



Wild.ID

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Wild.ID Instruction Manual

Wild.ID Version 0.9.28

Supplement 1: TEAM Network Plugin

TEAM Plugin Version 0.9.6



**TROPICAL ECOLOGY
ASSESSMENT AND MONITORING**

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www.teamnetwork.org - wildid_support@teamnetwork.org

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1. Introduction

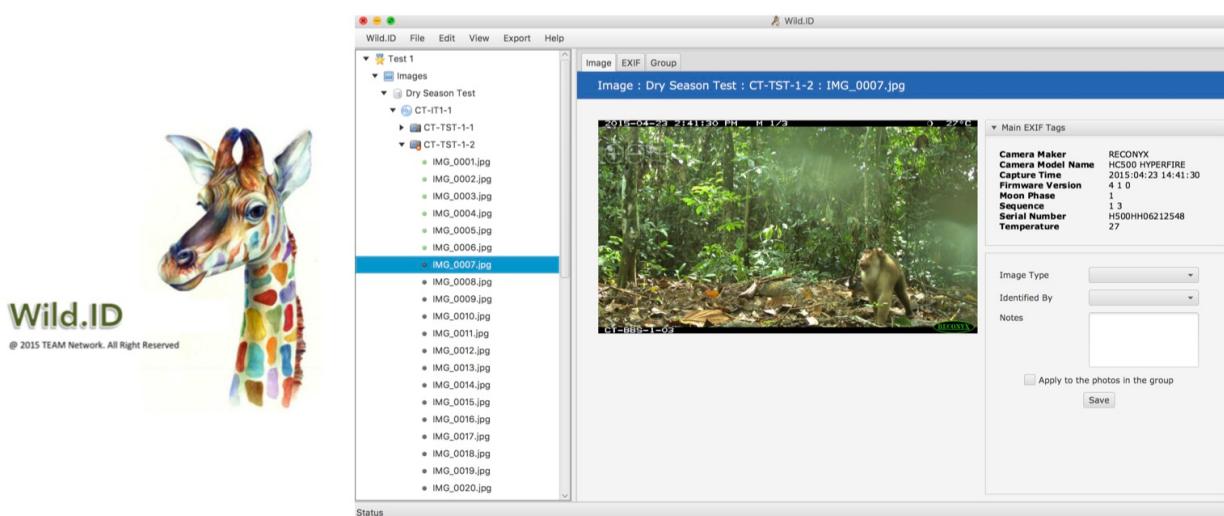
1.1 What is Wild.ID?

Welcome to Wild.ID! Wild.ID is a software designed to serve as an open-source platform for managing camera trap projects. This software allows users to store and manage multiple projects, objectives, equipment and personnel information, camera trap images and annotations, and ancillary data like temperature and moon phase that might be useful for later analysis.

Wild.ID also offers several language options in addition to English. This software is not only ideal as a new tool to manage TEAM Terrestrial Vertebrate data, but also serves as a resource to manage additional camera trap projects or seasons of data collection, train students and protected area managers in camera trap management, and disseminate the software to colleagues conducting camera trap monitoring within your extended network.

A few benefits of Wild.ID software include:

- Use one of multiple languages to manage your camera trap data both online or offline.
- Easily view and zoom into images while annotating.
- Prevent misspellings—checks annotations against a list of valid IUCN species names.
- Set confidence levels for identifications.
- Annotate and make changes to multiple images (groups) with the click of a button.
- Reads camera trap image metadata to automatically store environmental variables.
- Store and manage equipment lists and personnel information.
- Search previously annotated images and filter by project, time, photo type, genus, or species.
- Compatibility with other Wild.ID users and the Wildlife Insight's online repository.
- Export data in formats compatible with many common analytical platforms (i.e., Excel and R).
- And, many more!



Please contact wildid_support@teamnetwork.org with any questions regarding Wild.ID that are not covered in this help documentation.

2. Getting Started

2.1 Installing Wild.ID

2.1.1 Download Wild.ID Software

Note: This step requires an internet connection

Before beginning, please ensure that you have uninstalled any previous Wild.ID version. Please visit either of the following links to download the proper installation file (Windows or Mac):

- From GitHub: <https://github.com/ConservationInternational/Wild.ID>
 - 0.9.28 available for download, then you will need to update to the latest version
- Or enter the following in your browser: <http://www.teamnetwork.org:8080/Wild.ID/download.jsp>
 - 0.9.28 available for download, then you will need to update to the latest version

Please download the current version (e.g., 0.9.28) for either Windows or Mac by selecting the appropriate link and Wild.ID software should automatically download to your computer.

The screenshot shows the homepage of the Tropical Ecology Assessment & Monitoring Network. At the top, there is a search bar and a navigation menu with links for About, Network Sites, Protocols, Products, News & Events, myTEAM, and Logout. Below the menu, there is a secondary navigation bar with links for Wild.ID, Help, Plugins, Download, and Administrator. The main content area is titled "Wild.ID Download". It features a table with the following data:

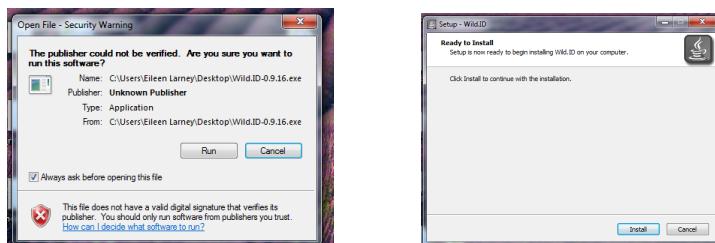
Current Version:				
VERSION ID	INSTALLATION WINDOWS VERSION	INSTALLATION MAC VERSION	CHANGES LOG	LAST UPDATE
0.9.28	Wild.ID-win.zip	Wild.ID-mac.zip	changes.log	2017-05-25 11:46:17

At the top right of the "Wild.ID Download" section, there is a link to "Download from Github".

2.1.2 Install Wild.ID Software

For Windows Users:

1. After downloading, open the **Wild.ID-win** zip file and extract the files.
2. Within this folder, please select the **Wild.ID-0.9.28.exe** file and select **Open** or **Run**.



3. To Set-up Wild.ID

- a. Click **Install** to continue with the installation.
- b. Wait for the software to install (this may take a few minutes).
- c. Once the software is finished installing, Wild.ID should open automatically. If Wild.ID does not open automatically, look for the program in the Start menu if using a Windows computer or use the Finder app to locate and open the software. By double clicking, select **Open** or **Run as administrator**.
- d. Note: If/when prompted to select the installation folder, choose a location on the computer for which your user has read/write permissions. Click **OK** or **Next >** to continue the installation process. When the installation is complete, click the **Finish** button to exit the installation wizard.

For Mac Users:

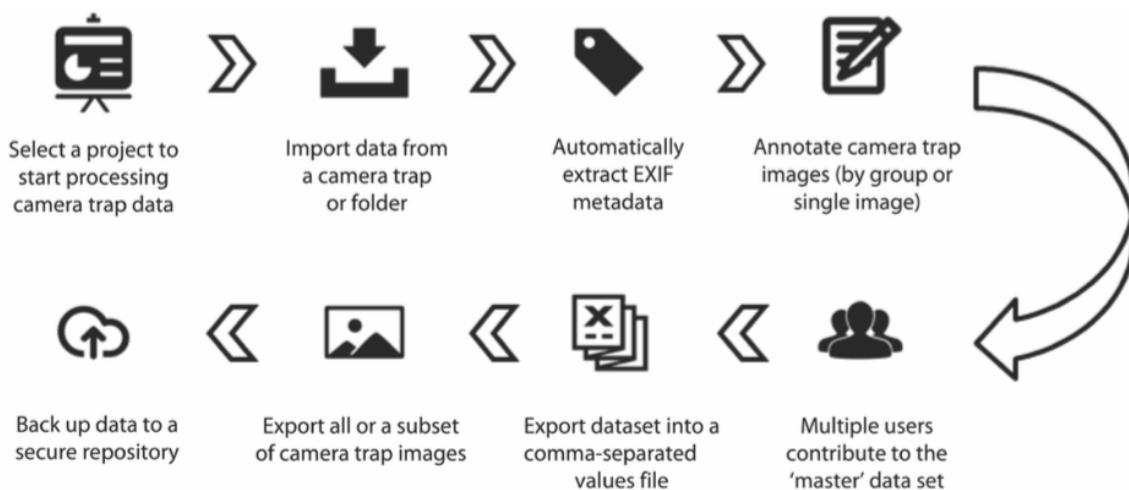
1. After downloading, open the **Wild.ID-0.9.28.dmg** file.
2. Add Wild.ID to your applications.
3. Once Wild.ID is in your Applications folder, you should be able to open the software.



Once the software is finished installing, Wild.ID should open automatically. If Wild.ID does not open automatically, look for the program in the Start menu if using a Windows computer or use the Finder app on Macs to locate and open the software.

3. How to Use Wild.ID

3.1 Quick Overview



To create a project in Wild.ID, the user enters project-level information on the project set-up page, such as the name, latitude, longitude, research objective and whether bait was used. Information about the five main components of a camera trap project – camera trap deployments, events, cameras, institutions and personnel – are then entered into Wild.ID.

Five main Wild.ID project set-up components capture much of the information associated with a project, which are described in more detail and illustrated below.

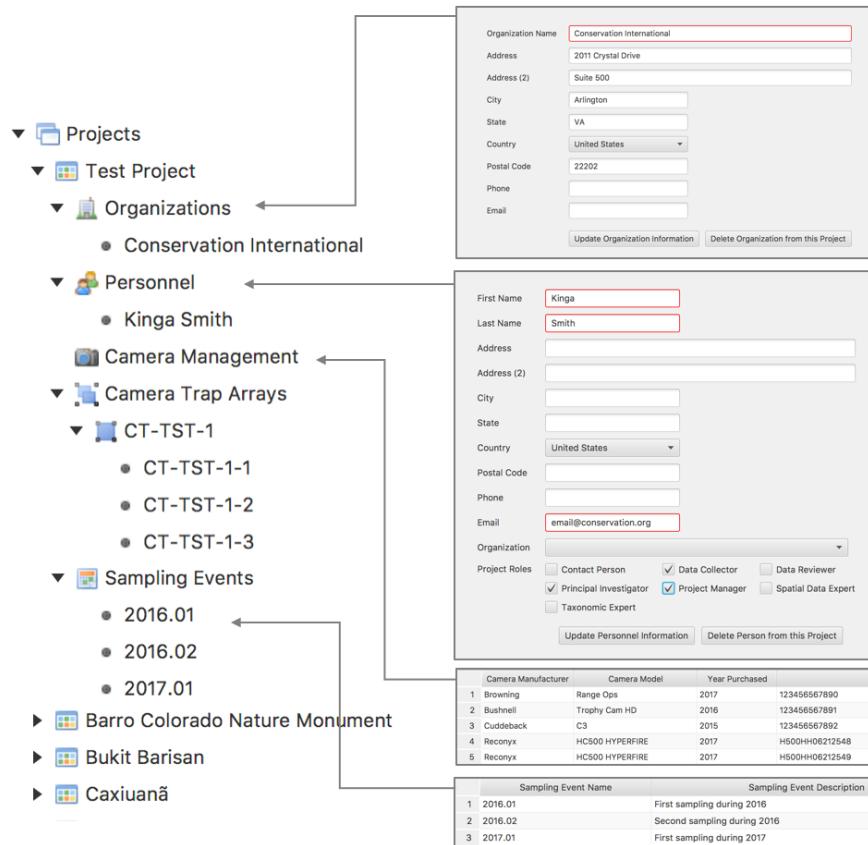
Organizations: This section stores information about the institution that is collecting the data in the field. The name and contact information for each institution involved in the project are stored here.

Personnel: The relevant people associated with a camera trap project are stored in this section. Information such as name, email and role are entered individually. Roles currently available for people are: contact person, data collector, data reviewer, principal investigator, project manager, spatial data expert, and taxonomic expert. Users can be assigned multiple roles depending on their involvement.

Cameras: This section enables the user to enter relevant information about the cameras that will be used for a project. This includes entering the manufacturer model number and serial number. Information can be entered individually or via a batch upload process.

Camera trap array: These are logical groupings of camera traps. An array could have one or more camera traps and are usually used to group camera traps by logistical or thematic reasons (e.g., all the deployments north of the river).

Sampling event: Camera trap arrays can be grouped into sampling ‘events’ (not to be confused with events of animal detection by camera traps). Common events could be seasons (wet and dry), months, years or other types of logical groupings when field sampling occurs.

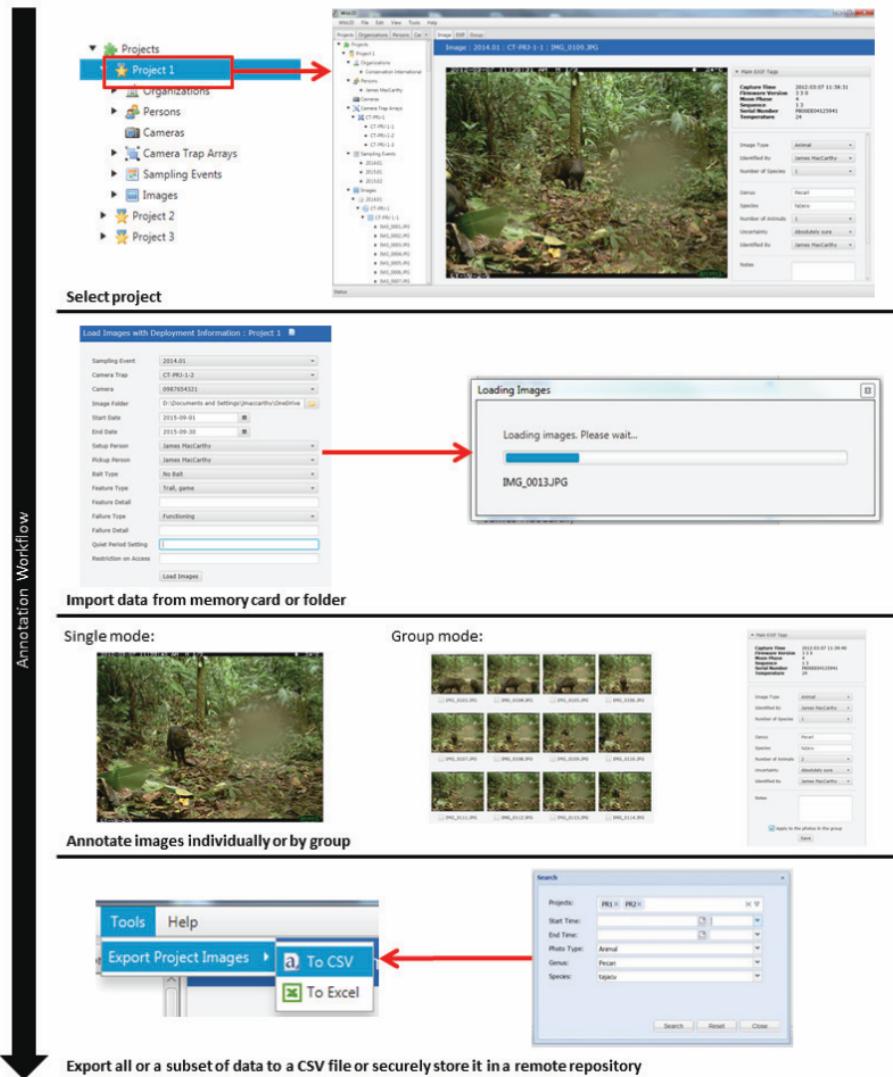


Information established during project setup will be associated with camera trap images and data created by that project. A user can easily manage many projects and, if needed, the project setup information can be easily modified at any time.

In addition, core information related to the project activities are included in the following:

Camera trap deployment: A unique placement of a camera trap in space and time. This includes information about the geo-location of the camera, the date range it was observing and specific camera settings (e.g., the use of a quiet period). Each camera trap requires a latitude and longitude and can be added manually or via a batch upload process.

Wild.ID provides batch upload via standardized files to assist in expediting added information for several of these components. For large projects, this is more efficient and reduces the potential for error. Below indicates the key Wild.ID data-processing steps (Image adapted from Fergus & MacCarthy 2016). Finished data can either be stored locally in Wild.ID, exported to a CSV file for analysis, or synchronized with a remote data repository.



3.2. Registration

Note: This step requires an internet connection

Once you have opened Wild.ID for the first time, you will be prompted to register with Wild.ID. If you have a reliable internet connection at the time, please register. If you do not, please select **Register Later**. You will only be prompted to register once for each Wild.ID installation.

Online Registration

Please complete this registration form before using Wild.ID. Registration will require an internet connection and if unavailable, you can choose to register later.

First Name

Last Name

Email

Organization

Affiliation

By clicking submit you are agreeing to the Terms and Conditions in our license page.

Submit Register Later

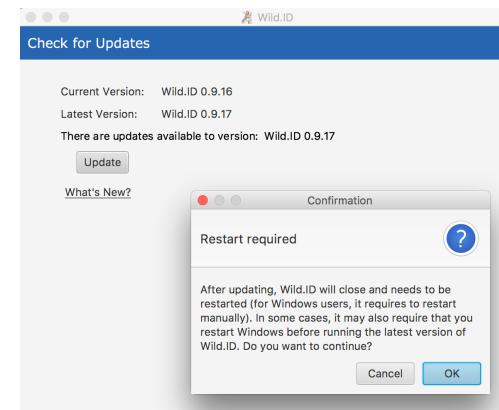
3.3 Update Wild.ID

Note: This step requires an internet connection

After installing Wild.ID, check if updates are available. Wild.ID will inform you when new versions may be available. The easiest way to determine if an update is available is indicated on the top right side of the window where either **New Version Available** or **Latest Version** is displayed. In addition, you can check by navigating under – **Help > Check for Updates**. If a new version is available, please follow the steps below to update Wild.ID.



