Disaster Response list
- Emergency Response Procedures Sheets
- Safety Checklist
- Damage Checklist
- Assess and Stabilise Checklist
- Telephone tree
- Steps in Effective Disaster Recovery list
- List of headings for Recovery Plan
- Salvage Procedures and Action Sheets
- Object Documentation Checklist
- Materials and Equipment list

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TEMPLATES, CHECKLISTS AND SAMPLE SHEETS

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PROGRESS CHECKLIST

COMPLETED / STILL NEEDS

STEP 1. Assess all risks and threats

STEP 2. Reduce or remove those risks

STEP 3. Prioritise collection

STEP 4. Establish Disaster Response Team

STEP 5. Establish support networks

STEP 6. Prepare the Disaster Response Plan

STEP 7. Prepare the Disaster Recovery Plan

STEP 8. Train all staff

STEP 9. Review the Plan

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HAZARD CHECKLIST (To be used during risk assessment process)

The following is comprehensive hazard list that may help guide you in your risk assessment process. It is taken from *Preparing a Museum Disaster Plan* John E. Hunter, 1991 Disaster Preparedness Seminar Proceedings, Southeastern Museums Conference.

Natural disasters

Blizzard or heavy snow fall
Hurricane
Severe thunderstorm
Sleet, hail, and ice
Tornado and wind storm
Flash flood
Slow-rising flood
Tidal wave
Range or forest fire (bush fire)
Earthquakes and mud slides
Volcanic eruption or lava flow
Drought (prolonged)

Industrial disasters

Electrical power failure
Fuel supply failure
Water supply failure
Sewer failure or backup
Explosion
Extreme/prolonged air pollution
Fuel spill (major)
Chemical spill
Radiological materials spill
Structural collapse
Structural fire (internal)
Exposure fire (external)

Accidents involving:

Bodily injury
Broken fuel pipelines
Broken water or sewer pipes
Downed power or phone lines
Aircraft (crashes)
Construction equipment
Motor vehicles
Ships and boats
Trains
Transport of chemicals or fuels
Transport of nuclear materials
Nuclear power plants or weapons

Human (incl. criminal) activity

Accidents by individuals
Armed robbery
Arson
Bombing
Bomb threat
Conventional warfare
Nuclear warfare and fallout
Riot and civil disorder
Sabotage
Terrorist attack
Hostage taking
Vandalism

Other useful suggestions can be found in many of the texts listed in the Bibliography, including *'reCollections'*.

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PRIORITY OBJECT LIST

This provides a short example of how your Priority Object list would look if you included information about location and type of material.

Object	Location	Security	Material	Risk
Mrs Williams wedding dress	Front room	On stand	textile	water, fire, pests
John Glover watercolour	South wall back room	On hooks attached to wall	paper and wooden frame	water, fire, theft

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DISASTER RESPONSE TEAM

Position	Name	Contact Number
Disaster Coordinator		
Volunteer Coordinator		
Documenter		
Finance Officer		
Assessor		
Materials/Equip. Coordinator		
Media Coordinator		
Networker		
General Helper		
Security Person		
OH&S Person		
Other		

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EMERGENCY CONTACT LIST

	Name	Contact Number
State Emergency Services		
Ambulance		
Fire		
Police		
Council/Shire Offices		
Plumber		
Electrician		
Water		
Gas		
Security		
Pest Control		
Insurance Company (Policy No)		
Museums Australia/Other		
Conservator		
Locksmith		
Engineer		
Lawyer		
Freezer space		
Other museum contacts		
Off-site space for recovery		
Carpenter		
Glazier		
Drying Company (Moisture Control)		
Emergency Equipment Rental		

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STEPS IN EFFECTIVE DISASTER RESPONSE

- 1.** Follow the Emergency Response Procedure for the particular threat or disaster.
- 2.** Evacuate visitors and staff if necessary, retrieve Priority List objects if possible.
- 3.** Call Emergency Services, if relevant, and Disaster Coordinator.
- 4.** Work through Safety Checklist to determine site stability.
- 5.** Ensure there is no source of ongoing damage. (turn off water, cover shelves etc.)
- 6.** Stabilise the situation as much as possible (turn off utilities, open windows).
Use the Assess and Stabilise checklist.
- 7.** Use the contents of the Disaster Bin to deal with any immediate problems.
- 8.** Assess the damage and the situation to determine the extent of the disaster.
Use the Assess and Stabilise checklist. Document all damage.
- 9.** Activate the telephone tree and call the rest of the Disaster Team, if required.
- 10.** Go through the Disaster Response Plan to check if you have forgotten anything.
- 11.** Sit down, review the situation, use the Disaster Recovery Plan to plan your recovery.

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SAFETY CHECKLIST

This checklist was developed by the conservation staff of the Australian National Maritime Museum, for use by all staff of the museum.

SAFETY SHOULD BE YOUR PRIMARY FOCUS.

To determine whether there are any risks to your safety run through the following checklist:

If the answer to **ANY** of these questions is **Yes**, the site is unsafe. Leave the area and **DO NOT** re-enter until Emergency Services personnel have deemed it safe.

- Are there **electrical wires or power points** in contact with **water**?
- Does the **water** extend **beyond your view**? Electrical contact may be occurring where you can't see it?
- Is there **more than five centimetres of water** on the floor?
- Are the **passageways blocked or obstructed** in any way?
- Is there danger from **falling** material?
- Do the walls/ceiling appear **unstable**?

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DAMAGE CHECKLIST

(Used with permission from Tamara Lavrencic, Collections Manager, Historic Houses Trust of NSW; and Christine Ianna, Conservation and Outreach Programme, Queensland Museum)

1. Is the damaged area safe to enter?

No → 2

Yes → 3

2. Who is responsible for assessing whether it is safe to enter?

Name: _____ Phone: _____

Consider structural safety, level of lighting, potential for electrical shock and presence of sewage. If it is not safe to enter make sure that barricades are in place, the hazard is clearly sign-posted and that someone guards the entry. If any of these hazards are present, you'll need to consider hiring portable lighting/generators and protective clothing (for sewage).

3. Cause of damage?

Fire Water Structural failure Building work

Other _____

4. Type of damage?

Fire smoke
 charring/burnt
 soot
 dehydration (brittleness from heat)

Water damp clean water
 partially wet dirty water
 very wet/sodden mud/silt
 humidity swollen materials
 mould materials stuck together

Structural broken objects
 roof
 walls
 floor
 other _____

Other chemical spill
 sewage
 other _____

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5. What is the size of the area that has been affected? (e.g. how many rooms and how big are the rooms?)

6. Can people move freely around the room/s?

Yes

No What is impeding access? _____

Make sure that access in, out and around the affected area is cleared.

