Recordkeeping for Good Governance Toolkit

PARBICA
Pacific Regional Branch
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Introduction

The Pacific Regional Branch of the International Council on Archives (PARBICA) has developed this guideline on ***Developing a Disaster Recovery Plan*** as part of the Recordkeeping for Good Governance Toolkit. It was drafted in consultation with the Pacific Island Reference Group made up of representatives from the following countries:

- Australia
- Federated States of Micronesia
- Fiji
- New Zealand
- Papua New Guinea
- Samoa
- Solomon Islands
- Tuvalu
- Vanuatu.

About this guideline

The aim of this guideline is to enable archives to develop an effective Disaster Recovery Plan (Recovery Plan). The plan should allow the organisation to handle recovery from any disaster. Once the immediate issues of the disaster have been responded to, and the building is safe and secure, it will be time to activate the Recovery Plan.

It is tempting to immediately rush into recovery actions after a disaster strikes. However, it is best to first consult your Response and Recovery Plans. It is important to be prepared so that implementing your Recovery Plan after a disaster will not be overwhelming.

The main objectives while responding to a disaster are:

- safety for all staff and visitors at the organisation
- reacting quickly as mould can grow on documents within 48 hours of damage
- reducing the damage to the collection and the building
- recording the damage (for insurance and recordkeeping purposes)
- saving as much of the collection as possible
- returning to normal archives operations as soon as possible.

Once the Recovery Plan is complete, it should be incorporated into your Disaster Preparedness Plan (DPP). See ***Guideline 20: Developing a Disaster Preparedness Plan.***

Who is this guideline for?

This guideline is for staff and volunteers at archives or in records management who wish to understand how to recover from a disaster of any size and complexity.

This guideline should be read alongside ***Guideline 20: Developing a Disaster Preparedness Plan*** and ***Guideline 21: Developing a Disaster Response Plan***. Preparation and planning are the best means of mitigating damage from natural disasters or other forms of destruction.

Preparing a Disaster Recovery Plan

The following sections should be included in your Recovery Plan:

1. Recording and evaluating the damage
2. Organising the recovery team
3. Recovery needs
4. Salvage procedures
5. Action Sheets
6. Maintaining morale
7. Returning to normal.

Recording and evaluating damage

During this stage of the disaster recovery, you will develop a Damage Assessment Checklist which will provide the information needed to plan the recovery. The checklist will help you assess the situation, plan and gather necessary supplies before the recovery work begins.

The Disaster Response Coordinator and disaster response team should walk through the organisation with the checklist and photograph any damage. The documentation and photographs will be important for insurance purposes and useful in the later stages of recovery. The information may also be used to review your DPP, particularly the risk assessment.

Once the damage has been viewed and recorded, the team will be able to evaluate the damage and use the Damage Assessment Checklist to guide the recovery process. You will need to write down and assess:

- What kind of damage has occurred?
- What is the scale of the damage - small, medium or large?
- What type of material was damaged?
- Have any vital or significant records and collections been damaged?
- Do any records have to be moved and, if so, will they be affected by this?
- What type of salvage is going to be required?
- Does your organisation have to close down during recovery?

Example - Damage Assessment Checklist

1. **Is the damaged area safe to enter?**	Yes / No	Details:
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 signposted and 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 Wind Tsunami Other:	
4. **Type of damage?**	Fire	• smoke • charring/burnt • soot • dehydration (brittleness from heat)
	Water	• damp • clean water • partially wet • dirty water or salt water • very wet/sodden • mud/silt • humidity • swollen materials • mould • materials stuck together
	Structural	• broken objects • roof • walls • floor
	Other:	
5. **What is the size of the affected area?** (e.g. how many rooms and how big?)		
6. **Can people move freely around the room/s?** If not, what is impeding access? Make sure that access in, out and around the affected area is cleared.		
7. **How much of the collection is affected?**		
8. **What materials are affected?**		
9. **Can the damaged objects be protected where they are?**		

