

Remote Camera Photo and Data Management

FIELD TEAM GUIDELINES

April 2016

PREPARATION FOR FIELD SEASON

Processing and delivering photos to Conservation Northwest will require the use of at least two software applications on your home computer. You may choose to import and edit photos using either *Windows Photo Gallery* (<http://windows.microsoft.com/en-us/windows/photo-gallery>), *iPhoto* (for Mac users only), or *Picasa* (which is no longer available to download). If you have not previously installed *Picasa* and do not use a Mac, you will need to install *Windows Photo Gallery*; those who still have *Picasa* installed on their computer may choose to use it.

All team leaders are required to access *Google Drive* (https://www.google.com/intl/en_GB/drive/start/download.html). Note that this program can be used through an internet browser or the app can be downloaded to your personal computer. We strongly recommend that you download the app to use off of your desktop. Once you have loaded Google Drive for your desktop it will function like any other folder on your computer except that all the material on it is stored online (as well as on your computer) and you are able to share these files with CNW through this online link.

We have not attempted to provide directions for all of the basic details on how to use any of these applications because Google provides excellent user help and instructions. Please email us with specific questions if you need assistance beyond this.

Prior to the field season, please download and familiarize yourself with your respective photo editor and *Google Drive*. In your photo editor program, learn how to open up a folder of photos from your computer or a memory card, view them, tag them, and if you are interested, geotag them. With Google Drive, learn how to locate your Google Drive folder on your computer, create a folder and share that folder with other users (please share a folder with wildlifemonitoringproject@gmail.com and then email us to see if it has worked).

IN THE FIELD

Ensure that an index photo is taken when you arrive at the camera and/or before you depart. This photo will ensure we have the date and time that the camera was set or taken down.

All data from each camera installation, check, location change, and removal needs to be entered on a Field Data Form **while in the field**.

(https://drive.google.com/drive/folders/0BzSSO9IF_epTejQwMnZuUVhjWmc)

Test the camera to ensure it is operating correctly before departing.

OUT OF THE FIELD

Process Remote Camera Photos

REVIEW AND TAG PHOTOS IN WINDOWS PHOTO GALLERY, PICASA OR IPHOTO

Windows Photo Gallery

Use Windows Photo Gallery if you use a Windows PC computer and have not previously downloaded Picasa

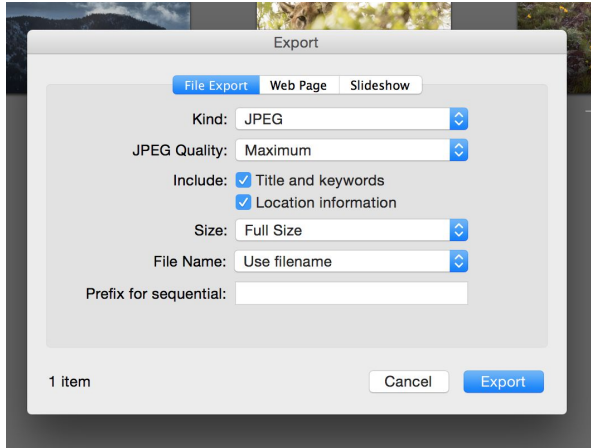
1. Download photos to your computer.
2. Open Windows Photo Gallery. Navigate to the folder containing recently imported photos by using the pane on the left side of the program.
3. Determine if you have any series of photos taken by false triggers such as light changes, temperature changes, waving branches, etc. Delete all false triggers (carefully inspect images before deleting to ensure you are not missing something subtle). Sometimes these can number in the hundreds or thousands and we do not need to catalogue or store them. Note that you can select multiple photos to delete at once when in the screen with rows of thumbnails.
4. Update the “Descriptive tags” feature to tag all photos with species ID using the labeling conventions guidelines. This feature can be found in the pane on the right side of the program. You can tag multiple photos at once by selecting as many as you want to tag, and then updating the “Descriptive tags.” The program automatically updates and saves photos with new tags.

Picasa

1. Download photos to your computer.
2. Open photo folder in Picasa (under the “File” menu select “Add Folder to Picasa” and navigate to the folder on your computer with remote camera photos).
3. Follow step three above.
4. Use the “tags” feature (found in the lower right corner of the screen) to tag all photos with species ID using the labeling conventions guidelines listed at the bottom of this document. You can tag multiple photos at once by selecting as many as you want to tag in the screen with rows of thumbnails and then adding a tag.