If there is an update available, please choose to update to the latest version. This can be done through the following steps. Select **Help > Check for Updates**. You will be notified of the current and latest versions and provided an update option if a new version is available. Select **Update** and then **OK** to restart the Wild.ID software. Wild.ID will close and then restart with the latest version.



3.4 Install & Manage Plugins

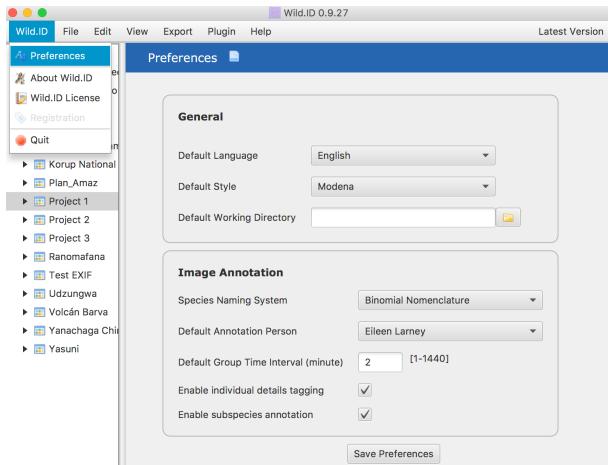
Note: This step requires an internet connection

Plugins are add-on components of Wild.ID software. These are under development and may be used to serve numerous purposes in terms of project management or analytics in the future. At the moment, there is one TEAM-specific plugin that is available for current TEAM Network members. However, **non-TEAM site users do not need to install the plugin to work in Wild.ID**. For non-

TEAM site users, please skip to the next section on Setting Preferences. **IMPORTANT FOR TEAM SITES: PLEASE SEE SUPPLEMENT 1 (TEAM SITE PLUGIN)** before proceeding to the next steps.

3.5 Setting Preferences

Prior to proceeding to the next steps, there are several general and image annotation preference options now available. To configure your preferences, select **Wild.ID** along the top menu and then **Preferences**. Once you have chosen any changes, select **Save Preferences** at the bottom of the page. You can return to this menu at any time to edit and save



Please note: Certain preference settings will need to be changed/established prior to uploading and annotating images in a deployment (or project, etc.). Preferences that need to be pre-established are noted below. Others can be changed at any time (e.g., language, style, working directory, species naming system).

3.5.1 General Preferences

3.5.1.1 Default Language

Wild.ID currently supports five languages: English, Chinese, French, Portuguese and Spanish. Additional languages will be added dependent on user demand and translation capacity. While English is the default language, you can easily change to your preferred language in the preferences. This preference setting can be interchanged at any point while using Wild.ID. However, please note that certain selections (e.g., common names) and export files will remain in English.

NOTE: Changing the default language also changes the numerical format of the radix character for data input and output.

- Decimal for English and Chinese language selections (e.g., 23.55)
- Comma for Spanish and Portuguese language selections (e.g., 23,55)

3.5.1.2 Default Style

Users have a choice of text style including either Modena (default) or Caspian. This style preference setting can be interchanged at any point while using Wild.ID.

3.5.1.3 Default Working Directory

You may choose to select a location on your computer or network for a specific file folder where you typically manage camera trap information (input and export files). The default working directory can be changed at any point while using Wild.ID, even as you load images or metadata - you will

have the option to select a different location (e.g., SD card) at that time if needed without having to re-visit preferences.

PLEASE REMEMBER: Make sure to save any preference changes that you have made ('Save Preferences') or your changes will not be implemented.

3.5.2 Image Annotation Preferences

3.5.2.1 Species Naming System

Wild.ID offers the user a choice between annotating images using either Binomial Nomenclature (Genus and species) or the Common Name. The species naming system preference setting can be interchanged at any point while using Wild.ID. Wild.ID uses the nomenclature used by IUCN and Bird Life International so caution should be used when annotating using common names as this may vary substantially dependent on your locality. Please reference IUCN's website for the Latin and common nomenclature that is used for annotation of animal images in Wild.ID.

Notes:

- For the TEAM Network, it is advised to continue using the default Binomial Nomenclature.
- Despite the option chosen, the common name option for 'Domestic dog' and 'Domestic cow' will be available in the pull-down menu when annotating.
- Wild.ID updates taxonomic revisions several times per year as per the IUCN Red List and Bird Life International; however, we also value user feedback when there are new species or revised nomenclature. You can send any comments to wildid_support@teamnetwork.org.

3.5.2.2 Default Annotation Person

If there is one person that is primarily using the version of Wild.ID to annotate images, you can choose to select the person from the pull-down menu. The default person's name and e-mail will appear in the 'Identified by' section of the annotation screen; however, pull-down options will remain for other individuals associated to the project. Selection of a 'Default Annotation Person' should be done prior to uploading images to a project, deployment, etc. Otherwise, the selection will remain blank and you will need to choose whom the image is identified by from the pull-down menu selection of individuals attributed to your project.

3.5.2.3 Default Group Time Interval

When working with images in a group (see Group Mode below), the Default Group Time Interval is set to 2 minutes. This means that all images taken within 2 minutes will be automatically grouped together under the Group Mode to facilitate annotation. **We recommend TEAM sites continue to use the 2-minute Default Group Time.**

The default group time interval should be established **prior** to creating an independent project. If a project is already established and you change this selection, it will not correspond to your adjusted time frame for existing projects. Any images uploaded to a project will correspond to either the default time interval (2 minutes) or a previously adjusted group time interval that was established prior to creating a project and uploading the images.

When annotating images using Group mode, you will have the option to omit any photos that do not belong within a group that have been automatically included as per the default time frame (see Group Mode). In general, users can change the default time from 1 to 1440 minute(s) dependent on your preferences.

3.5.2.4 Enable Individual details tagging

Some researchers would like to annotate additional information for an individual in an image. By default, the individual details tagging is disabled; however, you can enable this by checking the box and saving your updated preferences. Individual details tagging allows you to tag an individual in an image and then enter information regarding the species, sex, age, name, and any other notes that you would like to keep for future reference. When you enable this function, you can easily turn it on/off from your display as noted below in Section 3.7.3.

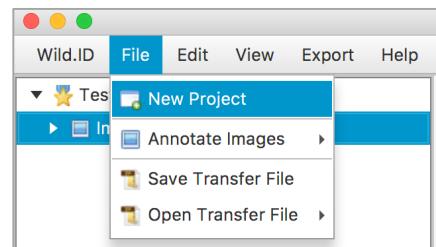
3.5.2.5 Enable subspecies annotation

We have provided an option to enable an open field for subspecies classification when you annotate an image as Type > Animal. By default, this option is disabled; however, you can enable this by checking the box and saving your updated preferences. IUCN only provides definitive classification of wildlife taxonomy for genus and species and thus taxonomic updates will not be performed beyond this level. However, we realize some research groups prefer to annotate to the subspecies level (e.g., Balkan lynx). The subspecies is free form – in that you will have to enter the text in this field rather than having a pop-up option as for genus and species. Also, please note that you do not need to fill in the subspecies (only genus and species) to save an annotation, thus this field can be left blank even if the preference is enabled.

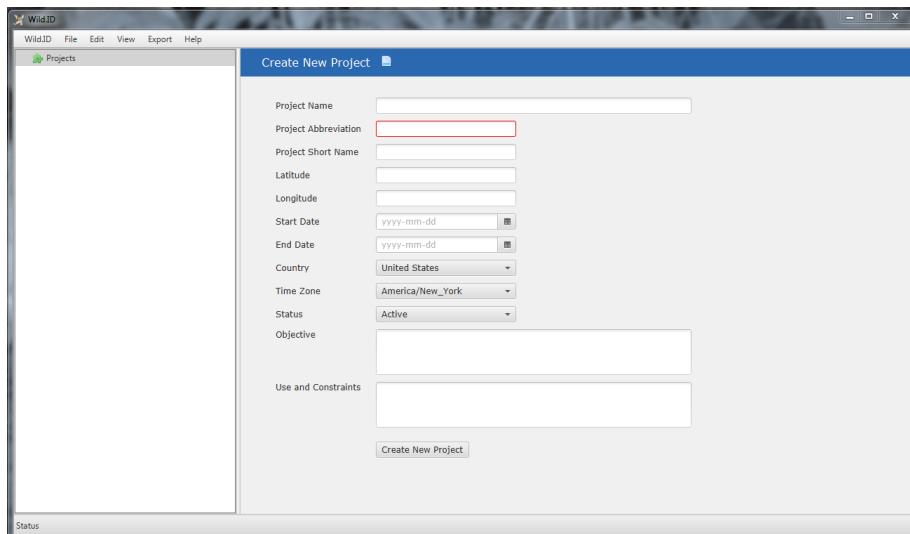
**PLEASE REMEMBER: Make sure to save any preference changes that you have made
(‘Save Preferences’) or your changes will not be implemented.**

3.6 Creating a New Project

When you first open Wild.ID, the software will start on the project creation page. To access the project creation page in the future, click on **File** in the menu bar at the top and then select **New Project** as seen in the image to the right.



When a new project is created, you will see the following screen:



To create a new project, fill in the required information (denoted by a red line around the text box) as well as any of the additional optional information and then click the **Create New Project** button at the bottom of the screen to save the project into Wild.ID.

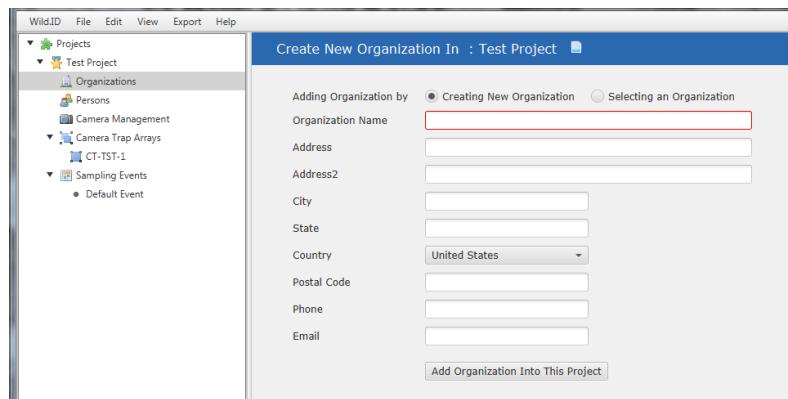
Project Name: Full name of the project	*Required
Project Abbreviation: Three-letter code for the project	*Required
Project Short Name: Shorter name for the project	(Optional)
Latitude: Latitude for the project (e.g., project centroid or office location)	(Optional)
Longitude: Longitude for the project (e.g., project centroid or office location)	(Optional)
Start Date: Start date of the project – If this is left blank, then Wild.ID will use the metadata from the project camera trap data to determine the start date.	(Optional)
End Date: End date of the project – If this is left blank, then Wild.ID will use the metadata from the project camera trap data to determine the end date.	(Optional)
Country: The country in which the project is being implemented – Wild.ID will automatically attempt to determine the country where the project is located.	(Optional)
Time Zone: Time zone where the project is located – Wild.ID will automatically attempt to determine the time zone for the project.	(Optional)
Status: Status of the project (i.e., is this project currently active?)	(Optional)
Objective: Description of the project objectives (i.e., what is this project trying to determine?)	(Optional)
Use and Constraints: Explanation of any constraints on the use of the data (i.e., can it be shared with other organizations and researchers?)	(Optional)

After the project is created, you will need to enter information for each of the five project components: Organizations, Persons, Camera Management, Camera Trap Arrays, and Sampling Events.

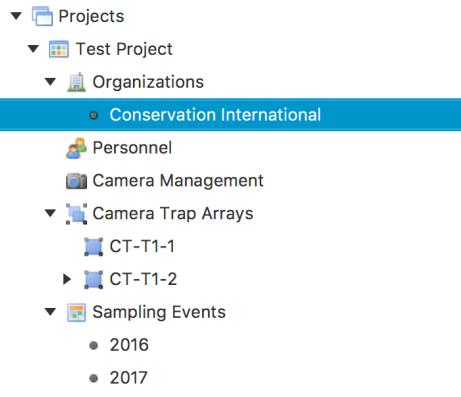
Note: All components of the project noted as ‘Required’ must have at least one entry before you proceed to annotating images.

3.6.1 Adding Organizations

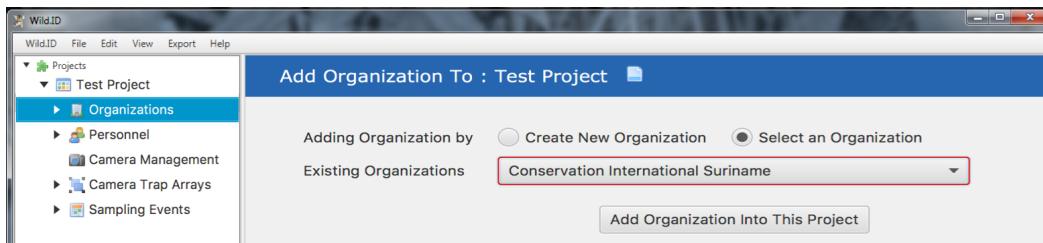
If this is the first time you are using Wild.ID, you will need to add your organization(s) into the software. To add an organization, select **Organizations** in the navigation tree on the left side of the screen. You should then see the following screen:



Similar to creating a new project, you will need to fill in the required information (denoted by a red line around the text box) as well as any additional optional information about the organization. Once the organization information is added, click the **Add Organization into This Project** button. You should see the organization added to the navigation tree on the left as seen in the image to the right:



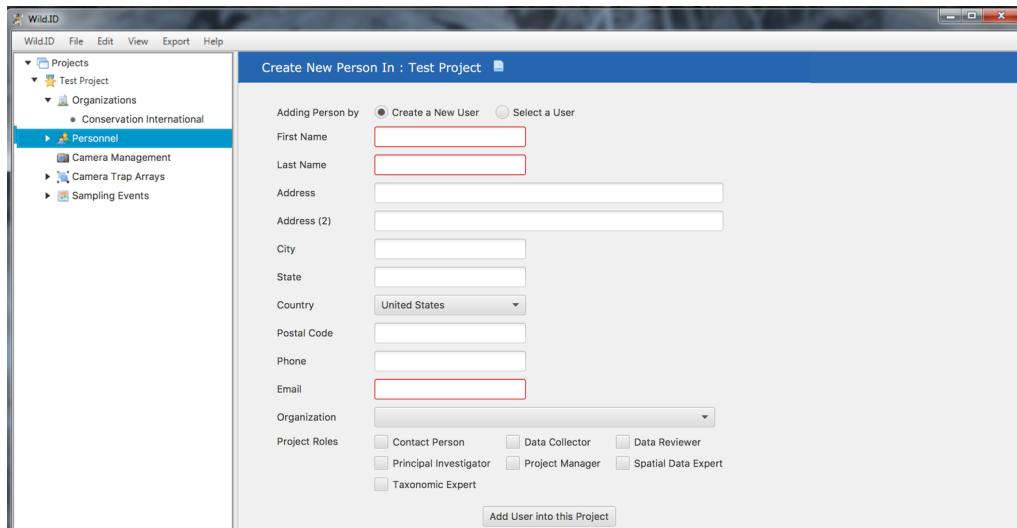
After you add an organization into Wild.ID, it will be saved for future projects. If you want to use the same organization for a different project, go to **Edit > Edit Project** and select the project you want to add the organization to. Click the **Select an Organization** box at the top and you should see the following screen:



Select your organization from the drop-down menu and then click the **Add Organization into This Project** button. Similar to creating a new organization, you should now see the organization you added in the navigation tree on the left.

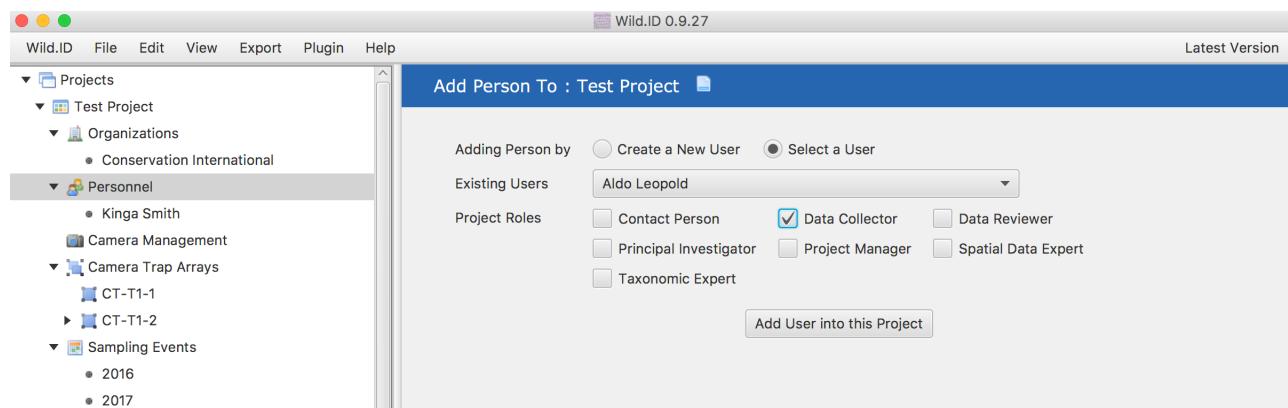
3.6.2 Adding Personnel

If this is the first time you are using Wild.ID, you will need to add the names of the people involved with your project into the software. To add a person, click on **Personnel** in the navigation tree on the left side of the screen. You should see the following screen:



Similar to creating a new project, you will need to fill in the required information (denoted by a red line around the text box) as well as any additional optional information about the person, including their role in the project. Once the person information is added, click the **Add User into this Project** button. You should see the person added to the navigation tree on the left as seen in the image to the right:

After you add a person into Wild.ID, their information will be saved for future projects. If you want to use the same person for a different project, go to **Edit > Edit Project** and select the project to which you want to add the person. Click the **Select a User** box at the top and you should see the following screen:

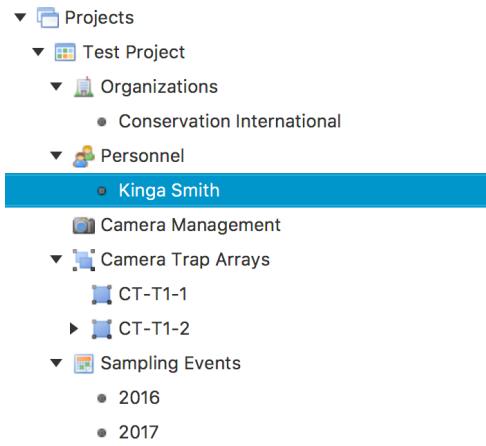


Select the person from the drop-down menu and then click the **Add User into this Project** button. Similar to creating a new person, you should now see the person you added in the navigation tree on the left.

