

**GETTING STARTED** 

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## **Quick Start Guide**

## Welcome to Wildlife Insights!

Wildlife Insights is an artificial intelligence-powered, cloud-based platform for managing, analyzing and sharing camera trap data. The platform is full of features and tools to help you quickly process images and derive meaningful insights. If you're just getting started, here's a quick overview of some of the most important things for you to know.

#### 1. Create an Account

With a Wildlife Insights account, you have full access to all of our tools and features for managing and sharing camera trap data. Follow these simple steps to start an account and begin sharing your camera trap data with Wildlife Insights!

While Wildlife Insights is in beta, new accounts must be approved by a Wildlife Insights administrator before they're activated and recognized. During beta, members of our Trusted Tester program will have their accounts approved. Once an account is approved, you can log in by visiting wildlifeinsights.org and clicking the "Account" button in the top right hand corner.

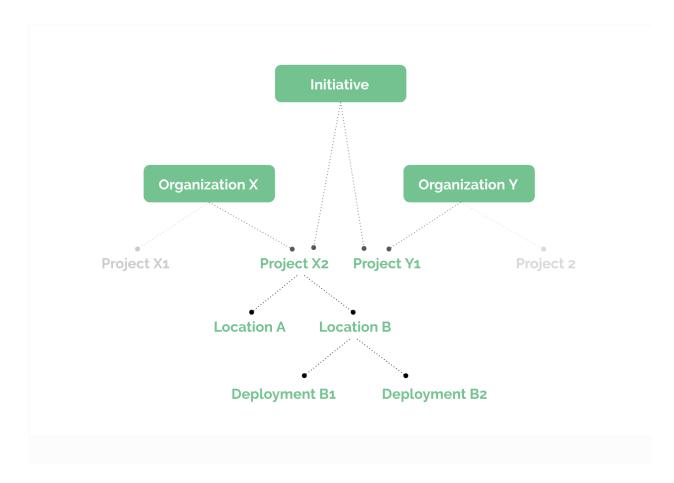
Keep reading to learn more about how you can begin uploading, managing and sharing your camera trap data with Wildlife Insights! Even without an account, you can explore the data in Wildlife Insights by visiting wildlifeinsights.org/explore.

#### 2. Learn Wildlife Insights terminology

One of the advantages of using Wildlife Insights is that you'll be helping to build one of the largest collections of camera trap data in the world! A key consideration in building this database is ensuring that all of the data submitted to Wildlife Insights is standardized. Since Wildlife Insights terminology may differ from what you're used to using, we recommend taking a few moments to review key terms used in Wildlife Insights:

- An **organization** is a group that entities with one or more people that share a particular purpose and objectives.
- A **project** is a set of camera deployments within a limited spatial and temporal boundary. Each project has defined objectives and methods.
- A **deployment** is a unique spatial and temporal placement of a camera trap device to sample wildlife. For example a camera trap placed at location x,y between January 1-15, 2019 is a different camera deployment than the same (or different) camera device placed at the same location but between January 1-15, 2018.
- A camera **location** is the physical position in space (latitude and longitude) of a camera trap device.
- An **initiative** is a group of projects that share similar objectives, data and analytics. Initiatives can include projects from one or more organizations. See the image below for an example.

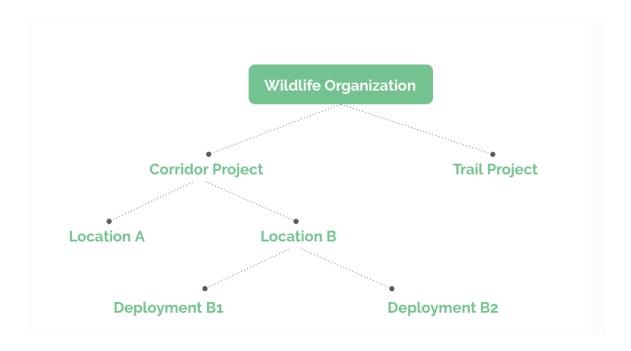
See the full Wildlife Insights glossary for additional definitions.



## 3. Structure your projects

Each user in Wildlife Insights is associated with at least one organization and can belong to multiple organizations, projects and initiatives. You may be an individual with a few cameras set out on your own property or a data manager at an organization with offices around the world. In any event, thinking through how your data will be managed and shared can help inform how you set up your workspace in Wildlife Insights. We'll give a few examples of how an organization and projects could be set up:

1. An organization operating primarily in one jurisdiction



2. An organization operating globally, with offices in multiple countries



#### 4. Upload data

Once you've set up your workspace, you're ready to start uploading data to Wildlife Insights! There are a few ways to bring your data into the platform.

You may have a collection of images that has not yet been reviewed or catalogued. These images can be uploaded directly into the Wildlife Insights platform, where the AI model will take a first pass at predicting what is in the image. Click on the links below to learn more about the upload process:

- 1. <u>Upload images</u> through the Wildlife Insights platform
- 2. Review computer vision results in the project "Identify" page

If you have used other software to manage your camera trap data in the past, you can save all your hard work and upload data through:

- The Wildlife Insights API (eMammal integration)
- Reformatting your data into the Wildlife Insights batch upload template and uploading onto the Google Cloud Platform

#### 5. Collaborate and Share

Wildlife Insights is fostering a culture of data sharing to encourage data-driven decision making. That's why we've built features that make it easy to share and collaborate with others.

- Initiatives are a great way to collaborate with other organizations that have a common objective.
- Downloading data from the platform makes it easy to dive into analyses to explore trends and patterns.
- All projects are shared on the publicly accessible Explore page, with restrictions on sensitive data.

# **Organizations**

# **Navigating the Organization workspace**

Organizations house all of your projects, data and team members in a single place. Within an organization you can create projects and begin uploading data. Navigate the Organization pages by using these quick links (see points below and the image below).

**Summary tab:** The Organization summary tab displays a map of all locations, an overview of data within that organization, and a list of projects.

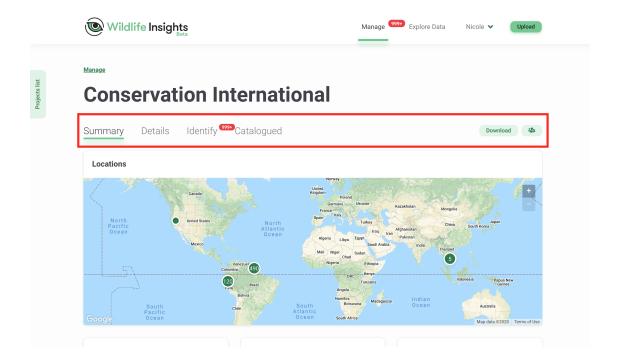
**Details tab:** This is where you can edit organization details including the organization name, contact information. This is also where you can add and edit Camera details (required fields).

**Identify:** All data uploaded to Wildlife Insights through the web-based upload will show up in the Identify tab. These images have passed through the Al model and are ready for a user review. You'll see all of the organization's images here.

**Catalogued:** All of the data that has been reviewed by a user will be stored in this section. Data from all of the projects within the organization will be shown here. To see data from a specific project, go to the Catalogued tab within that specific project.

**Download button:** You can easily download all of the data from the entire organization by clicking on this button and selecting "Request data"

**User Permissions button:** This button will open a screen where you can invite users to join your organization.



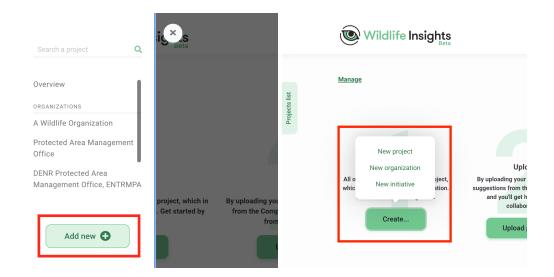
#### **Create an Organization**

The first time you enter your account, you'll see that an organization has already been created for you. By default, you're assigned as the Organization Owner. To edit the existing organization, skip to the next section below.

To create a new organization, you can:

- 1. Open the "Projects List" tab on the left side of the screen and select the "Add new" button at the bottom of the tab. Select "New organization". See image on the left for an example.
- 2. You can navigate to the homepage from anywhere in the platform by clicking on the "Manage" link at the top of the page. Once on the homepage, you can click the green "Create" button underneath the large green #1 and select "New organization". See image on the right for an example.

Either method will bring you to a blank New Organization page. Fill out the form, making sure to fill out all required fields marked with an asterisk. Click save to create the new organization.



#### **Edit an Organization**

You can add organization details and change the organization name by navigating to the Organization Details page. This can be found by opening the "Projects List" tab on the left side of the screen or by scrolling down the main page to the area below "Project Name" and clicking the organization name. Once on the Organization page, you can navigate to the "Details" tab to edit your organization information.

#### Join an existing Organization

If you would like to join an existing organization/project, you must have an approved Wildlife Insights account and be invited to the organization by the Organization Owner or Editor.

#### Invite a team member to an organization

To add a team member to your organization, go to the organization summary page. Once you're on the organization summary page, you can invite team members by selecting the green people icon button, located on the right side of the screen. This will open a "User's permissions" box. Enter your team member's email, select a role, and click "Invite". If your team member has an approved Wildlife Insights account, you'll see their name in the permissions list.

There are four roles that you can assign to team members: *Owner, Editor, Contributor* or *Viewer* and there's no limit on how many owners, editors or viewers are assigned to any organization. Any user with any role at the organization level will automatically have Viewer access to any of the projects or initiatives associated with that organization.

A brief description of each role is described below and specific permissions are detailed in the table.

- Organization Owner: Has full editing and viewing permissions. Can invite or revoke
  permissions of any organization user. Has inherited an Editor role in all projects in the
  organization and an inherited Viewer role in all initiatives created by the organization.
- Organization Editor: Has full editing and viewing permissions. Can invite Organization
  Contributors and Viewers. Has an inherited Viewer role in all projects within the
  organization and an inherited Viewer role in all initiatives created by the organization.
- Organization Contributor: Can create new projects within the organization. Does not have inherited project or initiative roles.
- Organization Viewer: Can view all data and details in the organization but cannot edit
  anything. Has an inherited Viewer role in all projects within the organization and an
  inherited Viewer role in all initiatives created by the organization.

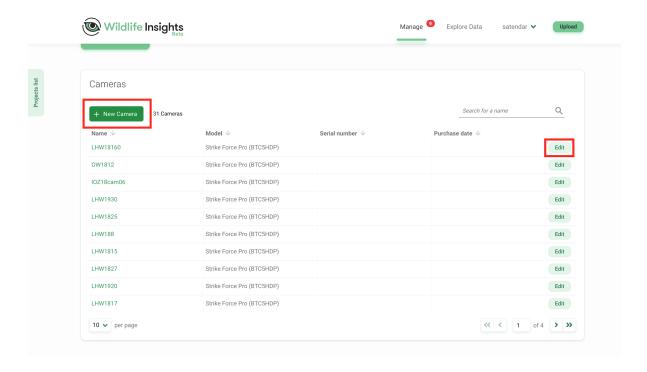
ORGANIZATION PERMISSIONS	Viewer	Contributor	Editor	Owner
Invite user as Viewer				
Invite user as Owner, Editor, Contributor				
Change user role				
View organization details (maps, summary stats, list of projects)				
Edit organization details				
View cameras in org				
Create cameras in org				
Edit cameras in organization				
Inherited initiative role* see details below	none	none	Viewer	Viewer
Create initiative owned by organization				
Delete initiative owned by organization				
View own initiative owned by org				
Inherited project role* see details below	none	none	Viewer	Editor
Create project in org				
View all projects in org (including images, deployments)				
Download data from all projects in org				
View own project in org				

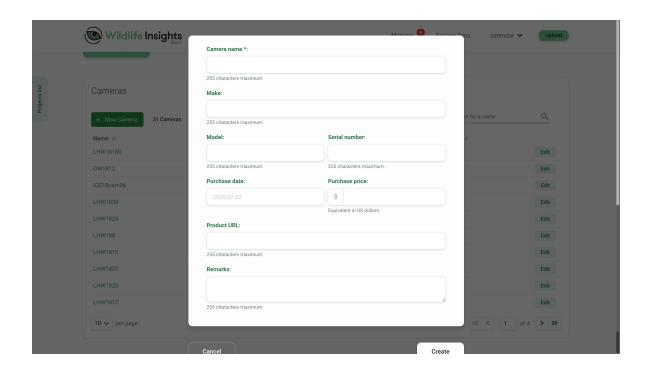
#### Remove someone from an Organization

You can remove any user from an Organization, project or initiative and revoke their access to that entity by opening the User Permissions box and selecting "Revoke". When someone is removed from an Organization all of the data uploaded by that user will remain in the Organization.

#### Create and manage camera details

Wildlife Insights requires each deployment to be associated with a camera. You can manage camera metadata in the Organization Details tab. Scroll to the bottom of the Details tab and select "New Camera" to create a new camera (image on left below). Enter all required fields, which are marked with an asterisk (image on right below). You can edit this information at any time by returning to this page and selecting "Edit" next to the camera name. Visit the Wildlife Insights Glossary to learn more about the fields in this form.





# **Projects**Navigating the Project workspace

Any time you upload data to Wildlife Insights, you'll upload data to a project. A project is a group of (or a single) camera deployments with a defined objective and methods. The project space in Wildlife Insights is where you can manage, edit and review metadata related to locations, deployments and data sharing. Navigating the project workspace is similar to navigating the organization workspace:

**Summary tab:** The Project summary tab displays a map of all locations and an overview of data within that project.

**Details tab:** This is where you can set and edit project details including the project name, objectives, data licenses, embargo time, sensor layout, and set options to delete human images. This is also where you can add and edit Deployment and Location information (required fields).