9a. **If there are unaffected materials, can you protect them from damage? Do they have to be moved? How?**	
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?**	
12. **What materials are prioritised for salvage? (see the Priority List)**	
13. **Are the damaged items replaceable?**	
14. **Can materials be salvaged using in-house resources or is outside help needed?**	
15. **Is there an area to dry wet material?** On-site or off-site? How close to the disaster site? How large is the site for drying? Can it be sealed and secured? Does the site have power? Does the site have running water?	
16. **Has the power been affected?** Is there a functioning generator on-site? If not, can one be obtained and set up?	
17. **Are surrounding roads to the site open?**	
18. **What supplies and equipment will be needed for:**	Recording Packing Transport Air-drying Freezing
19. **What sort of assistance will be needed?**	Plumber Disaster consultant Electrician Building dryers Locksmith Insurance broker Cleaner Conservator Other:
Name of person assessing damage:	
Contact details:	
Date:	

Organising the recovery team

At this stage, the Disaster Response Coordinator will organise the recovery team. If not all team members are available, others will need to take on their roles. Make sure your list of team members, their responsibilities and their contact details is current and available. Ensure team members are aware of what they need to do. The Volunteer Coordinator will contact the volunteers who have been identified and trained with recovery.

Locate an area to be used as the “command centre” which is separate from affected areas. The area should have office equipment and phones. A secure area may also be needed if records are going to be removed from the stack rooms. It is recommended that you perform your recovery activities indoors, if possible.

A schedule should be developed so that workers receive adequate food, breaks and relief. As volunteers arrive, they should be quickly organised to avoid people initiating activity without discussion and approval. Sign-in and sign-out procedures for all involved would benefit safety and security.

Maintaining morale

Disaster recovery can be long, tedious and arduous. 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.

The recovery period is a time of stress, shock and confusion and if you do not prepare for this and understand its consequences, it will make recovery difficult. Confusion and chaos can ruin the best planned disaster recovery unless you are prepared to recognise it and deal with it.

The Volunteer Coordinator should take care of needs such as food and drink, rest breaks, training and home breaks. To boost morale, hosting a potluck feast would be appreciated and is recommended at different times of the recovery stage.

A well-organised disaster recovery can be a team builder and morale booster for the archives and the community. From a long-term perspective, it may even generate more community support, volunteers and funding.

When the recovery is complete, it may be appropriate to host a celebration and invite everyone who has contributed to the disaster recovery. This will show your volunteers that they are valued and appreciated.

Recovery needs

In this step, you will decide how to proceed with the recovery and what resources you will need.

By working through the Damage Assessment Checklist you will have determined the type of damage that has occurred and this will tell you what salvage procedures are required. The salvage procedures will identify the materials and equipment needed, and will also help you understand the assistance you will need. Salvage procedures, resources and assistance are the main focus of your Recovery Plan.

Use your Damage Assessment Checklist to ensure you cover the necessary areas:

- What expertise do you need (conservators, electricians, plumbers, etc.)?
- What expertise do you have in-house?
- Do you need more volunteers? If so, use your register to call for more.
- What extra equipment and materials are needed?
- Do you need a secure, off-site area to work?
- Is pest control necessary?

Once you have identified your recovery needs, members of the disaster response team can now begin recovering items. Volunteers can be called, resources found and brought onsite, salvage systems put in place, and so forth.

A major disaster may mean that you will have to work offsite while salvaging your collection, which can complicate the recovery process. Offsite recovery areas should be identified well before a disaster occurs. You need to ensure that the offsite recovery area is large enough for the collection, the recovery area is secure, and that the move will not further damage the collection.

Example – Packing guidelines

Be extremely careful when handling wet material. This material is very fragile and can easily be damaged during packing and transport. To transport material, use items that you can easily access such as cardboard boxes, plastic cartons and buckets, garbage bags, etc. Cardboard boxes will be the easiest to obtain. However, if cardboard boxes are saturated or weak, replace them with new containers. Plastic bags can also be used to line the boxes to minimise water damage to the boxes.

Pack files in order and retain documentary information. If the label is loose or lost, write identifying information and location on a piece of paper and insert it in the volume or box. Do not mark wet paper. During removal, do not stack materials in piles on the floor. Try not to mix different sizes of boxes or stack more than three boxes high.

