



A Beginner's Guide to Digital Image Repair in Photoshop: Volume 1

Touching Up Your Historical Photos

Jennifer Harder

Apress®

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Jennifer Harder
Delta, BC, Canada

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Table of Contents

About the Author	ix
About the Technical Reviewer	xi
Acknowledgments	xiii
Introduction	xv
Chapter 1: Preparation for Working with Old Historical Photos	1
Brief Photo History and Reason for Photographic Damage.....	2
Organization of Your Photos.....	7
Scanner Purchase.....	12
Types of Scanners for Film Slides and Negatives.....	15
Scanner Basics Review (Maintenance)	19
Flatbed Scanner Option 1: Quick Scans of Photo Prints Directly into Photoshop.....	23
Flatbed Scanner Option 2: Using Your Scanner Dialog Box for Prints, Slides, and Negatives	35
A Digital Camera (for Large Format Files)	50
Summary.....	53
Chapter 2: Setting Up Your Photoshop Workspace	55
Creating a New File and Workspace Setup	55
Setting Up the Workspace and Review of the Main Panels and Tools.....	56
Tools, Panels, and Contextual Task Bar Overview Review	66
Opening Your Scanned File.....	92
Creating Image Duplicates	92

TABLE OF CONTENTS

Adjusting Scanned Image.....92

Saving Changes to Your Scanned Files Single Layer..... 105

Project: Open and Save a File in a PSD Format..... 109

Summary..... 111

Chapter 3: Tools for Photo Restoration: Part 1113

Identifying Photo Damage/Issues and Working with the Healing Tools 115

Clone Stamp Tool (S) and Clone Source Panel..... 119

Spot Healing Brush Tool (J)..... 146

Remove Tool (J) 153

Healing Brush Tool (J)..... 162

Patch Tool (J) 172

Content-Aware Move Tool (J)..... 180

Red Eye Tool (J) 189

Summary..... 194

Chapter 4: Tools for Photo Restoration: Part 2195

Other Tools for Restoration..... 197

Eraser Tool (E)..... 197

Brush Tool (B) 210

History Brush Tool (Y) 220

Pencil Tool (B) 223

Color Replacement Tool (B)..... 225

Blur Tool..... 233

Sharpen Tool..... 239

Smudge Tool 242

Dodge Tool 247

Burn Tool.....	252
Sponge Tool	256
Summary.....	261
Chapter 5: Tools for Photo Restoration: Part 3	263
Cropping Images with Crop and Perspective Crop Tools.....	265
Crop Tool (C)	266
Perspective Crop Tool (C).....	278
Organizing Your Layers Panel: Moving and Copying Layers.....	281
Create New and Duplicate Layers	284
Delete Layers.....	286
Copying Layers	287
Colorizing Group Folders	289
Renaming Layers and Folders	291
Photo Project (Army Image)	291
Summary.....	295
Chapter 6: Masks, Selections, and Filling in the Gaps: Part 1	297
Photoshop's Selection Tools.....	298
Rectangular Marquee Tool (M).....	302
Elliptical Marquee Tool (M)	328
Lasso Tools for Custom Selections.....	338
Lasso Tool (L)	338
Polygonal Lasso Tool (L)	340
Magnetic Lasso Tool (L)	342
Refining the Selection with Quick Mask Mode (Q)	346
Summary.....	355

TABLE OF CONTENTS

Chapter 7: Masks, Selections, and Filling in the Gaps: Part 2357

- Complex Selection Tools 358
 - Magic Wand Tool (W) 358
 - Object Selection Tool (W) 365
 - Quick Selection Tool (W) 374
 - Understanding the Select Subject Button..... 378
 - Working with the Select and Mask Workspace 380
- Other Selection Options You May Want to Explore from the Select Menu..... 414
 - Color Range 414
 - Focus Area..... 420
 - Sky Selection..... 426
- Saving Selections in the Channels Panel 427
- Load a Selection 429
 - Creating Separate Channel Selections from an RGB Photo 430
- Summary..... 432

