Vital Records: Appendix 5: Recovery of Records

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General

If your building or area has suffered a loss, you will at some point in time be allowed by officials to return. Upon return, first evaluate the condition of records, giving more emphasis to those records with greater value. The guidelines below are sound, but only for the recovery of a few records. If larger quantities of records are damaged, professional assistance should be sought. Please contact Risk Management Services at 916-278-7233 or University Records Management Services at 916-278-6312.

Once you regain access to the building, after a disaster, it is very important to begin the recovery of your records as soon as possible. The sooner you get to them, the better the chance of recovery. However, do not go into an office and just start pulling things off desks or out of cabinets. It may seem the easiest way, but in the end you will have records spread out all over and have no idea where they should be returned to. The following information will help you learn how to pack and remove records, and the various recovery methods for each specific type of media.

DO NOT START PULLING RECORDS FROM SHELVES AND CABINETS AND SPREADING THEM OUT TO DRY.

It is important to document all steps taken during any recovery, no matter the size or extent of damage. This documentation will help later to reevaluate your Vital Records Plan or to verify which records were beyond recovery and were immediately destroyed.

Water damage to records starts within the first 8 hours after a disaster. After 24 hours, records will start to stick to each other, and within 48 hours paper will begin to chemically breakdown and to show the initial stages of fungal growth. With photographic and magnetic/electronic media, the breakdown will begin sooner and can be more devastating.

Safety and security precautions:

- Disaster areas contain hidden hazards such as submerged objects, severed or loose electrical wires, etc. Use caution in these areas and make sure equipment is grounded.
- Standing water, wet carpeting, and wet records make the use of electrical equipment potentially hazardous.
- Wet records are heavy. Use caution when lifting them.
- Wet records can expand enough inside a file cabinet to deform the cabinet, making recovery difficult.

- If confidential records have been damaged, restoration will need to take place under proper security conditions. Office staff should accompany all confidential records being removed. The same level of security that is required during normal operations should be maintained throughout the recovery effort.

Removing and Packing Records

Removing Records

When removing records from damaged areas, be sure to keep a complete inventory of all records that are moved. Include type of record, normal location within the filing system and recovery location.

All records should eventually be removed from the damaged area. Even if the records are not wet, they have been in an area that once did, or may still have, a high humidity level which can promote mold growth in the records.

Quick tips for removing records:

- Keep records in the exact condition in which they were found. Do not close or open wet books or disturb file folders.
- If possible, remove file drawers from cabinets or transport the entire cabinet intact. These will be heavier than normal. Use extreme caution.
- Use dollies or human chains to remove records. Elevator service is very unlikely following an emergency.
- Separate the records by type, e.g. paper from film, photos from magnetic tape.
- Each type of media has its own unique drying methods and characteristics.

Packing Records

The records should be packed on site. Do not remove records from file folders while packing. Pack individual records separately from complete folders. Pack wet records carefully in PLASTIC MILK CRATES, no more than ¾ full. These types of crates provide adequate air circulation, can be stacked easily, and will not collapse. If crates cannot be located, use heavy corrugated cardboard boxes.

Pack dry records in cardboard boxes.

Non-paper records should be left in their original cartons during packing and removal. If photos or film are wet, be sure they stay wet when moving, do not allow them to dry. This can be done by lining a container with a plastic bag and adding clean cool water. Read the sections on treating photographic media and magnetic media prior to moving.

Quick tips for packing records:

- Prioritize removal - remove Vital Records first, then essential and finally records identified only as important.
- Remove records in small segments; only take a few folders at a time to maintain order over the process. Instead of packing and removing an entire filing cabinet, remove it one drawer at a time.
- Use waterproof markers or colored tape to label the containers. Labels may indicate the type of records in the crates or the office location from which they were removed.

Recovery Guidelines

The following information covers each type of media that can be found in offices, along with tips on how to recover them. Regardless of the medium or type of damage, we strongly suggest that Risk Management Services or Records Management Services be contacted for immediate help. Please call 916-278-7233 or 916-278-6312 respectively.

