

Image Management Best Practices

San Francisco Bay Area Network
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Purpose

This purpose of this document is to provide best practices for image management. Image management is the process of organizing, storing, naming and retrieval of photographs or other images in electronic format.

Acquisition

Regardless of the image source (digital camera or scanned photograph/film), you will want to start with the highest possible quality. If the image is not needed at that resolution, it can easily be reduced in size and quality to match its intended use; the same cannot be done in reverse – increasing an images quality.

Processing Overview

Effectively dealing with large numbers of images requires consistent downloading, naming, editing, and documentation. This section describes the general process for managing images.

After the images have been acquired, either by digital camera or scanning, the general processing of images are as follows:

- Migrate photos to the pre-established directory structure for images.
- Rename the images.
- View, delete and edit the images as needed.
- Document the images
- Prepare images for on-line long-term storage or off-line archiving.

The following steps provide general guidance on processing images. Depending on the purpose, these may be modified as needed. Any existing park-specific photo collection protocol should be reviewed as data images may need more processing and consideration.

Establish Organization for Images

General organization

The names of folders containing raw photos should clearly indicate that the folder contents are unedited originals. Raw photos folders may include multiple photos of the same subject, blurry pictures, or other less desirable photos. Copies of raw photos should be saved in clearly named folders for review and editing. For example:

/Subject_A

/Originals – raw, downloaded photos, including poor photos

/Edited –photos which have been processed: renamed and edited.

Only after all photos have been renamed and edited should you delete the originals folder. In some cases (e.g. if photos are edited for artistic effect) it is wise to save the original folder so unaltered photos are preserved.

Project Photos

Project data photos are images that are collected as part of a documented data collection protocol. These images need to be organized, documented, and preserved along with all other project data. Typically, project images should be stored under a directory structure like /Project_Name/Images.

Library photos

Library photos are public domain photos that may be useful for outreach items such as publications, presentations, websites, brochures, etc. Only high quality photos that are likely to be useful for public consumption should be saved, although exceptions can be made for lower resolution images that capture interesting subjects. These photos should have been processed, documented, and reviewed for inclusion in the library.

Image Naming Standards

A good naming convention provides enough information for easy searching without needing further subfolders. One example is the following:

ORGCODE_Project_Keyword_Photographer_Date_SequentialNumber

- Orgcode - NPS four character acronym; all capital letters. If the image is park-specific, use the park acronym, if it is network-specific, use NGPN.
- Project (optional) - Project acronym (e.g. PCM for plant community monitoring). Typically used when an image is specific to a particular protocol such as photos of field staff installing vegetation plots.
- Keyword – Subject keyword. The following are examples:
 - o Archeology
 - o Air
 - o Animal
 - o Climate
 - o Equipment
 - o Facilities
 - o Fire
 - o Geology
 - o Hydrography
 - o Landscape
 - o People
 - o Soils
 - o Soundscape
 - o Vegetation
 - o Weather

- Photographer (optional) – If the photographer would like to be acknowledged, use the photographer’s last name
- Date – The date the image was taken using. Formats YYYYMMDD, YYYYMM, or YYYY are easy to understand and sort in a good, effective manner.
- Sequential Number (optional) – If there are multiple photos of the same subject on the same date, use sequential numbers

Examples: Pinn_Falcon_2012.jpg, GOGA_Pinnipeds_People_20120402.jpg

Batch Renaming

Adobe Bridge, part of the Creative Suite package, has powerful batch renaming tools. See SFAN Image Management SOP Appendix A. SFAN Adobe Bridge User Guide for instructions.

Image Documentation and Cataloging

Images should be documented and cataloged. Documentation, or metadata, provides the minimum information a user will need to appropriately use the photo. Cataloging provides a collective means for searching, finding, and retrieving photos.

Software

A combination of software and databases may be used to document, catalog and effectively use photos at the park level. For example:

- Use Photoshop for modifying photos to desirable size, rotate, eliminate private information (license plates, addresses), or editing metadata
- Use Adobe Bridge for quick view of photographs, batch editing names or metadata, and contact sheet creation
- Use Windows 7 to browse for photos

Adobe Bridge

Adobe Bridge is a useful tool for documenting images and assigning keywords. It may also be used as an image browser with powerful search capabilities and to create collections and contact sheets. See Appendix A. Adobe Bridge User Guide for more information.

Windows 7 Search Function

The search function built into Windows 7 is a readily available and powerful tool that may be used to search and browse images. As long as images have been named using the proper naming convention, and the minimum metadata attributes (specified below) have been entered, the Windows search function can be used to easily find images.

Photoshop

Photoshop is the best tool for modifying images. A nice feature of Photoshop is that it does not erase the camera information from when the image was originally captured and will add data to ‘Program’ and ‘Modification Date’ fields of the image’s metadata when the image is altered.

Minimum Metadata Attributes

All public domain photos should have these minimal metadata attributes embedded into the file. Where applicable, the seven [NPS Digital Photo Metadata Standard](#) (2006) mandatory elements are indicated:

Table 1. Minimum photo metadata attributes

Element	NPS Photo Metadata Requirement	Description
Title	1. Title	Who or what is in the image or the project the image is associated with. Descriptive titles answer the questions who or what is in the image, where the image was taken, or when the image was taken (e.g. Meadowlark, Pinus ponderosa). Capitalize the first word in the title and all proper names. Avoid beginning titles with “The,” “A,” or “An.” This is different from the file name. May use filename if a more descriptive title is not needed.
Creator	-	The photographer’s name (e.g. Smokey Bear). For NPS-created photos use “NPS.” To provide credit to a staff photographer, use “NPS” in Creator and the photographer’s name in Credit Line.
Sublocation	2. Image Content Place	Where the image was taken. (e.g. Nebraska, Badlands National Park – North Unit)
Date Created	3. Image Create Date	When the image was taken (captured by camera)
Keywords	4. NPS Unit	Words or phrases to describe the photo contents. At a minimum, use set keywords described above (pg. 8). 4-letter park or network code (e.g. NGPN) should be included if known.
Copyright Status	5. Image Access Constraints	Who may view the record/image (i.e. public, copyrighted, NPS only)
Copyright Notice	-	Copyright information (e.g. ©2012 Donald Duck, all rights reserved) – as needed
Rights Usage Terms	6. Constraints Information	Explanation of restrictions, if any, on access/use of the image or metadata (e.g. Permission granted for NPS, but please credit photographer).
Address	7. Contact Organization	Will usually be the park or network (e.g. Pinnacles National Park, Point Reyes National Seashore, San Francisco Bay Area Network, etc.)

Digital images capture some metadata and will hold this information in an EXIF file that stays with the photograph until the photograph is modified. These include:

- File name
- Original Date/Time (also synched with Creation Date – IPTC)
- Camera Make

- Camera Model
- Flash (mode, fired, etc.)
- Metering Mode
- Exposure Mode
- Exposure Program
- Exposure Bias
- Focal Length
- F-stop
- Shutter Speed
- Exposure Time

If the image is processed, for example cropped or modified in Photoshop, the following attributes should be documented. All will automatically be filled if edited in Photoshop.

- Height (original height captured by camera)
- Width (original width captured by camera)
- Creating Software
- Modified Date/Time
- Program