Packing guidelines for specific media

1. Paper

Do not try to separate single sheets of paper or un-crumple them. Pick up files by their folders, and interleave the folders every two inches with blotting paper (such as paper towels). Fill your container three quarters full.

Soluble Media (watercolours, soluble inks, hand coloured and historic maps): Do not blot the surface. Let them dry on their own.

Coated papers will stick together unless dried or frozen immediately. Keep them wet in cold water until they can be air dried.

Framed prints and drawings: if time and space permit, un-frame and pack as single sheets.

Maps, plans, oversize prints and manuscripts: Sponge standing water out of map drawers. Remove the drawers from the cabinet and transport. Bundle rolled maps very loosely and wait for conservators or appropriate staff to unroll them.

Example – Packing guidelines (cont'd)

2. Books

Do not open or close wet books or remove book covers.

If water is dirty, wash the books before packing by holding them closed in clean water and sponging the outside. Do not wash books with water soluble media. If books have fallen open, pack them "as is" in container.

Pack books with their spine down in container and only one layer deep to prevent the crushing of bindings. Oversized volumes can be packed flat in container.

3. Compact discs and CD-ROMs

If the discs have been exposed to seawater, wash them in tap water immediately. Do not scratch the disc during rinsing or packing. Pack discs vertically in container. Remove and dry separately the CD cases and the paper in them.

4. Sound and video recordings

Separate the tapes into the following: dry tapes with wet boxes, and wet tapes. If water has condensed inside a cassette, treat the tape as wet.

If tapes have been damaged by mud, sewage or seawater, rinse them in tap water as soon as possible.

Keep tapes wet until ready to recover. If the tapes dry before recovery, contaminants will dry on to the tape and be harder to remove later. Pack tapes individually inside plastic bags, keeping loose labels with the tape. You can also pack tapes vertically into containers. Do not attempt to rewind or play the material.

In general, magnetic tapes can remain wet for several days as long as the water is cool and clean. However, keep in mind that older tapes may not survive a long immersion in water. Having the tapes immersed in water will also keep them free of mould.

5. Photographic materials

Photographs can be kept wet until they are ready to be recovered. If they have been damaged by mud, sewage or seawater, rinse them in tap water as soon as possible. Pack inside plastic bags.

6. Film

If only the outside of the can is wet, dry the container and re-label it if necessary. If the film is wet, fill the can with cold water and replace the lid. Pack into plastic bags or buckets filled with cold water or cardboard cartons lined with garbage bags. It may be necessary to ship these to a professional film processor for rewashing and drying.

7. Microfilm

Do not remove the films from their boxes. Hold cardboard boxes and their labels together with rubber bands. Pack the rolls into container. It may be necessary to ship these to a professional film processor for rewashing and drying.

Salvage procedures

Salvage procedures are a step-by-step guide to recovering each type of collection item in your archive. The disaster response team and volunteers should be able to perform most of these procedures especially if you have run regular training workshops. However, there may be special circumstances where a professional, like a conservator, will need to provide advice.

Identify a possible offsite and secure work area for salvage operations. This could be done during the disaster preparedness stage. It may be that when the disaster occurs, your archives building will be damaged and not suitable for salvage work. Salvaging material can take a lot of space and time. When planning your salvage operation, you will need to assess the condition of your building and whether it can be stabilised quickly to host salvaging activities. The local fire or police department should assess the condition of the building before recovery teams begin their work.

Salvage Categories (TRIAGE)

You will need to establish a simple classification system for sorting damaged material prior to beginning salvage procedures. A four level system will work well:

Priority A: immediate treatment necessary by the disaster response team. These will include damaged items from your list of vital or significant records.

Priority B: immediate treatment necessary by conservator or a trained specialist. These might also include vital or significant records.

Priority C: essentially stable and can be treated later.

Priority D: unsalvageable and should be discarded following documentation.

Code the priority collections by labeling them with coloured stickers. For example, Priority “A” records could be labeled with red stickers. Priority “B” material will be labeled with green stickers, and so forth. The stickers could be placed on boxes or record folders. Labeling the collection will be especially important if items are moved to another area for salvaging.