7. How much of the collection has been affected?

8. What type of materials/objects have been affected?

- | | | |
|---|---|--|
| <input type="checkbox"/> basketry | <input type="checkbox"/> bone/ivory/horn | <input type="checkbox"/> books |
| <input type="checkbox"/> carpets/rugs | <input type="checkbox"/> CDs/LPs | <input type="checkbox"/> ceramics |
| <input type="checkbox"/> computer records | <input type="checkbox"/> documents | <input type="checkbox"/> drawings |
| <input type="checkbox"/> electrical equipment | <input type="checkbox"/> ephemera | <input type="checkbox"/> files/records |
| <input type="checkbox"/> frames | <input type="checkbox"/> fur/feathers | <input type="checkbox"/> furniture |
| <input type="checkbox"/> glassware | <input type="checkbox"/> leather | <input type="checkbox"/> linoleum |
| <input type="checkbox"/> maps/plans | <input type="checkbox"/> metals – iron | <input type="checkbox"/> metals – non-ferrous |
| <input type="checkbox"/> microforms | <input type="checkbox"/> mixed materials | <input type="checkbox"/> natural history specimens |
| <input type="checkbox"/> paintings | <input type="checkbox"/> paper | <input type="checkbox"/> photographs (B&W) |
| <input type="checkbox"/> photos(colour) | <input type="checkbox"/> plaster | <input type="checkbox"/> plastic |
| <input type="checkbox"/> stamps (philatelic) | <input type="checkbox"/> textiles | <input type="checkbox"/> timber/wood |
| <input type="checkbox"/> videos | <input type="checkbox"/> other (please specify) _____ | |

9. Can the damaged objects be protected where they are?

Yes → 10

No → 11

10. What will you need to either raise objects above floor level or cover them from dripping water? (eg. Bricks, drop sheets)

11. Can the damaged objects be moved?

Yes

No they are fixed (e.g. building elements)
 they are too large (e.g. machinery)

12. What objects are prioritised for salvage? (see the **Priority List**)

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- 13.** Are the damaged items replaceable?
 Yes Yes, but with difficulty No Some Unsure
- 14.** Can the objects be salvaged using in-house resources or will outside help be necessary?

- 15.** Is there an area for drying the wet material?
 On-site Off-site. How close to the disaster site?
How large is the site for drying? _____
Can it be sealed and secured? Yes No
Does the site have power? Yes No
Does the site have running water? Yes No
- 16.** Has the power been affected?
 Yes All over the building Part only No
Is three-phase power available?
 Yes No
Is there a functioning generator on-site?
 Yes No
- 17.** Are the surrounding roads to the site open?
 Yes No
- 18.** What supplies and equipment will be needed for:
- recording?
 - packing?
 - transport?
 - air-drying?
 - freezing?
- 19.** What sort of assistance will be needed?
- | | |
|--|--|
| <input type="checkbox"/> plumber | <input type="checkbox"/> disaster consultant |
| <input type="checkbox"/> electrician | <input type="checkbox"/> building dryers |
| <input type="checkbox"/> locksmith | <input type="checkbox"/> insurance broker |
| <input type="checkbox"/> building engineer | <input type="checkbox"/> cleaner |
| <input type="checkbox"/> conservator | <input type="checkbox"/> removalist company |
| <input type="checkbox"/> carpenter | <input type="checkbox"/> glazier |



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Other _____

Name of person assessing damage: _____

Contact Nos: _____

Date: _____

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ASSESSING AND STABILISING THE SITUATION

(A useful checklist)

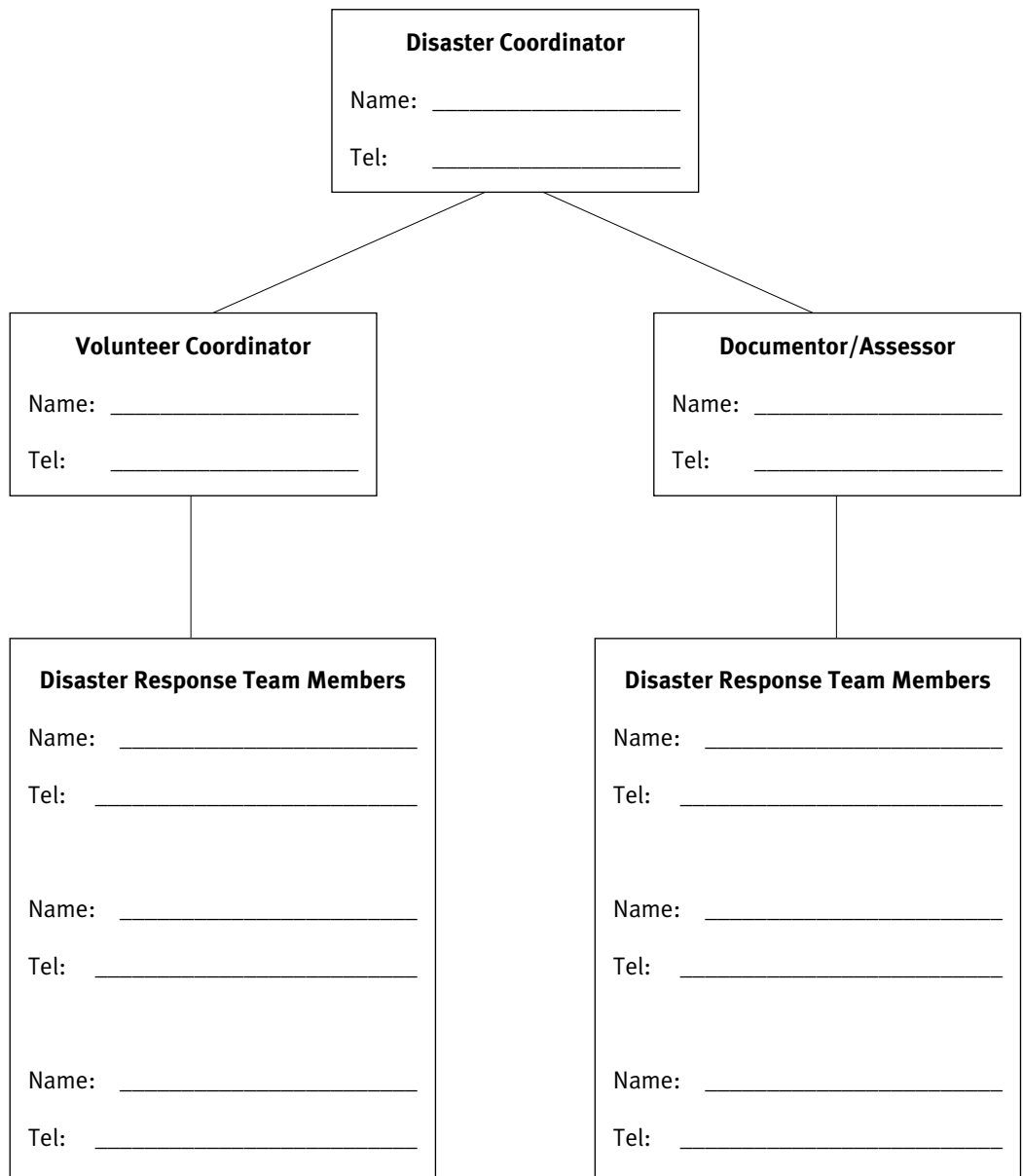
Work through the following questions to develop an accurate picture of the situation you face.