Chapter 8: Masks, Selections, and Filling in the Gaps: Part 3433

- Creating Layer Masks 434
 - Enable/Disable Layer Mask 443
 - Adjusting a Layer Mask in the Properties Panel 444
 - Adding Smart Object Layers..... 448
- Edit ► Transform Review (Scale and Rotate Smart Object Layers)..... 451
- When to Use Content-Aware Scale 462
- Filling in the Gaps 465
 - Content-Aware Fill Dialog Box and Workspace 465
 - Sky Replacement..... 481
 - Other Photo Stitching Options You May Want to Try 494
 - Edit ► Auto-Align Layers 496

TABLE OF CONTENTS

Edit ► Auto-Blend Layers497

File ► Automate ► Photomerge.....499

The New Features of Generative Fill502

 Content Credentials (Beta) Panel.....506

Photo Project.....507

Summary.....514

Index.....515

About the Author



Jennifer Harder has worked in the graphic design industry for over 15 years. She has a degree in graphic communications and is currently teaching Acrobat and Adobe Creative Cloud courses at Langara College. She is also an author of several Apress books and related videos.

About the Technical Reviewer



PK Kaushal is a visual artist whose diverse career spans roles in advertising, print media, and education. With an extensive background at notable institutions such as DeGraphics Advertising Agency, HT Media, and RKMV College, he brings a wealth of experience and creativity to his projects. PK is highly proficient in photo editing, photo restoration, portrait photography, documentary making, ad film production, logo design, and vector illustration.

He holds a master’s degree in Applied/ Commercial Art from Kurukshetra University in Haryana, India, underscoring his deep theoretical understanding and practical expertise in arts and design.

Currently, PK Kaushal is the driving force behind Wedding Moment Pictures, a thriving photo and video production company that specializes in capturing the essence of special occasions. His leadership and artistic vision continue to contribute to the success and prestige of his enterprise, making memorable moments everlasting through his skillful artistry.

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- My program coordinator, Raymond Chow, at Langara College, who shares a similar interest in photography

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Introduction

Welcome to *A Beginner's Guide to Digital Image Repair in Photoshop: Volume 1*.

In today's digital world, with smart phones and cameras, we can easily transfer our photos from phone to computer. Then, with Photoshop, we do a few basic corrections using various healing tools in conjunction with adjustment layers and filters and then print out the picture with our inkjet printer or post it on our social media page. However, occasionally we are left with the old or damaged photos and slides from a loved one who lived before the age of digital cameras. Now we need to decide what to do with these old family treasures, whether they be a family portrait or a trip to a historical location, that we have been keeping in a shoe box for many years. Some are in good condition, and others are very damaged. What can we do to restore them? Refer to Figure 1.



Figure 1. Collection of photos, film slides, and negatives in a shoe box

INTRODUCTION

In Volumes 1 and 2, we will explore how you can work with your old historical photos in Photoshop and digitally restore them so that you can print them out for family as well as use them online as still photos or to animate select images. As we progress through the chapters in this book, you will look at some of the many tools and filters that Photoshop has to offer, both old and new, that can assist you in your restoration project.

For example:

- Chapter 1's focus will be on preparation for working with old historical photos; you will review scanner basics for your photo print, new information on how to work with film slides and negatives, some guidelines on what type of scanner and dialog box settings to use for them, and initial file formats that are created after the scan.
- Chapter 2 will review how to set up your Photoshop workspace, an overview of some of the tools and panels, and the basic file formats to save the files you are working on in.
- Chapters 3–5 will look at the basic Photoshop tools that you would use for very basic photo restoration as well as a few other additional tools that you may want to incorporate for small touch-ups, color corrections, or cropping your artwork while working with the Layers panel on a personal project.
- Chapters 6–8 will explore some more advanced features, such as working with masks, selections, and other related commands and workspaces (old and new) that Photoshop has to offer. You will see how, when there are gaps and details are not present in a photo, you can be creative and fill in the missing details.

Then Volume 2 will continue to explore the following:

- Explore various masks and how we can use them to color correct the entire scene or selected areas using the Adjustments panel and its new features. You will also review what the smart object layer is and how to apply smart filter adjustments to it that are nondestructive. Blending modes and other advanced color adjustment options will be looked at as well.
- Review some of the main basic filters that are mostly used for blurring, sharpening, or removing noise from an image. These filters will be applied to various layers, but we will also look at situations where they could be applied to layer masks or channels.
- Explore some advanced filters as well as some new filters that you may not be aware of that can help you with your photo restoration project. We will also take a brief look at how you can go about acquiring additional filters from the Adobe Creative Cloud console if you have a subscription.
- Focus on two possible ways that you can bring your images to life in Photoshop using the Timeline panel. One way is to create a basic slideshow GIF animation, and the second is to create a parallax animation from components of a single or multiple images. The latter has in recent years become popular when no historical video footage is available. We will look at what kinds of photos do and do not lend themselves to a parallax and then how to render the animation.

