

User Guide for ArcGIS Field Maps

ver. 28 February 2023

Intended Audience and Purpose: This guide is intended for field workers that:

- 1) Are using a Pinyon Jay Survey Protocol produced by the Pinyon Jay Working Group (PJWG),¹ and
- 2) Are using the ArcGIS Field Maps app (hereafter, “Field Maps”) to record data while conducting surveys.

This guide describes how to use Field Maps to record data. It assumes no previous experience with Field Maps, though it is helpful to be comfortable using a smart phone or tablet.

Prerequisites: The following conditions must be met before you begin to use Field Maps for data collection:

- 1) Your organization’s GIS administrator must have provided you with a properly configured ArcGIS Online account, and you must know your username and password for this account.
- 2) Your admin must have performed all the necessary configuration as detailed in the [Configuration Guide to ArcGIS Field Maps and ArcGIS Online](#).
- 3) Your admin must have shared a data collection map / form with you.
- 4) You must have a smart device (phone or tablet) with an on-board GPS that is enabled. Devices may use either the Android or iOS operating system.
- 5) Before collecting data, you must have received appropriate training to cover:
 - a. The PJWG Survey Protocol you are using. This includes fully understanding all field survey methods and requirements, all data fields, and the definitions and meanings of all allowable data field values.
 - b. Pinyon Jay field identification by sight and sound.
 - c. Basic natural history of Pinyon Jays and Pinyon Jay habitats.

Notes on the User Guide: This User Guide uses multiple screen shots created on an Android smart phone. The layout of Field Maps can vary with device type (Android vs. iOS; phone vs. tablet) and screen size; therefore, what you see on your device may not correspond exactly to the screen shots below. Additionally, the detailed specific map and data form you will use for your project will likely vary from what is shown in the screen shots.

Getting Help: For questions about using Field Maps, to report errors in this User Guide, or to suggest improvements, contact John Boone (boone@gbb.org).

Preparing Field Maps (Require Internet Connection):

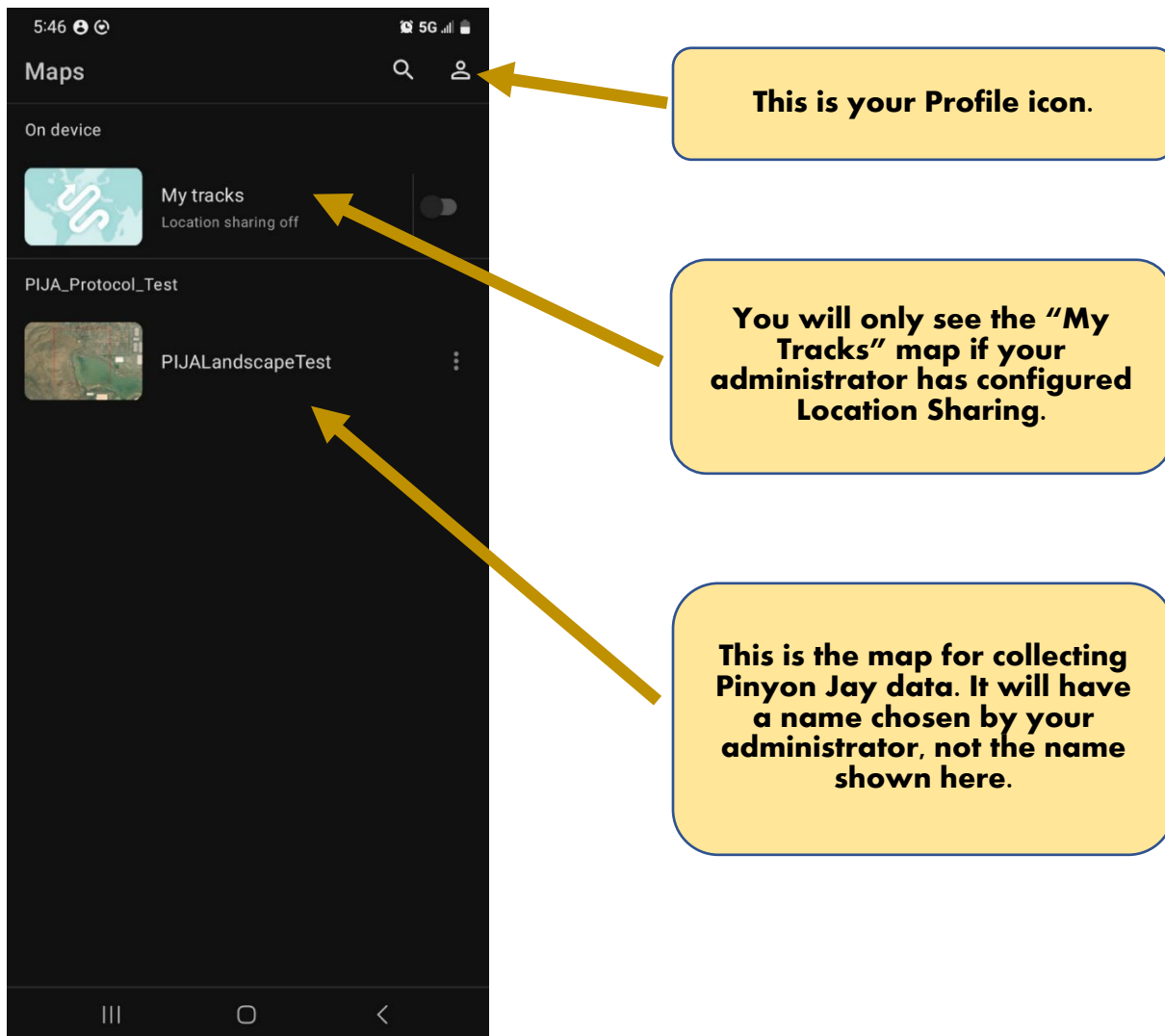
¹ Either the [Pinyon Jay Survey Protocol for Landscape Applications](#), which is currently available, or [Pinyon Jay Survey Protocol for Project Applications](#), which will be available in the near future. Your supervisor should inform you of the protocol you are using and provide you with a link to the appropriate document.

STEP 1: Install Field Maps on Device

- 1) On your device open the Play Store app (for Android) or Apple Store app (for iOS).
- 2) Search for “ArcGIS Field Maps”.
- 3) Install the app.