**Identify:** All data uploaded to Wildlife Insights through the web-based upload will show up in the Identify tab. These images have passed through the Al model and are ready for a user review. You'll see all of the project's images here and can filter by deployment, species and blanks.

**Catalogued:** All of the data that has been reviewed by a user will be stored in this section. Only data from the project you're viewing will be shown here.

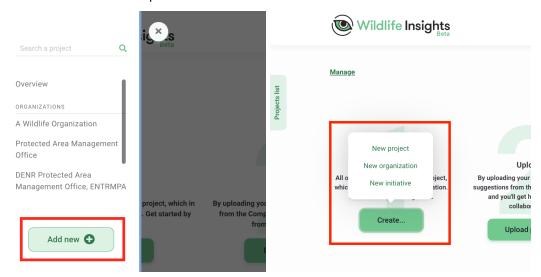
**Download button:** You can easily download all of the data from the entire project by clicking on this button and selecting "Request data". To download data from the entire organization, go to the Organization page to request data.

**User Permissions button:** This button will open a screen where you can invite users to join your project.

#### Create and Edit a project

To create a project, you can either

- 1. Use the Projects List (see the image on the left for an example):
  - Click the green Projects List tab on the left side of the screen
  - Select the "Add new" button at the bottom of the tab
  - Select "New project"
  - Continue to step 3
- 2. From the Manage page (see the image on the right for an example)
  - Navigate to the homepage from anywhere in the platform by clicking on the Manage link at the top of the page.
  - Once on the homepage, click the green Create button underneath the large #1.
  - Select New project.
  - Continue to step 3



Begin entering all of the project details in the project form. All fields marked with an asterisk are required.

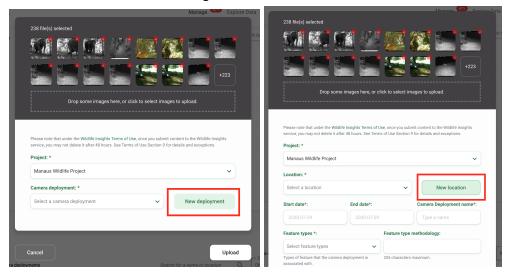
- 3. Fill out the form, making sure to fill out all required fields marked with an asterisk. You can return at any time to edit any of these fields described below:
  - **Organization**: The organization that owns the project. You can reassign a project to a different organization if you have an owner role in both the current and the new organization.
  - **Initiative**: Share your project with other organizations through an initiative. You must have an Initiative Owner or Editor role to assign a project to that initiative.
  - **Website**: If your project has a dedicated website, you can enter it here. Please enter websites with http(s)// at the beginning. This website will be displayed on the public project page
  - **Project name:** The full name of your project.
  - **Project short name:** A short name for your project. This name will be used for display purposes in Wildlife Insights.
  - **Abbreviation:** Additional field if your project has an abbreviated name.
  - **Country:** The country where the project is located.
  - **Start date:** The start date of your project.
  - **End date**: The end date of your project. You may leave this empty if your project is ongoing.
  - Metadata license: Assign a license to the metadata (i.e., identifications, locations, project details) in your project. You may select from standard Creative Commons licenses: CCO, CC BY.
  - **Photos license:** Assign a license to the images in your project. You may select from standard
  - Creative Commons licenses: CC0, CC BY, or CC BY-NC. Read more below
  - **Objectives:** State the objectives of the project.
  - **Methodology:** State the methodology of the project.
  - **Credit line:** If you would like to specify the individuals who are credited in the citation generated by Wildlife Insights, enter their names in this field. Please enter their names in this format: Last name, First and Middle name initials.
  - **Embargo:** Projects can be embargoed for up to 24 months initially. You may request an additional 24 months by emailing info@wildlifeinsights.org. Read more about embargoes below.
  - **Project species:** Select if your project focuses on a particular species.
  - **Project individual animals:** If your project focused on marking individuals in a population, please choose Yes.
  - **Project sensor layout:** Select the sampling layout that most closely represents your cameras.
  - **Project sensor cluster:** If cameras were set up in clusters or pairs, please note here.
  - **Project sensor method:** Select if cameras were set up to trigger by sensor detection, time lapse or both.

- Project blank images removed: Record here if your dataset includes blank images. Note: Apart from legacy datasets, Wildlife Insights only accepts complete datasets. Please submit data including all blanks.
- Project bait use/type: Record if your project used baited cameras. Any selection
  made here will be used to automatically fill in the Deployment Bait Type field. If
  project bait use=No, all deployments within that project must have a bait type=
  None
- **Project stratification/type:** Note if your projects were stratified across different zones. For example, a strata may be a protected area vs. a non-protected area.
- Acknowledgements: You may add additional acknowledgements here (e.g., partners, funders, volunteers). This information will be displayed on the public project page.
- **Remarks :** Any additional remarks may be noted here. Note: this field is not included in any data download.
- Automatically delete the photos identified with humans: Select this option to delete images of humans from images in your project. Read more about this option below.

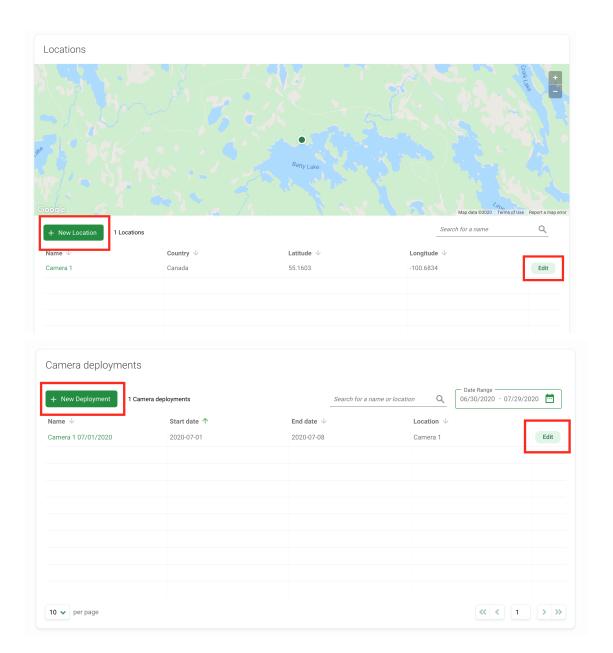
#### Create a location or deployment

There are two ways you can create a location or deployment:

- 1. During the upload process you can either create a new location and deployment or select from a list of existing locations and deployments in your project. If you would like to create a new location and/or deployment:
  - Select the green New deployment button.
  - If you would like to create a new location, you must create a new deployment and then select the green New location button.



- 2. You can create new locations and deployments at any time in the project details tab:
  - Navigate to Project Details tab
  - Scroll to the bottom of the page
  - You'll find a table of Locations and Camera Deployments.
  - Click on the green New location button or the green New deployment button.
  - Note: You can also edit any existing location or deployment here by clicking on the green Edit button on the right hand side of the location or deployment.



#### **Embargo**

Wildlife Insights encourages users to share their data publicly but also recognizes the need to publish data before sharing. You can choose to embargo data for 24 months before the data is made public by entering the number of months in the Embargo field in project details. You can request an additional 24 month embargo (for a total of 48 months) by contacting Wildlife Insights at info@wildlifeinsights.org. Embargoed data will not be available to the public for the duration of the embargo, but project metadata (e.g., project name, objectives) may be shared with the public.

#### **Creative Commons Licenses**

For each project, you can select how you want to license your data under these Creative Commons licenses:

- Images (recorded data) may be licensed under CC0, CC BY or CC BY-NC.
- Metadata may be licensed under either CC 0 or CC BY.

These licenses are described below:

- Creative Commons Zero (CCO) permits a user to share, adapt and modify the work, even for commercial purposes, without asking permission (summary, full legal text) -
- Creative Commons Attribution 4.0 (CC BY 4.0), which permits a data user to share and adapt material with appropriate attribution, including for commercial purposes (summary, full legal text)
- Creative Commons Attribution-NonCommercial 4.0 (CC BY-NC 4.0), which permits a data user to share and adapt material with appropriate attribution, only for noncommercial purposes (summary, full legal text)

#### Public latitude and longitude

The Wildlife Insights public Explore page displays a map with points indicating a project. The location displayed is determined by calculating the geometric mean of the fuzzed deployment locations within your project. For some projects located close to country borders, this may mean that the Explore page displays your project in an incorrect neighboring country. You may manually set the Explore page location in these fields.

#### **Delete images of humans**

Wildlife Insights provides the option to hide or delete images of humans for organizations with data privacy restrictions.

If you'd like to remove images of humans from your workspaces, select this option. Images of humans will be deleted only after a user has verified the identification as a human. If this option is not selected, images of humans will be hidden from users with a project viewer role.

#### Join an existing project

If you would like to join an existing project, you must be invited by a Project Owner or Editor.

#### Invite someone to join your Project

Once you're viewing the project summary page, you can add users by selecting the green people icon button, located on the right side of the screen. This will open a "Users permissions" box where you can invite users by entering their email There are five roles that you can assign at the project level: Owner, Editor, Collaborator, Tagger or Viewer. There is no limit on how many roles are assigned to any project.

Each project will have its own set of roles, separate from the organization level roles. However, any user with an Owner or Editor role in the parent organization will have automatically assigned roles in each of the organization's projects. Similarly, any user with a role in an initiative will have viewer roles to all of the projects within that initiative. Read more about roles and permissions below.

A brief description of each role is described below and specific permissions are detailed in the table.

- Project Owner: Has full editing and viewing permissions. Can invite or revoke permissions of any project user.
- Project Editor: Has full editing and viewing permissions. Is limited to inviting Contributors,
   Taggers and Viewers.
- Project Contributor: Can edit IDs, create deployments and upload images, but cannot edit project details.
- Project Tagger: Can edit IDs but cannot create deployments. You can select whether or not Taggers in your project can upload images.
- Project Viewer: Can view all data and details in the project but cannot edit anything.

PROJECT PERMISSIONS	Viewer	Tagger	Contributor	Editor	Owner
Invite Viewers, Contributors, Taggers					
Invite Owners, Editors					
Change user role					
Add/remove project to initiative**					
Edit project details					
View project details					
Create subprojects					
Edit subprojects					
View subprojects					
Create deployments, locations					
Edit deployments, locations					
View deployments, locations					
Upload images		*Project setting yes/no			
Edit identifications		*can only edit IDs in Identify tab			
View identifications					
Edit timestamps on images					
Flag/highlighted images					
View human images in Catalogued if delete is not selected					
Download data					
Create camera					
Delete image					
Inherited initiative role* see details below	None	None	None	Viewer	Editor

# Remove a team member from a project

You can remove any user from a project and revoke their access to that entity by opening the User Permissions box and selecting "Revoke". When someone is removed from a project, all of the data uploaded by that user will remain in the project.

#### **Initiatives**

Initiatives are just one of the ways that you can share data within Wildlife Insights. Initiatives allow anyone to share projects between multiple organizations and automatically create a customized webpage to show off your collaboration!

#### Navigating the Initiative workspace

**Summary tab**: The Initiative summary tab displays a map of all initiative project locations, an overview of data and summary statistics, and a list of projects within that initiative.

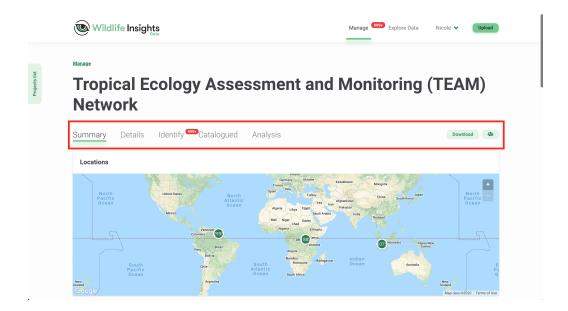
**Details tab:** This is where you can edit initiative details including the initiative name and description, partner logos, images used in the public initiative webpage, and contact information.

**Identify:** All data uploaded to Wildlife Insights through the web-based upload will show up in the Identify tab. These images have passed through the Al model and are ready for a user review. You'll see all of the images uploaded by projects within the initiative here.

**Catalogued:** All of the data that has been reviewed by a user will be stored in this section. Data from all of the projects within the initiative will be shown here.

**Download button:** You can easily download all of the data from the entire initiative by clicking on this button and selecting "Request data"

**User Permissions button:** This button will open a screen where you can invite users to join your initiative.



#### Create an Initiative

Anyone can create an initiative. While all initiatives must be associated with one organization, any number of organizations can join an initiative after it's created.