Iphoto

1. Import photos into Iphoto.
2. Follow step three above.
3. Use the “Keyword” feature to label the species in all the photographs. You can batch-enter keywords to save time, by selecting multiple images at once in the gridview.
4. Once all photos are labeled, export them into a folder on your desktop or directly onto Google Drive. When exporting images from Iphoto to send to Conservation Northwest, be sure to select the following settings (see image below of export dialogue box).



UPLOAD REMOTE CAMERA PHOTOS TO GOOGLE DRIVE

1. Each time you upload new photos from a camera check you will need to create a folder in Google Drive for each camera you check (most teams will have two camera sites).
2. Navigate to Google Drive either through an internet browser or through the app on your desktop.
3. Create a folder within your Google Drive account. The folder will need to be labeled as such:

Location_XXX (previous visit date)-XXX (current visit date)

Example: Mt. Rainier-2015-1_12AUG12-30AUG12

And for second installation in that area:

Mt. Rainier-2015-2_12AUG12-30AUG12

4. For *wolverine run pole camera sets* where two cameras are set for the same installation: within the folder you create for each site visit, place the photos from each camera into a separate folder labeled: "polecam" and "vicinity".
 - a. Create a "site location" folder.
 - b. Since there are two cameras installed at the same site, create two folders within the "site location" folder.
 - i. Example of "site location" folder: Mount Baker-2015-1_12April16-5May16.
 - c. The first folder within the "site location" folder should be labeled "polecam" and should contain the photos from the camera that is set facing the runpole.
 - d. The second folder within the "site location" folder should be labeled "vicinity" and should contain the photos from the camera that is set up to record the entire site scene.
5. Add all of the photos from your camera check into the appropriate folder.
6. Once all of the photos have been added to the folder, "share" the folder with wildlifemonitoringproject@gmail.com. To do this you can "right click" on the folder name and select "Share" in the popup menu. Then add the email address there. Hit save.
7. If applicable, you can include a note in each camera folder (via Word document or Google text document) for any instances of runaway photo-taking from false triggers, or other relevant issues. Place this document in the folder with the applicable photos.

8. Once photos are completely uploaded to shared folder, email wildlifemonitoringproject@gmail.com that photos have been uploaded.
9. If you are having trouble uploading photos contact Aleah Jaeger (aleah@conservationnw.org).

Other General Field Photos

If you have relevant general field photos from your camera outing you can share them with the project in the same way as above. Upload any relevant photos you take with your own digital camera of the site/route to site/wildlife tracks sign, etc. into a folder and share it with wildlifemonitoringproject@gmail.com. Label it with the site name, date of visit, and the title, "General Field Photos". (**Example "Mt. Rainier-General Field Photos- 8_30_12"**)

Label photos as best you can prior to uploading them into the folder and include a Word document with additional details such as GPS coordinates of specific photos and route descriptions, etc as needed. Note that if you have the ability to add GPS coordinates and captions to the metadata of individual photos, CNW will be able to access this information.

Enter Remote Camera Data to Online Data Form

All data from each camera installation, check, location change, and removal needs to be entered on your CWMP Field Data Form while in the field.

Once you get home and are ready to transfer your camera photos into Google Drive, enter all data from field data forms into the online form:

<https://docs.google.com/forms/d/1-9WnxfwVna6VBoEel6UjTXwHT35fJ62dgl1NCKAmNxQ/viewform>

This data form needs to be filled out for each camera you install/check/remove every time you visit it!

Notify CNW once all photos have uploaded

Once photos are completely uploaded to shared folder, email wildlifemonitoringproject@gmail.com that photos have been uploaded.

Running out of storage space on Google Drive?

When you sign up for google drive you get 15 GB of space. If you are running out of storage space **you can remove yourself from prior uploads of photo folders**. Once photos are completely uploaded to the Google Drive folder and shared with wildlifemonitoringproject@gmail.com, you can leave the folder. This will remove these files from your account while leaving them on the CNW account.

PHOTO TAGGING GUIDELINES

Species Identification

In Picasa, use the “tagging” feature to record the different species in your photos. Tag photos with the typical common name for each species (see below for species with multiple common names).

- Use singular rather than plural no matter how many animals are in the frame.
- Enter “camera check” for photos of the camera team associated with your set-up or check of the camera.
- Enter “human” for all other humans caught in photos.
- Enter “unidentified” for animals that you cannot definitively identify.
- If more than one species is present in a photograph, tag it with the names of both.
- See below for more details.

Use the following common names (list of commonly-detected species where various common names might be used). Species not mentioned here should only have one common name. It is important that all species are tagged uniformly in the database so that they are easily searchable. If you have questions about how to tag something you have found, please contact us to resolve this issue rather than just guessing.

