


A collection of laboratory glassware including a beaker, a graduated cylinder, and two test tubes, all containing a red liquid. They are set against a background of faint blue orbital lines.

SCIENCE *of* Scrapbooking

BY JANNETTE HANNA AND DANIEL BURGE

Preventing and Responding to Water Damage

A piece of aged, yellowed paper, possibly an envelope, showing significant water damage. It has several water droplets on its surface and a large, irregular brown stain at the bottom.

Knowing in advance which materials are most susceptible to water damage can help you better inform your customers.

MANY PEOPLE EXPERIENCE WATER DAMAGE TO THEIR PHOTO ALBUMS AND SCRAPBOOKS. It happens on different levels, from spilling a drink to a leak in the basement or roof, or even the devastation of a flood. While the response to a spilled drink will obviously be different from the reaction to a flood, the most important action you can take in either case is prevention. As a retailer, awareness of the dangers and devastation of water damage can help you to better educate your customers and provide them with products that will work best for their personal lifestyle and environment.

AVOIDING RAIN ON YOUR PARADE

Water damage can range from minimal to completely destructive, depending on the materials involved and the amount, circumstances, and purity of the water. Studies on the effects of water damage on different types of prints have been conducted at the Image Permanence Institute. Dirty water from sewage leaks, floodwaters from rivers, and colored liquids like fruit juices make the clean-up process more difficult and staining of the album materials more likely. Water can cause the bleeding of inks and dyes in journal entries, digital photographs, and decorative papers, causing them to appear blurry or streaked. When exposed to water, some prints and materials will soften and stick to adjacent surfaces. Papers that get wet can become distorted or warped and some may even dissolve completely in water. Various materials will respond differently to water; knowing in advance which materials are most susceptible to water damage can help you better inform your customers.

Before considering the many options available for materials, emphasize that most damaging water incidents with photographs and scrapbooks can be avoided. Plastic page protectors work well for protecting against accidental spills. Avoid having food and drinks close by while handling albums. Photo and memorabilia collections should

not be stored in basements, beneath or next to plumbing lines in walls and ceilings, and, if possible, should be kept off the floor on higher shelving. If you live in an area with a known flood risk, take special care to prepare your home against flooding. The American Red Cross has a publication available online, *Repairing Your Flooded Home*, at http://www.redcross.org/static/file_cont333_lang0_150.pdf that discusses how to repair and protect your home from flooding. As a retailer in an area of flood risk, be sure to print that document and keep it handy. The American Institute for Conservation of Historic and Artistic Works also has a publication to help those affected by severe flooding available at <http://aic.stanford.edu/library/online/disaster/tentip.html>. Encourage your customers to keep duplicates of photographs or original negatives, and demonstrate products to help them organize and maintain their collection of images. Having duplicates of your photographs will make salvaging a damaged collection much easier and less heart rending, particularly if the damage to the albums is irreparable.

WATERWORKS WISDOM

The research done at the Image Permanence Institute focuses primarily on various types of photographs and not on the many additional embellishments that are often used in scrapbooks (such as wire, ribbon, and buttons). The intent of the project was to observe the behaviors of different digital and traditional prints when exposed to water and to explore different ways of recovering them to see what can be salvaged. Some of the materials proved impossible to salvage from water. Water-based adhesives will likely detach if submerged in water for any extended period of time. Non water-proof inks for stamping and journaling will run and may completely disappear. Traditional color photos are made by processing in water-based chemicals and because of this they are designed to hold up very well when exposed to water. Many black-and-white heirloom prints are also designed for water resistance, but aging may make them more sensitive to harm.

Most digital print methods do not involve processing in chemicals and are not specifically designed to withstand exposure to water. There are several types of digital printout methods available today. Dye diffusion thermal transfer prints uses heat to transfer the dye image onto the paper support. These prints are produced at most photo kiosks and some small home printers. They generally hold up well to water immersion, but may transfer some of their image to adjacent surfaces if wet for more than a day. For ink jet prints there are dyes and pigments. Papers can be either “microporous” or “swellable” paper. Swellable paper has a coating on it which is designed to absorb the dyes that make your images; it is generally glossy and feels smooth. A water droplet placed on the surface will be absorbed and make the surface feel slippery. Microporous paper also has a coating on it of small particles that create pores for the colors to sit in, it usually feels slightly sticky to the touch and water will cause little change in the feel of the surface. Swellable papers, because of their water absorbent characteristics, can be severely damaged by exposure to water even if it’s only for a brief time. Microporous papers with both dye and pigment images on them can also be damaged by water. There can be some image bleed with the dye images, and the surface coating of the paper may flake off during the handling or drying of the print.

