

EXERCISE 4

Collecting New Data



Introduction

Recall from the last exercise that there are two main tasks SPB Spots for Collector is used for. The first is editing and adding data about a detected SPB infestation (spot). The second is to collect new data related to spots you discover in the field. In the previous exercise you learned about editing previously detected spots. This exercise will focus on collecting new spot data. You'll collect new spots and associated data, as well as learn about collecting breadcrumbs to help later field workers get to the spots that you've collected.

Prerequisites

- An Android device
- BadElf Bluetooth GPS Device (An external GPS will be required for field work, however it is *not* required for this exercise)
- Access to the Collector SPB maps



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Part 1: Collecting a New Spot in Collector

A. Collect a New Spot

You're working on the forest and you come across the following group of trees:



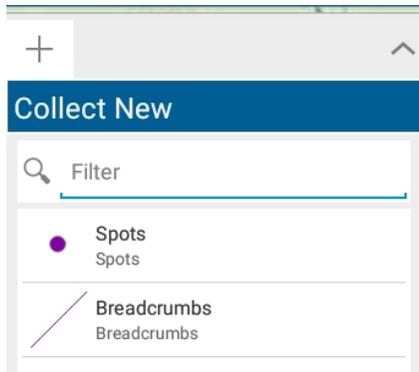
First you should check if this is a spot which has already been collected. Before you collect the spot look on your map and make sure that there aren't any nearby spots. If there is a spot within 30 meters of where you are on your map you should not collect a new spot. If you have imagery loaded on your tablet you may be able to check visually if this spot is part of a spot which has already been collected. Once you determine that this isn't a spot that has been collected you'll have to collect a new one.

This isn't a spot that has been collected yet so you won't be updating an existing spot, you'll have to collect a new one.

1. On the panel on the right you'll have options to see the details of a spot already on the map, or to collect a new spot.



2. Tap the **Plus sign (+)** to open the Collect New panel. In the Collect New panel you have the option for collecting Spots or Breadcrumbs.



3. Tap **Spots**.
4. Tap somewhere on the map to place the spot.

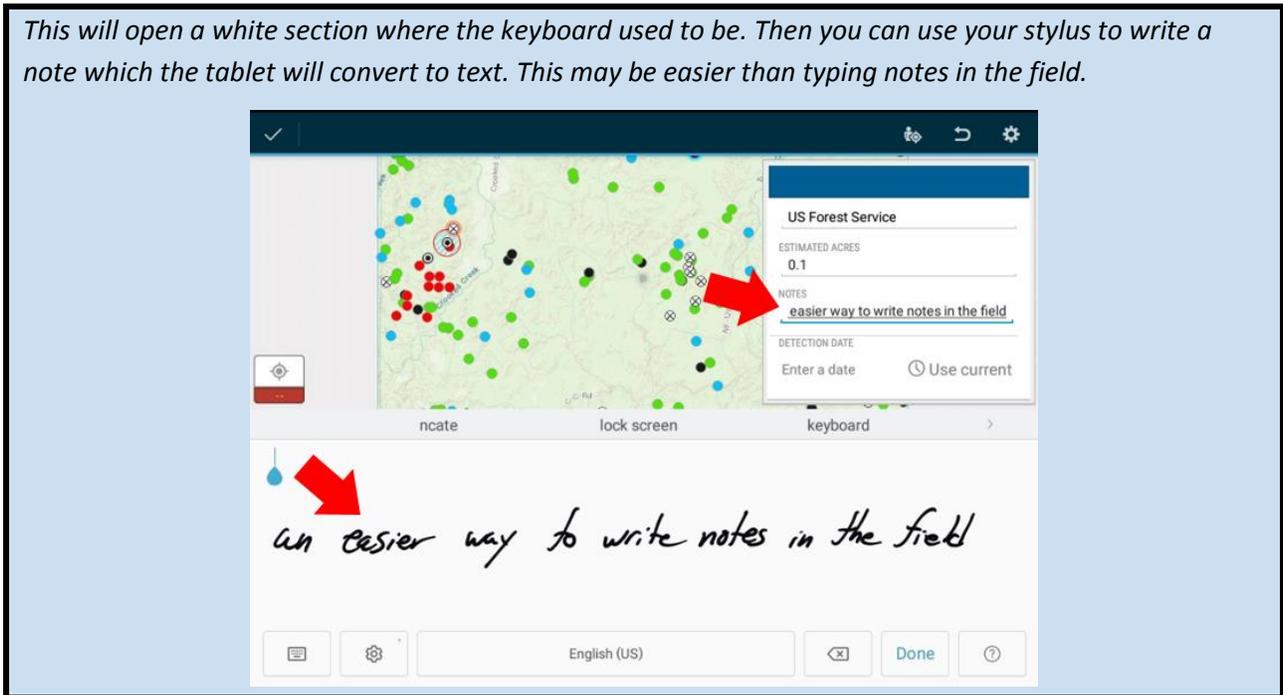
Note: The spot will try to place itself at your current location. Because you're not actually out in the field you may get a poor location accuracy warning. You can tap cancel on this warning. For the purposes of this training pretend you're out in the field and tap somewhere on the map to drop the point.