To create a new initiative, you can:

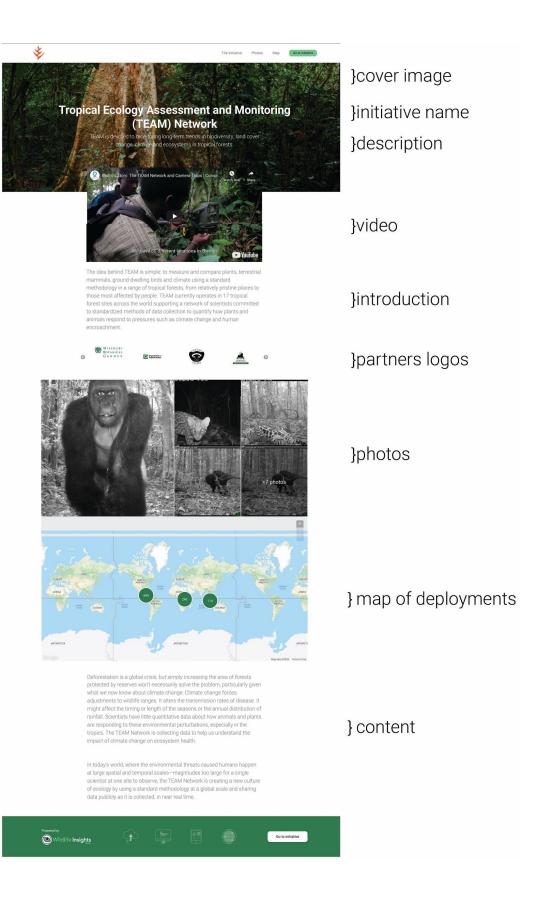
- 1. Open the "Projects List" tab on the left side of the screen and select the "Add new" button at the bottom of the tab. Select "New initiative". See the image on the left for an example.
- 2. You can navigate to the homepage from anywhere in the platform by clicking on the "Manage" link at the top of the page. Once on the homepage, you can click the green "Create" button underneath the large green #1 and select "New initiative". See the image on the right for an example.



This will open a "New Initiative" form where you can enter initiative details. If you're creating an initiative, the initiative must be associated with an organization that you have access to. All of the information provided in this form will be available to the public on the initiative webpage. The example below displays where different content is shown on the public initiative page:

#### **Edit an Initiative**

You can edit initiative details by navigating to the Initiative Details page. To find the Initiative Details page, you can open the "Projects List" tab on the left side of the screen and scroll to the bottom of the tab under "Initiatives". Once you're on the initiative page, you can navigate to the "Details" tab to edit information.



#### Join an existing Initiative

There are several ways for you to assign a project to an initiative. In either scenario, at least one person must have an Owner or Editor role in both the project and initiative in question in order to associate a project to an initiative.

- The initiative Owner can invite the project Owner/Editor to the initiative. The project Owner/Editor will then need to edit the project's details to assign the project to the initiative.
- The project Owner can invite the initiative Owner/Editor to become an Owner/Editor of the project in question. The initiative Owner/Editor can then edit the project's details to associate the project with the initiative.

Any project that is part of an initiative will be visible to all users with some role in the initiative. This includes any user who is explicitly granted a role in the initiative as well as any user with an Owner, Editor, or Viewer role in the initiative's parent organization.

#### Invite a team member to an initiative

To add a team member to your initiative, go to the initiative page and select the green people icon button, located on the right side of the screen. This will open a "Users permissions" box. Enter your team member's email, select a role, and click "Save changes". If your team member has an approved Wildlife Insights account, you'll see their name in the permissions list. If the team member does not have an approved Wildlife Insights account, their name will not appear in the permissions list.

There are three roles that you can assign to initiative team members: Owner, Editor, or Viewer. Permissions associated with each role are shown in the table below. There's no limit on how many owners, editors or viewers are assigned to any initiative. Any user with an Owner or Editor role at the organization level will automatically have Viewer access to any of the projects or initiatives associated with that organization.

A brief description of each role is described below and specific permissions are detailed in the table.

- Initiative Owner: Has full editing and viewing permissions. Can invite or revoke permissions of any initiative user. Has inherited an Viewer role in all projects in the initiative.
- Initiative Editor: Has full editing and viewing permissions. Can invite Initiative Viewers. Has an inherited Viewer role in all projects within the initiative.
- Initiative Viewer: Can view all data and details in the initiative but cannot edit anything. Has an inherited Viewer role in all projects within the initiative.

INITIATIVE PERMISSIONS	Viewer	Editor	Owner
View initiative (summary, details, images)			
Edit initiative			
Invite user as Viewer			
Invite user as Editor			
Invite user as Owner			
Change user role			
Revoke user access			
Delete initiative			
Add projects (to initiative)		*	*
Remove projects (from initiative)		*	*
View projects (within initiative) including images, identifications, deployments, locations			
Download data from initiative and all projects in initiative			
Inherited project role	Viewer	Viewer	Viewer

#### Remove someone from an Initiative.

You can remove any user from an Initiative and revoke their access to that entity by opening the User Permissions box and selecting "Revoke" next to the user's name.

# MANAGING METADATA

#### Locations

A location is the physical position (latitude and longitude) of a camera trap device. For projects with multi-year sampling efforts, a location may be associated with multiple camera deployments.

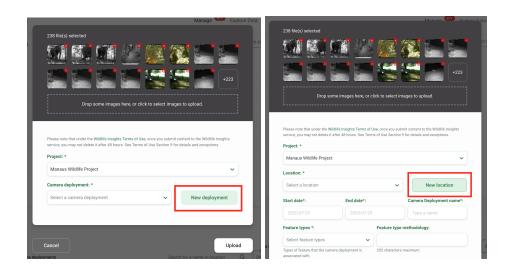
#### Create a Location during image upload

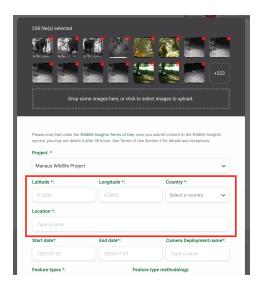
Locations can be selected from an existing list or created when you upload images into Wildlife Insights.

After you select images to upload, you'll be prompted to select a project where the images will be uploaded. During the upload process, you can either select an existing deployment or create a new deployment. If you select an existing deployment, the location is already associated with the deployment.

If you select the New Deployment button, you can then:

- Assign the deployment to an existing location by selecting a location from the dropdown list
- Assign the deployment to a new location. If you'd like to create a new location, click on the New location button and enter the required details:
  - Latitude and Longitude (4 decimal places required).
  - Country. Note: the country will autofill based on the coordinates entered. You may also manually select the country from the drop down menu.
  - o A unique location name.

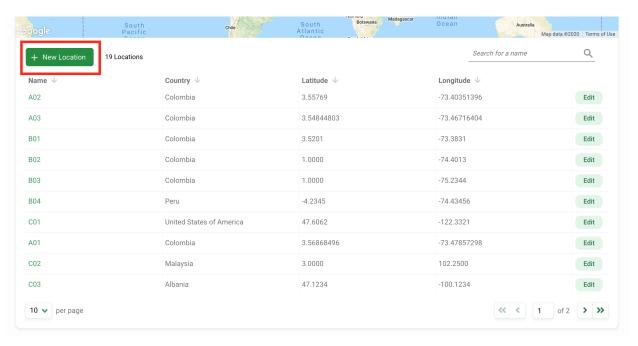




#### **Create a Location in Project Details**

You can also create a location or several locations before you begin uploading images. To create a location in Project Details:

- Navigate to Project Details tab
- Scroll to the bottom of the page
- You'll find a table of Locations and Camera Deployments.
- Click on the green New location button
- Enter a Location name
- Enter the latitude and longitude coordinates (4 decimal places required)
- The country will autofill or you can manually select a country
- Click the white Create button to create a location

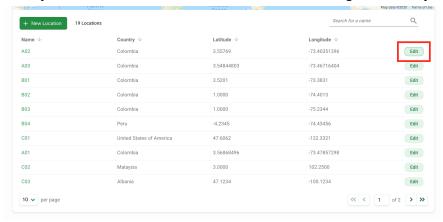


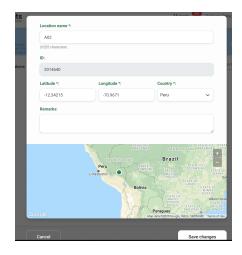
#### Edit an existing location

To edit an existing location, click the green *Edit* button to the right of any location record.

If you are editing the latitude or longitude, the green map pin will update to display the location of the updated coordinates.

Once your edits have been made, click on Save Changes to save your edits.

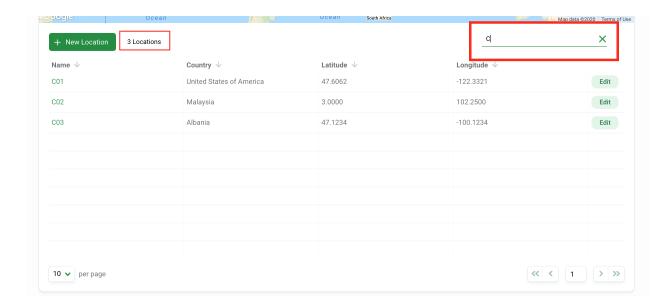




#### Search for a location

Search for a location by name by typing in criteria in the search box in the right hand corner of the locations table.

You'll see the number of results that match the search/filter criteria appear next to the *New Deployment* button.



#### **Sort locations**

There are a variety of ways to help you sort and filter your locations. Simply click on the arrow next to a column header to sort by that column.

You can sort by:

- Name
- Country
- Latitude
- Longitude

The column that is being used to sort locations will display a green arrow next to the column header. You can sort by ascending or descending criteria.



# **Troubleshooting locations**

• Can I have two locations at the same latitude and longitude? Yes! Some camera trappers may have paired deployments, or cameras set up within close proximity to

another camera. These two locations may be so close that the latitude and longitude are exactly the same. In this case, you can enter the same latitude and longitude for both locations but will need to assign a different name. For example, you could name one location *Site 1a* and the second location *Site 1b*.

• Can I have multiple deployments at the same location? Yes! Some projects may sample the same location over multiple time periods. For example, you may set a camera trap at Site 1 between June 1-June 30, 2020. That is one deployment. If you set a camera out at Site 1 between September 1-September 30, 2020, that would be a different deployment. Both deployments would be associated with the same location, Site 1.

# **Camera Deployments**

A camera deployment is a setting of a camera at a location (latitude, longitude) during a specific period of time. There can be multiple camera deployments associated with one location. This may be true for many projects that conduct multi-year sampling efforts.

#### Create a Camera Deployment during image upload

Camera deployments can be created when you upload images into Wildlife Insights. On the upload screen, you'll be prompted to choose a project to upload the images to. If you would like to create a new camera deployment:

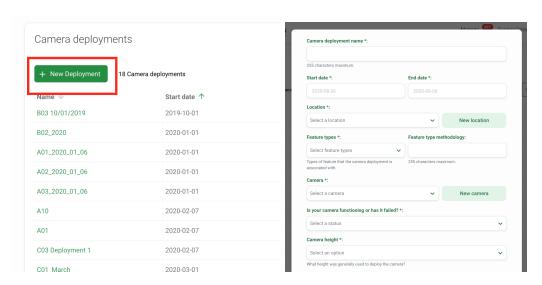
- Select the green *New deployment* button.
- Fill out the New deployment form. Required fields are marked with an asterisk.
  - **Deployment Name\*** A unique name for your deployment
  - Start date\*
  - End date\*
  - **Location\* -** Select an existing location or create a new location
  - Feature types\*
  - Feature type methodology
  - Camera\* Select an existing camera or create a new camera
  - Is your camera functioning or has it failed?\* Was the camera functioning or were there any issues
  - Camera height\* If other, enter supporting details in the supplementary Camera height details field.
  - Camera angle\* What angle was the camera set
  - Bait type\* The type of bait used with the camera, if any. Note: there is also a
    project level Bait type entry. If you enter Bait type= None at the project level, you
    cannot enter any bait type for any deployment within that project. If you would like
    to enter a bait type in a deployment, you must change the Bait type entry in
    project details.

- Subproject If the deployment belongs to a subproject, you can assign the subproject here.
- Quiet period setting\* If the camera was set to trigger at a given interval, you can specify the time interval (in seconds) here.
- **Remarks** any other note about the deployment \**Note these remarks are not available in the download from Wildlife Insights*.

#### **Create a Camera Deployment in Project Details**

You can also create a deployment or several deployments before you begin uploading images. To create a deployment in Project Details:

- Navigate to *Project Details* tab
- Scroll to the bottom of the page
- You'll find a table of Camera Deployments.
- Click on the green New deployment button
- Enter fields required
- Click the white Create button to create a new deployment



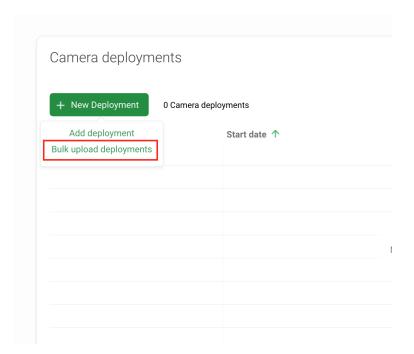
#### **Bulk deployment uploads**

You can create many deployments with just a few clicks by simply uploading a csv template with the required information.

You can begin recording deployment information in a blank template as you set cameras out. Then, once you're ready to upload images you can save time by creating all your deployments in bulk! Download a blank deployment template.

Before you upload a bulk deployment template, please remember to:

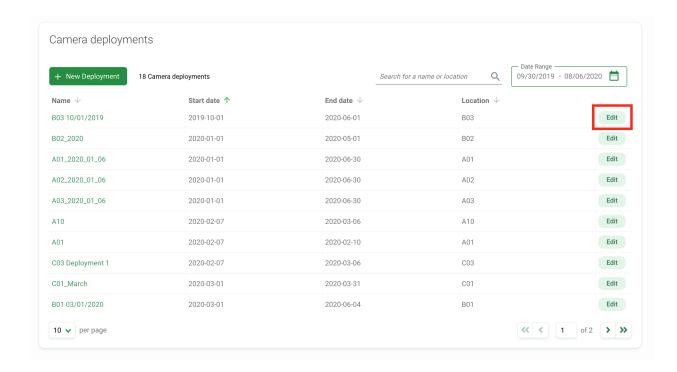
- Delete rows 2-6. These rows provide guidelines for how data should be input.
- Row 3 details whether a field is required or not. Enter values for all required fields.
- Row 5 details whether there is a default value. If a default value is noted, please enter the default value even if the field is not required.
- Row 6 details the values that are accepted for a given field.