Yes/No

1. Is the cause of the disaster still ongoing? _____
2. What needs to be done to prevent further damage? _____
3. Is the site safe? _____
4. What extent of the collection has been damaged? _____
5. What is main type of damage? (water, fire, breakage..) _____
6. Are any other objects or areas of the museum in immediate danger? _____
7. Does the full Disaster Response Team need to be called? (See Telephone Tree) _____
8. Does the situation need to be documented? _____
9. Does outside help or expertise need to be called? (See Emergency Contact List) _____
10. Does the environment need to be further stabilised? (e.g. water or smoke damage) _____
11. Have any of the priority objects been damaged? _____
12. Does the Recovery Plan need to be activated? _____
13. What needs to be done to allow the recovery to begin? _____
14. Do we need to move to our off-site location? _____

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DISASTER RESPONSE TELEPHONE TREE



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STEPS IN EFFECTIVE DISASTER RECOVERY

(Once immediate response is complete and the building is declared safe)

- 1.** Assemble Disaster Response Team and prepare to sketch out the Recovery Plan.
- 2.** Review the situation and make sure you have all relevant information:
 - extent and type of damage
 - Priority List objects that were damaged
 - condition of the environment of the building
 - general feeling about size of recovery operation (will outside help be required?)
- 3.** Ensure all damage is documented and photographed.
- 4.** Determine what you need for recovery — volunteers, material and equipment, outside expertise, space, freezer facilities.
- 5.** Organise the team — some to focus on environment, others on salvage.
- 6.** Modify (stabilise) the environment (remove wet material, open windows, fans)
- 7.** Specify which salvage procedures will be used and decide on the Team leaders for each procedure.
- 8.** Use the Action sheets and salvage procedures to set up the areas for salvage.
- 9.** Move into salvage operations-making sure all object movement and treatment is documented.
- 10.** Ensure adequate supplies are on hand and that you have all the help you need.
- 11.** Ensure all formal notifications have occurred — council, insurance company etc.
- 12.** Ensure all workers are well looked after. Celebrate milestones and keep everyone informed.

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ACTION SHEET EXAMPLE

SALVAGE PROCEDURE FOR AIR DRYING — AN EXAMPLE

The following is an example of a simple Action Sheet for air-drying of water damaged books. These Action Sheets can be used for many of the procedures outlined in the Disaster Preparedness Plan, both in the recovery and the response procedures. Several copies should be made of salvage procedure Action Sheets, so they can be given to new volunteers when helping in the disaster recovery.

Air-drying salvage procedures for books

1. Do not try to close open books
2. Remove plastic covers where possible
3. Interleave coated pages by placing paper towel, Reemay or waxed paper between every page pair. If paper towel is used, change it regularly.
4. If the book is wet, interleave every 3–5 mm with paper towelling, and stand it with the wettest end up. If the book is too weak to stand, lie it flat.
5. Change interleaving regularly.
6. Suspend pamphlets, light volumes and magazines over drying lines
7. For books with thick covers, place a sheet of water-resistant film such as polyester inside the front cover to prevent moisture migrating to the text.
8. Do not hang heavy or sodden books, newspapers or magazines.

[from *reCollections* Counter Disaster Planning, pp 79]



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APPENDIX ONE: DISASTER BIN AND DISASTER STORE

DISASTER BINS AND STORES

Disaster recovery supplies are a key element to any disaster plan. These are the materials you have set aside in a storage unit in preparation for a disaster. They may be stored in a box, a cupboard, a 'wheelie' garbage bin or in a separate store. The system you choose will depend on the resources you have and the size of your collection.

Bins — A 'wheelie' garbage bin is a good storage unit for dealing with small disasters and the immediate response to a larger disaster. Being on wheels, they are easily moved to the disaster site and they keep the contents clean and dry. If you are using a wet and dry vacuum cleaner to pump out water, the bin (emptied of its contents) may be used to contain the water as it is being sucked up. Similarly, an empty bin can be used to catch water in a leak situation (depending on the location of the leak). The disadvantage of a large 'wheelie' bin is its size. It can be very difficult to reach materials at the bottom of the bin. There are smaller sizes of wheelie bins available.

Make sure you attach a label with the list of contents to the outside of the bin, and a large sign saying it is a Disaster bin for disaster use only. Do not locate the bin in a public place, but it should be somewhere easily accessible for all museum workers.

Store — The advantage of keeping disaster recovery supplies in a store room which is separate from the building is that it allows ease of access during a large disaster. There is nothing more frustrating than having the team assembled to attend to the situation, only to find that the supplies are inaccessible or have been destroyed by fire or flood. Clearly, fitting out a store is going to be more costly than a bin and this will probably be the overriding factor.

Supplies — When you set up your disaster supplies, make it clear to everyone that the supplies are **only** for use in disaster recovery. It is tempting to raid the store when you need a pair of scissors, an extra piece of blotter or a dustpan.....RESIST TEMPTATION. Ensure that the bin is clearly labelled as such, to prevent it being mistakenly used as a rubbish bin! You may need to put a lock on your bin, store room or cupboard. In this case, make it clear where the key can be found. Plastic snap lock fittings fitted through holes in the lid of the bin have proved very effective at preventing supplies from 'vanishing' while still allowing easy access in a disaster situation.

Disaster bin contents

The following is a suggested list of supplies which may be put into a 'wheelie' bin or small cupboard (adapted from Doig). You will need to adapt this list to the needs of your museum. If funds are limited, purchase only those items with an asterisk. You may want to solicit donations from businesses and the community. Many of these items can be substituted with used or lower quality materials, to assist in keeping cost low.

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Item	Use	Quantity
Baggage labels	Labelling crates	50
Bin liners (74 litre)	Containing rubbish	20
Blotting paper *	interleaving, drying fragile items	1 pack
Buckets (10 litre) *	For initial clean up	2
Clipboards	Recording information	2
Clothes line cord *	Hanging items to dry	2
Coloured chalk (box)	Delineating areas	1
Disaster response & recovery plan *		
Disposable camera	Recording disaster and recovery progress	2
Dust masks *	Protection against dust and mould	20
First aid kit *	Personal safety	1
Freezer bags	For items intended for freezing	100
Gauze bandage	Protecting fragile items	5 rolls
Gloves, box of disposable	Personal safety/protection of object	1 box
Gloves, cotton	Handling dry objects	15 pairs
Gloves, latex	Personal safety	25
Goggles, safety	Personal protection	2
Mop (squeeze style with handle) *	Initial cleanup	2
Newsprint (butcher's paper) *	Interleaving, table covers etc.	500 sheets
Nylon net	padding out 3 dimensional objects	1 length
Overalls, disposable	Personal protection	2

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Item	Use	Quantity
Packing tape *	Attaching plastic sheeting, securing lines etc.	5 rolls
Paintbrushes	cleaning mud/dust/soot	6 of various sizes
Paper towel perforated on a roll	Interleaving	4 rolls
Pencils *	Documentation	5
Pens, waterproof	Writing labels	5
Plastic containers with lids	Containing small items	10
Plastic pegs *	Hanging items to dry	1 packet
Polyethylene sheeting *	Channelling water, covering objects, covering tables	1 length
Protective aprons	Personal protection	2
Salvage Procedures Action Sheets *		
Scissors *	Cutting cord, polyethylene sheeting, paper etc.	2 pairs
Sponges, large *	Mopping up spills	3
Stanley knife *	cutting various materials	2
String		1 roll
Torches (Dolphin style with batteries) *	In case of diminished light	2
Whistles	Calling everyone back together	1
Writing pads	Documentation	5
Zip lock bags	Holding small items or broken pieces	100 in various sizes
Dust pan and broom *	Clean up	2

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Disaster store contents

The following is a list of items you could look at putting into a large cupboard or separate disaster store, as well as larger stocks of the items listed above. Some of these items are expensive and it may be more cost effective to hire them as the need arises.

As with the Disaster Bins, many of the items can be substituted with cheaper alternatives. For example, an old baby bath could be used instead of the plastic rubbish bins.