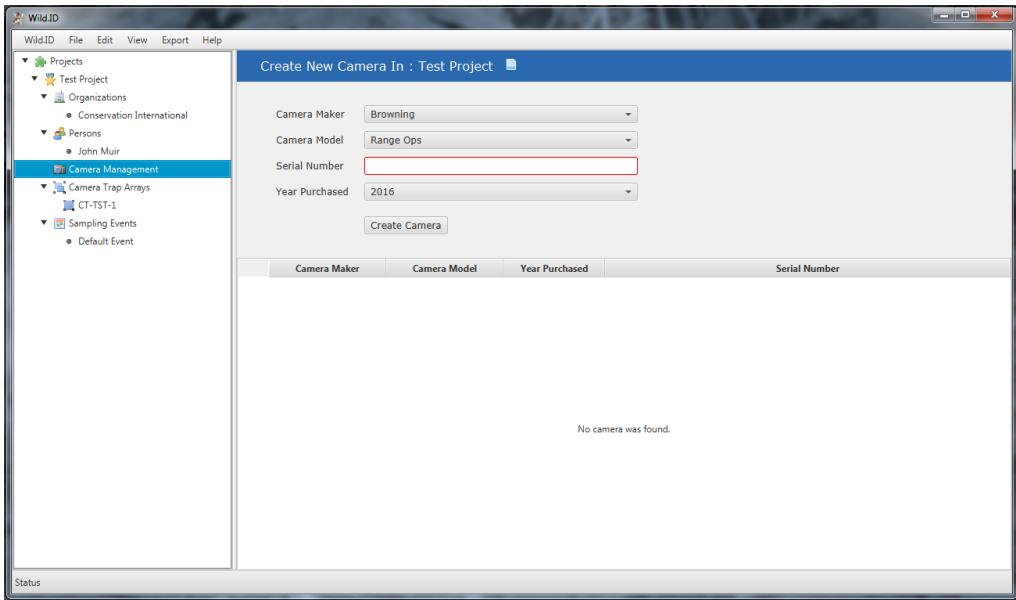
Note: You will want to add personnel to the project list prior to working on your project images - especially those that will be annotating images, since these will be the only options to select from in the pull-down menu 'Identified by'. However, if additional people join the project later, you can always add additional personnel to your project by switching between screens to 'Edit Project' as described above.

3.6.3 Camera Management

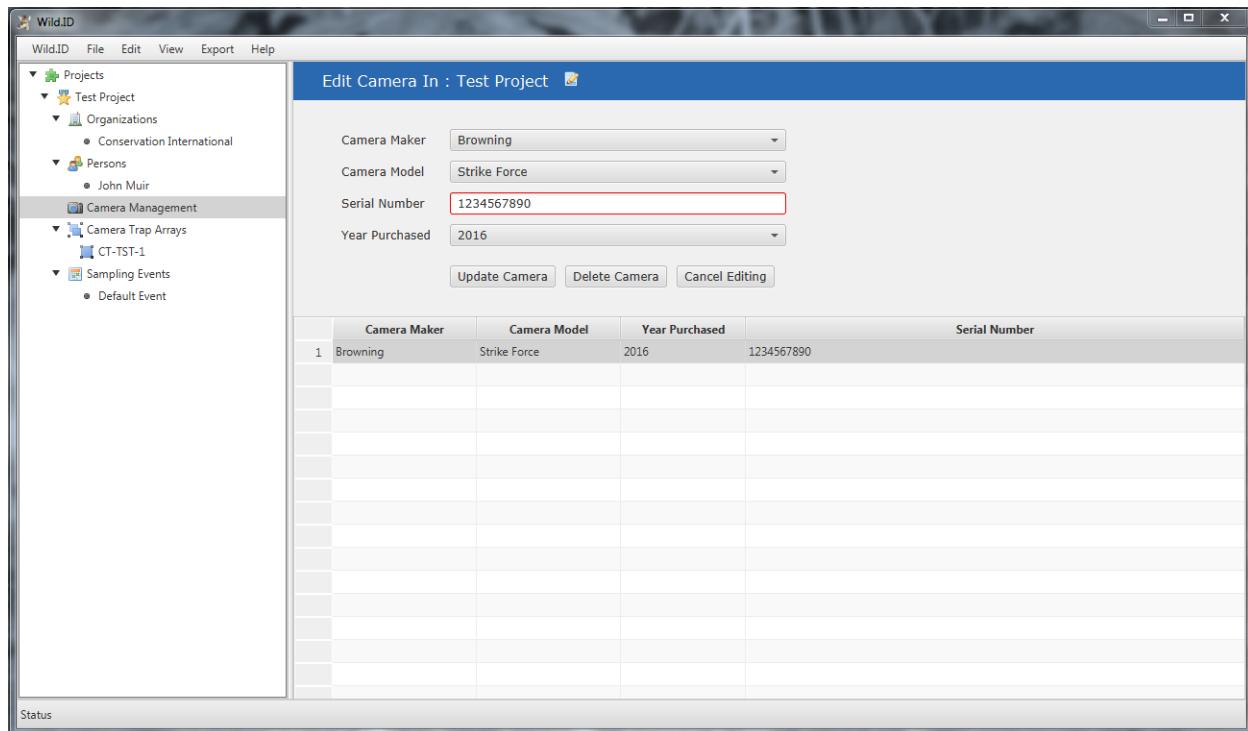
Wild.ID allows users to store information about the camera traps that are deployed for a project, including the make, model, serial number, and year purchased. This allows the user to track their equipment over time so they can determine failure rates as well as the average age of the camera traps in a deployment.



To add camera traps to your project, click on **Camera Management** on the left side of the screen. You should see the following screen:



Select the camera trap maker and model from the drop-down menus and then enter the serial number. Lastly, select the year the camera trap was purchased and then click the **Create Camera** button. You should see the camera added to the list at the bottom of the screen as seen in the following image:



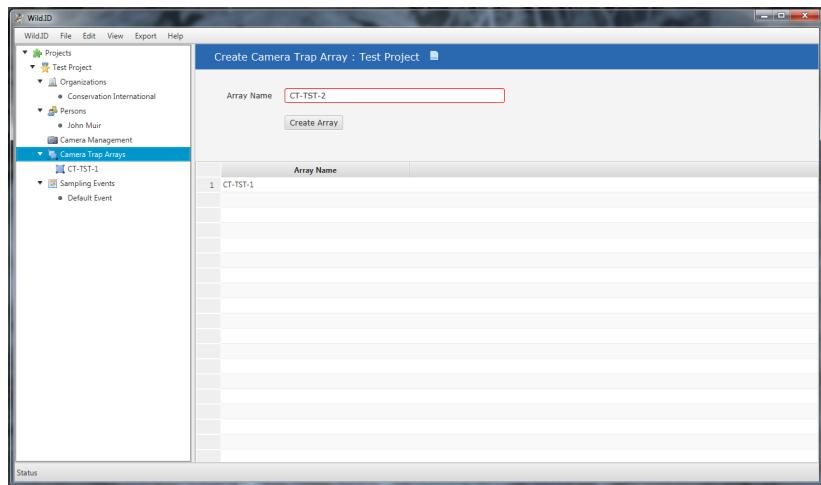
Note: If you do not see your camera trap maker and model in the drop-down menus, please review the section called on editing the camera model master list (Section 3.8.2.3).

3.6.4 Adding Arrays and Deployments

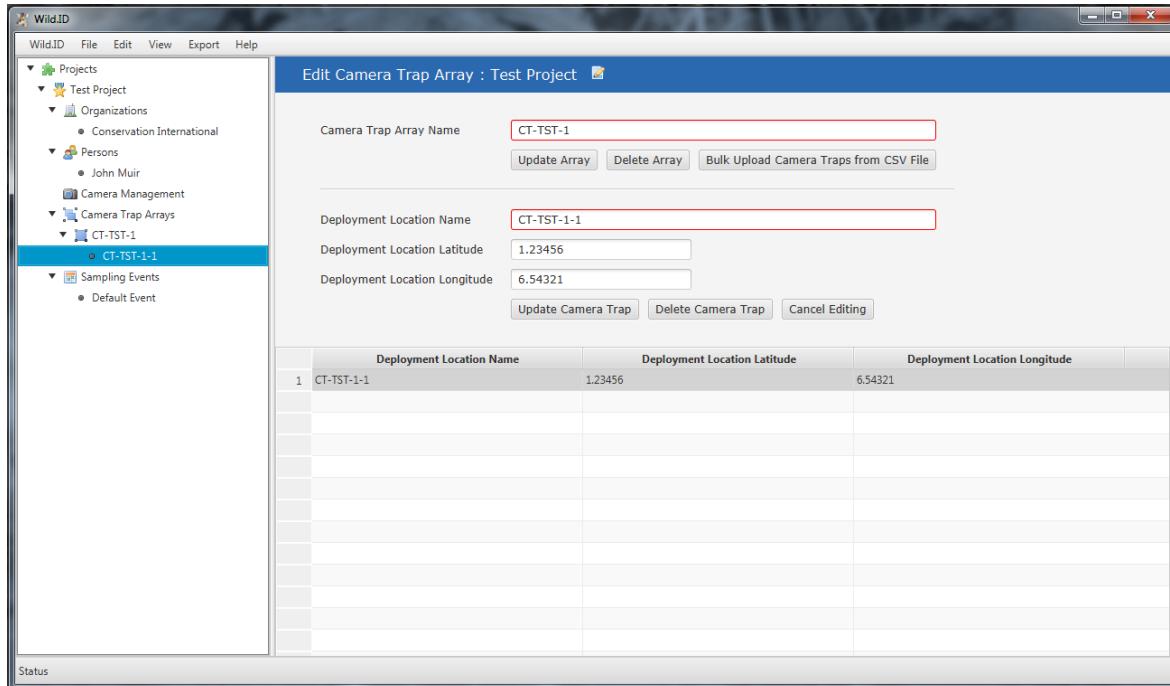
Camera trap deployments are often organized into arrays or transects; however, sometimes a project will just contain one large array with many deployments included. By default, each new project in Wild.ID will have one array. Although the software will automatically generate a name for the array, you can easily change it by following the instructions in “Editing deployments”.

To add additional arrays, click on **Camera Trap Arrays** in the navigation tree on the left. You should see the following screen:

You can either keep the automatically generated name or enter your own name for the new array. Click the **Create Array** button when you are ready and the new array will be added to the list at the bottom of the screen.



To add deployments (camera trap points) to an array, click on the array name in the navigation tree on the left. In this example, the array name is “CT-TST-1”. You should see the following screen:



You can either use the automatically generated name for the deployment or enter your own name in the text field provided. After you **enter the name** of the deployment, enter the **latitude and longitude** (using decimal degrees - Latitude [-90,90], Longitude [-180,180]) of the deployment and

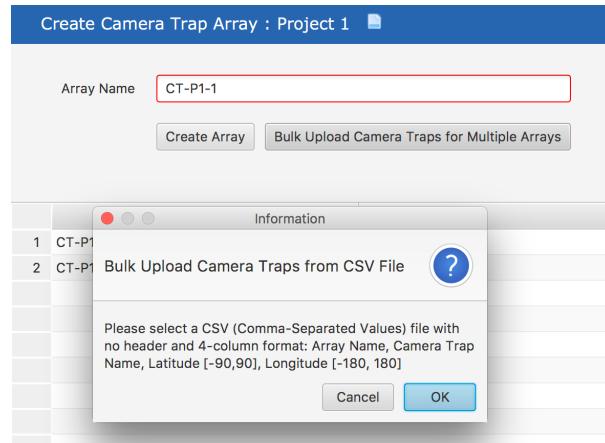
then click on the **Create New Camera Trap** button. The new camera trap should be added to the list at the bottom of the screen as seen in the image above.

3.6.4.1 Batch Upload (Array or Deployment)

To expedite uploading information for your arrays and deployments, you can also choose to ‘Bulk Upload’, where you will have the ability to upload information for multiple camera traps or arrays at one time using standard templates.

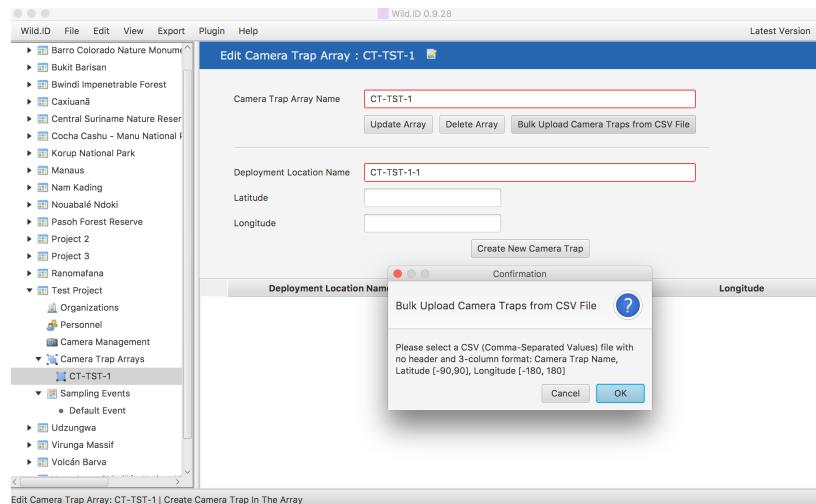
3.6.4.1.1 Bulk Upload Camera Traps for Multiple Arrays

To upload camera traps for multiple arrays at one time you will select **Camera Trap Arrays** on the left panel and then you will need a Comma-Separated Values (CSV) file with no header and 4 columns that include the following information: Array Name, Camera Trap Name, Latitude [-90,90], and Longitude [-180, 180]. After you select **OK**, you will be brought to your directory to find and **Open** the CSV file and upload it into Wild.ID.



3.6.4.1.2 Bulk Upload Deployments within an Array

Alternatively, if you already have a spreadsheet with the deployment location name, latitude, and longitude, you can load that information into Wild.ID using the ‘Bulk Upload’ feature for a specific array. Click on the array to which you want to add the deployment information. In this example, the array name is “CT-TST-1”. After selecting this from the left side panel, you will see the option to **Bulk Upload Camera Traps from CSV File** underneath the array name.

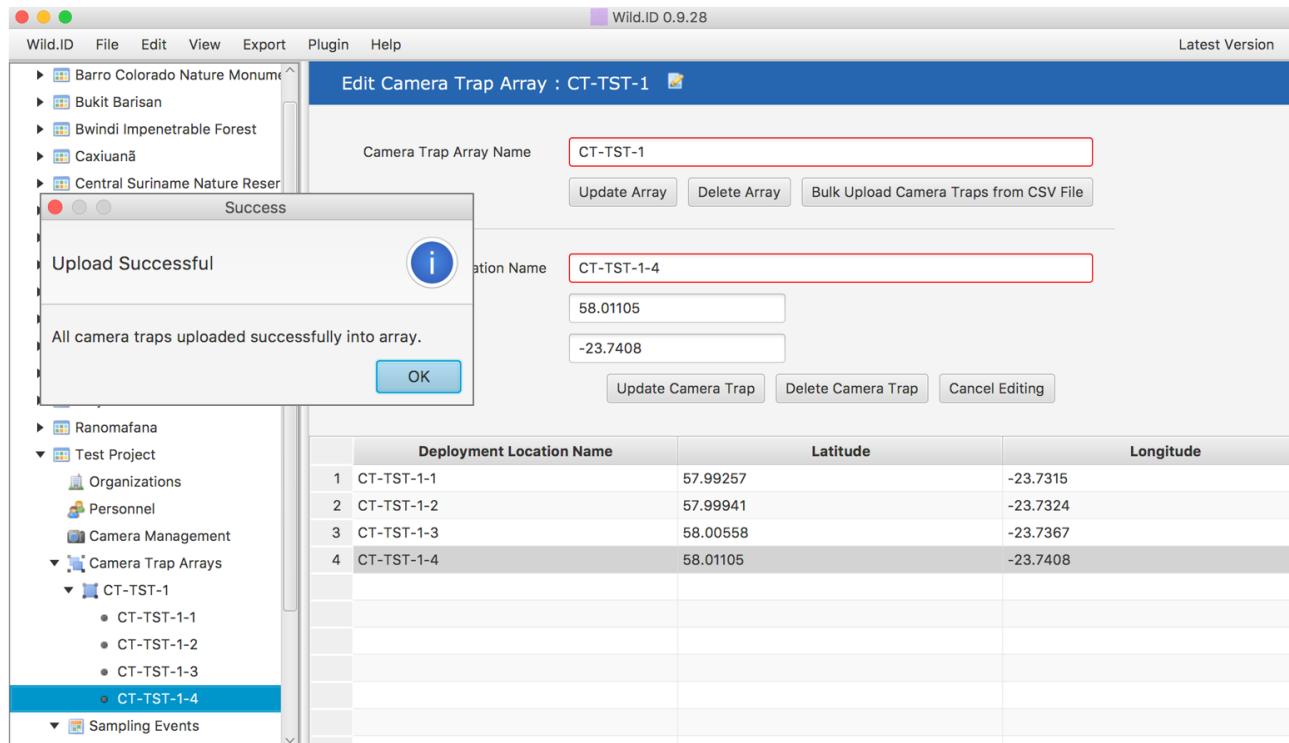


When selected, a confirmation window will appear that informs you to select a CSV file with no header and data that has a 3-column format including Camera Trap Name, Latitude [-90,90], and Longitude [-180,180]. After you select **OK**, you will be directed to your directory to find and **Open** the CSV file and upload it into Wild.ID.

