

Harnessing the Power of Pictures

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Introduction



Image 1. Stickleback in a jar for observation.

Many of us throughout the National Park Service document our work with digital photos. Others are constantly in need of images for reports, interpretive materials, or websites. For the benefit of both—and to ensure that valuable visual resources remain accessible long into the future—the San Francisco Bay Area Network (SFAN) Inventory and Monitoring Program is exploring several ways of enhancing its digital image workflow.

Image Acquisition: Tips for the Field



Image 2. Using a flash can be useful in direct sunlight to reduce harsh shadows. For dark settings like forests, slow-sync flash (night snapshot mode) can light your subject while not losing background light.

Before you begin

- Check that the camera is set with the correct date and time. This information is stored in every photograph, and will be important for cataloging and archiving.
- Check the image size and quality settings. Photos should be shot at a minimum of 6 megapixels (~3000 x 2000px) at the highest JPEG quality setting. If storage space is not an issue, use the best settings/formats your camera has to offer.

- Get to know your camera's other modes and settings such as exposure compensation, ISO (lower = less grainy), shutter speed (higher = less blur), aperture (lower = shallower focus), flash, macro, etc...

Taking better pictures

- **Lighting:** Light is usually best early in the morning, or in the mid-late afternoon. Make sure the sun is behind you, lighting your subject from the front.
- **Focus:** Don't try to take photos on the move, or with just one hand. Stand still, use both hands, keep your elbows tucked in close to your body, and hold your breath while pressing the shutter to minimize the risk of blurry photos.

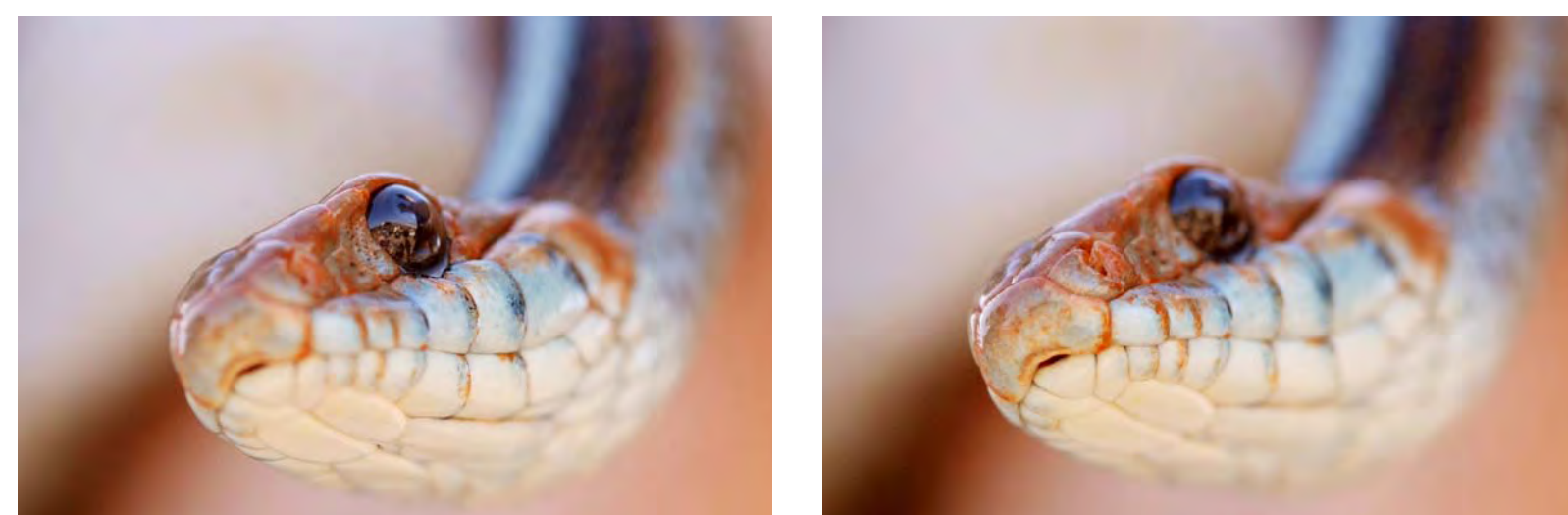


Image 3. When shooting people and animals, set your focus on their eyes. If you can't get both eyes in focus, focus on the nearest eye.



Image 4. The "Rule of Thirds" can help improve your composition. Imagine a tic-tac-toe grid over your viewfinder, and try placing important elements of the photo at the grid's intersections.

- **Subject:** Make sure photos have an obvious, interesting subject(s). Even landscapes benefit from a subject (person, animal, tree) in the foreground for perspective. People or animals are more interesting subjects when they are active.
- **Composition:** Fill the frame, or at least a significant part of it, with your subject by moving closer or zooming in (never use digital zoom, it just uses fewer pixels on the sensor). Be on the lookout for distracting background elements and eliminate them from your frame. For example, be sure

the horizon is straight and not intersecting your subject in a distracting way (e.g. coming out of its ears). Most importantly, try shooting the same subject with several different compositions and perspectives.