Carnivores

- long-tailed weasel (*Mustela frenata*)
- short-tailed weasel (*Mustela ermine*)
- weasel (*Mustela*—species unidentified)
- marten (*Martes americana*)
- fisher (*Martes pennanti*)
- badger (*Taxidea taxus*)
- mink (*Neovison vison*)
- river otter
- wolverine
- mountain lion
- bobcat
- Canada lynx
- coyote

- wolf
- red fox
- Black bear
- Grizzly bear
- raccoon (*Procyon lotor*)
- striped skunk
- spotted skunk

Rodents

Squirrels

- Douglas squirrel (*Tamiasciurus douglasii*)
- red squirrel (*Tamiasciurus hudsonicus*)
- Western gray squirrel (*Sciurus griseus*)
- Northern flying squirrel (*Glaucomys sabrinus*)
- Columbian ground squirrel (*Uroditellus columbianus*)
- California ground squirrel (*Otospermophilus beecheyi*)
- golden mantled ground squirrel (*Callospermophilus saturatus*)
- chipmunk (genus *Tamias*--any species)
- squirrel (species unidentified)
- Eastern fox squirrel (*Sciurus niger*)
- Eastern gray squirrel (*Sciurus carolinensis*)

Other rodents

- hoary marmot (*Marmota caligata*)
- yellowbellied marmot (*Marmota flaviventris*)
- deer mouse (*Peromyscus species*)
- Aplodontia (*Aplodontia rufus*)
- beaver (*Castor canadensis*)
- bushy-tailed woodrat (*Neotoma cinerea*)

- muskrat (*Ondatra zibethicus*)
- porcupine (*Erethizon dorsatum*)
- vole (*Microtus sp.*)

Lagomorphs

- snowshoe hare (*Lepus americanus*)
- black tailed jackrabbit (*Lepus californicus*)
- rabbit (species unidentified)
- Eastern cottontail (*Sylvilagus floridanus*)
- Nuttals cottontail (*Sylvilagus nuttalli*)
- pygmy rabbit (*Brachylagus idahoensis*)
- white tailed jackrabbit (*Lepus townsendii*)

Ungulates

- mule deer (including black-tailed deer)
- white-tailed deer
- deer (species unidentified)
- elk
- moose
- bighorn sheep (*Ovis canadensis*)
- caribou (*Rangifer tarandus*)
- mountain goat (*Oreamnos americanus*)

Other Mammals

- bat (*Chiroptera spp.*)
- mole spp. (*Scapanus sp.*)
- Virginia opossum

Livestock

- Domestic cow
- Domestic dog
- Domestic cat

- Domestic sheep
- Horse (free ranging)
- Horse and rider (horse with rider or a part of a pack-train etc)

Birds

- Bird (THIS TAG MUST BE ADDED TO ANY PHOTO WITH A BIRD IN IT, even if a specific species name is also added to the photo (see below)).
- At this point we are not sorting birds into species. If a species has been identified and labeled, we use the common naming guidelines used by the American Ornithologists Union, used in all popular field guides and online resources, such as <http://bna.birds.cornell.edu/bna/species>

Humans

- Camera Check (researchers installing, checking, or removing cameras)
- Human (any other human captured at the installation)
- Vehicle (any vehicle including cars, trucks, ATVs, etc.)
- Bicycle (any human on a non-motoring bicycle)
- Horse and rider (horse with a rider riding on or leading it)

Geotag Photos

Eventually, all photographs submitted for the project will be geotagged. This can either be done at the CNW office or by field teams before they submit the photos. There are two ways that field teams can geotag their images. On some remote camera models there is an option to enter the coordinate information into the camera which will then assign those coordinates to the photographs it takes. If you are using this feature, it is imperative to insure that the **correct coordinates are entered on the remote camera!** The other way to geotag photos is through Picasa (see details below). If field teams are able to geotag their photos before submitting them, this will streamline the process of cataloguing them once they are received.

In Picasa, select the “Places” button on the bottom of the screen in the right-hand side menu. In the grid view, select all of the photos from the camera you are working on. Enter the latitude and longitude coordinates in the “Search for an address” search field in the lower right hand corner of the Picasa screen (for instance: “48.12345, -120.45678”). This should drop a pin on the map above. This is the same location you have submitted through the online data form. Confirm that this location matches the location of the camera—if it does, accept the option provided by Picasa to attach this location to the selected photos. This coordinate is now attached to the photos and will be transferred along with the image and species tags you have labeled them with to CNW through Google Drive.