Note: Make sure that the spreadsheet you want to import is a comma-separated values (CSV) file without headers in the format identified in the message. The following is an example of the required format for bulk uploading deployments within an array (Section 3.6.4.1.2):

	A	B	C	D
1	CT-TST-1-1	57.99257	-23.7315	
2	CT-TST-1-2	57.99941	-23.7324	
3	CT-TST-1-3	58.00558	-23.7367	
4	CT-TST-1-4	58.01105	-23.7408	

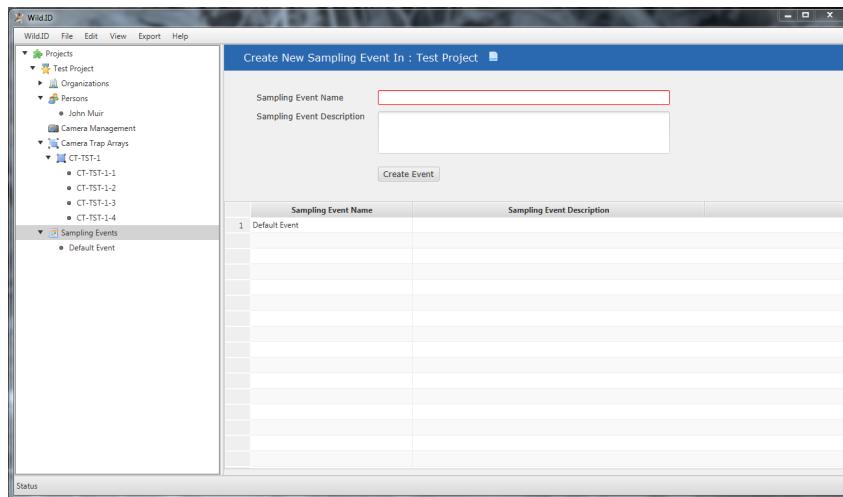
Click the **OK** button to continue and then select your spreadsheet from the list of files on your computer. Once you select your spreadsheet, you should receive a message to let you know that the upload was successful as seen in the following screen:



3.6.5 Adding Sampling Events

Since camera trap projects can cover multiple seasons or years, Wild.ID has an option to separate camera trap data by sampling events (i.e., discrete time intervals in which sampling occurred). Sampling events are user-defined and should represent a time interval that makes sense for your project, such as the year or season of sampling. If your camera trap project is only a one-time event, then you can use the “Default Event” that is generated when a new project is created.

To add sampling events, select **Sampling Events** in the navigation tree on the left window pane. You should see the following screen appear in the main window:



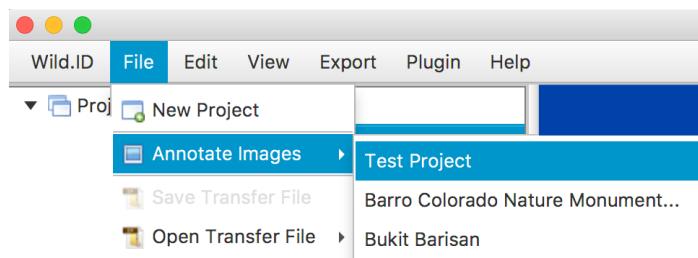
Enter a name for the sampling event in the space provided (highlighted in red) as well as an optional description of the sampling event and then click the **Create Event** button. You should see the new event added to the list of sampling events at the bottom of the screen.

Some examples of arranging sampling events are listed below:

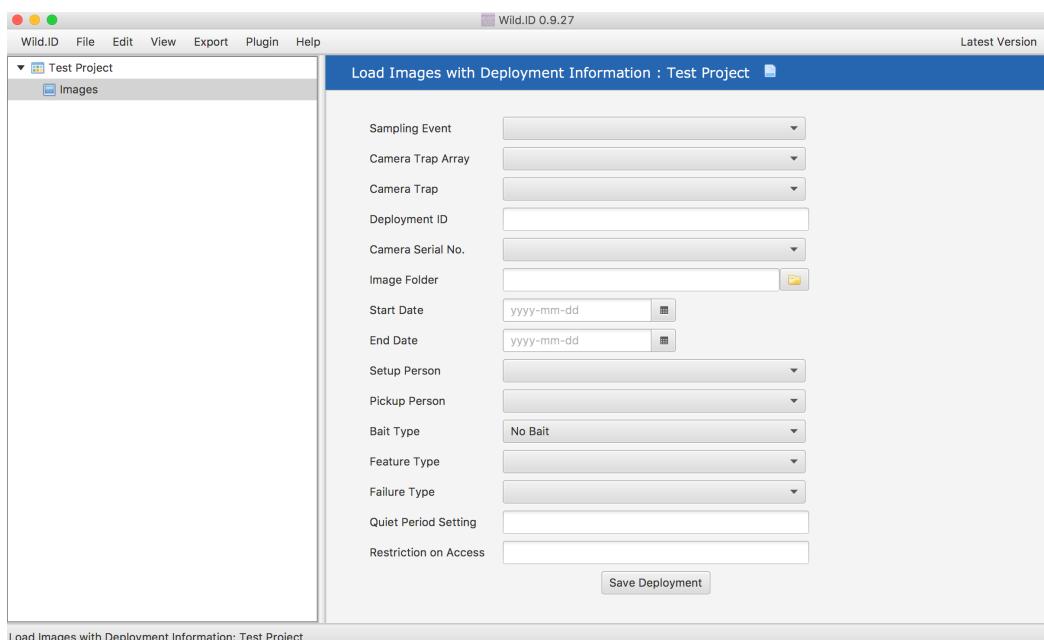
	Sampling Event Name	Sampling Event Description
1	2016.01	First sampling during 2016
2	2016.02	Second sampling during 2016
3	2017.01	First sampling during 2017
4	2017.02	2017 - Wet season
5	2018.Dry	2018 - Dry season

3.7 Importing and Annotating Images

Once a project is created and each of the project components are completed, you are ready to start importing and annotating images! Click on **File** in the menu bar at the top and then hold your mouse over **Annotate Images** to see the list of projects you can choose to import and annotate images for as seen in the image to the right:



Select the project for which you want to work on and you should see the following screen:



3.7.1 Importing Images

To import your images into Wild.ID, fill in the required fields as noted below and select your image directory (if not already selected under preferences). After this information is added, make sure that you then select **Save Deployment** at the bottom of the page.

As a minimum requirement prior to uploading images - you **must** choose a selection in the pull-down menus for the following (also see image below):

Sampling Event: Choose one of the sampling events for this deployment location as entered under Section 3.6.5.

Camera Trap Array: Choose one of the arrays for this deployment location as entered under Section 3.6.4.

Camera Trap: Choose one of the camera trap locations for this deployment location as entered under Section 3.6.4.

Deployment ID: (Automatically generated) A deployment ID is a unique number for a particular deployment in space and time. The deployment ID will be automatically generated (from the Project Abbreviation_Event_CT-Project Abbreviation-Array-Camera Trap location or e.g., TST_2016.01_CT-TST-1-1). However, this field can be edited to provide whatever information you feel is most relevant for your study.

Camera Serial No.: Choose one of the camera serial numbers for this deployment location as entered under Section 3.6.4.

Image location: This location is where the images are stored before you can start the import process. If you have selected a default folder under Preferences, then this location will automatically fill this field, although it can be edited at this time. Images can come from your local computer or an external source (e.g., SD card, USB, server).

The screenshot shows the Wild.ID 0.9.27 application window. On the left, there's a sidebar with 'Test Project' expanded, showing 'Images'. The main area has a title bar 'Load Images with Deployment Information : Test Project'. Below the title are several input fields: 'Sampling Event' (2016), 'Camera Trap Array' (CT-TST-1), 'Camera Trap' (CT-TST-1-1), 'Deployment ID' (TST_2016_CT-TST-1-1), 'Camera Serial No.' (1234), and 'Image Folder' (/Users/elarney/Desktop/CT images/CT-TST-1-1). There are also dropdowns for 'Start Date' and 'End Date', and other fields like 'Setup Person', 'Pickup Person', 'Bait Type', etc. At the bottom right is a 'Save Deployment' button, which is highlighted with a red arrow.

NOTE: If any of the information is incorrect, you can resume editing the project prior to importing your images to the deployment and then return to load images.

Adding information to the additional fields (such as Setup and Pickup person) is preferred for TEAM Network members so that we will continue to have this information available as metadata, but it is not necessary in order to import images. Additional **optional** entry fields include:

Start Date: The start date of the deployment – this will be automatically generated if left blank from the date/timestamp metadata attributed to the first image that is being uploaded.

End Date: The end date of the deployment – this will be automatically generated if left blank from the date/timestamp metadata attributed to the last image that is being uploaded.

Setup Person: Option to choose one of the personnel as the person who set-up the camera trap for this deployment

Pickup Person: Option to choose one of the personnel as the person who picked-up the camera trap for this deployment

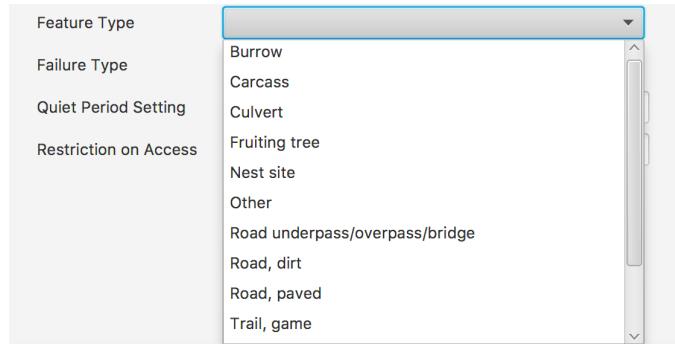
Bait Type: ‘No Bait’ will remain as the default unless changed. If bait was used, you have the option to enter this information here from the following options in the pull-down menu.



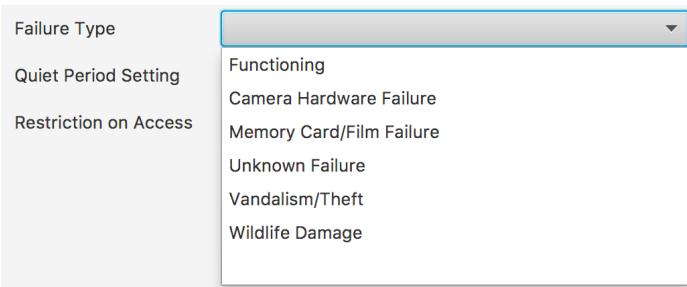
If a bait type is chosen, an additional field will appear where you can enter further information regarding this location.

Bait Type	Meat
Bait Detail	fresh deer carcass

Feature Type: Descriptor of where the camera trap is placed (deployment location) within the landscape. Several options are available in the pull-down menu. If a feature is selected, then an additional field will appear where you can enter further information regarding this location. If you do not see a feature type appropriate to your location, you can leave it blank or choose ‘Other’ and enter further information in the Feature Details field.



Failure Type: A pull-down option to select whether the camera was functioning or had some memory card or hardware failure, theft or wildlife damage upon completion of deployment. If a failure type is selected, an additional field will appear where you can add further information regarding your issue.



Quiet Period Setting: If set prior to deployment, you can enter the time specified between shutter triggers when activity in the sensor will not trigger the shutter (specified in minutes and fraction of minutes using a decimal).

Restriction on Access: Explanation of any constraints on the use of the data (i.e., can it be shared with other organizations and researchers?).

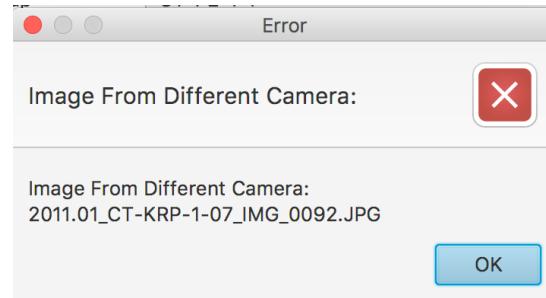
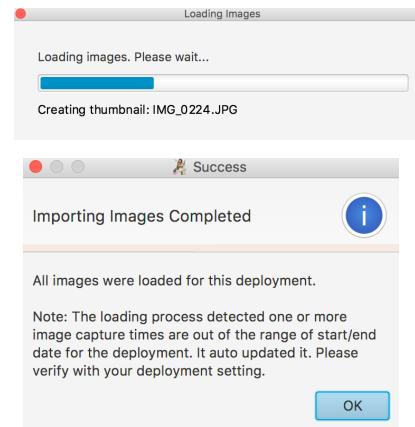
Once you have entered the information in the window, please select **Save Deployment** to load the images.

You will then receive a message that the images are loading during which time Wild.ID will be disabled.

After your images are imported, you will see a confirmation window. If there are any issues, such as the dates you selected for the start and end dates of the deployment, these will be automatically updated via Wild.ID by reading the image EXIF properties.

Please note: You will need to repeat this upload process for each camera trap location. Until you get used to Wild.ID - we suggest that you upload and then annotate each camera trap point prior to moving onto the next camera trap.

Wild.ID will try to help you to ensure that you are importing images from the same deployment. While Wild.ID's EXIF tool will extract and correct the camera trap serial number after import, it will not import images to the same deployment from different camera traps. In this case, you will see an error message like the image on the right:



3.7.2 View and Annotate Images

Once your images have been imported successfully, you will now see the list of images in the left window pane under the camera trap location. To begin annotating images, **select / highlight the first image** and the annotation screen will appear in the main window as seen below.

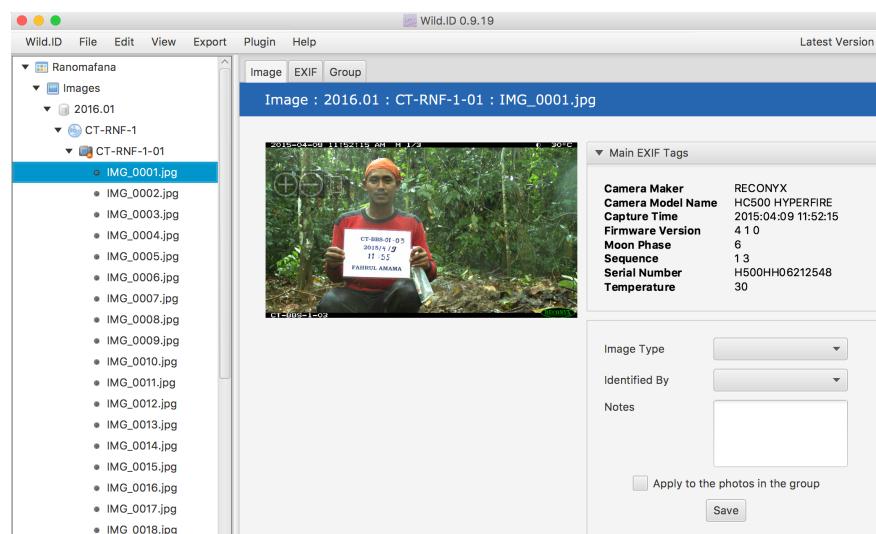


Note: If you are returning to work on image annotation, you can easily return to the images by selecting **File > Annotate Images > choose the project** and then select the image you want to continue annotating.

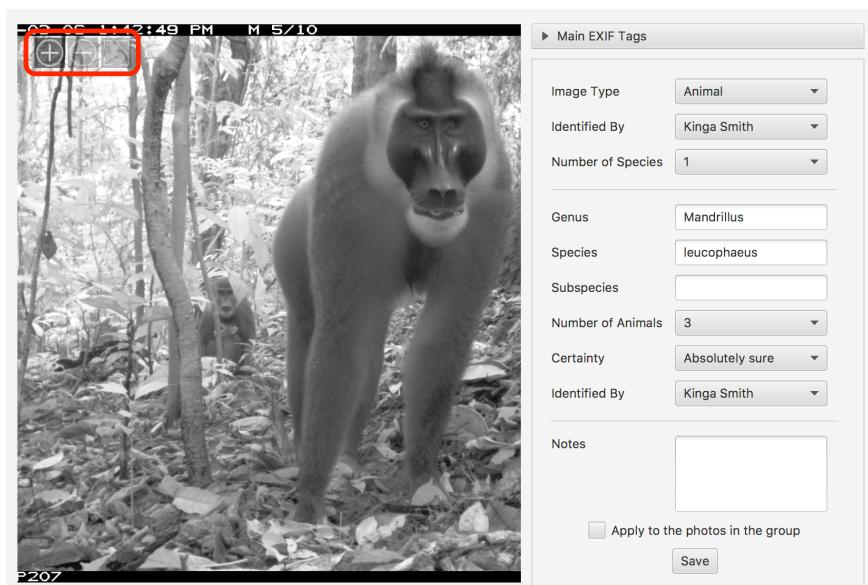
There are two ways to view and annotate images in Wild.ID—individually or as groups of images. The default annotation method is a window with an individual (single) image that you view and annotate (see Section 3.7.2.1 below), but you can easily select the group tab (see Group Mode in Section 3.7.2.2) to use the grouping function to view and annotate more than one image at a time to expedite the process.