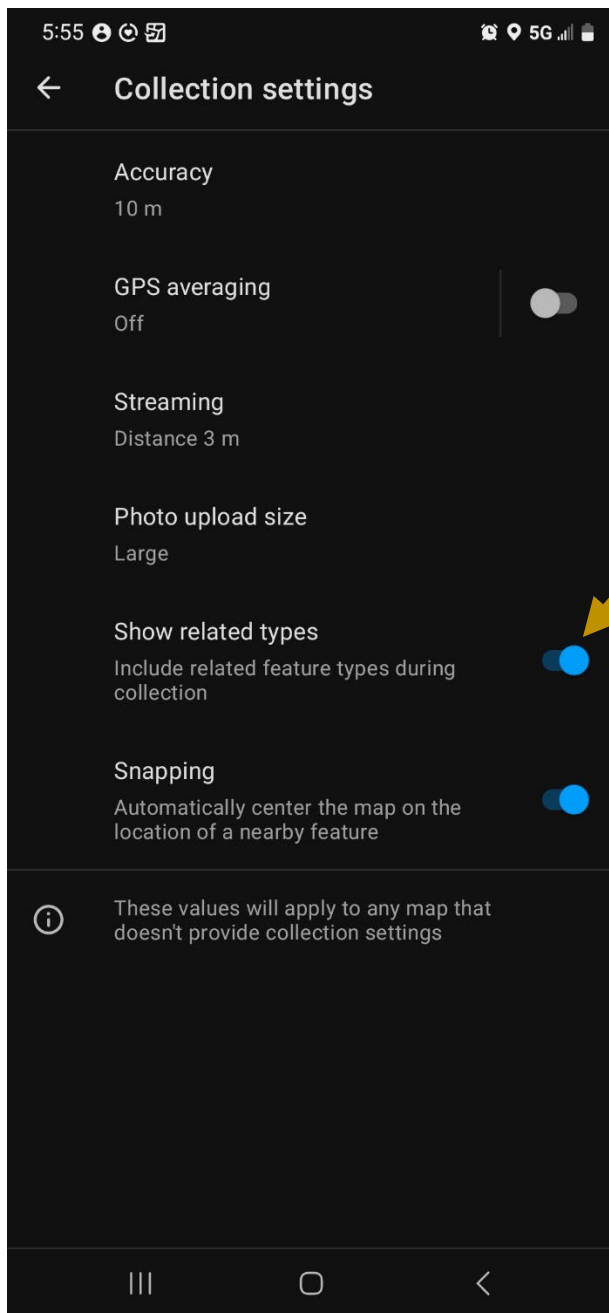
STEP 2: Log In

- 1) Open the Field Maps app on your device.
- 2) Choose “Sign in with ArcGIS Online”. Do not sign in with ArcGIS Enterprise unless your admin specifically instructs you to do so.
- 3) Sign in using your ArcGIS Online username and password. Normally you will remain logged in on this device in the future, but occasionally you may need to log in again.
- 4) You should now see a screen similar to the one below, called the “Maps Page”.



STEP 3: Field Maps App Configuration

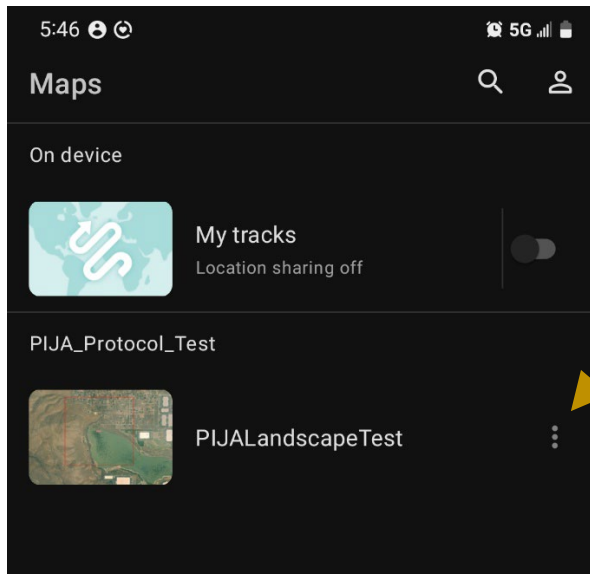
- 1) Click the “Profile” icon (screen shot above).
- 2) On the Profile Page, it is recommended that you enable the “Auto-Sync” option. Otherwise, you can keep the defaults on this page unless advised to do otherwise by your administrator.
- 3) On the Profile Page, click “Collection settings”. Then, enable the “Show related types” option. ***This is critically important*** (see screen shot below).



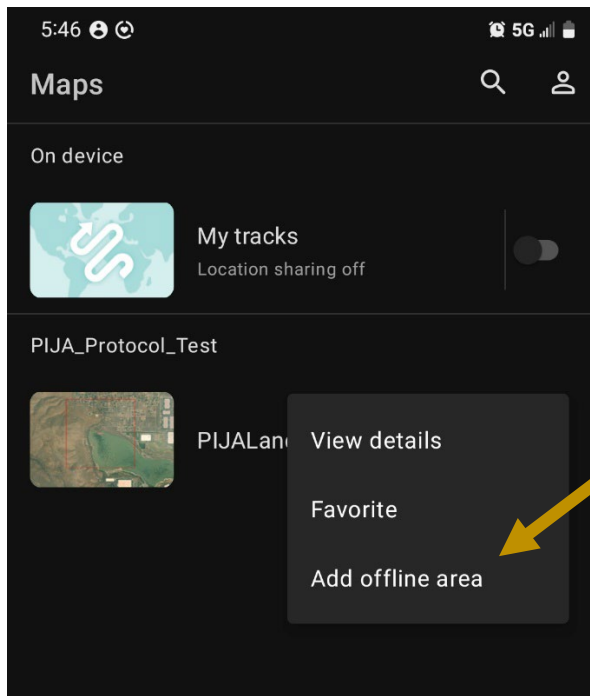
Be sure this option is enabled.

- 4) Back out of the Collection Settings Page and the Profile Page to return to the Map Page.
- STEP 4: Add Offline Areas**

Field Maps is designed to work when you do not have an internet connection. In order to do this, you must download one or more “Offline Area(s)” to your device, covering the locations where you will be surveying. It is possible that your administrator has already configured offline areas for you. If so, follow his or her instructions. Otherwise, download Offline Areas as described in the following screenshots. ***This must be done while you have a reliable internet connection for your device, either through Wi-Fi or LTE, before you head out to the field.***



Click the three dots here.



Choose this option.

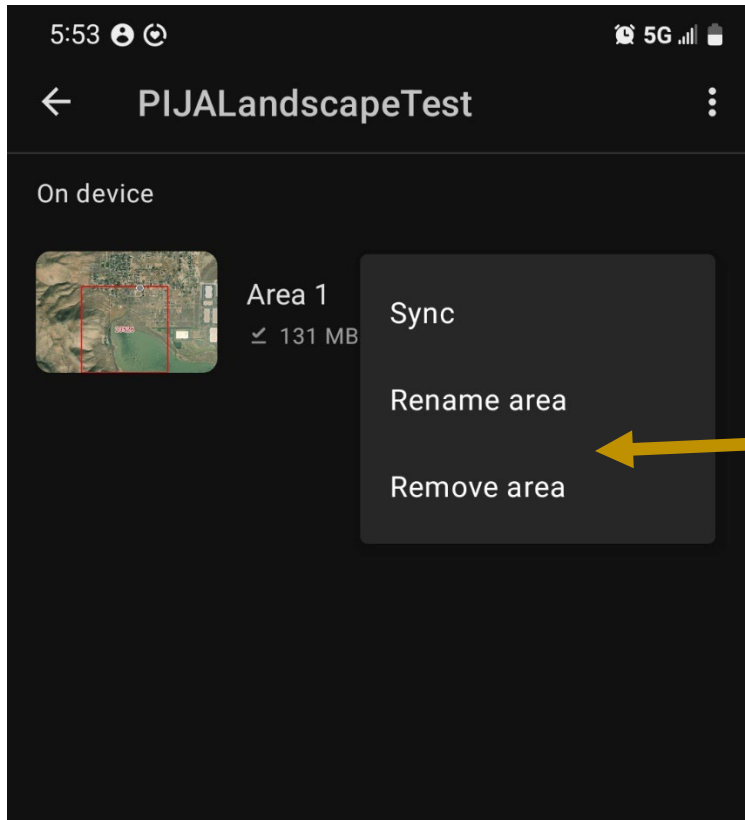


Pan and zoom to define the Offline Area where you will be working. Depending on how far your current location is from your work area, you may have to pan a long way. Depending on the size of the area you need to download you may need to change the "Level of Detail" setting. Field Maps and your device will put limits on the size of the download.

