

# SMART for Health

## Wildlife Health Teams Manual

This manual describes SMART for Health for Wildlife Health Teams and explains its proper use.

The current manual applies to SMART Mobile version 7, released in 2021 together with SMART Desktop and SMART Connect 7.4.1. For more information about the Spatial Monitoring and Reporting Tool (SMART) please visit <https://smartconservationtools.org/>. To learn more about how to use SMART Desktop and Connect please visit <https://smartconservationtools.org/>.

### TABLE OF CONTENTS

<b>Introduction .....</b>	<b>4</b>
<b>Install SMART Mobile app and SMART for Health in a smartphone.....</b>	<b>5</b>
<b>Install SMART for Health in the smartphone.....</b>	<b>15</b>
Installing SMART for Health from SMART Desktop 7 .....	15
Installing SMART Desktop 7 in your Computer .....	15
Load the Wildlife Health Teams Conservation Area in SMART Desktop 7 .....	17
Install SMART for Health In SMART Mobile from SMART Desktop 7 .....	20
Load SMART for Health from SMART Connect 7 .....	24
<b>SMART for Health Structure and Definitions .....</b>	<b>27</b>
Surveillance or Outbreak Unit.....	29
SMART Patrol.....	30
SMART Incident.....	30
Wildlife Health Event.....	31
SMART Observations.....	33
Wildlife Health Events under Targeted Surveillance or Outbreak Investigation .....	34
Wildlife Health Events under Scanning Surveillance.....	35
SMART Categories.....	37
Description of the SMART Categories in SMART for Health.....	39
SMART Attributes and Sub-Attributes .....	42
Attribute and Sub-Attribute Options .....	44
<b>General SMART Mobile Functions .....</b>	<b>45</b>
Confirm or Disregard Data.....	45
Clear the Data of an Attribute .....	49
Delete a Category Added to an Event.....	49
Discarding an incident Before Saving It.....	50
Discarding an incident After Saving It .....	51
Delete a SMART Project.....	52
Take Photographs .....	53
Adding Nested Data .....	55
Delete a Record.....	57
Recording Audio Notes.....	58

<i>Inserting Text in Text Attributes.....</i>	<i>59</i>
<b><i>Using SMART for Health.....</i></b>	<b><i>60</i></b>
<i>Load the Latest Version of SMART for Health in your Device.....</i>	<i>60</i>
<i>Start a Patrol.....</i>	<i>61</i>
<i>Create a Wildlife Health Event.....</i>	<i>69</i>
Complete the Event Level Data .....	71
Complete the Species Level Data .....	72
Complete the Individual Animal Level Data .....	86
Complete the Sample Level Data .....	92
Complete the Field Necropsy Data .....	97
Complete the Environmental Specimen and Samples Data .....	101
Complete Other Relevant Findings Data.....	104
<i>Save the Wildlife Health Event within a Patrol .....</i>	<i>106</i>
<i>Check the History of the Patrol .....</i>	<i>108</i>
<i>Pause and Resume a Patrol .....</i>	<i>110</i>
<i>End and Save a Patrol.....</i>	<i>111</i>
<i>Record a Wildlife Health Event Outside of a Patrol.....</i>	<i>112</i>
<i>Save the Wildlife Health Event Outside a Patrol .....</i>	<i>114</i>
<b><i>Appendix for Conservation Area Administrators.....</i></b>	<b><i>115</i></b>
<i>Download Changes Made in a Conservation Area by Other Administrators .....</i>	<i>115</i>
<i>Assign or Change Health Team Rosters (Members and Leader) .....</i>	<i>116</i>
<i>Edit Funding Agencies, Surveillance Types, and Surveillance or Outbreak Units.....</i>	<i>126</i>
Editing the Patrol Information.....	126
Editing the General Information – Funding Agency Attribute.....	129

## INTRODUCTION

The Spatial Monitoring and Reporting Tool (SMART) is an approach originally designed to support law enforcement in protected areas. SMART provides a set of technological tools: SMART Desktop, SMART Mobile, and SMART Connect. SMART Mobile is a smartphone app that supports smooth and standardized data collection in the field, keeps track of the spatiotemporal coordinates of the users and of the data being collected, allows the collection of image and audio data in the field, and allows real-time communication of data to out-of-the-field focal points through SMART Connect when internet connection is available on the field. This real-time connection provides the opportunity to promptly react to events detected.

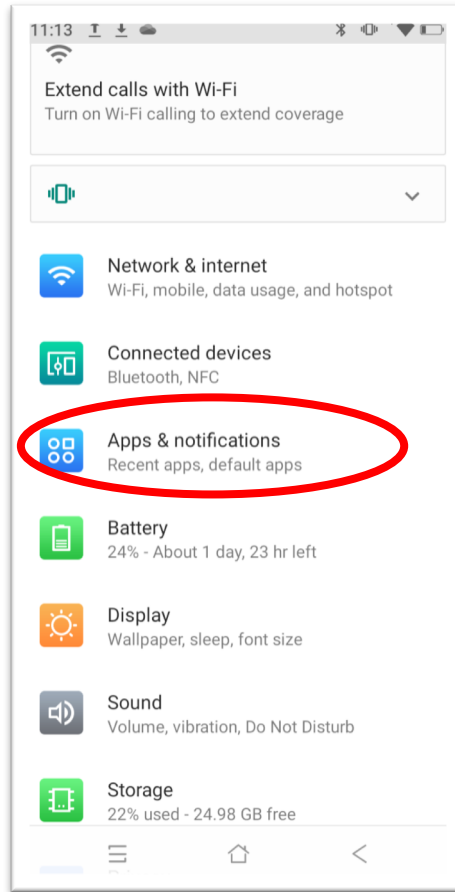
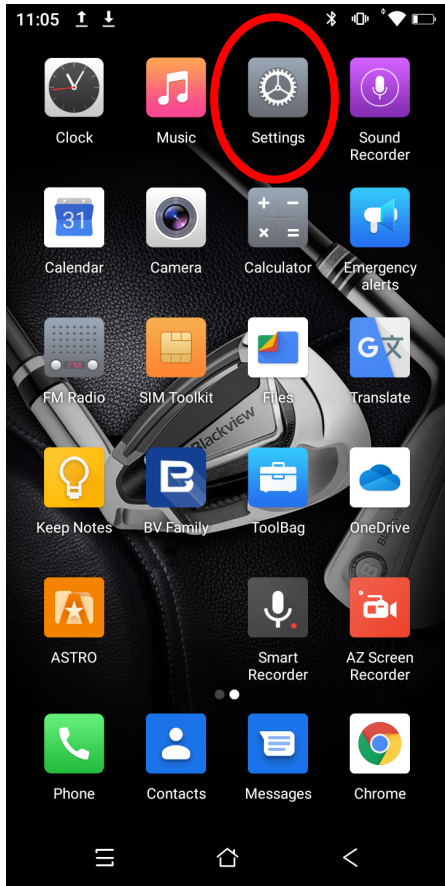
The WCS – Health Program has created a **SMART data model to track wildlife health events** (SMART for Health). This data model **can be extended as a “SMART Patrol Package” and installed in the SMART Mobile app** as a **SMART Project** to support the collection of information from these events (e.g., wildlife mass mortalities or surveillance activities in wet markets). The purpose of this manual is to explain how to use **SMART for Health** in the field.

In this manual, we **capitalize** nouns such as **Attributes, Categories, Event**, and others when they refer to SMART components.

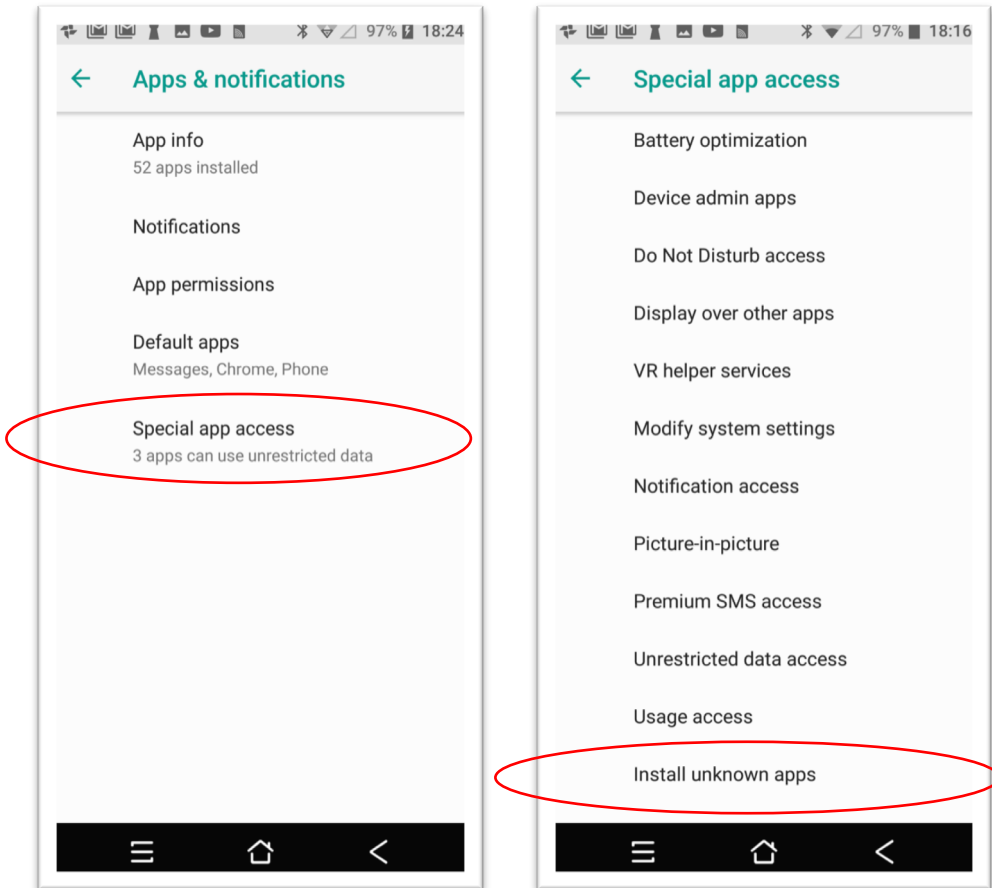
## INSTALL SMART MOBILE APP AND SMART FOR HEALTH IN A SMARTPHONE

Before you install SMART Mobile on an Android device you need to prepare the device. On your Android handheld device, you need to:

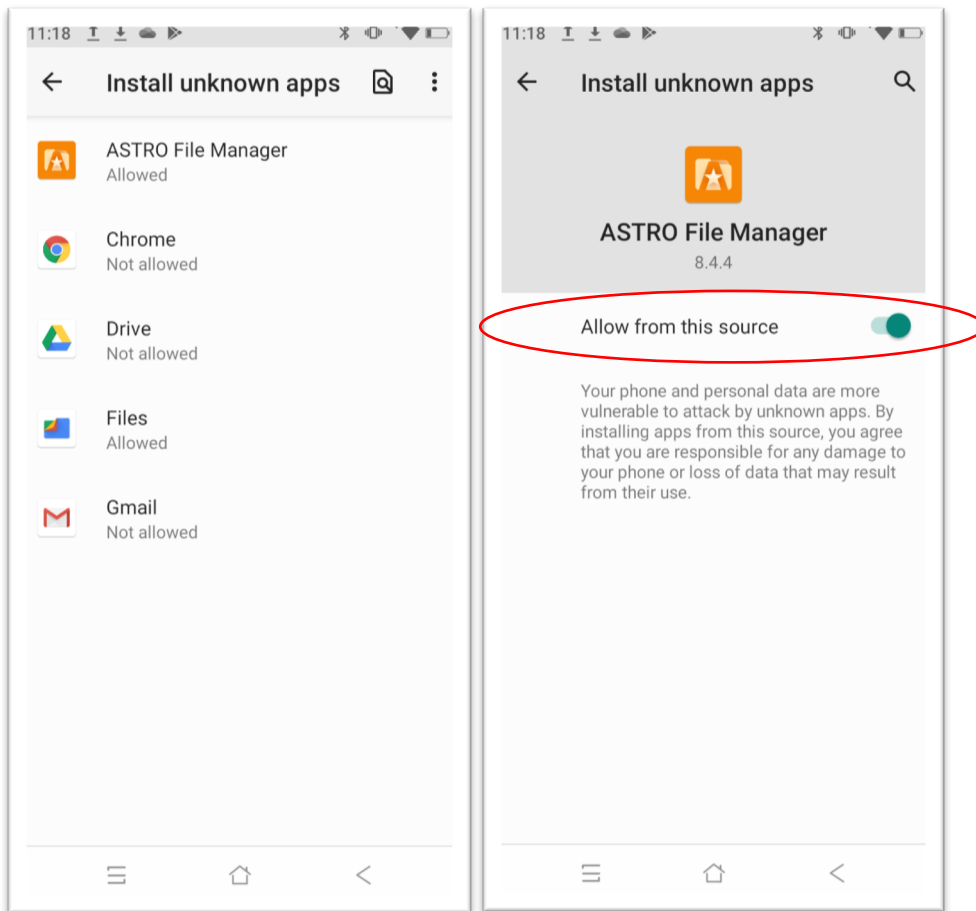
- 1. Have a file manager:** any file application, pre-installed or downloaded, that allows the smartphone user to browse folders on the device should work. A recommended app to manage files is ASTRO File Manager & Cleaner, which can be found in your phone's app store.
- 2. Enable the installation of unknown apps:** this process allows the installation of the SMART Mobile app. The following installation steps are for a typical smartphone model and brand. Please adjust these general guidelines to your own device as necessary:
  - Go to "Settings"
  - Select "Apps and notifications"
  - Select "Advanced"



- Select “Special App Access”
- Select “Install Unknown Apps”



- Select the file manager app
- Turn on “Allow from this source”

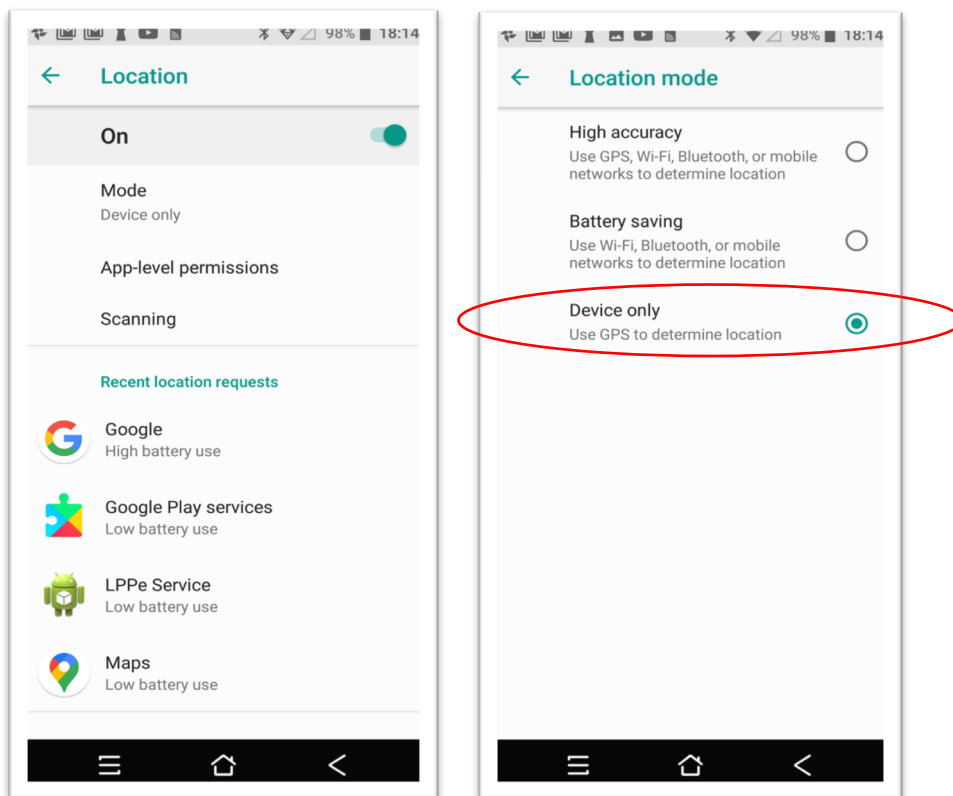




**3. Turn off advanced location features, as these “high accuracy” settings are often less accurate in wild places.**

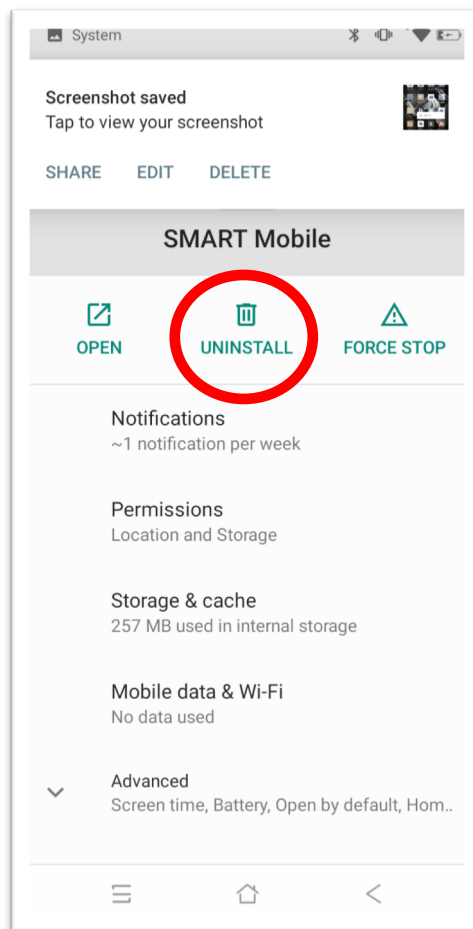
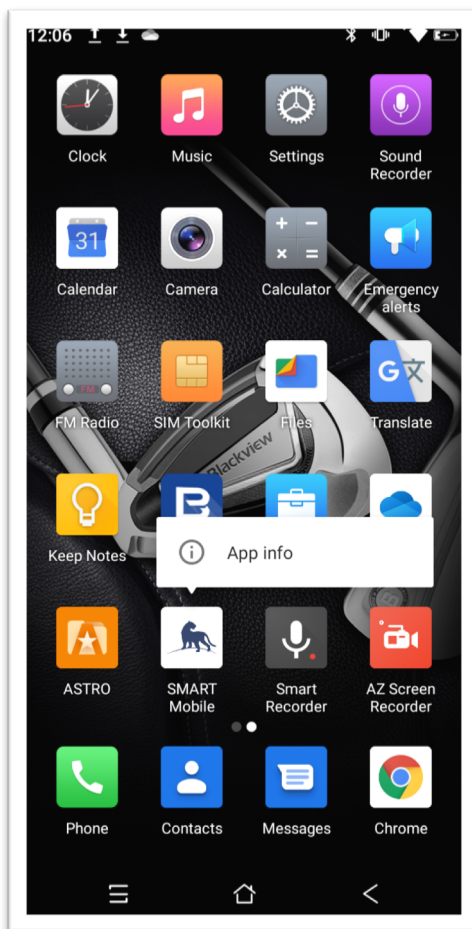
- Go to “Settings”
- Select “Location” and possibly “Advanced”
- Select “Mode” or possibly “Google Location Accuracy”
- Select “Device” only or possibly turn off “Improve Location Accuracy”

Options may vary depending on the smartphone. For example, “Google location accuracy” and select “Off”.



#### 4. Uninstall previous SMART Mobile Versions (only if an earlier version is installed)

- Go to the previous SMART Mobile app and click on the icon
- Keep the finger on the icon until the “App information” pop-up appears.
- Click on the pop-up
- Select “Uninstall”

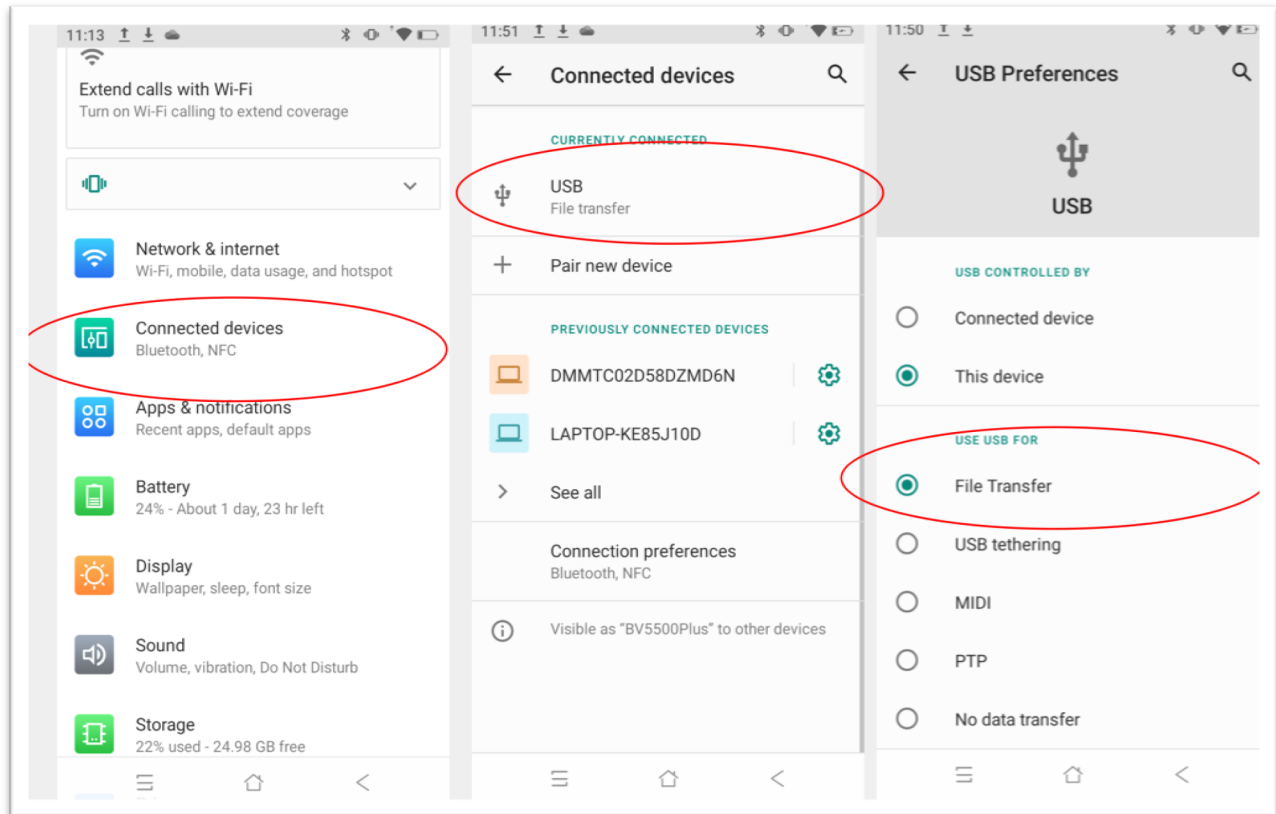


5. Download the SMK-build-403.apk file provided [here](#):

If the .apk file is downloaded to the “Download” folder of the smartphone, go to step number 7.

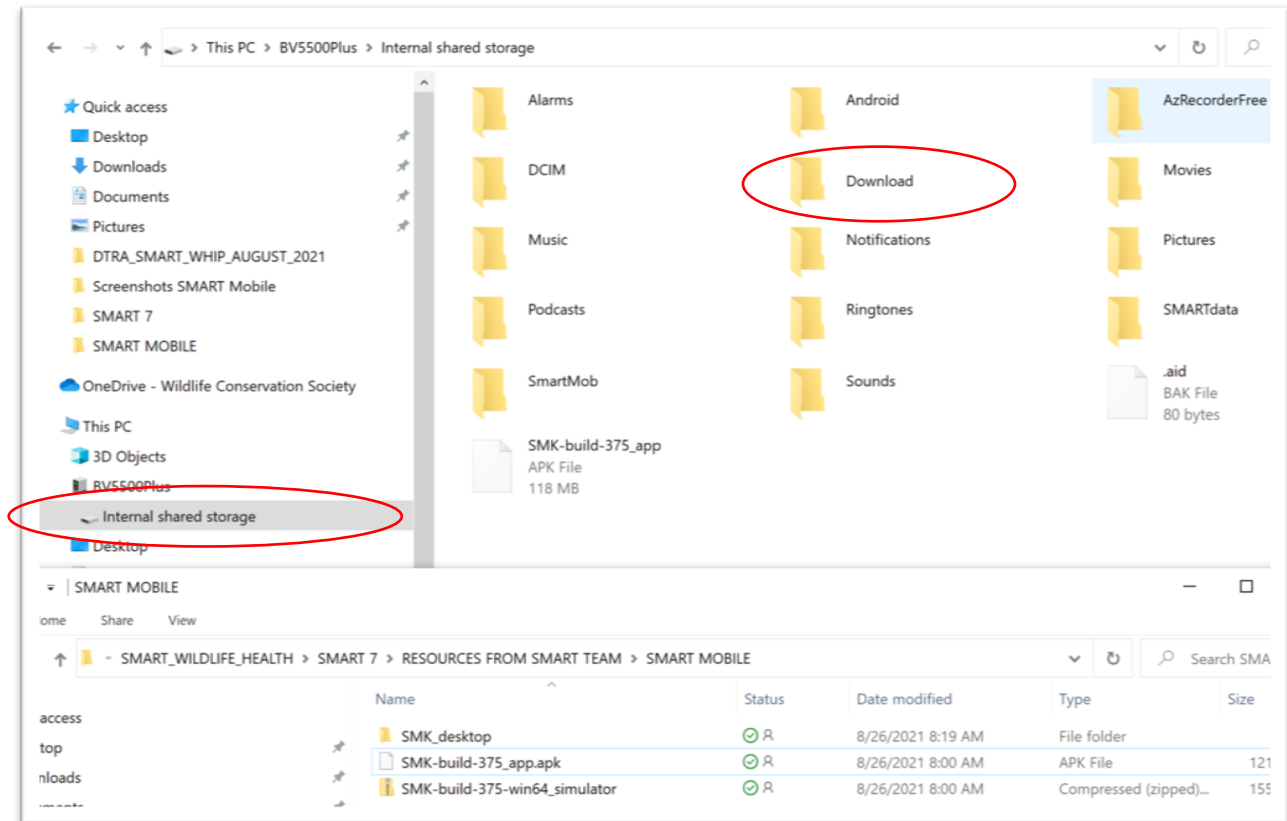
If the .apk file is downloaded to a desktop computer, it will need to be moved from the computer to the cell phone. To accomplish this step, make sure the smartphone can receive files when connected to a desktop computer through an USB cord.

- Go to “Settings”
- Select “Connected Devices”
- Select “USB”
- Select “File Transfer” (see next page)



- Connect the smartphone to the desktop computer where the SMK-build-385.apk file is located
- Go to “This PC” (Windows) or “Finder” (Mac)
- Open the smartphone internal storage
- Move the SMK-build-385.apk file to the “Download” folder

- Now the file is in the “Download” folder of the smartphone (see below)

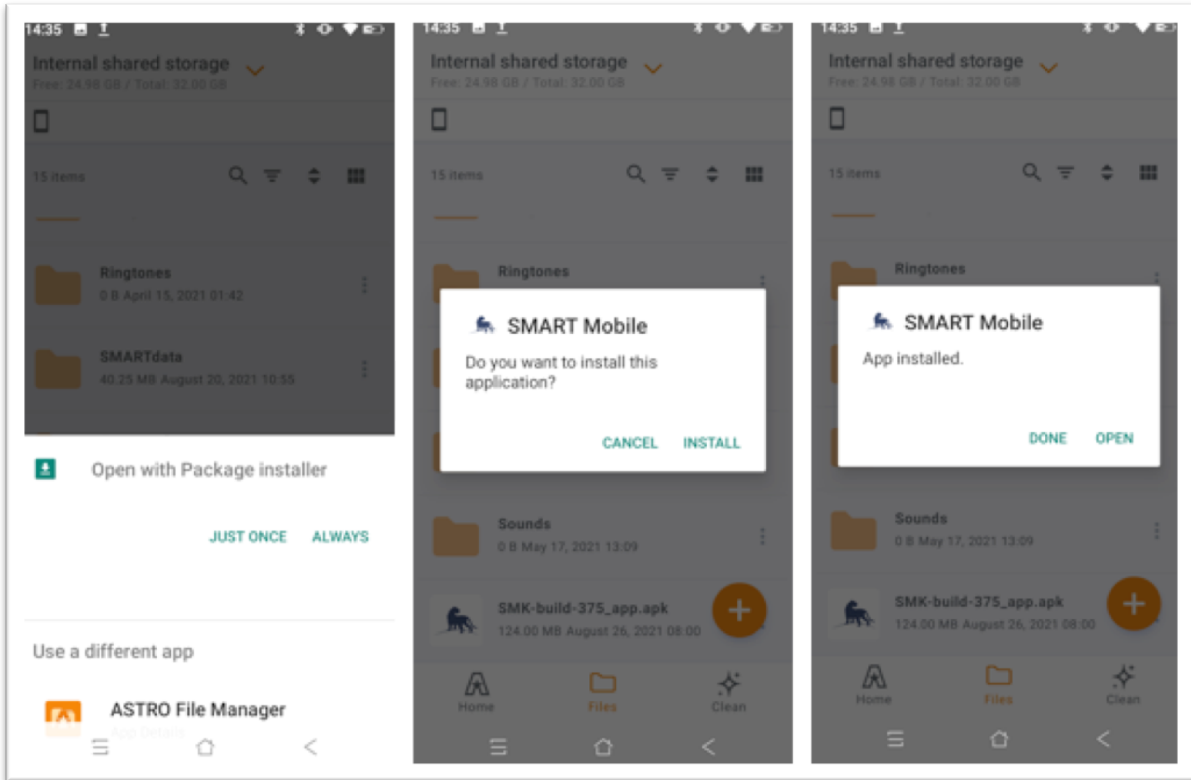


**6. Make sure the smartphone allows file transfer when connected to a desktop computer through an USB cord**

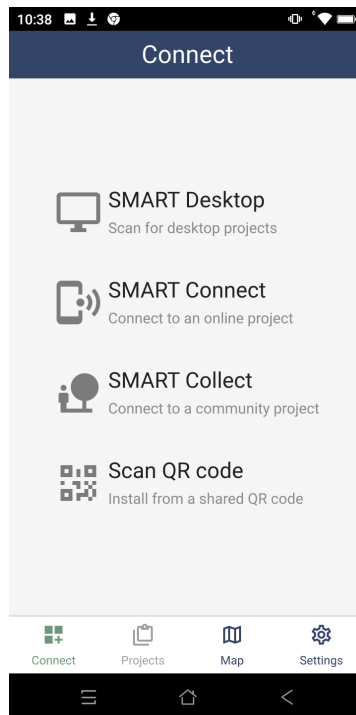
- In the smartphone, go to “Settings”
- Select “Connected Devices”
- Select “USB”
- Select “File Transfer”

**7. Install SMART Mobile**

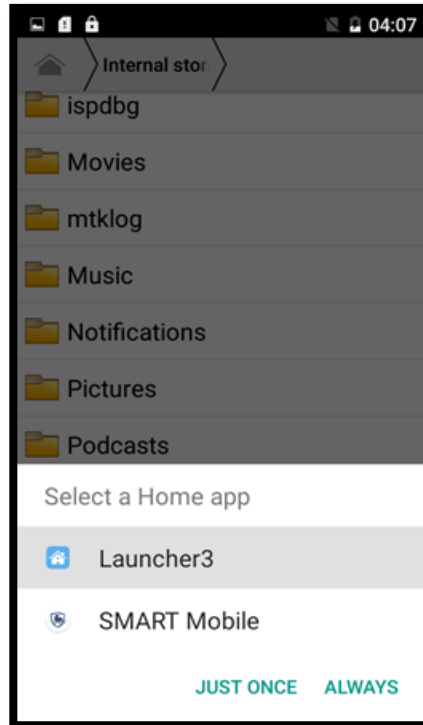
- On your Android device, use the file manager to find the SMART Mobile .apk file (see below).
- Select the SMART Mobile .apk file to launch the installation
- Select “Install”
- Once the installation has finished, select “Done”



## 8. Open SMART Mobile



You may be prompted to switch your Android device's home launcher app to SMART. If you receive this message, **do NOT select switch launcher apps**. (Note: This prompt may be different on your device)



## INSTALL SMART FOR HEALTH IN THE SMARTPHONE

There are two main ways to install the SMART for Health in the smartphone. For option 1, through SMART Desktop 7, the user connects the smartphone to the computer and downloads SMART for Health to the smartphone. For option 2, the SMART for Health can be directly loaded to SMART Mobile from SMART Connect 7. This second option is preferred because it involves fewer steps and it easily provides the most updated version of SMART for Health.

### INSTALLING SMART FOR HEALTH FROM SMART DESKTOP 7

To install SMART for Health from SMART Desktop 7, this software must be installed on the desktop computer that will transfer SMART for Health to the smartphone.

### INSTALLING SMART DESKTOP 7 IN YOUR COMPUTER

#### 1. Download SMART Desktop

- Download “smart.7.4.0.macosx64.10202021.zip” or “smart.7.4.1.win64.12152021.zip” depending if you are working on a Mac or Windows supported equipment
- The files are provided in [here](#)

2. **Extract** the downloaded .zip file in the desire path of your computer.

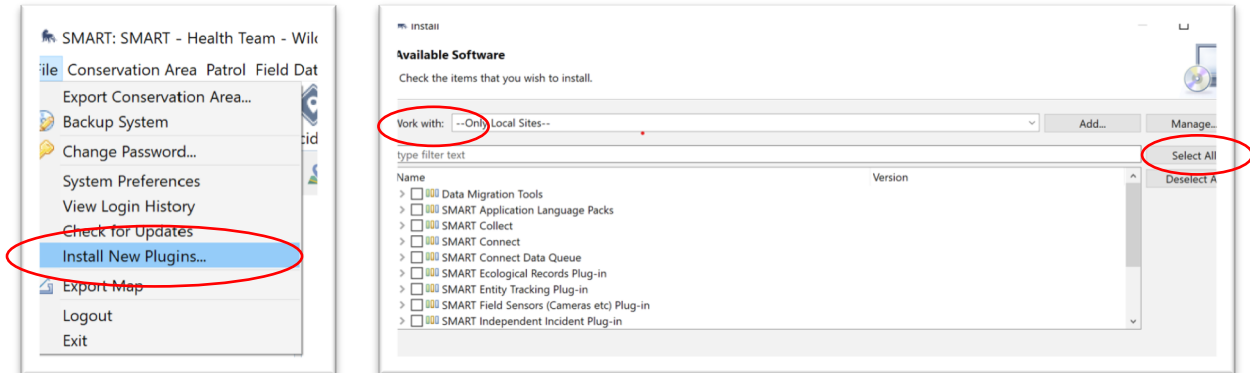
3. **Open the extracted folder** and you should see an .exe file with the SMART symbol



- Click on that symbol and SMART Desktop 7 will be opened.

#### 4. Install plugins the first time that SMART 7 is opened

- Open the Conservation Area “SMART – Example Conservation Area”. Use “smart” as username and password
- Go to the “File” menu and select “Install New Plugins”
- Select “Only Local Sites” from the dropdown menu and click on “Select All”



- Click “Next”, and click “Next” in the following screen
- The installation of SMART may give a security warning that reads: “Warning: Installing unsigned software for which the authenticity or validity cannot be establish. Continue with Installation?” Click “Install Anyway”
- Click “I accept the terms of the license agreement”
- Click “Finish”. SMART will ask to restart the software
- Restart SMART 7



## LOAD THE WILDLIFE HEALTH TEAMS CONSERVATION AREA IN SMART DESKTOP 7

It is possible to install the Wildlife Health Teams Conservation Area in SMART Desktop 7 by downloading it to a Desktop computer and then loading it in SMART Desktop 7, or by downloading it directly from SMART Connect 7. Again, the second option is preferred because it involves fewer steps and makes it easier to get the most updated version of the Conservation Area.

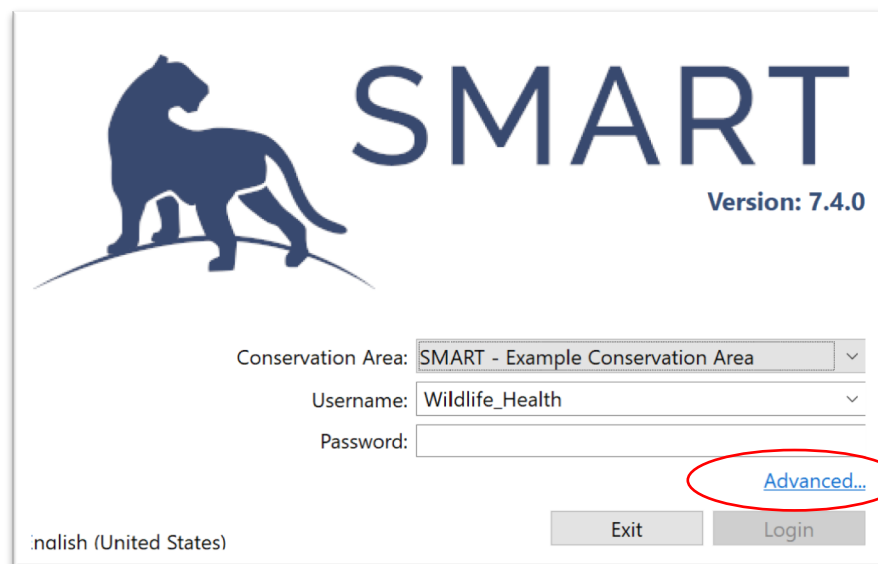
### Download the Wildlife Health Teams Conservation Area File and Load It in SMART Desktop 7

#### 1. Download the Conservation Area file

- Download the Conservation Area (.bak file) and save it in a path and folder of your choice. **Do not extract or unzip it.**
- If you do not know where to download the appropriate Conservation Area contact your SMART focal point.

#### 2. Load the Conservation Area in SMART Desktop 7

- Open SMART 7.4 and click on “Advanced” (if SMART is already open, click on the “**File**” option on the top-left and then click on “**Logout**” first):



- Select “Import a Conservation Area” and provide the path to the “.bak.zip” file. If you do not see this as an option, enlarge/maximize the window to view more options.
- Click “Import”

### 3. Open the Conservation Area

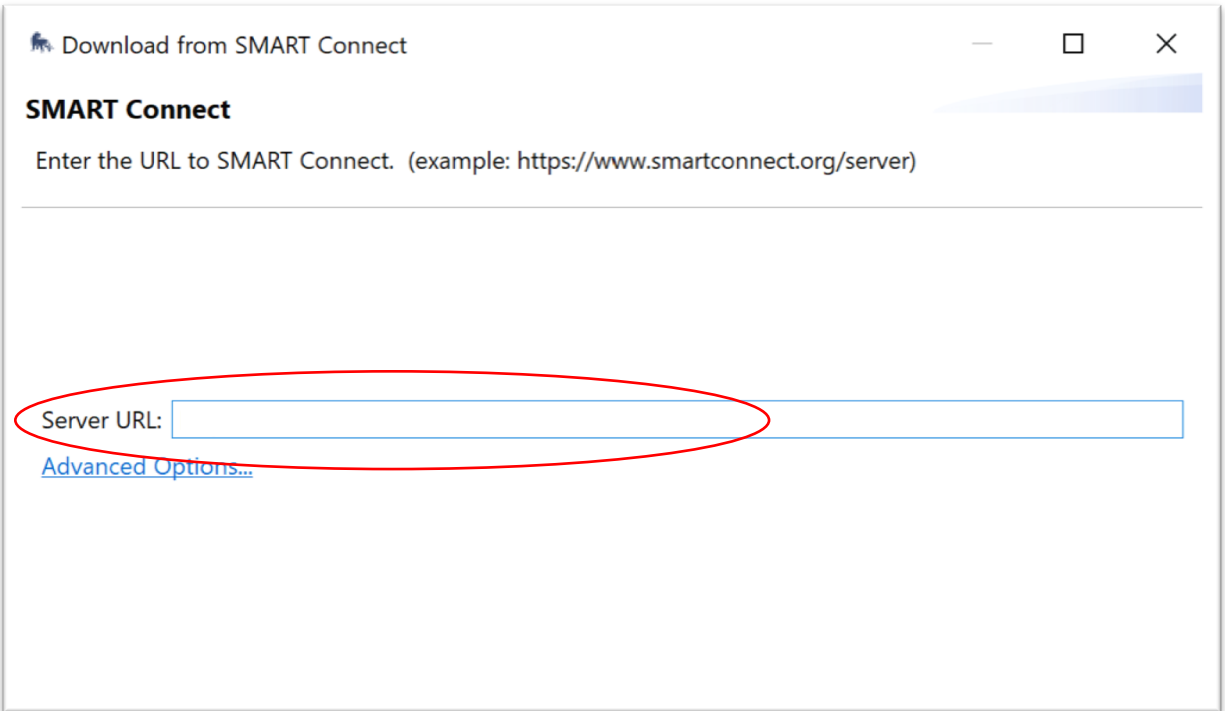
- Click on the down arrow of the “Conservation Area” field
- Select the appropriate Conservation Area
- Provide the username and password, respectively
- If the username or password do not work, contact your SMART focal point.

