



Conserve O Gram

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Contracting For Reformatting Of Photographs

Photographs, including negatives, prints, slides, and transparencies, are some of the most widely used archival materials. Photographs are prone to destruction by humans, vermin, insects, mold, and poor environmental conditions. Preservation reformatting was developed to preserve original photographs from destruction while increasing the accessibility of their information.

Photographs are most commonly duplicated for preservation purposes via inexpensive and durable photographic or micrographic copies that offer high duplication quality and relative long life. After duplication the original image may be placed in cold storage. The duplicate negative is used for copy purposes and duplicate prints are used for access. Photographic copies last much longer than their digital counterparts. Photographic copies are also not machine-dependent for viewing.

Select A Permanent Photographic Process

The preservation duplication of monochrome images is best done by using the interpositive process (facsimile positive images on film) whereby a positive silver gelatin image is produced on a polyester (Mylar®) base. This interpositive image is used to produce a high-quality copy negative capable of producing publication quality prints. All copy negatives are then labeled as copies and maintained as duplication masters. Interpositives are placed in archival housing within cold storage as preservation masters. If the cost of producing interpositive and copy negatives is felt to be too high, consider producing only interpositive transparencies. The copy negatives may be produced from the interpositives as the materials are requested by researchers and staff over the

long run. For color images the best process is similar. Produce duplicates in a relatively stable process such as Fujichrome slides or Ilfochrome prints and then place the original in cold storage.

Avoid direct duplicate negatives. It is generally hard to match varying tonal ranges of historic photographic processes in reproduction. Direct duplicate negatives also have a very fine grain, leading to rapid deterioration. Most projects that have invested heavily in direct duplicate negatives have failed to produce publication-quality copies. So whenever a good quality photographic print was required, the photographer had to work from the original negatives rather than the copy, defeating the purpose of the copy negatives.

Review the Materials To Be Copied

Prioritize all photographic collections requiring duplication as suggested in *Conserve O Gram* 19/10, Reformatting for preservation and Access: Prioritizing Materials for Duplication.

Develop a Statement of Work

Prepare a Statement of Work (SOW) to be submitted to your contract officer. In addition to describing work to be done, include the following inspection and performance standards in the SOW:

- Microfilm or photographic copy work must be done to American National Standards Institute (ANSI) Standards¹.
- Payment will not be made until the copies have been tested and inspected, roughly a month after receipt.

- All work failing the visual inspection or chemical testing will not be paid for until it is reshot at the photographic laboratory's expense and the resulting work meets the specified standards.
- Request to include the inspection and testing time into the terms of payment.
- Request either polysulfide toning or gold toning which will extend the life of the negative. Be aware that gold toning can add 20-50% to the cost. **NOTE: Do not request selenium toning.** Recent findings of the Image Permanence Institute indicate that it has little effect upon the life of the negative.
- The duplication contractor must return the materials to the park in the order in which they were sent as reflected in the list of objects. The copies are placed in a separate series that mirrors the arrangement of the originals. If not housed, the copies should be interleaved with unbuffered paper.

NOTE: If you are copying cellulose nitrate negatives, at no point should the copy negative or interpositive be housed directly next to the original cellulose nitrate or cellulose diacetate. If they are kept near each other, nitrate contamination will occur, leading to damage of the copy materials.

Select a Photographic Laboratory

After writing your SOW contact several photographic laboratories to request estimates for your copy work. Investigate the possibility of having the microfilm, interpositives, and copy negatives produced via an internal photographic laboratory if you have such a resource available. NPS System Support Office Curators should be able to provide parks with the names of photographic laboratories that can undertake this reformatting work. State archives may also be able to provide such information.

Once several potential laboratories have been located, obtain estimates on the costs of producing the following:

- Silver halide roll microfilm
- Black-and-white silver gelatin interpositives from negatives (including cellulose acetate and nitrate)
- Prints from negatives (both color and black-and-white including cellulose acetate and nitrate)
- Black-and-white silver gelatin negatives from prints
- Fujichrome copy slides from original color slides
- Ilfochrome prints from color slides

Ask all potential photographic laboratories to make four or five sample copies or duplicates for visual comparison purposes. Ask how they plan to process the images (inhouse or via Kodak). Ask how they plan to house and ship the images. Will they place the originals and copies in archival housing for an additional charge? Will they transfer the labeling information? If so, will this affect the cost? Who will provide the supplies? What quality supplies will be used? How long can the park take for inspection before returning materials for reshooting without paying an additional charge?