INTRODUCTION

- Conclude our discussion on Photoshop and digital image repair with some final color touch-ups you can do should you plan to print your images or save them for online use. I will also mention a few additional Adobe Creative Cloud and Microsoft apps that you may want to consider should you want to continue to work with your images for other multimedia projects.

At this point, I will just mention that though most photos we will be working with in this book will be historical or vintage, if you have modern digital photos, you can use them as well.

Note that in this book some of the images where people are present have had their faces altered (with blurs or mannequin faces) to protect their original identities, so that you can use them for practice. However, if you have similar photos of friends or family, then feel free to use the same techniques mentioned in this book and practice on them instead of mine.

Installing Photoshop and Other Adobe Apps

This book assumes that you are using the Adobe Creative Cloud subscription. Currently, I am using an individual license, but you may have Business or a student license.

www.adobe.com/creativecloud.html

Make sure to install a copy of the Creative Cloud Desktop console on your computer.

Since the focus of this book is on Adobe Photoshop, if you have not already done so make sure to download a copy of Photoshop from your Creative Cloud Desktop.

Go to Apps ► All Apps, then choose the Desktop option from the list. Under Essential in your plan, locate Photoshop and click Install. Refer to Figure 2.

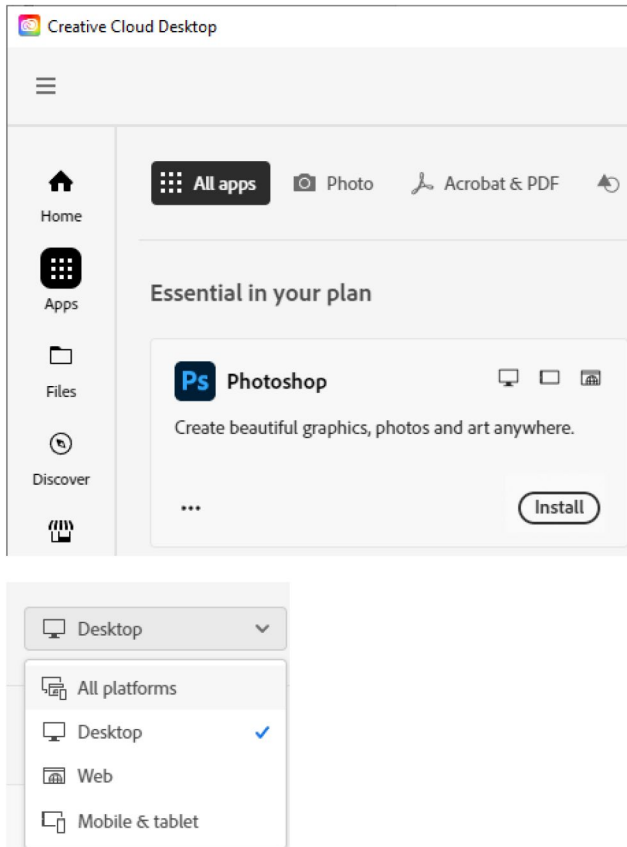


Figure 2. Creative Cloud Desktop settings for installing Photoshop

If you are not sure of your system requirements, you can check them here:

<https://helpx.adobe.com/creative-cloud/system-requirements.html>

<https://helpx.adobe.com/photoshop/system-requirements.html>

I am currently using Version 2024 (25.11).

INTRODUCTION

It may take several minutes for the download to complete, and you may be prompted to restart your computer. Once complete, you will find the application in your Installed section with other applications, if you installed them earlier. Adobe will occasionally send you updates which you can download to keep the software up to date. Refer to Figure 3.