This frame defines the Offline Area.

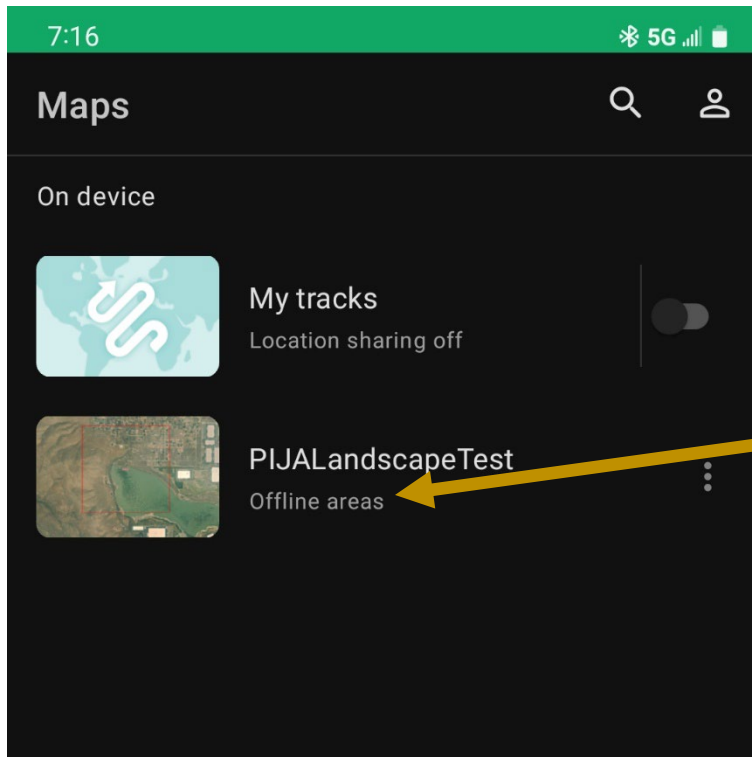
This is a 2.5 x 2.5 km Pinyon Jay survey plot. Your map may or may not have something similar shown.

Click here to download the Offline Area once it is framed correctly. The download may take several minutes, and it may fail. If so, just try again and eventually it will work.



Once the Offline Area is downloaded, you will see this screen that lists the Offline Area(s) that are stored on your device.

You can click the three dots to the right of the Offline Area and rename it or remove it once you are finished using it to save device storage space.



When you return to the main Map Page, you'll see that your map now notes that Offline Areas are available for the map. Clicking the map returns you to the Offline Areas Page .

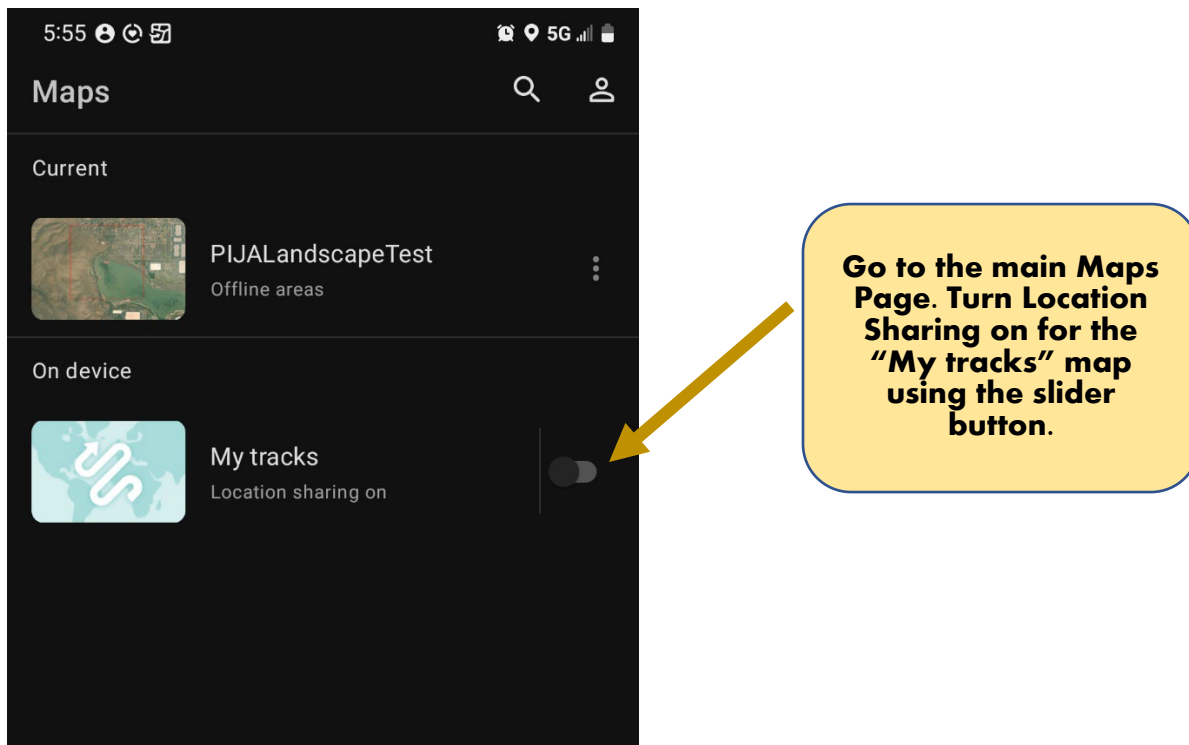
Collecting Data with Field Maps (Step 1 Requires Internet Connection – Remaining Steps Are Done Offline):