## Load Wildlife Health Teams Conservation Area in SMART Desktop 7 From SMART Connect 7

### 1. Load the Conservation Area

- Go to the initial screen of SMART Desktop 7
- Click on “Advanced”

- Select “Download a Conservation Area from SMART Connect”
- Click “Continue”



- Provide the server. If you do not know the server URL, contact your WCS Health Team member of reference (Technical Advisor or other). If the Connect server has been provided the “Server URL” may not be requested. If the Connect server needs to be changed, click on the “Connect” tab , go to Configuration, and select “Server Configuration”.
- Click on “Next”
- Provide your SMART Connect 7 username and password. If you do not know your username and password, contact your SMART focal point.

## 2. Open the Conservation Area

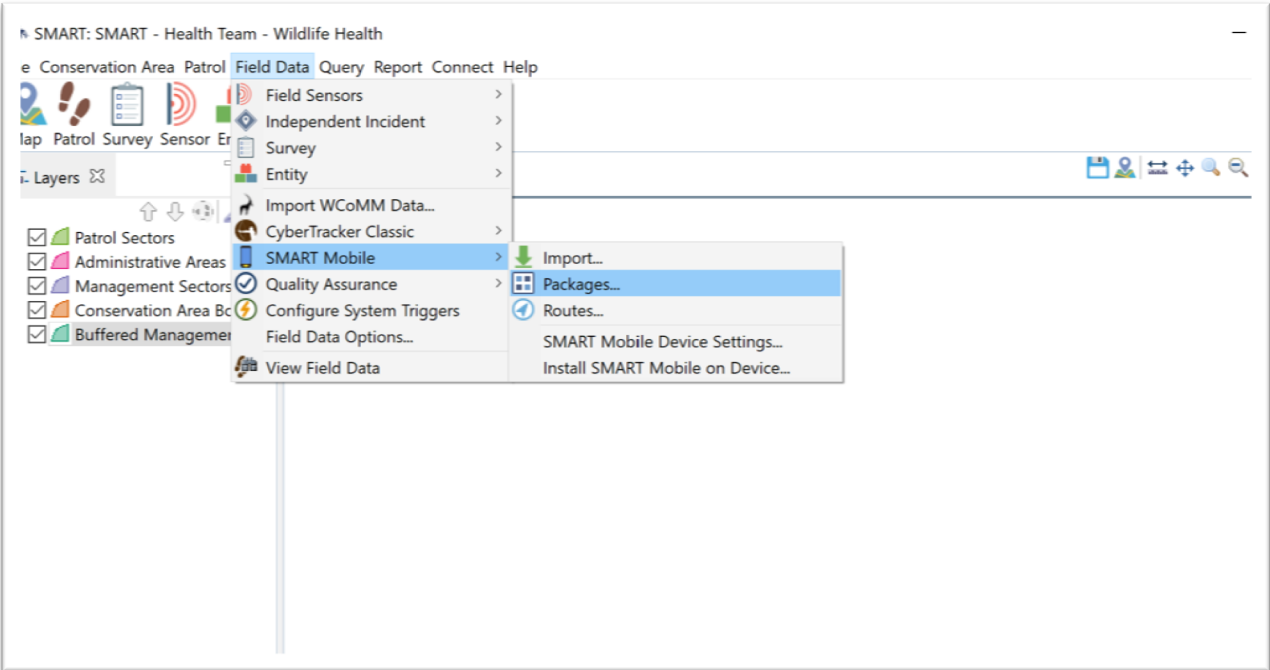
- Click on the down arrow of the “Conservation Area” field
- Select the Conservation Area and provide the appropriate username and password
- If the username or password do not work, contact your SMART focal point.

---

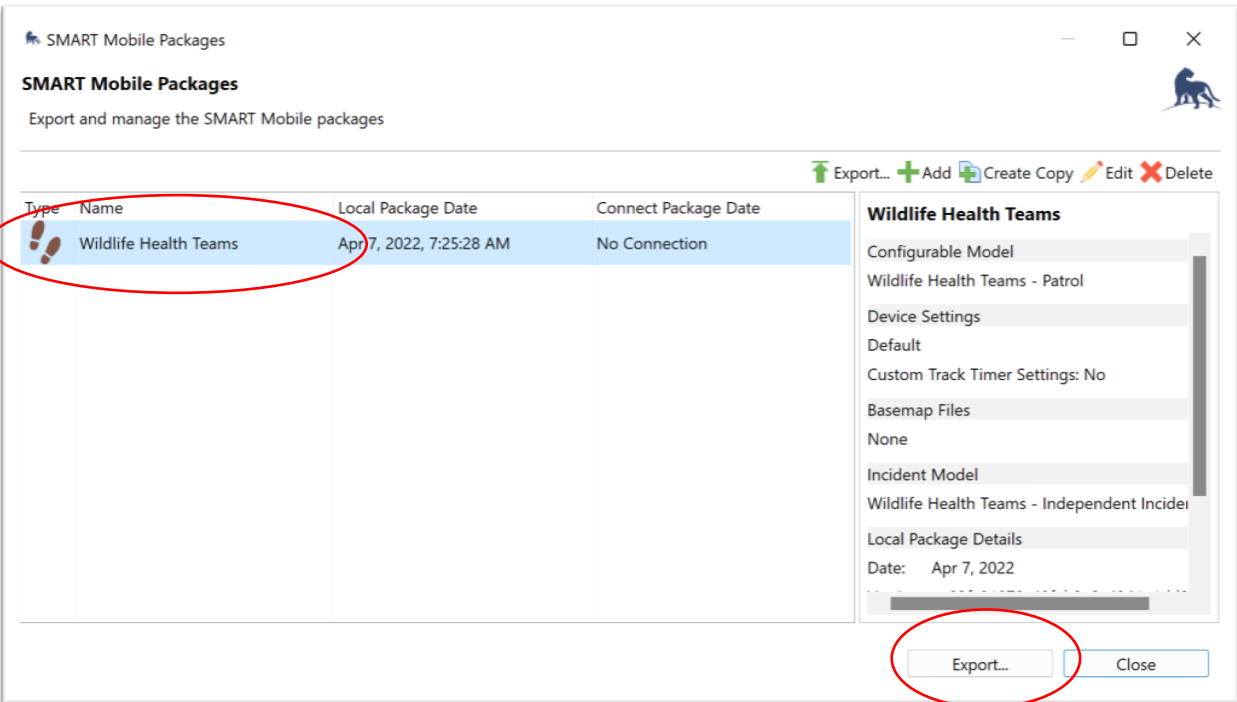
### INSTALL SMART FOR HEALTH IN SMART MOBILE FROM SMART DESKTOP 7

After the Wildlife Health Teams Conservation Area is loaded in SMART Desktop 7, we can install SMART for Health on a smartphone(s).

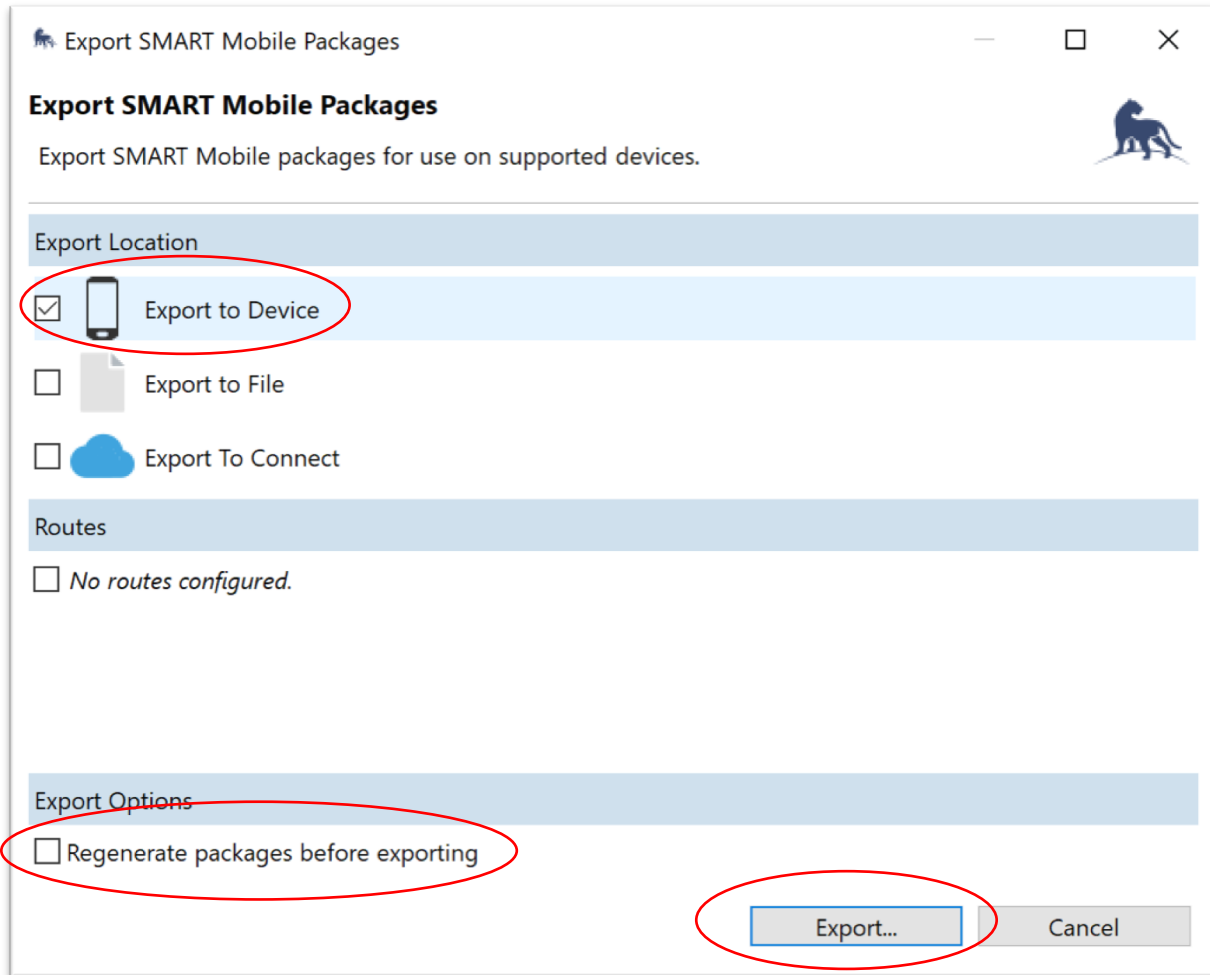
1. Using a USB cable, **connect the smartphone to the computer** with SMART Desktop 7 and the Conservation Area loaded
2. Make sure the **smartphone allows file transfer** when connected to a desktop computer through an USB cord
  - In the smartphone, go to “Settings”
  - Select “Connected Devices”
  - Select “USB”
  - Select “File Transfer”
3. **Open the Conservation Area** containing the SMART for Health patrol package in SMART Desktop 7
  - Click on the menu “Field Data”
  - Select “SMART Mobile”
  - Click “Packages”



- Users may receive a prompt to enter SMART Connect login information first
- Select the appropriate patrol package
- Click “Export”



- Check “Export to Device”
- If checked, uncheck “Regenerate packages before exporting”
- Click “Export”

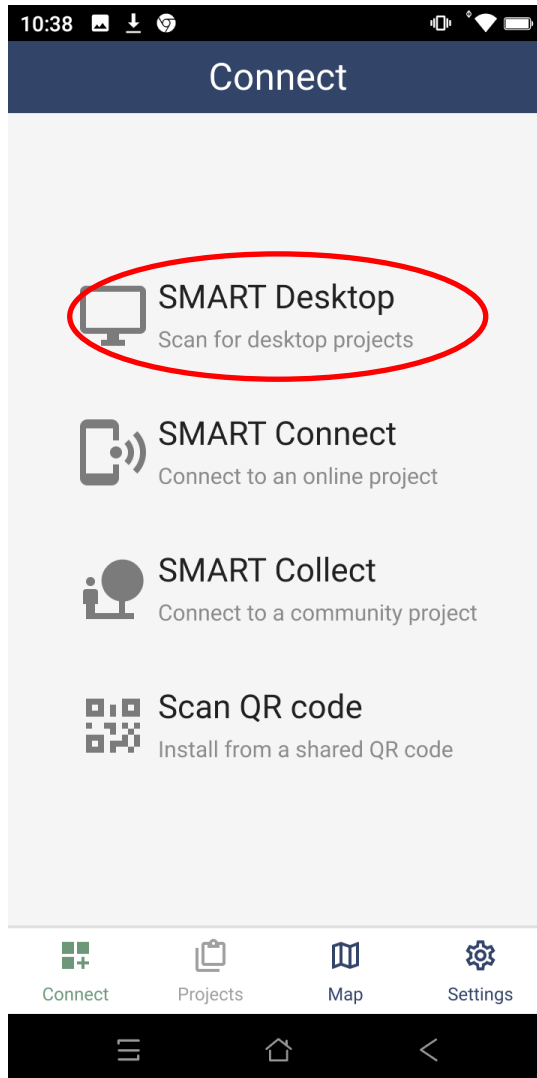


The file containing the configuration for SMART Mobile should be in the “Download” folder of the smartphone and it should be of type .zip.

#### 4. Open SMART for Health in SMART Mobile

- Open SMART Mobile in the device
- Click on “SMART Desktop”. If the .zip file is in the “Download” folder of the smartphone, SMART Mobile should automatically load the

appropriate SMART patrol package. The “Project” screen will appear and the “Wildlife Health Teams” should be on the list (see below).



## LOAD SMART FOR HEALTH FROM SMART CONNECT 7

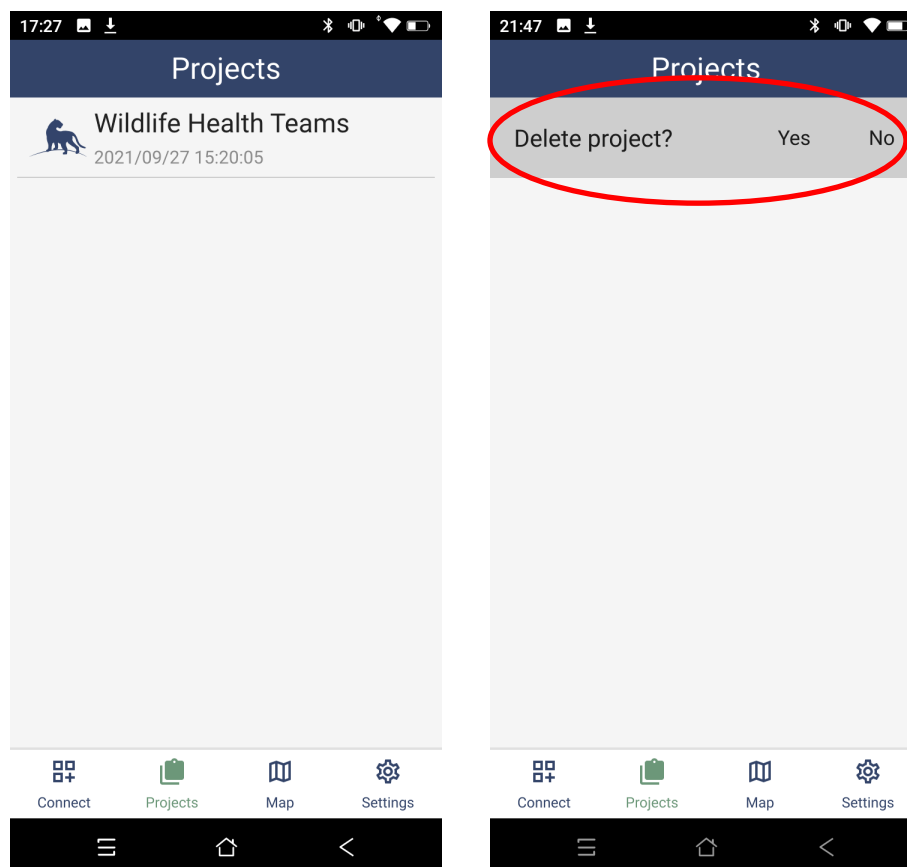
SMART Mobile can automatically install the configuration from SMART Connect 7, so **it is not necessary:**

- To install SMART Desktop 7
- To download the Conservation Area and load it in SMART Desktop
- To connect the smartphone to the computer
- To transfer the patrol package file to the smartphone through SMART Desktop

### 1. Open SMART Mobile

### 2. Delete any previous version of the Wildlife Health Team project already loaded in the smartphone

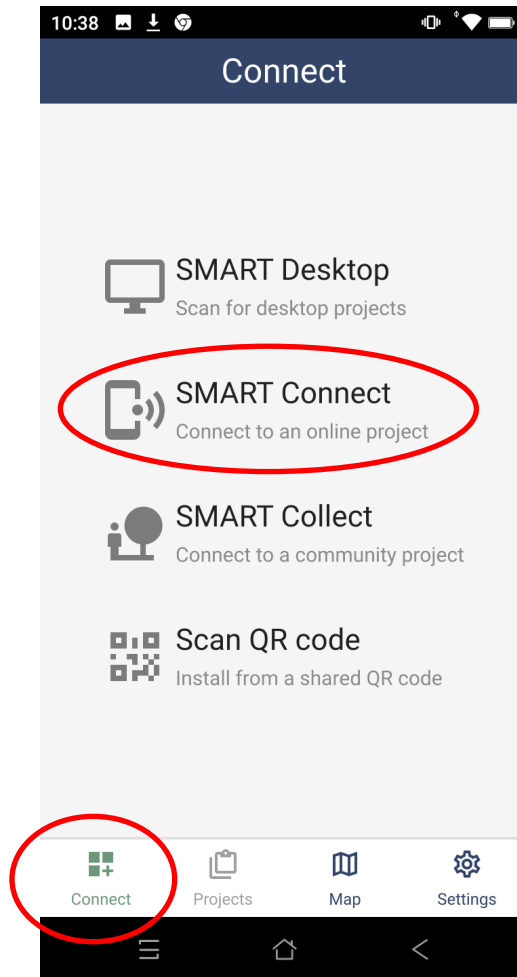
- Click on “Wildlife Health Teams” Project and hold, slide to the left
- Click **Yes** to the question “Delete Project?”





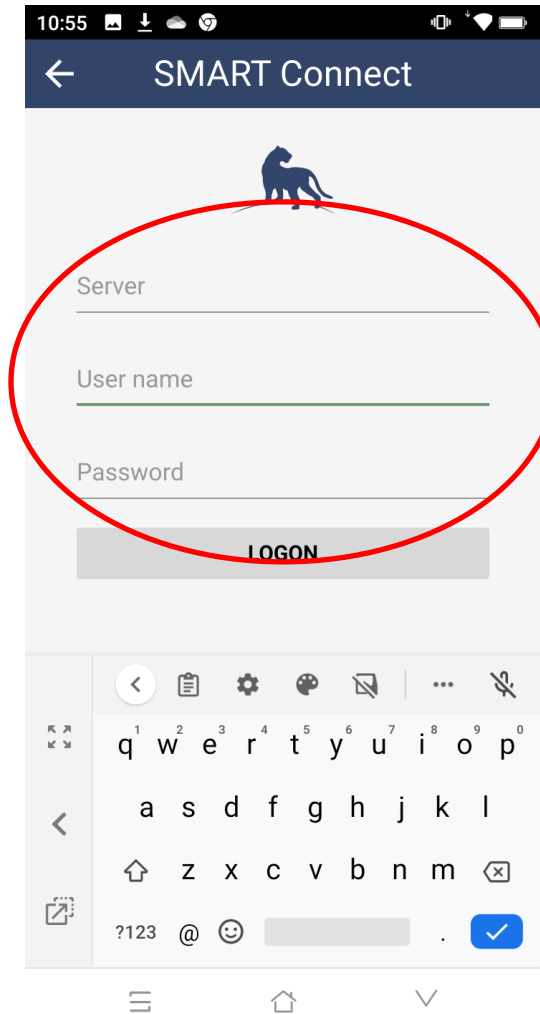
- A **new window** asking “Delete project?” will prompt. **Click and hold** the “Yes. Delete it” button until the green bar is fully filled.

**3. Click on the “Connect” button on the bottom-left of the “Connect” screen and click on “SMART Connect”**



**4. Provide the information requested**

- Provide the server address
- Provide the SMART Connect 7 username
- Provide the SMART Connect 7 password
- Click on Logon



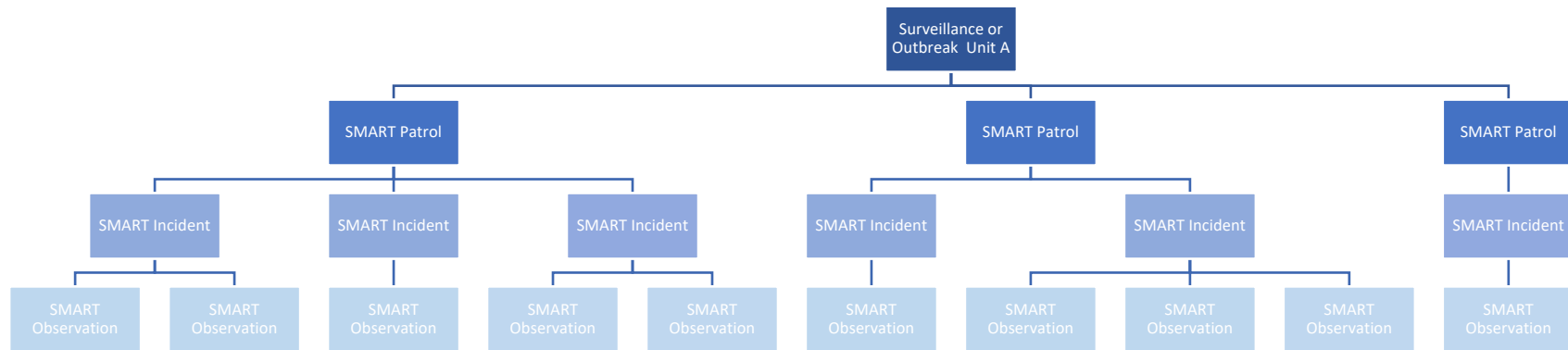
5. In the “Select Package” screen, select the appropriate **Wildlife Health Team** package.

The user should be prompted to the “Projects” screen and the Wildlife Health Team Project should be loaded and ready to be used.

# SMART FOR HEALTH STRUCTURE AND DEFINITIONS

A summary of the data structure in SMART for Health is provided below.

SMART Incidents belong to SMART Patrols completed by the Health Team during a planned field mission or outbreak investigation:



Or SMART Incidents are found through Scanning Surveillance and occur outside of planned SMART Patrols conducted by a Wildlife Health Team:



Starting at the bottom of either approach, SMART for Health facilitates the collection of field observations (**SMART Observations**), to described **SMART Incidents**. In the SMART for Health language, these **SMART Incidents** are **Wildlife Health Events** which can be recorded by the Wildlife Health Team within **SMART Patrols** (during Targeted Surveillance or Outbreak Investigation activities; page 27) or outside **SMART Patrols** (when encountering an Event via Scanning Surveillance; current page).

## SURVEILLANCE OR OUTBREAK UNIT

The **Surveillance or Outbreak Unit**: corresponds to a set of surveillance activities that share the same goal and occur within a determined time period and area.

For example, the Health Program conducts targeted surveillance of African Swine Fever in wild suids of the Philippines. The Wildlife Health Team visits different field locations monthly. All the surveillance activities across months and locations belong to African Swine Fever in wild suids of the Philippines; however, **each field mission**, that may last one to several days, is a specific **Surveillance or Outbreak Unit** that encompasses the surveillance data collected during a specific period at a specific site. A **Surveillance or Outbreak Unit** can have one or more SMART Patrols (see the **SMART Patrol** definition below) that include as many **SMART Incidents** as needed (see the **SMART Incident** definition below; figure in page 28). **SMART Incidents** can also record events found through Scanning Surveillance (page 29).

The collection of data during an outbreak is a useful example. The collection of data will occur in the same area (e.g., a wetland) but depending on the size of the wetland or outbreak, it may take several field missions, with each field mission lasting one to several days. Periodical field missions could occur after the outbreak has receded as well. Each visit or field mission to collect data during the active outbreak and later to assess the situation, belong to a specific **Surveillance or Outbreak Unit** (page 28). As the team explores the site of the outbreak during days and field missions, data can be collect within several **SMART Patrols** .

On the other hand, the collection of data could also involve two dead ducks found while a Wildlife Health Team is in the field conducting African Swine Fever surveillance. The dead ducks are not the target of the current surveillance activities and, therefore, they do not belong to the **Surveillance or Outbreak Unit** involving the planned African Swine Fever surveillance field mission. However, they could provide data and samples for other pathogens. In this scenario, the two dead ducks were found opportunistically, and are recorded as an Incident outside of the African Swine Fever surveillance Patrol(s) and the corresponding **Surveillance or Outbreak Unit**. The **opportunistic collection or notification of wildlife health data** (i.e. Scanning Surveillance) **is not part of a Surveillance or Outbreak Unit** (page 29). Finally, Targeted Surveillance for Avian Influenza could be designed to only sample feces from the ground. In this case, if a dead bird is found during an Avian Influenza Targeted Surveillance field trip it would be recorded as Scanning Surveillance because dead animals were not part of the surveillance design.

## SMART PATROL

**SMART Patrol (Patrol):** is the process of recording **SMART Incidents** during a period. During this period, SMART Mobile is tracking the spatial and temporal location of the surveillance team and the data collected during the Patrol. **SMART Patrols** are associated with a single **Surveillance or Outbreak Unit** (e.g., a 3-day field trip for targeted surveillance with specimens collected at different locations, a 1-day collection of samples in a wild meat market, and a multi-day outbreak investigation).

For example, during an outbreak investigation involving dead waterfowl in a wetland, the team walks around the wetland and finds dead birds in different locations. The process of detection and the collection of data associated with the outbreak while walking can be done under a single or several SMART Patrols, all connected under the same “Surveillance or Outbreak Unit” (page 28).

## SMART INCIDENT

**SMART Incident: corresponds to a Wildlife Health Event** documented using SMART for Health and they describe the spatiotemporal distributions of the individuals detected or sampled during targeted or scanning surveillance activities. The **Wildlife Health Events** belonging to planned surveillance activities are recorded as part of a **SMART Patrol** whilst opportunistic **Wildlife Health Events** are recorded as independent incidents outside of a **SMART Patrol**.

**Incidents (Wildlife Health Events)** belonging to Targeted Surveillance and recorded during the same field trip are part of the same **Surveillance or Outbreak Unit**. These set of Incidents can be part of a single or several **SMART Patrols** (page 27). Opportunistic **Wildlife Health Events** recorded as part of Scanning Surveillance are not associated with a **Surveillance or Outbreak Unit** or a **SMART Patrol** (page 29).

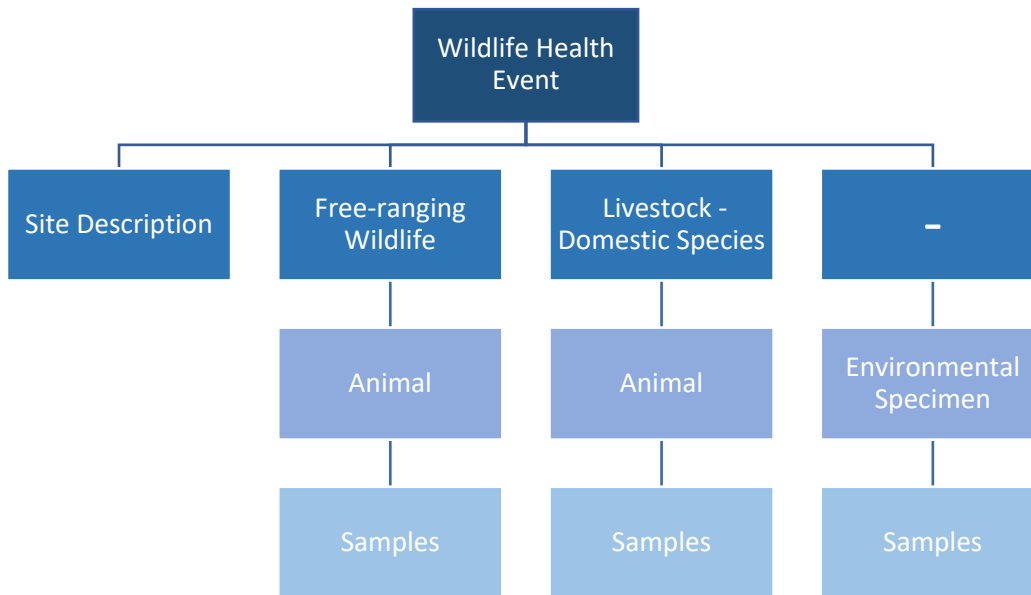
## WILDLIFE HEALTH EVENT

**Wildlife Health Event:** is a discrete spatiotemporal set of field findings that are relevant for the goals of wildlife health surveillance. **Wildlife Health Events** include the observation of sick, injured, and dead animals, as well as any healthy individuals nearby. **Wildlife Health Events** can also include data from individual animals, field necropsies, the samples collected from these individual animals, and environmental specimens and samples (see diagram below).

**A standalone group of healthy animals is not a Wildlife Health Event. However, when groups of dead, sick, or injured animals are found, the healthy animals present are important to document.**

Event examples include: (1) a group of dead, live, and sick waterfowl on the shore of a patrolled pond, (2) the presence of healthy individuals of a species that is susceptible to a pathogen of interest (healthy wild boars found while investigating the presence of African Swine Fever virus), (3) the collection of samples at a commercial trade location or farm, (4) the identification of poisoned carnivores during a field mission, (5) an injured herbivore, and (6) findings at discrete spatiotemporal locations during an outbreak investigation.

In **SMART for Health, Wildlife Health Events are SMART Incidents.** In SMART for Health, a **Wildlife Health Event** is comprised of one or more **SMART Observations** that are **saved** as a unique set.



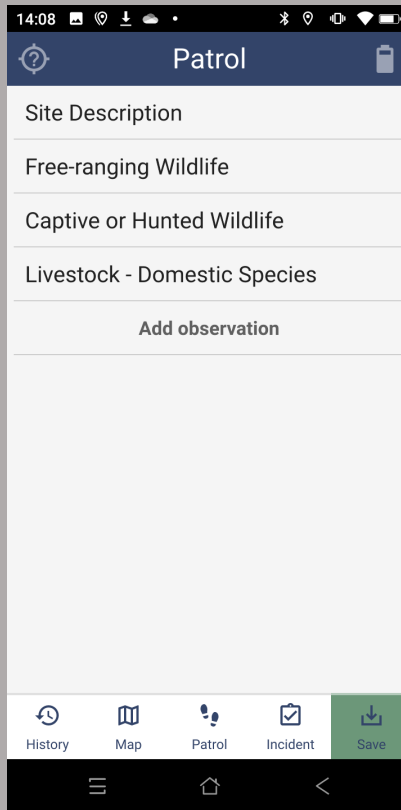
The diagram above shows some of the categories of information to collect **SMART Observations** that compose a **Wildlife Health Event**.



## SMART OBSERVATIONS

A **SMART Observation** corresponds to specific types of wildlife health surveillance data that are collected in the field. Types of wildlife health surveillance data are: the characteristics of the environment where the Event is taking place, the number of species and individuals observed, the samples collected, field necropsies, etc.

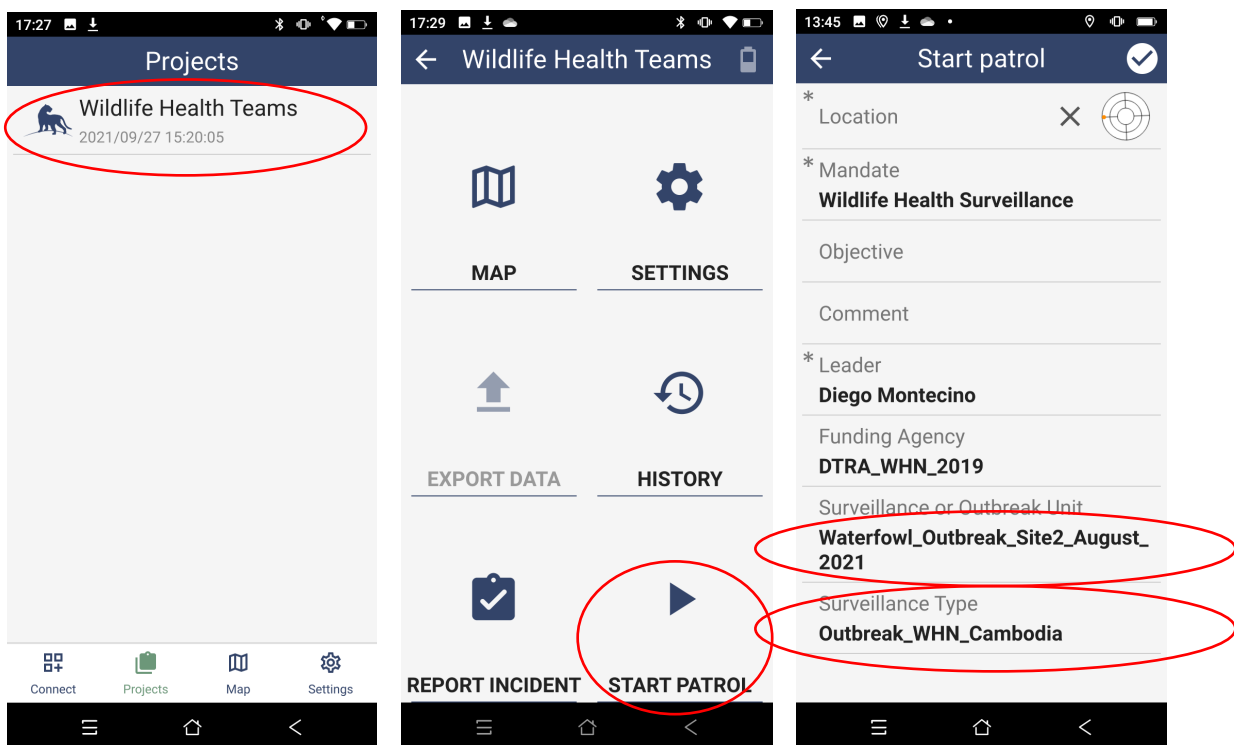
**A Wildlife Health Event contains at least one Observation and as many Observations as needed.**



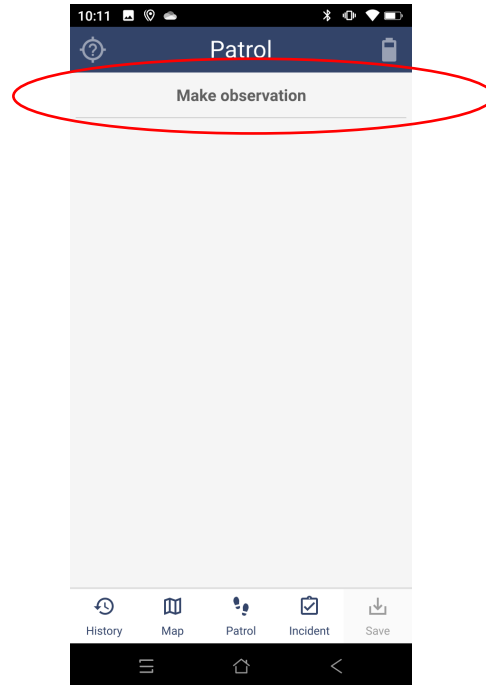
Four SMART  
Observations for a  
Wildlife Health  
Event

## WILDLIFE HEALTH EVENTS UNDER TARGETED SURVEILLANCE OR OUTBREAK INVESTIGATION

**Wildlife Health Events** under Targeted Surveillance or collected during an Outbreak Investigation are part of a single or several **SMART Patrols** that belong to the same **Surveillance or Outbreak Unit**. In SMART for Health, start a **Patrol** by selecting “Wildlife Health Teams” in the “Projects” screen and then clicking on the “Start Patrol” button. Complete the information requested in the “Start Patrol” screen including the “Surveillance Type” and the “Surveillance or Outbreak Unit”. All Patrols associated to the same field mission or outbreak investigation should get the same “Surveillance Type” and the same “Surveillance or Outbreak Unit”.

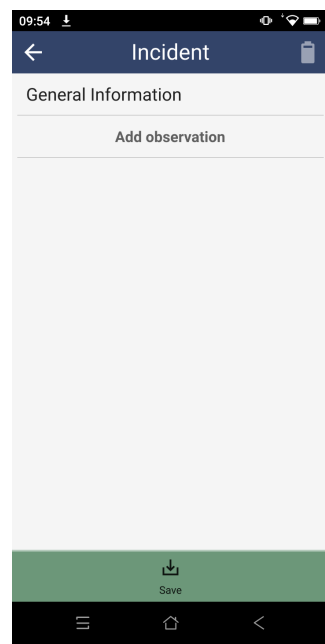
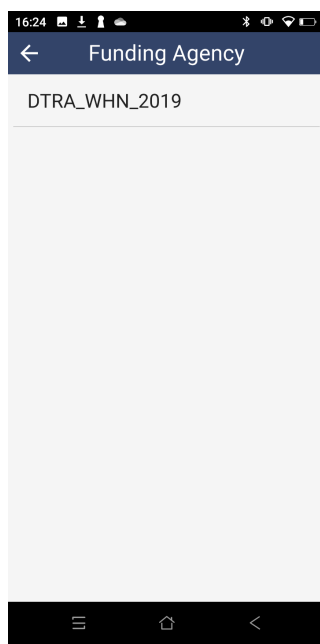
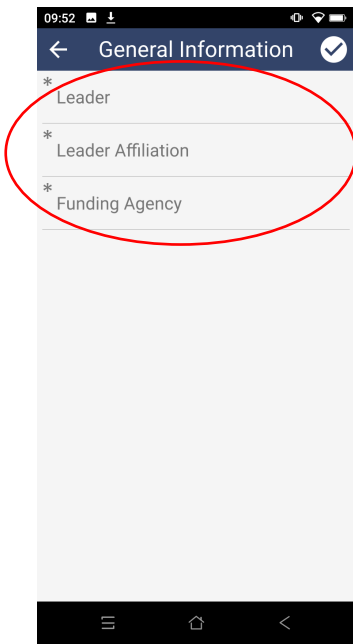
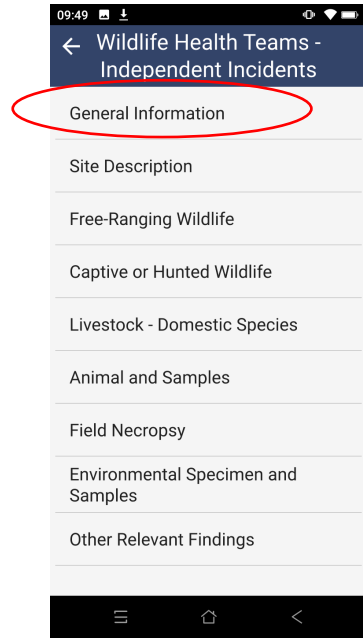
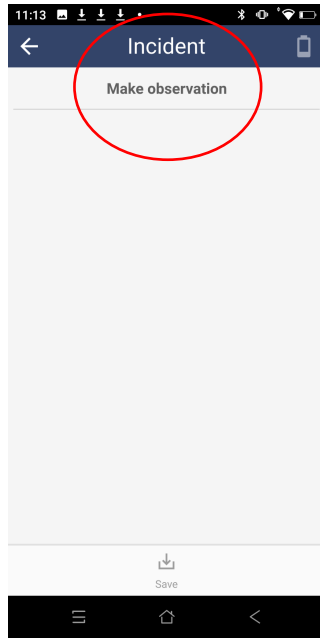
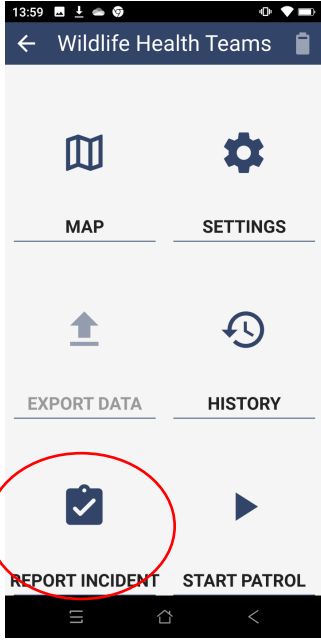


In SMART for Health, a **Patrol** is initiated by clicking the checkmark button on the “Start Patrol” screen once the information requested has been completed. To document a **Wildlife Health Event** within a **SMART Patrol**, the user clicks on “Add Observation” in the “Patrol” screen.