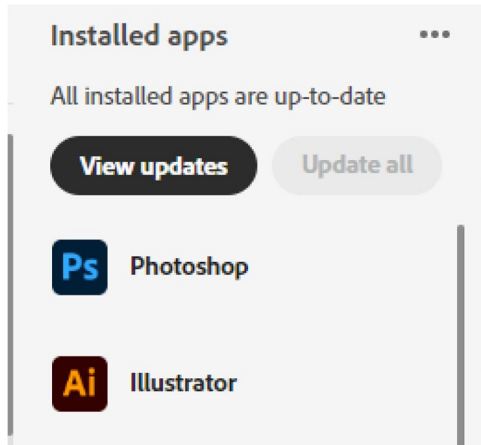


Figure 3. *Photoshop settings in the Creative Cloud Desktop to indicate it is installed and you can open the application*

Note that Adobe Bridge, to keep your photos organized, may also be downloaded. Though not used in this book, it will be briefly mentioned in Volume 2 as it relates to the Camera Raw filter. Camera Raw may also be installed with your Photoshop application. You may also want to download a copy of Media Encoder at the same time, but we will not require the application until Volume 2. Refer to Figure 4.



Figure 4. *Other Adobe applications that you may install: Bridge, Media Encoder, and Camera Raw*

Now that Photoshop is installed, click the Open button in the Creative Cloud Desktop, and then, after a minute, it will load and open. Refer to Figure 5.

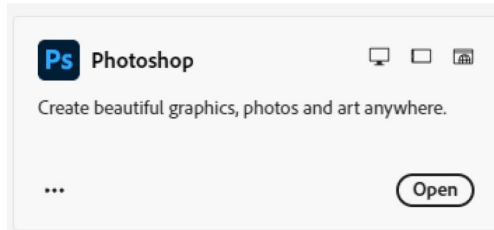


Figure 5. Use the Creative Cloud Desktop to open the Photoshop application

You can leave Photoshop open for now if you are planning to read Chapter 1 next, or you can from the main menu choose File ► Exit (Ctrl/CMD+Q) if you need to exit the application.

Note that this book does not discuss the separate application Photoshop Express or Beta features unless they are installed in the current application.

Resources

Throughout this book, I will be supplying a reference for more details on various tools using the following link:

<https://helpx.adobe.com/>

You can also access more information on various Photoshop-related topics from the Photoshop Help menu, Discover panel (magnifying glass icon), as well as the Creative Cloud console's Discover tab. Refer to Figures 6 and 7.