Emergency Recovery
If you are unable to carry out recovery procedures or do not have the staff to do so, you should at least take some initial recovery steps:

- Stabilize the environment - This means enhancing the air circulation in the room by opening doors and windows or using the fan from the HVAC system. Do not use individual freestanding fans.
- Reduce the humidity. Remove plastic tarps and sheets from the area as they create greenhouse environments. Remove any wet contaminated furniture, carpets, and trash if you can do so without harming yourself, the records or other personnel in the area. Use a de-humidifier only when someone is available to empty the collection container when it becomes full.
- Reduce the temperature - Use the HVAC system to reduce the temperature of the area. The temperature should average between 50 - 60 degrees.

Following these steps will help create a stable environment and slow down the deterioration of the records.

Paper: Water Damage
The greatest damage to paper from water is done during the first 8 hours. It is essential to begin restoration immediately after assessing the damage and stabilizing the area.

Air drying: Air drying is ideally suited to emergencies involving small numbers of records in an environment where the temperature and relative humidity are low, so as not to create an environment which can harm the records.

Make sure the area for drying is large and clean, with adequate security, and that it has proper temperature and humidity controls.

Method:

- In a safe area, set up tables and cover them with clean unused newsprint or other blotting materials (i.e., blotter paper, paper towels, cotton rags, florists non-colored waxed paper).
- Remove the records from the damaged area using milk crates.
- Remove the folders from the milk crates. Remove the records from the folders, and discard fasteners and file folders. Folders do not dry well or will warp. It is best to create new folders. Be sure to write down information from the folder tab prior to discarding it. Keep the records in the order found in the folder.
- Place the individual records on the table. Use some sort of identifying mark in between file folders so that the records will be returned to the correct folder after being dried.
- Regularly change the blotter paper.

- Remove the records when they are totally dry, usually 30-48 hours. Return all records to their proper files ensuring that re-used file folders are not damaged.

TIP: If the wet sheets are difficult to separate use a sheet of polyester (mylar). Mylar is considered a polyester sheeting since it will create an electrostatic charge. An example of mylar found in everyday use is overhead projector sheets. Mylar sheets can be purchased at any office supply store. If you have any questions, please contact Records Management Services for further information.

- Place a sheet of mylar on the top of a stack of wet paper and gently lift
- Place the document on the table and when it has partially dried, remove the mylar. You will need several sheets of mylar. Remove the mylar as soon as possible to allow air to circulate over the paper to dry it more quickly.

Hints/Suggestions:
Clothesline or fishing line may be used to dry papers. Hang the line between two objects and clip the documents to it. This is a good way to dry brochures and pamphlets. Only use this method on paper if a small section of the paper is damp. Do not hang extremely wet records as they are fragile and may pull apart. Use plastic clothespins to hang records - wooden clothespins will retain water.

Shallow baking trays or screens may also be used for drying. Cover the bottom of the tray/screen with blotter paper so the records will not stick to, nor take the shape of, the pan. Pans can be stacked to allow larger numbers of records to dry at the same time.

Wear gloves to prevent dirt and oil from skin from getting on the records.

Some items, such as blueprints, maps, etc., will need professional work due to the fragility of the paper used to print them and due to their size.

Freezing: Sometimes far too many records are damaged or weather conditions are not suited to air drying. At those times freezing and storing the records at low temperatures (- 20 F) will stabilize collections until drying becomes possible. Also, if restoration cannot begin within 24 hours freezing should be considered.

Method:

- Remove records (keep the records in their folders) from the damaged area using milk crates and take them to the recovery area.
- Arrange through Records Management Services for the records to be transported to freezer storage.
- A commercial freeze dry chamber should be used to dry the documents. While this is best drying method, it is also expensive and should be done professionally.

Hints/Suggestions:
Small numbers of records can be frozen using a home freezer. However, make sure the freezer is clean.
Paper: Fire Damage
Most fire damage is usually accompanied by water damage. Records which have both fire and water damage should be dried and then treated for damage from fire. Those records which are only slightly charred or damaged by soot and not wet will not need immediate attention. Records can be moved in milk crates or corrugated cardboard boxes. All records should be handled with extreme care. Masks should be worn to prevent workers from breathing soot.