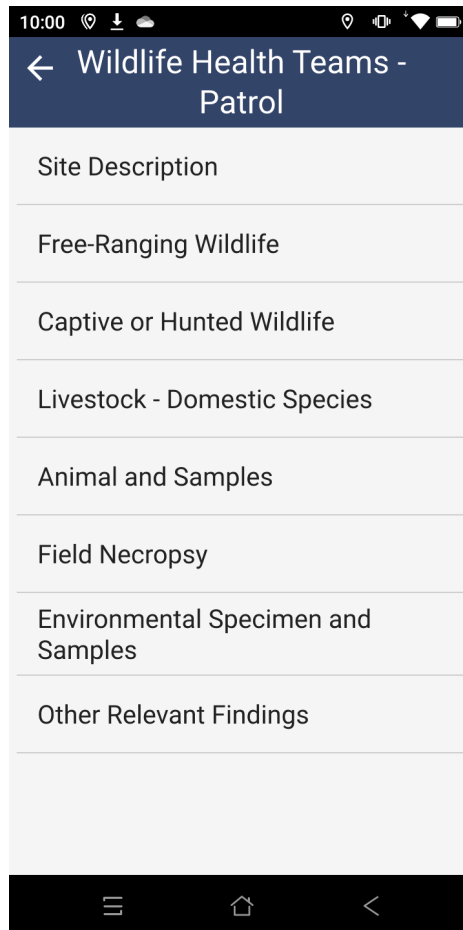
## WILDLIFE HEALTH EVENTS UNDER SCANNING SURVEILLANCE

**Wildlife Health Events** under Scanning Surveillance are recorded outside of **SMART Patrols** as **independent Incidents**, with **Surveillance or Outbreak Unit** type assumed to be “Scanning Surveillance”. In SMART for Health, **Wildlife Health Events** outside of **Patrols** are recorded using the “Report Incident” button of the “Wildlife Health Teams”. The “Incident” screen will show up and the user has to click on “Make Observation”. In the next screen, the user needs to complete the “General Information” Category. The process to record the data is equivalent to adding **Wildlife Health Events** within a **Patrol**.



## SMART CATEGORIES

A **SMART Category (Category)** is a set of **SMART Attributes** that request information about a specific topic. In the case of SMART for Health, the Categories for the **Patrol** are “Site Description”, “Free-ranging Wildlife”, “Captive or Hunted Wildlife”, “Livestock -Domestic Species”, “Animal and Samples”, “Field Necropsy”, “Environmental Specimen and Samples”, and “Other Relevant Findings”. Note that the “General Information” Category is only available when a **Wildlife Health Event** is recorded as an **independent Incident** (Scanning Surveillance).



SMART  
Categories

In SMART for Health, these Categories follow a hierarchical structure that is **very important**:

Category	Hierarchy Level
Site Description	Event
Free-ranging Wildlife	Species
Captive or Hunted Wildlife	
Livestock – Domestic Species	
Animal and Samples	Individual Samples
Field Necropsy	Individual
Environmental Specimen and Samples	Environmental Specimen Environmental Samples
Other Relevant Findings	Other Feature

So,

- The “**Site Description**” Category is used to describe the **Wildlife Health Event location**
- The “**Free-ranging Wildlife**”, “**Captive or Hunted Wildlife**”, or “**Livestock – Domestic Species**” Categories are used to describe the **species observed at the Wildlife Health Event**, including the number of individuals per age, sex, and health status, etc.
- The “**Animal and Samples**” Category is used to describe **individual animals** at the **Wildlife Health Event** collected for necropsy or from which samples are collected or in which diagnostic tests are conducted.

---

## DESCRIPTION OF THE SMART CATEGORIES IN SMART FOR HEALTH

---

### General Information (only for independent incidents)

This Category is used to describe the leader of the field trip or outbreak investigation, its affiliation, and the funding source for the activities to identify Scanning Surveillance **Wildlife Health Events**.

---

### Site Description (Event level)

This Category is used to describe the environmental characteristics where the **Wildlife Health Event** is taking place and should be filled out only once per Event.

---

### Free-ranging Wildlife (Species level)

This Category is used to describe wildlife species of the **Wildlife Health Event** where individual animals **are not captive or hunted at the time of observation**. However, animals can be temporarily **captured** at observation for surveillance, research, or conservation reasons (e.g., marking, collaring, translocation).

---

### Captive or Hunted Wildlife (Species level)

This Category is used to describe wildlife species of the **Wildlife Health Event** where individual animals **are captive or hunted at the time of observation**. Individuals could be trapped in a snare or in the hands of a hunter, in transit to a market, caged in a market, or in a zoo or rescue center.

---

### Livestock – Domestic Species (Species level)

This Category is used to describe all domestic animals observed at the **Wildlife Health Event**.

---

### Animal and Samples (Individual and Sample level)

This Category describes specific individual animals belonging to any of the species observed in the **Wildlife Health Event** and the Samples collected from them. **Individual level data are collected only from those animals providing samples or whose carcass is used for a necropsy.**

---

### Field Necropsy (Individual level)

This Category is used to describe the field necropsies conducted in the field with the carcasses of individual animals associated to a **Wildlife Health Event**.

---

### Environmental Specimen and Samples (Environmental Specimen and Environmental Sample Levels)

This Category describes material collected from the environment. An Environmental Specimen is a singular entity of animal or non-animal source in the environment. Animal Environmental Specimens can include **animal tissue, fluids, excreta, secretions** collected at a **Wildlife Health Event but whose specific animal source (the individual animal that supplied the material) cannot be identified**. For example, use this Category to collect Samples from wild boar feces found close to a pair of dead wild boars (it is unknown if the observed wild boars are the origin of the feces or which one of them excreted them). In this case the feces are the Environmental Specimen and the collected pieces are the Environmental Samples. The information about the Environmental Samples are recorded using this Category as well. Non-animal Environmental Specimens can include **water, sediment, or soil**. In the case of water, the Environmental Specimen is the source of the water (e.g. pond, lake, river) and the vial of water is the Environmental Sample.

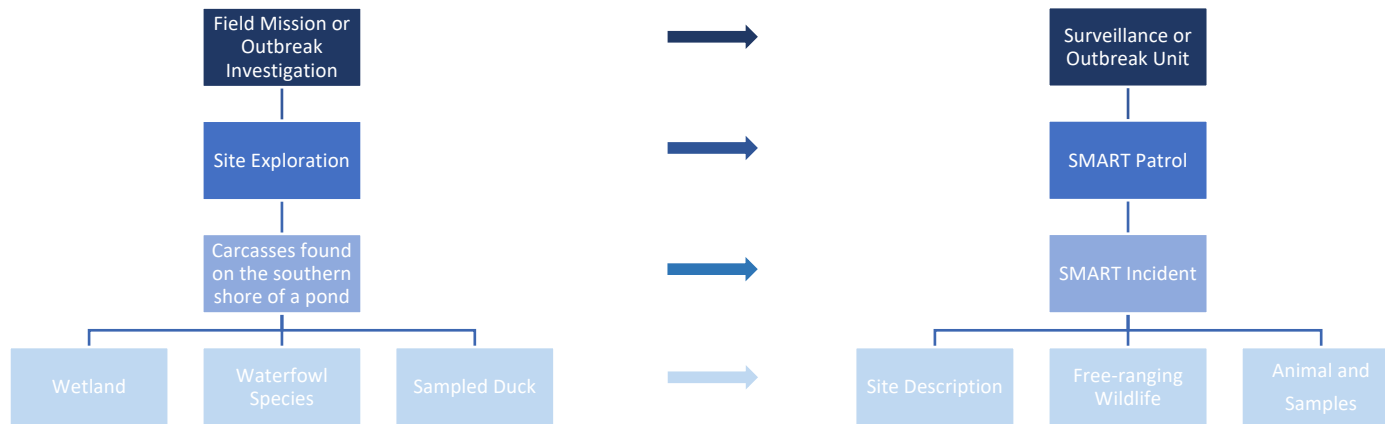
---

### Other Relevant Findings (Other Feature Level)

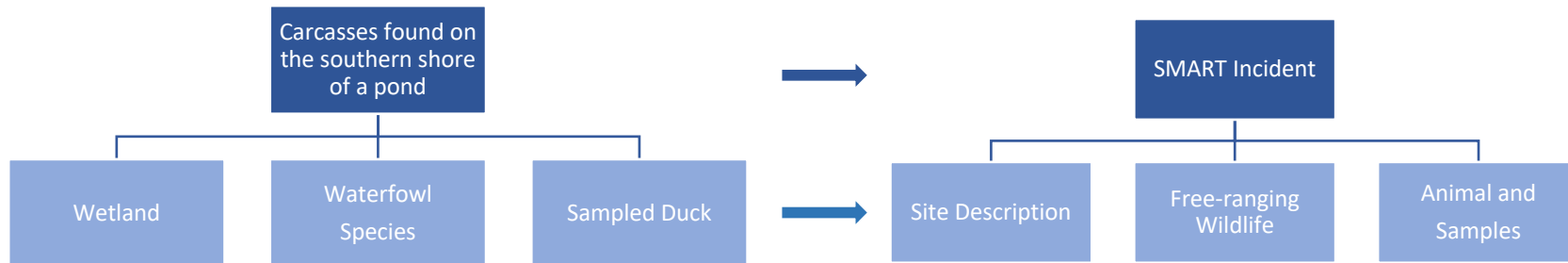
This Category records indirect signs of animals, such as feces, that are only observed and no sample is collected. For example, wild boar feces are seen in the forest during an investigation of African Swine Fever but no Sample is collected.



In summary, the figure below shows how the structure outlined on page 27 and 28 maps to Observations of a **Wildlife Health Event** collected as a **SMART Incident** within a **SMART Patrol**:

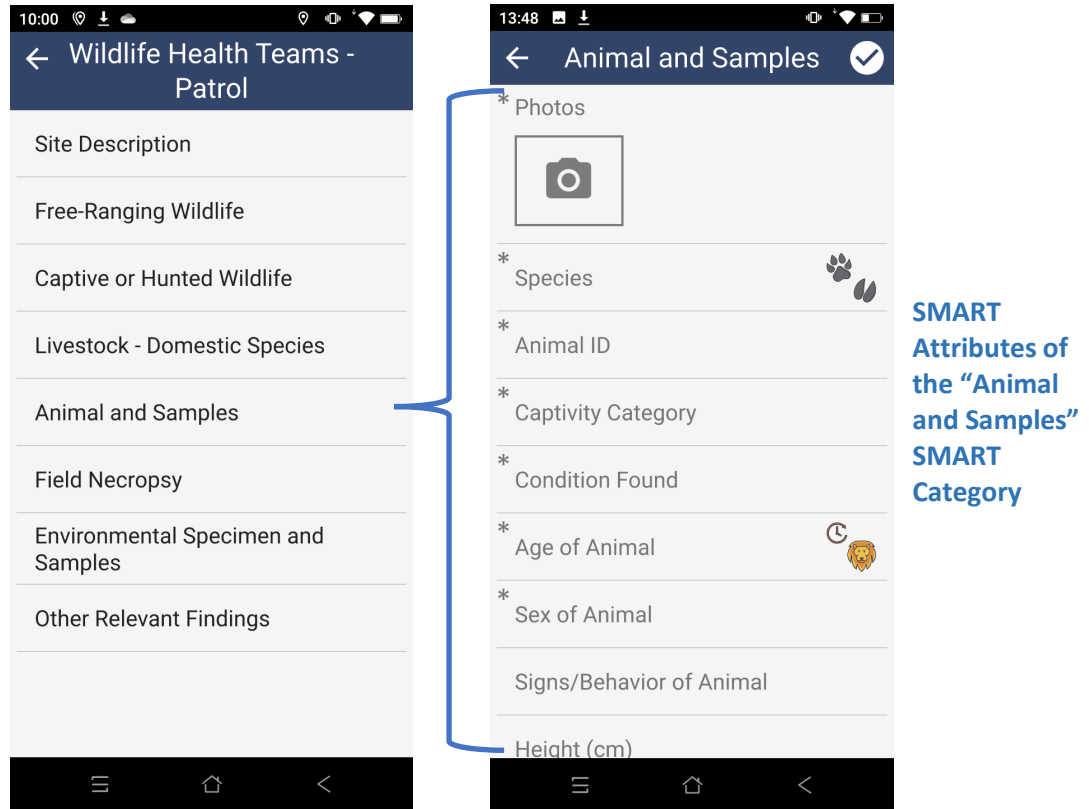


Or collected as an **independent SMART Incident** (outside of a **SMART Patrol**):



## SMART ATTRIBUTES AND SUB-ATTRIBUTES

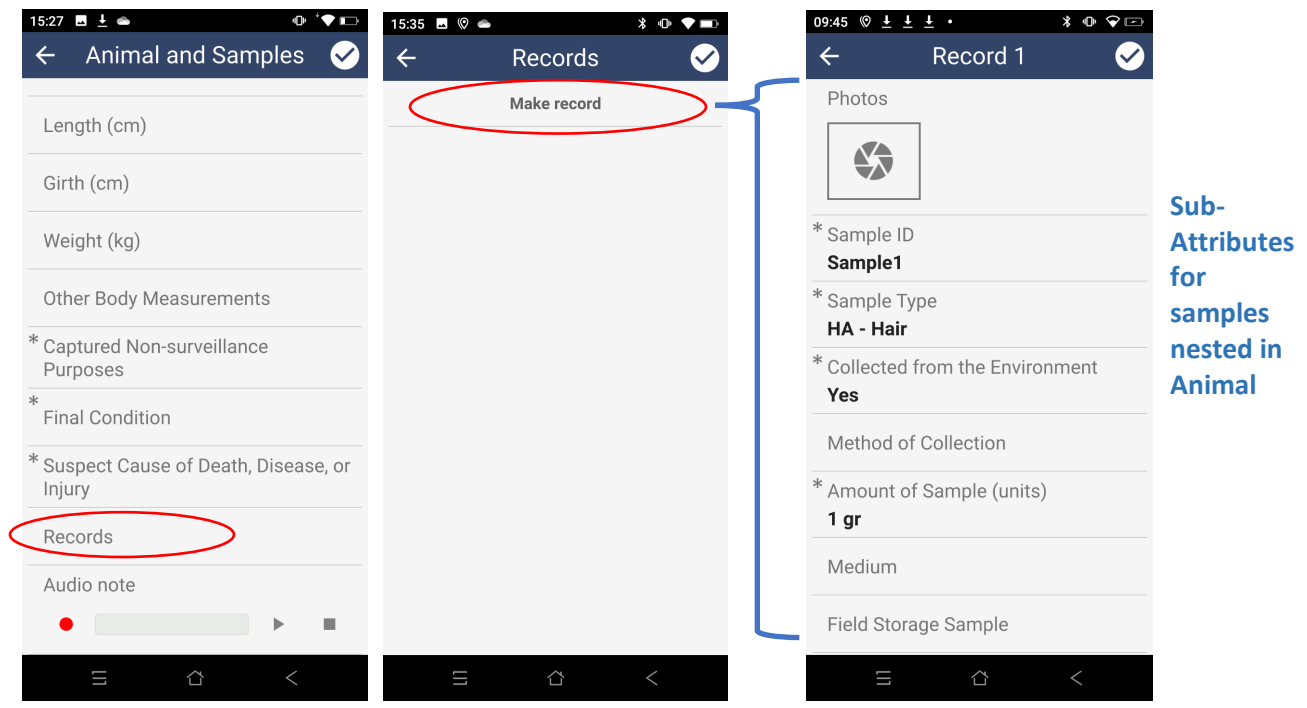
When a **Category** is selected, a set of unique **SMART Attributes** are displayed on the screen. These **Attributes** are the specific fields associated with each SMART Category. For example, once the Category “Animal and Samples” is selected, the corresponding SMART Attributes for this Category are shown. See below:



**SMART Attribute (Attribute):** correspond to specific data items requested within a Category. For example, “Age”, “Sex”, and “Species” of the animals found in the field. Attributes are mandatory or optional. Mandatory Attributes are identified with a grey asterisk and they are required to complete the collection of the SMART Observation. Mandatory Attributes with missing information will turn red if the checkmark symbol on the top-right is clicked on.

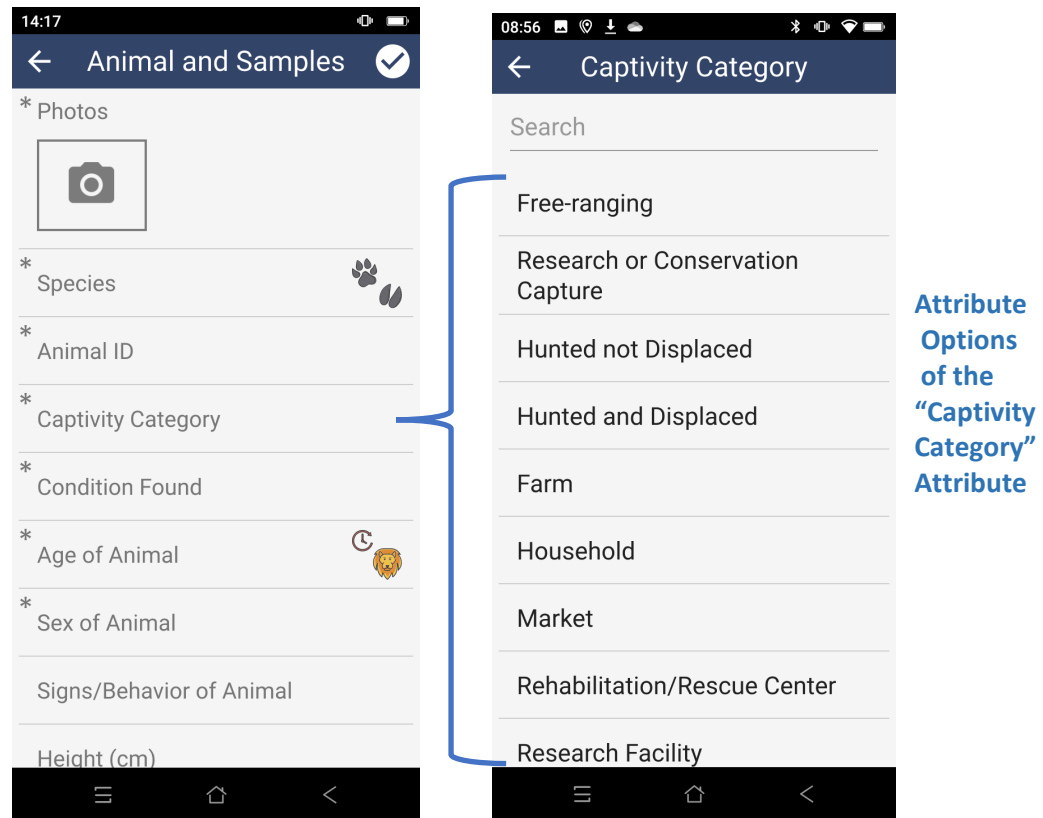
There are different types of Attributes. Some Attributes are answered by selecting a single Attribute Option, others are answered by selecting among several preset Options. Other types of Attributes have a built-in hierarchical structure, from Family taxa to specific scientific name. Finally, other Attributes request a number or a fillable typed response.

Sub-Attributes behave just like Attributes. However, they are specific fields nested within an Attribute. For example, once the “Record” Attribute of the “Animal and Samples” Category is selected and “Make a record” is selected on the next screen, then the corresponding SMART Sub-Attributes for the **sample level** are shown. See below.



## ATTRIBUTE AND SUB-ATTRIBUTE OPTIONS

Attribute Options are the preset choices used to answer an Attribute or Sub-Attribute. In the case of the Attribute “Sex”, the Options are “Male”, “Female”, and “Unknown”.



The description of Attributes, Sub-Attributes, and Options across the Categories used in SMART for Health is provided in the data dictionary accessible [here](#). Sheet names of the data dictionary are labeled by Category and display the corresponding Attributes, Sub-Attributes, and Options.

# GENERAL SMART MOBILE FUNCTIONS

## CONFIRM OR DISREGARD DATA

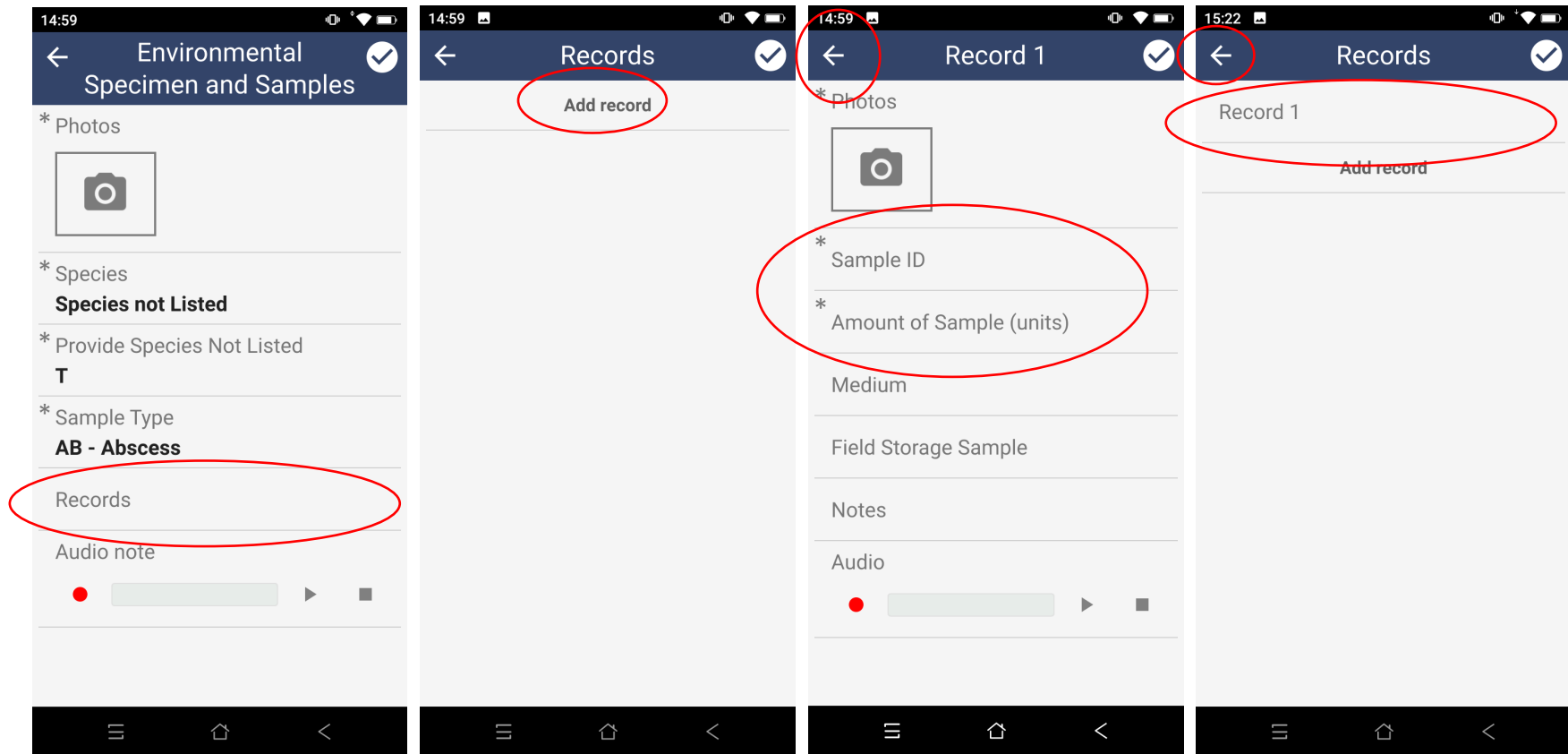
As a general rule, the checkmark sign on the screen's top right corner must be clicked to confirm the addition of data to each Attribute and to add the data in a completed Category to the **Wildlife Health Event**. To skip the addition of data and return to the previous screen, select the left arrow on the top left corner.



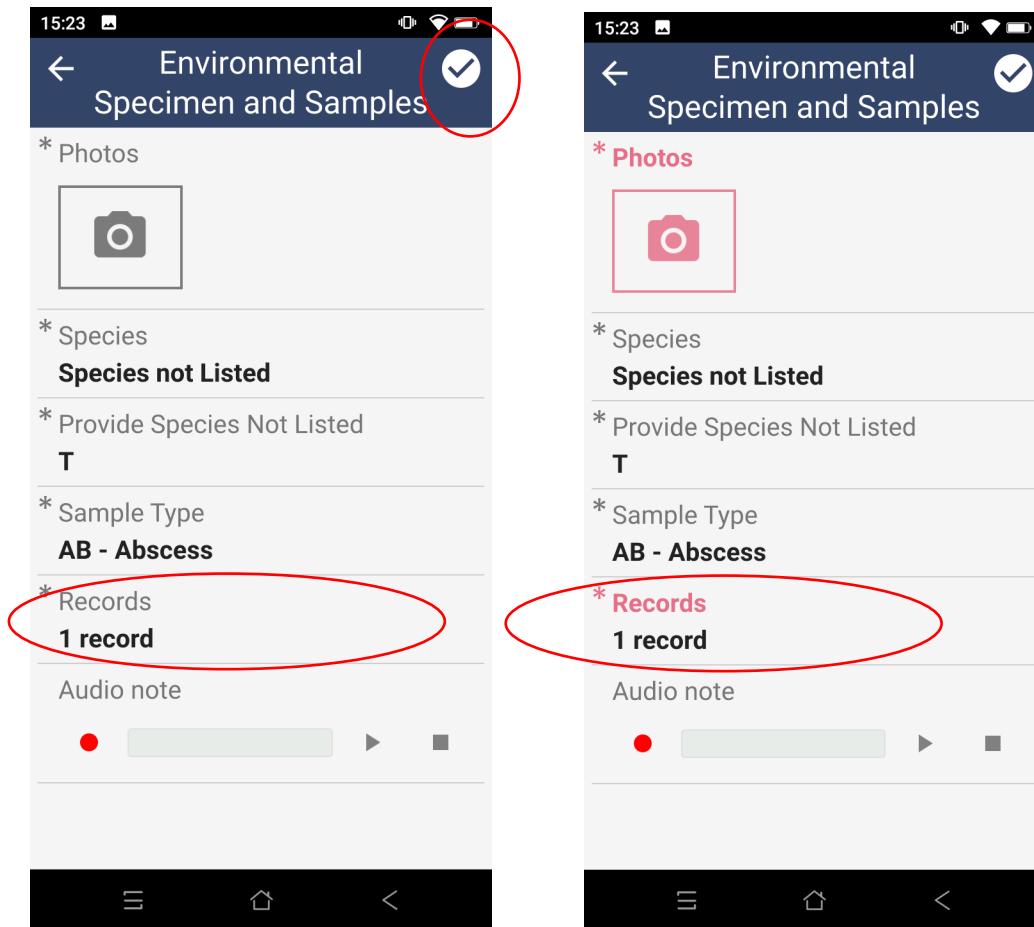
When mandatory Attributes are not yet completed and the checkmark button is clicked on, data in the corresponding Category will not be added to the Event and the missing mandatory Attributes will turn red.

**If the user clicks on the checkmark to confirm the data provided in a Category, but mandatory Attributes are empty, then it will not be possible to confirm the information and the missing mandatory Attributes will turn red.**

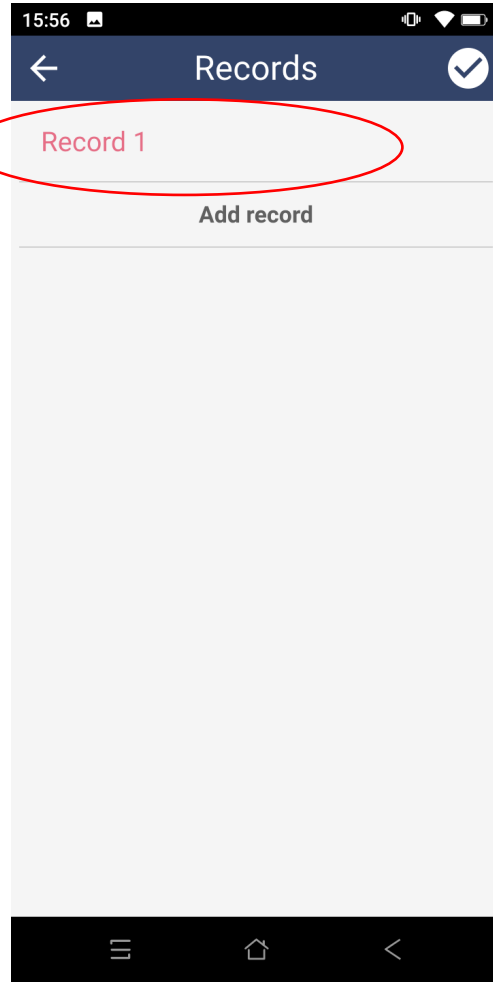
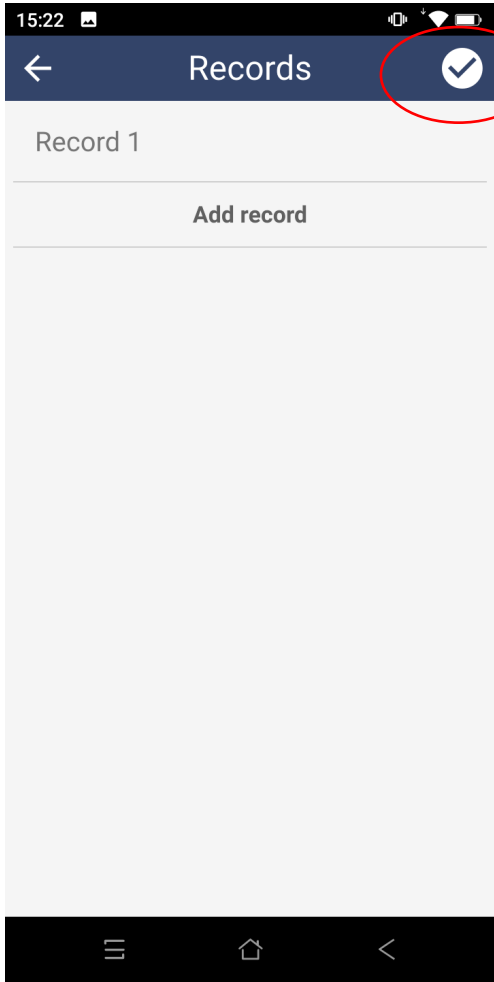
There is one special case to this functionality: Records (see page 55). Once the “Records” button is clicked on and then “Add Record” is selected on the next screen, an individual “Record #” screen appears. Selecting the top-left arrow to leave the “Record #” screen without entering data or not entering the mandatory fields will add a record in the “Records” screen (even when the record itself has no data or mandatory fields are missing). See below:



Then, it is possible to click on the left-arrow and the user will return to the “Category” screen. The number of records provided in the “Records” Attribute will include records without data or with mandatory fields missing. However, clicking on the “Category” screen checkmark turns all incomplete mandatory fields red, including the “Records” Attribute. This step ultimately prevents a user from adding a record (a sample in the case of SMART for Health) that is missing mandatory fields.



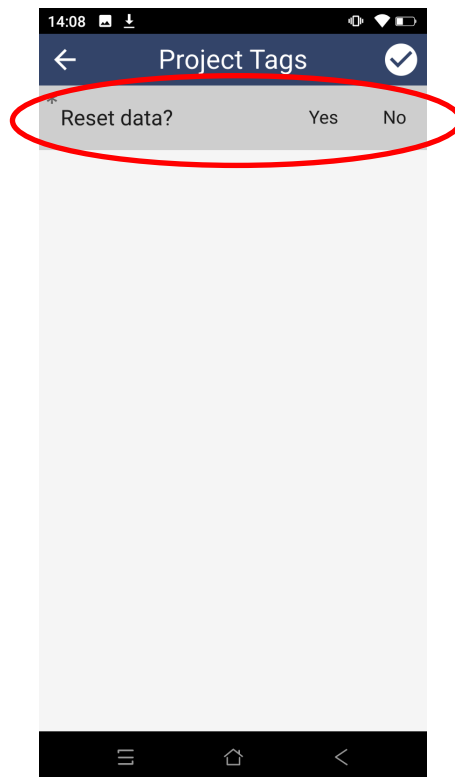
Alternatively, click on the checkmark symbol in the “Records” screen to try to confirm the addition of a record missing mandatory fields (instead of clicking on the left arrow). In this case, the record turns red and the user is prevented from returning to the “Category” screen until the data is properly edited or added.





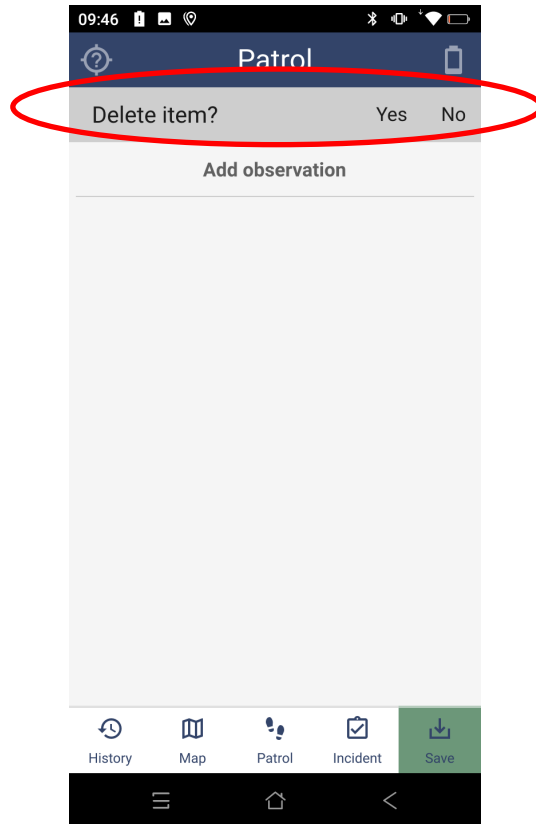
## CLEAR THE DATA OF AN ATTRIBUTE

To clear the data entered in an Attribute, click and hold on the Attribute and slide the finger to the left. The question “Reset data?” will pop-up. Select “Yes” or “No” to confirm or cancel the clearance.



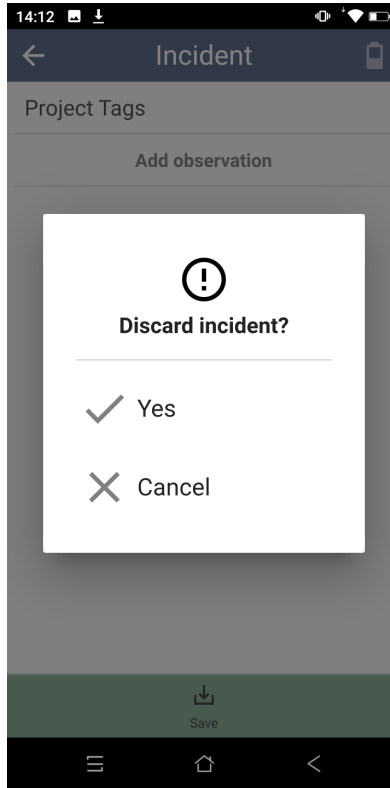
## DELETE A CATEGORY ADDED TO AN EVENT

Once the data for a Category has been completed and confirmed, it will be included as the part of the **Wildlife Health Event's** information. If the user wants to clear a specific Category that has already been added to the Event, click and hold on the corresponding Category, and then, slide to the left. The question “Delete item?” will show up. Click on “Yes” or “No” to confirm or cancel the deletion.



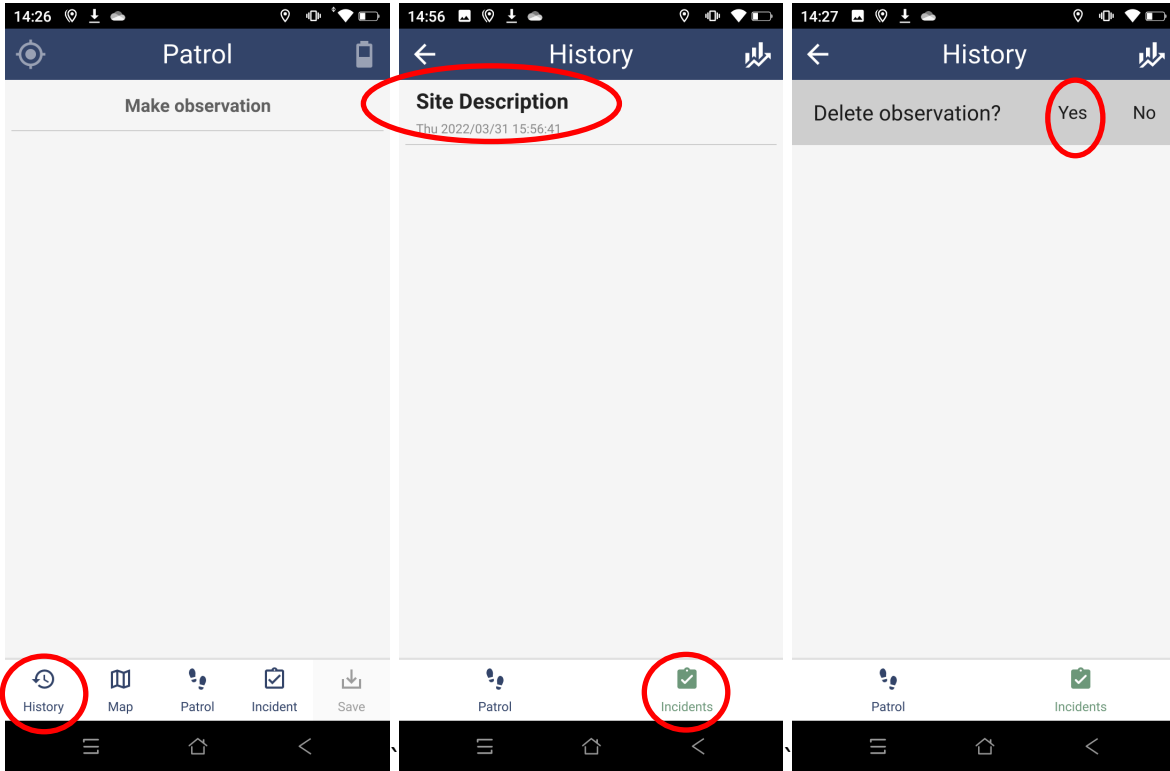
## DISCARDING AN INCIDENT BEFORE SAVING IT

To discard a **Wildlife Health Event** recorded as an **independent Incident before saving it**, click on the left-arrow on the top-left screen. A new window will prompt asking “Discard Incident?”. Click on “Yes” and hold until the green bar is full to complete the action.