5. Before you can save the spot you'll need to fill in some attributes.
 - i. In the Field Spot ID field type the next available four-digit field spot ID assigned by the district for use with the new spots. Your district will have assigned lists of numbers for field crews to use for new spots. For this training you might not have those lists in front of you so you may enter any number. Tap **Next**.
 - ii. In the User ID field type your organizational AGOL user ID. Tap **Next**.
 - iii. When you enter the Owner Type field you'll be presented with a drop down menu. Tap the option that best describes your affiliation (e.g. US Forest Service, or State). Tap **Next**.
 - iv. In the Estimated Acres you need to guess about how many acres are damaged. You only want to estimate the current extent of *this year's* damage. Do not include dead vacated trees from *last* year. The default value will be 0.1 acres. For this example type 0.3. Tap **Next**.
 - v. The next field is notes. When collecting these spots it may be important to leave pertinent notes about the spot in the field. For example you may want to warn the next person to visit the site that the terrain was rough, next to private, direction of head. Or you may want to describe where the spot is relative to some landscape feature. For this exercise you can leave the field blank.

Note: Many tablets will have the option to write notes in your handwriting which will be converted to text. If you see the button on the keyboard:



This will open a white section where the keyboard used to be. Then you can use your stylus to write a note which the tablet will convert to text. This may be easier than typing notes in the field.

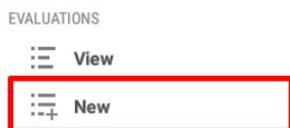


- vi. In the Detection Date field tap **Use Current** to use the current date and time as the detection date.
- 6. To save the spot tap the **Check Mark** in the upper left corner of the screen. You'll see a banner at the bottom of the screen that says "Stored on Device".
- 7. The spot appears as purple when it is collected. You'll also see the spot you just collected appear as the only item in a list in the features panel on the right. You should add the evaluation, perimeter, recommended treatment, and location analysis. Tap the **spot** in the panel on the right.

B. Add a New Spot Evaluation

First you'll need to add a new evaluation just like you did with the red spot in the last exercise. An evaluation is where most of the information about the spot itself will be recorded. This is used in decision making concerning potential suppression needs or actions (such as the type of treatment and priority for treatment) which are collected following spot detection.

- 1. Tap **New**.



- 2. In the new window that opens in the detail pane add the following information:
 - i. **User ID**. Tap the text line under User ID to open Enter your organizational AGOL username (e.g. ncate_usfs). Tap **Next** on the keyboard