Item	Use	Quantity
'Men at work' type signs	Warning people away	2
Battery operated radio	Communication	1
Bread trays	moving and air drying material	20
Brooms, outdoor	Move mud, dirt, dust, water	5
Clean rags/towels	mopping up, drying textile items etc.	20
Crates, plastic	transporting material	10
Dehumidifiers	drying the building	4
Dining canopies	temporary work space	2
Disposable overalls		20
Distilled water	Supply of clean water	20 litres
Electrical safety switches	turns power supply off if there's a power surge	
Emergency tape		
Environmental monitoring equipment	Ensure stability of environment	
Extension leads with safety switches		
Flashing hazard lights		
Garden hose on a roll	Clean out mud	1
Generator on trolley, and petrol	Emergency power supply	1
Gloves, leather		10 pairs

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Item	Use	Quantity
Hammer		
Hardhats with lights		
Lights on stands		
Lights to fit on a person's head		
Methylated Spirits	Drying off metal items etc.	5 litres
Packing foam		
Pedestal fans	drying the building	4
Plastic rubbish bins		
Plastic sheeting		4 rolls
Pliers		
Poles and hooks to keep extension leads off the ground		
Rain coats		10
Respirators		5
Rope		1 roll
Sandbags		
Saw		
Screwdriver kit		
Screws and nails		
Self adhesive paper labels		2 rolls
Shifting spanner		
Spare torch globes and batteries	For 'Dolphin' torches	
Spray bottles		
Spun polyester (Reemay) cloth	separate and carry fragile objects	1 roll

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Item	Use	Quantity
Squeegees, large on a handle	Move quantities of water	5
Staple gun		
Steel capped rubber boots		
Tarpaulins	Covering during wet incidents	4
Trestle tables		
Trolley (sack truck style)	moving larger items	1
Trolley with table height platform	move items around	1
Weights	Slow drying of materials	20
Wet and dry vacuum cleaner		2

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APPENDIX TWO: COMMUNAL DISASTER STORE

While it is important for every museum to maintain a small Disaster Bin containing useful supplies for dealing with disasters (both large and small), it is more difficult for every museum to stock some of the larger pieces of equipment and the more expensive materials.

For this reason, museums in relatively close proximity have been choosing to develop communal disaster stores. Generally, this has been occurring in cities with the involvement of the larger institutions — but there is no reason why smaller museums in regional Australia cannot take the same approach, on a smaller scale.

The example below is one such store, based in Adelaide. This information has been taken, in part, from a conference paper presented by Sarah-Jane Rennie at *'Redefining Disasters: A Decade of Counter-Disaster Planning'*, State Library of New South Wales, 1995. The paper is entitled *'The Development of Counter-Disaster Plans in South Australia'*.

Artlab Australia is a conservation organisation that services, amongst others, the Art Gallery of South Australia, the South Australian Museum, the State Library of South Australia and the History Trust of South Australia. A need was recognised for a shared disaster preparedness store to be set up that contained some of the more expensive and bulky items and that was accessible to all institutions. The store was deliberately located outside any of the institutions involved, as this avoided the situation of the equipment being inside the building suffering the disaster and therefore being inaccessible or even destroyed.

Artlab has found that 'the store is more than a room filled with equipment — it is also a means of creating a network of teams who can mesh together in the case of a major disaster and a means of raising awareness of disasters among the institutional community.'

Other institutional members have applied to join since hearing of the establishment of the store.

The store is funded through direct contributions from member institutions—an initial joining fee and a smaller, annual maintenance fee. This funding pays for the purchase of new materials, the maintenance of the store, and the replacement of minor materials used in disaster recovery. If a member institution uses a large amount of material during disaster recovery, they are responsible for replacing the used material. The point is to have this material readily available in the first place and to avoid each member having to purchase the same materials.

Each member of the disaster store also provides a list of their Disaster Response Team, including the coordinator and contact telephone numbers. This master list is kept at the store. Artlab has run disaster training courses for these team leaders, and also simulated disaster recovery situations for the teams. These training sessions allow the development of an understanding of the requirements of each of the member institutions and how each team operates.

By establishing a communal disaster store, museums can further develop a regional support network that will facilitate communication and effective museum management.

An idea of the contents of the store can be found in Appendix 1.

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APPENDIX THREE: EMERGENCY RESPONSE PROCEDURES

Through your risk assessment, you will have identified the types of risk for which your museum needs to prepare. On the following pages are some examples of procedures to follow in the first moments after a disaster situation has been identified. These are only examples and will not cover every procedure. It is suggested that you adapt them to your own situation and consult local emergency authorities to check that they are appropriate for your situation. Further examples can be found in a number of the manuals listed in the bibliography.

Much of the following information has been taken from the *'Smithsonian Institution Staff Disaster Preparedness Procedures'*; with further input from *Steal this Handbook*, A Lord et. al; *Disaster Planning Guidelines and Collection Recovery for Museums*, C&D Rolley; and *Disaster Preparedness Workbook For U.S. Navy Libraries And Archives*, Lisa L Fox.

Further situations you may wish to consider writing specific procedures for include: Civil disorder and demonstrations, terrorism, major transportation accident, mould outbreak, pest outbreak, rapid humidity fluctuation and a vehicle crashing into the building.

GENERAL EVACUATION INSTRUCTIONS

If you are directed to evacuate the building (either by an alarm or by staff or emergency services):

- Remain calm.
- Turn off all hazardous operations.
- Follow instructions.
- Assist disabled people.
- Leave the area in an orderly fashion.
- Follow the established evacuation route.
- Move away from the building. Go directly to the assembly area and report to the Evacuation Coordinator for a 'head count'.
- Do not block the street, driveway or building entrances.
- Stay in the assembly area until instructed otherwise.

Assembly area locations

FIRE

In case of fire:

- Remain calm.
- Activate the fire alarm.
- Determine location and source, if this can be done quickly and safely
- Contact the Fire Brigade (Phone:)

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- Give the name and location of the museum to the Fire Brigade
- Contact the Disaster Response Coordinator (Phone:)
- Always put the safety of people (including yourself) first.
- If the fire is small, try to extinguish it with the proper type of extinguisher or fire blanket.
- Do not allow the fire to come between you and the exit.
- Turn off electrical equipment which is smoking at the power point, if it is safe to do so.
- Evacuate the building.
- Do not open a hot door (before opening a door, touch it near the top. If it is hot or if smoke is visible, do not open).
- Do not use elevators.
- Do not attempt to save possessions.
- Go directly to the assembly area.
- Do not return to the affected area until told to do so by the appropriate authorities.

POWER FAILURE

If there is a power failure either in the building or the local area:

- Remain calm.
- Remain where you are and open all available blinds/shades/curtains to obtain more outside light.
- If you are in an unlit area, carefully proceed to an area with emergency lighting .
- If telephones are working, call the power company (Phone:)
- Wait for further instructions from authorities.
- If directed to evacuate, go to the assembly area.
- If you are in an elevator, stay calm. use the intercom or emergency button to alert others.

SEVERE STORM

Usually if there is a severe storm there will be advanced warning:

- Contact Disaster Response Coordinator (Phone:)
- Listen to your local radio station for weather updates.
- Disconnect electrical equipment and appliances not in use.
- Secure outdoor items, where possible move them inside.
- If safe to do so check gutters and down pipes.
- Have battery powered equipment such as torches at hand.
- Only use the telephone for emergency calls.
- Tape across windows or attach plywood sheets.
- Put plastic sheeting over shelves, large items, display cases.
- Backup software and data files.
- Evacuate when instructed to do so.