#### Edit an existing camera deployment

To edit an existing deployment, click the green *Edit* button to the right of any deployment record.

Once your edits have been made, click on Save Changes to save your edits.

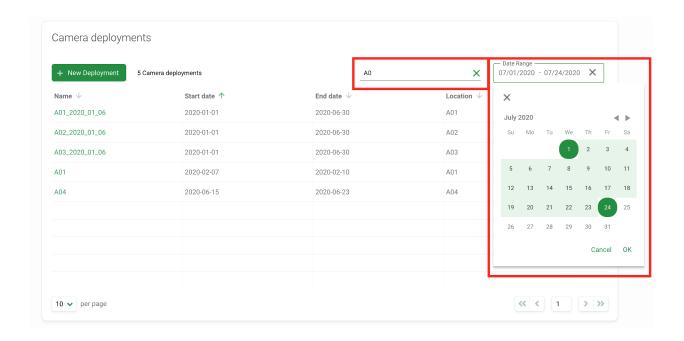


#### Search for a camera deployment

Search for a camera deployment by name by typing in criteria in the search box in the right hand corner of the camera deployments table.

You can also filter camera deployments by date range. Type in a start date and end date or use the popup calendar to select a date range.

You'll see the number of results that match the search/filter criteria appear next to the *New Deployment* button.



#### Sort camera deployments

There are a variety of ways to help you sort and filter your camera deployments. Simply click on the arrow next to a column header to sort by that column.

You can sort by:

- Name
- Start date
- End date
- Location name

The column that is being used to sort deployments will display a green arrow next to the column header. You can sort by ascending or descending criteria.



#### Cameras

A camera is the physical device that is set out to capture images. Since organizations may use the same cameras across several different projects, camera details are managed at the Organization Details page. This means that a camera created within an organization can be connected to any deployment in any project in that organization.

#### Create a Camera during image upload

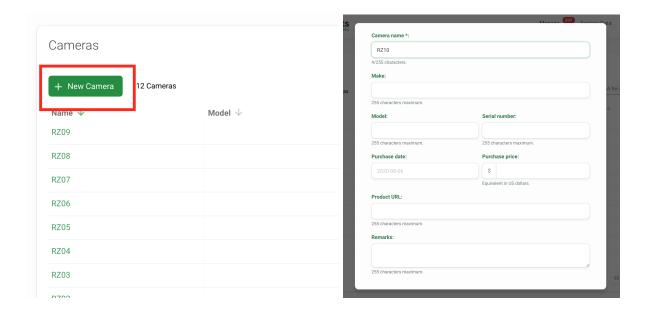
Cameras can be created when you upload images into Wildlife Insights. On the upload screen, you'll be prompted to choose a project to upload the images to. If you would like to create a new camera:

- Select the green *New deployment* button.
- As you fill out details to create a *New deployment*, you'll see a field for Camera. Click *New Camera* to create a new camera or select an existing camera from the dropdown list.
- If you're creating a new camera, enter the camera name and continue filling out the rest of the deployment information. If you'd like to add more camera details, you can do so in the Organization Details page.

#### **Create a Camera in Organization Details**

You can also create a camera before you begin uploading images. To create a camera in Organization Details:

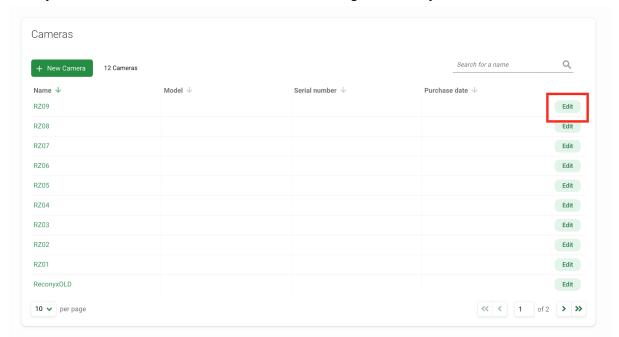
- Navigate to *Organization Details* tab
- Scroll to the bottom of the page
- You'll find a table of Cameras.
- Click on the green *New camera* button
- Enter fields required
- Click the white *Create* button to create a new camera



# Edit an existing camera

To edit an existing camera, click the green *Edit* button to the right of any camera record.

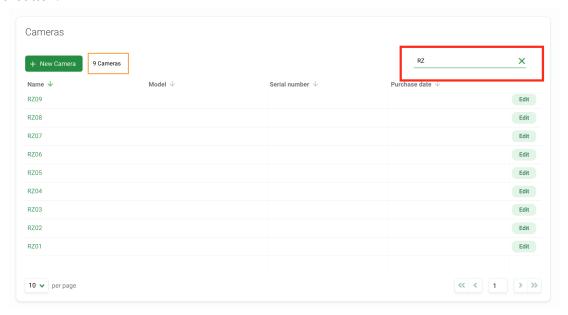
Once your edits have been made, click on Save Changes to save your edits.



# Search for a camera

Search for a camera by name by typing in criteria in the search box in the right hand corner of the camera table.

You'll see the number of results that match the search/filter criteria appear next to the *New Camera* button.



#### **Sort cameras**

There are a variety of ways to help you sort and filter your cameras. Simply click on the arrow next to a column header to sort by that column.

You can sort by:

- Name
- Model
- Serial number
- Purchase date

The column that is being used to sort cameras will display a green arrow next to the column header. You can sort by ascending or descending criteria.



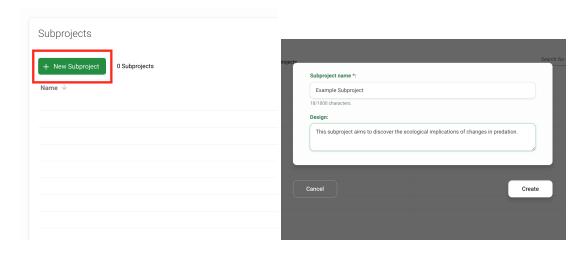
# **Subprojects**

A subproject is a grouping of camera deployments. You can use subprojects to fit the way that your team works. For example, subprojects can be used to group deployments within a county or other spatial grouping.

# Create a subproject in Project Details

To create a subproject in Project Details:

- Navigate to Project Details tab
- Scroll to the bottom of the page
- You'll find a table of Subprojects.
- Click on the green New subproject button
- Enter fields required
- Click the white *Create* button to create a new subproject



## Add or remove deployments from subproject

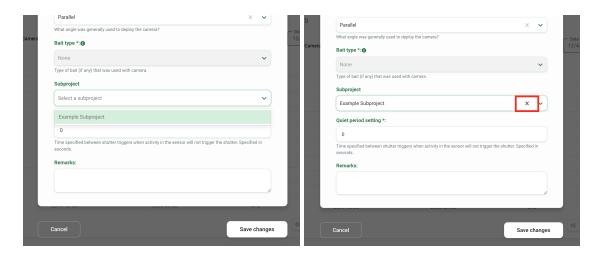
To add a deployment to a subproject:

- Create a new deployment or edit an existing deployment by clicking on the green *Edit* button next to the deployment name
- Navigate to the Subprojects field at the bottom of the form
- A list of existing subprojects will populate the drop down menu
- Select the subproject where you wish to assign the deployment
- Click Save Changes

To remove a deployment from a subproject:

- Edit the deployment by clicking on the green *Edit* button next to the deployment name
- Navigate to the *Subprojects* field at the bottom of the form

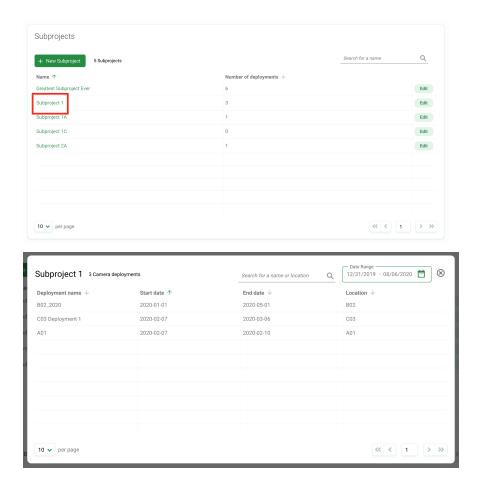
- Click the *X* in the subproject field to remove the association to that subproject. Or select a different subproject from the list.
- Click Save Changes



# View deployments within a subproject

To view all of the deployments within a subproject:

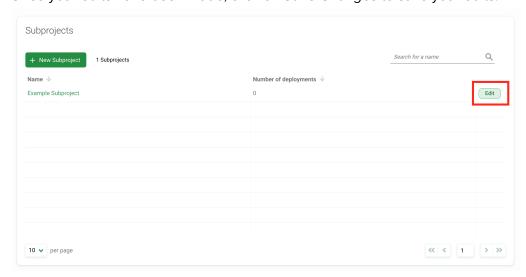
- Navigate to the subprojects table in *Project Details*
- Click on the name of the subproject in the *Name* column
- A screen will open displaying the deployments assigned to that subproject. You can filter, sort and search through deployments in this table.



# Edit an existing subproject

To edit an existing subproject, click the green *Edit* button to the right of any subproject record.

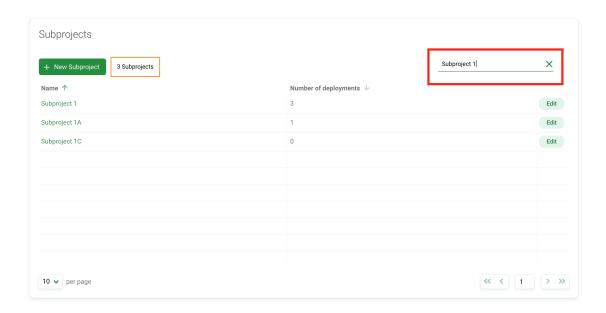
Once your edits have been made, click on Save Changes to save your edits.



# Search for a subproject

Search for a subproject by name by typing in criteria in the search box in the right hand corner of the subproject table.

You'll see the number of results that match the search/filter criteria appear next to the *New Camera* button.



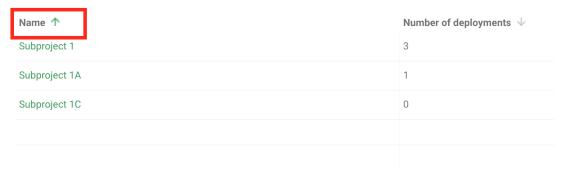
## **Sort subprojects**

There are a variety of ways to help you sort and filter your subprojects. Simply click on the arrow next to a column header to sort by that column.

You can sort by:

• Subproject name

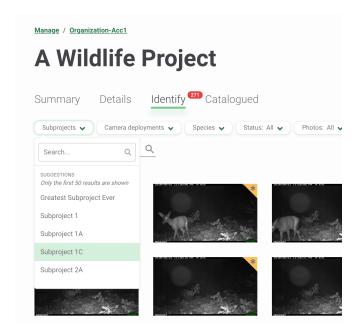
The column that is being used to sort subprojects will display a green arrow next to the column header. You can sort by ascending or descending criteria.



# Filter images by subproject

To sort images by subproject:

- Navigate to the *Identify* or *Catalogued* page
- Select the subprojects filter and select the subproject that you'd like to see
- The results will display all images within the selected subproject



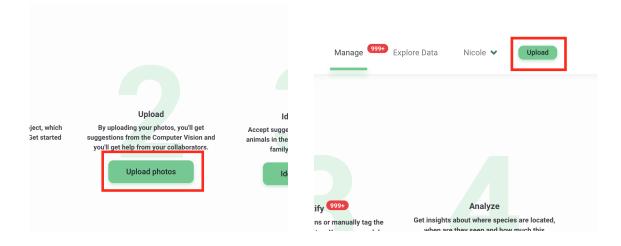


Whether you're starting fresh or migrating from different software, Wildlife Insights has the tools to help you begin sharing camera trap data!

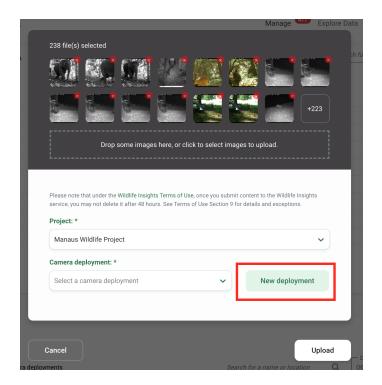
# Upload new uncatalogued data to WI Web based uploads

To begin uploading data, you can either:

- 1. Click on the green "Upload photos" button underneath #2 or
- 2. Click the green "Upload" button in the top right hand corner of the screen



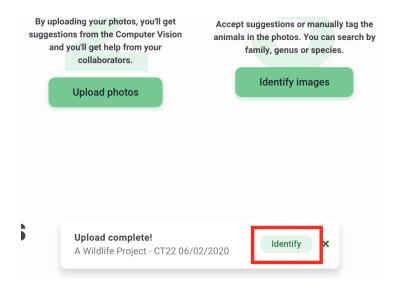
These buttons will open a screen for you to choose the images to upload. Once images are selected, a screen will appear and prompt you to select the project and deployment where you want to upload images. If you haven't already created a deployment, click on the "New deployment" button to enter the relevant information.



You will be prompted to select a location (or create a new location). The deployment name will be auto-created based on the information entered, but can be edited.