- ii. **Evaluation Date:** You must enter a date that the evaluation was taken. Because you're currently "in the field" you can tap the **Use Current** button to enter the current date. Tap **Next**.
- iii. **Evaluation Type:** You need to indicate if this evaluation is coming as a result of an aerial survey, or if you're examining remotely sensed imagery, or if you're on the ground next to the point. Tap **Ground**. Now to go to the next attribute tap **Next**.
- iv. **Observed Market Size Class:** Your options here are Pulpwood, Sawtimber, or Mix. Pulpwood consists mostly of trees with a DBH between 5 and 9 inches. Sawtimber mostly has trees with a DBH greater than 14 inches. Mix is simply a combination between pulpwood and sawtimber including trees somewhere in between. For this site tap **Pulpwood**. Tap **Next**.
- v. **Room to Grow:** Because you can see that this spot does have room to expand type **yes** into the box. Tap **Next**.
- vi. **Recommended Treatment:** As you enter the Recommended Treatment field a dropdown menu with available treatments appears. Here is where you will need to use your expertise to determine what treatment needs to be applied to this area. If there were no infested green trees you could tap Monitor and not choose to recommend a suppression treatment. But recall that when you got to the site you noticed many green trees which were infested so you will want to recommend a suppression treatment based on the site and location. Tap **C&L** to indicate the treatment should be Cut and Leave. Tap **Next**.
- vii. **Fresh Attacks Present:** Here is where you record whether or not you're seeing fresh SPB attacks in the spot. If you see no new fresh attacks you can enter no. But because the area we're at is currently under attack tap **Yes**. Tap **Next**.
- viii. **# Of Green Infested Trees:** This will be an estimate of how many green infested trees are in the area. Remember that because this is a ground survey you may not be able to see all the trees that are infested, so this is your best approximation. Type **20**. Tap **Next**.
- ix. **# Of Red/Fading Infested Trees:** Type **30**. Tap **Next**.
- x. **# Of Dead/Vacated Trees:** Type **10**. Tap **Next**.
- xi. **# Of Active Spot Heads:** Type **1**. Tap **Next**.
- xii. **Host:** When you open the Host attribute a list of possible hosts will open. You can tap your finger on the screen to scroll up and down on the list. Find **Loblolly Pine** and tap that option. Tap **Next**.

Note: When the host field is selected a keyboard is opened. If you type "L" this will limit the dropdown menu to only the options containing an L. This may speed up your collection in the field.

- xiii. **Damage Agent:** This attribute will record which agent has damaged this tree. Options are SPB, BTB, Ips, or Other. Because you've determined that these trees have been damaged by southern pine beetle, tap **SPB**.
 - xiv. **Pine BA:** Enter **100**, Tap **Next**.
 - xv. **Total BA:** Enter **120**. Tap **Done**. This will close the keyboard.
3. In the upper left corner of the window tap the **Check Mark** to save the evaluation. You'll see a grey banner that says "Stored on device" appear briefly on the screen.

C. Add a Perimeter to the Spot

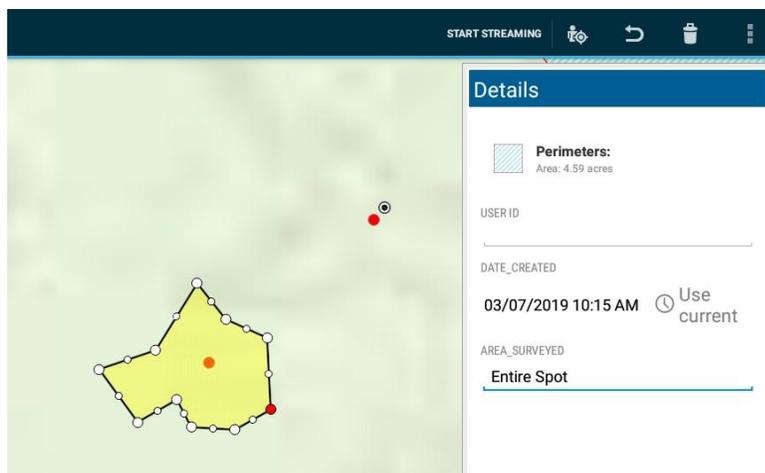
The spot perimeter outlines the actual spot. It defines what particular components of the spot are associated with the polygon that you'll create. Adding a perimeter to the observation will be your next step after the evaluation.

1. Below the Evaluation section in the details panel you'll see the Perimeters section. Like the other sections there are options to view existing perimeters or add a new perimeter. Tap **New**.