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CYCLONE

Follow the instructions for a severe storm, in addition:

- Board up windows or protect them with storm shutters or tape. Try to seal around the windows. Some should be left slightly open to equalise the pressure.
- Limit access to the building to one door and secure the others.
- Try to seal any areas that would allow water access.
- Move collections away from the windows.
- Leave low-lying areas that may be swept by high tides or storm waves.
- Stay in the building if it is sturdy and on high ground. If not, move to a designated shelter.
- Evacuate to a local shelter if ordered to do so by authorities.
- Remain indoors. Don't be fooled by the calmness of the 'eye' of the storm. Remember, the winds on the other side of the 'eye' will come from the opposite direction.

FLOOD

(small scale-leaks, broken pipes, accidental sprinkler discharge, groundwater, rainwater)

- Attempt to determine the source of the water, if this can be done quickly and safely
- If source is determined, cut off water if feasible.
- Switch off all utilities in the affected area, including the water main, if it is safe to do so.
- Check for live wires or wet power outlets, DO NOT enter the area if these are found
- Notify the Water Authority if the water mains or sewer is involved.

Contact

Water Authority	(Phone:)
Disaster Response Coordinator	(Phone:)
Plumber	(Phone:)
Building Maintenance services	(Phone:)

- Determine if something can be done immediately to stop the leak or contain it.
- Place weighted screens over floor drains to prevent loss of small objects and detached fragments.
- Move affected objects to a safe area, if necessary.

FLOOD

(large scale, outside source)

- If there is a flood warning, listen to the local radio station for updates.
- Prepare to evacuate upon direction (if a flash flood warning is issued, evacuate immediately).
- Follow the instructions of the local emergency authorities (SES, police, CFA etc.).
- Check battery powered equipment and back up power sources.
- Store drinking water in clean receptacles.

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- If possible move prioritised items to upper floors or higher shelves.
- If possible move recovery equipment to upper floors or higher shelves.
- Catalogue collection items and equipment which has been moved.
- Secure all loose objects located outside. Where possible move inside or elevate.
- Assist with protecting objects.
- Board up lower windows and doors.
- Disconnect electrical equipment which is not essential.
- Place a sand bag in the toilet pan to prevent a back flow of sewage into the building.
- Call SES to assist with sand bagging of the building's perimeter and securing doors and windows (Phone:)
- Do not re-enter the affected area until directed to do so by emergency preparedness personnel.

HAZARDOUS MATERIAL ACCIDENT

- Evacuate the immediate area.
- Initiate appropriate first aid and/or personnel protection measures, as required.
- Notify emergency services as soon as possible.
- Do not re-enter the affected area until directed by the emergency preparedness personnel.
- If trained and properly protected, assist with the clean up operations as directed.

BUSHFIRE

- If there is a bushfire warning, listen to the local radio station for updates.
- Prepare to evacuate upon direction.
- Follow the instructions of the local emergency authorities (SES, police, CFA etc.).
- Check battery powered equipment and back up power sources.
- If bushfire is approaching stay inside keeping windows and doors shut, block gaps from inside with wet towels.
- Fill buckets and sinks with water and prepare equipment for fighting small internal fires.
- Hose down external walls, roof and garden on the side facing the fire, if it is safe to do so.
- Remove combustible materials from around the building.
- Where possible move outdoor collection items inside or out of the fire's path.
- Attach a hose to an outside mains tap.
- Allow the bushfire to pass before exiting the building.

BOMB THREAT

If you receive a bomb threat through a telephone call:

- Remain calm.
- Listen carefully. Be polite and show interest.
- Try to keep the caller talking to learn more information.

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- If possible, write a note to a colleague to call the police or, as soon as the caller hangs up, notify them yourself.
- Complete the attached Bomb Threat Checklist immediately. Write down as much detail as you can remember.
- Follow the instructions of the police or museum security.
- Evacuate as directed.

BOMB THREAT INFORMATION SHEET

- Do not hang up the telephone.
- Ask the following questions:
 - When is the bomb going to explode?
 - Where is the bomb located?
 - What does the bomb look like? What kind of bomb is it?
 - What will cause the bomb to explode?
 - Did you place the bomb?
 - What is your name?
- Exact wording of the threat.
- Sex of caller.
- Age.
- Length of call.
- Sound of caller's voice.
- Is the voice familiar to you?
- Background sounds e.g. trains, machinery, animals.

EXPLOSION

In case of an explosion in your areas:

- Remain calm.
- Take cover under a table or desk.
- Be prepared for possible further explosions.
- Notify emergency services (Phone:)
- Stay away from windows, mirrors, overhead fixtures, filing cabinets, bookcases etc.
- Follow the instructions of security, emergency personnel or the police.
- Evacuate calmly, as directed.
- Do not move seriously injured personnel, unless they are in immediate danger (fire, building collapse etc.).
- Open doors carefully, watching for falling objects.
- Do not use elevators.
- Avoid using the telephone, except in a life threatening situation.
- Do not use matches or lighters.
- Do not re-enter the affected area until directed by emergency preparedness team.

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EARTHQUAKE

In an earthquake the ground movement seldom causes death or injury. Most casualties occur from falling objects or flying building materials such as broken glass or dislodged bricks. Fire can occur due to broken chimneys, fractured gas lines or chemical spills. Water damage can be caused by burst pipes.

If an earthquake is occurring:

- Human safety is the first priority.
- Take cover in a supported doorway or under sturdy furniture.
- Stay away from glass windows, doors, display cabinet, bookcases.
- Do not use an open flame such as matches or a candle as there may be gas leaks.

After the Earthquake

- Be prepared for after shocks.
- Extinguish all fires with the proper type of fire extinguisher.
- Contact Emergency Services (Phone:)
- Check for broken water pipes, shorting electrical circuits or leaking fuel.
- Turn off all gas and water at main valves or meter boxes if you smell gas or see water flowing.

Turn off all electrical appliances at the power point.

- Open doors carefully and watch for falling objects.
- Do not use elevators.
- Carefully move outside and away from the building.
- Do not re-enter the building until instructed by emergency personnel.

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APPENDIX FOUR: SALVAGE PROCEDURES

As you have worked through the risk assessment section of the plan, you will have identified a number of different disaster scenarios that may threaten your museum- such as bushfire, flood, leak, vandal attack, pest outbreak, earthquake and power failure. While the types of disaster which can occur within a museum can vary, water damage is the most common result. Certainly there will be smoke and fire damage after a fire, but the water used to put the fire out will be your most immediate issue. Similarly, if your museum has its roof torn off during a cyclone, it is the storm water which follows that will cause most of the damage to the collection. Therefore, most of the information presented here will cover salvage procedures for water damaged material. Other types of damage will be covered in less detail.

SALVAGE PROCEDURES FOR WATER DAMAGED MATERIAL

One of the major problems to contend with when you come across water damaged material is mould. Mould spores are found everywhere and when the relative humidity is raised through water damage, these microscopic spores can rapidly grow into a major mould outbreak. The warmer the temperature and the higher the relative humidity, the faster the mould will grow. On a hot summer's day, the outbreak can commence within hours of the water damage.