Click "Upload" to begin uploading images to the cloud and run images through the artificial intelligence species identification. While images are uploading, you can work on other tasks in Wildlife Insights. Upload progress will be shown in a notification at the bottom of the screen.

Once the upload completes, the notification at the bottom of the screen will show an "Identify" tab. Click this tab to see the uploaded images.



#### Where your data is stored once it's uploaded

Wildlife Insights runs on the Google Cloud Platform, which implements rigorous security and backup practices to protect data against unauthorized access and system failure. Click on the following links to learn more about Google Cloud Platform security:

- https://cloud.google.com/security/infrastructure/
- <a href="https://cloud.google.com/security/overview/">https://cloud.google.com/security/overview/</a>
- https://cloud.google.com/security/overview/whitepaper

#### **Troubleshooting Data Uploads**

• Why are my uploaded images listed as "unknown"?

Wildlife Insights stores data in the cloud. When you use the Wildlife Insights app to upload data, you will need an internet connection to upload your data to the cloud.

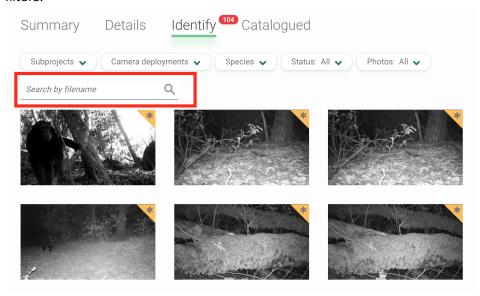
If the internet connection is weak or lost at any point during the upload process, Wildlife Insights will pause the upload and resume when the connection is back. With any internet browser, there's a delay between when internet connectivity is lost and when an app detects the connection loss. Even though it's a small lapse of time, it's enough for a few photos to have begun uploading. Because of the connection loss, the app doesn't know if the images were successfully uploaded or not. These images enter an "unknown" state,

which means that the images may or may not have been successfully uploaded to the Wildlife Insights platform.

If any images fail to upload or are reported in an unknown state, Wildlife Insights will provide an error report that lists all of the successful, failed and unknown state images.

If you experience drops in your internet connection or are receiving other errors in the upload process, we suggest trying these fixes:

- 1. **Split your upload into smaller groups.** Wildlife Insights is designed to handle large uploads. However, a weak internet connection could drop several times during a large upload. If you find that uploading large amounts of data leads to an upload failure, try splitting your uploads into smaller groups.
- Search for images in an "unknown" state. You can see if images in an unknown state were uploaded by searching for the filename listed in the upload report. Navigate to the Identify page and enter the filename in the search box below the filters.



# Bulk data uploads for catalogued data

If you've already catalogued your data and identified species in images, you don't need to let all that hard work go to waste! You can bring all of your old and new data together in Wildlife Insights. Continue reading below to learn how you can bulk upload all of your catalogued data into Wildlife Insights.

#### 1. Download the batch upload templates

To batch upload your annotated data into Wildlife Insights, you'll need to make sure your data is in the batch upload template format. The four files needed to complete a batch upload for one project are the following: Project, Camera, Deployment and Image .csv files. To get started:

- <u>Download</u> a blank batch upload template
- Review the <u>Batch Upload Data Dictionary</u> to learn more about required fields, format, and default values
- You can also visit the <u>Wildlife Insights Data Migration page on GitHub</u> for more information about the batch upload process and additional resources.

## 2. Complete the templates with your data

Enter your information into each of the templates. Refer to the Batch Upload Data Dictionary for default values, accepted formats, and required fields. Below are a few important steps to complete and recommendations to consider as you complete the templates:

- Map the scientific or common names used in your project to the Wildlife Insights taxonomy list. Species names and objects must be mapped and converted to the Wildlife Insights taxonomy (referred to as WI GUID) before bulk uploading. The Wildlife Insights taxonomy page in GitHub houses the most up to date version of the taxonomy list. You can also use our simple Taxonomy Bulk Search tool to search for your species. The WI GUID is required for each image and will be used to populate column F in the images.csv file.
- Leave non required fields blank if it is not applicable to your project. If a field is not required and is not relevant to your project, please leave the field blank as you complete the template. Do not enter "NA" or "None". For example, the deployments.csv template includes a field for importing subproject\_name. If your project does not use subprojects, please leave the field blank.
- Save templates as a .csv and not an excel file. To preserve date/time formats and trailing zeros, please save your completed template as a .csv.
- Consider building off of existing data migration code. The Wildlife Insights team has
  written code to transform data exported from popular camera trap software into the
  Wildlife Insights format. Code exists to transform data exported from Wild.ID, the
  Sanderson method, Camelot, and a few custom transformations. If you're writing your own
  custom code, this code is a great starting point!

## 3. Send your completed templates to a Wildlife Insights team member

Once you finalize your batch upload template, please submit this form with a short description of your project and the completed templates. Once submitted, the Wildlife Insights team will validate that the templates are correctly completed and will contact you with next steps.

### 4. Make your images available from a public URL or cloud bucket or cloud bucket

You can transfer images to the Wildlife Insights by either making the images available from a public URL (e.g. a Google Drive, AWS link, etc) or by uploading the images directly to a private storage bucket in the Google Cloud Platform.

# Uploading images to Google Cloud Platform

A. Please share your Google account name with the Wildlife Insights admins. This can either be a Gmail or associated business Google Cloud account.

The WI Admin will associate your account to a private storage object in the Google Cloud Platform and assign you access to the GCP storage bucket.

#### B. Install qsutil

- 1. Please go to this GCP page, select your operating systems and install gsutil.
- 2. Open a terminal in MAC or Windows Dos Prompt depending on your operating system.
- 3. Enter the following at the command prompt: curl https://sdk.cloud.google.com | bash
- 4. Choose a Directory to download the file to (example: Desktop)
- 5. You'll be asked if you want to help improve the Google Cloud SDK. Type "Y" or "N"
- 6. Type "Y" to continue when prompted to modify profile
- 7. Enter the following at the command prompt: exec -I \$SHELL
- 8. Enter the following at the command prompt: gcloud init
- 9. If prompted to pick a configuration, enter 1 to reinitialize the default configuration
- 10. Choose the account you would like to use for your configuration
- 11. You'll be asked if you would like to create a project. Type "N"

# C. Uploading Batch Upload Templates and Images to GCP

Once you have gsutil installed the next step is to upload your images. WI Admins will create a top-level 'bucket' to house images for your organization. Underneath that directory we will create a project 'folder' for each of the projects. In each of these project folders you will upload all of the images in your project. In this example, the bucket is called gs://zsl\_image\_upload/LondonHogwatch

To copy files from your local storage location (i.e. laptop, attached drive, SAN, etc) you will need to do the following steps:

- 1. Open a terminal in MAC or Windows Dos Prompt depending on your operating system.
- 2. Run the commands below to ensure you're logged in locally with the same username used to create the Google GCP account:

gcloud auth login gsutil config

- 3. Find the project level directory that you want to upload. Within this directory should be all at the images in your project. The images.csv batch upload file will be updated to reflect the paths to these images.
- 4. Use the following command to upload images:

```
gsutil -m cp -r YOUR_TOP_LEVEL IMAGE_DIR gs://zsl_image_upload/LondonHogwatch
```

The above command means the following:

-m: starts many computer threads to upload (i.e. this means it will upload more than one image at a time);

cp: copy;

-r: recursive, or that all images and directories below your' top level image dir' will be copied.

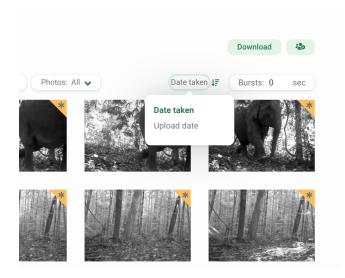
# REVIEWING IDENTIFICATIONS

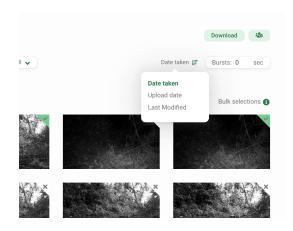
# **Sorting images**

Images are sorted by Date taken by default. You can also sort images by the Upload date or Last Modified (the latter is only available in the Catalogued tab).

To change the sort by ascending or descending date, click on the green arrow next to the sort options text.

Sort options in Identify tab

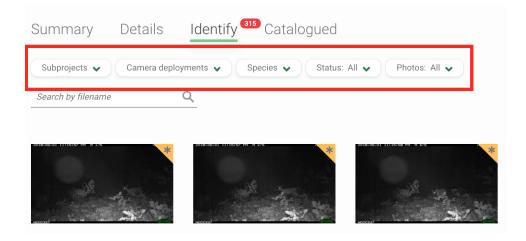




# **Using filters**

Filters make it easy to focus on a smaller subset of images, whether by deployment, identification or blanks. You can filter images with these options:

- Subprojects
- Camera Deployments
- Species: This filter includes all taxonomies including human categories, objects (e.g. bicycle, car), higher level identifications (e.g., class, order, family), and the tag No CV Result. The No CV Result tag is returned when the model's confidence is below the threshold set for a species identification (65% threshold) or a blank identification (95% threshold).
- Status: This filter lets you focus on the images that were marked as blank or not blank
- Photos: Filter for images that were highlighted/favorited by your team

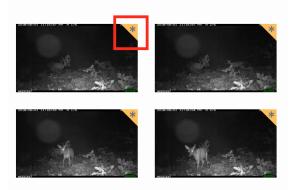


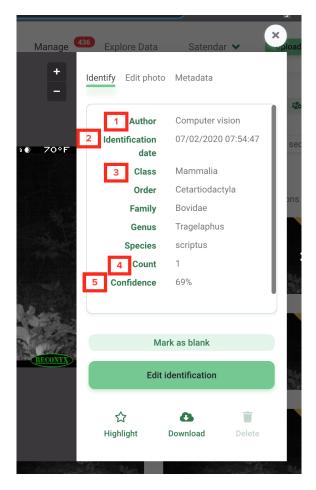
# **Reviewing identifications**

All images reviewed by artificial intelligence will have a gold marker in the top right hand corner of the image.

To review an image, click on the thumbnail preview. A screen will open displaying a larger preview of the image. To the right of the image, you'll see:

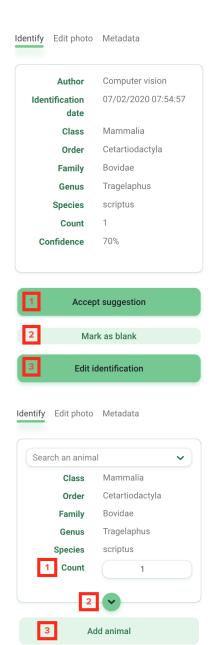
- Author: All images that pass through the computer vision model will display the author as Computer vision. Once a user approves or edits an identification, that user's name will be displayed as the Author.
- Identification Date: The date the identification was made. If an identification is approved or edited, the date and time of the change will be noted here.
- 3. Identification: For any animal ID, the Class, Order, Family, Genus and Species will be displayed here. Objects, non-wildlife IDs and human categories will be displayed here by common name. If you'd like to learn more about what is included in the Wildlife Insights taxonomy, visit our taxonomy page. Note: You can change your account preferences to display either common names or scientific names.
- 4. **Count**: The number of individuals associated with the identification.
- Computer Vision Confidence. The computer vision model will associate a confidence with every identification made. To learn more about how this number is determined, <u>read</u> <u>more about our Al model</u>.





# Approving and editing identifications

- Accept an identification: To accept the identification provided by computer vision, click the Accept Suggestion button.
- Mark as blank: To mark an image as blank (i.e., there are no objects or animals in the image), click the Mark as blank button.
- Edit the identification: To edit the identification, click on the Edit identification button. This will open a new screen that allows you to search for the correct species name (see the screenshot below on the right).
  - 1. To add multiple animals of the same species, enter the number in the Count field.
  - To add more details about the identification (i.e., age, sex, markings), click on the circular button with a downward facing arrow, located below a species name.
  - 3. To add an additional identification, click the Add animal button.
  - To view the history of identifications made, click the History button. You'll see a list of identifications, the user associated with the identification, and the time the identification was made.
  - Click on the Save changes button to save your edits.

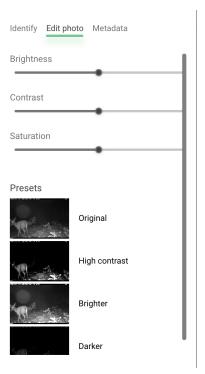




# Adjust the brightness, contrast or saturation of an image

If your images are too dark, too light, or anything in between, you can use the Edit Photo tools to get a clearer picture of what's in an image. To use these tools:

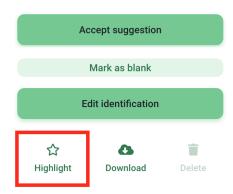
- Open any image
- On the top of the identification panel, click the Edit Photo tab
- Adjust the sliders for brightness, contrast or saturation or choose one of the presets available.



# Favorite, or Highlight an image

When you're viewing an image in the large preview mode, you can easily flag the image as a favorite so you can quickly access it later! In the identification panel you'll see a Star icon above the word Highlight. Click on the icon or text to highlight the image for easy access later.

Note: all Highlighted images will be available publicly on the Discover page.