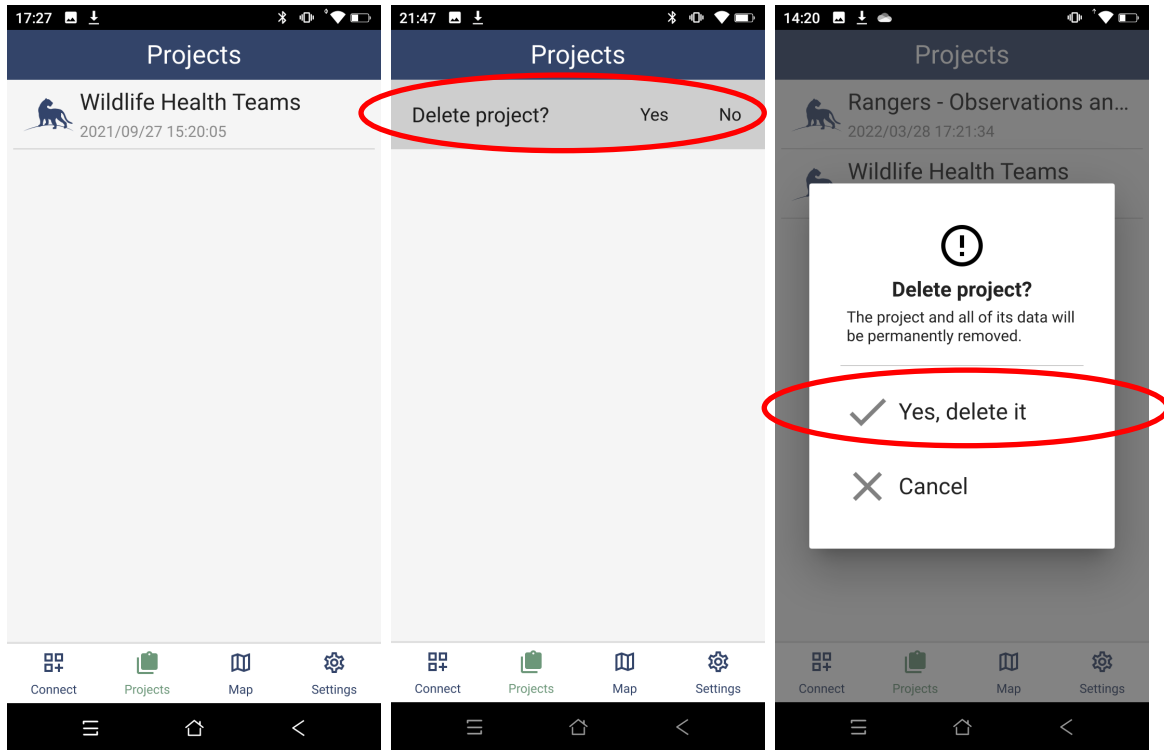
#### DISCARDING AN INCIDENT AFTER SAVING IT

To discard a **Wildlife Health Event** recorded as an **independent Incident after saving it**, go to the “History” tab on the bottom-left of the “Patrol” screen. Click on the “Incident” tab on the bottom-right of the “Patrol” screen and click on the Observation and slide to the left. Answer “Yes” to the question “Delete Observation?”



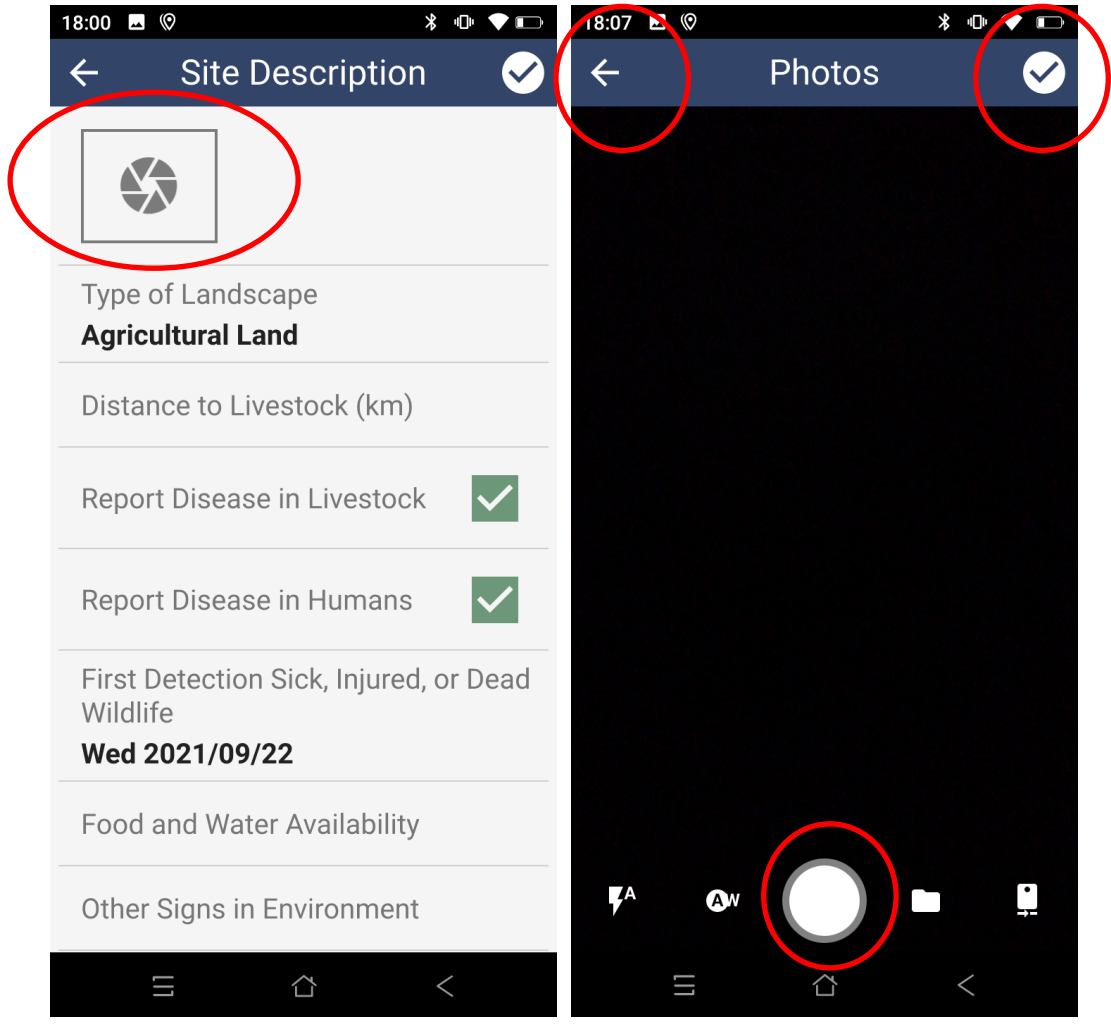
## DELETE A SMART PROJECT

Technically, **SMART for Health – Health Teams** is a **Patrol Package** created in SMART Desktop **loaded in SMART Mobile as a SMART Project**. Therefore, to update to the latest version of SMART for Health, users should delete the current loaded SMART Project. To accomplish this, go the “Projects” screen. Click on the “Wildlife Health Teams” Project and slide to the left. The question “Delete project?” will appear. Click “Yes” and a new window will prompt the user to confirm the deletion. Click and hold the “Yes, delete it” until the green bar is full and the Project will be deleted.



## TAKE PHOTOGRAPHS

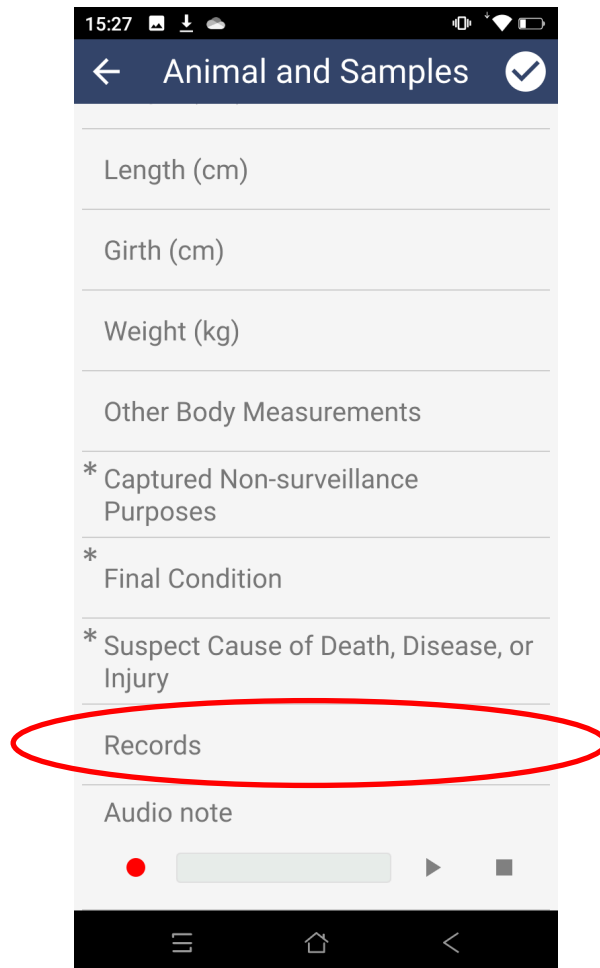
To add photographs, click on the shutter symbol and use the smartphone as a camera. Click the large white circle bottom-center to take a photograph and then click on the checkmark to accept. The photographs will be added sequentially next to the shutter symbol. Click on the top-left arrow to exit the camera. To delete a photograph already accepted, click on the photo and select the trash can.



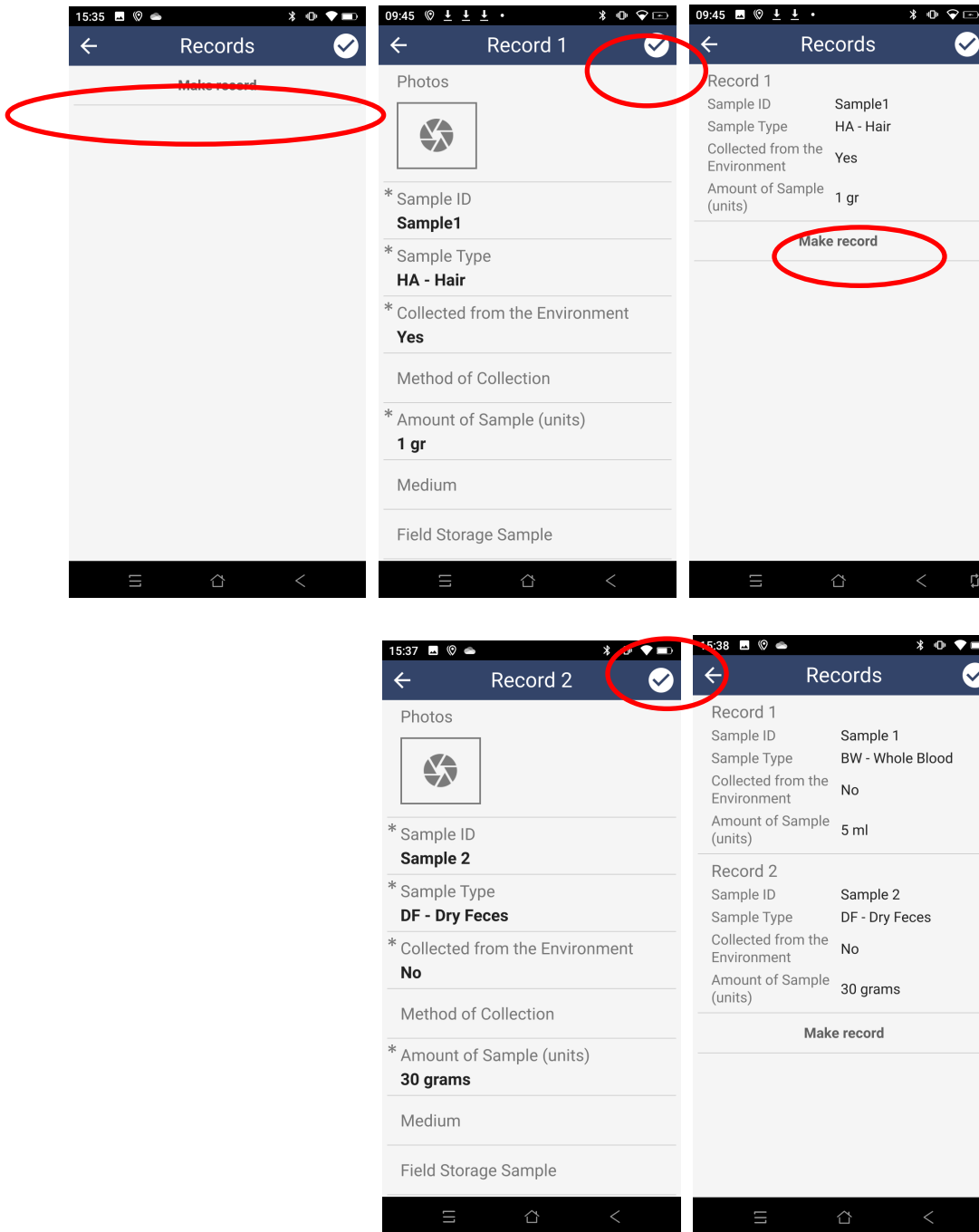
## ADDING NESTED DATA

SMART allows the collection of nested data, meaning you can use a single Category (Example: Animal and Samples) to collect information about an individual and samples collected from that individual. The nested connection between the individual animal and samples taken from it are automatically established. This helps prevent errors in sample origin that often arise from having to manually track this data (for example tracking and associating each Specimen and Environmental Specimen to their samples).

When a Category provides the possibility to add nested data, a “Records” Attribute will be presented on the first screen of Attributes.



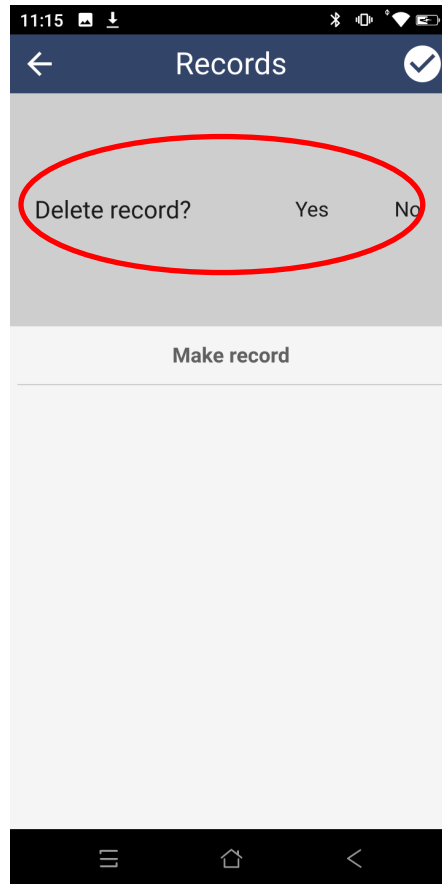
Clicking on the “Records” Attribute from within a Category will open the “Records” screen. To add a nested record, select the “Make record” button. The Category’s second-level screen, “Record 1”, will be prompted and it contains the corresponding Sub-Attributes. Once the user completes the Sub-Attributes and clicks on the checkmark, the record will be added to the list of nested **records**. To add a second record click on the “Make Record” button again (see below).





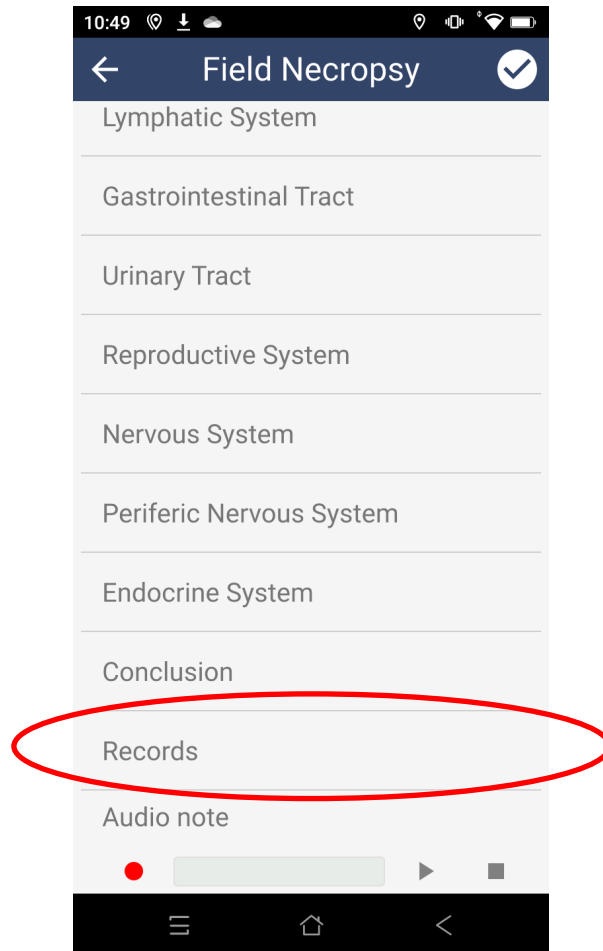
## DELETE A RECORD

To delete a nested record click and hold on the corresponding record, and then, slide to the left. The question “Delete Record?” will show up. Click on “Yes” or “No” to confirm or cancel the deletion.



## RECORDING AUDIO NOTES

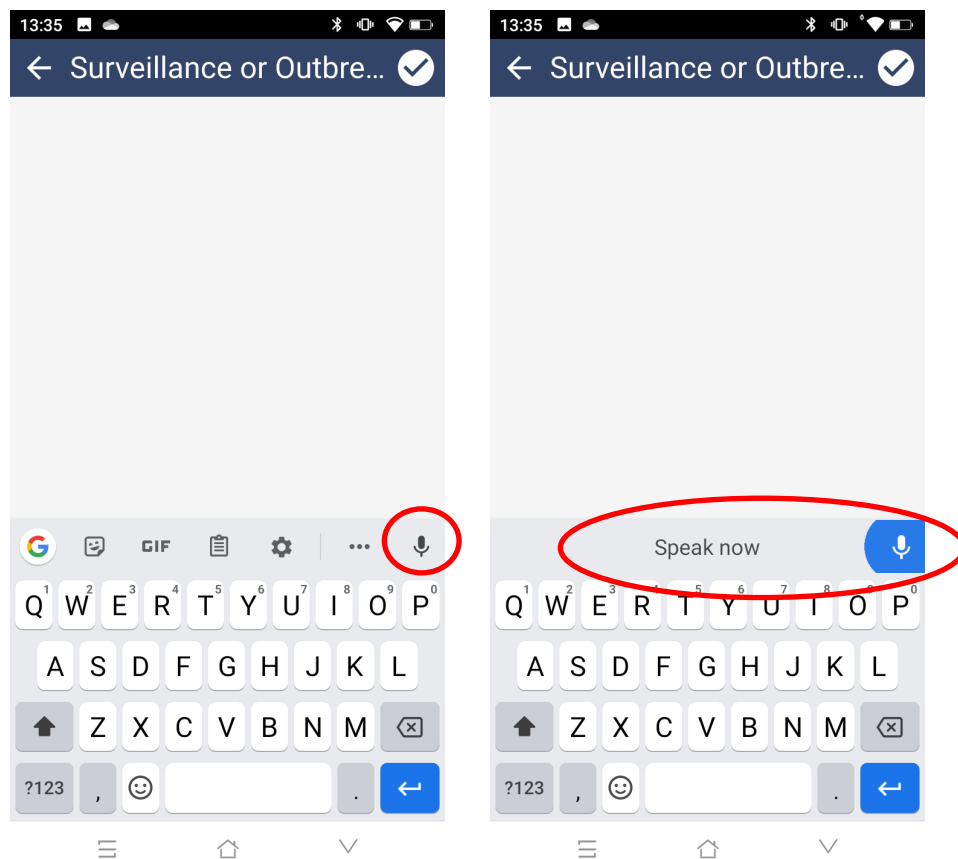
In SMART Mobile users can record **a single audio file per Category**. To record the Audio note, the user selects the red circle of the Audio Attribute. The grey square will become black. Once the Audio note is completed, click on the black square and the recording will stop. The play button plays back the Audio note. Although the Attribute is available, we recommend **not to using this feature**.



## INSERTING TEXT IN TEXT ATTRIBUTES

When a **text Attribute** is clicked to enter text data, it is possible to use the **voice to text** feature if the user device supports it. If the voice to text feature is not functioning in SMART for Health on Android devices, try installing the Gboard app by Google.

Once a text Attribute is selected, the digital keyboard appears with a microphone icon above the keyboard to the right. Click on the microphone icon and release. The microphone icon will turn blue and a “Speak Now” message appears. Speak normally for voice to text transcription. Click the microphone icon again when finished to stop transcription.



**Currently, this feature only supports English language voice to text.**

## USING SMART FOR HEALTH

Now that you have gained some familiarity with the functions of SMART Mobile as well as the structure and terminology used to describe SMART for Health, the following section explains how to effectively use this data collection tool.

### LOAD THE LATEST VERSION OF SMART FOR HEALTH IN YOUR DEVICE

1. **Delete the “Wildlife Health Teams” Project before starting field activities.**

- Follow instructions in page 52

2. **Install the latest version of SMART for Health**

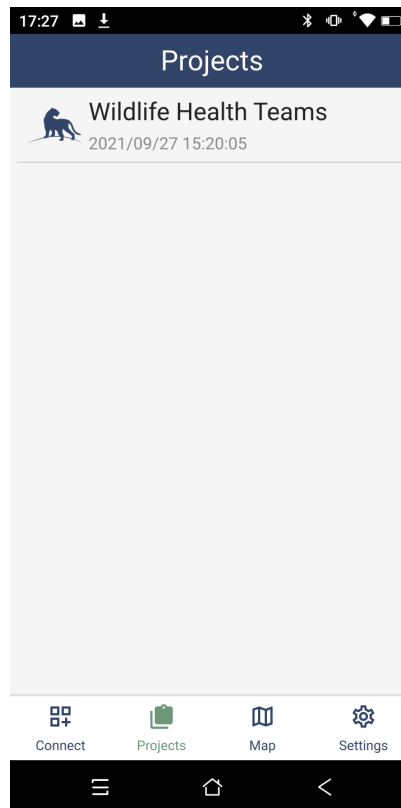
- Follow instructions in pages 15 – 26

**Updating to the latest version of SMART for Health is important because certain Options or Attributes may have been modified since the last time the patrol package was used.**

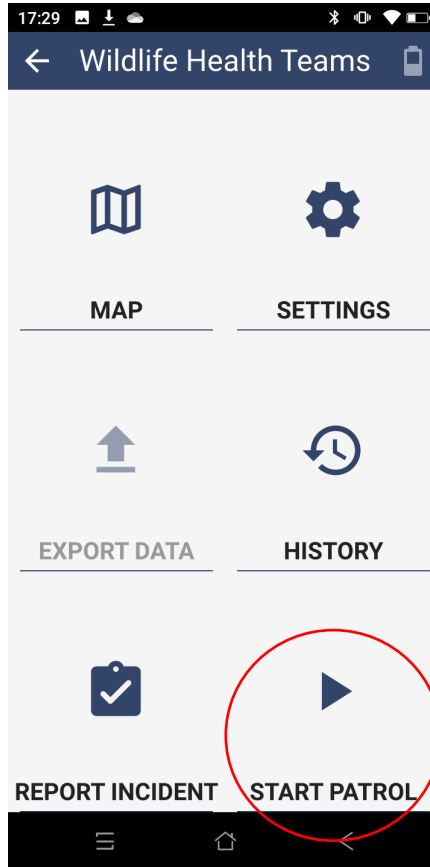
## START A PATROL

### 1. Open the SMART Mobile. The first screen is the Projects screen.

- Once SMART Mobile App is opened and SMART for Health is loaded, the first screen of the app shows the list of **SMART Projects**. If the “Wildlife Health Teams” Project is the only one loaded in the app the screen will look like this:

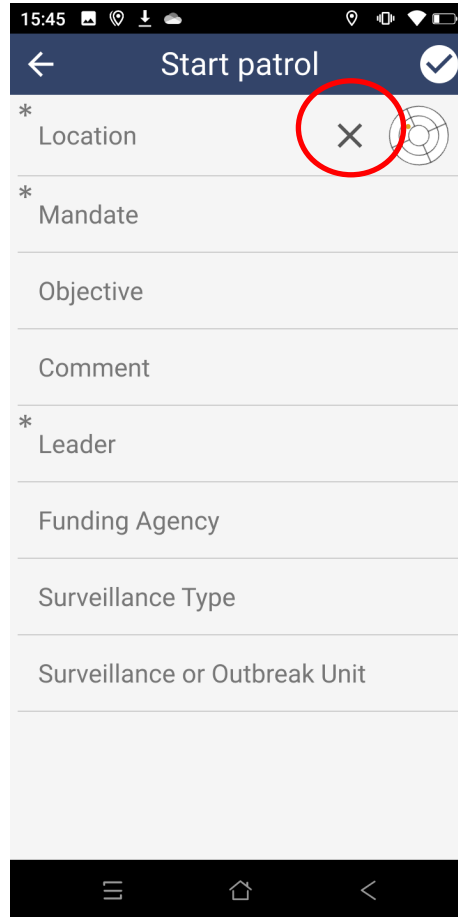


- Click on “Wildlife Health Teams”
- Once the **SMART Project** “Wildlife Health Teams” is selected, several options are shown:

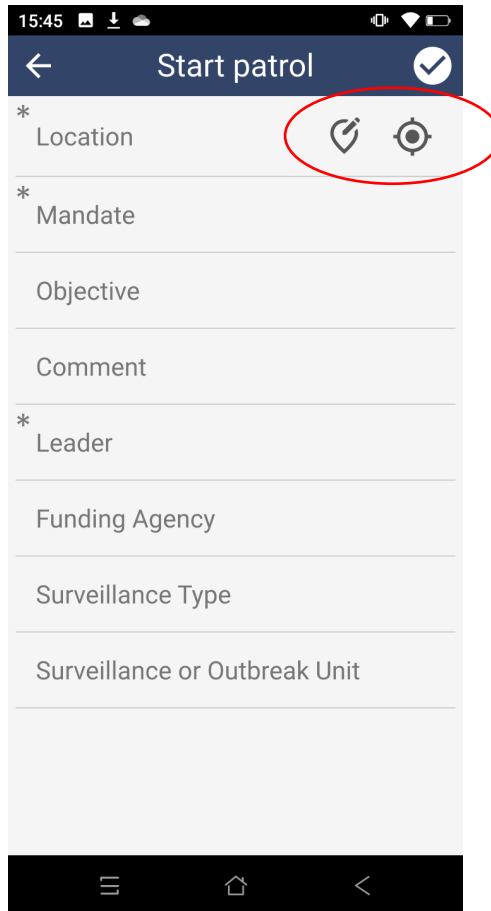


## 2. Start a Patrol and complete the Patrol Information

- Click on "Start a Patrol" and complete the Patrol information
- The "Location" field in SMART 7 is recorded automatically using the smartphone GPS location. Under special circumstances it can now also be recorded manually in SMART 7.



To manually enter a location, click the 'X' symbol (above) and two new icons will appear (see below): a location editor (left) and a target (right). The target is the default to establish the location automatically. If a location was already established, the coordinates will already appear next to the location editor and target.

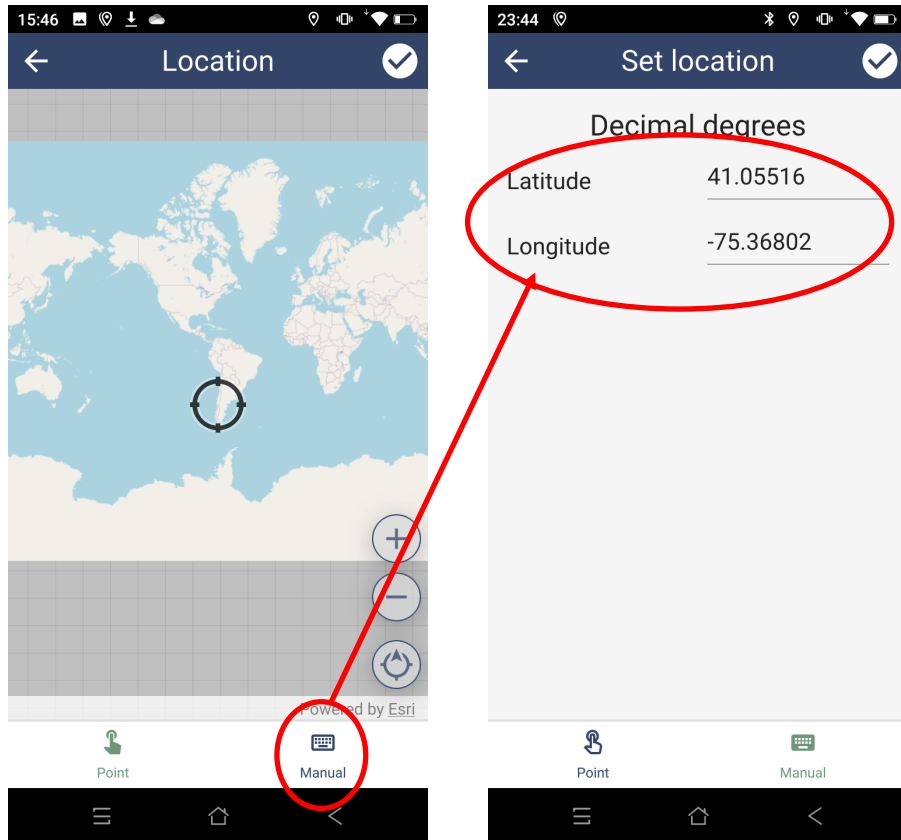


The Location Editor opens the “Location” screen with two options:

“Point” simply allows the user to see their location on the map.

“Manual” allows the user to enter the longitude and latitude in decimal degrees manually. See next page.





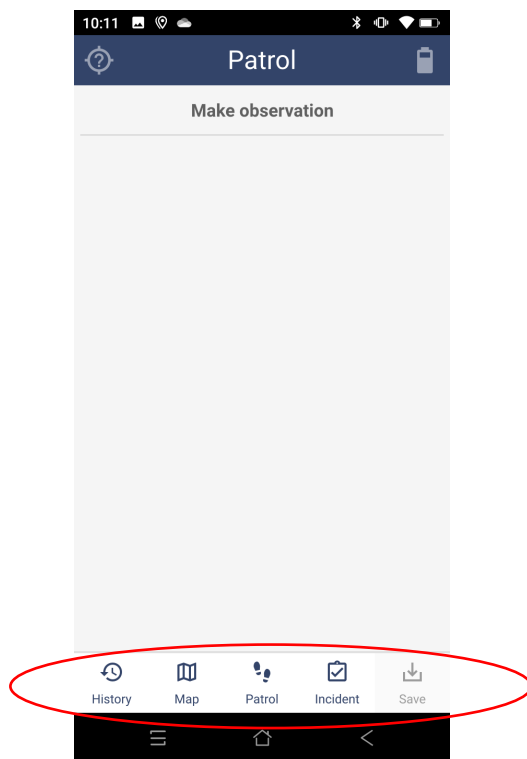
- Once a location is recorded, complete the remaining **Patrol** Attributes. Most of the fields present a list of options, for example, "Employees" and "Leader" (the options for "Leader" are provided once the corresponding employees are selected in the "Employees" Attribute). The options provided should make sense to the team you are working on (for example, the names must correspond to members of your surveillance team). If they do not contact [dmontecino@wcs.org](mailto:dmontecino@wcs.org) or your Health focal point.



- The “Mandate” options will depend on the original purpose of the Patrol. For Health Teams it will always be “Wildlife Health Surveillance”.
- Complete the “**Funding Agency**” and the “**Surveillance Type**” fields. These fields provide a list with options for agencies funding the surveillance activities and the different types of surveillance: scanning, targeted, and which pathogen. The coding of the options depends on the project.
- Complete the “**Surveillance or Outbreak Unit**”. A **Surveillance or Outbreak Unit** is a set of surveillance activities that share the same goal and occur within a determined time period and area.
- For a definition of the Attributes in the “Start Patrol” screen and their Options see [here](#).

All the Patrols created to collect data for a Surveillance or Outbreak Unit (e.g., same field trip, same market sampling event, same outbreak investigation) must have the same information with respect to the Funding Agency, Surveillance Type, and Surveillance or Outbreak Unit. These three fields are required for all Patrols. Ideally they would be marked as mandatory but SMART software current limits the fields that are marked as mandatory for Patrol Information.

- Once the Patrol Information is entered and completed, click on the checkmark at the top-right of the screen and the “Patrol” screen will appear to create the very first **Wildlife Health Event** of the **Patrol**



Note at the bottom of this screen are the buttons “History”, “Map”, “Patrol”, “Incident”, and “Save”.

The “**History**” button allows the user to check the data from **previous Wildlife Health Events**. If an Observation for the **Wildlife Health Event** has not been created yet, this option will provide no information.

The “**Map**” button allows the user to see the track of the **Patrol** up to the present location

The “**Patrol**” button has different options:

**End Patrol:** completes and saves a **Patrol**. This option should be selected when the Patrol is over and the user wants to save the **Patrol** data.

**Pause Patrol:** is used to temporarily stop a **Patrol**. For example, when the assessment of a lake takes two full days and the team wants to include all the **Wildlife Health Events** found on the second date in the same **Patrol**. The **Patrol** can be paused at the end of day one and resumed on day two.

**Change Patrol:** edits the initial information entered at the start of a **Patrol**.

**Statistics:** provides information on the **Patrol** including the start date, the start time, the distance travelled, and the average speed.

**Toggle Dark Theme:** Changes the colors of the app. Dark theme may improve visibility of the app under low-light conditions and save battery.

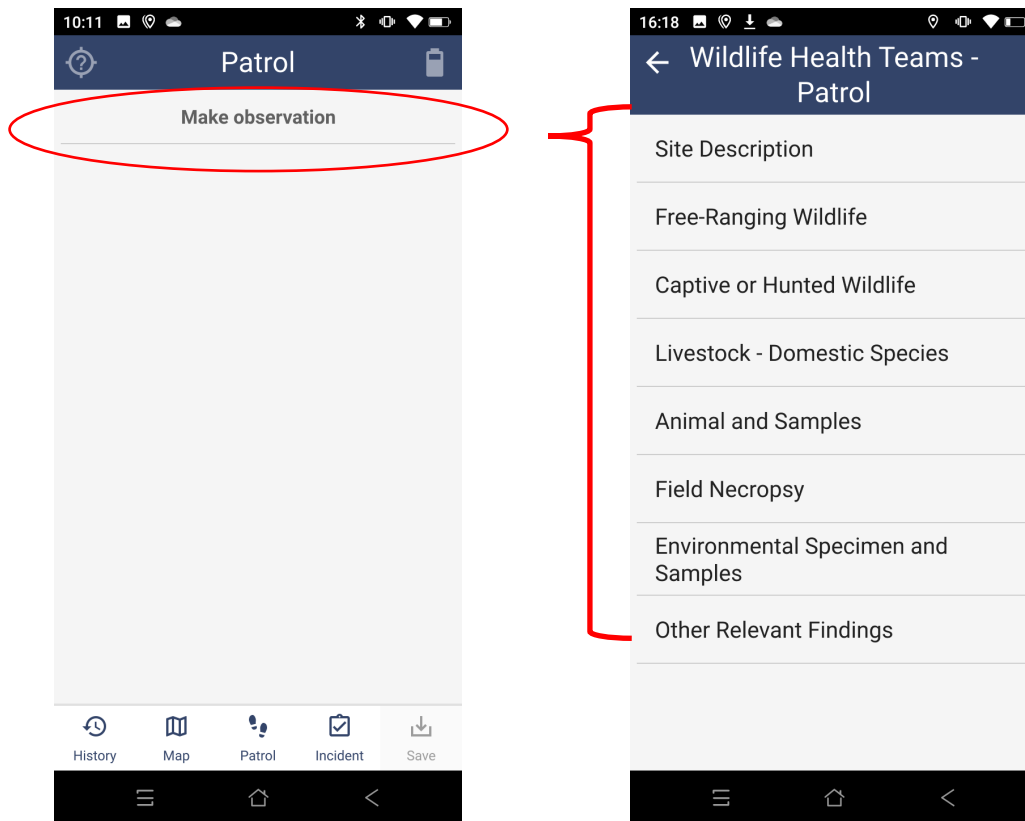
The “**Incident**” button is used to record an Event outside of the Patrol. See “Record an Event Outside of a Patrol”

The “**Save**” button is to save a **Wildlife Health Event**. Select this button once all the Observations for the current Event have been collected.

## CREATE A WILDLIFE HEALTH EVENT

To create a **Wildlife Health Event**, SMART for Health users add Observations using the different Categories:

1. **Click on the “Make Observation”** option of the “Patrol” screen to add the very first Observation of the very first **Wildlife Health Event** of the **Patrol**. Selecting this option opens the menu of Categories:



**Wildlife Health Event (Event):** is a discrete spatiotemporal set of field observations and specimens that are relevant for wildlife health monitoring or surveillance.

**Wildlife Health Event** examples include: (1) a group of dead, live, and sick waterfowl on the shore of a patrolled pond, (2) the presence of healthy individuals of a species that is susceptible to a pathogen of interest (healthy wild boars found while investigating the presence of African Swine Fever virus), (3) the collection of samples at a commercial trade location or farm, (4) the identification of poisoned carnivores during a field mission, (5) an injured herbivore, and (6) findings at discrete spatiotemporal locations during an outbreak investigation.

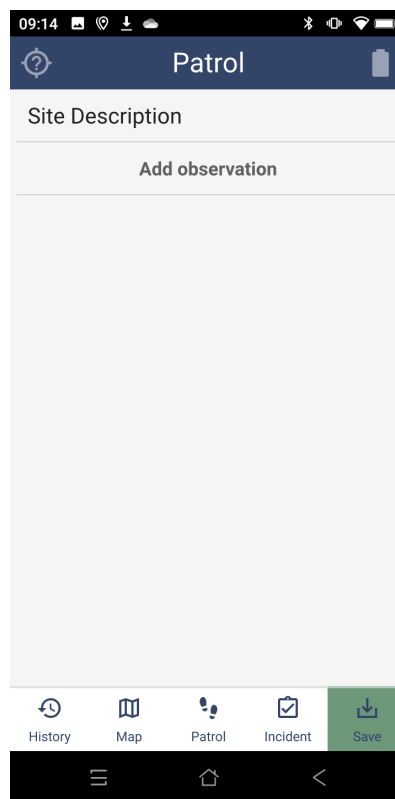
A **Wildlife Health Event** contains at least one Observation and as many Observations as needed.

Each Category collects information for different units at different levels, from Event up to Samples collected (see table below repeated from the previous section).

Category	Hierarchy Level
Site Description	Event
Free-ranging Wildlife	Species
Captive or Hunted Wildlife	
Livestock – Domestic Species	
Animal and Samples	Individual Sample
Field Necropsy	Individual
Environmental Specimen and Samples	Environmental Specimen Environmental Sample
Other Relevant Findings	Other Feature

## COMPLETE THE EVENT LEVEL DATA

- Click on the **Site Description** Category and select Options for the different Attributes. Click the squares “Report Disease in Livestock” and “Report Disease in Humans” if the user wants to check them as positive (leave them blank for negative). Take photographs of the area if relevant.
- Once the Attribute selections are completed and you are satisfied with the entry, click on the checkmark. Clicking on the checkmark will take the user back to the “Patrol” screen again and the new Observation (“Site Description”) will be listed for the current Event.
- If you want to cancel a completed Category, select the top-left arrow.