INTRODUCTION

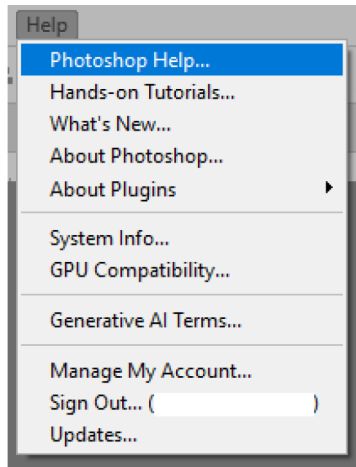


Figure 6. *Photoshop's Help menu*

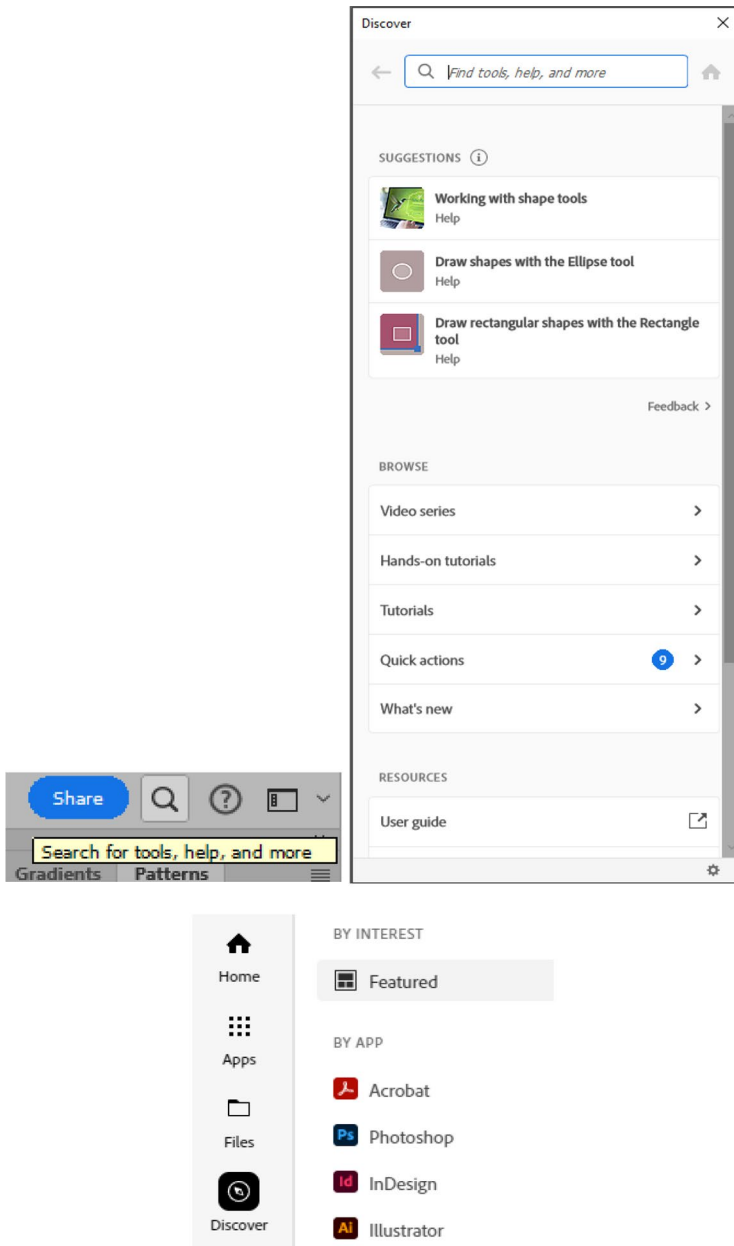


Figure 7. Access to the Photoshop Discover panel along with the Creative Cloud Desktop giving access to Photoshop tutorials

INTRODUCTION

After you have finished this book, if you are interested in other Photoshop projects and working in combination with Adobe Illustrator, you can review some of my other Photoshop-related books should the topics be of interest to you:

- *Graphics and Multimedia for the Web with Adobe Creative Cloud*
- *Accurate Layer Selections Using Photoshop's Selection Tools*
- *Perspective Warps and Distorts with Adobe Tools: Volumes 1 and 2*
- *Creating Infographics with Adobe Illustrator: Volumes 1, 2, and 3*: These books briefly discuss Photoshop as it relates to infographic development.

Projects for this book can be found here: [Link from Apress](#).

So let's begin our journey into how to work with your box of historical photo treasures.

CHAPTER 1

Preparation for Working with Old Historical Photos

This chapter will discuss how to prepare your photos for scanning as well as what kind of scanner may be best for your project and then how to proceed with the scanning and saving of the scan file.

Note this chapter does contain projects found in the Volume 1 Chapter 1 folder. Note that in my previous books, such as *Accurate Layer Selections Using Photoshop's Selection Tools* and *Creating Infographics with Adobe Illustrator: Volume 1*, the focus was on scanning sketches which did not necessarily require a high degree of quality in regard to color and resolution, and so a scanner that could scan slides was not required. In this chapter, we will be assuming that, besides photo prints, you will also be scanning slides and negatives, so some new topics not discussed in those books will be discussed here.

Brief Photo History and Reason for Photographic Damage

As mentioned in the introduction, most photos in recent years are taken with your digital camera, which may be a separate piece of hardware (physical digital camera) or an application that is part of your smartphone which has a built-in camera. What we understand as photography has been around since the 1700s – the process of trying to capture and retain images on light-sensitive materials; the use of dyes to preserve that image on a substrate whether a film or a paper. Over the centuries, the camera evolved from using glass plates and paper to film starting around 1888 and then on to digital in 1975. However, up until the early 2000s, when digital cameras improved and became more affordable, it was still common for people to use film cameras and to store their prints in an album, negatives in sleeves, or slides in a reel or box to keep them dust-free and away from the light. Refer to [Figure 1-1](#).



Figure 1-1. *Collection of storage options used to store print photos as well as film slides and negatives*

While this book's purpose is not to go into the history of photography, negatives, and slides, it's still important to know a bit about why the items you are reviewing may appear damaged.