Water damage can also lead to changes in the structure and appearance of objects. Glossy papers contain fillers and other material which becomes sticky when wet. This can lead to books with glossy pages permanently 'blocking' (sticking together). Similarly, the emulsion of a photo will become sticky and may become stuck to another item. Furniture with timber veneer can distort with high humidity causing the veneer to warp and in some cases pop off the furniture surface. Iron based material such as pots, saws and clock components will start to corrode in high relative humidity levels. Many of the adhesives used in the original construction of objects or in their repair can be softened by water, leading to a collapse or distortion of the item.

Handling water-damaged material can take some getting used to, which is why training sessions with simulated damaged materials are so useful. Generally, water-damaged objects require a lot of support and can be easily torn or pushed out of shape if they are wedged into poor positions. Transporting water-damaged objects is best done in large, flat bread trays, using strong materials as support (such as plastic or polyester).

Some of the information below has been compiled from *'ReCollections' and the 'Emergency Response and Salvage Wheel'*.

The following are some procedures used in the salvage of water damaged cultural material:

Air Drying

Used for: For much water damaged material, air drying is the most common method for salvage. While it is often easier to air dry the material away from the collection storage area, you will

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probably need to dry some material in the museum building. There are a few ideas to keep in mind if you need to dry the building before drying the collection. There is little point in trying to dry wet material in a damp building.

- Remove any wet material such as paper towel, stationery, pamphlets, boxes and curtains.
- Open windows and bring in fans. This will help the air to circulate, reducing the risk of a mould outbreak and move drier air into the building.
- Look for hidden areas where water can pool such as behind items on a shelf, at the back of a store room or under furniture.
- Remove wet carpet if necessary. Check the underfelt of the carpet. This often acts as an enormous blotter. It may be more effective to remove and replace the underfelt than to dry it.
- Portable dehumidifiers will greatly assist in dropping the relative humidity. Most have a water collecting chamber which needs to be emptied regularly and you may need several for a museum building. (This is a need that should be identified before a disaster)

Procedure:

- A general rule of thumb when preparing to salvage water-damaged material is to assess whether you think it will dry in 48 hours-if not, freeze it. Unless it is heavily water-logged, most paper based material will be able to be brought to a safe moisture content level within 48 hours. (Test this during your training sessions, so that you become adept at assessing how to dry an object).
- When confronted with a large collection of water-damaged material, assess the books and paper based material first.
- When assessing books, treat them in the following order:
 - books with coated or glossy paper (probably best to freeze, or discard)
 - weak and wet books
 - weak and damp books
 - strong and wet books
 - strong and damp books.

[‘reCollections’, Managing Collections, pp79]

- Paper items need to also have their structure taken into account, along with how wet they are. Are any inks going to run, is the paper fragile and tearing, should it be laid flat and can it be placed in a drying pile?

When air drying the collection, there are a number of simple techniques which will help speed up the process:

- Use fans (cool air) in the drying area, but do not aim them directly at fragile objects.
- Cover all drying surfaces with absorbent paper — **change it regularly** (otherwise mould will grow).
- Corrugated cardboard (or similar material) can be used to form simple wind tunnels. The fans can be directed into the tunnel (gently) which will direct air flow over objects that are being

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dried. Place the objects to be dried in the wind tunnel. This procedure is probably best suited to books. Books that are strong enough can be stood on the spines and the pages fanned out. Turn them up the other way after a while. A large tunnel can be formed from the agricultural tunnels used to grow tomatoes etc. These were successfully used after a large house fire in England where there was no nearby facility to house the collection.

Books

- If pages are stuck together do not attempt to separate them.
- Damp books can have moisture pressed gently out of them with towels first, then interleave the pages (every 15 or so) with blotting paper. Do not put the paper in near the spine as this will swell and distort the book.
- With coated paper (glossy) books, if they are not too wet, interleave with a thin polyester gauze between every page to prevent the pages sticking to one another. Allow to air dry.
- Books that are strong enough can be stood on one end and the pages fanned out to provide air circulation.
- Interleaving books with blotting paper, paper towel or newsprint (butcher's paper) prevents pages from sticking together, draws water out of objects and provides small spaces for air circulation. This interleaving **must** be changed at regular intervals, not only to effect drying but to prevent mould growth.
- It is important to not interleave between every page as this will swell the spine and create permanent damage. Do not push the interleaving paper right into the spine as this will also create damage.

Fragile objects

- Airing racks, such as those used to dry fruit, provide an ideal support to dry delicate objects. Make sure all areas of the object are supported.

Photographs

- Temporary clothes lines and plastic pegs can be used to air dry photographs. Light weight pamphlets can be hung over the same line.

Flat objects

- Large, flat items such as maps, newspapers, plans and the like can be dried flat between blotting paper-as long as the inks are not running. Light weights (Perspex, plywood) can be placed over the blotting paper to assist the objects in drying flat. Remember to change the blotting paper regularly-if you leave damp paper too long, mould will grow.
- Documents and loose paper can be dried in a similar fashion.

Three dimensional

- Three dimensional objects such as costumes, woven baskets and leather items will need to be padded out to their normal shape before air drying. Nylon netting can be used for this.

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General

- Plastic racks with mesh type bottoms such as bread trays are ideal for moving and air drying objects as they are strong and allow air flow.
- Support items which are fragile at all times, either on a board or in a tray.
- Gauze or conforming bandages can be used to hold together loose or fragile components.
- Remember to get a feel for handling water-damaged objects during your training sessions, as they can be surprisingly fragile. Good support is the key to handling wet objects.

Freezing

Used for: Freezing is used to minimise damage to vulnerable, water-damaged materials and to buy time when dealing with a large collection. Freezing is necessary to prevent ‘blocking’ if you have wet glossy papers, and mould growth on water-damaged books, documents etc. if you have a large collection that you cannot dry in time to prevent mould growth. It is also useful for material with water soluble components such as watercolours, some dyed textiles and documents with water soluble inks. Although freezing will halt further mould growth, the spores are not killed by the process. Similarly, ‘blocking’ will be halted but glossy papers need to be freeze dried rather than air dried after freezing (see next section), when ready to undertake conservation work.

Remember that this process can take a long time and once frozen, you will not have access to the material until the treatment is completed. It may be difficult to find freeze drying services for those objects that will not be air-dried, after the freezing.

It should only be used for large amounts of water-damaged material that you do not think you have time to air-dry before mould growth starts occurring; and for material that will be permanently damaged if it remains wet for any length of time.

Procedure: Books can be packed for freezing in plastic containers (milk crates or bread trays) or cardboard boxes. The books should be packed spine down in a single layer. If there is time, wrap every second item in waxed or freezer paper to prevent the covers sticking to each other.

Textile items can be laid out flat with tissue or freezer paper rolls in the folds. Ensure that freezer paper is used to separate items if you need to have one on top of another. Use long boxes or board to transport items.

A commercial blast freezer is ideal for freezing this material as it drops the temperature quickly and has a large capacity. For a small amount of material a household chest freezer with a temperature of -10 C can be used. After the freezer has been packed, do not open it until you are ready to remove the material as this will begin a freeze- thaw cycle. Do not use a defrost freezer as this will automatically go through freeze-thaw cycles which will be damaging to the material.

When transporting material from the freezer to the freeze drier, it must remain frozen. Hence a freezer truck will be needed. If you are unable to accompany the material, the importance of keeping the material frozen must be stressed to the transport company.