3.7.2.1 Single Mode

To annotate images individually, click on an **image name** from the navigation tree on the left panel. You will see the image and entry fields appear in the main window.



You can zoom in and out using the “+” and “-” symbols in the top left corner of the image. To view the full-size image, click on the rectangle in the top left of the image next to the zoom options. You can also click and drag anywhere on the image to readjust the viewer.



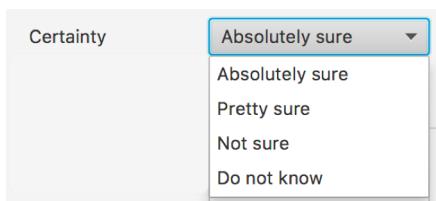
To the right of the image will be the annotation box. To start the annotation process, select an **Image Type** from the annotation window. There are eight different image types supported by Wild.ID, including:

Animal	This image type should be used if there are animals and/or non-staff humans in the image.
Blank	This image type should be used if the camera trap is functioning correctly, but there is nothing in the image.
Setup/Pickup	This image type should be used for images that contain field staff setting or picking up cameras.
Unidentifiable	This image type should be used when the image quality is very bad and it is difficult to determine what kind of animal it is.
Unknown	This image type should be used when there is clearly an animal in the image, but the user does not know what genus/species it is.
Misfire	This image type should be used when the camera malfunctions and takes many pictures that do not contain anything.
Start & End	Although Wild.ID should automatically determine the correct start and end images for each memory card, you can manually change the start and end images.

After you select the correct image type, fill in the remaining information and select **Save**.

For images that are classified as an **Animal** —

The data entry fields include who identified the photo/image type (the default annotation person will be listed if preset in preferences), the number of species (a second box will appear if more than one species is present), the genus and species, level of certainty for the identification (see below), person making the taxonomic call, and a blank text field for notes.

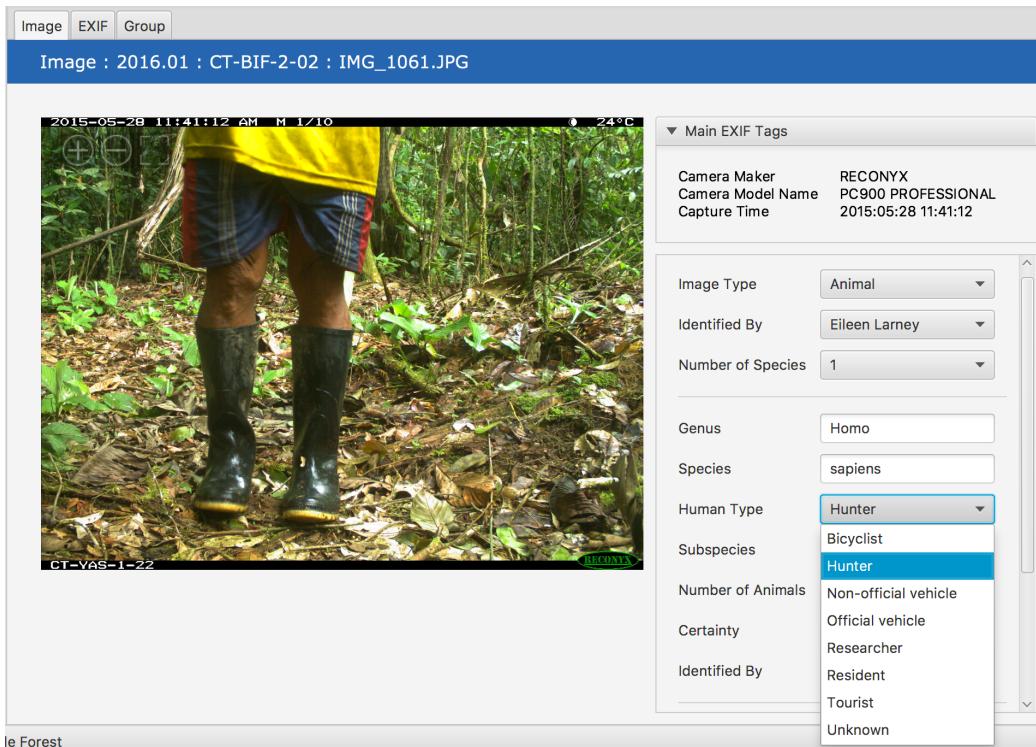


If you selected to use subspecies classification under preferences, the subspecies box will also appear as a free entry field under species as shown on the right.

As you enter the genus and species names, Wild.ID will provide suggestions using IUCN taxonomy as seen in the image to the right:

Image Type	Animal
Identified By	Kinga Smith
Number of Species	1
Genus	Mandrillus
Species	leu
Subspecies	leucophaeus
Number of Animals	3
Certainty	Absolutely sure
Identified By	Kinga Smith
Notes	(empty text area)
<input type="checkbox"/> Apply to the photos in the group	
<input type="button" value="Save"/>	

For images that are classified as an **Animal** —and if you select Genus/ species as Homo sapiens, additional options are then available to help you classify official personnel versus non-official.



While binomial nomenclature is available using IUCN taxonomic classification for genus and species, including several commonly found domestic species, Wild.ID provides a second option for sorting domestic animals by their common names (even if you have chosen to use binomial nomenclature in the preferences).

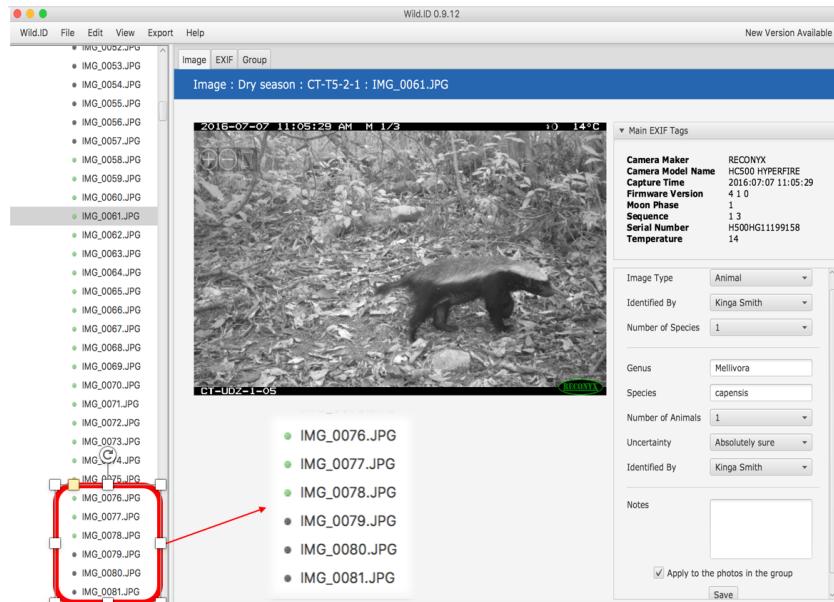
If you enter 'Domesticated' into the Genus field – several common domestic species options are available.

Image Type	Animal
Identified By	Eileen Larney
Number of Species	1
Genus	Domesticated
Species	cow dog unknown
Subspecies	
Number of Animals	

After you finish entering the annotation information, you can check the box next to the words '**Apply to the photos in the group**' to save the annotation for all the other images in that group; although, you may prefer to ensure each of the group images belong together using the Group Mode function tab (see below).

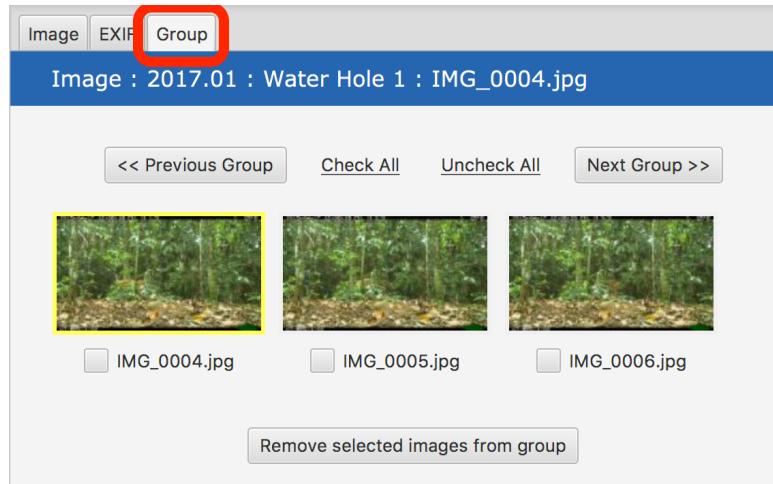
Once you have finished entering the required information, select the **Save** button.

You should receive a message to let you know the annotation was saved successfully and you will also see the circle next to the image name change from gray to green as seen in the following image, which contains an example of the **Animal** image type:



3.7.2.2 Group Mode

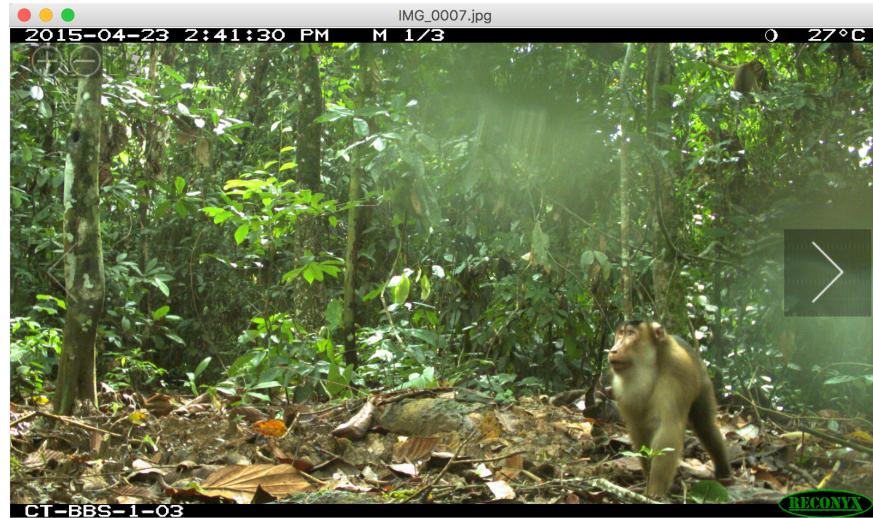
To annotate images as a group, click on an image name from the navigation tree on the left and then select the **Group** tab above the image. This will show you any images that are recognized within the Default Group Time Interval under Setting Preferences (see Section 3.5.2.3).



Groups of images are automatically imported in order based on the date and timestamp of the images. By default, images captured within two minutes of each other will be assigned to the same image group. Prior to setting up a project and importing images, you can also change the length of time used for grouping images together in the Wild.ID preferences, which is discussed in more detail above in Setting Preferences (Section 3.5.2.3). You may deselect any images that should not be in the group — as you will be able to annotate these individually. For those within a group, you can fill out the annotation information and it will apply to all images within the group.

The Group Mode function is useful if many of the images in a group are the same (e.g., species and number). Users can double click on an image to enlarge the image in a new viewing window,

where you can zoom in or out to facilitate identification, and use the arrows on the right and left sides of the image to go between images quickly (see example below).



If an image is incorrectly grouped within a default group of images, prior to saving the annotation data, you can select or **check the box below the image** that you want to remove from the group and select **Remove selected images from group** at the bottom of the image window.

You can also easily move between groups of images to confirm inclusion or exclusion of and annotate images in groups by clicking on **Previous Group** or '**Next Group**' located above the images.

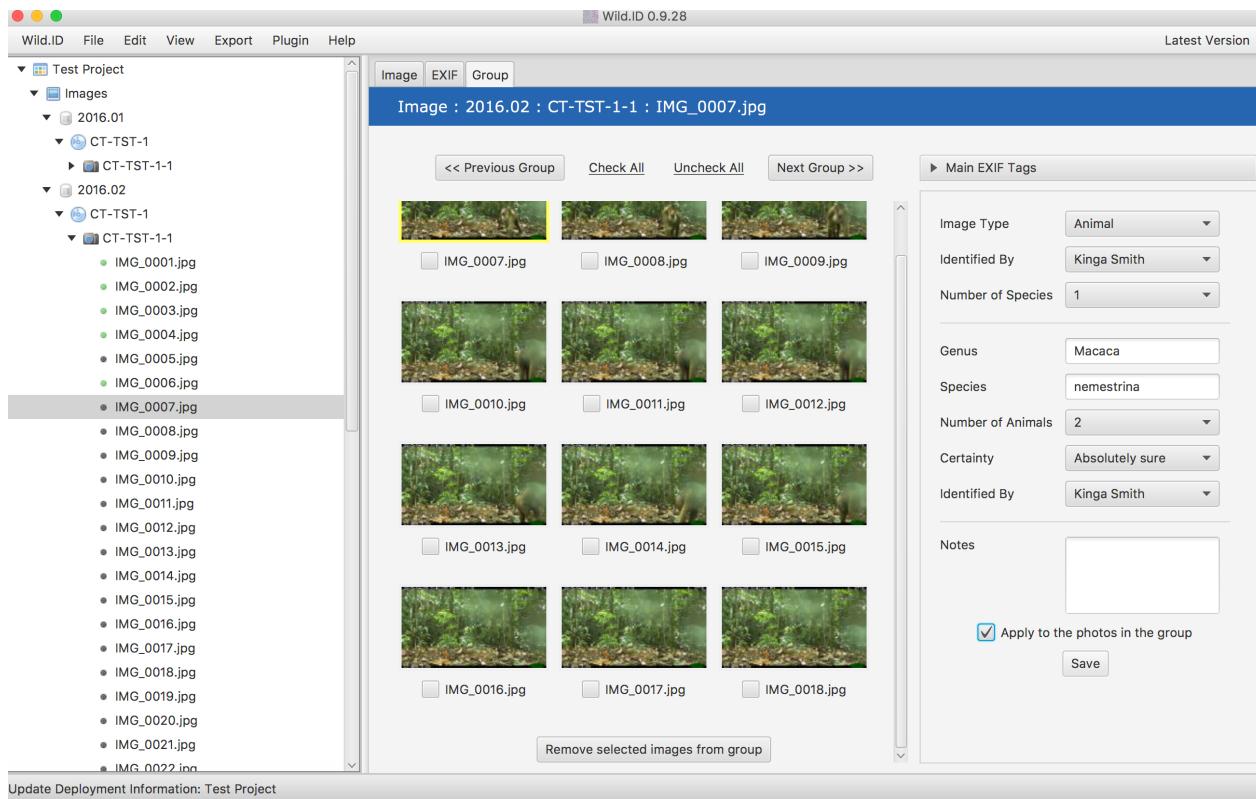
Image : 2016.02 : CT-TST-1-1 : IMG_0028.jpg

<< Previous Group Check All Uncheck All Next Group >>

<input type="checkbox"/> IMG_0028.jpg	<input type="checkbox"/> IMG_0029.jpg	<input type="checkbox"/> IMG_0030.jpg
<input checked="" type="checkbox"/> IMG_0031.jpg	<input checked="" type="checkbox"/> IMG_0032.jpg	<input checked="" type="checkbox"/> IMG_0033.jpg

Remove selected images from group

Once you have all images that you feel belong within a group, you can annotate the image with the information as described. Make sure that you now check the box to **Apply to the photos in this group** (above Save) so Wild.ID will annotate all images within a group together at one time.



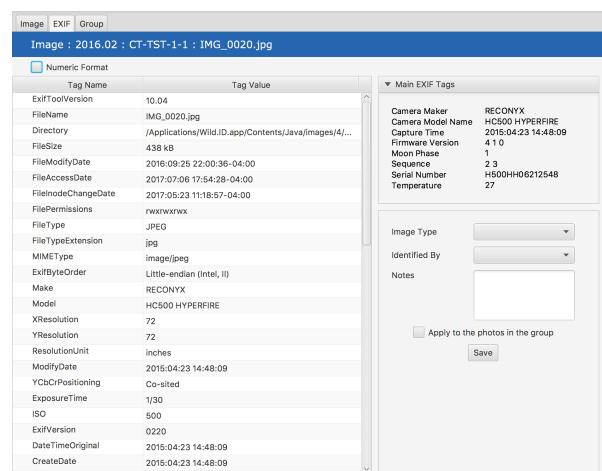
Note: Group annotations will include all image annotation information including species, number of individuals, etc. If you are interested in individual images rather than sequences, it would be advisable to quickly review images individually for changes in number of individuals, etc.; although, this can also be done at a later time.

3.7.2.3 EXIF Tags

Image metadata is automatically extracted from the image when possible. Some metadata may be locked or you can also map newer camera models (see under Edit Camera Model in Section 3.8.2.3). For camera traps where this information is available, Wild.ID uses the EXIF tool to extract and display metadata. The main EXIF tags are visible in the upper right side of the main annotation window and additional information is also available in a separate **EXIF tab** (between the Image and Group tabs).

In the main annotation window, you will notice that basic image metadata will be available as EXIF tags — Camera Maker, Model, Capture Time, Firmware, Moon Phase, Sequence, Serial Number, and Temperature.

Additional image metadata (as shown on the right) can be viewed by selecting the **EXIF tab** at the top of the main window and scrolling down through information that could be extracted from the image.