When deciding on salvage options, relative costs in time, money and resources should be considered. Make sure you keep your collection priorities in mind and salvage high priority material first.

Finally, one of the most critical tasks during recovery is documentation. It is vital to record what happens to each collection item during the disaster recovery process. Prepare a form that can be used to document the movement, treatment, position, etc., of all materials affected by the disaster.

Example – Salvage procedures

For organisations in small island states, water damage will be the most likely way that materials are affected by a disaster. Handling water-damaged material can be difficult, which is why training sessions with simulated damaged materials are useful. Generally, water-damaged materials require support as they can be torn or pushed out of shape.

The following procedures focus solely on the air-drying. This technique will be the most common method for salvage in low-resource archives.

When air-drying, there are techniques to help speed up the process:

- Use fans in the drying area, but do not aim them directly onto the records.
- Cover all drying surfaces with absorbent paper. Remember to change the paper regularly.
- Corrugated cardboard can be used to form simple wind tunnels. The fans can be directed into the tunnel to direct air flow over the material being dried.

Recovery methods for specific media

Paper:

Air-drying is suitable for drying small quantities of damp and partially wet papers after minor disasters. This method can also be used to treat paper in a major disaster, when other recovery methods cannot be used.

Steps for air-drying paper:

1. Spread documents out over towels, paper towels, blotters or unprinted newsprint. Change the absorbent materials when they become wet.
2. Interleave stacks of 25 sheets of damp papers with absorbent material and turn over frequently.
3. Dry damp records vertically, supported by bookends.

Books:

Air-drying is suitable for books that are damp or partially wet and when other recovery methods cannot be used. Leather bindings should be air-dried.

Steps for air-drying wet books:

1. Wet books will need to be drained before drying:
    - Stand the book upright on absorbent paper.
    - Support the book by opening the covers, but not the pages.
    - If pages are stuck together, do not try to separate them.
    - When the pages begin to dry and separate, insert interleaves starting at the back of the book and into the gutter of the book.

Example – Salvage procedures (cont'd)

Steps for air-drying wet books (cont'd):

2. Change the interleaves as they become wet, every 2 to 3 hours.
   - Do not interleave the book between every page as this will swell the spine and create permanent damage.
   - Put new interleaves in different places in the book.
   - Remove the used interleaves from the vicinity of the books. The sheets can be dried and used again if they are not dirty.
3. After the books feel dry to the touch on your cheek, remove the interleaves and reshape the bindings.
   - Flatten each book with a light weight on top.
   - **Do not** pile books on top of each other, as this could distort them.
4. Ensure that the books are thoroughly dry before they are re-shelved. Monitor for mould during drying and for several weeks afterwards.

Steps for air-drying damp books:

1. Stand books upside down and fan open the pages. You can interleave every 20-30 pages.
2. Support paperbacks and books with damaged covers with bookends or weights.
3. Every couple of hours, re-fan the pages. You can turn the volume over (right side up) when you re-fan or re-interleave the pages.
4. In the final stages, turn book over to dry the tops of the pages.
5. When book feels dry, flatten under weights.

Computer media:

Magnetic Tapes - audiocassettes and videocassettes:

1. Rinse off sewage, mud and seawater with tap water.
2. Tapes can be air-dried.

Compact discs and CD-ROMs:

1. If discs have been exposed to seawater, rinse in tap water.
2. Clean off mud and sewage by washing disc in detergent solution.
3. **Do not** rub the disc as dirt can scratch the tracks.
4. Before drying, rinse all discs with room temperature distilled water.
5. Dry the disk vertically in a rack.
6. CD cases and enclosed paper should also be dried.

Example – Salvage procedures (cont'd)

Photographic materials:

1. Remove photographs from their enclosures.
2. If photographs are dirty, carefully rinse with clear water.
3. Do not blot or touch surfaces.
4. Spread tables with small blotters, towels or paper towels that can be changed when they become wet. You can also hang photographs on a clothes-line but make sure that they are hung with attachments in at least two places.
5. Air dry, remembering to maintain descriptive information and the original order.