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DO NOT FREEZE:

- Paintings.
- Items with resinous components.
- Photographs, film, glass plate negatives.
- Items with painted components (e.g. painted wood).
- Items with glass components.
- Electronic Media (eg cassettes, videos, records).
- Furniture.
- Stone, glass, ceramics, metals.
- Musical instruments.
- Veneered wooden objects, or other constrained objects.

Freeze drying

Used for: Freeze-drying removes water from an object while it is still frozen. This is possible because the frozen items are placed in a vacuum chamber which allows the water to evaporate out of the object without melting. As the ice does not turn into water, ink running is minimised and glossy papers do not stick together as the water is removed. If, however, this process has already commenced, freeze drying will not reverse it. For this reason, if you intend to freeze items, this needs to be carried out as a high priority within your salvage operations.

Procedure: Make sure you have an established arrangement with a freeze-drying facility **prior** to a disaster. Make sure you understand the costs and procedures involved, and what objects would require this approach (such as an irreplaceable book with glossy pages). Ask the facility to provide information with regard to the preparation of the material.

Both freezing and freeze-drying should only be used if absolutely necessary.

Rinsing

Used for: In some instances, particularly in the case of flood, items will need to be cleaned before they are dried. This should only be carried out if you are certain the item is strong enough and it is already wet.

Procedure:

- Do not rub or scrub the item as you risk driving the dirt and stains further into the object.
- A gentle stream of water can be used if this is available. Use a plastic tub under the item so that it is supported if dropped.
- Plastic tubs with water and a soft sponge or paint brush can also be used.

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SALVAGE PROCEDURES FOR VARIOUS MATERIAL TYPES

The following are some general approaches to the salvage of various common collection materials based on the 'Emergency Response and Salvage Wheel', and 'ReCollections'. This list cannot cover every collection type and you will need to tailor it to the specific needs of your collection. A number of the books and articles listed in the bibliography address salvage in more detail. If you have any doubt **do nothing and contact a conservator**.

Material type	Salvage procedures
Textiles (costume, textiles, tapestry, samplers etc.)	<ul style="list-style-type: none">• Provide adequate physical support when moving heavy• Do not unfold delicate wet fabrics.• Do not stack wet textiles.• Rinse, drain and blot items with clean towels/cotton sheets to remove excess water.• Shape and pad out items to their original form using nylon netting as a padding material.• Air dry textiles inside using fans/air conditioning.• If items cannot be dried within 24 hours, separate them with freezer or waxed paper, and freeze (at barest minimum, if you cannot freeze, monitor constantly for mould growth).
Furniture	<ul style="list-style-type: none">• Inspect painted surfaces. If paint is blistered or flaking, air dry slowly without removing dirt or moisture.• If there is no paint or the paint is intact, rinse/sponge surfaces gently to clean. Blot. Air dry very slowly to prevent warping, shrinkage and delamination. Covering the furniture will slow down the drying rate, but be sure to monitor for mould growth.• Hold veneer in place while drying with weights or clamps, always use protection/padding between the weight/clamp and the veneer.• Finishes may develop a white haze (bloom). This does not require immediate attention.
Upholstered Furniture	<ul style="list-style-type: none">• Rinse off mud, do not rub.• Remove cushions, lift-out seats, and other separate pieces. Make sure you document which piece they belong to.• Wrap upholstered materials in cloth (sheet, towels etc.) to air dry and replace cloth when damp.• Blot wood sections and allow to air dry slowly.

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Ceramics

- Look for signs of previous repair before handling as these may become loose.
- Rinse/sponge surfaces gently to clean.
- If the ceramic has broken, wrap pieces in tissue or other soft material and place all pieces in a polyethylene zip lock bag.
- WARNING unfired ceramics are water soluble and may become extremely soft or dissolve if wet.

Stone

- If the stone object is smooth surfaced, blot gently, air dry.
- If the object is rough-surfaced or has an applied finish, do not blot.
- Air dry on plastic screen or clean towel.

Metal

- Use gloves to handle.
- Rinse/sponge and blot metal object. Air dry.
- If object has applied finish, do not clean. Air dry; keep flaking surfaces horizontal.

Leather

- Leather can be fragile when wet. Support on a board or in a tray at all times.
- Rinse/sponge with clear water to remove mud.
- Drain and blot to remove excess water.
- Reshape as necessary and pad with towelling or nylon netting to support the form during drying.
- Air dry.

Vellum and parchment

- These items can be extremely fragile when wet, support on a board or in a tray at all times.
- Consult with a conservator before proceeding.
- If nobody can be contacted, interleave items and freeze.

Woven items (baskets, fish traps, hats etc.)

- Rinse/sponge with clear water to remove mud.
- Drain and blot to remove excess water.
- Reshape as necessary and pad with towelling or nylon netting to support the form during drying.
- Air dry.
- Change padding material if it becomes saturated.

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Bone, Shell and Ivory

- These items can be extremely fragile when wet, support on a board or in a tray at all times.
- Rinse/sponge with clear water to remove mud.
- Drain and blot to remove excess water.
- Air dry very slowly on blotter.
- Monitor for signs of distortion.

Animal study skins and taxidermy mounts

- These items may contain hazardous materials. Use a respirator and protective clothing to handle all collections.
- Blot to remove excess water.
- Air dry on plastic screen or clean towel.
- These can be frozen if necessary.

Dried Botanic /herbarium specimens

- Information identifying the specimens must be kept with them.
- If seeds are present there is a risk that they might germinate, hence drying needs to commence promptly.
- Remove the specimens from enclosures, record relevant information.
- Air dry by laying out on blotting paper.
- Presses can be used.
- Specimens may be frozen to prevent germinating then freeze-dried.

Fluid preserved collections

- If the jar has broken, place specimens in sealed polyethylene zip-lock bags with a small amount of the fluid if available. Otherwise use alcohol/methylated spirits.
- As time allows, locate new jars and the relevant preserving fluid.

Geological specimens

- Rinse
- Air dry
- Some specimens such as those containing iron will need to be dried more quickly, consult a conservator.

Palaeontological specimens

- Rinse, air dry slowly
- Fragile specimens and those with old repairs should be held together with gauze bandages during drying.

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Paintings on canvas

- If possible, remove painting from its frame in a safe, dry place.
- DO NOT separate paintings from their stretchers/strainers.
- Keep wet paintings horizontal and paint-side up with nothing touching the surface.
- Check for any surface damage.
- If the surface is damaged — that is if there is any lifting, buckling or blistering of the paint, air dry the artwork face-up and don't place anything on top of it.
- If the paint looks stable and is not wet, place the work face down on a layer of blotter covered with unwrinkled tissue paper. Unprinted newsprint (butcher's paper) will suffice if you can't find anything better (if this sticks to the face of the work, consult a conservator, do not attempt to remove it)
- Cut a thick piece of blotting paper to fit over the back of the painting inside the stretcher; cover this with a piece of perspex cut to the same size or something to weight down the blotting paper.
- Put a thick filler material such as 7mm-thick felt or board cut to the same size, on top of the Perspex.
- Place another piece of thick blotting paper over the stretcher so that it extends beyond the edges of the work.
- Place another piece of Perspex, larger than the stretcher on top, then weigh down the stack evenly (do not use too much weight, weights of 500g are enough).