# **Shortcut keys**

You can use these shortcut keys to quickly review images:

- · Ctrl+E for Edit Identification
- · Ctrl+B for Mark as Blank
- · Ctrl+A for Accept ID
- · Ctrl+Y for Yes, Bounding boxes
- · Ctrl+S to Save changes when editing an identification
- · Ctrl+H to Highlight an image
- Right arrow move to the next image/group of images
- Left arrow move to the previous image/group of images
- Ctrl+Right arrow move to the next image within a Burst
- Ctrl+Left arrow move to the previous image within a Burst
- Up arrow Zoom in
- · Down arrow Zoom out

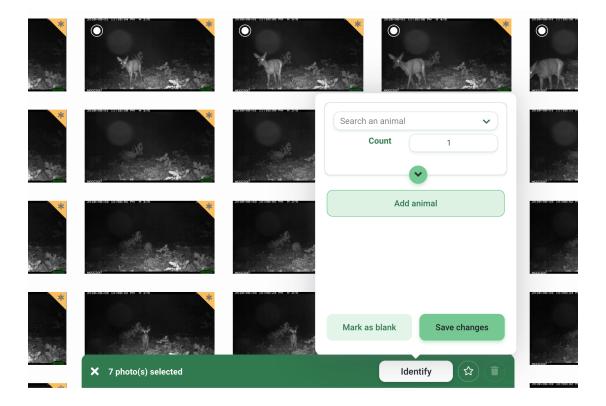
# **Bulk actions**

Quickly select multiple images in the thumbnail view by using these common shortcuts:

- Select all on a page: Command+A (Mac) or Ctrl+A (PC)
- Add or remove from a selection: Command+click (Mac) or Ctrl+click (PC)
- Select many: click and drag over desired selection
- Select all in between: Shift+click the first image, then Shift+click the last image. Note: For this method, selections must be made by clicking the thumbnail itself instead of white circle in the top left hand corner

Each image in your selection will display a white circle in the top left hand corner of the image. Once images are selected in thumbnail view, a green bar will appear at the bottom of the screen. From this green bar you can:

- View the number of images selected
- Click the Identify button to assign an identification to all images selected
- Favorite selected images

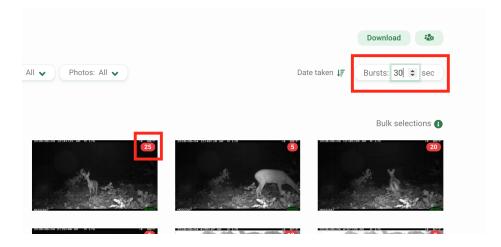


# **Using Bursts**

In many instances, groups of images are taken within a short time frame from one another. These sets of images could likely include the same sets of animals or objects. In this case, assigning the same identification to the entire set of images (called bursts in Wildlife Insights) at once could save a lot of time!

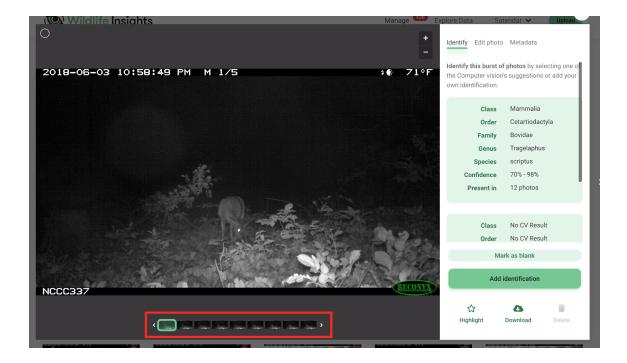
You can view images in Burst mode by entering a time interval in the Burst field. Enter any number of seconds from 0-600. The number of seconds refers to the time between an image and a subsequent image. For example, if a Burst selection of 30 seconds is entered, all images that are taken within 30 seconds of each other will be grouped together.

The number of images within a Burst will be displayed in a red circle in the top right hand corner of an image.



Click on a burst group to view the images within that burst. A lightbox will open and display the first image within the burst. You can toggle through the burst by clicking on the arrows at the bottom of the screen. The right hand side of the lightbox will show a summary of all of the identifications (e.g., 3 capybaras, 1 blank). If you select an identification or edit the identification, the selection/edit will be applied to all images in the burst.

Note: If you Highlight an image, the highlight will apply to only the image currently viewed.



# Update the date and time of all images in a deployment

You can fix incorrect date/time stamps caused by camera failures or metadata issues. Navigate to the metadata tab of any individual image and Edit the date and time taken. The new date/time will be applied to the image displayed. The timestamps of all other images in the deployment will shift proportionally.

# **BOUNDING BOXES**

# **Bounding boxes, explained**

Bounding boxes detect the presence of objects in an image. The Wildlife Insights object detector may return one, many or zero bounding boxes on an image.

This is where your input matters! Your responses and identifications will help create a rich training dataset that combines bounding boxes with species identifications.

The current Wildlife Insights AI model does not predict species identifications within bounding boxes. It is possible that you will encounter situations like:

- There is a bounding box but the model returns "No CV Result".
- There is no bounding box but the model returns some identification.
- There are multiple bounding boxes and the model returns only one identification.

# When is a bounding box correct?

Anytime you upload an image to Wildlife Insights, the AI model will scan the image to detect objects. Bounding boxes will be displayed around any object found. We need your input to determine whether or not the bounding boxes were correct or not.

Answer YES if:

Every animal has a box around it



Every animal has a box around it but there are boxes with no animal in it



An animal is mostly within a box



There are multiple boxes around one animal



Answer **NO** if:

Some animals have a box around it but other animals do not



An animal is mostly outside of the box





#### Private downloads

Once you're finished processing and reviewing images, you may want to download your dataset for analysis. Wildlife Insights downloads provide a standardized template that makes it easy to compare data across several projects.

#### Request a download

You can request a download from your own project at any time. All downloads are updated on demand so that you can access the most up to date information! To request data from a project, navigate to the project page. Click the green Download button on the right hand side of the page. Select Request data to confirm your request. Once a request has been processed, you'll receive an email from Wildlife Insights with a link to download the dataset.

Note: large downloads may take several hours to process.

# **Public downloads**

Wildlife Insights provides access to a growing global dataset of species occurrences from camera traps. These data are available for anyone with a Wildlife Insights account to download and use in accordance with the Wildlife Insights <u>Terms of Use</u>.

Before using data from Wildlife Insights in an analysis or for any other purpose, please read through the Data Download guide to learn more about the data provided on Wildlife Insights.

## What data is available for download from Wildlife Insights?

You can download data from any public project in Wildlife Insights. Public downloads will never include:

- Data from embargoed deployments (project embargoes are applied separately to deployments within the project);
- Exact locations of deployments capturing sensitive species;
- Images of humans;
- Images whose identifications have not been confirmed by the data provider.

After you request a download, you'll receive a package that includes:

- Projects.csv: metadata about project methodology and objectives;
- Cameras.csv: metadata about the devices (cameras) used in the project;
- Deployments.csv: metadata about the placement of a camera, including start date, end date, coordinates and other camera settings;
- Detections: data about the animals detected by the camera traps are reported in one of two ways depending on how the data was recorded:

- Images: data about each individual image, including species identifications and date/time;
- Sequences: data about a sequence of images including species identifications and date/time. These are used for rapid bursts of images that typically represent one animal or animal group.
- Quick guide to data use and citations;
- Wildlife Insights data dictionary: definitions for each field in the files provided; and
- Terms of Use.

# Verifying data

All users contributing data to Wildlife Insights retain ownership of their data and are responsible for reviewing and editing computer vision identifications in their projects. While Wildlife Insights provides tools for users to process and edit data as needed, Wildlife Insights cannot guarantee the accuracy of identifications available to the public.

## How do I know if the identifications in a public download are correct?

Every download package from Wildlife Insights includes a record of the most recent identification associated with an image. The record will detail the identification (class, order, family, genus and species), individual animal details (age, sex), and the name of the most recent identifier, along with other metadata.

In many cases, the most recent identifier will be the name of a user associated with that project. This means that the image has been reviewed and/or edited by that user. This information can be found in the images.csv file in the column titled identified\_by. In the example below, the reviewer's name is Nicole Flores.

		IVI
	identified_by	common_name
:71d0d2dc580	Nicole Flores	blank
ia79831a082	Nicole Flores	Tiger
	<b>Computer Vision</b>	Margay
	<b>Computer Vision</b>	Human
.9d1929a92b	Nicole Flores	Dark-winged Trumpeter
laf22d9d207	Nicole Flores	Dark-winged Trumpeter
	Nicole Flores	Human
f8f9de8df75	Nicole Flores	blank

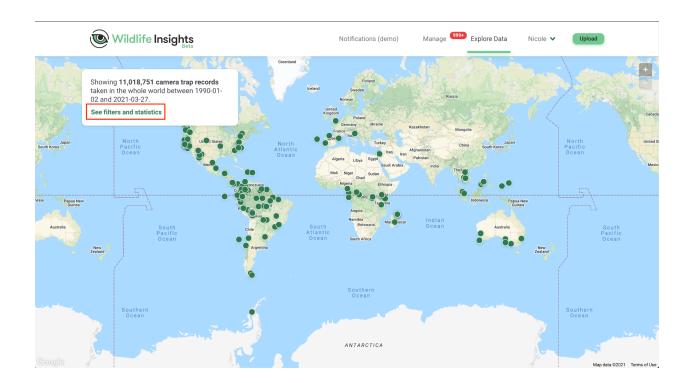
In other cases, the most recent identifier in the identified\_by column is Computer Vision. This means that the image has been uploaded, has passed through the computer vision model, but has not been reviewed by a user. In the example above, you can see the Computer Vision model has predicted there is one image of a Margay and one image of a Human. These identifications have not been confirmed by a user.

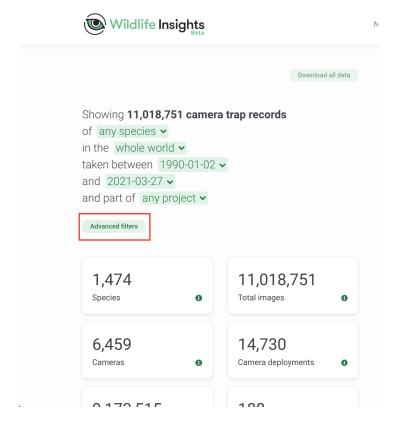
You can assess the accuracy of the computer vision results by referencing the column titled cv\_confidence. Read more about interpreting computer vision results on our <u>About Al page</u>.

# Filter data

Use filters to find the information that's most important to you. When you visit the Explore page, you can search for data by clicking on the "See filters and statistics" text. Here you can use the green filters to search by:

- Species
- Country
- Time
- Project





Click on the Advanced Filters button to search by more fields. The categories available are listed in the left column.

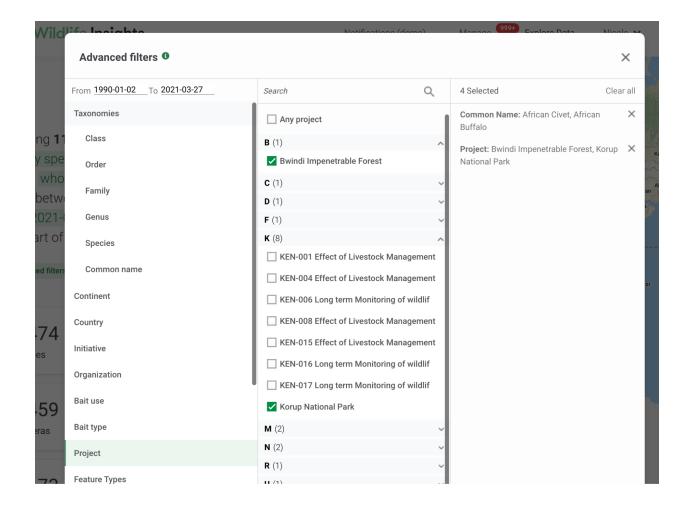
In the center column, you'll see the filters available within the selected category.

Select the filters that you want to apply by checking the box next to the filter. As you apply filters, your selections will appear in the right hand column.

You can edit your selections at any time by simply clicking the "X" next to the filter name. You can also clear your selection by clicking on "Clear all".

Once you're done selecting filters, scroll down and click on the green "Apply" button. You'll see the number of filters applied and the statistics will update based on your selection. The map will also update to display the projects that have data relevant to your search.

If you need to alter your selection, you can click on the Advanced Filters button to bring the screen back up. The filters can be cleared by clicking the "X" on the "# Advanced filters applied" button.



# Requesting a download

Once you've selected a dataset, you can download the data by clicking on the Download data button in the top right hand corner of the white screen.

If you aren't logged in, you'll be prompted to log in to your account or sign up for an account. Once you're logged in, you'll be asked to answer questions about the intended use of the data that you are downloading. Once you've selected answers, you can submit the download request.

The download request may take several minutes to several hours to process, depending on the size of the package. Once the package is processed you'll receive an email with a link to complete the download.

Every download from Wildlife Insights will include:

- Projects.csv: metadata about project methodology and objectives;
- Cameras.csv: metadata about the devices (cameras) used in the project;
- Deployments.csv: metadata about the placement of a camera, including start date, end date, coordinates and other camera settings;

- Detections: data about the animals detected by the camera traps are reported in one of two ways depending on how the data was recorded:
  - Images: data about each individual image, including species identifications and date/time;
  - Sequences: data about a sequence of images including species identifications and date/time. These are used for rapid bursts of images that typically represent one animal or animal group.
- Data use & citation guide;
- Wildlife Insights download dictionary: definitions for each field in the files provided; and
- Terms of Use.

Note: Wildlife Insights places certain restrictions on data to protect sensitive or private information, which includes locations of sensitive species, images of humans, and embargoed projects. Continue reading <a href="here">here</a> to learn more about how sensitive species data are protected by Wildlife Insights.