NOTE: Cellulose nitrate negatives must *not* be printed in most contemporary enlargers as the enlargers can generate enough heat to set the film on fire. Ideally, the lab producing the copy negatives from cellulose nitrate negatives should use a scanning laser or cathode ray tube camera instead of an enlarger.

Prepare the Negatives for Delivery or Shipping

Complete an outgoing loan agreement (NPS 10-127 Rev) for each photographic collection being sent out of the park for duplication. (See NPS *Museum Handbook*, Part II, Chapter 5, Outgoing Loans.) A loan form may include an attached List of Objects (Form 10-417) or equivalent with an item-level listing of all images in the collection that are being duplicated. Comments on the images' condition, problems, or content that may affect photoduplication may be listed here next to the images' individual control numbers. The attached list of objects must include the collection name, the total number of items being duplicated, and the appropriate control or negative numbers being shipped. If the collection is large, attach additional sheets as needed. Indicate missing items in a sequence of photographs.

Example

Attachment to Outgoing Loan Agreement No. 6

10 Negatives from box 1, folders 1-10 of the Magdalene Marmoset Collection: Accession GIGL-14; catalog numbers GIGL 1 through GIGL 20.

Negative No.:

1

2 Original torn

4

8

9 Original lacks negative number

14

15 Watch for details in woman's skirt shadows

16

17

20

NOTE: Negatives numbered 3, 5-7, 10-13, and 18-19 are missing and not shipped to the lab.

Prepare the outgoing loan form and list of objects at least a week before the order is picked up for delivery to the photographic laboratory

staff. The list will help ensure that the bills received from the laboratory (often keyed only to a shipment number or date) can be linked precisely to the catalog and negative numbers of the material that was duplicated. An exact list of objects also helps staff prove that a specific image was included within an order in case the image is copied incorrectly, skipped, or lost. Use of the list ensures that materials may be sent back for reshooting as necessary.

If the collection is to be sent through the mail (do not mail glass plates), also complete a NPS Receipt for Property form (DI-105). **NOTE:** Shipping rules and labeling requirements for cellulose nitrate film can change. Check to ensure compliance. Copies of the list of objects should be attached to the Receipt for Property. Copies of all paper work must be kept by the curator with the collection documentation.

When preparing negatives for shipment, they must be boxed and marked with labels indicating that they must be kept cool. Ideally, arrange for manual pick up or delivery. When arranging pick-up, make certain the delivery agency and the delivery person understand that they must not leave the photographs, particularly cellulose nitrate, in a warm vehicle because heat will damage the photographs.

After Duplication

The duplicated photographic copies must be carefully inspected upon return to ensure their quality. The inspection should be completed by someone experienced in reading negatives. (See *Conserve O Gram*

19/13, Preservation Reformatting: Inspection of Copy Photographs for guidance on inspection of duplicate photographic materials.)

Note**1. American National Standards Institute (ANSI) Standards:**

ANSI PH1.42-1969. Methods for Comparing the Color Stabilities of Photographs. New York, NY: American National Standards Institute, 1969.

ANSI/ASC PH1.53-1984. American National Standard for Photography (Processing)-Processed Films, Plates, and Papers-Filing Enclosures and Containers for Storage. New York, NY: American National Standards Institute, 1984.

ANSI PH4.32-1980. Method for Evaluating the Processing of Black-and-White Photographic Papers with Respect to the Stability of the Resultant Image. New York, NY: American National Standards Institute, 1980.

References

Hendriks, Klaus. "The Stability and Preservation of Recorded Images," *Imaging Processes and Materials Neblette's Eighth Edition.* New York: Van Nostrand Reinhold, 1989.

Norris, Debbie Hess. "Preservation Planning for Diverse Photographic Holdings," *Photographic Preservation and the Research Library.* The Research Libraries Group, 1991.

Puglia, Steven T. "Negative Duplication: Evaluating the Reproduction and Preservation Needs of Collections." *Topics in Photographic Conservation* Vol. 3 (1989).

Puglia, Steven T. "Duplication Options for Deteriorating Photographic Collections," *Photographic Preservation and the Research Library.* The Research Libraries Group, 1991.

Wilhelm, Henry and Brower, Carol. *The Permanence and Care of Color Photographs: Traditional and Digital Color Prints, Color Negatives, Slides, and Motion Pictures.* Grinnell, Iowa: Preservation Publishing Company, 1994.

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