Notes:

- When annotating images - to minimize the information displayed in the main annotation panel - select the arrow next to the 'Main EXIF Tags' header.
- Some camera trap models lock certain metadata (e.g., Bushnell – temperature and moon phase, etc.). We will continue to try to find open-source tools to help extract this information and we welcome any suggestions.
- If you find that your metadata appears to be wrong, you can also 'map' your image(s) with the camera trap model as seen below under Section 3.8.2.3.
- If mapping doesn't work to troubleshoot issues with extracting metadata for your camera trap model, please contact us so that we can troubleshoot help.

3.7.3 Individual Details Tag

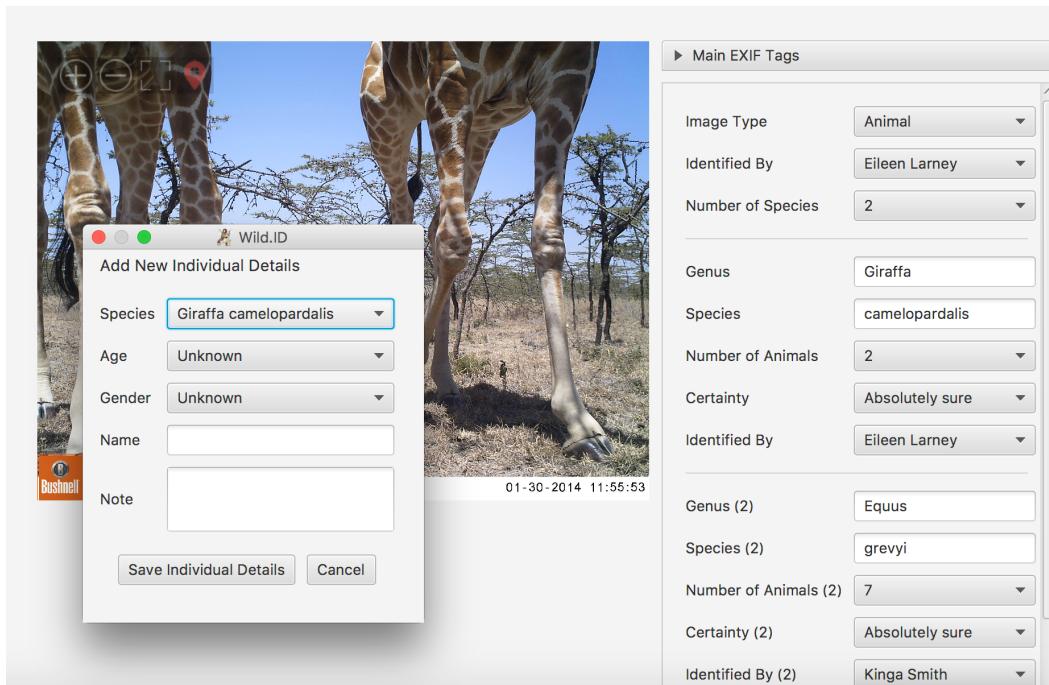
After selecting the **Enable Individual Details Tagging** in the preferences, you will have the option to tag individuals in an image to add basic demographic and general information specific for that individual for later reference. If selected under preferences, this function will become active only after you have annotated the information (e.g., taxonomy, number of individuals) for that image as described in Section 3.7.2.

After the circle to the left of the image changes to green, indicating that the annotation was saved successfully, the user can then tag individuals in the image, which will now be evident via the red target that will appear next to the zoom options on the upper left of the image (as seen on the right).

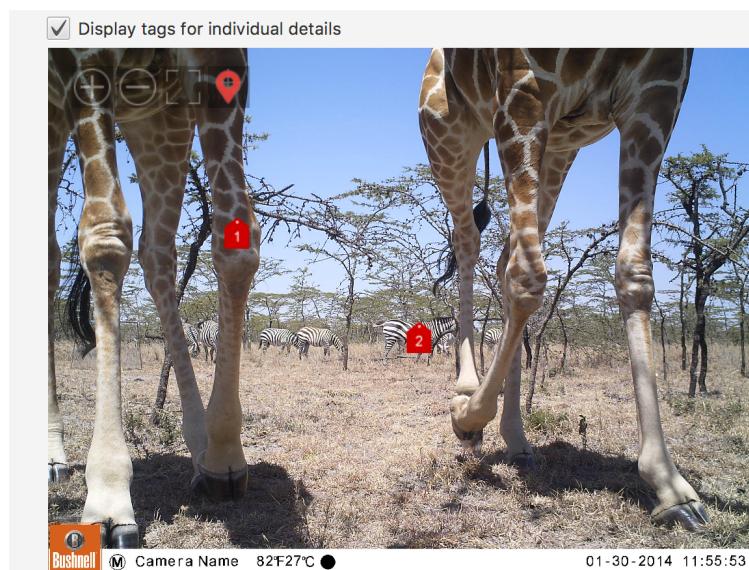
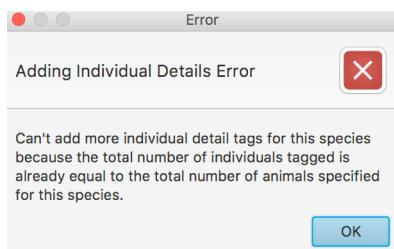


3.7.3.1 Tagging individuals

After annotating images and then clicking on the red balloon, a bullseye will appear where you can then click on the image to tag an individual and add additional information. This could also be useful to just note where in the image a hard to find individual may be located for future reference. Once you select the location with the bullseye on the image, a small window will appear where you can add individual details (as seen in the image below). Information that can be added include the species (with pull-down menu if more than one was annotated), the age (Adult, Juvenile, Infant, or Unknown), the gender (Male, Female, Unknown), a field to enter the name of the individual if known, and an additional entry field for notes (that could also be useful to enter any interesting behavior). Once you have entered the information that you would like to add, select **Save Individual Details**.



Once you have successfully saved a tag, the image will show a red tag (as shown to the right). You can return to edit these at any time. If you don't see the red tag visible on the image – make sure that the **Display tags for individual details** is checked just above the image window. Please note that you will only be allowed to tag up to the maximum number of individuals per species that was annotated for that image.



3.7.3.2 Turning the tagging feature on/off

If you do not want the tags visible in your images, you can turn off the feature by deselecting the **Display tags for individual details** box above the top left side of the image frame in the main window (see image above). This is the easiest way to turn the feature off and return to tag it 'on' later. Alternatively, you can also choose to return to the preferences to deselect the **Enable**

Individual Details Tagging option. All image ID data that was entered will be saved regardless of whether you choose to display this in the window frame.

Note: Any images that you have enabled and entered individual detail tags will be automatically transferred with any transfer files between local Wild.ID versions, whether or not it is currently enabled at the time of transfer.

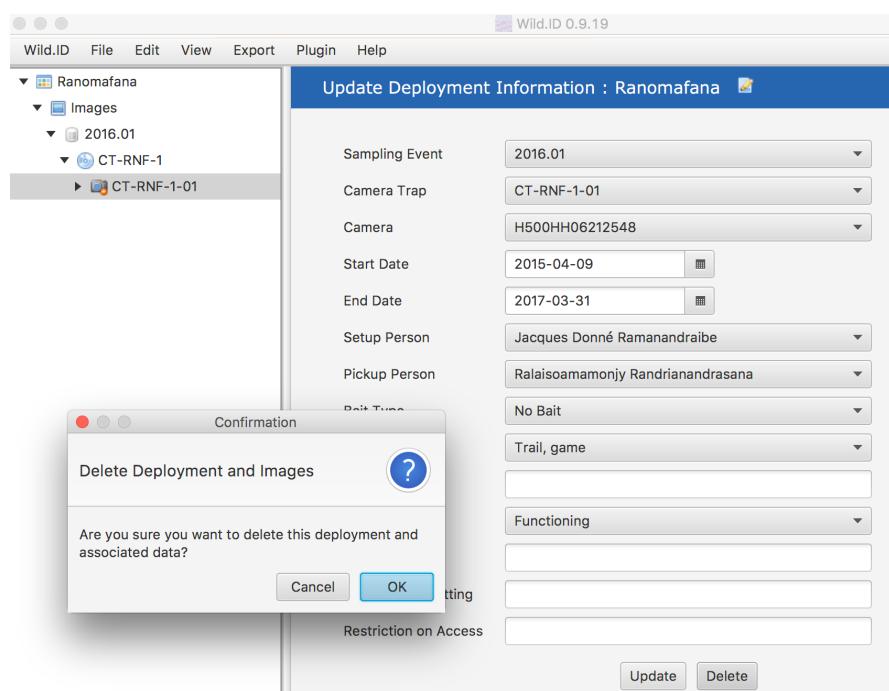
3.8 Edit (Update & Delete)

3.8.1 Edit Project

Almost all entry fields can be edited later. However, we do caution editing project information that is being shared between Wild.ID local versions since you should maintain compatibility with the basic project components to successfully transfer files. To update or delete a project, go under the main menu to **Edit > Edit Project >** then select the project that you want to edit. For all of the options available when setting up a project, you can now choose to **Update** or **Delete**. These include the project name and information, the organizations, the personnel, the camera traps, arrays and sampling events. You can easily navigate through this by selecting the appropriate node that you want to edit on the left panel. You will, however, get an error message if a deployment is currently using the particular field that you are trying to delete (e.g., a camera trap, etc.).

3.8.1.1 Delete and Update Deployment Information

If you realize that you have made an error in the information entered or in uploading images to a camera trap (deployment) location – please select the camera trap (deployment) point in the left window pane. This will show you a main window similar to when you loaded your images with the options to **Update** or **Delete** the information or images. You can choose to update information by choosing other options in the pull-down menus and selecting **Update**.



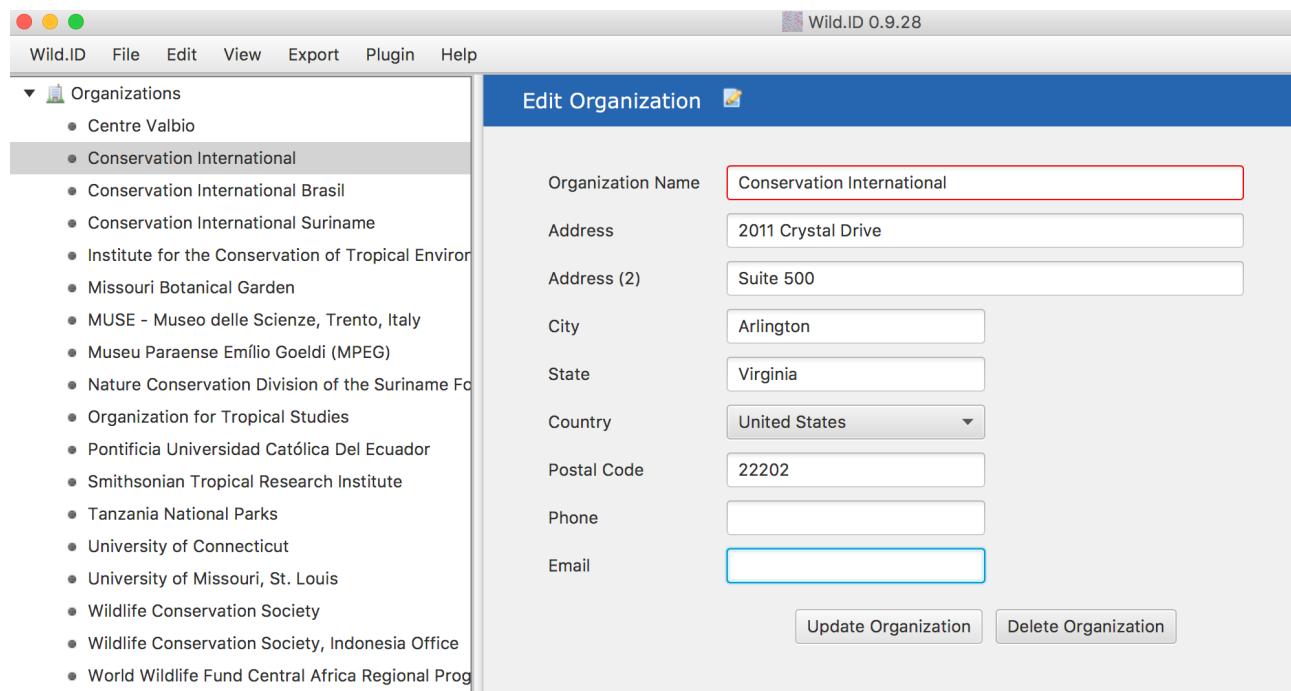
If you choose to **Delete** a deployment – you will be asked to confirm that you are sure that you want to delete this deployment and associated data. If so, select **OK**, but please note that you will not be able to access this information again once deleted!

3.8.2 Edit Master List

Under the main menu, you will also have the option to Edit the Master List for Organization, Personnel or Camera Model by selecting **Edit > Edit Master List >** and then choosing which area you want to edit. This will give you the option to Add, Update or Delete information easily.

3.8.2.1 *Organization*

When you select **Edit > Edit Master List > Organization**, you will see a list of organizations across all projects in your version of Wild.ID. If you want to add another organization, just select the top node ‘**Organizations**’ in the left window pane and the main window will now enable you to **Create a New Organization**. If you want to edit or delete an organization, select any one of the organizations that you have added in the left window pane to then **Update** information or **Delete** the organization as seen below.



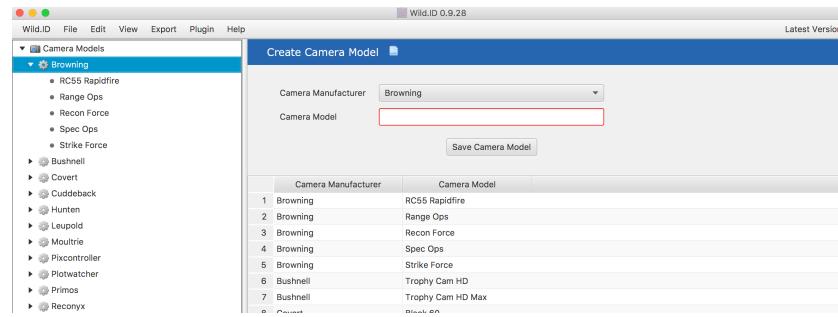
3.8.2.2 *Personnel*

As with editing organizations, if you select **Edit > Edit Master List > Personnel**, you will see a list of all personnel across all projects in your version of Wild.ID. If you want to add another personnel, just select the top node ‘**Personnel**’ in the left window pane and the main window will now enable you to **Add New Personnel**. If you want to edit or delete personnel, select any one of the people that you have added in the left window pane to then **Update** or **Delete** the information.

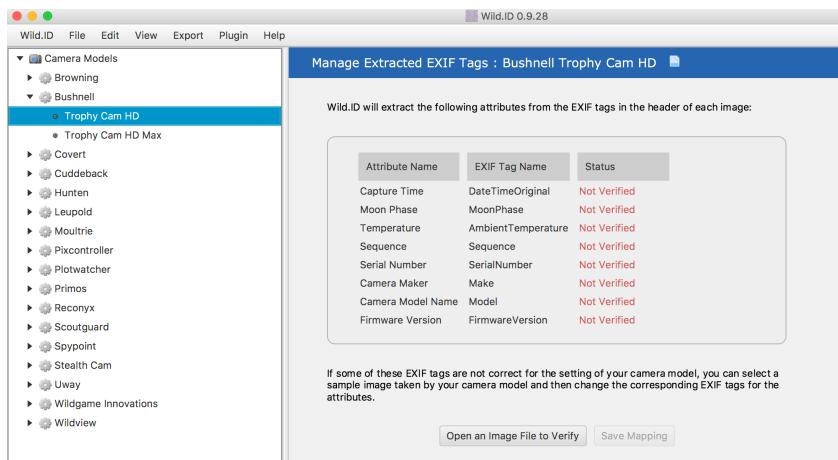
3.8.2.3 *Camera Model*

When you choose **Edit > Edit Master List > Camera Model**, you will see a list of camera manufacturers in the left window pane as well as a pull-down menu of camera manufacturers in the main window. If you do not see a camera model in the pull-down options when creating a project, you can add the model here and choose to **Save Camera Model**. Unfortunately, users currently do not have the ability to add new manufacturers, but you can either send us a message under **Help >**

Contact Us or send an e-mail directly to **wildid_support@teamnetwork.org** to suggest additional manufacturers and models to add to Wild.ID.



In this section, you are also able to manage your EXIF tags. While some camera manufacturers currently lock some of the image metadata that will not be available, other times an image may have been corrupted in some way that the image data is not showing up correctly during annotation in Wild.ID. To do this, search for your camera trap manufacturers and expand the selection in the left window pane to display the associated models.



In addition to the main EXIF tag information on the annotation screen and the EXIF tab, you can also see if a camera model has been verified correctly using the EXIF tool to extract metadata. If not, or if a particular image is having an issue, you can then **Open an Image File to Verify**. Choose the location of the image to open and you will see if the status changes from **Not Verified** to **Matched** or if some of the values are ignored. You may need to map these yourself (see below) and then choose to **Save Mapping**.

Manage Extracted EXIF Tags : Reconnex HC500 HyperFire - 3.1MP

Wild.ID will extract the following attributes from the EXIF tags in the header of each image:

Attribute Name	EXIF Tag Name	Status	Example EXIF Value
Capture Time	DateTimeOriginal	Matched	2015:04:23 14:41:34
Moon Phase	MoonPhase	Matched	1
Temperature	AmbientTemperature	Matched	27
Sequence	Sequence	Matched	2 3
Serial Number	SerialNumber	Matched	H500HH06212548
Camera Maker	Make	Matched	RECONYX
Camera Model Name	Model	Matched	HC500 HYPERFIRE
Firmware Version	FirmwareVersion	Matched	4 1 0

If some of these EXIF tags are not correct for the setting of your camera model, you can select a sample image taken by your camera model and then change the correspondent EXIF tags for the attributes.