STEP 1: Before Leaving for the Field

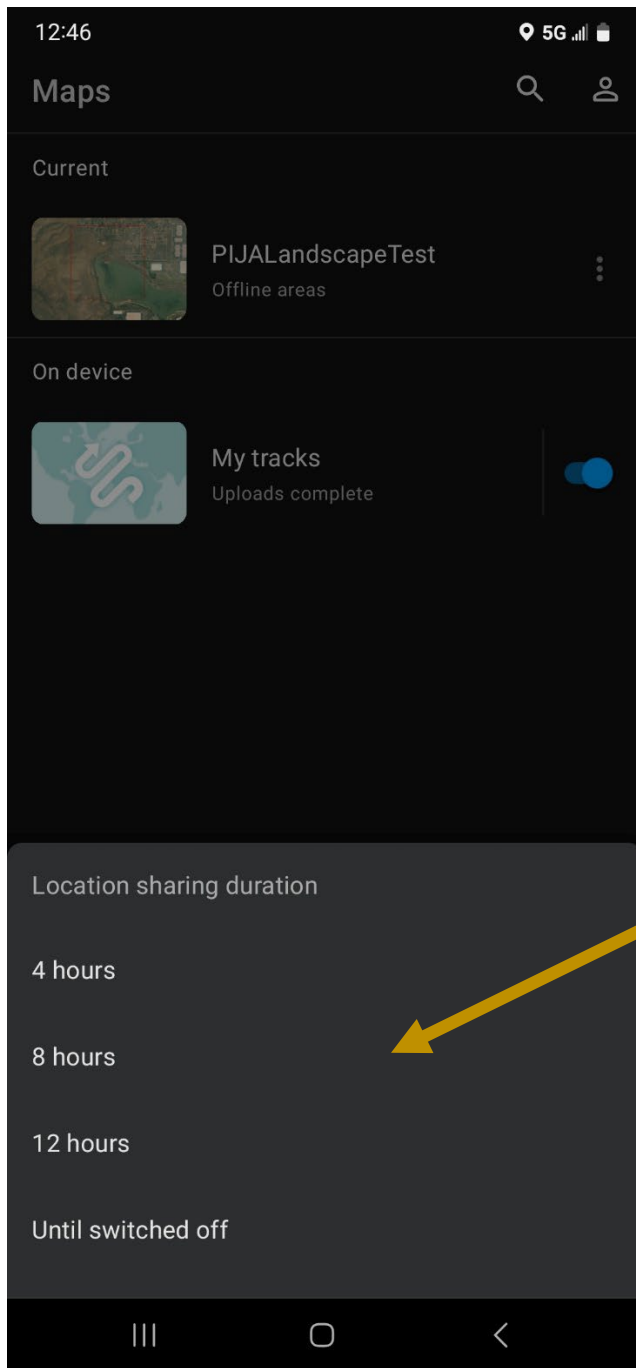
- 1) Make sure you have downloaded any Offline Areas you will need during your field session. You will not be able to download them without an internet connection.
- 2) If you have not enabled Auto-Sync, go to the Offline Areas Page, click its three-dot icon, and choose “Sync”. This will ensure that any changes in the map or data set that your administrator or other surveyors have made is synced to your device. If you have enabled Auto-Sync, necessary syncing should happen periodically and automatically.

STEP 2: Just Before Starting the Survey, Enable Location Sharing and Tracks (if applicable)

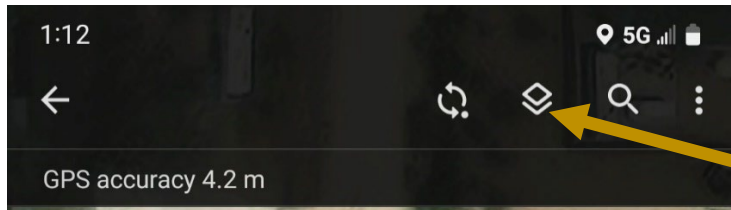
Location Sharing is a capability of Field Maps that allows you (or others) to visualize your tracks on a map. Seeing your track as you perform an area search for a PJWG Survey Protocol can help you to cover your assigned plot or polygon thoroughly. Whether or not you use Location Sharing for your surveys is up to your administrator. They will inform you about the relevant details,² but you may need to follow the instructions shown in the screen shots below after you arrive at the survey location, but just before you actually start to survey.



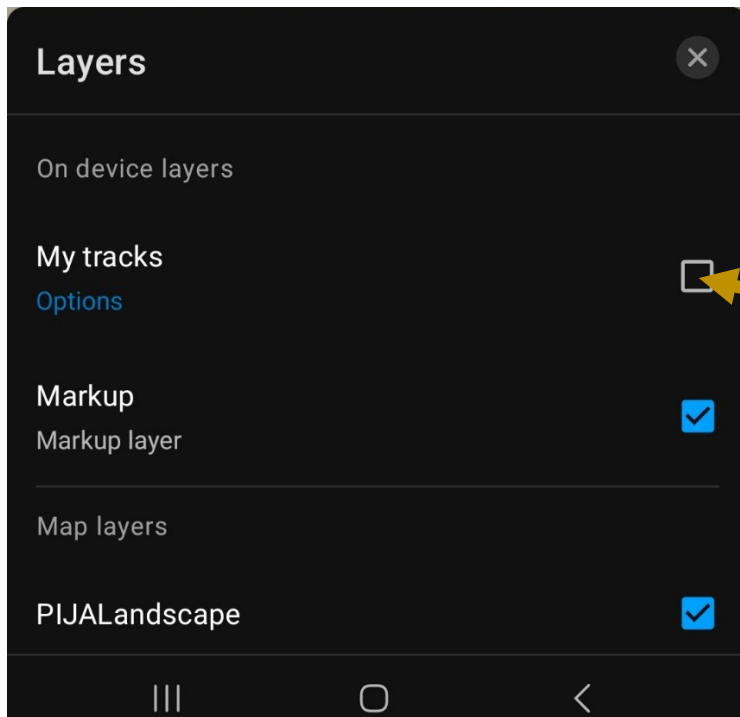
² Some of the steps illustrated here can potentially be automated by your administrator. Ask your administrator for details about your organization’s approach to Location Sharing if you are unsure.



Once you do this, you will be prompted to select the duration of Location Sharing. Any option is okay, but we recommend the "Until switched off" option to limit the amount of extraneous tracking data that is recorded. However, choosing this option means you will have to remember to turn off Location Sharing in Field Maps after your survey is done; otherwise, location will be tracked on an ongoing basis, which drains your device battery unnecessarily. If you think you may forget to turn off location sharing, select one of the timed options.



Next, navigate to the **Offline Areas Page** and open the **Offline Area** where you will be surveying. At the top of resulting screen, click the **"Layers"** icon.



You will now see a list of map layers. By default, the **"My tracks"** layer is unchecked. Check this box to show your tracks in the main data collection map.

STEP 3: Collecting Data While Surveying

Once you have performed the previous steps and are at your survey area, you are ready to start surveying and collecting data! As described in the PJWG Survey Protocol documents, there are two kinds of data your will be recording: Visit-level data that describe each unique survey, and Sighting-level data that describe the Pinyon Jay observations you make during each survey. Proceed as follows:

- 1) Open your data collection map by clicking on the Offline Survey area that corresponds to your current survey location.
- 2) As soon as you start each survey ***ALWAYS record a Visit-level record***,³ as shown below:

³ Under the default configuration, you must create a Visit-level record first even to record an incidental (i.e., non-survey) Pinyon Jay Sighting-level record. Do this to the best of your ability, recognizing that Visit-level records created only to enable recording an incidental Sighting-level record can be interpreted in this context later.