- Now, the screen will read “Add observation” instead of “Make observation” (see above)
- Click “Add observation” to add more Observations to the current Event

**Remember, an Event requires the “Site Description” Category. The use of the remaining Categories will depend on the user’s findings and what users collect.**

#### COMPLETE THE SPECIES LEVEL DATA

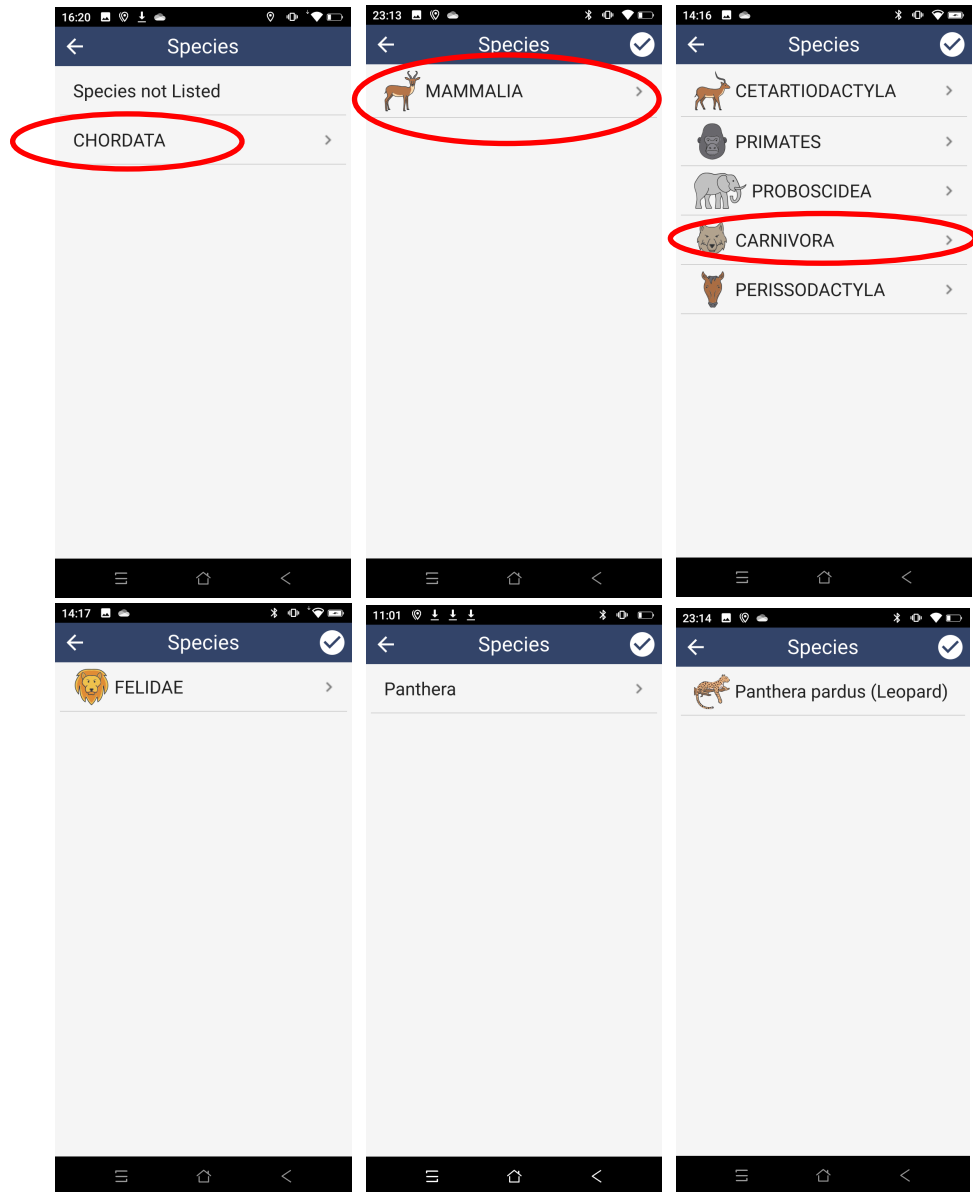
Depending on the species observed and their captivity condition, any number of observations involving “Free-ranging”, “Captive or Hunted Wildlife”, or “Livestock – Domestic Species” can be added. See the table below for guidance on how to use these Categories.

Category	When to use it?
<b>Free-ranging Wildlife</b>	When the observed species is wildlife and the animals of the corresponding species are <b>moving freely without restriction</b> or when the individuals of the corresponding species are <b>temporarily captured for research or conservation</b> purposes
<b>Captive or Hunted Wildlife</b>	When the observed species is <b>wildlife</b> and the animals of the correspondent species are <b>captive or hunted through physical means</b> (snare, trap, shot, etc.). Wild poisoned animals are not classified as captive or hunted. The animals of the corresponding species can be “ <b>Hunted not Displaced</b> ” (animals are at original location but they are captured in trap, snare, or they were shot), “ <b>Hunted and displaced</b> ” (animals are captured and displaced from their original location in transit to another destination) or they can be located in a <b>farm, zoo, market, trade location, rescue center, or research facility</b> .
<b>Livestock – Domestic Species</b>	When the species is a <b>domestic animal</b>

- Provide the species observed. For “Livestock – Domestic Species” select from a pre-defined list of common names. For wildlife species, the Attribute “Species” is a hierarchy with “**Species not Listed**” and “**Chordata**”. Use the “Chordata” option to search for a specific species. Click on the corresponding taxa groups until arriving at the species and its scientific name. Click on the species and it will be recorded (see below).

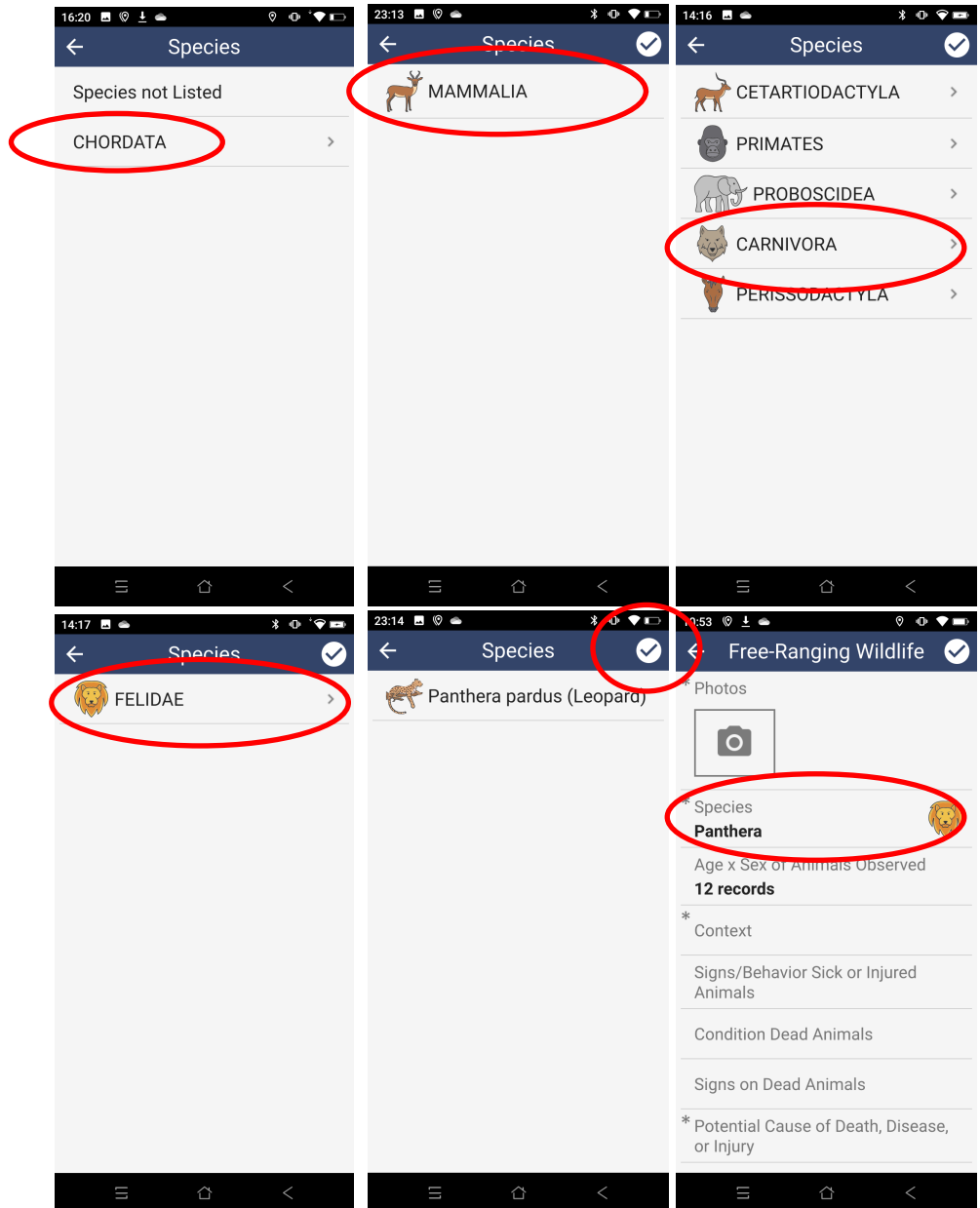


At least one animal of a species must be observed in order to record species level information (“Free-ranging Wildlife”, “Captive or Hunted Wildlife”, or “Livestock – Domestic Species”).



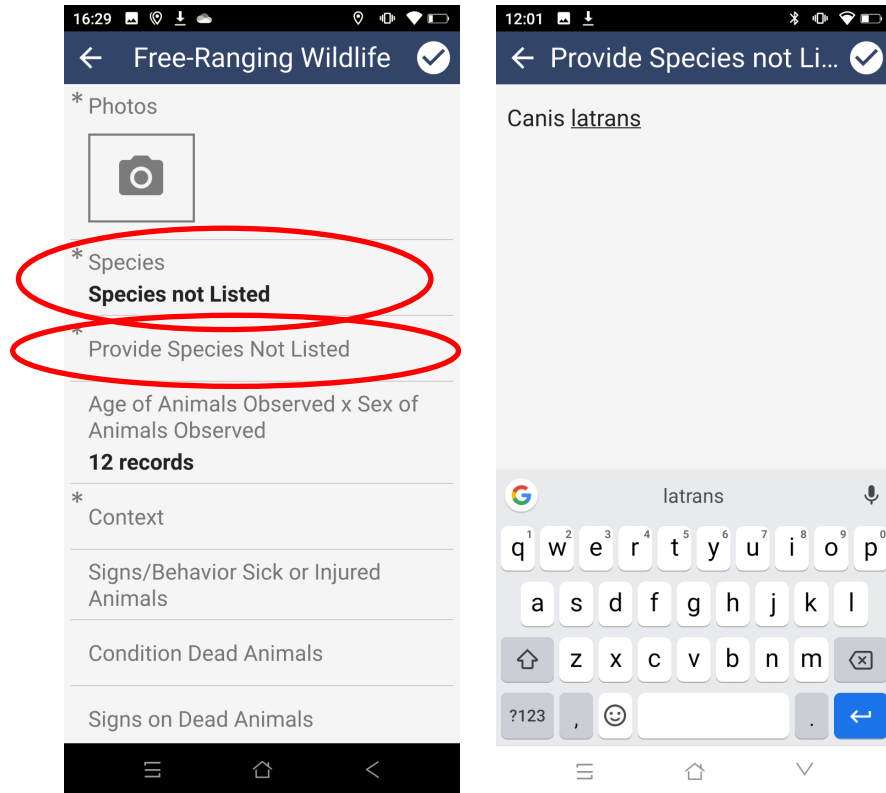
- It is also possible to record a higher-level taxon if, for example, the genus of the species is known but the full scientific name is unknown. To do this, the user moves one level lower than desired and selects the checkmark at that level. For example, if a species is identified to genus-level only, the genus is selected and in the next screen the list of species of the genus will be provided. If no scientific name is selected but **the**

checkmark is clicked on (instead of a species), then only the genus will be recorded. To add the taxonomic family the user selects the checkmark when the list of genera is shown (see below).



- If the taxonomy of the animal is known to any level (species, genus, family, etc.) but not listed, then click on “**Species not Listed**”. This selection will display a new mandatory Attribute: “**Provide Species Not Listed**”, which is a text Attribute. Type the species common or scientific

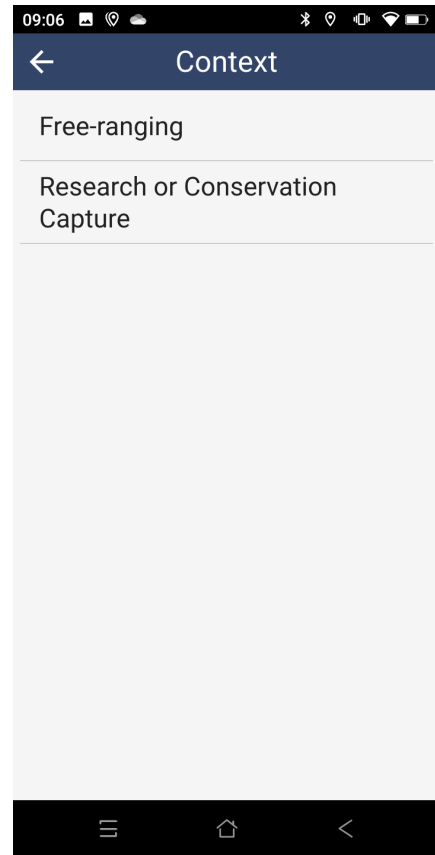
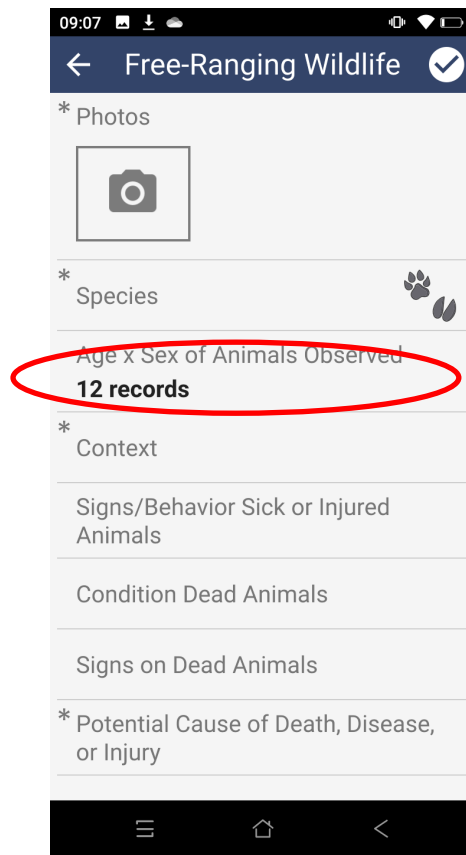
name, or any taxonomic information known (e.g. “Aves” if it is the only information known and “Aves” is not provided in the species list) and click on the checkmark.



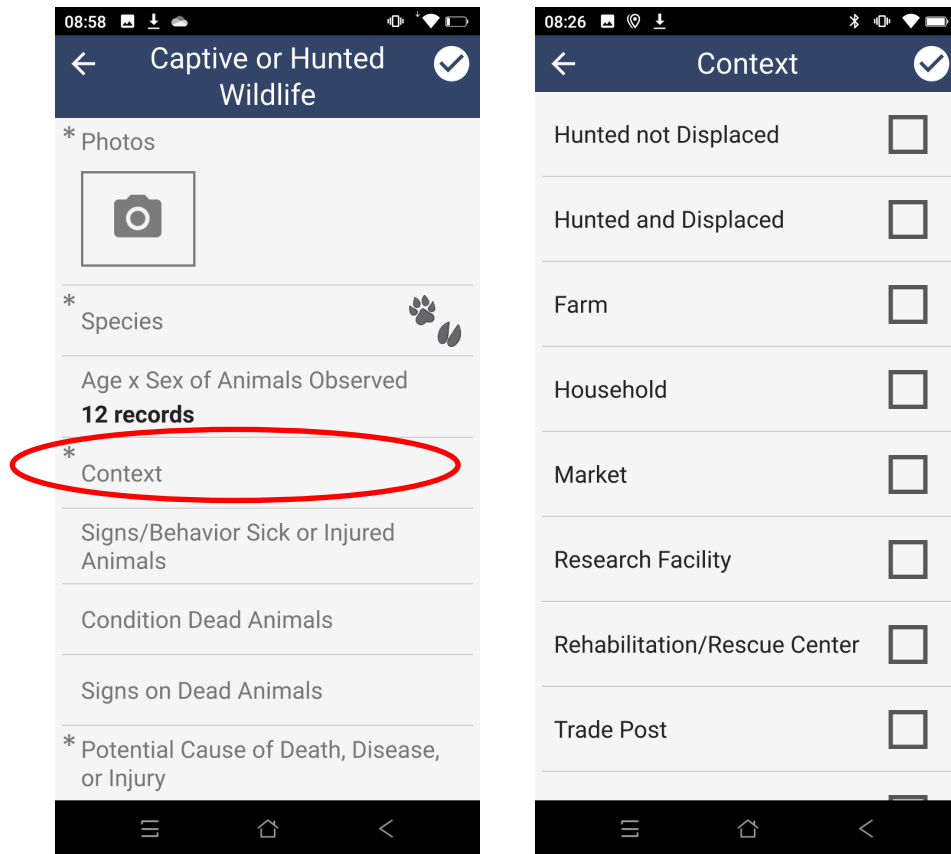
- Take photographs of the animals.
- Complete the “**Context**” Attribute. This list or multi-list Attribute is used to understand the capture, captivity, or hunting conditions of the animals within the corresponding “Free-ranging Wildlife”, “Captive or Hunted Wildlife”, or “Livestock – Domestic Species” Categories.

The “Free-ranging Wildlife” Category is used if the animals of the species are not captured or hunted or if they are temporarily captured for surveillance, research, or conservation reasons. To complete the “**Context**” Attribute in the “Free-ranging Wildlife” Category the user selects “Free-ranging” if the animals of the corresponding species are not captured at all or they are TEMPORARILY captured as part of the surveillance activities, or selects “Research or Conservation Capture” if

the animals are TEMPORARILY captured for research or conservation purposes (e.g., collaring or translocations).



In the case of “Captive or Hunted Wildlife”, the **Context** Attribute is a multi-list so several options can be selected. Choose “Hunted not Displaced” when the animals of the species observed are hunted in a trap, cage, snare, etc., or shot and choose “Hunted and Displaced” when the animals of the species observed are hunted and were moved from the original point of capture. Choose from the remaining Options (“Farm”, “Household”, “Zoo”, etc.) when the individuals of the species observed are in a captivity facility.

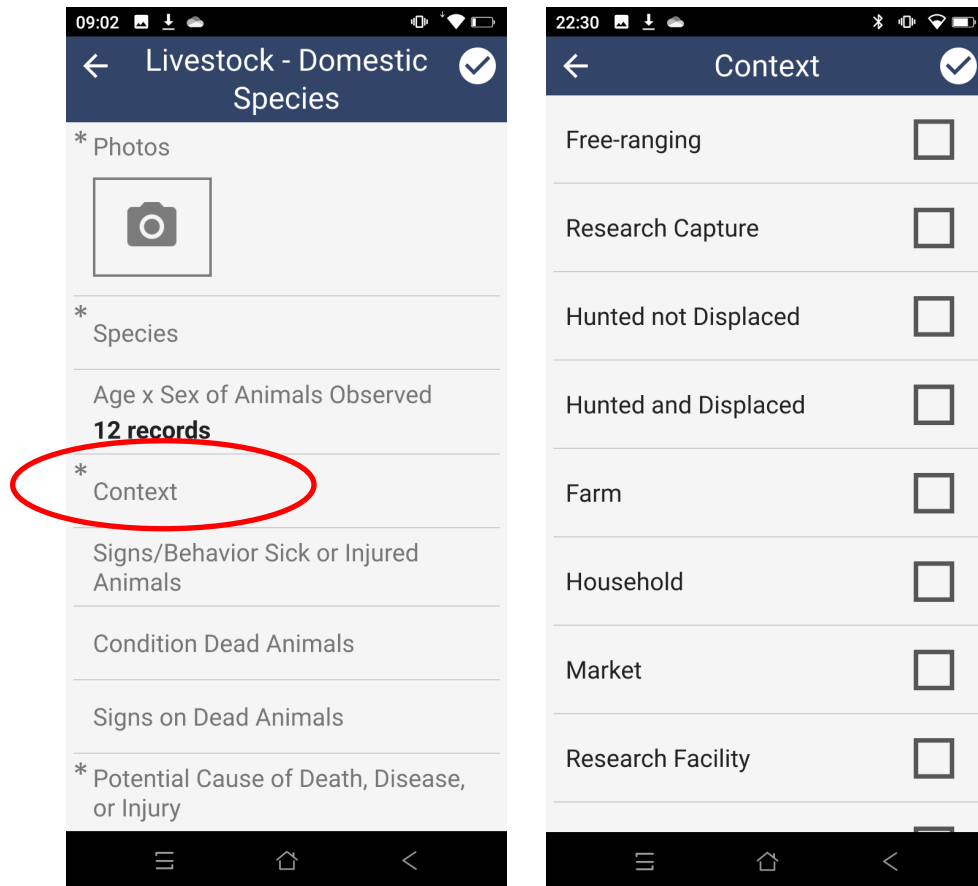


If the Attribute Options “Farm”, “Household”, “Market”, “Research Facility”, “Rehabilitation/Rescue Center” or “Zoo” or any of their combinations are selected for the Context Attribute, then a new set of Attributes will appear in the “Captive and Hunted Wildlife” screen. The Attributes are: “Captive Animals History”, “Housing Conditions”, “Interaction with Other Animals”, “Interaction with Staff”, and “Recent Management Change” (see below). These Attributes request information

about the captivity conditions of the animals belonging to the corresponding species. For a definition of the Attributes see [here](#).



To complete the “Context” Attribute for the “Livestock – Domestic Species” Category, follow the explanation provided in the paragraphs above. In this Category, the “Context” Attribute is a multi-list so several options can be selected. Choose the “Free-ranging” Option if the animals of the observed livestock or domestic species are not captured at all or are captured as part of the surveillance activities. Choose the “Research Capture” Option if the animals of the observed livestock or domestic species are captured for research purposes (e.g., collaring or translocations). Choose the “Hunted not Displaced” Option when the animals of the observed livestock or domestic species are hunted and trapped at the original hunting location. Choose the “Hunted and Displaced” Option when the livestock or domestic species observed is hunted and moved from the original point of capture. Choose from the remaining Options (“Farm”, “Household”, “Zoo”, etc.) when the individuals of the livestock or domestic species observed are in a captivity facility. For a definition of the Attributes and their Options see [here](#).



During a **single Wildlife Health Event** it is possible to **observe the same species with some “Free-ranging” individuals and some “Captive or Hunted” individuals**. In that case, the user should **enter the species twice, using the “Free-ranging Wildlife” Category and the “Captive or Hunted Wildlife” Categories**. The user should apply the same criteria for livestock species.

The **“Context”** Attribute is a **multi-list Attribute** in the “Captive and Hunted Wildlife” and “Livestock – Domestic Species” Categories; therefore, several Contexts for the same species could be recorded. It could be that during Avian Influenza virus surveillance the team finds **a group of 4 non-hunted dead mallards in the same location where a hunter is already carrying 3 dead mallards, and he is also picking 2 live mallards from a trap**.

Two Categories would be used to record this data. “Free-ranging Wildlife” for the observed 4 dead mallards not carried by the hunter or in the trap (once) and “Captive or Hunted Wildlife” for the mallards the hunter is carrying and for the ones in the trap (once because it is the same species).

Then for the “Context” Attribute record as follows:

“Free-ranging” Context in the “Free-ranging Wildlife” Category for the observed 4 dead mallards not carried by the hunter nor in the trap;

“Hunted and Displaced” and “Hunted and not Displaced” Contexts in the “Captive or Hunted Wildlife” Category, for the mallards in the hand of the hunter and in the trap, respectively.

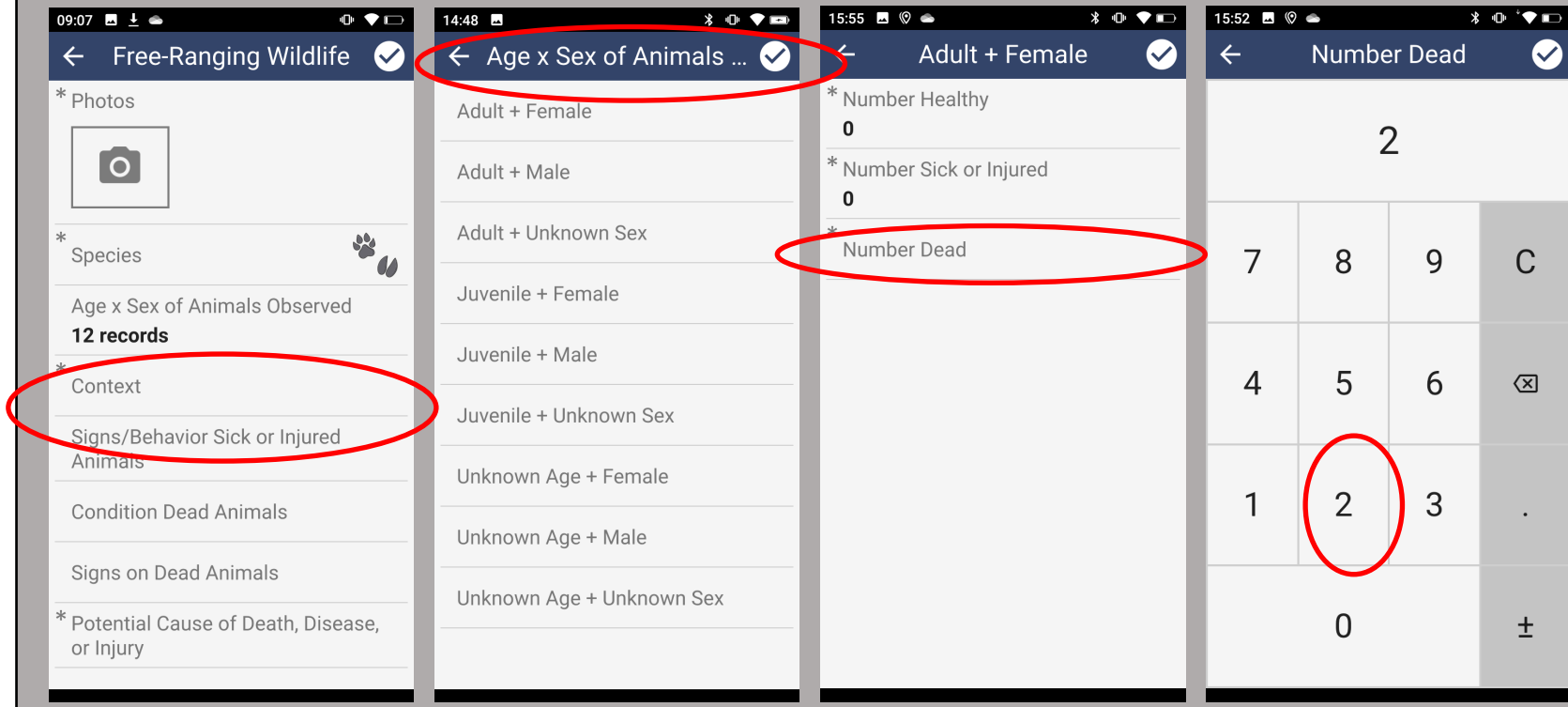
Animals in a **market may have been hunted at some point and displaced** to the market. **However**, the **“Context”** Attribute should be completed according to the captivity **at the time of observation only** (market in that case).

- Complete the Attribute Age x Sex of Animals Observed, which includes the **health status of each demographic category**
- The Attribute Age x Sex of Animals must be completed considering not only the animals of each species merely observed but also those that are sampled or whose carcasses are used for a field necropsy. **Therefore, provide all the animals observed per species, sampled or not, and necropsied or not.**



- The Attribute Age x Sex of Animals starts with 12 records, that assigns a value of 0 to each category. Select only the relevant categories and update the 0 value to the observed value. After the number of individuals per age, sex, and health status are provided, the number of records should also be 12.
- See the box below for an explanation how to use this Attribute

Complete the Age x Sex of Animals Observed Attribute: to complete the numbers per observed category, click on “**Age x Sex of Animals Observed**” to open the screen with the different age and sex category combinations. Then, select the corresponding observed categories for all the animals of the species being recorded. For example, if adult females are sighted, click on the corresponding Age x Sex category (“Adult + Female”). After clicking on the Age x Sex category, a new screen will open requesting the number of animals of the corresponding Age x Sex by **health status**. Click on each observed health status category to update the zero starting value to the corresponding number of animals. For example, the images below show an observed species record of 2 dead adult females. Once the numbers are correct click on the checkmarks to store the numbers of individuals.



If 5 dead and 5 sick or injured ducks of the same species are found, and only two of those ducks are sampled and none is necropsied, then the total number of individuals entered in the Age x Sex of Animals Observed Attribute will be ten. The distinction of the two ducks sampled will be generated using the “Animal and Samples” Category.

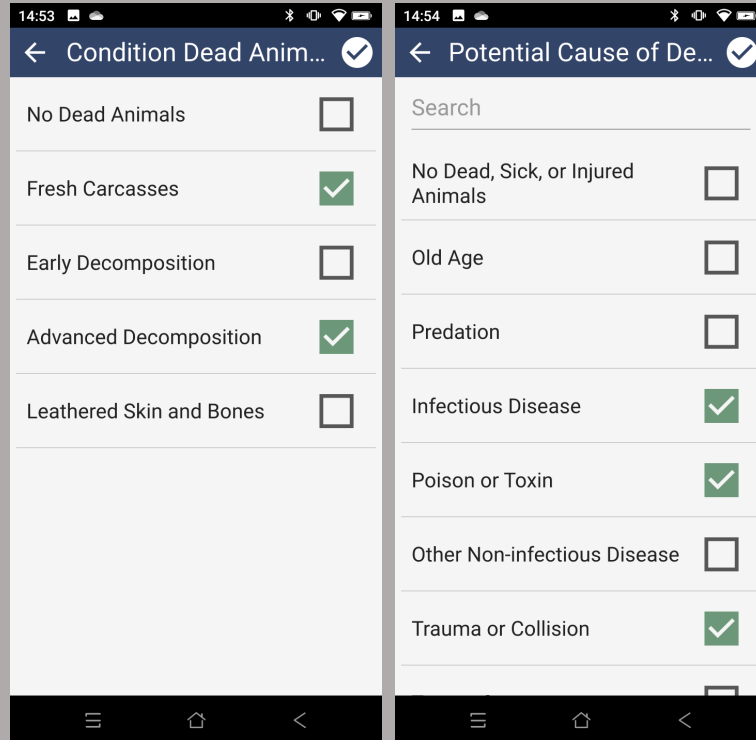
**If it is epidemiologically relevant, a Wildlife Health Event may include a one or more species whose individual animals are all healthy!**

**If it is epidemiologically relevant, an Wildlife Health Event may include livestock or domestic species!**

For example, the team may be conducting African Swine Fever surveillance and they observe a family of domestic pigs whose individuals are all healthy. For the purposes of the surveillance, this is a relevant observation of healthy individuals of a domestic susceptible species.

- Complete the “**Signs/Behavior Sick or Injured Animals**” Attribute by providing a description of the observed problems in the individuals of the corresponding species
- Complete the “**Condition Dead Animals**” Attribute which refers to the condition of the carcasses of the observed dead animals of the species recorded
- Complete the “**Signs on Dead Animals**” Attribute by providing a description of the clinical findings observed in the animals of the species recorded
- Complete the “**Potential cause of Death, Disease, or Injury**” by providing an assessment of the suspected cause of death, disease, or injury of the animals of the recorded species

Because the animals of the species recorded could present variability in terms of the “**Condition Dead Animals**”, and the “**Potential Cause of Death, Disease, or Injury**” **more than one option can be selected** in these Attributes (see green checkmarks below) . If **no animals are dead**, then choose “**No Dead Animals**” for the “**Condition Dead Animals**” and “**No Dead, Sick, or Injured Animals**” for the “**Potential Cause of Death, Disease, or Injury**” Attribute.

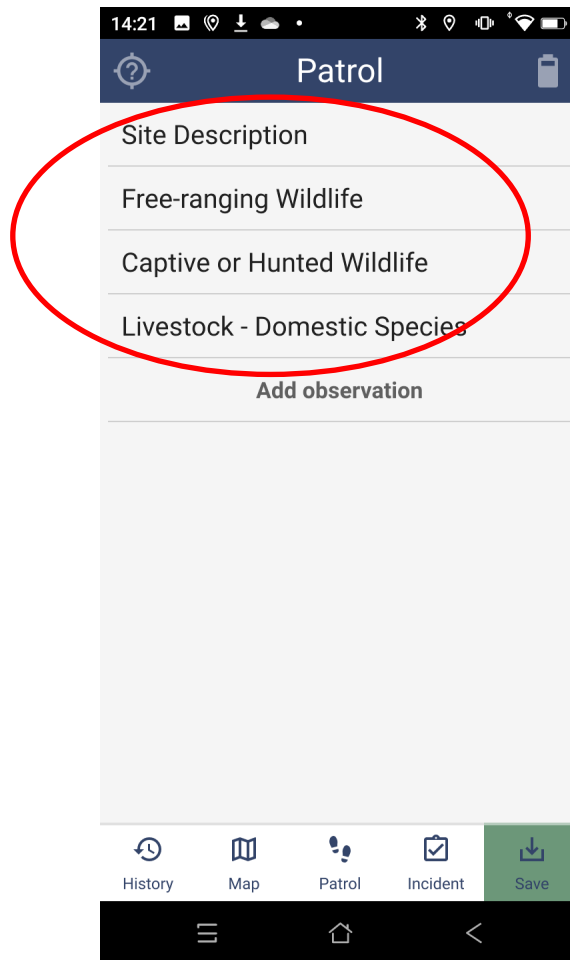


If no animal is sick or injured, then leave “**Signs/Behavior Sick or Injured Animals**” empty.  
If no animals are dead, leave “**Signs Dead Animals**” empty.

- Complete the remaining Attributes. For a definition of the Attributes and Options see [here](#).
- If you want to cancel the completed Category, select the left arrow. Clicking on the checkmark will move the user to the “Patrol” screen again and the new Observation (“Free-ranging Wildlife”, “Captive or Hunted Wildlife” or “Livestock – Domestic Species”) will be listed for the current Event.

A **Wildlife Health Event** recorded within a **Patrol** and with:

- **A free-ranging species, a captive species, and a livestock or domestic species** looks like this:



---

## COMPLETE THE INDIVIDUAL ANIMAL LEVEL DATA

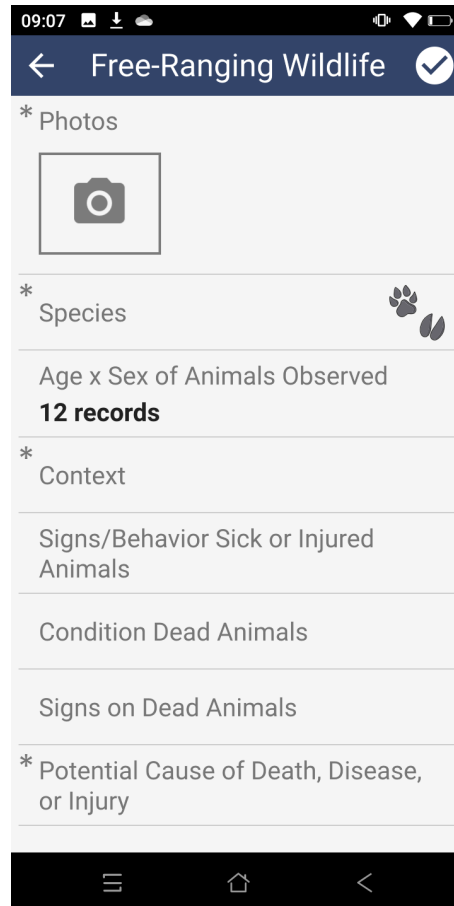
**Individual animal data is needed only for those healthy, sick or injured, and dead animals that provide samples, or whose carcass is or will be used to conduct a necropsy, or if any diagnostic method is or will be conducted on them or with their tissues (e.g. radiology, ultrasound, or histopathology).**

Add as many “Animal and Samples” Observations as individual animals are sampled or whose carcasses are or will be used for necropsy, or if any diagnostic method is or will be conducted on them or with their tissues.

**The animals that are sampled or necropsied or used for diagnostics must also be entered in the counts for the corresponding species at the species level (“Free-ranging Wildlife”, “Captive or Hunted Wildlife”, or “Livestock – Domestic Species”).**

If data from individual animal are collected, then data at the species level for the corresponding species must ALSO be provided. For example, the **Wildlife Health Event** has a single individual and samples are collected from it, then the data on the species of this individual needs to be included at the species level. The species level data in this case will contain a single individual in the Age x Sex x Health status table.

Click on the “Animal and Samples” Category and complete the Attributes requested. For a definition of the Attributes and Options see [here](#).



- Take photographs of the individual.

**It is absolutely key that the information provided for individual animals is consistent with the information collected at the species level.** For example, if 5 **male sick adults** were recorded **for a species** and **one individual was sampled**, then the demographic information and health status provided at **the individual** level should match **“Adult”, “Male”,** and **“Found Sick or Injured”**. If a species includes only male sick adults, then the data at the individual level should not include a health juvenile female.

- The **“Species”** Attribute follows the same structure explained for “Free-ranging Wildlife”, “Captive or Hunted Wildlife” or “Livestock – Domestic Species”. If the species is known at any taxonomic level but the option for the taxonomic level is not provided, then click on “Species not Listed”. This selection will cause a new mandatory Attribute to show up: “Provide

Species not Listed”, which is a text Attribute. In this case, the user will need to type the species, or genus, or family, etc. manually.

- Complete the “**Animal ID**” field following the structure provided [here](#) or any other standard guideline of the corresponding project
- Provide the “**Captivity Category**” of the individual animal sampled
- Complete the “**Condition Found**”. This Attribute requests the health status at initial observation of the individual animal (“Animal Parts”, “Found Dead”, “Found Live Healthy”, “Found Live Sick or Injured”, “Unknown”). At the individual level data, for animal parts found on the field or in a market the user should select the “Animal Parts” Option and **not** “Dead Animal”.
- Provide the “**Age**”, and “**Sex**” of the individual animal sampled
- Provide the “**Signs/Behavior Sick or Injured Animal**”. If the animal is healthy or dead, leave this Attribute empty.
- Provide the “**Height**”, “**Weight**”, “**Girth**” (birds only), and “**Length**” of the animal, and other measurements



09:43

← Animal and Samples ✓

Weight (kg)

Other Body Measurements

\* Was the Animal Captured/ Immobilized for Research or Conservation Purposes?  
**Yes**

Reason of Capture

Capture Method

Method of Immobilization

Duration of Immobilization (min)

Duration of Capture (min)

Condition at Release

- If the answer to the Attribute **“Was the Animal Captured/Immobilized for Research or Conservation Purposes?”** Is **“Yes”**, then a new set of Attributes associated with the capture will appear the screen (**“Reason of Capture or Immobilization”**, **“Capture Method”**, **“Method of Immobilization”**, **“Duration of Immobilization”** (in minutes), **“Duration of Capture”** (in minutes), and **“Condition at Release”** (see image above)

- Complete the “**Final Condition**” Attribute
- If the “**Final Condition**” is “Dead”, a set of Attributes that request data associated to a dead animal will appear on the screen (“**Date of Death Known**”, “**Date of Death**”, “**Carcass Condition**”, “**Signs on Carcass**”, “**Action Taken Carcass**”, and “**Field Storage Carcass**”). “**Date of Death**” only appears when “**Date of Death Known**” is marked **Yes**. “**Action Taken Carcass**” is a multiple-choice list requesting data regarding the fate of the carcass and more than one Option can be selected. If the “**Final Condition**” is “Alive Healthy” or “Alive Sick” then the Attribute “**Action Taken Live Animals**” will appear on the screen. This is a multi-list Attribute to record the fate of the live animal in question (more than one option can be selected).