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Once collections have become wet, mold can begin to grow in two to three days.



ALBUM STORAGE DO'S

- Store albums in a dry area, not in the basement or near water pipes.
- Keep duplicates of your favorite prints as “insurance.”
- Use storage materials that will not react with your photographs.
- Use waterproof pens and papers made with pigment colorants.
- Use plastic page protectors.

PRINT RECOVERY DO'S

- Remove pages from page protectors.
- If possible, remove photographs from pages to dry.
- Separate stacked prints before allowing them to dry even partially.
- Test any cleaning, flattening or other treatment on a less important print before applying to the rest of the album.



When starting flood recovery of a memorabilia collection, it is important to act quickly.

WISHY WASHY RESULTS

The accompanying photographs show the results of exposing different types of materials to water. Figure 1 shows a page before exposure to water; Figure 2 is the same page after a flood. The writing and stamping and images on the page have stayed intact and look reasonably sound. Figure 3 shows the inks have run and both the writing and stamping is completely lost. The images have bled, faded, and peeled. The page that held up well was made with pigment ink images (including the journaling and stamping) on microporous paper. The page that did not hold up well was made with dye ink images on swellable paper. This drastic difference in reactions to water damage indicates the impact product choices can make in the water resistance of your customers' collections.

RECOVERING FROM THE DAMAGE

When starting flood recovery of a memorabilia collection, it is important to act quickly. Preventing exposure to water is still the first and best course of action. Once collections have become wet, mold can begin to grow in two to three days. Mold growth can be hazardous to your health; take care in handling the materials. (Additional information on mold can be found in the "Science of Scrapbooking" article in the October/November 2003 issue of *Scrapbook Retailer*.) If the collection is large and drying cannot begin immediately, freezing the entire album will slow or prevent mold growth. They can then be thawed and recovery can begin at a later date. Pages should not be dried inside plastic page protectors, as they will hold the water inside, increasing the risk of mold growth.

Begin drying scrapbook pages and prints as soon as possible. Distortion of the prints and pages will occur; they will need to be flattened. Additional information on drying specific types of prints and pages can be found at www.rit.edu/ipi/sub_pages/waterdamage.pdf, "A Consumer Guide for the Recovery of Water-Damaged Traditional and Digital Prints." It is important to realize that any suggestions for drying and recovering prints should first be tested on a less important piece of the collection. Individual albums may contain items that cause them to behave differently; any suggestions on recovery and handling should be considered and utilized when appropriate on a case-by-case basis.

The damage caused by water can be devastating to a family, their home, and their memory collections. In the event of a flood, only after family and structural considerations are safe should recovery of photo and scrapbook collections be considered. Helping your customers choose water-safe or resistant materials may make the difference between recovery and loss of their keepsakes. In the unfortunate event that prevention wasn't possible, help them to better choose new materials to rebuild with.

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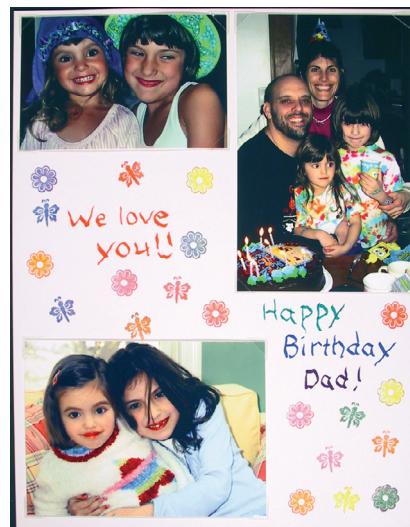


Figure 1 – An album page before exposure to water.

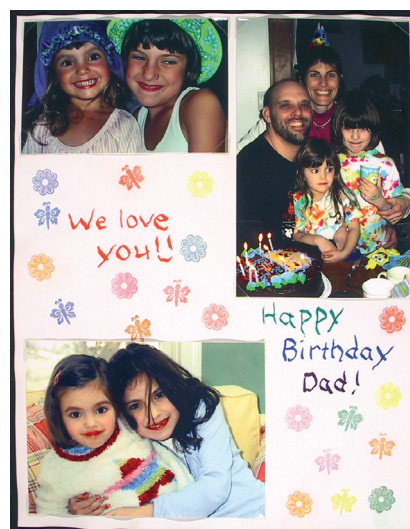


Figure 2 – An album page after immersion in water. Prints, journaling and stamps made with pigment inks.



Figure 3 – An album page after immersion in water. Prints, journaling and stamps made with dye-based inks.