Other prints and negatives:

1. Keep photographs wet in plastic bags until they can be separated from each other and their enclosures.
2. Remove photographs from their enclosures. Maintain original order and descriptive information. Dry enclosures alongside the photographs.
3. If photographs are exposed to dirt or seawater, clean by immersing the photographs into cool fresh water.

Microfilm:

The best way to dry microfilm rolls is to rewash and dry them.

Microfilm strips in jackets:

1. Cut the strips from jackets.
2. Wash and dry the film and insert into new jackets.

Do Not Freeze:

If you do have the opportunity to freeze material, there are items that you should not freeze:

- paintings
- photographs
- films
- glass plate negatives
- cassettes
- VHS tapes
- microfilm
- DVDs.

Example – Material documentation list template

To record damage, treatment, and movement:

Material	Number	Damage	Category (of salvage)	Treatment	Location	Vital / Significant Records? Yes or No

Action Sheets

For each of the salvage procedures, prepare a separate Action Sheet that covers the steps involved in that particular procedure. Be sure to include any tips on handling. The Disaster Response Coordinator should be responsible for preparing these sheets and they can be filed in the DPP or in the disaster bin.

Because many archives contain predominantly paper records, Action Sheets to salvage documents, books and photographs will prove necessary. These sheets should be given to volunteers assigned to a salvage team as a training guide until they are familiar with salvage techniques.

Example – Action Sheet

The following is an example of an Action Sheet for air-drying water damaged books. These Action Sheets can be used for many of the procedures outlined in the DPP, both in the recovery and response procedures. Several copies should be made of Action Sheets, so they can be given to new volunteers 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 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 towels and stand it with the wettest end up. If the book is too weak to stand, lay it flat.
5. Change interleaving regularly and rotate volume.
6. Suspend pamphlets, light volumes and magazines over drying lines. Do so only with damp items. It they are really wet, the line may cut through the paper.
7. Do not hang heavy or sodden books, newspapers or magazines.
8. 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.

Returning to normal

Once the recovery process is finished, it may feel like everything has returned to normal. But there are still some things to keep in mind and put into place.

The response and recovery teams and all staff in the organisation should meet and collect feedback on the DPP. This will help identify gaps in plans and processes, and suggest improvements and changes to current plans. The plans and processes should be updated and all involved should be briefed, trained and made aware of any changes.

If your building was damaged by water, you may need to clean the floors, walls and ceiling with a fungicide to prevent further mould growth. The building may need construction work, such as the replacement of drywall, etc. This work will need to be closely monitored.

Water damaged collection items need to be monitored to ensure that further damage does not occur, such as mould growth. While a record may appear dry on the surface, it may still have a high moisture content that will take time to level out.

Equipment that has been used during the recovery phase will need to be cleaned and checked that it is still in working condition. The disaster bin will also need to be restocked with materials that were used during the recovery process.

Finally, make sure that you re-open your archives with great celebration and fanfare so that the public knows that they can return and continue their research.

Additional resources

Books

Doig, J 1997, *Disaster Recovery for Archives, Libraries and Records Management Systems in Australia and New Zealand*, Chandos Publishing.

Federal Emergency Management Agency 2005, *Before and After Disasters: Federal Funding for Cultural Institutions,* FEMA-533, USA

Rolley, C&D 1996, *Disaster Plan Guidelines and Collection Recovery for* Museums, Artifact Conservation, Victoria, Australia.

Online Resources

American Institute for Conservation of Historic and Artistic Works, http://www.conservation-us.org/home

Canadian Council of Archives, *Salvage Operations for Water Damaged Archival Collections,* http://www.cdncouncilarchives.ca/salvage_en.pdf

Conservation OnLine (CoOL), *Disaster Preparedness and Response*, http://cool.conservation-us.org/bytopic/disasters/

National Archives (USA), Salvage Procedures, https://www.archives.gov/preservation/disaster-response/salvage-procedures.html

Northeast Document Conservation Center (USA), https://www.nedcc.org/

Western States and Territories Preservation Assistance Service (USA), *Salvage at a Glance, Salvage of Water Damaged Collections,* and *Drying Techniques Chart,* https://westpas.org/workshop-docs/