Paintings on masonite or artist board

- Drain of excess water.
- Check for any surface damage.
- If the surface is damaged — that is if there is any lifting, buckling or blistering of the paint, air dry the artwork face-up and don't place anything on top of it.
- If the paint looks stable and is not wet, place the work face up on a layer of blotting paper.
- Lightly smooth a sheet of tissue paper over the surface, using your hands.
- If possible, cover this with thick felt — 7mm — then with a piece of thick blotting paper. If you don't have felt, use additional layers of blotting paper to cushion the peaks of impasto. The higher the impasto, the thicker the padding needs to be.
- Place a sheet of Perspex or Masonite on top. This final layer should be larger than the object underneath.
- Weigh down the stack evenly (do not use too much weight, weights of 500g are enough)

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Art on Paper or Photos with Glass fronts

- remove from frames in a safe dry place unless art is stuck to the glass.
- If image sticks to the glass, leave it in the frame, dry glass side down
- If image can be removed, dry artwork slowly image side up on a sheet of blotting paper
- If the medium appears soluble, support the item between polyester gauze and a board, and freeze.

Photographs

- Remove from plastic/paper enclosures or frames. Save all information about the photos.
- Carefully rinse with clear water.
- Do not touch or blot surfaces.
- Air dry by hanging from a line with plastic pegs or clips.
- Alternatively lay flat, image side up on absorbent paper.
- Keep photographs from contact with adjacent surfaces or each other.
- If there are too many to dry at once
- Keep photographs (except historic ones) in a container of clean water for no more than 48 hours, then air dry.
- Freeze, interleaving with freezer paper if possible.
- DO NOT freeze glass plate negatives.

Books

- If rinsing is necessary do so with clean water, holding book closed.
- Partially wet or damp books can be air dried by standing on the top or bottom edge with the covers opened to 90°.
- Very wet books can be air dried by laying flat on a clean surface. Interleave less than 20% of the book with absorbent material, replace interleaving when damp.
- Books with glossy paper need to be frozen, if possible
- Wrap every second book in freezer or waxed paper
- Place spine down in sturdy containers
- Freeze
- If there are too many books to deal with in 48 hours, further books can be frozen in the manner outlined above

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Paper

- Air dry flat as individual sheets or small piles (up to 5mm). Interleave, replace interleaving when damp.
- Do not unfold or separate individual wet sheets.
- If there are too many items for air drying
- Interleave (by groups or individuals) with freezer or wax paper
- Pack papers or files supported and standing up in sturdy containers, only pack 90% full
- Freeze
- Ensure items on glossy paper are fully separated or freeze them.

Audio and Video tape

- Wear gloves when handling to avoid scratching the surface.
- Do not use magnetised tools/scissors.
- When copying, clean drive heads frequently to protect equipment.
- The casing may keep tapes clean and dry. However, if the tape itself is damaged:
- Disassemble the case and remove the tape
- Rinse dirty tapes, still wound on reel, in lukewarm water
- Support vertically on blotting material to air dry
- Reassemble and copy

Diskettes

- Wear gloves when handling to avoid scratching the surface.
- Do not use magnetised tools/scissors.
- When copying, clean drive heads frequently to protect equipment.
- Remove diskette from casing and bathe in clean distilled water.
- Dry with lint-free towels.
- Insert diskette into new casing and copy.
- Do not attempt to play the damaged disks as they can damage the equipment on which they are played.
- DO NOT freeze.

Bark Paintings

- Do not try to flatten or place anything on the bark painting.
- Air dry on blotting paper or plastic screen.

Glass plate negatives

- DO NOT Freeze.
- Air dry immediately laying flat with the emulsion side (the duller side) facing up, on clean absorbent paper, or stand them upright in a dish rack to dry.

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Maps, plans and posters

- If these items are hand-coloured or if inks appear to be bleeding, interleave the items with freezer paper and freeze them immediately.
- If the paper appears glossy, place sheets of polyester gauze on either side to prevent the paper sticking to the blotter which is placed on top. Or you could allow the paper to dry without anything on top.
- Alternatively, air dry as follows:
- Interleave individual items with sheets of blotting paper. These need to be larger than the items.
- Place a board on top of a pile of up to 10 maps or plans and weight it evenly.
- Change the blotting paper regularly, at least daily, if not more often, as it becomes wet.

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APPENDIX FIVE: USEFUL CONTACTS

AUSTRALIAN INSTITUTE FOR THE CONSERVATION OF CULTURAL MATERIAL (AICCM)

This is a voluntary organisation for conservators and those interested in the conservation of cultural heritage material. It consists of a National Council and branches in each state.

For information regarding conservators available to assist you, or possible training opportunities, it is best to either contact your state branch president, or write to the National Council. State presidents will usually be able to be found by contacting the conservation department of one of the large collecting institutions.

AICCM
GPO Box 1638
CANBERRA ACT 2601
www.aiccm.org.au.

MUSEUMS AUSTRALIA INC.

This is a membership organisation for museums and all those working in museums. It offers a variety of services. It consists of a National Council with a staffed office in Canberra, and branches in each state. Some of these branches are staffed, while others are run by a voluntary management committee.

Contact your state branch for information regarding state services (training, newsletters, workshops, publications etc.), and contact the national office for membership information and benefits.

Museums Australia Inc National Office

PO Box 266
CIVIC SQUARE ACT 2608.
Tel: (02) 6208 5044
Fax: (02) 6208 5149
email: ma@museumsaustralia.org.au

INSURANCE COUNCIL OF AUSTRALIA LTD

275 George Street
SYDNEY NSW 2000
Tel: (02) 9299 7100
Fax: (02) 9299 8656

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APPENDIX FIVE: USEFUL CONTACTS CONT'D

MUNTERS MOISTURE CONTROL SERVICES

Unit 3, 19 Hotham Parade

ARTARMON NSW 2064

Tel: (02) 9906 1800

Fax: (02) 9906 3155

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BIBLIOGRAPHY (INCLUDING SOURCES)

This bibliography includes only a few texts and many web-sites. It has been presented this way as the texts have proved more difficult to find than the web-sites. Only those texts that were considered at all useful have been included, as is the case for the web-sites. There are many more references available. A search on the internet is well worth the effort and cost as many of these references can easily be downloaded.

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WEBSITES

American Institute for Conservation (USA)

<http://aic.stanford.edu/disaster>

Australian Museums On-Line

<http://amol.org.au>

Conservation OnLine (USA)

<http://palimpsest.stanford.edu>

A great deal of material on a variety of subjects, including disaster preparedness —

<http://palimpsest.stanford.edu/bytopic/disasters/>

Links to other sites of relevance.

Federal Emergency Management Agency (USA)

<http://www.fema.gov>

Useful site for general information regarding disaster preparedness, plus links to other relevant sites, plus link to the very useful Emergency Response and Salvage Wheel.

(This Wheel can also be purchased and is a useful item to have).

Inland Empire Libraries Disaster Response Network (USA)

<http://palimpsest.stanford.edu/bytopic/disasters/misc/inland.html>

Some excellent material for disaster preparedness.

Northeast Document Conservation Center (USA)

<http://www.nedcc.org>

An excellent Technical Leaflet series on disaster preparedness-www.nedcc.org/tleaf

National Library of Australia

<http://www.nla.gov.au/policy/disaster.html>

A good example of a disaster preparedness plan for a large institution.

SOLINET (USA)

<http://www.solinet.net>

Useful and specific material on disaster preparedness