- i. Before you begin collecting the perimeter you should enter the ancillary information like your username and the date. In the UserID section type you **AGOL organizational username**.
- ii. In the Date_Created section tap **Use current** to enter the current date.
- iii. Tap the Area_Surveyed section to open the menu of available options. For this example you're going to draw a perimeter around the whole area that this spot is representing. Tap **Entire Spot**.

For collecting the perimeter you have a few options. For this exercise you will use your finger or your stylus to draw the perimeter on the map. For more information about how to collect the perimeter via streaming the location from your device see the note regarding perimeter streaming in exercise 3. For now tap **several vertices** on the map until you've created a polygon around the spot.

- iv. Finally you should tap the **Area_Surveyed** field. This will open up a dropdown menu where you can indicate which portion of the spot the perimeter is outlining. Is the perimeter outlining the entire area damaged by SPB? Or is it just the trees which are still green but appear to be infested with SPB? For this example tap **Entire Spot**. Your perimeter collection should look similar to the image below.



2. In the upper left corner of the window tap the **Check Mark** to save the perimeter. You'll see a grey banner that says "Stored on device" appear briefly on the screen.

D. Add a Recommended Treatment to the Spot

1. Now you'll need to record a recommended treatment. Remember this spot appeared red because it had been detected but not yet evaluated. You're now taking a closer look and

recommending a treatment. Below the Evaluations and the Perimeters section you'll see Treatments. Tap **New**.

- i. There are only 3 fields in the Treatment section. First tap the **User ID** field. The keyboard will open. Type in your organizational AGOL user ID into the box. Tap **Next**.
 - ii. The next field is the Treatment Type. A drop down menu will open with the available treatment options. Here is where you will need to use your expertise to determine what treatment needs to be applied to this area. If there were no infested green trees you could tap Monitor and choose not to apply a suppression treatment. But recall that when you got to the site you noticed many green trees which were infested so you will want to recommend a suppression treatment based on the site and location and level of SPB activity. Tap **C&L**. Tap **Next**.
 - iii. For the Treatment/Suppression Date tap **Use Current**.
2. Tap the **Check Mark** in the upper left corner to save this recommended treatment.

E. Add a Location Analysis to the Spot

1. Finally you can enter the last section which is called Location Analysis. This section lets you add information about the spot location that may prove useful when implementing a management strategy, In the Details panel tap **New** under the Location Analysis section.
 - i. Tap the first option, **Operable By Mechanized Equipment**. This will pull up a keypad where you can enter an estimate of the percent area of the spot where mechanized equipment could be useful for management. Let's say for this example 30% of the area could be managed using this sort of equipment. Tap **30** then tap **Next**.
 - ii. **Width of Ridge** is a value in feet of how wide the ridge is which the spot lies on. Because this site isn't on a ridge you can leave the field blank. Tap **Next**.
 - iii. **Slideslope (%)** Tap **Next**.
 - iv. **Floodplain Width** should be a value in feet describing how large the floodplain is if a spot falls in a floodplain. Because this spot isn't in a floodplain you can leave the field blank and move to the next field. Tap **Next**.
 - v. The next field is **Suitable Campsite?** You can enter yes or no from the dropdown if you think the spot could be developed into a campsite. Tap **Next**.
 - vi. The next field is **Nearby Stream?** Like the last field this is a simple yes or no if the spot is near a stream or not. You look around and see that you're not near a stream so tap **No**. Then tap **Next**.
 - vii. The **Stream Distance (FT)** field will bring up a number pad so that you can enter a distance in feet from the spot to the stream. Because you're not near a stream you can leave the field blank. Tap **Next**.
 - viii. The **Stream Width (FT)** field will bring up a number pad so that you can enter a width in feet of the nearby stream. Because you're not near a stream you can leave the field blank. Tap **Next**.
 - ix. The next field is **Stream Has Sandy/Gravel Substrate?** This is another yes no question that you'll have to answer about a stream that the spot is near. By default the value in the field is <No value>. Because you're not near a stream you can leave the value as <No Value>. Tap **Next**.