09:49

← Animal and Samples ✓

\* Final Condition  
**Dead**

\* Date of Death Known

Date of Death

Carcass Condition

Signs on Carcass

Action Taken Carcass

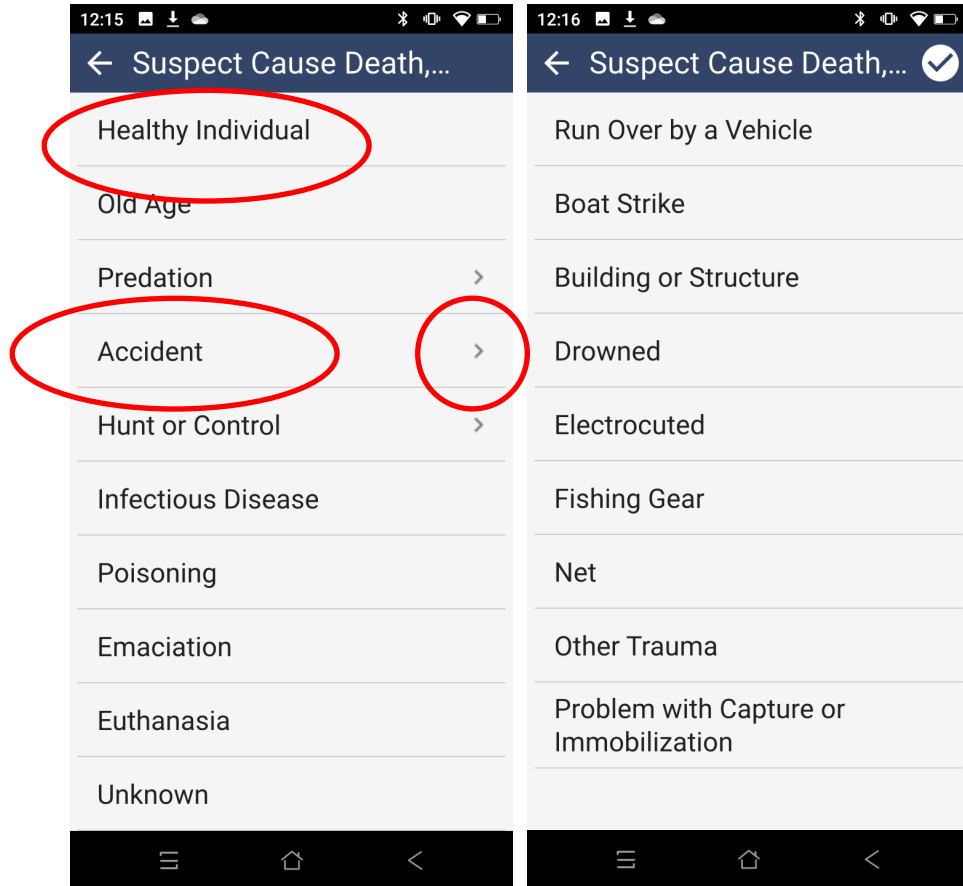
Field Storage Carcass

\* Suspect Cause of Death, Disease, or Injury

Records

Audio note

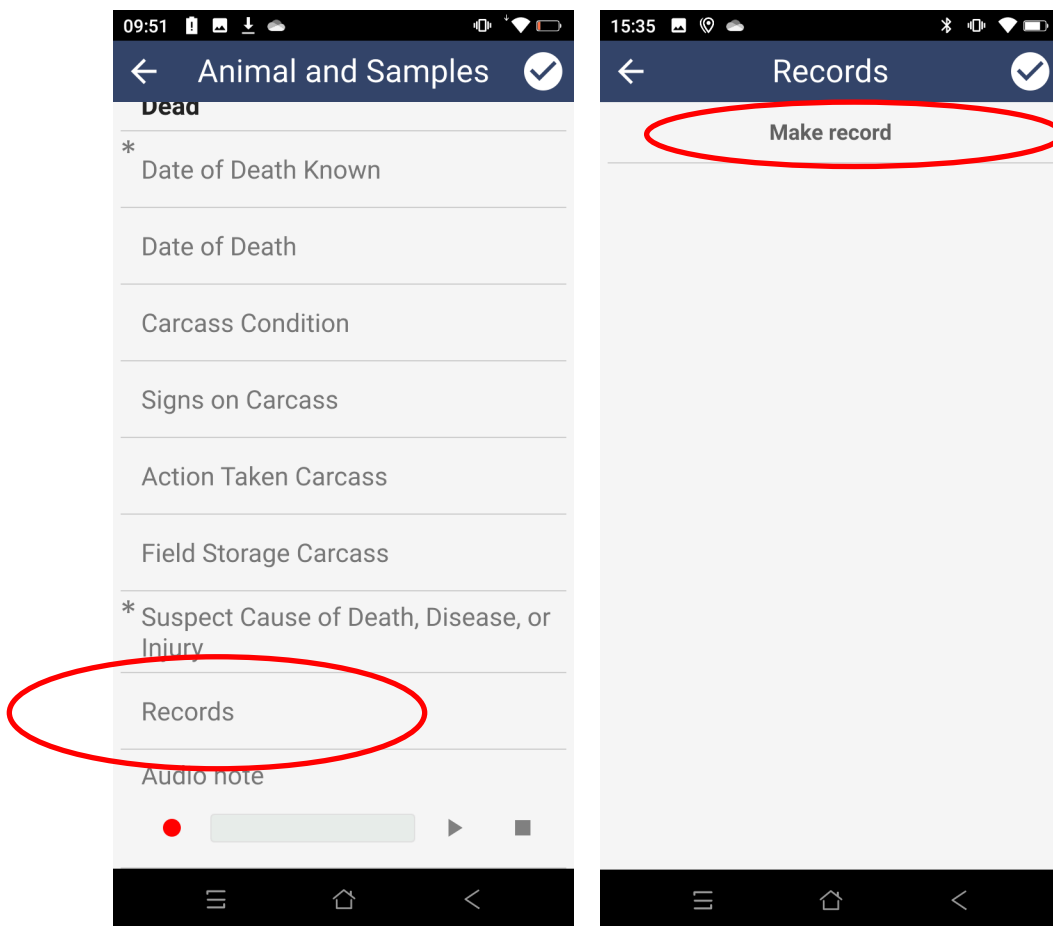
- The last Attribute for the individual animal is “**Suspect Cause of Death, Disease, or Injury**”. This is a hierarchical list so, some of the Options provided in the first screen have sub-Options (see below or the data dictionary). If the animal is not dead, sick, or injured select “**Healthy Individual**”.



## COMPLETE THE SAMPLE LEVEL DATA

If samples are collected from an animal, then the sample information can be nested in the corresponding animal using the “Records” Attribute of the “Animal and Samples” Category or the “Field Necropsy” Category (for samples collected during a field necropsy). This button will lead the user to the “Records” screen (secondary screen).

Clicking the “Records” button of the “Animal and Samples” Category screen will display the “Records” screen. Clicking on “Make record” button allows the user to add data for each sample. The “Records” button works and functions the same in the “Field Necropsy” Category.



- Select “**Make record**” to add the data for each sample. The field “**Sample ID**” should be completed following the structure provided [here](#) or following your project’s guidelines
- Take photographs of the sample
- Complete the “**Sample Type**”
- Complete the Sub-Attribute “**Collected from the Environment**”. A “**Yes**” response indicates the sample **was not collected directly** from the animal. A “**No**” response indicates the sample **was collected directly** from the animal, (e.g., rectal swab or swabbed tissue from a carcass)

15:37

Record 2

Photos

\* Sample ID  
**Sample 2**

\* Sample Type  
**DF - Dry Feces**

\* Collected from the Environment  
**No**

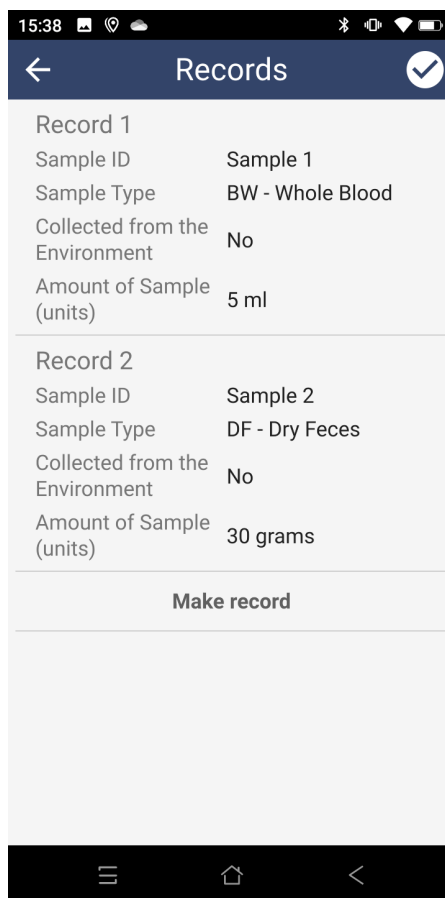
Method of Collection

\* Amount of Sample (units)  
**30 grams**

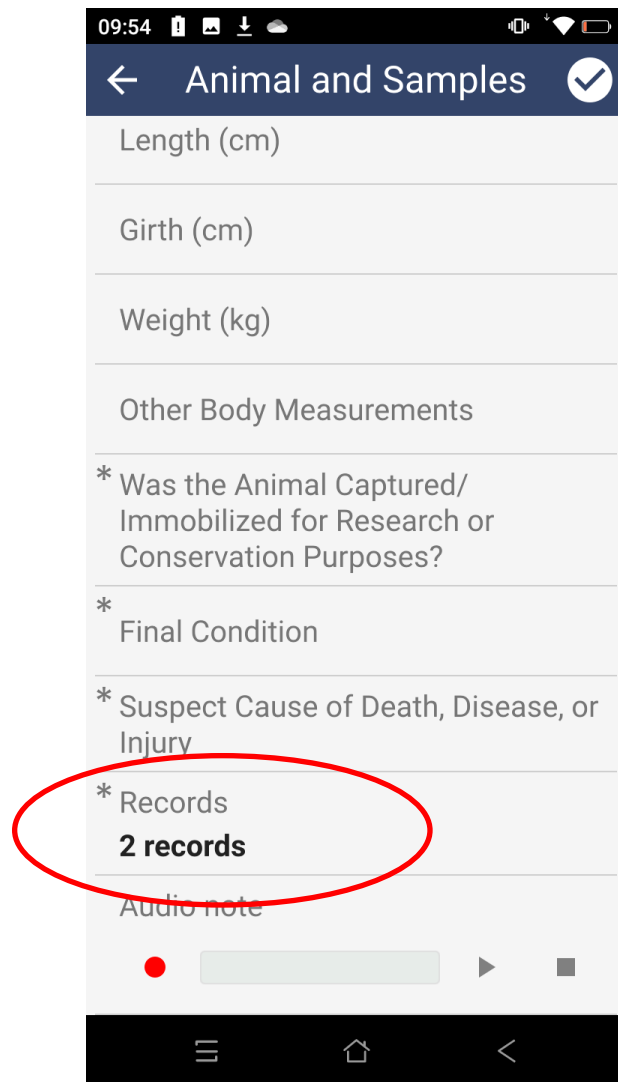
Medium

Field Storage Sample

- Complete the “**Method of Collection**”, “**Amount of Sample**”, “**Medium**”, and “**Field Storage Sample**” Sub-Attributes. For a list of definitions of each Sub-Attribute and their Options, see [here](#)
- Use “**Notes**” to add any other relevant information regarding the sample collected
- Once the data for the first sample of the current individual animal has been provided, then click on the checkmark to confirm the record. This first record will be included in the list of records for the current animal.
- Add a new sample by clicking “Make record” and repeat the process. A second sample (second record) will be added to the “Records” screen (see below).



- If you want to leave the “Records” screen, select the top-left arrow. If you want to delete a record from the list, see guidance on page 46.
- Once the data for all samples has been provided, click on the checkmark and the first screen of the “Animal and Samples” Category will indicate the number of Records (samples) included



- Once the Attribute selections are completed, click on the checkmark and the new Observation (“Animal and Samples”) will be listed for the current **Wildlife Health Event**. If you want to cancel the completed Category, select the top-left arrow.

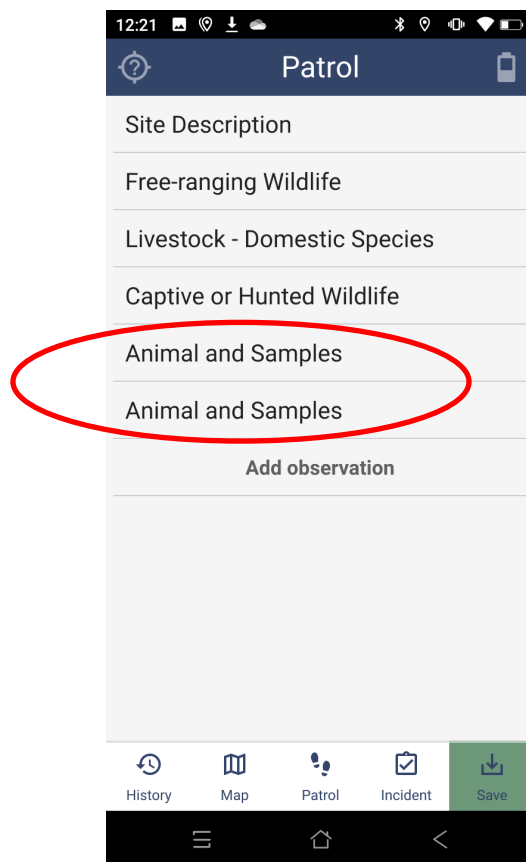
The information of an individual animal has to be collected only if the individual animal is sampled, diagnostics are conducted, or its carcass is used for a necropsy (see next section on field necropsy data).

If the samples of an individual are collected during a field necropsy and using the “Field Necropsy” Category (see below), the information of the individual still has to be recorded using the “Animal and Samples” Category and the “Animal ID” Attribute must match in both Categories.

A **Wildlife Health Event** recorded within a **Patrol** and with:

- A free-ranging wildlife species, a captive wildlife species, and a livestock or domestic species
- Two sampled individuals of any of the species recorded

looks like this:



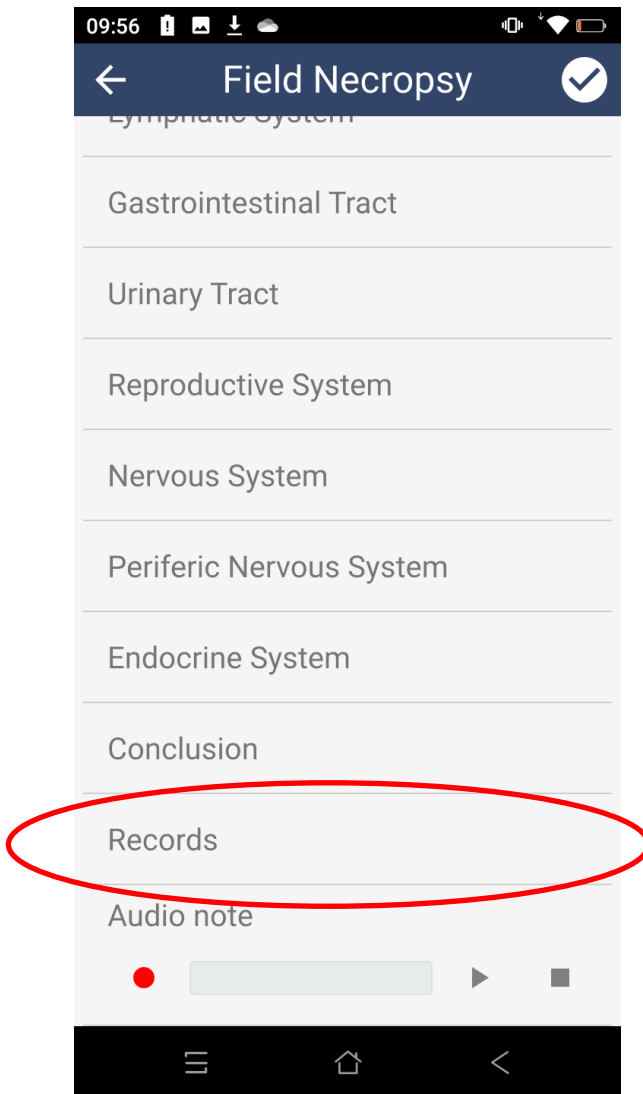


**Necropsies are individual level data.** The “Animal and Samples” Category contains the information about the animal whose carcass is used for a field necropsy. The corresponding necropsy findings for that animal are entered using the “Field Necropsy” Category. Samples from the animal whose carcass is used for necropsy that are collected during a field necropsy can be recorded using the “Field Necropsy” Category.

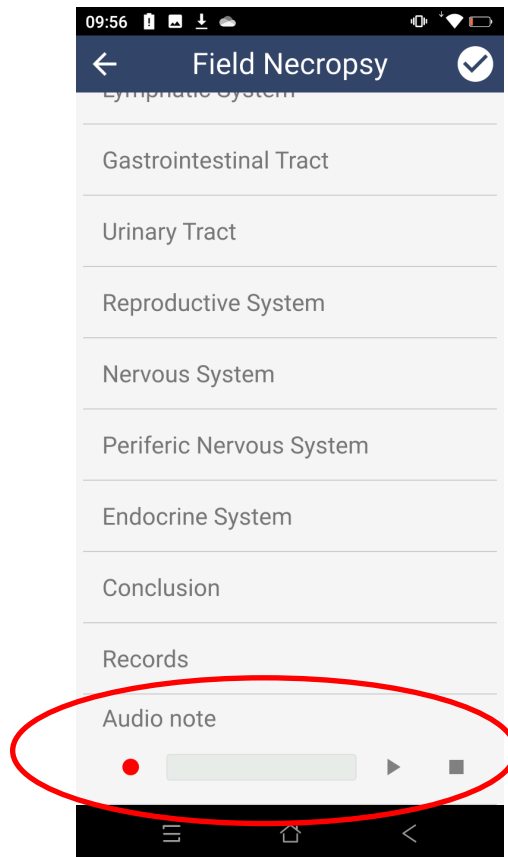
**In this case, the “Animal ID” field is extremely important because it connects the demographic and health status information of the animal with the findings recorded during the necropsy, and the samples sourced by the individual. If the Animal ID in the “Animal and Samples” Category does not match the Animal ID of the Field Necropsy, then the necropsy information and samples will not be assigned to the corresponding individual.**

- The first Attribute “**Date of Death Known**” asks the question “Is the death date of the animal known?” If the answer is yes, then the Attribute “**Date of Death**” will appear in the screen.
- The “**Date of Death Known**”, “**Date of Death**” and the following Attributes of the “**Field Necropsy**” Category are repeated in the “Animal and Samples” Category. Complete these set of Attributes consistently with the information provided in the “Animal and Samples”: “**Date of Death**”, “**Animal ID**”, “**Carcass Condition**”, “**Height**”, “**Length**”, “**Girth**” (birds only), “**Weight**”, and “**Other Body Measurements**”
- Complete the information about the “**Date of the Necropsy**”, “**Necropsy Level**”, and “**Performed by**”. For a list of definitions of each Attribute and their Options, see [here](#)
- The next set of Attributes requests specific descriptions of the necropsy findings per system and other characteristics of the carcass, such as the presence of wounds. Because these Attributes are class “text” the user can use a smartphone’s voice-to-text feature. For a list of definitions of each Attribute and their Options, see [here](#).
- Take photographs at every step of the necropsy, including the whole animal and all tissues

- The “**Conclusion**” Attribute is where a summary of the findings can be reported and is optional.
- If samples are collected from a necropsied animal, use the “Records” Attribute of the “Field Necropsy” Category to link the sample data to the corresponding animal.



- Potentially, the “**Audio note**” **could be used** (not mandatory) to record information collected from a field necropsy. The user must keep in mind that only a single Audio note can be recorded per Category. In practice, the audio file will still need to be manually transcribed into corresponding Attributes during or after the **Surveillance or Outbreak Unit**. For these reasons, it is recommended using a smartphone’s voice to text feature (page 55) in each single text Attribute instead.



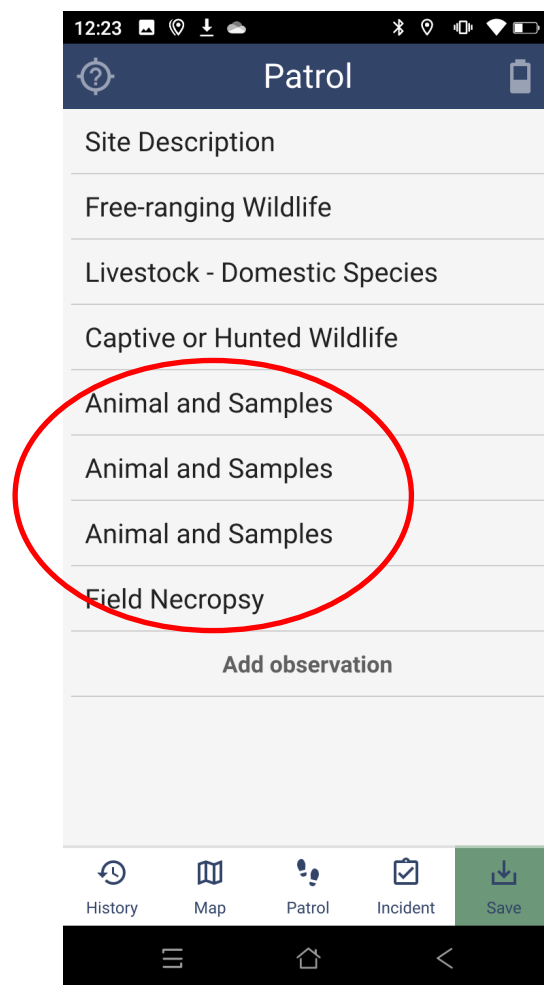
- Once the selections are appropriate, click on the checkmark and the new Observation (“Field Necropsy”) will be listed for the current Event. If the user wants to cancel the completed Category, select the top-left arrow, which will clear all data entered in the Category.

The information from a necropsy can be collected from individual animals that have been sampled or not.

A **Wildlife Health Event** recorded within a **Patrol** and with:

- **A free-ranging wildlife species, a captive wildlife species, and a livestock or domestic species**
- **Two sampled individuals of any of the species recorded**
- **Another individual of any of the species recorded whose carcass was used for a field necropsy only (not samples collected)**

looks like this:

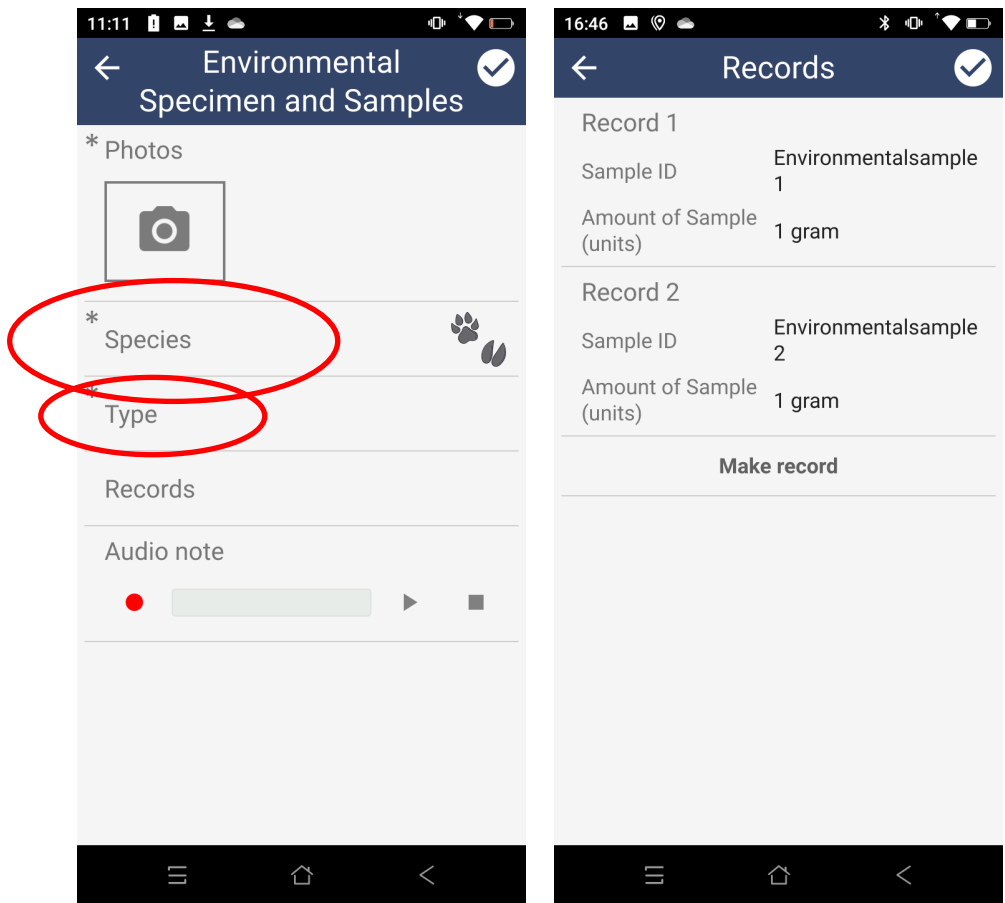


An Environmental Specimen is material of non-animal origin, such as water, soil, or sediment OR a tissue of animal origin but whose animal source cannot be identified at the individual level. For example, feces found in the field but the individual animal that deposited the feces is unknown. Therefore, the demographics and health status of the animal are also unknown.

An Environmental Specimen is the source of the Environmental Samples. For example, two swabs could be collected from a single piece of bat guano found in the ground of a cave. The Environmental Specimen is the guano, and the Environmental Samples are the swabs with guano. The entire Environmental Specimen could be collected as a single sample. In that case, the Environmental Specimen has a single sample and both pieces of information (the environmental specimen and sample information) must be provided. In the case of water, the Environmental Specimen is the source of the water (pond, lake, river, ocean shore, ocean, etc.) and the Environmental Samples are the specific collections from the source.

To collect data from Environmental Specimens and its Samples, the user must use the “Environmental Specimen and Samples” Category. Similar to “Animal and Samples” Category, the “Environmental Specimen and Samples” Category has a primary screen with the Attributes to collect data for the environmental specimen and the Option to add “Records” (Environmental Samples). A secondary screen is opened when the button “Make record” is clicked on the “Records” screen. The secondary screen has the Sub-Attributes to collect data for each Environmental Sample (see next page).

- In the primary screen complete the Attributes. The “**Species**” may not be possible to identify to the lowest taxon. A higher-level taxon, such as the order, family, or genus, can be provided if possible (e.g., a cave with several bat species only, then provide the Chiroptera Order). In instances when the Environmental Specimen does not have an animal origin (e.g., soil, sediment, water), the user should select “**Abiotic**”. If the species or any taxonomic level is known but they are not listed, select “**Species Not Listed**” and use the new Attribute in the screen “**Provide Species not Listed**” to type the known taxonomic level (common or scientific name, genus only, family only, etc).
- Select the type of source or tissue of the environmental specimen in the “**Type**” Attribute



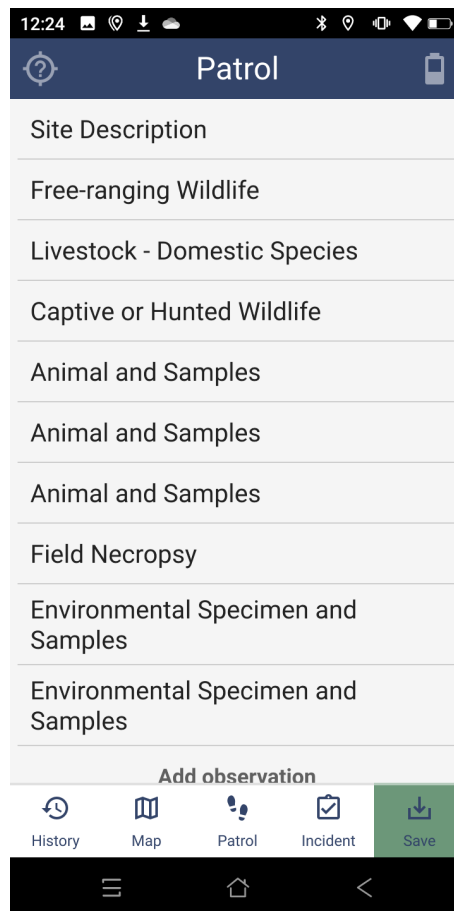
- Take photographs of the Environmental Specimen
- Use the “Records” button to add the Environmental Samples collected from the Environmental Specimen (see above). To add a “Record” click on the “Make record” button (see above).
- Take photographs of the Environmental Sample
- Provide the “**Sample ID**” following the structure explained [here](#) or according to your project guidelines
- Complete the remaining Attributes of the secondary screen. For a list of definitions of each Sub-Attribute and their Options, see [here](#).
- Click on the checkmarks to confirm the addition of the Environmental Sample data

- Once the Attribute selections are completed, click on the checkmark and the new Observation (“Environmental Specimen and Samples”) will be listed for the current Event. If the user wants to cancel the completed Category, select the top-left arrow, which will clear all data entered in the Category.

A **Wildlife Health Event** recorded within a **Patrol** and with:

- **A free-ranging wildlife species, a captive wildlife species, and a livestock or domestic species**
- **Two sampled individuals of any of the species recorded**
- **Another individual of any of the species recorded whose carcass was used for a field necropsy only (not samples collected)**
- **Two Environmental Specimens sampled**

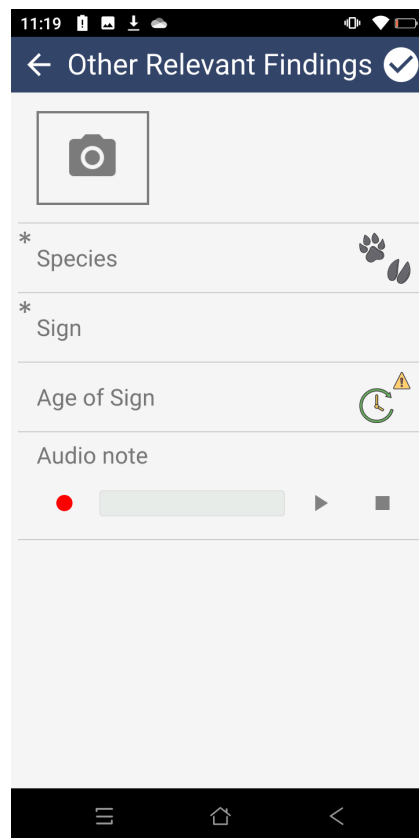
looks like this:



## COMPLETE OTHER RELEVANT FINDINGS DATA

During wildlife health surveillance, users may encounter findings that are not characteristics of the environment and that are not animals or specimens but could be epidemiologically relevant to record. For this reason, SMART for Health has a Category to record such entities. They include dung, track, feeding, nest, and scrape. For example, un-sampled wild boar dung can be important to record if found during African Swine Fever surveillance.

- If possible, provide the species that produced the relevant finding. The “**Species**” may not be possible to identify to the lowest taxon. A higher-level taxon, such as the order, family, or genus, can be provided (e.g., if the **Wildlife Health Event** occurs at a cave with several bat species only, then type Chiroptera Order).
- Select the “**Sign**” found. For a list of definitions of each Attribute and their Options, see [here](#).
- If possible, estimate the age of the sign using the “**Age of Sign**” Attribute



The screenshot shows the 'Other Relevant Findings' form in the SMART for Health mobile application. The form is displayed on a smartphone screen with a status bar at the top showing the time 11:19 and various icons. The form has a dark blue header with a back arrow and a checkmark icon. Below the header is a camera icon for taking a photo. The form contains several input fields: a required field for 'Species' with a paw print icon, a required field for 'Sign', a field for 'Age of Sign' with a clock icon, and an 'Audio note' section with a red recording indicator and a play button. The bottom of the screen shows the standard Android navigation bar with the menu, home, and back buttons.

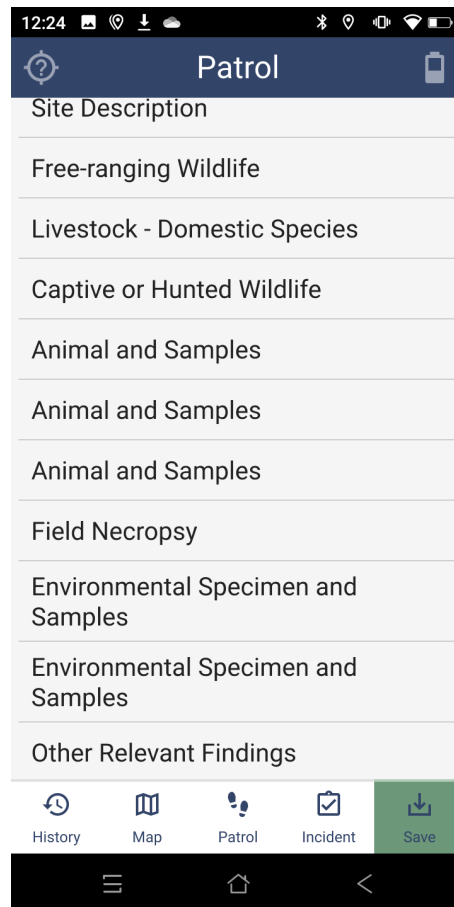


- Take photographs of the relevant finding
- Once the selections are appropriate, click on the checkmark and the new Observation (“Other Relevant Findings”) will be listed for the current Event. If the user wants to cancel the completed Category, select the left arrow, which will clear all data entered in the Category.

A **Wildlife Health Event** recorded within a **Patrol** and with:

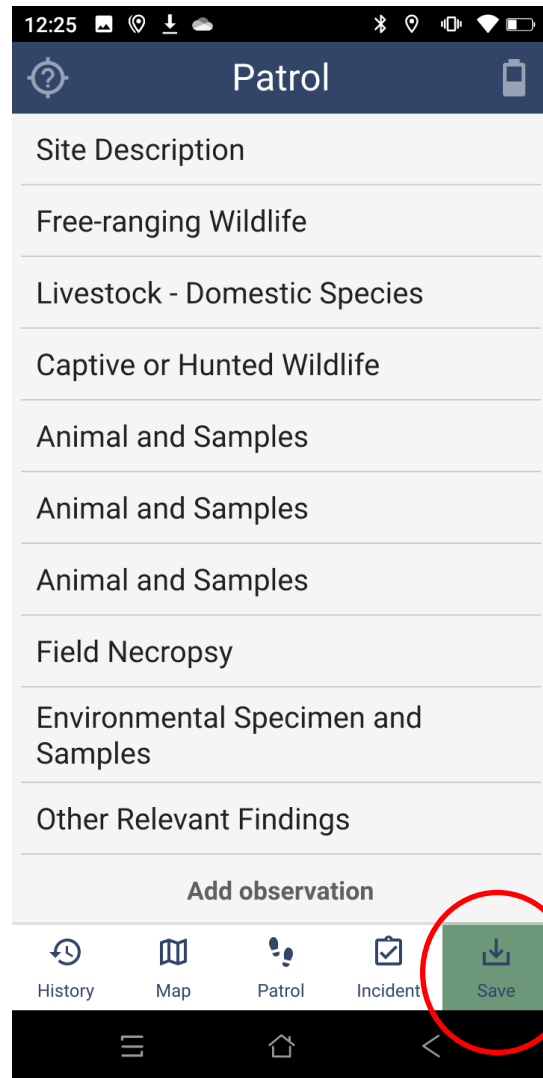
- **A free-ranging wildlife species, a captive wildlife species, and a livestock or domestic species**
- **Two sampled individuals of any of the species recorded**
- **Another individual of any of the species recorded whose carcass was used for a field necropsy only (not samples collected)**
- **One environmental specimen sampled**
- **One relevant finding**

looks like this:



## SAVE THE WILLDIFE HEALTH EVENT WITHIN A PATROL

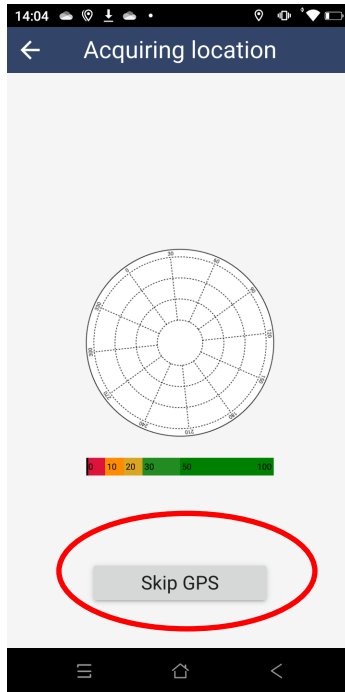
Once all the data regarding the location of the **Wildlife Health Event (SMART Incident)**, the species observed; the animals sampled and carcass necropsied; environmental samples collected; and other relevant findings are recorded, click on the button “Save” of the “Patrol” screen to save the **Wildlife Health Event** (within Patrol).



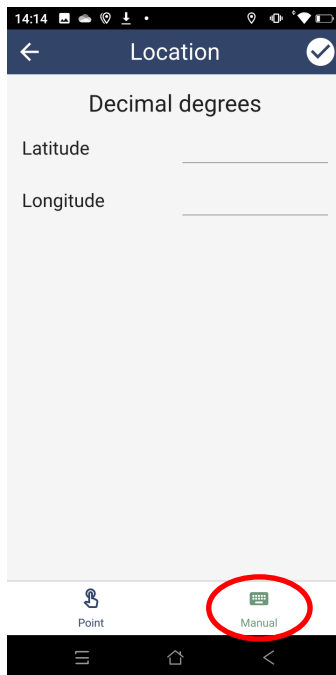
The “Patrol” screen will clear and reset to start the collection of a new Event.

**A Wildlife Health Event should be saved when all the wildlife health relevant data at a common spatiotemporal location has been collected.**

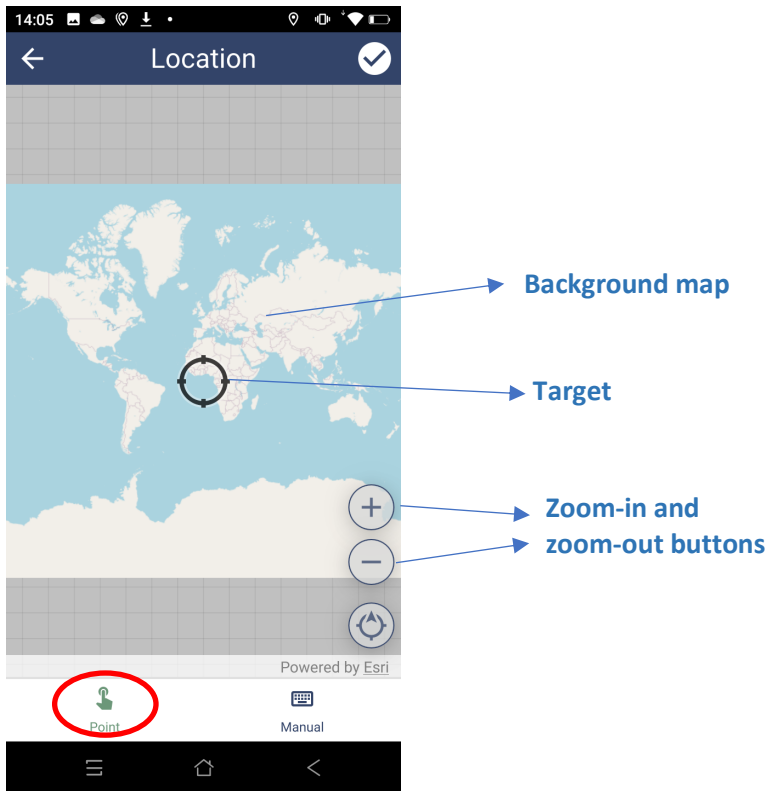
If SMART Mobile fails to record the position automatically, select the “Skip GPS” button.