#### Citing projects

Anyone who wishes to download data from Wildlife Insights must agree to the Terms of Use, which require a data user to provide attribution to the dataset creator/creators as required by the license assigned to the dataset.

All projects licensed under **CC BY** or **CC BY-NC** require a data user to provide attribution. Wildlife Insights makes it easy to provide attribution by providing a list of data citations for each project in the projects.csv file, which is part of the download package. Please refer the projects.csv file to view the recommended citations and licenses for the projects in your download.

Projects in Wildlife Insights are also assigned a ARK (Archival Resource Key), which is a persistent, permanent link to a project and dataset.

Wildlife Insights suggests citing projects using the following format:

# References:

Author(s) (Year accessed from Wildlife Insights). Project name. DOI. Accessed via Wildlife Insights on dd-mm-yyyy.

*Example*: Ahumada J, Schipper J (2020). Cafe Fauna. <a href="http://n2t.net/ark:/12345/bcd987">http://n2t.net/ark:/12345/bcd987</a> accessed via Wildlife Insights on 03-10-2020.

#### In-text citations:

Example: Data used in this study were accessed from Wildlife Insights on date (Ahumada & Schipper, 2020)

For additional information on citations, Wildlife Insights recommends reading <u>GBIF's citation</u> <u>guidelines</u>.

*NOTE*: Many projects in Wildlife Insights are ongoing and are continually updated. If you download the same project(s) at different points in time, the resulting dataset may differ. If you plan to publish a scientific manuscript using data from Wildlife Insights, we recommend publishing the dataset used in an open-access public data repository.

## Viewing images in a public download

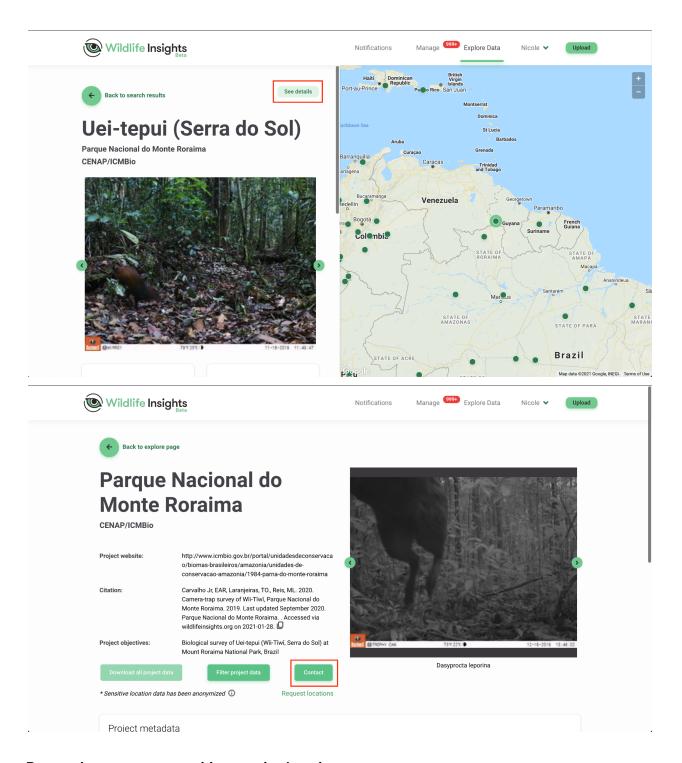
You can view individual images that are included in your download request by opening the images.csv file in the download package. Next to each record there is a link to open the image. You may view the image but it is not available for download.

\*Images are only available for records that have been verified by the project staff.

#### **Contacting project owners**

You can contact the owner(s) of a project by sending them a message through Wildlife Insights. To send a message, visit the detailed project page on Wildlife Insights. You can access this page by clicking on the project's dot on the Explore map, then clicking on the green "See details" button.

On the detailed project page, you'll see a green "Contact" button. Click on this button and enter a subject and a message, then click Send. Your email address and message will be sent to the project owner(s), who will be able to contact you via email.

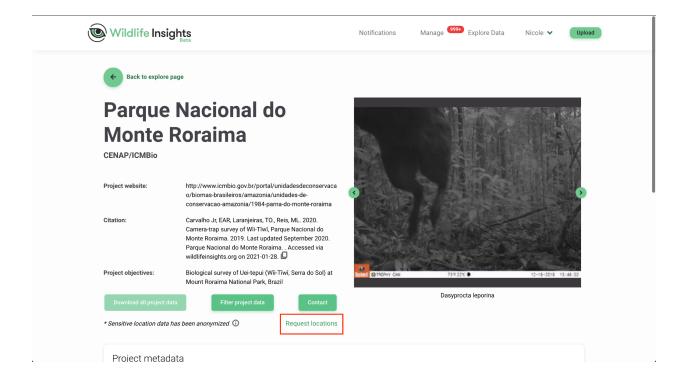


# Requesting access to sensitive species locations

By default, Wildlife Insights obscures and/or removes sensitive data from public download packages. Sensitive data may include images of humans, coordinates associated with sensitive species, and embargoed projects.

You can request access to sensitive species data by sending a request to the project owner(s). It is up to the project owner(s) to accept or deny your request. To send a request, visit the detailed project page on Wildlife Insights. You can access this page by clicking on the project's dot on the Explore map, then clicking on the green "See details" button.

On the detailed project page, you'll see several green buttons. Below those buttons is a clickable green text, "Request locations". Once you submit your request, the data provider will be able to approve or deny your request via their notification page in Wildlife Insights.



# SHARE DATA

While Wildlife Insights is committed to open data sharing, we also recognize that revealing certain sensitive information may increase the risk of threat for species and that some users may wish to keep data private for a period of time. Learn how you can set controls to limit access to your datasets.

# **Licensing your Data**

For each project, data providers may choose to license data under Creative Commons licenses:

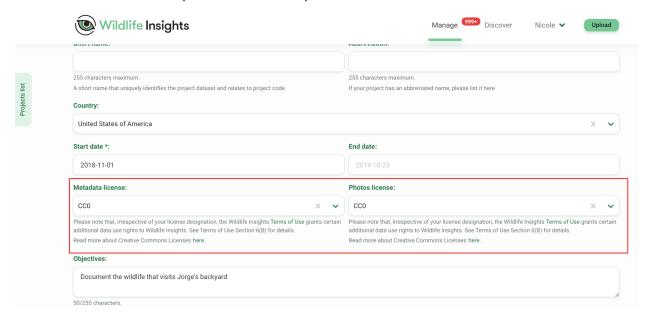
- Images may be licensed under CC0, CC BY or CC BY-NC.
- Metadata is licensed under either CC BY or CC BY-NC.

If data is licensed under CC BY NC 4.0 or CC BY 4.0, any use of that data requires attribution. It is the responsibility of the data provider and user to ensure proper attribution.

For more information on licensing data, please see our <u>FAQ page</u>.

To assign a license to a project:

- 1. Navigate to the Project Details page and scroll down.
- 2. Below the Start Date field, you'll see two fields for Metadata License and Photos License.
- 3. Select one of the options from the dropdown menu.



# **Protect Sensitive Species**

For any sensitive species, Wildlife Insights will obfuscate the location so that the exact location cannot be determined from the data. Images may be available publicly, but will only be associated with the project. Wildlife Insights and WI Core Partners may use sensitive species data to create derived products but will never expose the underlying location data.

# What is a sensitive species?

Wildlife Insights is committed to sharing data for conservation purposes. However, certain species may be at-risk with the exposure of specific geographic location data. Wildlife Insights will restrict public access to exact locations of sensitive species in order to protect these species.

#### How does Wildlife Insights define sensitive species?

The list of sensitive species is defined and managed by Wildlife Insights based on best practices and expert consultations. The Wildlife Insights sensitive species list includes:

- All terrestrial vertebrates (mammals, amphibians, reptiles, and birds) with <u>IUCN RedList</u> categories CR, EN, and VU and whose main threats are associated with hunting and poaching;
- eBird's sensitive species list, which was broadened to the species level and regionally sensitive species removed.
- Species of local concern that don't meet the above definition if requested by the project owner.

In the case of duplicate records between the two sources mentioned above, the eBird record is kept. \*Note: the following two species were excluded due to inability to resolve to a species:

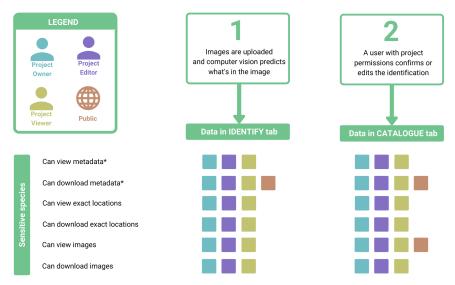
- Mount Mutis Parrotfinch (undescribed form) Erythrura [undescribed form]
- Common Diuca-Finch x Yellow Cardinal (hybrid) Diuca diuca x Gubernatrix cristata

## How does Wildlife Insights protect sensitive species locations?

Wildlife Insights will fuzz the exact coordinates of all deployments set at a location where a sensitive species is captured. The fuzzed coordinates will be provided in lieu of the exact coordinates in all public downloads.

If you are downloading public data, you can determine which deployments have fuzzed coordinates by referring to the column titled Fuzzed in the deployments.csv file provided in your download package. If the value is True, the deployment's coordinates have been fuzzed. If the value is False, the coordinates provided are the exact coordinates provided to Wildlife Insights.

### Who can access sensitive species information?



\*Metadata here refers to everything except the image, exact deployment coordinates, location name and deployment name

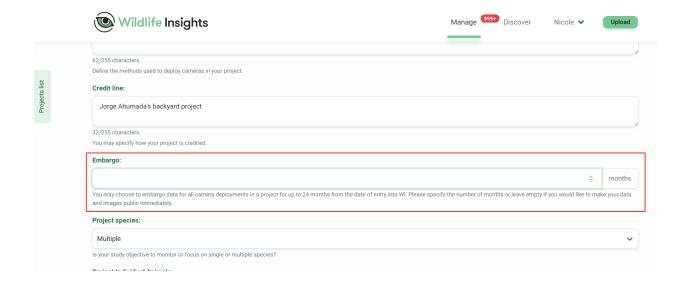
# **Embargoes**

All data submitted to Wildlife Insights will be made publicly available unless it is embargoed. The images and metadata from embargoed projects will be private for the duration of the embargo, but project details will still be made available on the Explore page. If you'd like to embargo your data, please enter the embargo time in the <u>Project Details page</u>.

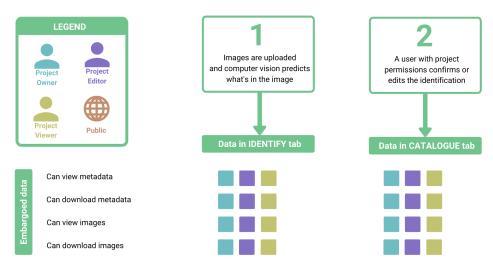
## How to embargo data from a project

To embargo data, navigate to your project details page and scroll down. Below the Credit Line field, you'll see a field with an option to embargo up to 24 months. Once an embargo is entered, you'll be prompted with an option to authorize Wildlife Insights and WI Core Partners to use your embargoed data for aggregated products for peer-reviewed publications.

For more information on embargoed data, please see our <u>FAQ page</u>.



#### Who can access embargoed data?



#### **Images of Humans**

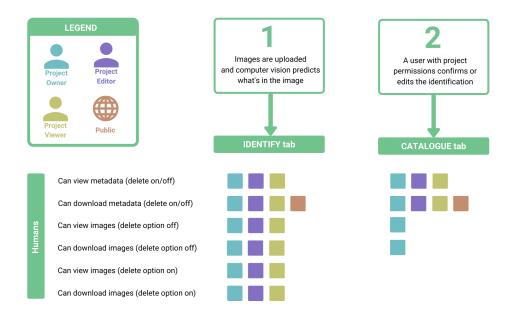
Wildlife Insights will not knowingly provide public access to images of humans. It is the responsibility of the data provider to confirm if an image contains a human.

Wildlife Insights provides tools to remove any image containing a human from searches and will provide an option for projects to delete images of humans. Read more about how to select your project's <a href="https://human.image.privacy.settings">human.image.privacy.settings</a>. Metadata (e.g. identification, time, location) associated with images of humans will remain publicly available on the platform.

Once a user with project level permission has confirmed that an image contains a human, Wildlife Insights will:

- Remove the image URL from public downloads
- If the project level option to delete images of humans is selected, the image will be
  deleted from the project's storage and will be replaced with an icon. No user with access
  to the project will be able to see the image in Wildlife Insights. Data providers and the
  public will continue to have access to the metadata of the image (i.e., identification, time
  taken, etc).
- If the project level option to delete images of humans is not selected, the image will remain stored in the project. Only project owners will have access to view the image. All other roles (i.e., editor, viewer) will only have access to view the image metadata.

#### Who can access images and metadata of humans?



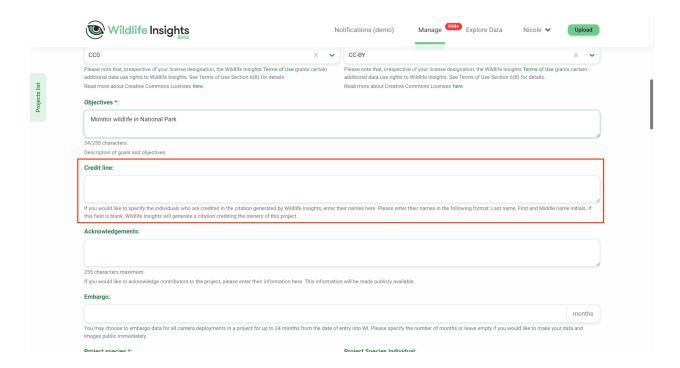
#### Citations

Wildlife Insights automatically generates a citation for each project using the names of the Project Owners. To ensure you're provided credit for use of your data, the citation is made available in each download package and on your project's Public Details page.