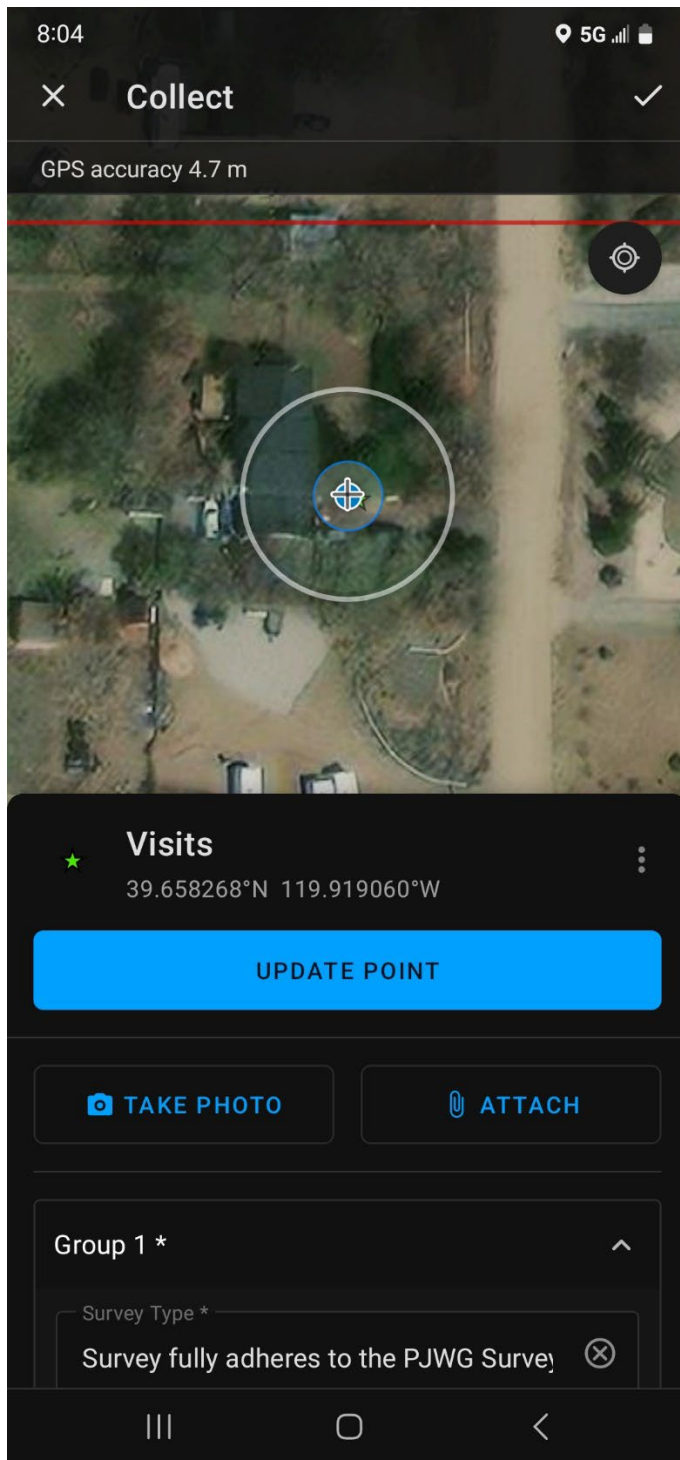
You will begin in "Navigation" view, which shows your current location, an imagery base map, and the boundary of your assigned plot or polygon if your administrator has included it in your map. If you are using Location Sharing, you will also see your track as proceed. You can zoom and pan around the map in the usual way.

Click here to center the map on your location.

Plot boundary.

Your current location.

Now click the "+" icon to record your Visit-level data.



After clicking the "+", you'll see a screen like this. Be sure it refers to "Visits" because you must record the Visit-level record first. The crosshairs inside the big circle indicate the location of the data point you are about to record. By default, this location coincides with your current location, but you can pan the map around to change the location of the data point, and then click "Update Point". For the Visit-level record, it is fine to accept the default location. Note that you can take one or more photos of the general location to attach to the record.

12:49 5G

Collect ✓

★ Visits
39.658408°N 119.918779°W

TAKE PHOTO ATTACH

Group 1 * ^

Survey Type *
Survey fully adheres to the PJWG Survey (X)

Surveyor

Plot / Polygon ID

Survey Visit Group Replicate *
0 (X)

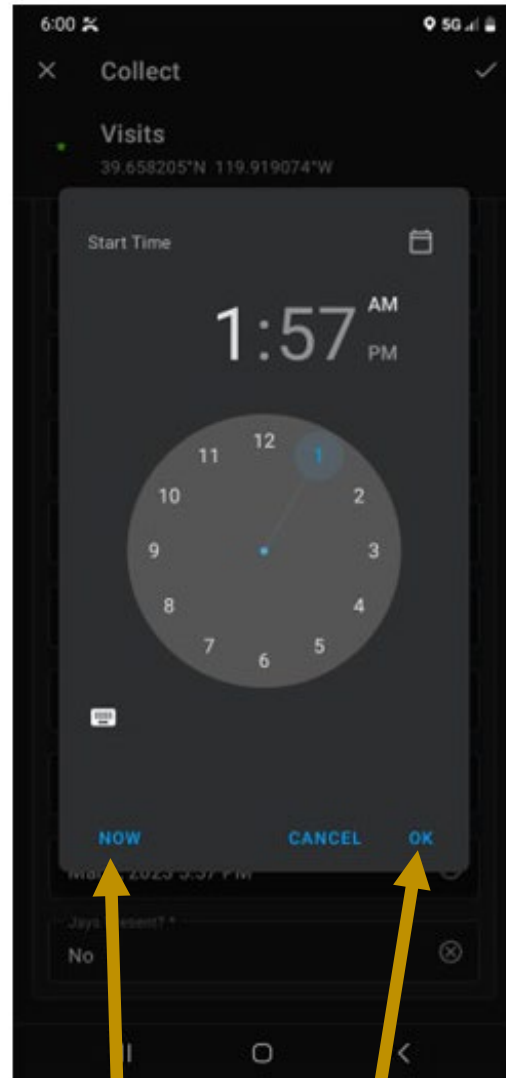
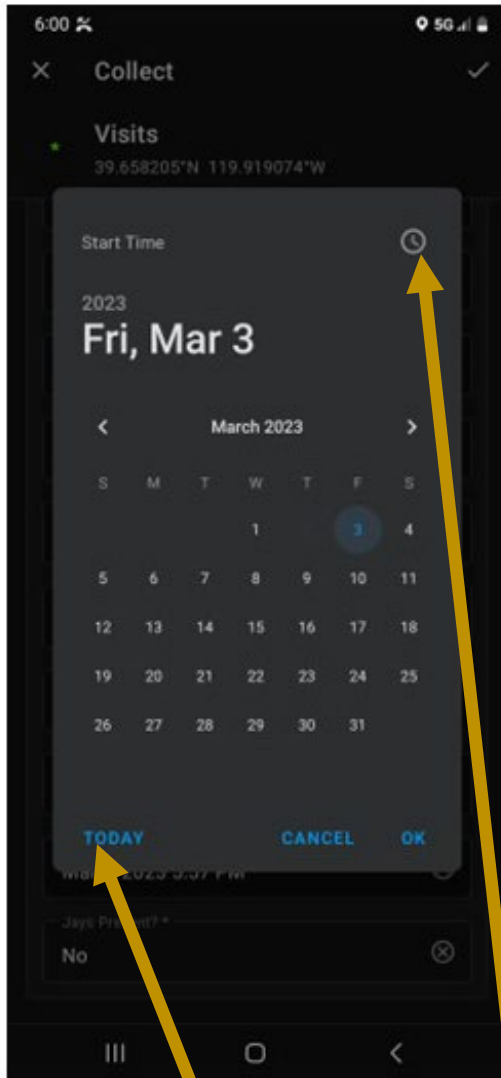
Monitoring Replicate