Method:

- Set up clean work tables, and cover them with unused newsprint.
- Remove records very gently from the damaged area using milk crates or cardboard boxes.
- Remove from file folders, being sure to copy all information from the tab. Keep items in the order they were in within the folder, and do not mix items from different folders. Handle carefully as records will be brittle and subject to tearing.
- Gently clean records with a camel hair brush or soft chamois cloth. Slow strokes from the center of the paper to the edge will control the dust. Do not press down on the paper.
- If the records are badly damaged, photocopy or microfilm them as soon as possible and discard the originals.
- Return records to new file folders after treatment.

Hints/Suggestions:
If soot on the records is "caked", leave it and contact Records Management Services.

If the records are only coated with loose dust or soot, they can be cleaned with a low suction vacuum. Place cheesecloth over the vacuum nozzle to avoid having loose fragments sucked into the bag.

To save information contained in records that are illegible, the records can be photographed using an ultraviolet light in complete darkness. Do this only if the information is Vital and cannot be found elsewhere, as the process can only be done by a professional and is extremely costly. After photographing, the damaged records can be discarded.

Books: Water Damage
Books should be treated in the same manner as paper.
Method:

- Set up tables in a recovery area, covering them with absorbent material.
- Remove books from the damaged area using milk crates or heavy cardboard boxes.
- Stand books upright on absorbent material. Or, place non-colored paper towels or absorbent material between the pages. Replace the absorbent materials frequently until all moisture is removed.
- If the books are extremely wet, freeze them immediately using the same method as for paper.

Hints/Suggestions:
Stack books when they are dry and apply light pressure. This may help prevent wrinkled pages and warped covers.

Books: Fire Damage
Books should be treated the same as paper.
Method:

- Open the books carefully, brush and/or vacuum edges.

Coated Stock: Water Damage
Coated papers should be frozen immediately and then freeze-dried. Do not try to air dry this type of record.

Follow the same method as for paper for preparing records for freezing.

Coated Stock: Fire Damage
Follow the same methods as for paper. Or if the record is book format, open the books carefully, brush and/or vacuum edges.

Recovery methods are expensive and resources should only be expended to recover Vital Records. As trade magazines, catalogs, etc., can easily be replaced recovery should not be attempted.

Photographic Media (Includes Microfilm/fiche, Black/White & Color negatives, Black/White & Color prints and Slides): Water Damage
Microfilm, negatives, and prints that are wet should be kept wet. Breakdown of the emulsion from the base film will begin immediately if the materials are allowed to dry. This will cause silver copies of Microfilm to become a solid mass, almost like a hockey puck. If prints are allowed to dry the emulsion will adhere to whatever it comes into contact with. Avoid touching the surface of all prints/negatives. Do not try to recover these records on your own. Consult Records Management Services immediately.
Method:

- Microfilm/fiche Silver Copy: Keep wet in clean, cool water (preferably distilled) in clean plastic containers. Do not unroll wet microfilm. Freeze if recovery cannot begin within 60 hours of the disaster. Send microfilm/fiche to professionals for recovery.
- Microfilm/fiche Diazo Copy: Recover this type of microfilm/fiche last. Some older types, usually processed prior to 1970, will blister if they become wet. If the film has not blistered, wash and rinse it in cool running water and dry with cheesecloth or other lint-free absorbent non-abrasive toweling. If there is blistering contact Records Management Services.
- Black/White & Color Negatives: Fill tubs with cool, distilled water and immerse the negatives. Keep them wet and immediately send them to a professional for cleaning and drying. Freeze negatives if recovery cannot begin within 48 hours after the disaster. If you freeze the negatives, be sure to transport them to a professional restoration agent immediately. Contact Records Management Services for assistance in arranging for freezing.
- Black/White & Color Prints/Slides: Fill tubs with cool, distilled water and keep prints/slide immersed. Line a table with photographic blotter paper. Remove prints/slides from water and lay them flat on blotter paper. Put a layer of blotter paper over the top of the prints/slides. Place weights (bricks covered with clear or white contact paper work well) on top of the blotter paper. Change the blotter paper every 2 days until the wet records have dried.
- Make a copy of the film/negative/print/slide as soon as possible and discard the damaged records.

TIP: Photographic blotter paper is the only absorbent material that can be used with prints, negatives, etc. It is specially designed so that it will not remove the emulsion when it comes into contact with the print/slide. This type of paper can be found in any photographic supply store. Contact Records Management Services for further information on this type of paper.