To customize the Author names used in your citation:

1. Navigate to the Project Details page and down to the Credit Line field.

- 2. Enter the name of each Author that you'd like to include in the citation, using the format Last name, First Initial.Middle Initial.
- 3. Scroll down and click Save Changes.

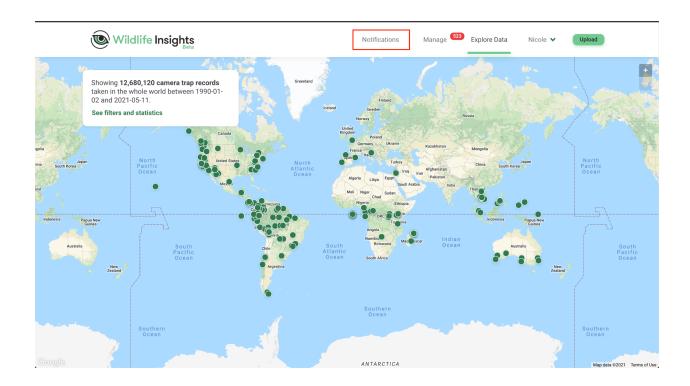


# **Notifications**

Keep an eye on how your data is used and encourage collaboration through the Notifications dashboard.

# **Accessing the Notifications Dashboard**

The Notifications Dashboard is accessible to project collaborators. To access the dashboard, click on "Notifications" in the top menu bar.

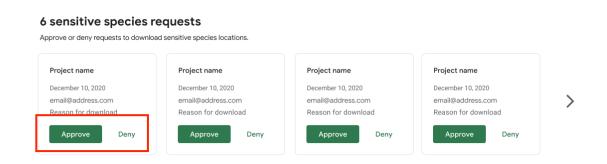


## **Sensitive species location requests**

Wildlife Insights obscures the exact location of sensitive species. Registered users can request access to the exact locations from a project but it's up to you to approve or deny these requests.

To approve a request, click "Approve". Once a request is approved, the requester will be sent an email with a link to the private download package. The private download package includes exact locations, deployment names, location names, and access to all images.

To deny a request, click "Deny". Once a request is denied, the requester will be sent an email notification that their request was not approved. They will not have access to sensitive species locations.



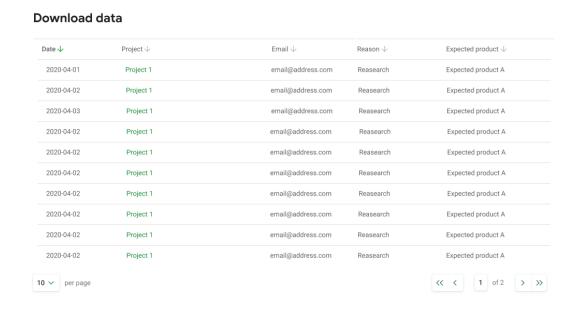
#### Message center

Any registered Wildlife Insights user can contact you via the Explore page. All of the messages sent to your project will be displayed in the Notifications dashboard. If you'd like to send a reply message, you can easily copy the user's email address and paste it into your own email client.

#### 8 messages Message subject × Message subject × email@address.com email@address.com December 10, 2020 December 10, 2020 > Lorem ipsum dolor sit amet, consectetur adipiscing elit. Vivamus Lorem ipsum dolor sit amet, consectetur adipiscing elit. Vivamus ac tincidunt tortor, faucibus convallis eros. Curabitur eleifend, ac tincidunt tortor, faucibus convallis eros. Curabitur eleifend, lorem non tincidunt auctor, arcu turpis condimentum ante, vel lorem non tincidunt auctor, arcu turpis condimentum ante, vel hendrerit arcu. Vivamus ac tincidunt tortor, faucibus convallis

## **Download tracking**

The Download Data table gives you insights into who has downloaded your project data, when, why and for what purpose. This table is a great way to track the use of your public dataset.

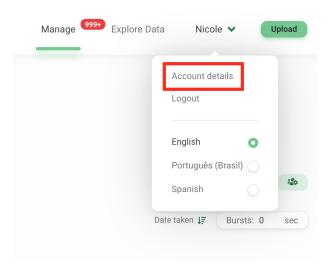


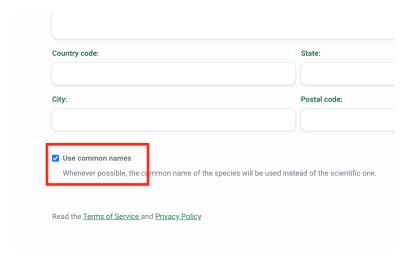


#### View identifications by common name or scientific name

The default display for identifications is to show scientific names. You can also choose to view identifications by common name. To select this option:

- Navigate to your account details page by clicking on your name in the top right-hand corner of the screen
- Click on Account details to access your account details and preferences
- At the bottom of the screen, you'll see a tick box to Use common names.
  - When the tick box is checked, you will see common names displayed in the identification interface and will be able to search filters using the common name.
  - When the tick box is not checked, you will see the scientific name used in these instances.
- Click on Save Changes to save your changes.



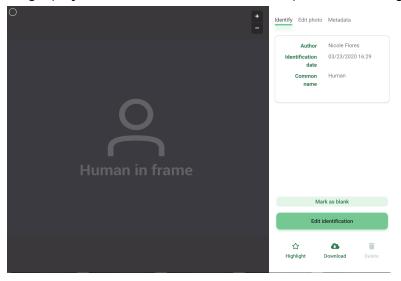


#### Delete all images displaying humans from a project

There are several options available to remove or hide images of humans in your project.

All images of humans will be visible in the Identify tab so that a user can confirm the identification.

By default, once an identification is confirmed with any human identification\*, the image will not be visible on the Catalogued tab by any user with a project editor or viewer role. In lieu of the image, project editors and viewers will see a placeholder image (shown below).



You can also choose to delete images of humans from your project so that none of the users in your project can see images of humans. To select this option:

- Navigate to the Project Details page
- Scroll down to the Settings box
- Click the tick box next to the option to Automatically delete photos identified with humans
- Click on Save Changes

\*Human identifications include the following options:

- Homo sapien
- Human-camera trapper
- Human-hunter
- Human-researcher
- Human-pedestrian
- Human-maintenance crew
- Human-park ranger
- Human-resident
- Human-tourist

In order to protect the locations of the deployments, the project is shown at their center, and then its coordinates might appear as belonging to a different country.  The two fields "Public latitude" and "Public longitude" let you override the "average location" of the project. Pleas
Automatically delete the photos identified with humans  Previously identified photos won't be affected. If you wish them to be deleted, identify them again.

## **Customize your project citation**

Wildlife Insights automatically generates a citation for each project using the names of the project owners. To ensure you're provided credit for use of your data, the citation is made available in each download package and on your project's Public Details page. If you'd like to override the names used, you can enter this information on the <u>Project Details page</u> in the Credit Line field.

## **Embargoes**

All data submitted to Wildlife Insights will be made publicly available unless it is embargoed. The images and metadata from embargoed projects will be private for the duration of the embargo, but project details will still be made available on the Explore page. If you'd like to embargo your data, please enter the embargo time in the <u>Project Details page</u>.

# **GLOSSARY**

One of the goals of Wildlife Insights is to bring data collected by people all over the world together into one central, standardized database. Although terminology may differ between organizations, Wildlife Insights defines terms as described here:

**Cameras:** An autonomous camera trap device that is triggered by changes in motion and/or heat. The same camera may be used to sample different locations at different times.

**Camera Deployment:** A unique spatial and temporal placement of a camera trap device to sample wildlife. For example a camera trap placed at location x,y between January 1-15, 2019 is a

different camera deployment than the same (or different) camera device placed at the same location but between January 1-15, 2018.

**Identified objects:** An identified object is any item that can be identified in an image. This includes animal species and non-animal objects such as automobiles, bicycles etc. Images: The number of blank and non-blank images containing animals and other identified objects.

**Initiatives:** An initiative is a group of projects that share similar objectives, data and analytics. Initiatives can include projects from one or more organizations.

**Locations:** A camera location is the physical position in space (latitude and longitude) of a camera trap device.

**Organizations:** Entities comprising one or more people that share a particular purpose and objectives.

**Projects:** A project is a set of camera deployments within a limited spatial and temporal boundary. Each project has defined objectives and methods.

Sampling days: The number of days a camera trap is set out to sample wildlife.

Species: The number of unique wild and domesticated species in a set (humans not included).

# WILDLIFE INSIGHTS TAXONOMY

We created the WI Taxonomy because we needed a global standard of what we call things (wildlife, objects, humans, etc) in every project, every image, every video (soon!) every acoustic file (soon!) from around the world. Without standardizing taxonomy through Wildlife Insights it would be impossible (or at least really hard) to manage and analyze data from within large wildlife monitoring projects and across several projects. In a global platform like Wildlife Insights standardization becomes even more important when datasets are coming from all over the world and from many, many organizations and individuals. We leverage existing standards as best we can and will provide mappings into as many standards as possible.

# Taxonomy List

Visit our <u>Taxonomy Github repository</u> and download the WI\_Taxonomy.R file to access the most current version of the Wildlife Insights Taxonomy. It will create an R dataframe and also write out a .csv file.

Mammals: The WI taxonomy uses a combination of the <u>IUCN Red List of Endangered Species</u> and the <u>American Society of Mammalogists Mammal Diversity Database</u>.

Birds: We use **Birdlife International's taxonomy**.

Everything else: We also have names for other taxa (reptiles,insects, etc), domestic species, non-animals (car, motorcycle,etc), names for higher taxonomic ranks when animals can't be identified to species and have various classes to describe types of humans (park ranger, tourist, etc).

The WI taxonomy will continue to grow and evolve over time. If you have questions about the taxonomy please email us at info@wildlifeinsights.org.

## **Taxonomy Tools**

The <u>Wildlife Insights Taxonomy Bulk Search</u> is a great resource that lets you enter any taxa and find the matching Wildlife Insights taxonomy information.

#### **Human identifications**

Any of the following options can be used to tag images of humans. <u>Project level preferences to delete or hide images of humans</u> will apply to all of these tags:

- Homo sapien
- Human-camera trapper
- Human-hunter
- Human-researcher
- Human-pedestrian
- Human-maintenance crew
- Human-park ranger
- Human-resident
- Human-tourist

#### Non-wildlife identifications

The following categories can be used to tag non-biologic objects:

- Bicycle
- Motorcycle
- Car
- Truck
- ATV
- Vehicle
- Official Vehicle

#### **Sensitive Species**

Wildlife Insights is committed to sharing data for conservation purposes. However, certain species may be at-risk with the exposure of specific geographic location data. Wildlife Insights will restrict public access to exact locations of sensitive species in order to protect these species. How does Wildlife Insights define sensitive species? The list of sensitive species is defined and managed by Wildlife Insights based on best practices and expert consultations. The Wildlife Insights sensitive species list includes:

- All terrestrial vertebrates (mammals, amphibians, reptiles, and birds) with IUCN RedList categories CR, EN, and VU and whose main threats are associated with hunting and poaching;
- eBird's sensitive species list, which was broadened to the species level and regionally sensitive species removed.
- Species of local concern that don't meet the above definition if requested by the project owner.

In the case of duplicate records between the two sources mentioned above, the eBird record is kept. \*Note: the following two species were excluded due to inability to resolve to a species:

- Mount Mutis Parrotfinch (undescribed form) Erythrura [undescribed form]
- Common Diuca-Finch x Yellow Cardinal (hybrid) Diuca diuca x Gubernatrix cristata

#### How does Wildlife Insights protect sensitive species locations?

Wildlife Insights will fuzz the exact coordinates of all deployments set at a location where a sensitive species is captured. The fuzzed coordinates will be provided in lieu of the exact coordinates in all public downloads.

If you are downloading public data, you can determine which deployments have fuzzed coordinates by referring to the column titled Fuzzed in the deployments.csv file provided in your download package. If the value is True, the deployment's coordinates have been fuzzed. If the value is False, the coordinates provided are the exact coordinates provided to Wildlife Insights.

# **Taxonomy FAQs**

- How do I identify a domestic species? You can identify species by the common domestic name and Wildlife Insights will store the identification using both the scientific and common name. For example, if you want to tag an animal as "Canis lupus familiaris" or "Domestic Dog", you can search for and select "Domestic Dog" and we will store the scientific name "Canis lupus familiaris" in our database.
- What do I do if a species name changed since it was first identified? In some cases, scientific names change over time. For example, the scientific name Genetta tigrina now only refers to species in Southern Africa instead of all of Eastern Africa more broadly. If a data provider with data from Eastern Africa used the tag Genetta tigrina in the past, but

now would like to tag those images using the new scientific name Genetta maculata, they could use the species filter to search for Genetta tigrina, then select all of the relevant images by clicking on the circle that appears on the top left hand corner of an image in thumbnail view. To change the identification of all the selected images, they would use the green bar at the bottom of the page to select Genetta maculata.

 How do I identify a sub-species? Wildlife Insights taxonomy does not include sub-species. You can record sub-species information in the Remarks field for any identification.