Image Processing

Overview

1. Create appropriate folder structure (Figure 1).
2. Download photos into a read-only subfolder in the "Originals" directory.
3. Copy the photos into the "Working" directory for tagging, re-naming, and editing.



Image 5. People working make great subjects. Try to include staff or volunteer hat or arm patches if possible.

4. When photos are ready, move them to an appropriate folder in the "Data Photos" or "Misc Photos" directory.
5. Copies of the best processed photos should be placed in the "Library Photos" directory.
6. Copy library photos to a centralized photo library for long term storage.

Tagging

The NPS Digital Photo Metadata Standard stipulates that a minimum of seven mandatory metadata elements accompany all photos. In practice, this has been difficult to achieve at SFAN due to inconsistent network and software availability, and difficulty attaining regular participation of overstretched staff.



NPS Mandatory Photo Metadata Elements	Similar IPTC Metadata Elements	Sample Metadata Tags
Title	Caption/Description	NPS staff and volunteers survey the intertidal zone on Alcatraz in November.
Image_Content_Place	Location/Sublocation	Alcatraz Island
Image_or_Set_Create_Date	Date Created	11-05-2010
NPS_Unit_Alpha_Code	City	GOGA
Metadata_Access_Constraints	Instructions	Unrestricted
Constraints_Information	Copyright/Rights Usage	Public Domain. Credit: Jessica Weinberg, NPS

Figure 2. NPS and IPTC metadata element compatibility.

In an effort to simplify the photo management process for all parties, SFAN is beginning to use IPTC (International Press Telecommunications Council) metadata as a starting point for describing its images. IPTC metadata lacks support for customized fields but is compatible with the mandatory elements of the Photo Metadata Standard (Figure 2.), and has many other fields like "Keywords" and "Categories." It is also supported by most photo management applications, stored in your image files themselves (like Exif data), and is easy to apply. Where data photos require more specific and advanced documentation, a different solution may be required.

Software Options

Many software options are available for managing photo EXIF and IPTC metadata. For instance, IrfanView is a simple freeware program that currently meets most of SFAN's needs, including batch photo tagging and renaming (Figure 3.).