Then provide the geographical coordinates by directly entering the latitude and longitude, or by providing your approximate location in a map. For the first option, click on the “Manual” button of the “Location” screen and manually enter the coordinates provided by a GPS device:



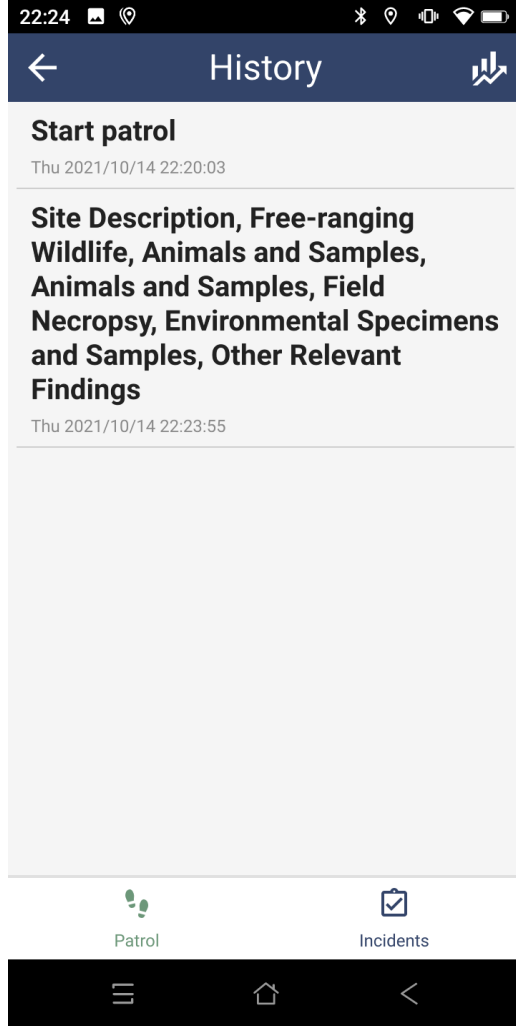
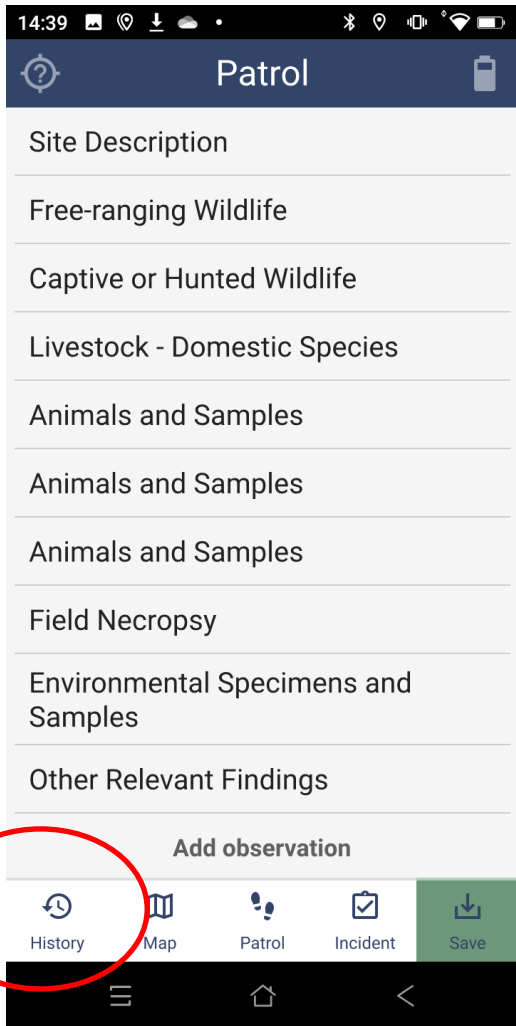
For the second option, click on the “Point” button of the “Location” screen. Move the background map using your fingers and zoom-in and zoom-out until the target is in the desired position. Once the position is correct, click on the checkmark on the top-right corner of the screen:



It is very important to verify that the Event data are saved and stored. See below.

## CHECK THE HISTORY OF THE PATROL

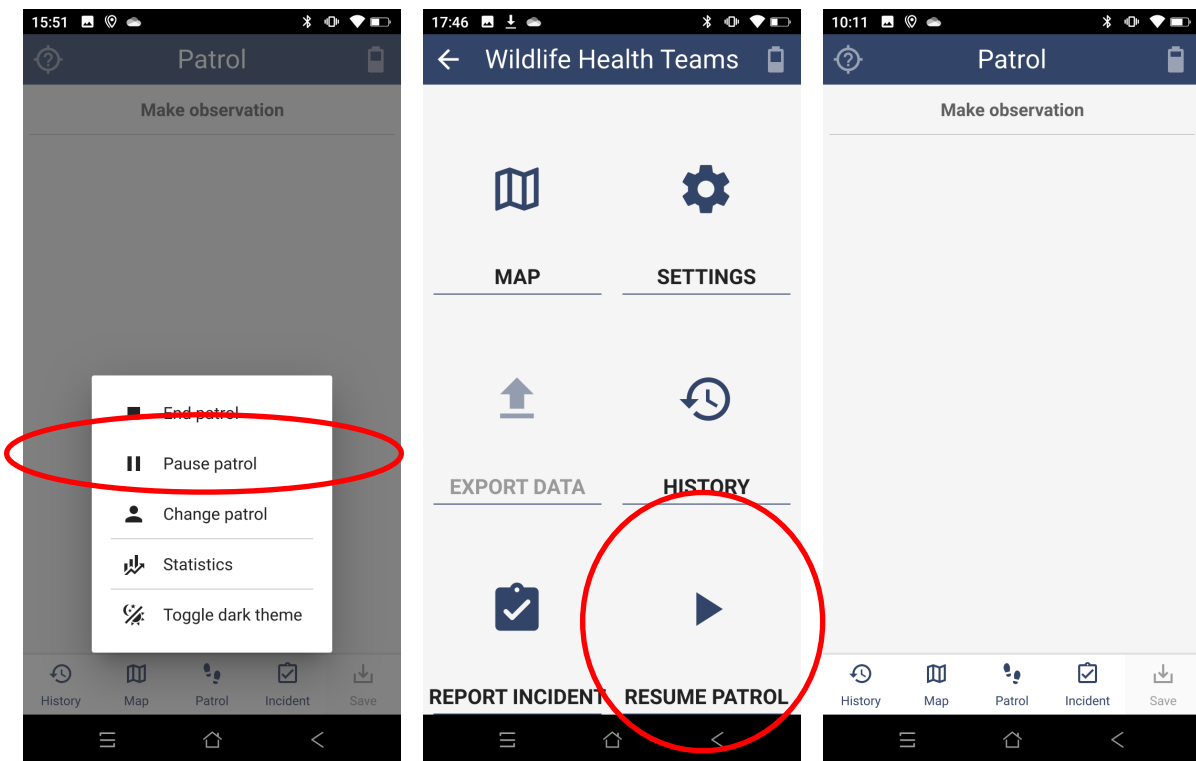
To check the History of the **Patrol**, and explore the **Wildlife Health Event** (SMART Incidents) recorded during the **Patrol**, click on the “History” button (bottom left of the “Patrol” screen) to view the “History” screen. Click on each item of the list to examine the data collected for previous **Wildlife Health Events**.



## PAUSE AND RESUME A PATROL

A **Patrol** could be paused for a variety of reasons, including the lack of day light. To **pause** a **Patrol**, save the current **Wildlife Health Event** and click on the “Patrol” button at the bottom of the “Patrol” screen. Then select the option “Pause”.

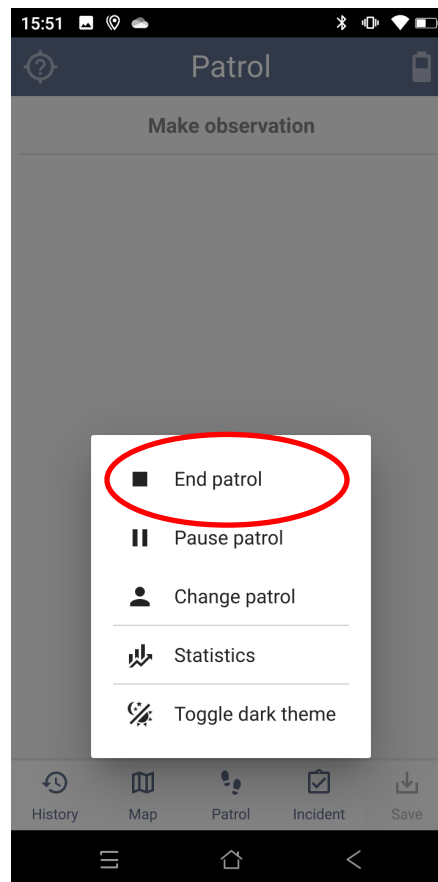
To **resume** a **Patrol**, click on the “Resume Patrol” option of the “Wildlife Health Teams” screen. The “Patrol” screen will become available to continue collecting data for the current **Patrol**.



**Patrols** (Patrol ID) are not a unit of interest in SMART for Health; therefore, pausing a **Patrol** or ending a **Patrol** and starting a new one is not relevant.

## END AND SAVE A PATROL

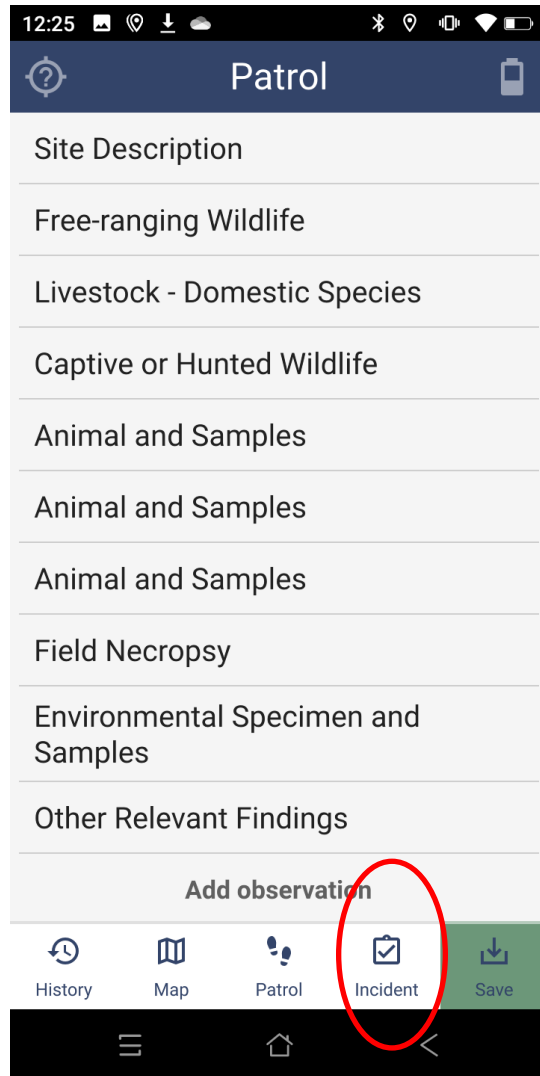
To end and save a **Patrol**, save the last **Wildlife Health Event** and click on the “Patrol” button at the bottom of the “Patrol” screen. Click on “End Patrol”. A new screen requesting a token will pop-up. Type 1234 to leave the **Patrol**.



If a **new Patrol** is started in order to continue **collecting data for the same Surveillance or Outbreak Unit**, it is key to provide the same “Surveillance Type” and “Surveillance or Outbreak Unit” in the Patrol Information of the new Patrol.

## RECORD A WILDLIFE HEALTH EVENT OUTSIDE OF A PATROL

**Wildlife Health Events** recorded outside of a **Patrol** are part of Scanning Surveillance. To document an **Wildlife Health Event** outside of a **Patrol**, the user must complete and save the current **Wildlife Health Event** recorded within the **Patrol**. Then, click on the “Incident” button at the bottom of the “Patrol” screen.

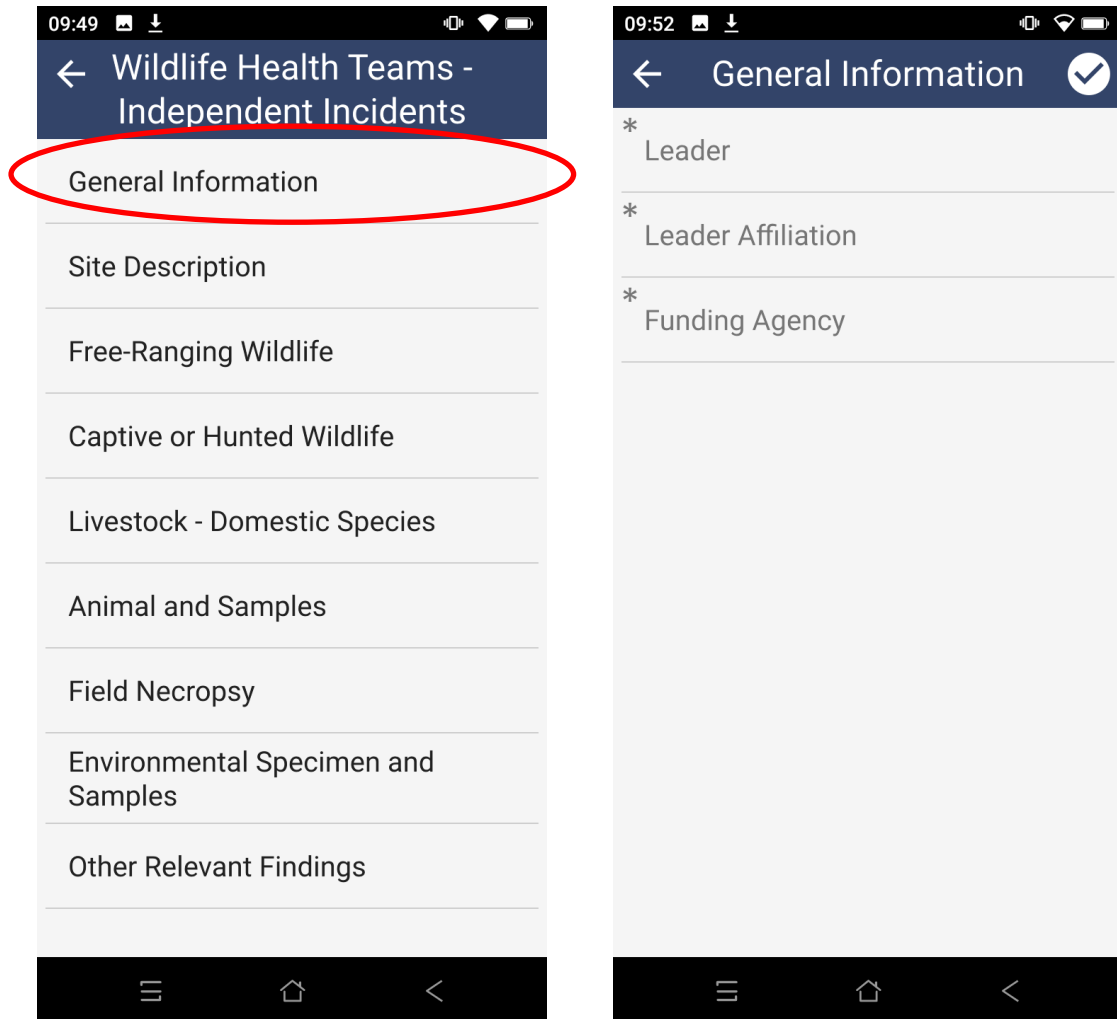


**Data collected as Incidents outside of a Patrol are by definition Scanning Surveillance.**



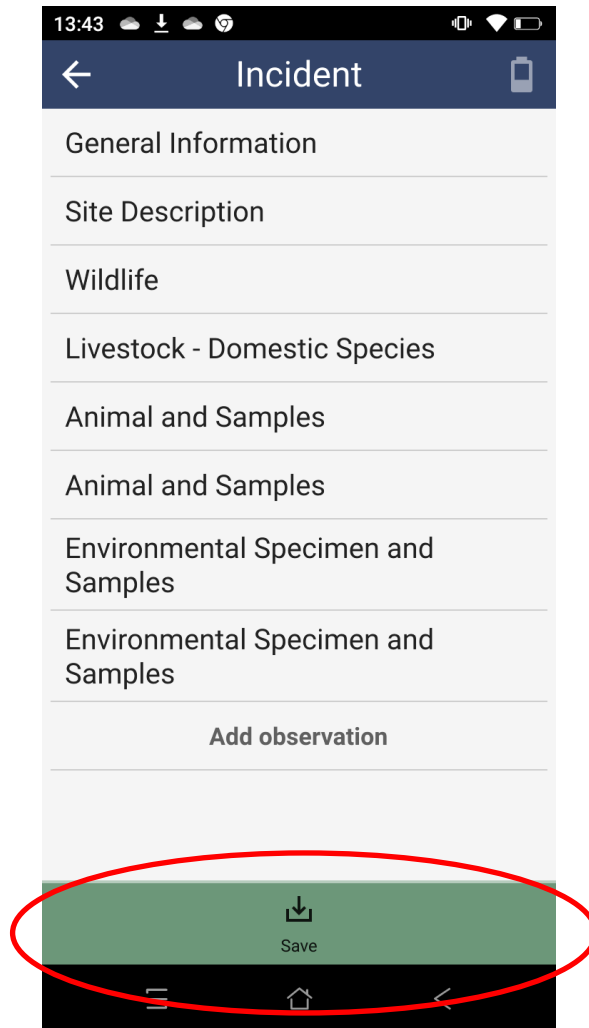
Any Incident outside of a **Patrol** will need the “Leader”, the “Affiliation”, and the “Funding Agency”, therefore, any **Wildlife Health Event** collected outside of a **Patrol** must include the “General Information” Category which is only available for **Incidents** outside of **Patrols**. Because these **Incidents** are part of Scanning Surveillance, the **Surveillance Type** and the **Surveillance or Outbreak Unit** are not needed.

The “Funding Agency” Attribute requests the source of funding for the surveillance activities and it is a list.



## SAVE THE WILDLIFE HEALTH EVENT OUTSIDE A PATROL

If the **Wildlife Health Event** is recorded as part of Scanning Surveillance, click on the “Save” button of the “Incident” screen



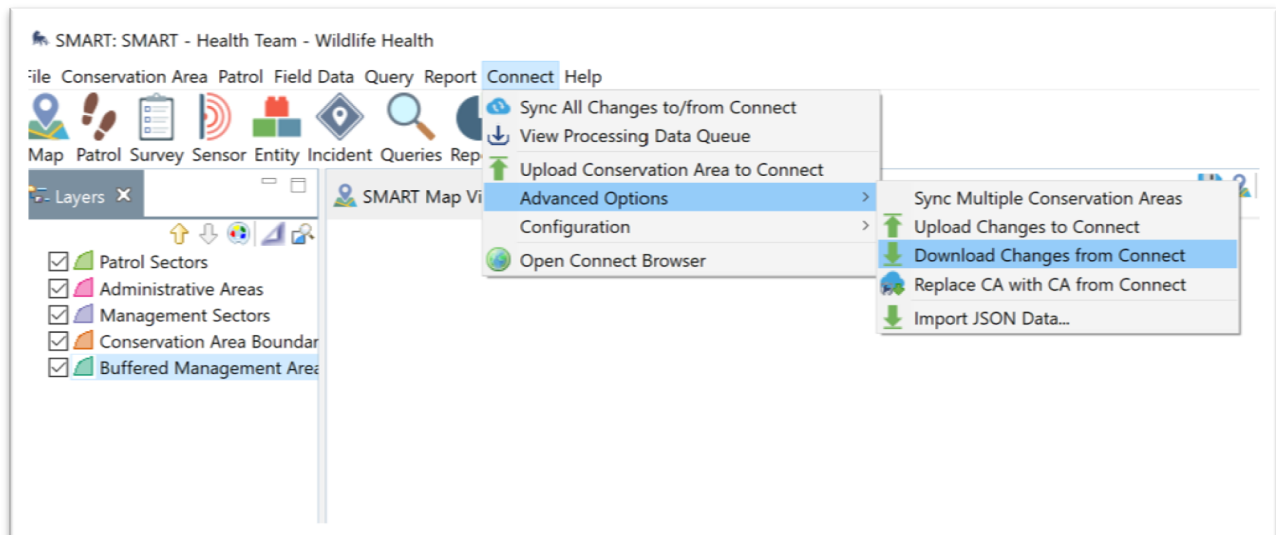
Then, the screen will clear and reset to an empty “Patrol” screen with no Observations, allowing the user to continue the Patrol and collect new **Wildlife Health Events**

# APPENDIX FOR CONSERVATION AREA ADMINISTRATORS

## DOWNLOAD CHANGES MADE IN A CONSERVATION AREA BY OTHER ADMINISTRATORS

When any administrator makes changes via SMART Desktop to a Conservation Area hosted in SMART Connect, those changes can be uploaded to SMART Connect. Therefore, before you make changes to a Conservation Area, it is recommended to download any potential changes made by another administrator and already stored in SMART Connect.

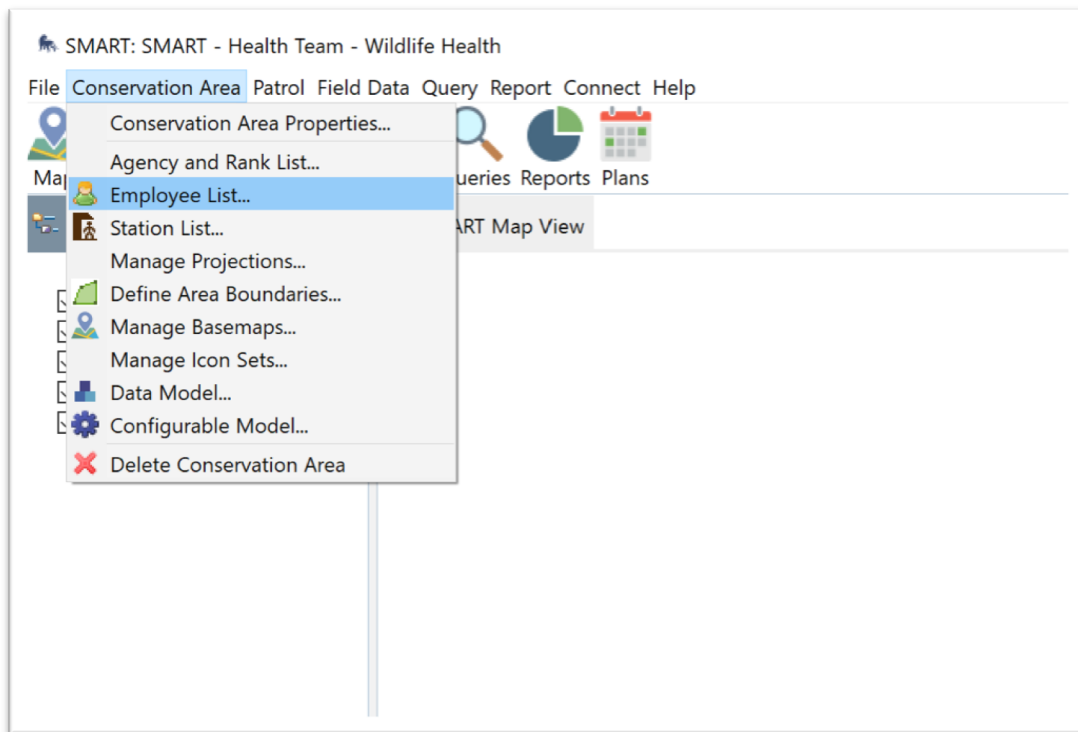
To download the Conservation Area changes from SMART Connect, open the corresponding Conservation Area and go to “Connect” in the main menu, and then select “Download Changes from Connect”. Provide the URL, your username and password.

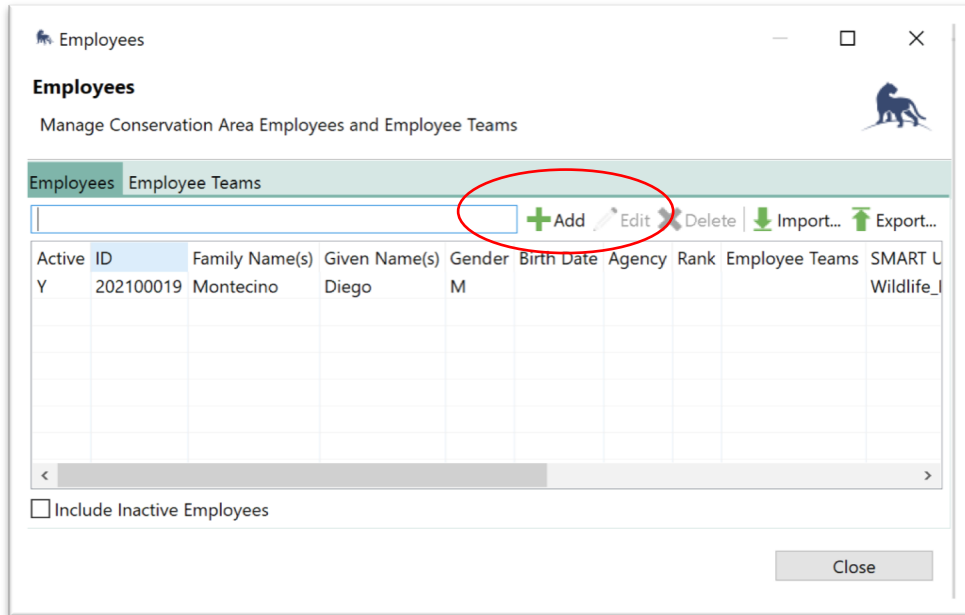


## ASSIGN OR CHANGE HEALTH TEAM ROSTERS (MEMBERS AND LEADER)

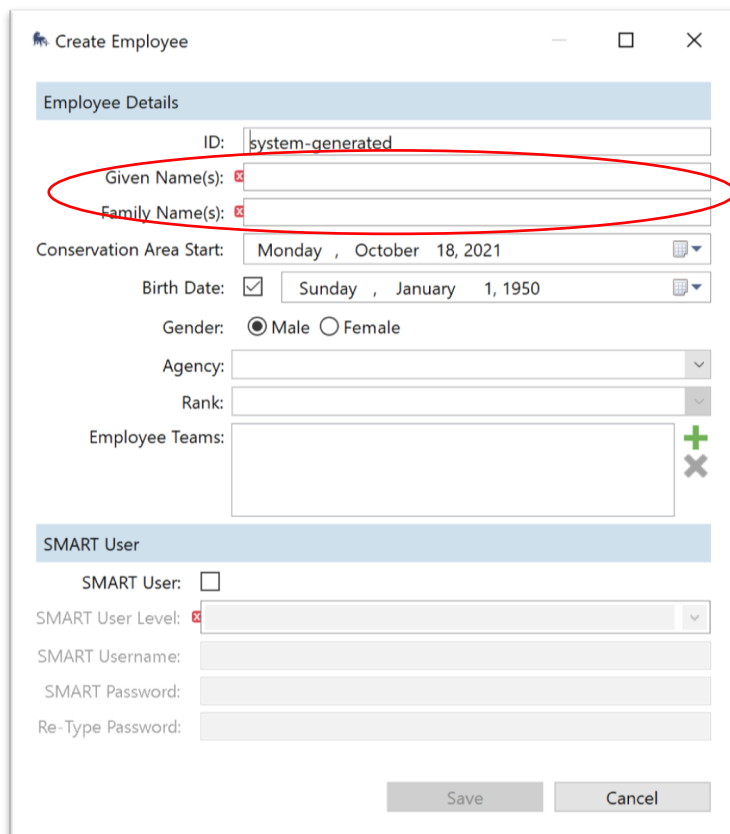
The very first time a Conservation Area is used, all health teams members will need to be added to the Health Team employee list or roster. When new members of the Health Team will be participating in the data collection for an upcoming Surveillance or Outbreak Unit, they also have to be added to the roster.

Addition of team members requires the use of SMART Desktop 7 by administrators of the Conservation Area containing the SMART for Health data model. These users should open the Conservation Area, select the “Conservation Area” option from the main menu, and select “Employee List”, and click “Add”.

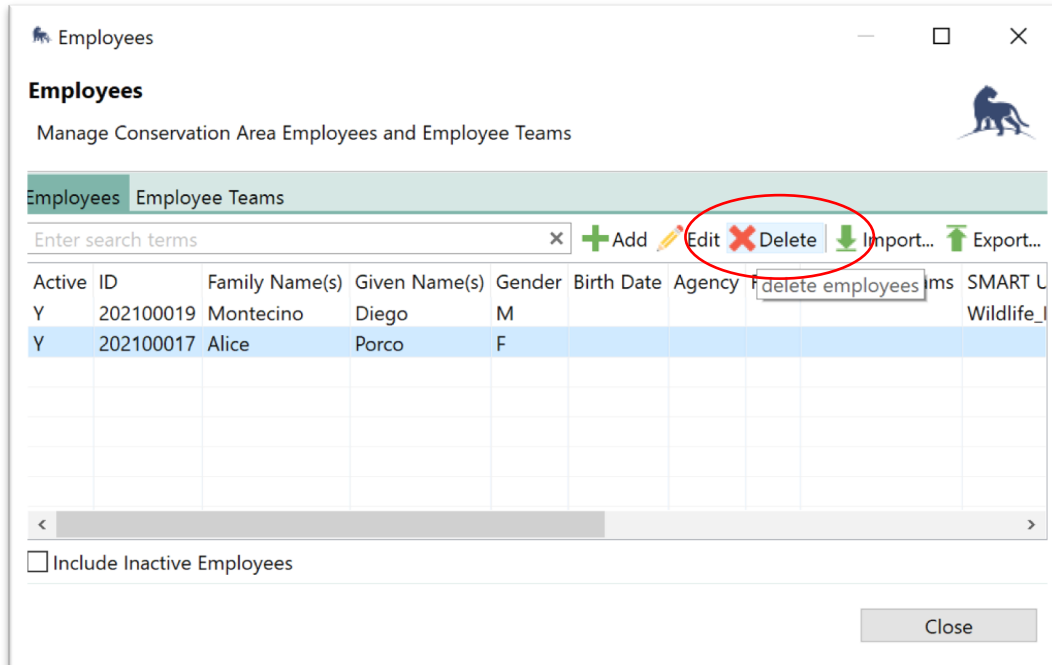




Then, provide the Given Names, the Family Names, and unselect "Birth Date". Click "Save" and repeat the process for other new team members.

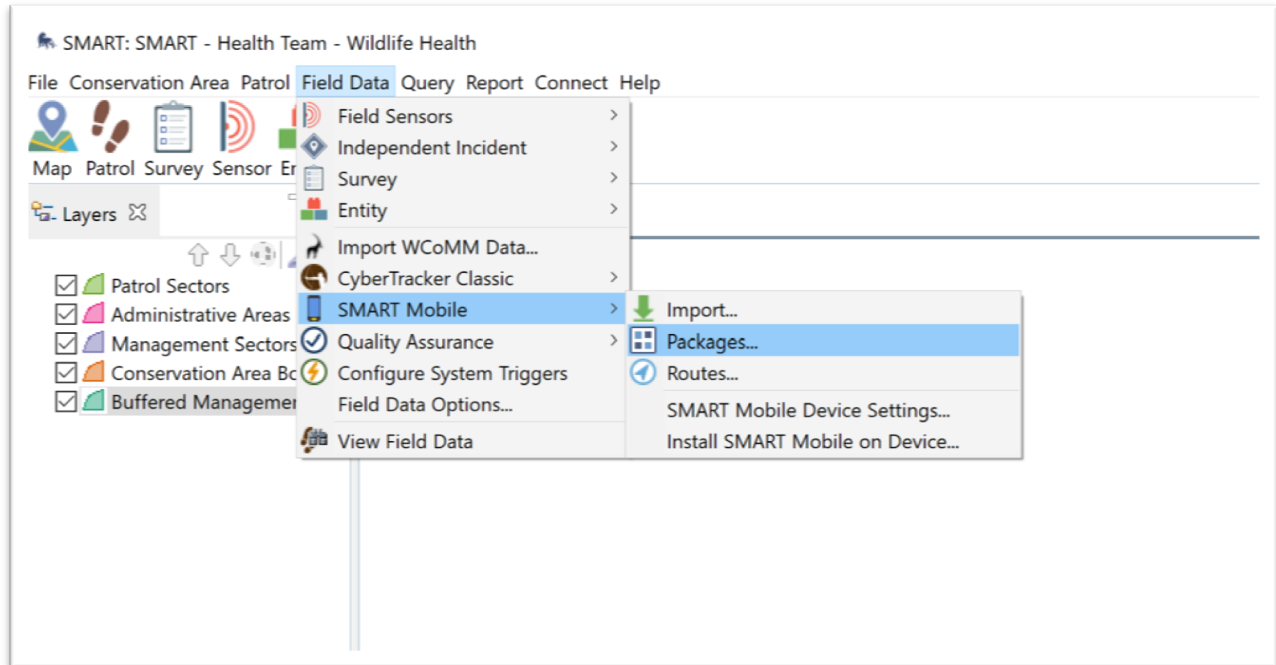


To remove a team member (e.g., the team member will not participate of field activities anymore) click on the corresponding row in the “Employees” table and select “Delete”. Click “Save”.



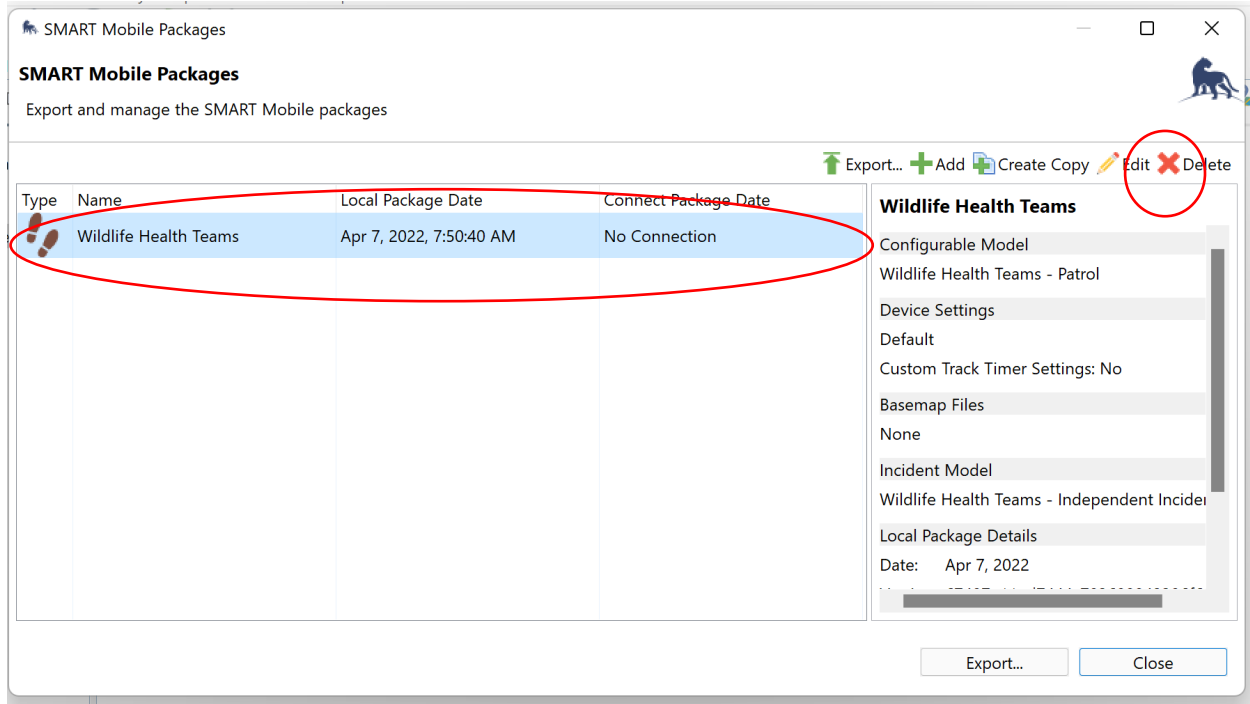
Once the list is updated, the **SMART for Health configuration (the patrol package), with the updated team members, needs to be updated in the local SMART Desktop. This step also allows to edit the list of team members that will be available in SMART for Health.** For example, to add the new members to the roster or because a different set of members will participate in the **Surveillance or Outbreak Unit. It is also the way to edit the “leader” of the upcoming Surveillance or Outbreak Unit.** Once this step is accomplished, the team’s SMART Mobile users will be able to **load the most updated version of SMART for Health patrol package in their mobile devices from SMART Connect** (see next section), including the updated list of team members and leader.

To update the list of team members of the patrol package and the leader go to the “Field Data” tab in the main menu, select “SMART Mobile” and “Packages”.



If the “SMART Mobile Packages – Configure SMART Connect details” window appears in the screen, provide the Connect server URL, your username, and password (if it does not show up, there will be another place to provide this information).

In the “SMART Mobile Packages – Export and manage the SMART Mobile packages” window, click on the Patrol Package row and click on “Edit”.



A new window titled “SMART Mobile Packages – Configure the SMART Mobile Package Contents” will appear. In the first tab, “Model Settings”, click on the down arrow in “Configurable Model” and select again “Wildlife Health Teams - Patrol”. The “Save” button will become available.



SMART Mobile Packages

### SMART Mobile Packages

Configure the SMART Mobile package contents

**Model Settings** | Patrol Metadata | Basemap Settings | Connect | Alerts

#### Patrol Configuration

Package Name: Wildlife Health Teams

Configurable Model: Wildlife Health Teams - Patrol

Device Settings: Default (default)

Custom Track Timer Settings:

Foot Time (seconds): 30

#### Incident Configuration

Collect Independent Incidents

Incident Model: Wildlife Health Teams - Independent Incidents

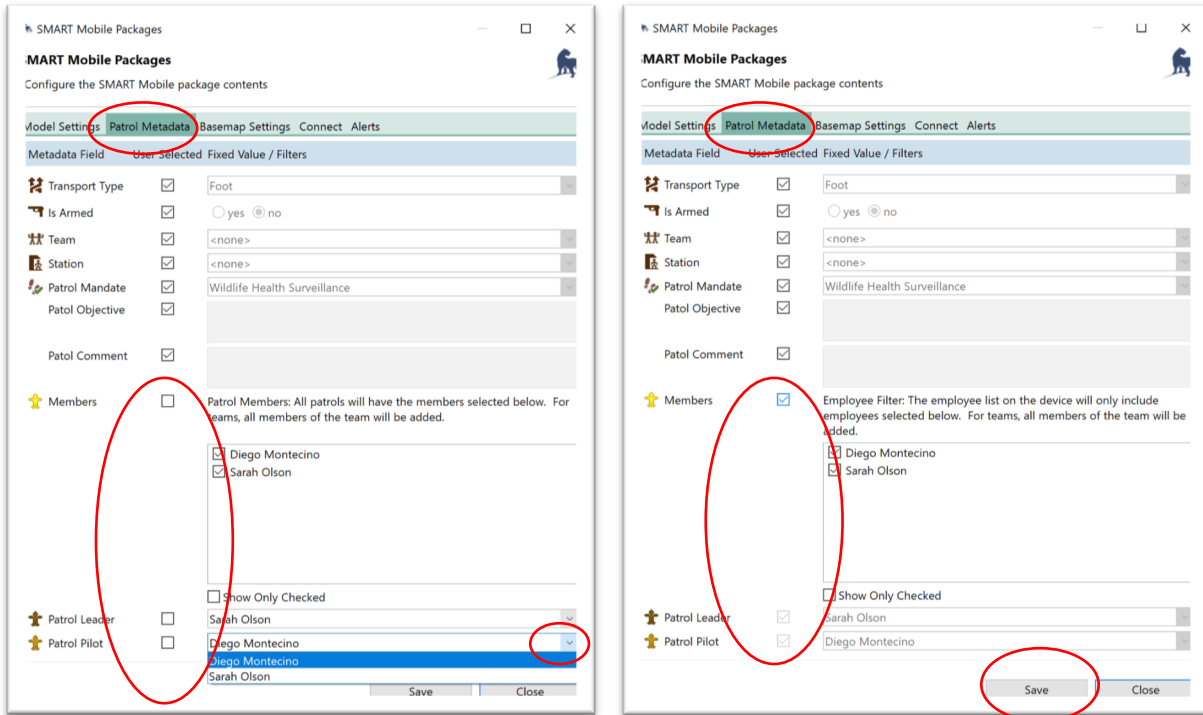
Save Close

To edit the list of members of the team, select the “Patrol Metadata” tab, go to the “Members” section and select or unselect the members of the team and clicked on “Save”.