- x. The next field is **Improvements? (e.g. Signs or Trails)**. Here you don't need to specifically list the improvements that you think could be made to the area. The field is just a yes or no to indicate if the spot could use some additional signage or trail development for example. Tap **Yes** then tap **Next**.
 - xi. The final field is **Area in Burn Block?** Where you can indicate if the spot is in the burn block or not. Tap **No**.
2. Tap the **Check Mark** in the upper left corner to save this location analysis.
 3. Tap the second **Check Mark** in the upper left corner to exit this spot.

Part 2: Collecting Breadcrumbs

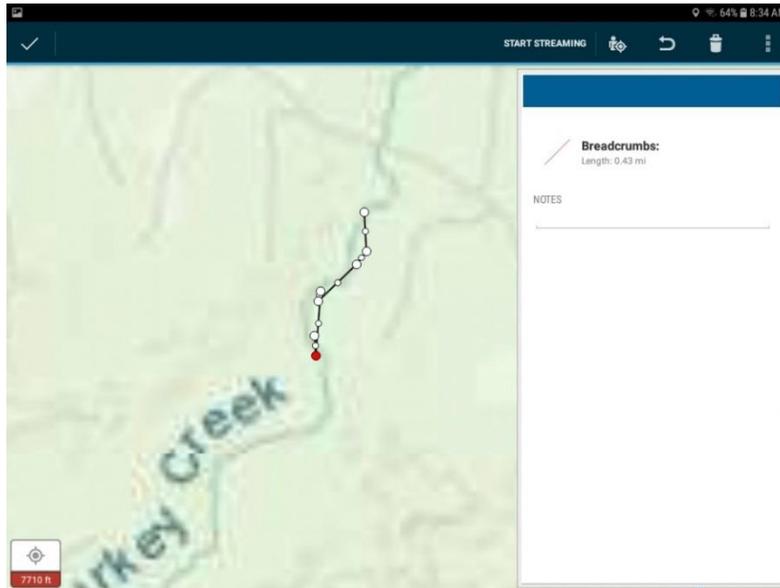
A. Collecting Breadcrumbs

Breadcrumbs are polylines that can be collected in the Collector app to help describe how to reach a spot. For example if you needed to walk along a fence for a while then take a loop around a marsh that can be recorded with a breadcrumb by drawing the path on the map to show a future user the best path to a spot. Breadcrumbs may include information similar to the notes section in a spot.

1. Make sure you're on the **Collect New** panel. Remember that to get there you need to tap the + sign on the features panel.
2. In the Collect New panel tap **Breadcrumbs**.
3. Much like collecting spot perimeters you will have several options you have for how to collect the breadcrumb feature. In the field you can walk along the path that you want to collect and use your tablet location to track your path. To do this you would tap **Start Streaming** in the toolbar at the top of the Collector app. Then as you walk along the path of the breadcrumb the device will use your location to collect the line and will save the collected breadcrumb when you indicate that you're finished (i.e., Tap the **Stop Streaming** in tool bar). Don't tap Start Streaming now. Instead go to the next step.

Note: Remember you could pause Streaming at any time needed for trouble areas. Just remember to hit the start streaming button again to finish breadcrumbs.

4. If you're not in the field to collect a breadcrumb they can be placed by manually drawing on the map using your finger or stylus. This is what you'll do for this training. You could also do this if you decide you want to register a breadcrumb after your field day is over. For the purposes of this training you're going to do this approach. **Zoom** your map to an area where you just collected a spot. If you can't find a spot you just collected then you can revisit the previous section (*Collect a New Spot*) to collect a new one. Use your finger or your tablets stylus (if it has one) to **tap the map** to place several vertices to collect the breadcrumb.