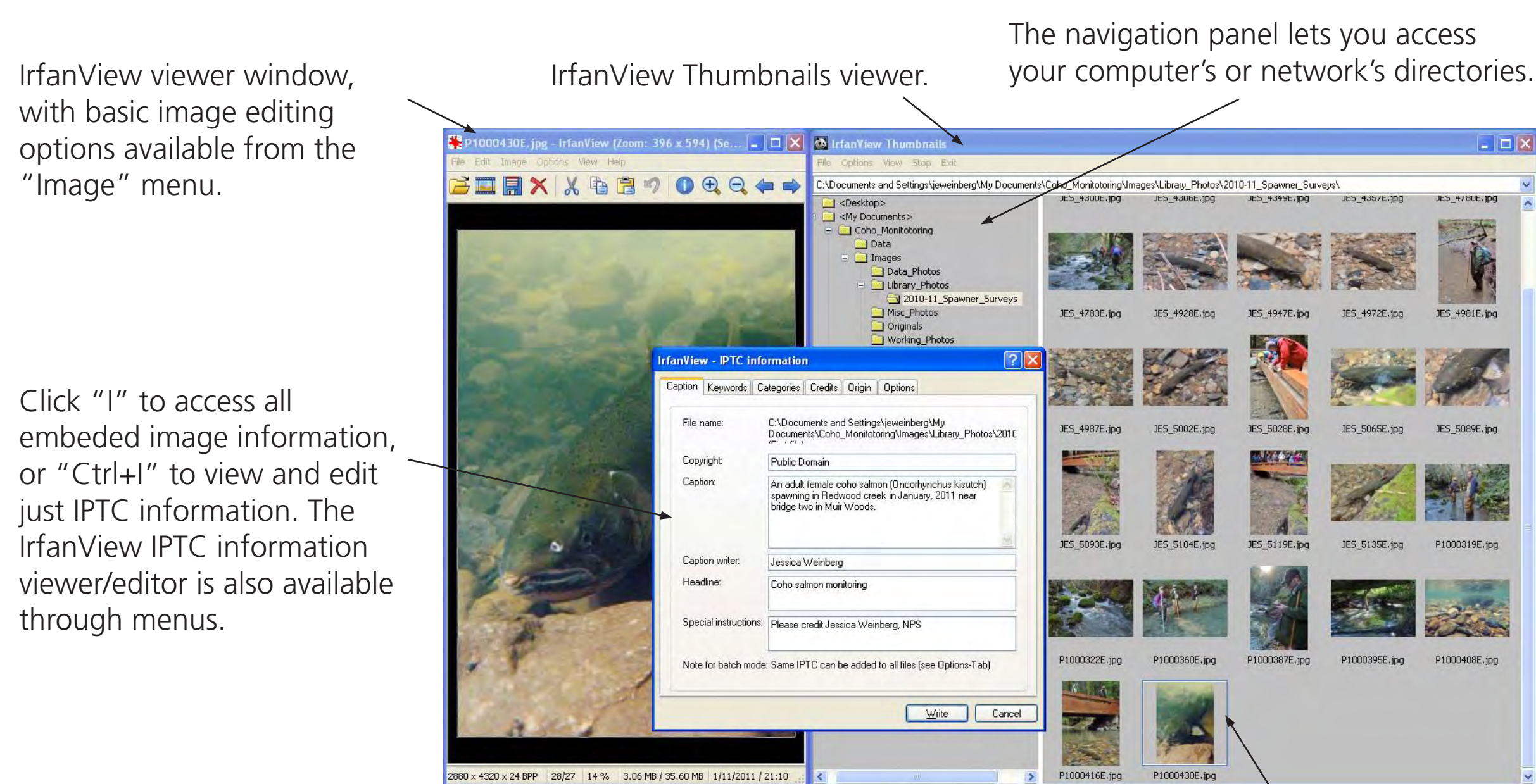


Figure 3. IrfanView screenshot. One or more images can be selected for batch tagging, re-naming, etc.

Captions, Keywords, and Categories

Critical to the long-term accessibility of photos will be people's ability to locate them into the future. Captions, keywords, and categories make searching for images easier.

Captions should answer any appropriate W (and H) questions in one to three complete sentences. For instance:

- **Who:** If there is a person in the picture, what is their role (volunteer, biologist)?
- **What:** What actions are taking place? What species are pictured (include common and scientific names if known)? What ecosystem is pictured?
- **Why:** Why is a pictured action taking place? Why was the photo taken?
- **When:** What time of day was the photo taken? What season is represented? Since the exact date and time is known, use more general descriptors of time.

```
Main Project or Program Folder/
Images/
  Originals/
    Shoot DateA/
    Shoot DateB/
  Working/
    Shoot DateB/
  Data Photos/
    Shoot DateA/
  Misc Photos/
    Shoot DateA/
  Library Photos/
```

Figure 1. Sample photo folder structure.

- **Where:** Possibly spell out the park name, since other fields only hold the code. Include any other relevant site information.
- **How:** How would you describe the image or the subject? How is it important?

Keywords can be inspired by the content of the caption, but might include synonyms, alternate spellings and broader terms. They should generally consist of plural nouns, or gerunds vs. simple verbs.

Abbreviated codes for standard categories your images fit in can be used in the renaming process and stored in the "Categories" field.



Image 6. This image was originally crooked, and had some distracting elements on the right hand side. Rotating and cropping the image improves its strength.

- The horizon is not level. Rotate the image as necessary (image 6.).
- There are distracting elements in the frame, or the subject is too distant. Crop the image to remove distractions and focus attention on the subject. The rule of thirds can help when cropping as well.
- The photo is under- or over-exposed (overexposed photos are often beyond help). Use tools like brightness and contrast, gamma, midtones, fill light, exposure, levels, and/or curves (depending on your photo editor) to achieve the correct lighting.

Selecting Library Photos

Be sure to review all photos at full screen, and consider the following: Is the subject obvious, well lit and in focus? Is the photo well composed and appealing to look at? Is the frame filled and free of distractions? Is the subject matter representative and unique or uniquely portrayed? If the answer is yes, add it to the library!



Image 4. A National Park Service Fisheries Biologist and Volunteer use a seine net to capture endangered tidewater gobies (*Eucyclogobius newberryi*) in the Marin Headlands' Rodeo Lagoon in September. The gobies are counted and released as part of a long-term monitoring effort. **Keywords:** tidewater goby, fishes, aquatic, threatened, seining, monitoring. **Category:** fish.

Figure 4. Sample image with accompanying caption, keywords, and category.

Editing

Each time you edit a JPEG photo, its quality is slightly reduced, so it is best to edit as little as possible. Still, editing is often necessary. Some of the top reasons photos need editing include:

- The horizon is not level. Rotate the image as necessary (image 6.).
- There are distracting elements in the frame, or the subject is too distant. Crop the image to remove distractions and focus attention on the subject. The rule of thirds can help when cropping as well.
- The photo is under- or over-exposed (overexposed photos are often beyond help). Use tools like brightness and contrast, gamma, midtones, fill light, exposure, levels, and/or curves (depending on your photo editor) to achieve the correct lighting.

Image Use

Photo choice and placement in relation to text can increase its impact significantly:



Image 8. Select and place photos so they draw viewers' eyes into the page. People and animals not facing the viewer should be facing any adjacent related content.

- Photos should complement text, or add new, related information.
- Include captions/descriptions whenever possible, since this is often the only text viewers will look at.
- When creating slideshows, galleries or other image groupings, choose photos that are varied in perspective, lighting, zoom, etc... to keep viewers' attention.

References

- Alaska Inventory and Monitoring Program, National Park Service. *Digital Photo Management Strategy for the Alaska Inventory and Monitoring Program*. April 23, 2004.
- Martin, Bob. *Ultimate Field Guide to Photography*. Washington, DC: National Geographic, 2009.
- NPS Digital Photo Metadata Standard. <http://npsfocus.nps.gov/docs/guide/metadata/MetadataStandards.html> (accessed December 21, 2010).
- Riecks, David. *Controlled Vocabulary*. <http://www.controlledvocabulary.com/> (accessed December 21, 2010).