[Open an Image File to Verify](#) [Save Mapping](#)

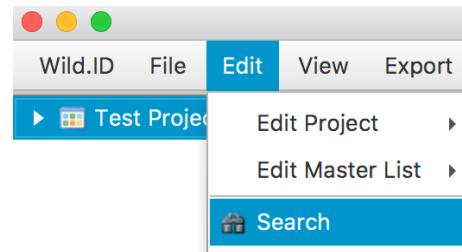
Some of the metadata may extract and ‘match’ without issues, while others might be ignored or may not be correct for the camera model. If this is the case, Wild.ID allows you to upload a sample image taken by your camera model and then change or ‘manually map’ the corresponding EXIF tags for the attributes. To do this, select the camera manufacturer and model on the left window pane, click **Open an Image File to Verify**, then determine if you need/want to map certain attributes and choose **Save Mapping**. For example, an image below for a Reconyx RM45 Rapidfire was having an issue extracting metadata with Wild.ID’s EXIF tool. Once the image was uploaded (left image), we had to then map some of the other attributes (right image). After you have saved an attribute mapping, you can always return to this function for the camera model and **Restore System Default**.

Attribute Name	EXIF Tag Name	Status	Example EXIF Value
Capture Time	DateTimeOriginal	Matched	2016:11:11 21:01:02
Moon Phase		Ignored	
Temperature		Ignored	
Sequence		Ignored	
Serial Number		Ignored	
Camera Maker	Make	Matched	Reconyx
Camera Model Name	Model	Matched	RM45 RAPIDFIRE
Firmware Version		Ignored	

Attribute Name	EXIF Tag Name	Status	Example EXIF Value
Capture Time	DateTimeOriginal	Matched	2016:11:11 21:01:02
Moon Phase	Comment.MP	Mapped	3
Temperature	Comment.Tmp	Mapped	26 C
Sequence	Comment.Trig	Mapped	M 1/3
Serial Number	Comment.SN	Mapped	RM13AC04003504
Camera Maker	Make	Matched	Reconyx
Camera Model Name	Model	Matched	RM45 RAPIDFIRE
Firmware Version	Comment.Ver	Mapped	2.3.0.20090112

3.9 Search Function

If you are interested in searching specific criteria for previously annotated images, Wild.ID’s search function allows you to filter by project, time, photo type, genus, or species. To search your computer’s Wild.ID database, simply visit the main menu to select **Edit > Search**.



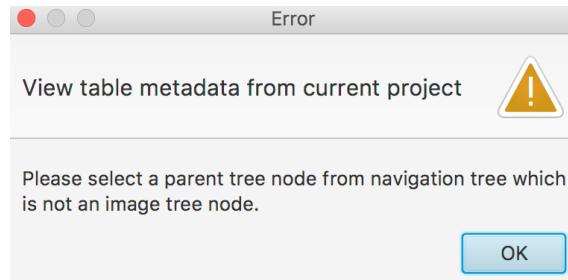
A window will open that will enable you to select the criteria for which you would like to search and then select **Search**. The results of your search will appear in the left sidebar. If you select an image in the search results, the annotation window for that image will appear in the main window where you can review or potentially edit and update image annotations.

3.10 View Image Metadata

Along the main menu, you have the option to view the image metadata either in the same window (replacing what you currently have in your right window pane) or in a new window. To view the image metadata file while in Wild.ID, under the main menu, select **View > Image Metadata Table >** and then select either **in same window** or **in new window**.

The screenshot shows the Wild.ID application window. At the top, there's a menu bar with 'Wild.ID', 'File', 'Edit', 'View' (which is highlighted in blue), 'Export', 'Plugin', and 'Help'. Below the menu is a toolbar with icons for 'Projects', 'Image Metadata Table' (which is selected and highlighted in blue), and 'in same window' and 'in new window' options. The main area is titled 'Image Metadata from Sampling Event: 2016.01'. It contains a table with columns: ID, Project Name, Camera Trap Name, Latitude, Longitude, Sampling Event, Photo Type, Photo Date, Photo time, and Raw Name. The table lists 47 rows of data. At the bottom of the table, there are buttons for 'Rows per page' (set to 200), navigation arrows, and a total count of 'Total images: 47'.

However, please note that you will be unable to view metadata unless you have already selected a parent tree node of a project from the list available in the left window pane. If you try to view an image metadata table prior to selecting a project or while on a single image, you will receive the error message to the right:



3.11 Saving and Exporting Data

Wild.ID has been developed to export data that is compatible with other Wild.ID users, TEAM's sister Wildlife Insights data repository, as well as several other analysis platforms (e.g., Excel and R).

3.11.1 Saving Data

Within Wild.ID, project data, images, metadata and annotations should be automatically saved after you have saved either a deployment or annotation.

In addition, Wild.ID automatically saves any changes to preferences, project management, camera management or image annotation when you select **Save** or **Update**. The software currently has the capacity to store several hundreds of thousands of camera trap images and associated metadata. However, Wild.ID should not be viewed as a stand-alone, sole repository of camera trap data over the long-term. While the software will continually expand its capacity to manage and store large amounts of image and metadata information, it is always advised to periodically back-up your data. To facilitate this process, Wild.ID offers several options to export both your image

and data files that can be transferred to your computer, external device, another computer with Wild.ID, a server and/or cloud-based storage options, such as TEAM's open-source camera trap data network - Wildlife Insights.

Please note: Occasionally, camera trap data is accidentally erased or files become corrupted. When this happens, an additional 'data recover' step should be added to the workflow so that the data can be recovered prior to annotation. There are several free (e.g., recuva, JPEGsnoop, PhotoRec_FR, PC Inspector) as well as commercial (e.g., Stellar Phoenix, Recover My Files) options for recovering lost or corrupted data.

3.11.2 Exporting Data

TEAM specific data export specifications are currently underway, so this section will be updated in the near future. If you would like to export data for other purposes, there are a few options below. Wild.ID has been developed to export data that is compatible with other Wild.ID users, TEAM's sister Wildlife Insights data repository, as well as several other analysis platforms (e.g., Excel and R).

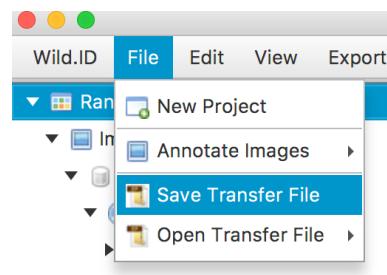
Note: You can export at different nodes if you only want to transfer a portion of the project and/or the files are large and might be easier to send/share remotely at the array or camera trap levels.

3.11.2.1 Exporting Data – from Wild.ID to Wild.ID

Wild.ID allows users to manage a project across multiple local versions of Wild.ID. As long as similar parameters and project notation are consistent across updated Wild.ID versions, users may transfer their data via an export and import option. To export data to another version of Wild.ID, choose **File > Annotate Images >** and then **choose the project** for which you would like to export. Once you have opened the project, **choose the level** for which you would like to export data and then select **File > Save Transfer File**.

You may choose to export data at various levels, such as:

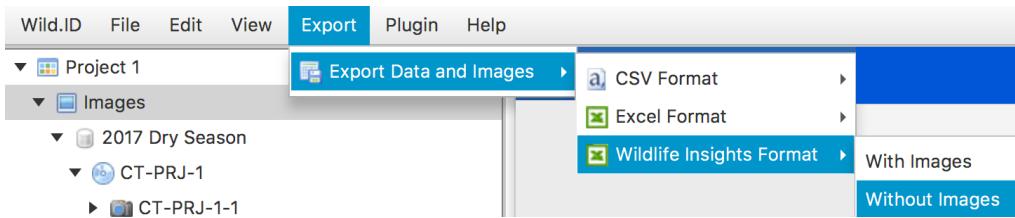
- the entire project
- a specific sampling event within a project
- an array within a sampling event, or
- a camera trap within an array.



Please note: If you have many images in Wild.ID, the program will need time to save the transfer file. If your images are in the thousands, it would be ideal to let the 'Save Transfer File' run overnight. To open a transfer file in another version of Wild.ID, select **File > Open Transfer File** (see Section 3.12 below).

3.11.2.2 Exporting Data – from Wild.ID to Wildlife Insights

Wild.ID offers an export option for those interested in adding files to the Wildlife Insight's repository (<https://www.wildlifeinsights.org>) for long-term cloud-based storage or to compute available analytics (e.g. the Wildlife Picture Index or WPI). The most compatible format to transfer data from Wild.ID to the Wildlife Insight's online repository is to save data and images through the Wildlife Insights format option (with or without images). To do this, on the main menu select **Export > Wildlife Insights Format > With or Without images**.



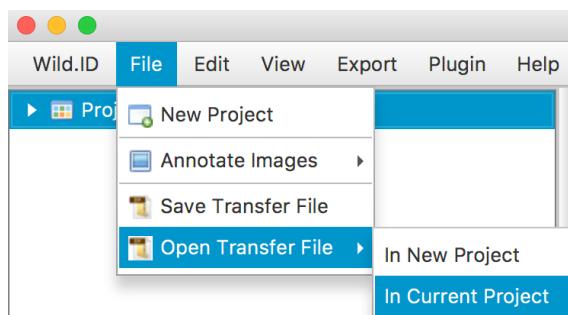
3.11.2.3 Exporting Data – From Wild.ID to other programs

Wild.ID also offers export options that are compatible with several other camera trap analysis platforms (e.g., Excel and R). To export data to your preferred program - under the main Wild.ID menu - select **Export > CSV or Excel Format > With or Without images**. Additional export templates are under development, so be sure to check back in future updates.

Under these formats, all information regarding deployments is not exported – only the core information regarding the project and deployment IDs and image information.

3.12 Importing a Wild.ID Transfer File

If you are managing a project across multiple local Wild.ID versions, you can easily transfer files between computers. As mentioned above in Section 3.11.2.1, you can export a Wild.ID project at several different nodes – from the project to the camera trap level. If you are not exporting and importing an entire project, but only a specific node, it is important to remain consistent with the information added in the project information to maintain compatibility between local Wild.ID versions. Once you are ready to import a transfer file that was saved from another Wild.ID version, go to the main menu and select **File > Open Transfer File**. Then, either choose whether you want to open this file **In a New Project** or **In a Current Project**.

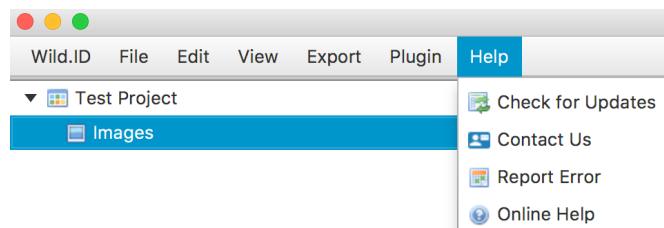


Please note that to open a transfer file in a current project, you should first select **Annotate Images > and then select that project**. If you happen to be on another screen, Wild.ID will only provide the option to open in a new project.

3.13 Help

Note: Various steps in this section require an internet connection

Wild.ID's **Help** section currently offers three options to check for updates, contact us and report an error you may be experiencing directly through Wild.ID.

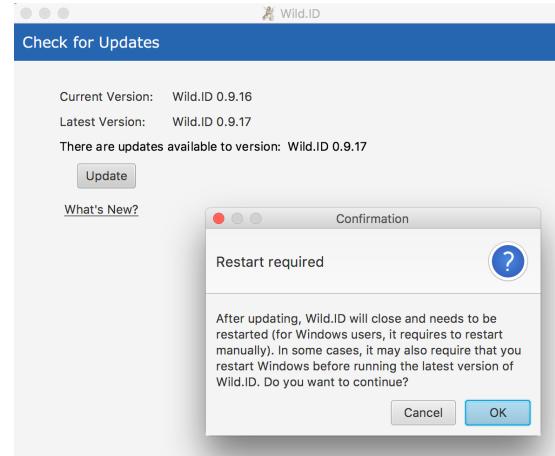


3.13.1 Check for Updates

Whenever you are connected to the internet while using Wild.ID, the software will inform you when new versions may be available. The easiest way to determine if an update is available is indicated on the top right side of the window where either **New Version Available** or **Latest Version** is displayed. If a new version is available, please follow the steps below to update Wild.ID.



As described earlier, you can also choose **Help > Check for Updates**. This window also allows you to see what updates have been made to the Wild.ID software. If you do not have a consistent internet connection, it is advised to periodically check for new updates as well as plugin updates as we continue to improve the Wild.ID interface as well as the functionality and versatility of any plugins. If a new Wild.ID version is available, please select **Update**. A message box will inform you that Wild.ID will need to restart, so ensure you have saved any working annotations prior to updating and then select **OK**.



Please note: The ‘What’s New?’ link below Update, will provide information on the updates incorporated into each version. We encourage users to provide feedback and report errors so that we can continually improve Wild.ID for its users (please see how under Help).

3.13.2 Contact Us

If you have any questions, concerns or suggestions for improvement, Wild.ID provides a ‘Contact Us’ form under the **Help** section. You will be prompted to provide your e-mail address and a blank field will allow you to add your text. A confirmation e-mail will be sent to you to verify that your inquiry has been sent and we will do our best to respond to your inquiry as soon as possible. Alternatively, or in addition, you can contact us directly at wildid_support@teamnetwork.org.

Note: Due to our broad user base, we will do our best to accommodate suggested improvements, but we cannot guarantee incorporating very specific needs that may not appeal to the broader network. In this case, we suggest you consider utilizing our sister online cloud-based platform, *Wildlife Insights*, where private instances can be built, adapted, and managed for independent projects.

3.13.3 Report Error

If you have technical issues while using Wild.ID, Wild.ID provides a ‘Report Error’ form under the **Help** section of the main menu. The user will be prompted to provide an e-mail and a description of the error. We also highly recommend that while experiencing an issue, you select the **Help > Report Error** option, as the detailed log will be reflective of your current and most recent issue.

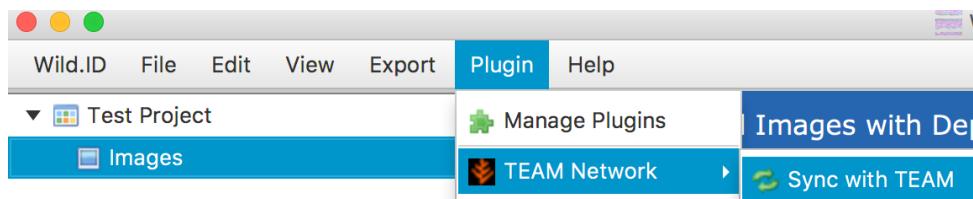
Your text, with the error log report, will be sent directly to the development team and we will contact you regarding your issue as soon as possible.

For general troubleshooting, please check back as we develop a Frequently Asked Questions page online. In the meantime, check for updates where we address software bugs and improvements. In addition, feel free to contact us either directly through the **Contact Us** or **Report Error** options in Wild.ID or via e-mail at wildid_support@teamnetwork.org.

3.13.4 Online Help

Under **Help > Online Help**, you will be re-routed to the help documentation available online through www.teamnetwork.org. Further sections, like Frequently Asked Questions, are under development.

3.14 Plugins



3.14.1 Manage Plugins

Currently, Wild.ID only has one TEAM-related plugin available; however, we may continue to offer new plugins in the future. To see and manage which plugins are available, please go to the main Wild.ID menu and select **Plugin** and then **Manage Plugins**. You will see what plugins are available and can choose to either **install**, **update** or **uninstall** each plugin by selecting the corresponding option. Until additional plugin options are available – **non-TEAM sites should not install the TEAM Plugin!**

Additional plugin related notes:

- Please check plugin specifications for the latest Wild.ID version compatibility.
- Plugins can be added and removed without losing project information. However, after installing the Wild.ID TEAM Plugin – we do not recommend that TEAM Sites uninstall this plugin unless directed to do so by the organizing unit.

3.14.1.1 TEAM Network – Sync with TEAM

This function is only for TEAM Site members that have been advised to add the TEAM Plugin and have access to myTEAM via www.teamnetwork.org. Please see Supplement 1, Section S1.1.3.

4. About Us

4.1 The TEAM Network



The Tropical Ecology Assessment and Monitoring (TEAM) Network's mission is to deliver multi-scale, real-time understanding of how key elements of Earth's operating system — climate, carbon stocks, and biodiversity — are changing, and what this means for people.

The TEAM network was established by Conservation International in partnership with the Smithsonian Institution and the Wildlife Conservation Society. TEAM's global network of scientists collect and distribute near-real-time data on trends in biodiversity, climate, land cover change and ecosystem services. For wildlife monitoring, in particular, TEAM draws upon almost 15 years of experience managing a global standardized camera trap network spanning 17 core tropical forest sites in 15 countries and 3 continents.

The information technology (IT) and communication challenges to support a global multidisciplinary network are significant. As a result, TEAM has developed a suite of IT tools allowing management, storage and dissemination of the standardized data and synthesized data products. These tools enable TEAM to manage a wide variety of data types and formats.

All TEAM data and products are free and available via
www.teamnetwork.org.

For any TEAM related questions, please e-mail: help@teamnetwork.org.

In response to the growing and widespread adoption of camera traps for wildlife monitoring, the TEAM Network began to explore how to interoperate with other existing camera trap projects. As camera trap projects were identified (mostly from within the core members of the TEAM Network), it became clear that bringing data together would be particularly challenging due to data heterogeneity. For example, there were discrepancies on what an organization called a 'project' or the terminology for where a camera trap was deployed (e.g., camera trap location vs. camera trap point ID vs. deployment ID). As a result, a minimum data standard was established to be able to combine camera trap data from different projects in addition to a central database to deposit camera trap data and utilize analytic tools (see Wildlife Insights below).