Wind Speed Category * (X)

Temperature (C) *
0 (X)

Sky Condition Category * (X)

Now continue to scroll down the data collection screen. Click on each field in turn, select the correct value from the drop-down (if available) or enter it manually if there is no dropdown. Some fields are required (those with an asterisk), and others can be left blank if appropriate, as described in the PJWG Survey Protocol documents. Be sure to scroll all the way to the bottom to address all of the data fields.



When you get to the "Start Time" field, click it and then select "Today". Then click the small clock icon in the upper right. On the next screen, select "Now". Then click "Okay" to return to the data collection form. Be sure your device's calendar and clock are set correctly! Note that the time may not show in this field after you record the data point, but it is stored in the underlying database.

Because the "Stop Time" and "Jays Present?" fields are required, you must fill them out to proceed with the survey, even though you can't know the correct values for these fields until the survey is completed. The solution is to fill them out now, and then go back and change them once you finish the survey.

Stop Time *
Dec 29, 1899

Jays Present? *
Yes

12:50 5G

Collect ✓

Visits
39.658408°N 119.918779°W

Survey Visit Group Replicate *
1

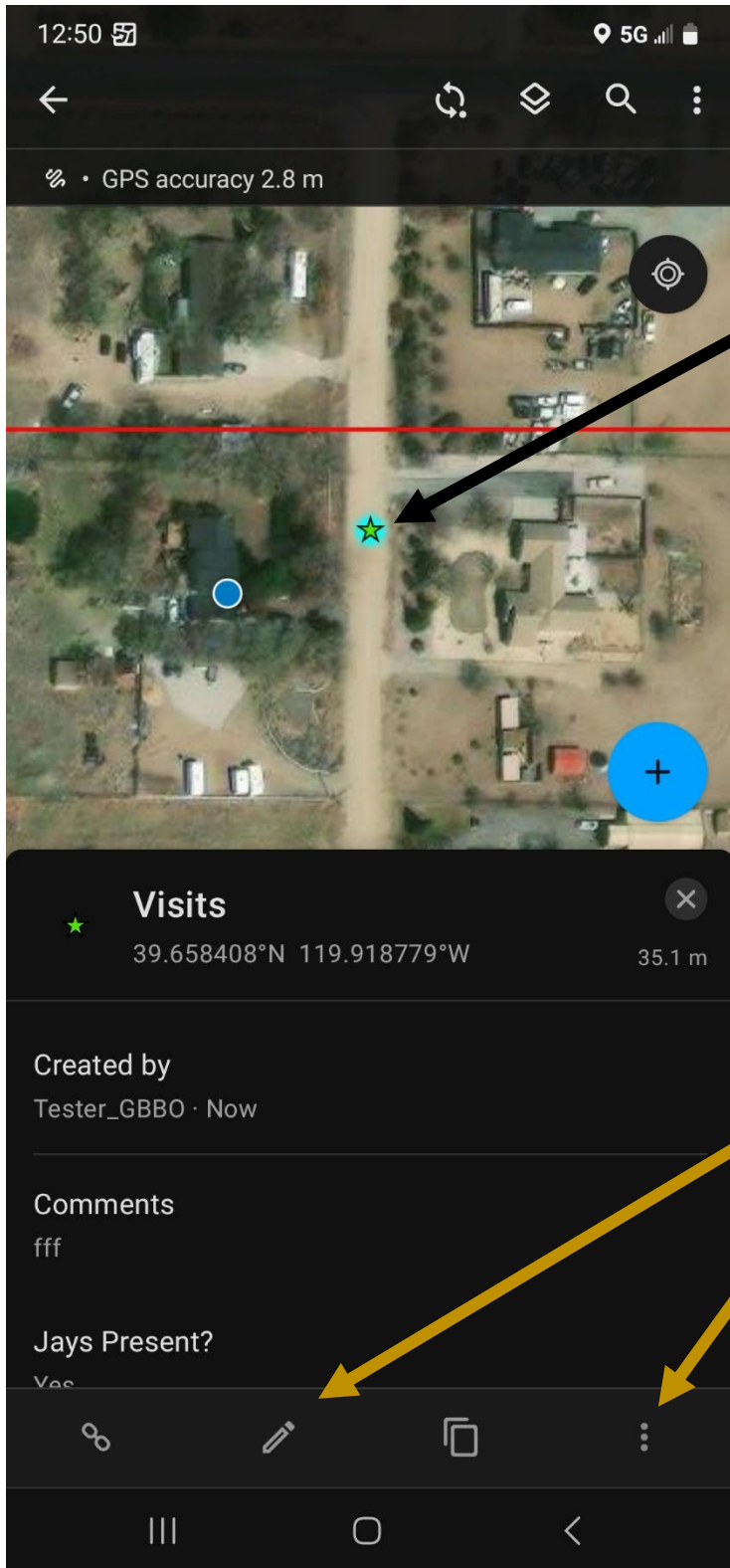
Monitoring Replicate

Wind Speed Category *
Wind felt on face, leaves rustle

Temperature (C) *
022

Sky Condition Category *
Snow or flurries

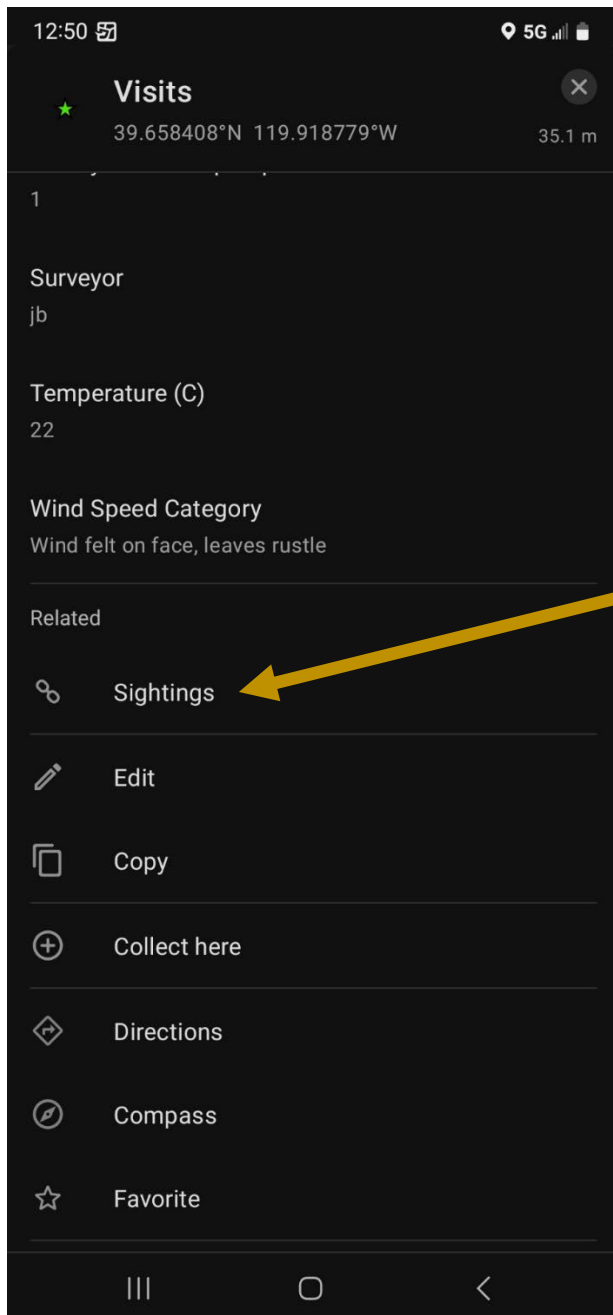
When you have completed all the fields, click the check mark icon to record the Visit-level data point. If you don't do this, all your data entry will be lost.



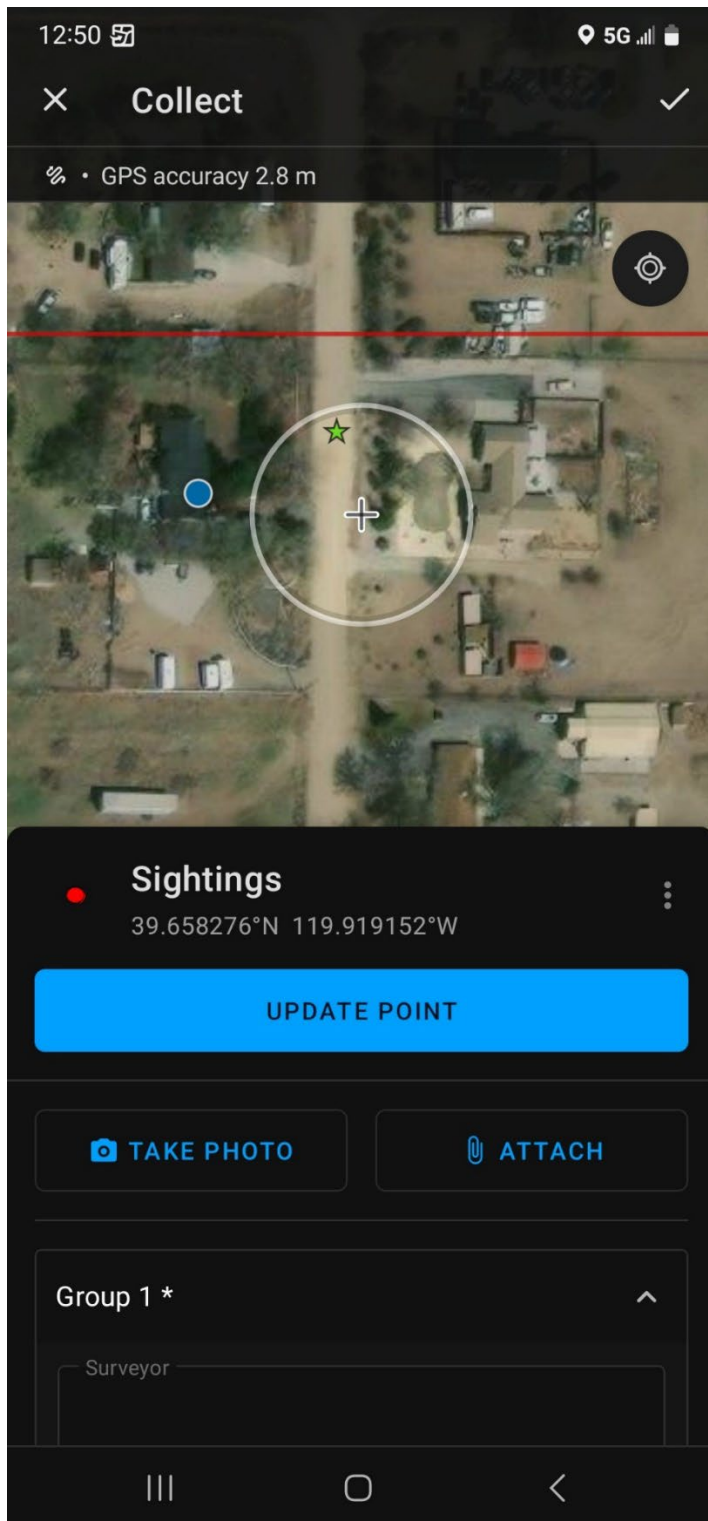
Now you will see your new Visit-level data point on the map. The blue "halo" indicates that the point is currently selected. You can select or unselect the point by clicking it.

When the point is selected, you will see this "Options Bar". Click the pencil icon if you need to edit any of the data fields (and then make sure to save the changes using the check mark). Click the three dots for an option to delete the record if you need to.

- 3) Now begin your survey using the area search method, as described in the PJWG Survey Protocol documents. If you have enabled Location Sharing, you will see your track lengthen as you proceed. You may want to unselect the Visit-level record so you can see more of the map as you navigate.
- 4) When you need to record a sighting, first find and re-select the Visit-level point if you unselected it earlier. ***This is critical.*** Then do the following:

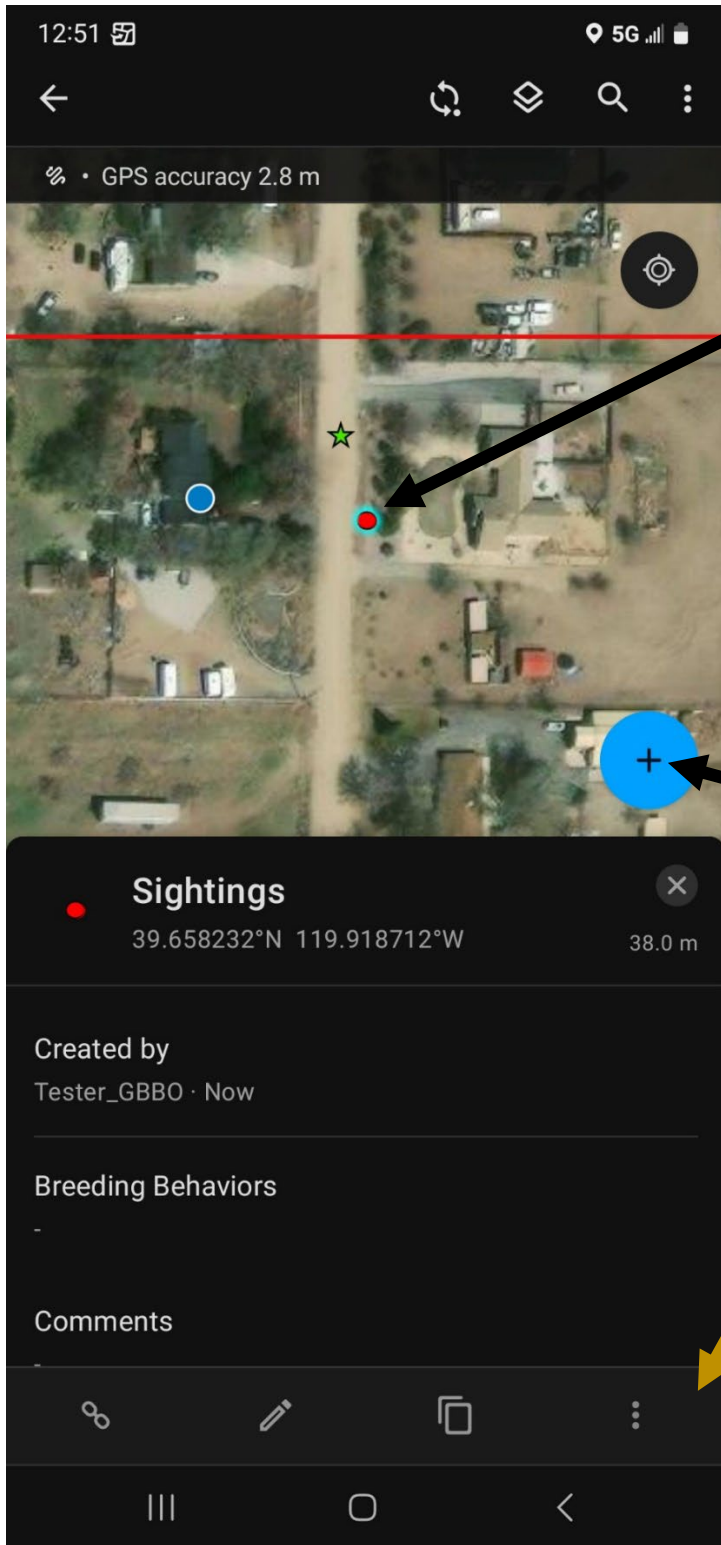


With the Visit-level point selected, scroll down past the data fields until you reach the "Related" heading. Then click "Sightings" to record a Pinyon Jay sighting record, and then click "Add" on the next screen. Recording the sighting-level data this way preserves the database relationship between the Visit-level record and the Sighting-level record, which is why it is so important.



After clicking “Add”, you will position the Sighting-level point and record data using the same steps as you used previously for the Visit-level record. Be sure to position the data point to reflect where the Pinyon Jay flock is located on the landscape, not where you are located. Remember to fill in all the required fields (scroll all the way to the bottom), and to click the check mark when done entering data to finalize the record.

Repeat these steps for every additional Sighting-level record during the course of the survey. Always begin with the Visit-level record selected, and always record the Sighting-level record using the option under the “Related” heading, as shown before.



With the Sighting-level record selected on the map (notice the blue halo), you can use the Options Bar to edit the point later or delete it as previously described.

This will return you to the screen with the Visit-level point selected. From here you can scroll down to "Related" and "Sightings", as previously shown.

Options Bar for the selected Sighting-level record.

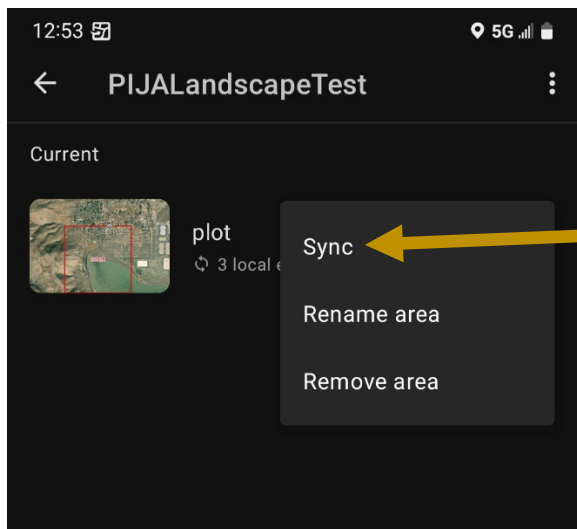
- 5) When done with survey, select your Visit-level record on the map, click the edit icon on the Options Bar, and change the values for “Stop Time” and “Jays Present?” to the correct values. Then click the check mark to finalize these edits.

STEP 4: Immediately After Completing the Survey

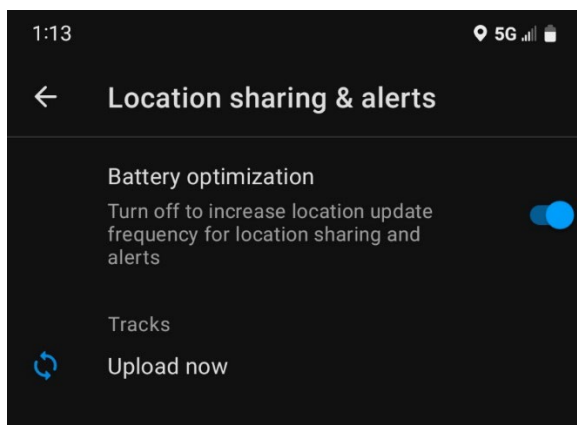
If you are using Location Sharing, always return to your main Map Page and turn off the “My Tracks” map immediately after concluding the survey. If your administrator automated Location Sharing, you may not need to perform this manual step.

After the Survey

When you return from the field and have an internet connection, you will need to sync so that the data you collected are sent to the cloud-based dataset. This is done automatically if you have enable Auto-sync, as described on page 2. Otherwise, sync manually as follows:



On the Offline Areas Page, click the three dots and choose “Sync”.



If using Location Sharing, go to your Profile, then the “Location sharing and alerts” item, and click “Upload now” under “Tracks.”

Be aware that once in a while, Field Maps will crash when attempting to sync data. The solution is usually just to try again. If that doesn't work, close the Field Map app on your device, restart it, and then try to sync. The data stored on your device will not be lost by restarting the app. These steps are usually sufficient to successfully sync, but if you continue to have issues, contact your administrator.

That's it! For the next survey, just start with a NEW Visit-level point and proceed as previously described.

Your administrator may choose to share maps and aggregated data produced by your team's data collection effort through ArcGIS Online. This provides an efficient way to review data for quality control purposes. Contact your administrator for details.