Hints/Suggestions:
The water in the containers can be kept cool by the periodic addition of ice to the water.

Keep the silver original of the microfilm off-site in a stable secure storage area.

Do not use a viewer to check microfilm/fiche for damage. Rewind the microfilm/fiche on a professional rewinder. Check for abrasions, melting and separation of emulsion by hand.

If photographs have been determined to be Vital Records, be sure to have the negatives or copies of the photos off-site for protection.

Photographic Media (Includes Microfilm/fiche, Black/White & Color negatives, Black/White & Color prints and Slides): Fire Damage
Method (Black/White & Color Prints and Diazo Microfilm/fiche only):

- Remove records from the disaster area using milk crates or heavy cardboard boxes.
- Spread the records out on tables; if Microfilm, unwind it along the table top.
- Dust, ash-covered, or sooty photos can be cleaned by wiping them gently with a soft cloth. For Microfilm, clean it gently with a soft cloth moistened lightly with microfilm cleaning fluid.
- If the prints are charred, have them professionally copied and discard the charred records.

Hints/Suggestions:
Do not use a brush, as it may be abrasive and cause scratching on the photo or film surface.

SILVER HALIDE MICROFILM SHOULD ALWAYS BE PROFESSIONALLY RECOVERED.

Magnetic Tape: Water Damage

Method:

- Remove tapes from the water damaged area. Inspect tapes for any visible signs of moisture. If there is any doubt about the tape being dry, declare it wet.
- Dry the tapes in separate drying batches to maximize control over the bulk. Separate the soaking wet from those suspected of being damp.
- Establish a recovery room with a temperature of 70 F and Rh level of 50 % where tapes that have been submerged or subjected to cold temperatures can be reconditioned for 24 hours.
- Allow tapes to reach room temperature. Hand dry all external surfaces with a soft lint-proof cloth.
- Air dry tapes by laying them on absorbent materials (e.g., blotter paper, paper towels). Be sure to change the absorbent material when it become soaked.
- After 24 hours inspect the tapes by unrolling approximately 25 feet of each tape and, while handling it gingerly, look for color differences in the tape and for minute drops of moisture.

TIP: As a last resort in determining whether or not a tape is dry, spin the tape in a tape cleaner without the blade or the cleaning solution. If fog appears, the tape is wet. Using a reel-to-reel tape machine will help tapes dry faster. Run a wet tape through the machine approximately five times.

Magnetic Tape: Fire Damage
Consult Records Management Services. The tapes will need to be checked for distortion and warping which may have been caused by the extreme temperatures generated during the fire.

Computer Media (not including CD ROM or Optical Disk): Water Damage
Most water soaked disks can be successfully recovered if they have not been magnetically damaged, warped, or exposed to temperatures exceeding 125 F or humidity levels over 80%. However, there is no guarantee that the information on the disks will be recovered.

Method:

- Remove the disks from the disaster area to the recovery area.
- If recovery cannot begin immediately keep the disks wet in cool, distilled water.
- Remove all visible dirt.
- Drain and blot the disks dry with a soft, lint-proof cloth. Allow the disks to dry on absorbent material for 24 hours, draining and turning them periodically.
- Copy the information to new disks.

Computer Media - CD ROM or Optical disk: Water Damage

Method:

- Remove from water immediately.
- Remove the disks from their containers and carriers - do not bend or scratch.
- Rinse off any dirt or mud with clean distilled water - do not soak.
- Drip dry the disks in a dish drain or rack - vertically, not flat.
- Clean the disks with a soft, dry, lint-free cloth. Move the cloth perpendicular to groove- left to right, not up and down.
- Place the cleaned disks in clean containers.

Computer Media - all types: Fire Damage
Consult Records Management Services. The disks will need to be checked to see if the information on them has been damaged due to warping. Copy to new disks.

Video/Audio Tapes: Water Damage

Method:

- Remove from water immediately.
- Open the tape case and, if condensation or water is present, allow water to drain out.
- Consult Records Management Services for further assistance to ensure that the tape has not been warped or damaged.

Video/Audio Tapes: Fire Damage
Consult Records Management Services. The tapes will need to be checked for damage from warping.