4.2 Wild.ID

Based on the TEAM Network's experience of managing 17 long-term core sites globally, **Wild.ID** was created to improve our existing internal data management software and make this more readily available to a broader network of professionals collecting camera trap data. After almost a decade of experience with TEAM's software DeskTEAM, Wild.ID has built upon DeskTEAM's features and incorporated improvements to facilitate camera trap management capabilities. Wild.ID requires an initial internet connection to download the software and then a periodic internet connection to update software, install and update plugins, and eventually upload data (if desired), but can otherwise be used primarily when offline. Since many of TEAM's network sites remain with limited internet connectivity, it was important to also provide a software that could be used both

online and offline for field-based conditions. Thus, Wild.ID was created, which is compatible to TEAM's cloud-based software and data-sharing platform, Wildlife Insights.

For questions regarding Wild.ID camera trap management software, please contact:
wildid_support@teamnetwork.org

4.3 Wildlife Picture Index

The Wildlife Picture Index (WPI) was developed jointly by the Wildlife Conservation Society and the Zoological Society of London as an indicator derived from primary camera trap data (O'Brien et al 2010). The WPI was designed to meet the requirements of biodiversity monitoring indexes as described by Buckland et al. (2005), and it monitors ground-dwelling medium and large mammals and birds, species that are important economically, aesthetically and ecologically.

In collaboration with Hewlett Packard, a dashboard to visualize the Wildlife Picture Index (WPI) was developed.

To learn more, please visit:
<http://wpi.teamnetwork.org/wpi/dashboard>

4.4 Wildlife Insights

Wildlife Insights (WI) was founded by the TEAM network (Conservation International, the Smithsonian Institute, Wildlife Conservation Society) in addition to the North Carolina Museum of Natural Sciences as a cloud-based data-sharing platform for wildlife camera trap images, data and analytics. WI allows users and organizations to share, store, find and analyze millions of camera trap images and related data from around the world, including interconnecting some of the world's largest camera trap repositories managed by the founding members. The WI platform and tools enable any organization to share its data with the broader community and provides the community a point of access to camera trap data from around the world. The specific goals of WI are the following:

- Provide web-based tools to discover and explore camera trap data from around the world.
- Provide web-based analytics on camera trap data.
- Provide web services to ancillary datasets (e.g., GIS environmental layers) that can be used with camera trap data for analysis and data products.
- Provide organizations or individuals with the tools and documentation needed to share their camera trap data. Camera trap images and/or metadata can be shared and can be directly uploaded into WI or shared via an application programming interface (API). An API enables organizations that maintain a database or online system to share their data directly via a standard interface.

Hewlett Packard also generously supported much of the platform behind WI. Wild.ID will be able to share data and/or images directly with WI and WI will also have a web-based tool for direct data upload. WI launched in October 2015 and it is envisioned that it will become a central knowledge and data-sharing center for the camera trapping community.

While the site is currently under development, to learn more please visit:
<https://www.wildlifeinsights.org>

Supplement 1: Wild.ID TEAM Plugin (v 0.9.6)

S1.1 What is the TEAM Plugin?

To sync the information managed through the TEAM Network's myTEAM portal, we have developed a TEAM plugin extension for Wild.ID to transfer site-specific properties, such as project and sampling design information and camera management, directly into Wild.ID.

Thus, this extension is specifically designed for TEAM Network members from core monitoring sites that are recognized personnel within myTEAM's Site Management Tool. This plugin syncs with myTEAM user accounts to allow for the transfer of project personnel and camera trap management details into Wild.ID. Authorized users will require their login information used for access to myTEAM on www.teamnetwork.org.

The properties available in this plugin are not editable – meaning that changes to any of the project properties (sampling events, personnel, camera trap management) can only be made via myTEAM and then re-synced with Wild.ID's TEAM Plugin to update in your local version.

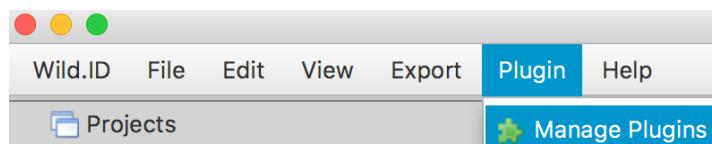


Please note:

The Wild.ID TEAM Plugin is currently under development. This manual will be updated as we add additional features, such as exporting and/or uploading data and transferring legacy camera trap data to previous sampling events.

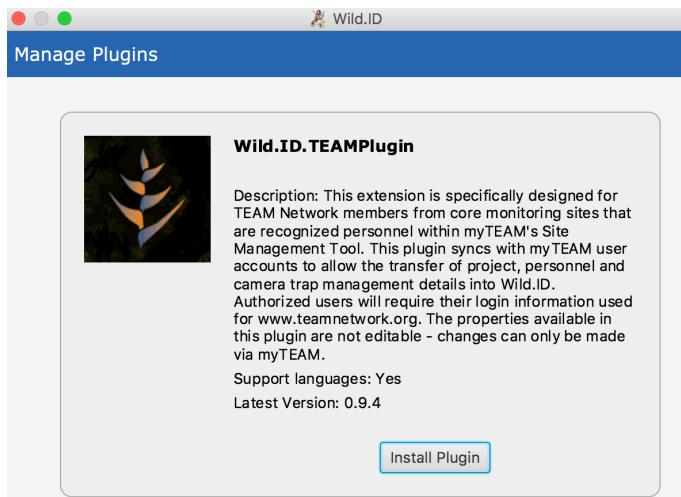
S1.1.1 Manage Plugins

After you have ensured that you are using the latest version of Wild.ID, it is time to install the TEAM Plugin on your local computer's version of Wild.ID. To install the Wild.ID TEAM Plugin for the first time, please first choose **Plugin** on the main menu and then select **Manage Plugins**.



S1.1.2 Install TEAM Plugin

Additional plugins may be added over time, but for now you will see the TEAM Network's **Wild.ID.TEAMPlugin**. Select to **Install Plugin**. Wild.ID will ask you to confirm that it is OK to install and will inform you that Wild.ID will need to restart after installation. Please choose **OK**. Wild.ID should restart automatically with the TEAM Plugin available.

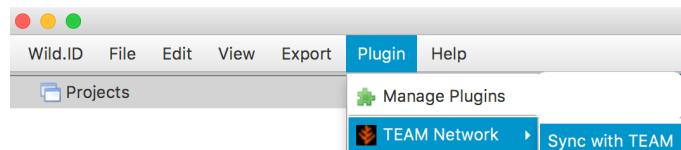


Please note: In future updates to both Wild.ID and the TEAM Plugin, you will not be required to follow any specific order. After this initial installation, Wild.ID will alert you when a new version is available (see Section 3.3). It is always advised to update to the latest version whenever possible as we are continuously improving the software after user feedback. In addition, you will be able to periodically check for plugin updates (see below). We advise that you check for both software and plugin updates frequently and update whenever you have an internet connection available as we are continuously making improvements.

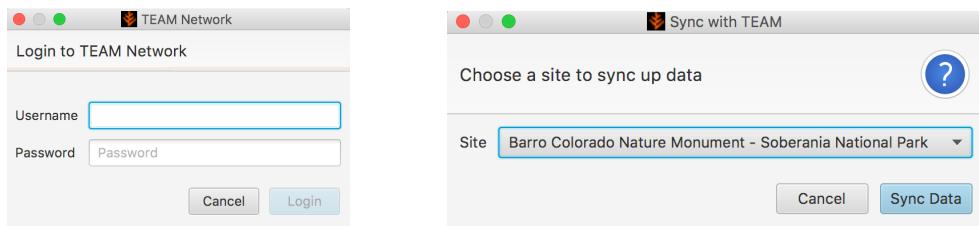
S1.1.3 Sync to TEAM Network

For the TEAM Network's long-term monitoring projects – you will need to sync with the Site Management Tool on myTEAM to load certain site-specific properties to your version of Wild.ID. Please note – it is necessary to install and manage all TEAM data through the TEAM plugin properties. **Syncing Wild.ID to the TEAM portal to load site information is mandatory prior to uploading and annotating images.** If you proceed without first installing the plugin and syncing to the TEAM Network via the Wild.ID.TEAMPlugin, unfortunately, TEAM data will not be accepted and you will need to re-enter and annotate all data to meet data quality standards.

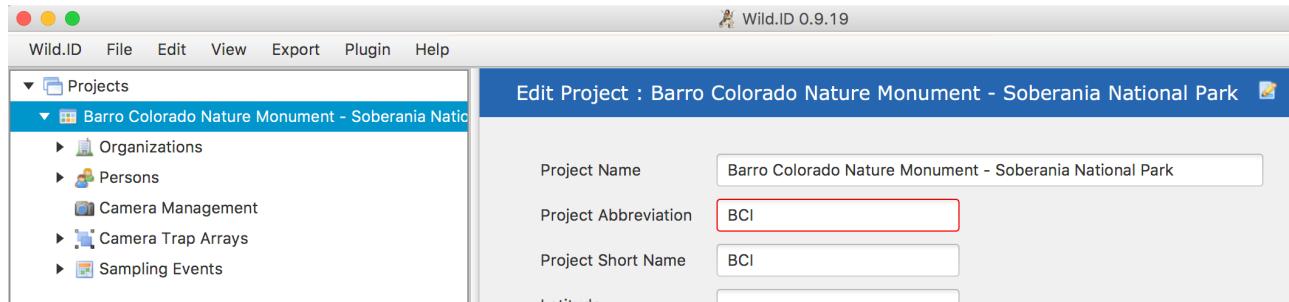
Once Wild.ID has relaunched, under Plugin in the main menu, you will now see the TEAM Network plugin with the option to Sync with TEAM. Under the main menu - please select **Plugin > TEAM Network > Sync with TEAM**.



You will be prompted to enter your **myTEAM username** and **password** and then select **Login**. Then, **Choose the TEAM site to sync data** from the pull-down menu and select **Sync Data**.



If your transfer has been successful, you will now see the TEAM Site's Project Information in the left window pane under Projects. This information will include the Organizations, People, Camera Traps, Arrays, and Sampling Events that are managed under myTEAM's Site Management Tool.



If for some reason the sync was incomplete, you will receive an error message and we ask that you contact us either via Wild.ID (see under the Help section) and/or, preferably, via e-mail at www.teamnetwork.org.

S1.2 TEAM Site Project Information

S1.2.1 Verify TEAM Site Project Information

All information regarding your site should now be available in the left window of your screen.

NOTE: If everything is updated in myTEAM, this section should be fine and you can skip to Importing and Annotating Images.

Project information includes information on the following:

S1.2.1.1 *Organizations*

The Wild.ID TEAM plugin will automatically load organizations that are attributed to your TEAM site under myTEAM's Site Management Tool. After an organization is added into Wild.ID, it will be saved for future projects – both TEAM and non-TEAM related. New organizations can be added to non-TEAM projects within Wild.ID; however, organizations attributed to your TEAM site can only be modified under **Site Information** in myTEAM's Site Management Tool.

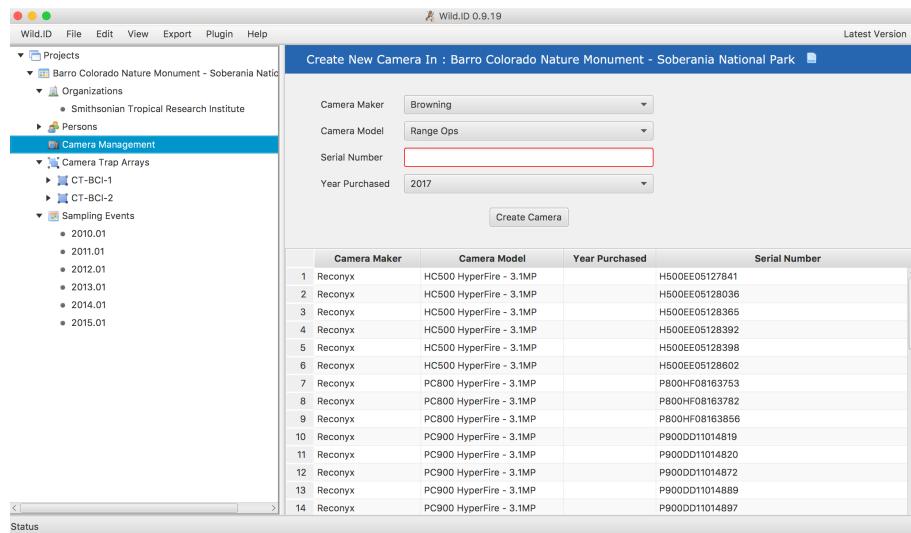
S1.2.1.2 *Personnel*

The Wild.ID TEAM plugin will automatically load people that are attributed to the Terrestrial Vertebrate Protocol for your TEAM site under myTEAM's Site Management Tool. After a person is added into Wild.ID, he/she will be saved for future projects – both TEAM and non-TEAM related. A new person can be added to non-TEAM projects within Wild.ID; however, people attributed to your

TEAM site can only be modified under **Personnel Information** in myTEAM's Site Management Tool. However, please note that aside from the personnel currently attributed to the TEAM project – former personnel (i.e., that set-up cameras or annotated images in prior sampling events for the Terrestrial Vertebrate Protocol) will remain in the Persons list for your TEAM project despite any changes that may be made within the Site Management Tool.

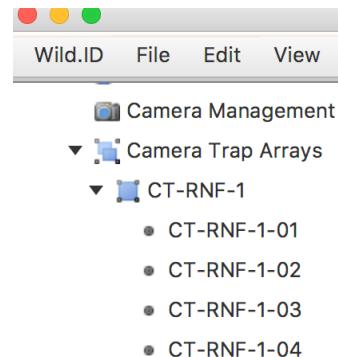
S1.2.1.3 Camera Management

The Wild.ID TEAM plugin will automatically load camera traps that are attributed to your TEAM site under myTEAM's Site Management Tool. Please ensure that your camera trap list is up to date under myTEAM's Site Management Tool by first selecting the **Site Information Tab** and then **Equipment Management**. Review the camera traps, associated serial numbers and conditions (e.g., functional or broken), especially for any new camera traps that may have been purchased. As with personnel, retired camera traps will remain in Wild.ID's camera management section if they were used in prior sampling events.



S1.2.1.4 Array and Deployment locations

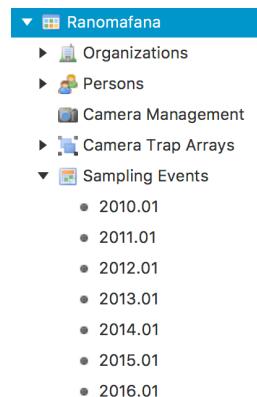
In the left side panel under Camera Trap Arrays, select the arrow to view the deployment (camera trap) locations within each array. The available arrays should follow your Site's sampling design and details on the geographic coordinates of the point are shown in the main window when you highlight a particular array in the left window pane. If changes need to be made to your sampling design (e.g., moving a camera trap point) please contact help@teamnetwork.org.



S1.2.1.5

Sampling events

As mentioned previously, we are developing a way to transfer all previously annotated TEAM Terrestrial Vertebrate data from webTEAM to Wild.ID so each site can have the option to keep a copy of the data locally once we fully transfer from DeskTEAM. Thus, you can expand to see the series of sampling events for your TEAM site in the left side pane by clicking on the arrow. If you do not see the most recent sampling event (e.g., 2016.01) - make sure that you have added the event to the sampling scheduler in myTEAM and re-sync the TEAM plugin to update. If there is still an issue, please let us know via **Help > Contact Us** or help@teamnetwork.org.



Please note: All project information for TEAM sites cannot be edited within Wild.ID. If you try to delete or add to the TEAM project, you will receive a plugin error message that the TEAM project is not editable. If edits are needed, please proceed to the next section.

S1.2.2 Update TEAM Site Project Information

Note: This step requires an internet connection

As previously specified, any changes that need to be made to sampling events (via the organizing unit), personnel, or camera trap maintenance needs to be done through myTEAM at www.teamnetwork.org. When changes are made to myTEAM's Site Management Tool, please update your Wild.ID.TEAMPlugin.



The process to do this is very similar to when you installed the TEAM Plugin. Under the main menu, please select **Plugin > TEAM Network > Sync with TEAM**. You will be prompted to enter your **myTEAM username** and **password** and then select **OK**. Then, **Choose the site to sync data** and select **Sync Data**. You will receive a message when your project was updated and please select **OK**.

If for some reason the sync was not complete - you will receive an error message and we ask that you contact us either via Wild.ID (see under Help) or via e-mail at help@teamnetwork.org. You can then verify that the updated information is correct as done in the previous section, continue to make changes in myTEAM and re-sync with Wild.ID until all project information is up to date. If you have logged in to sync data and continue to work in Wild.ID while remaining online, you will not be prompted to log in to the TEAM Network.

S1.3 Importing and Annotating Images

We are finally ready to begin to import and annotate images for your site. Please note that while you will be able to import and annotate images in prior sampling events – please do not create any data here until the technical unit creates a transfer file directly from TEAM's main database. Of course, if you are just testing Wild.ID, you can import and annotate images as a test; however, these images will need to be deleted eventually when the transfer files are available in the near future.

If you are beginning to work with Wild.ID to process your most recent monitoring period, please only concentrate on working with your most recent sampling event. To start the process of adding data and images to your project, choose **File > Annotate Images** > then choose a **TEAM Site** (see Section 3.7).