In the case of prints and film (negatives and slides), oftentimes the dye on the paper or in the film emulsion in combination with dye couplers does age and fade when exposed to the light or due to other environmental issues, such as temperature, moisture, and humidity. In the case of damage to slides this can often leave us with many instances, depending on the film brand, in which normal colors of red, green, and blue sensitive layers have begun to fade and become solidly red, green or blue, this

is often dependent on the dye that used in the manufacturing process. Over time, for example, when a slide becomes red, it means that the cyan dye has become unstable and chemically broke down, leaving only the red (magenta) and maybe yellow dyes. Note that for film, the dull side is considered the side with the emulsion. Refer to Figure 1-2.



Figure 1-2. *Aged film turning red, a purple-blue color, and normal colorizing*

Likewise in other media like the paper displaying the printed image, these dyes can also break down and fade when exposed to the light. Also, if exposed to certain glues for mounting the image in place, the adhesive chemicals soak into the paper; they are acidic, this yellows the paper. You may recall seeing albums with the clear plastic that seals the photographs onto the glued white cardboard. Refer to Figure 1-3.



Figure 1-3. Pages from an album with the images mounted with glue and covered with plastic seals

This is one of the worst things you can do to a photo, so care must be taken to remove the image without ripping the photo. If you have any of these, transferring them for now into an album with just plastic sleeves and no glue or tape is a better option. The plastic sleeves should be ones that are for photo protection and do not contain PVC or PVA plastics. Also, researching archive storage boxes is another option.

The film of the slides and negatives can turn yellow over time and become brittle. Also, if the film is handled incorrectly and touched with ungloved fingers, the natural oils in our skin can erode the emulsion, and our fingernails can scratch it and the shiny film side as well. Having clean hands and a pair of white lint-free cotton or nitrile gloves is good for this kind of work. Avoid gloves that have been pre-dusted with chalk. On the shiny film side (not the dull emulsion side), if you do need to clean any fingerprints off, you can try a microfiber cloth or a cotton swab and a

small amount of 91–99% Isopropyl Alcohol and rub the spot very gently to remove the fingerprints. Do not use water which may soften the film gel. Practice on a piece of film first which you are not concerned about damaging. Your local photo lab or museum may have some suggestions as well. Refer to Figure 1-4.



Figure 1-4. Carefully cleaning the shiny side of a black and white negative with gloves and a cotton swab dipped in Isopropyl Alcohol

Note that Isopropyl Alcohol is both poisonous and flammable. Read instructions on how to use small amounts correctly and also store and keep out of reach of animals and children.

Some prints, if stored correctly under the right conditions like in a museum or archival vault that is regularly monitored, can last hundreds of years. This is not the case in our own homes where our main focus is not continuously on historical preservation. This is why in your collection, there may be a few pristine images, but more than likely many will have a torn edge, rips, and creases.

One final “damage” factor that I will mention before we look at scanning is the fact of whether the photo was taken professionally or not. Whether it is recent or not, there is still the possibility of dust being on the lens, parts of the image being out of focus, and over- or underexposed and unintended objects, animals, or people appearing in the shot. These too can be things that we may want to “correct” as well, and much of this can be done with Photoshop as you will see in the following chapters. These are all factors to consider when deciding what level of authenticity your historical images should retain.

Organization of Your Photos

Before you begin scanning or if you don’t have a scanner yet and need to purchase one, take some time to organize your prints, slides, and negatives into piles on the table or in boxes. Note how some negatives and slides are larger than others, and this will be important, as I will explain why shortly.

Some tools that may be helpful during your organization will be a magnifying glass, gloves to avoid touching the film (as mentioned in the previous section), and a small light table, and if the slides you have been given had an original projector, that can be helpful as well and save some time. Refer to Figures [1-5](#) and [1-6](#).



Figure 1-5. Some of the tools that you may need to review your film slides and negatives while cleaning with Isopropyl Alcohol, magnifying glasses, cotton gloves, and a light table



Figure 1-6. Review your slides with the original slide projector if possible

At this point, culling through what you do not intend to scan is all part of the organization process.

The main piles that you want to create are

- Prints larger than 8.5x11: This could be, for example, large family portraits in black and white or sepia, but color prints as well.
- Prints smaller than 8.5x11: This could include very old sepia or black and white image that are mounted on a thick card stock. Some of these may be over a hundred years old. Others will be the more modern color prints. Refer to Figure 1-7.



Figure 1-7. *Organize your prints into piles as you work on them*