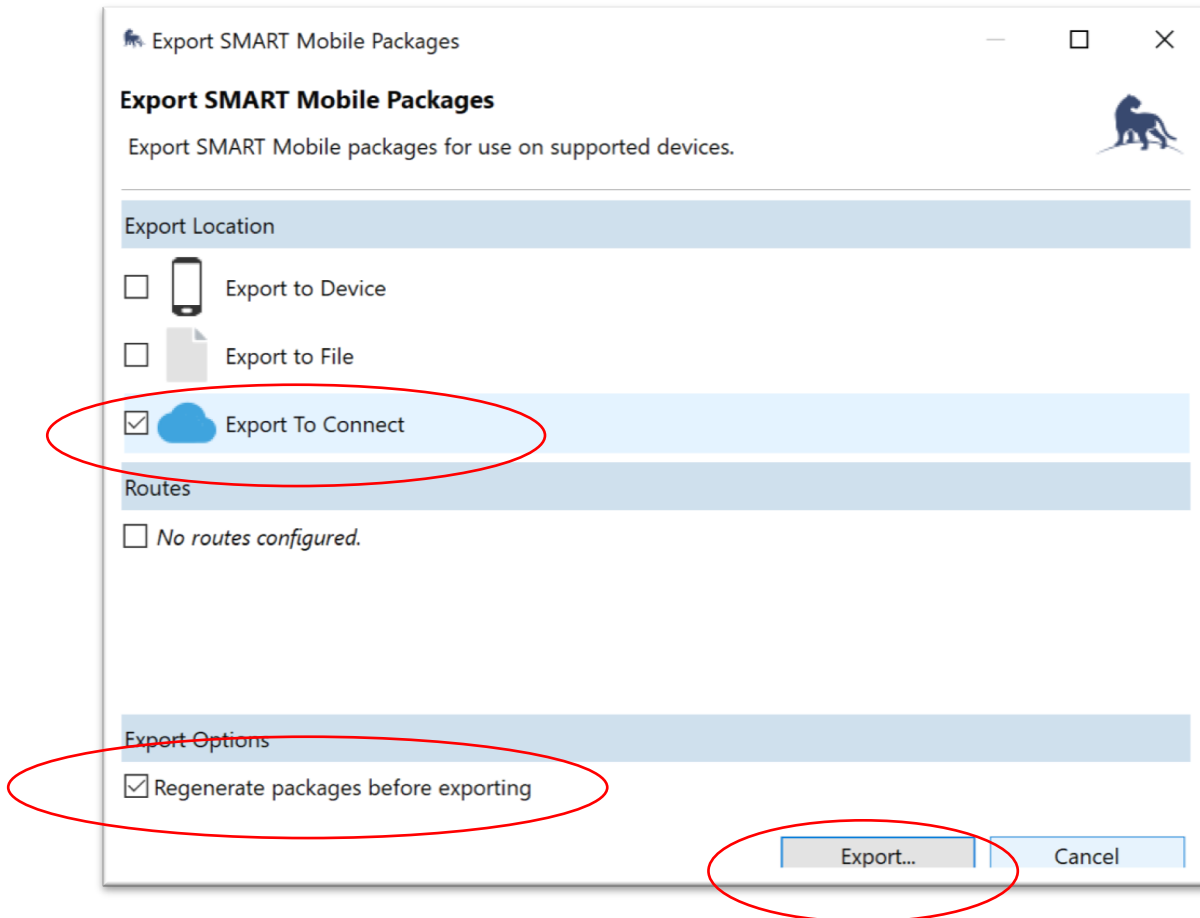
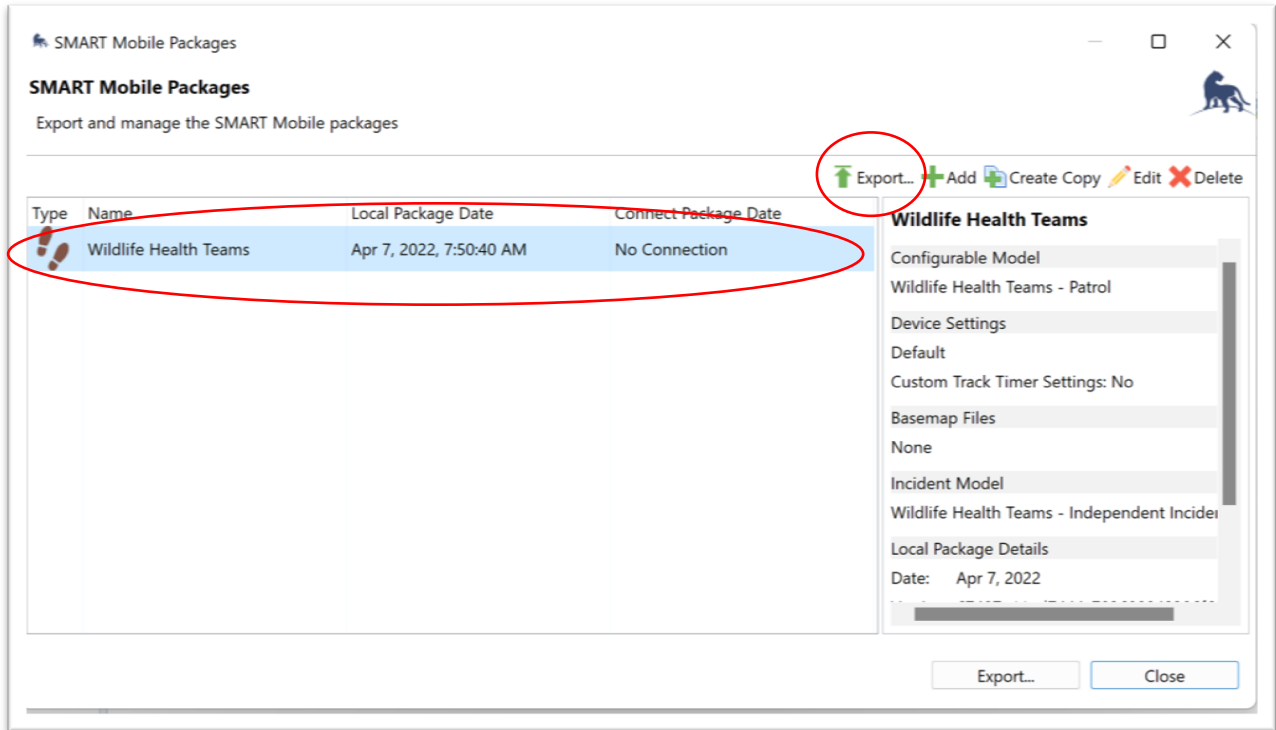
The screenshot shows the "SMART Mobile Packages" configuration window. The "Patrol Metadata" tab is selected and circled in red. The "Members" section is also circled in red. The "Save" button at the bottom right is also circled in red.

Metadata Field	User Selected	Fixed Value / Filters
<input checked="" type="checkbox"/> Transport Type	<input checked="" type="checkbox"/>	Foot
<input checked="" type="checkbox"/> Is Armed	<input checked="" type="checkbox"/>	<input type="radio"/> yes <input checked="" type="radio"/> no
<input checked="" type="checkbox"/> Team	<input checked="" type="checkbox"/>	<none>
<input checked="" type="checkbox"/> Station	<input checked="" type="checkbox"/>	<none>
<input checked="" type="checkbox"/> Patrol Mandate	<input checked="" type="checkbox"/>	Wildlife Health Surveillance
<input checked="" type="checkbox"/> Patrol Objective	<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/> Patrol Comment	<input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/> Members	<input checked="" type="checkbox"/>	<p>Employee Filter: The employee list on the device will only include employees selected below. For teams, all members of the team will be added.</p> <ul style="list-style-type: none"><li><input checked="" type="checkbox"/> Diego Montecino</li><li><input checked="" type="checkbox"/> Sarah Olson</li></ul> <p><input type="checkbox"/> Show Only Checked</p>
<input checked="" type="checkbox"/> Patrol Leader	<input checked="" type="checkbox"/>	Diego Montecino
<input checked="" type="checkbox"/> Patrol Pilot	<input checked="" type="checkbox"/>	Diego Montecino

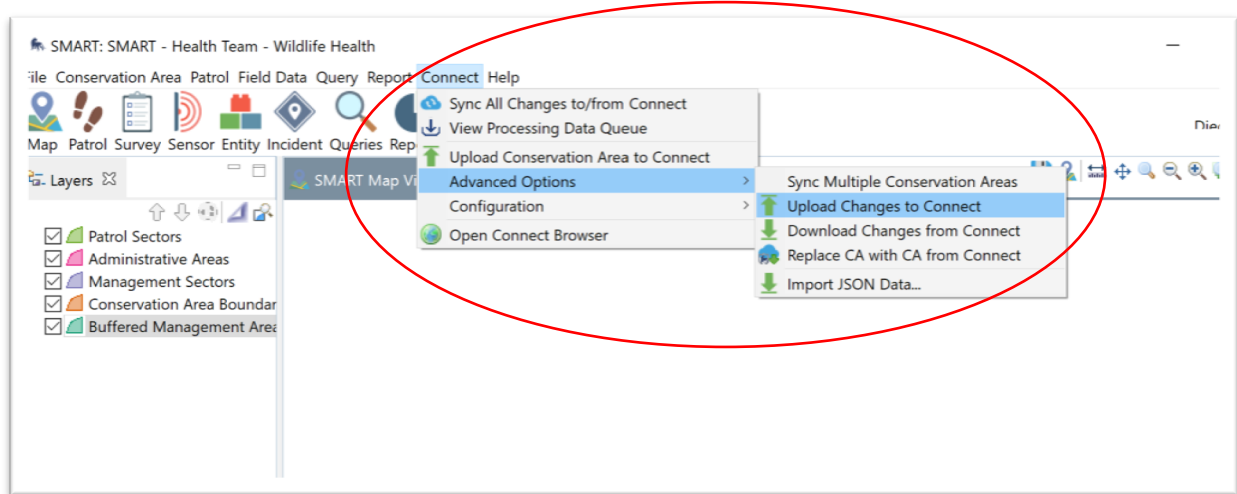
To edit the “Leader” of the team, the user must uncheck the “Members” box and then the “Patrol Leader” box. Select the appropriate members using the corresponding down arrows and then re-check all the boxes (“Patrol Leader” and “Members”). Click “Save”.



Finally, click on “Export”, select “Export to SMART Connect”, and check “Regenerate packages before exporting”. If the user has already provided the SMART Connect credentials, the patrol package will be uploaded. Otherwise, the credentials will be requested. Once uploaded to SMART Connect the revised SMART for Health patrol package can be downloaded to mobile devices (see screen shots below).



After completing these steps, the new team members and the updated patrol package **are present in the Conservation Area on your local desktop only**. These changes must **also be uploaded to the Conservation Area stored in SMART Connect**. To complete this step, select “Connect” tab from the main menu, “Advanced Options”, and “Upload Changes to Connect”. Provide the URL, your username and password.

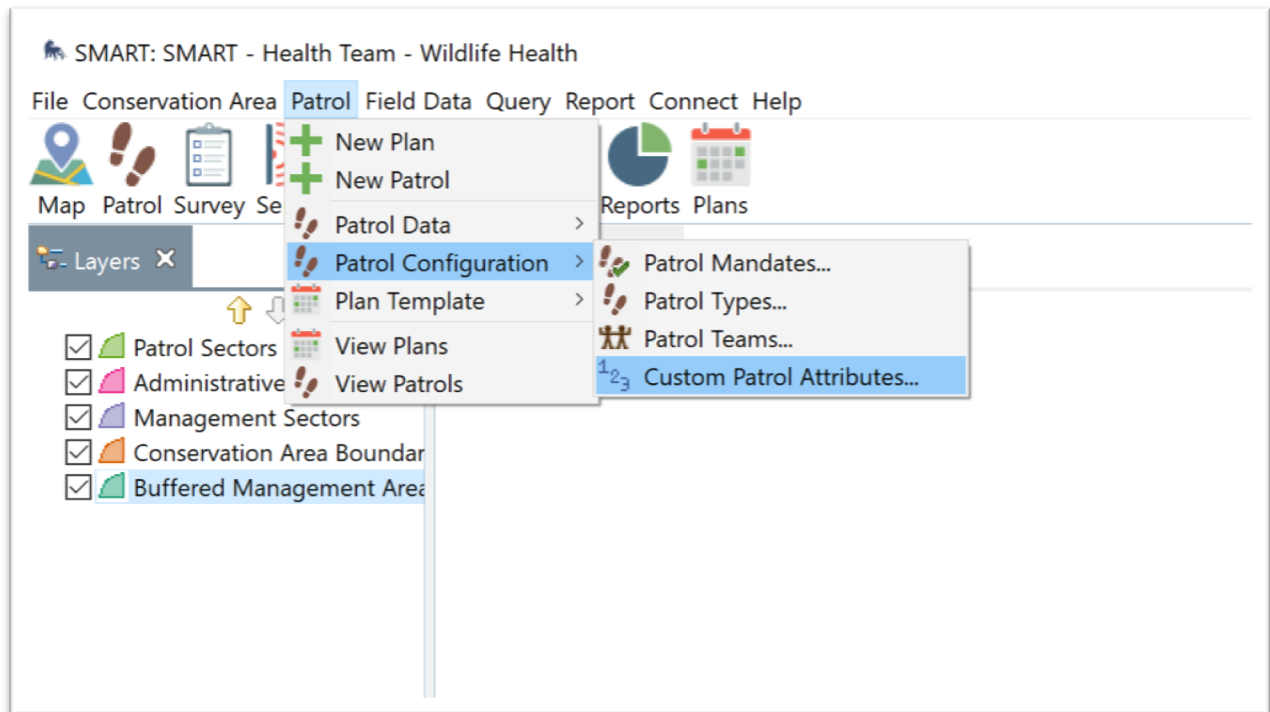


## EDIT FUNDING AGENCIES, SURVEILLANCE TYPES, AND SURVEILLANCE OR OUTBREAK UNITS

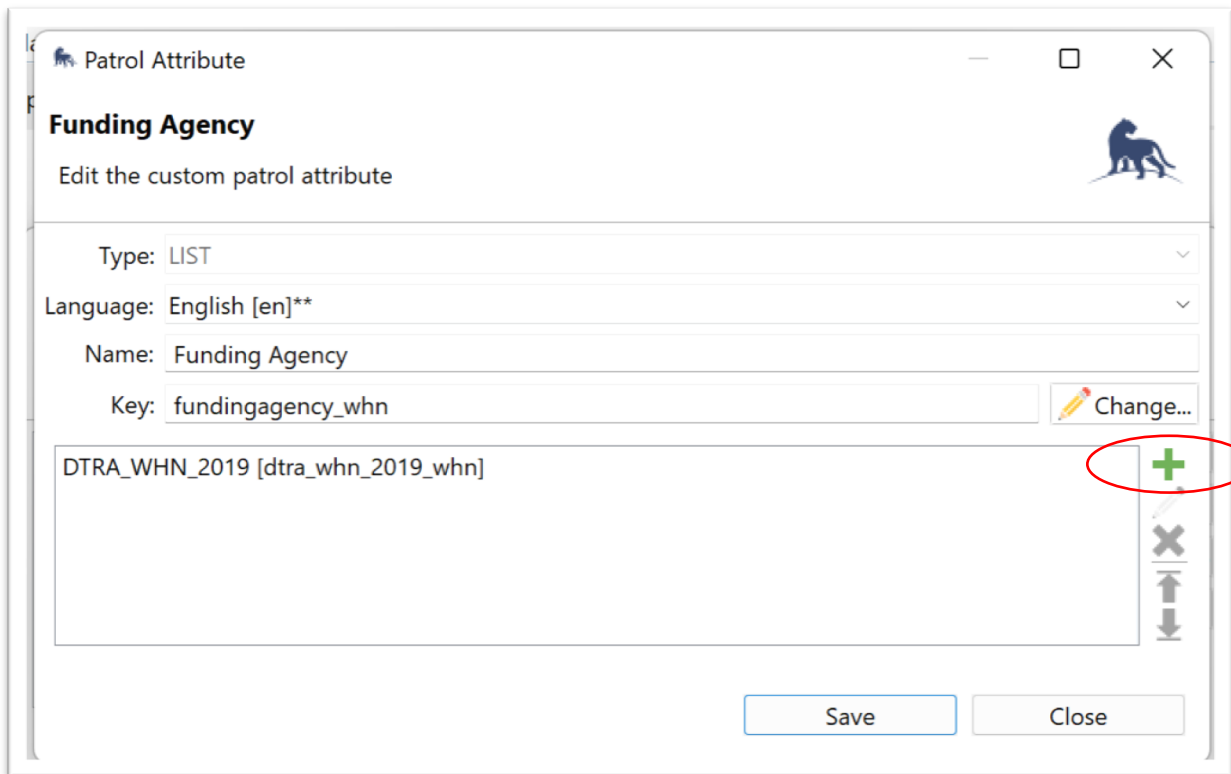
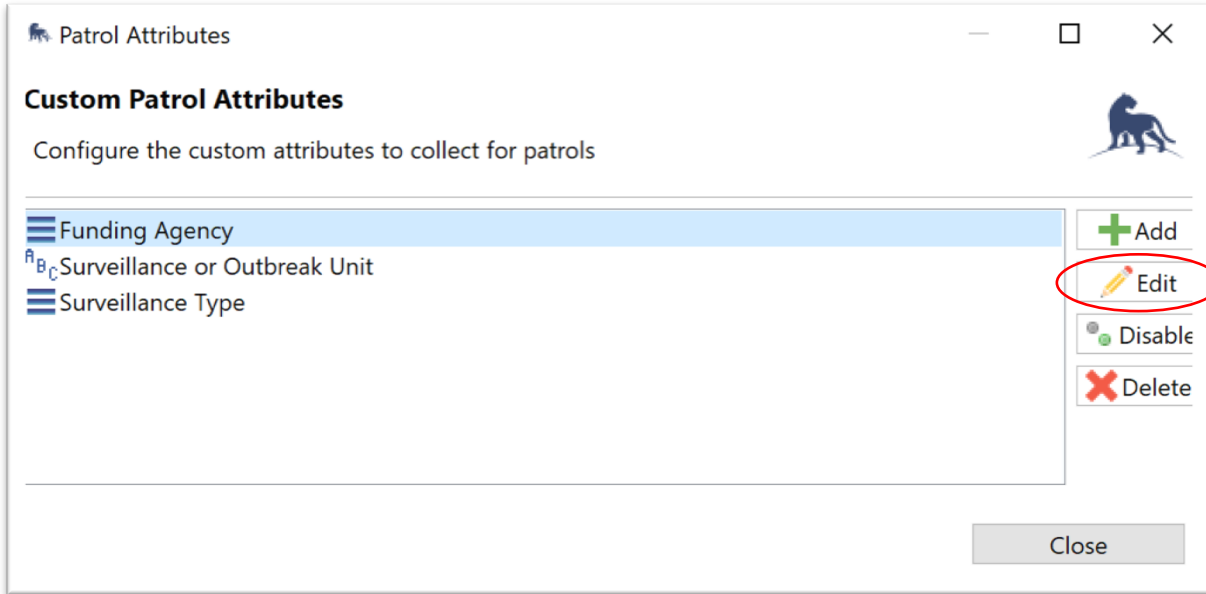
Information regarding the **Funding Agency** and the **Surveillance Type** is requested in SMART for Health at the beginning of each **Patrol** and in the “General Information” Category for independent **Incidents**. As new surveillance activities occur and new funding actors get involved, these Attributes are edited so that options corresponding to these developments are available for SMART for Health users. Note the “Surveillance or Outbreak Unit” is a text field and so no editing is required.

### EDITING THE PATROL INFORMATION

To **edit** the list of options for the **Funding Agency and Surveillance Type**, go to the “**Patrol**” option of the main menu, select “**Patrol Configuration**”, and “**Custom Patrol Attributes**”.



Select "Funding Agency" or "Surveillance Type", click on "Edit", and click on the "+" symbol. A new window will show up to add the name of the new "Funding Agency". In the example, there is only a single Funding Agency, the "DTRA\_WHN\_2019" option, and another one will be added.



Add the name of the new funding agency following the structure provided [here](#) or following the guidelines of the corresponding project. Click on “Change”, accept the warning message and add “\_whn” at the end of the key of the new funding agency. Click “OK” and then click on “Save”.

**Attribute Element**  
Create or edit an attribute list item or tree node item.

Language: English [en]\*\*

Name: other\_funding\_agency

Key: other\_funding\_agency\_whn

Change...

Save Cancel

The new Funding Agency option is provided now in the list. Click “Save” to finish.

**Patrol Attribute**  
Edit the custom patrol attribute

Type: LIST

Language: English [en]\*\*

Name: Funding Agency

Key: fundingagency\_whn

Change...

DTRA\_WHN\_2019 [dtra\_whn\_2019\_whn]  
other\_funding\_agency [other\_funding\_agency\_whn]

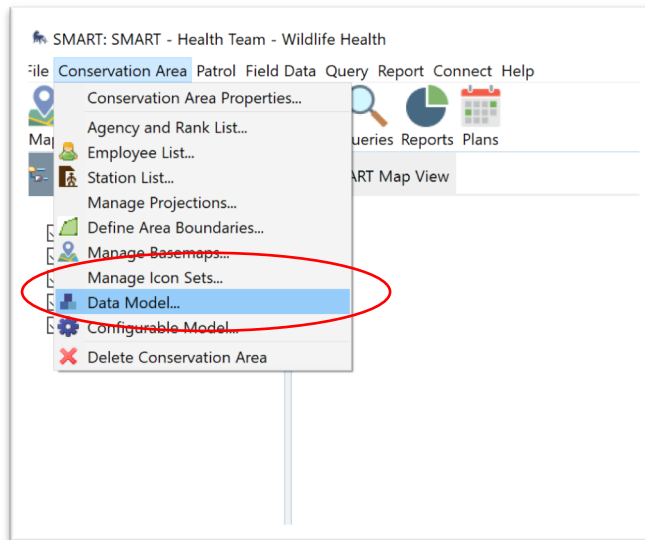
Save Close

To add options to the “Surveillance Type” follow the same process explained above.



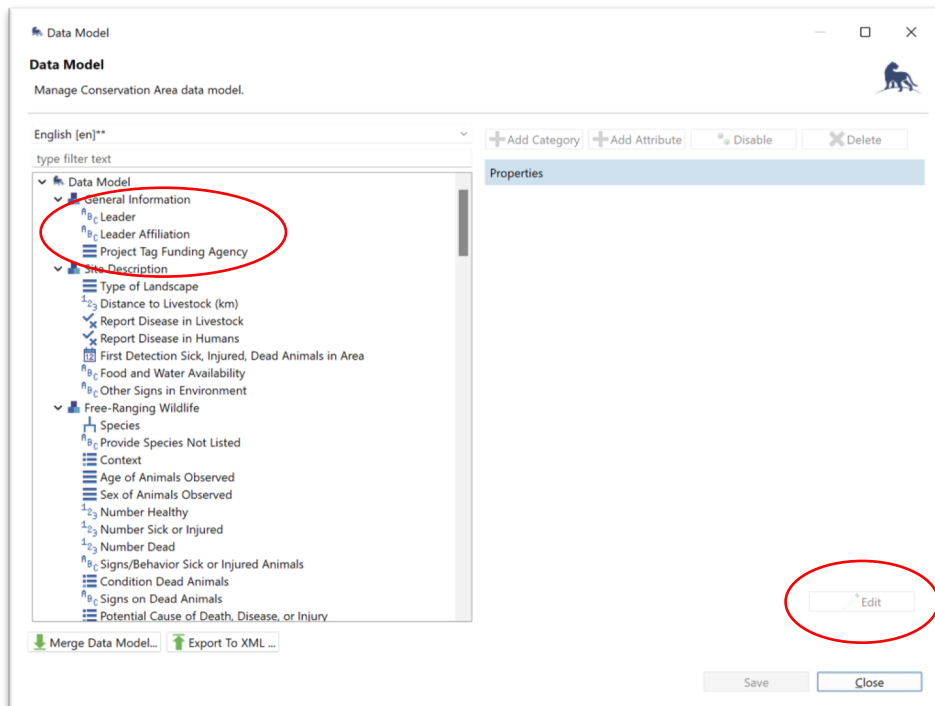
## EDITING THE GENERAL INFORMATION – FUNDING AGENCY ATTRIBUTE

To **edit** the list of options for the **Funding Agency** Attribute of the “General Information” Category, go to “Conservation Area” and “Data Model”.



Then, find the “General Information” Category and select the “Project Tag Funding Agency”.

Click on “Edit”.



In the new window, click on the “Add” button, then type the name of the new funding agency or source following the structured provided in in the Data Dictionary [here](#) or following the guidelines of the corresponding project. Then click on the “Change” button, accept the warning message and add “\_whn” to the key.

**Edit Attribute**  
Edit the attribute Project Tag Funding Agency.

Type: LIST Convert To Multi List

Language: English [en]\*\*

Name: Project Tag Funding Agency

Key: projecttagfundingagency\_whn Change...

Required:

Icons: (none) [edit](#)

Values: DTRA\_WHN\_2019 [dtra\_whn\_2019\_whn]

+ Add  
Edit  
Disable  
Delete  
Move Up  
Move Down  
Sort

Finish Cancel

**Attribute Element**  
Create or edit an attribute list item or tree node item.

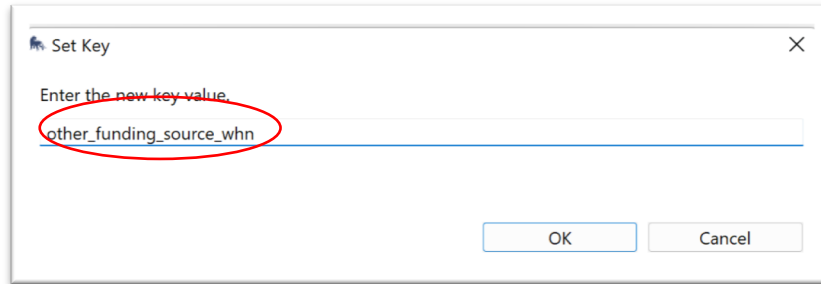
Language: English [en]\*\*

Name: Other\_funding\_source

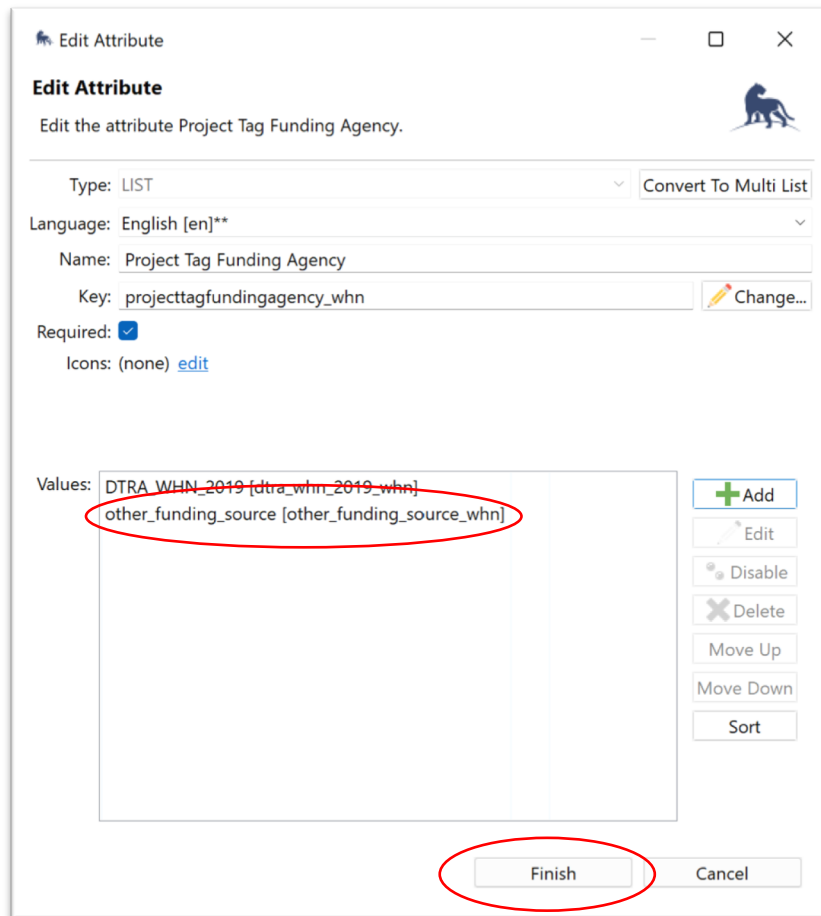
Key: other\_funding\_source Change...

Icons: (none) [edit](#)

Save Cancel

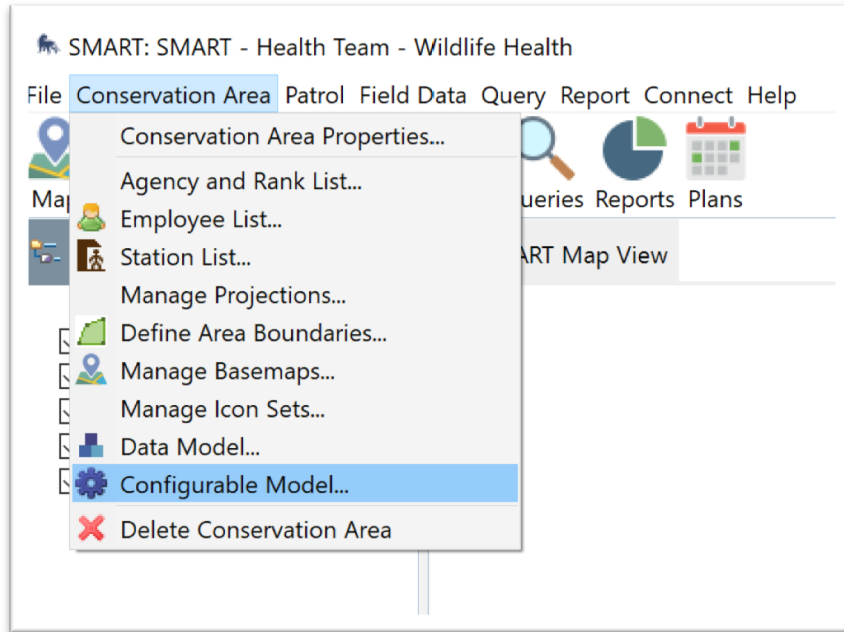


Click "OK" and then click "Save". Once the updates are completed, click on "Finish".

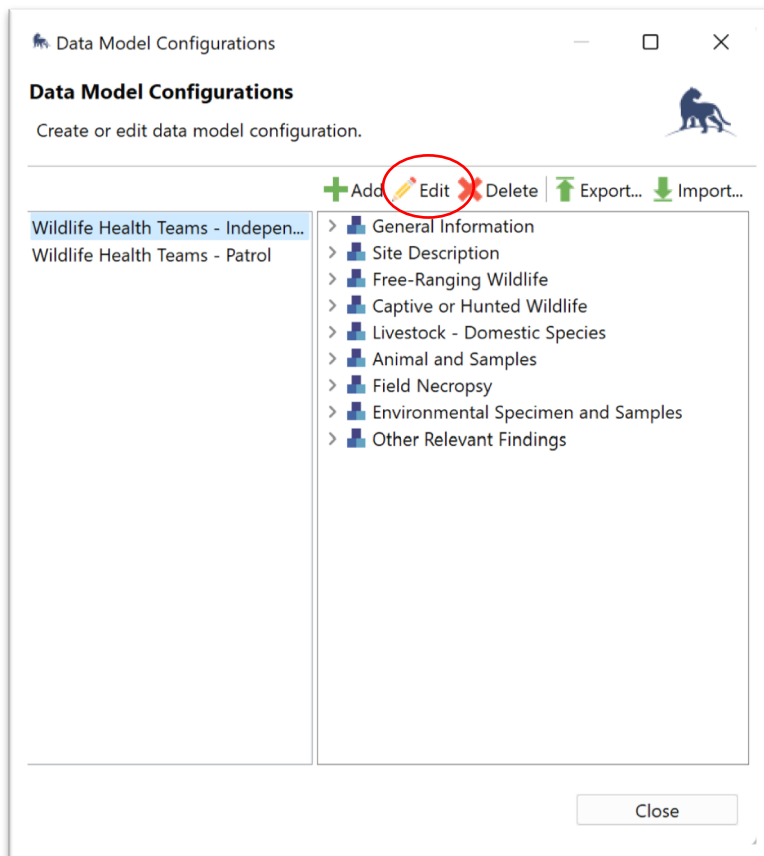


Once the user is back in the "Data Model" screen, the button "Save" should be clicked. Close the "Data Model" screen.

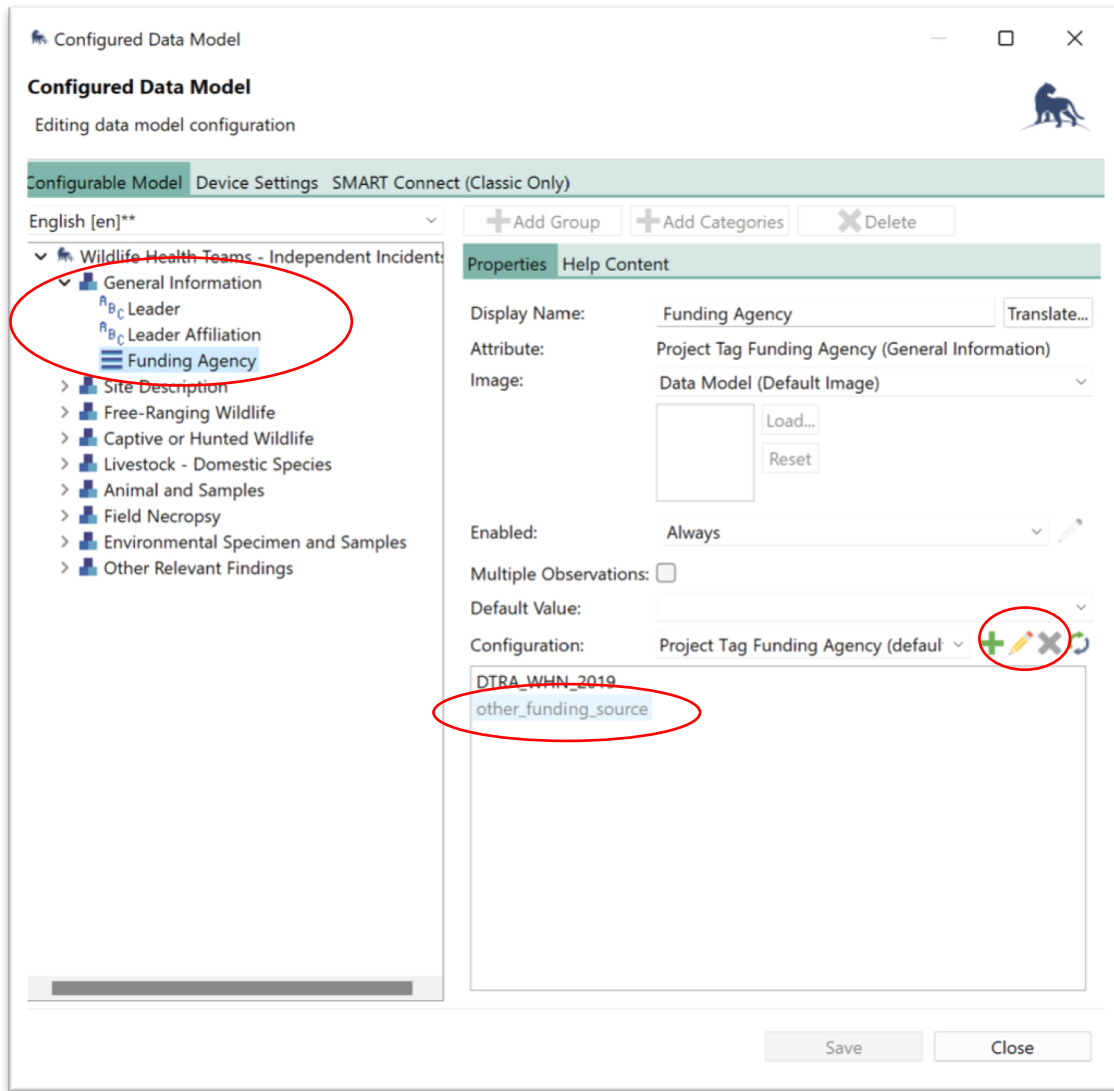
Now **the new option must be added to the SMART for Health Configuration**. Go to the "Conservation Area" in the main menu and select "Configurable Model".



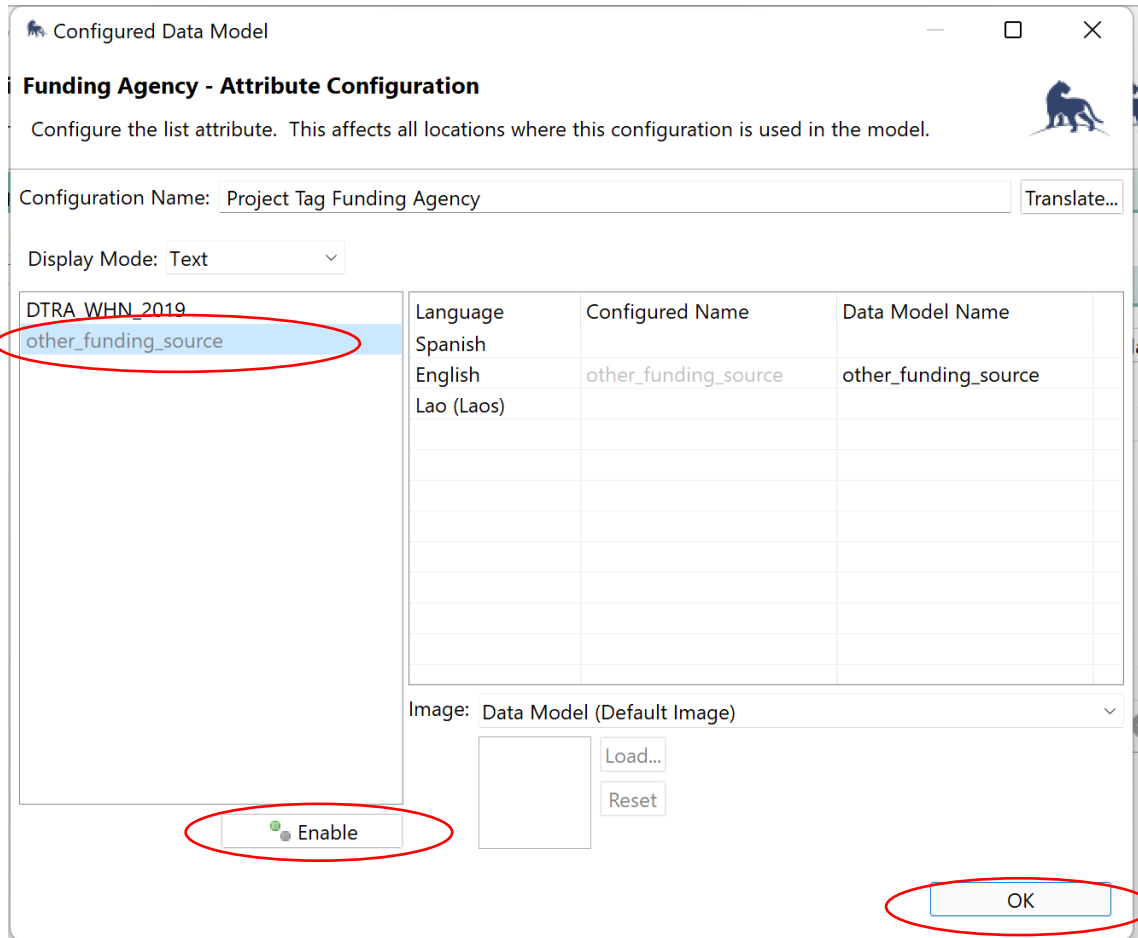
In the next screen, select **“Wildlife Health – Independent Incident”** and click on **“Edit”**.



In the next screen, open the “General Information” Category, select the “Funding Agency” Attribute, and click on the pencil icon in the right side (see below). Check that the new option added “other\_funding\_agency” is in grey color.



Clicking in the pencil icon will open a new screen. In this screen, click on the new option and then click on “Enable”. The option will become black just like the other ones. Click “OK” (see below).



Finally, click on “Save” and then click on “Close”. The changes are ready.

Once the **changes are completed the SMART for Health patrol package must be updated and they must be uploaded to SMART Connect** following the steps explained in the previous section.