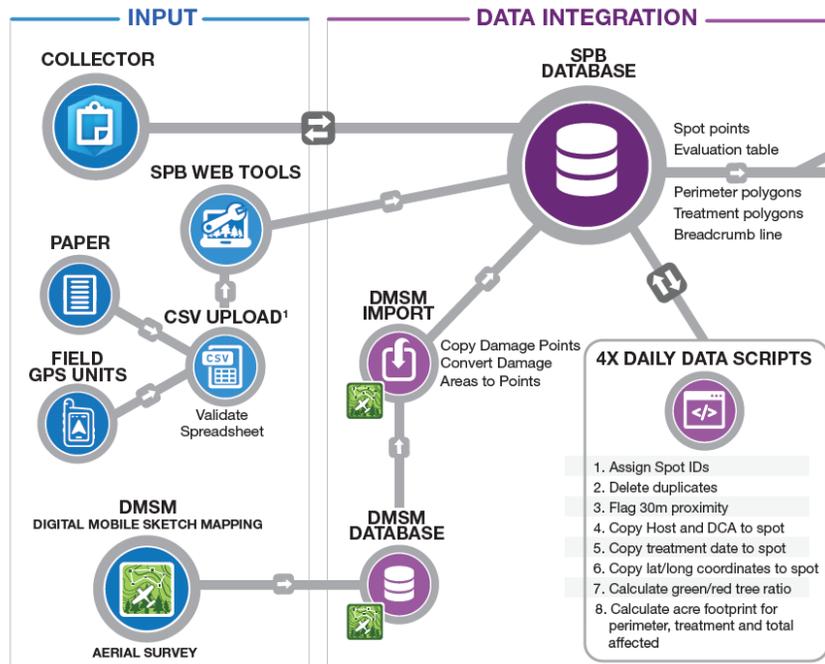
5. On the panel on the right you'll see the notes section. Tap the line below **Notes** to open the keyboard.
6. Here you could type a note to give some context to your breadcrumb. Anything that a later user might need to know about the feature. Several example of useful notes are below:
 - i. Follow the road to the gate. Stay on the south side of the fence until you reach the gate. Watch out for snakes.
 - ii. Logging access route.

Anything that a user should know to get to the spot quickly, easily, and safely.
7. Tap **Done**.
8. In the upper left corner tap the **Check Mark** to save the breadcrumb. You'll see a banner that says "Stored on Device" appear at the bottom of the screen.

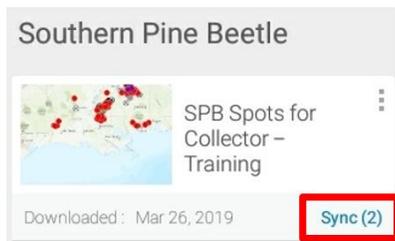
Part 3: Syncing Data

A. Sync Additional Features

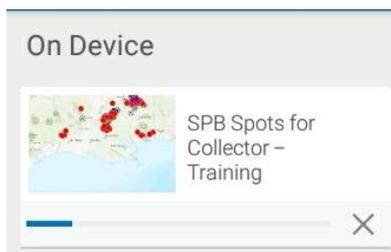
Before you sync the data take a moment to remind yourself where you are in the process. Remember that the SPB Database is compiled from multiple sources including DMSM, paper sheets, and Collector. The figure below shows that Collector and the SPB Database have data that flows both directions. That is, data collected in Collector is added to the database, and data you saw on your map in Collector was downloaded from the database. Performing this sync which you'll do below will add the data back to the SPB Database so that it can be used by other users and can be used to create additional products and maps.



1. To sync the data open the Collector app and navigate to the maps menu (either All Maps or On Device should work).
2. Just like when you first opened the map you'll see the SPB Spots for Collector –Training map. But now you'll see that instead of a download option you have a Sync option. After the Sync button there will be a number in parenthesis telling you how many updates you've made that you're about to sync back to AGOL. Tap **Sync**.



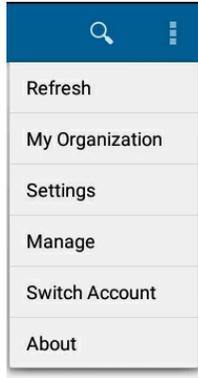
3. After you tap sync you'll see a blue loading bar appear at the bottom of the map as the updates sync back to AGOL.



4. When the sync is finished you'll be done. The map that you've downloaded will remain on your device so you can open it again and add more features. But all the features you or anyone else added in the map are back in the geodatabase online.

B. Optional: Remove the Map from Your Device

1. If you'd like to remove the downloaded map from your device tap the **dropdown** menu in the upper right corner of Collector. This will open a number of options.



2. Tap **Manage**.
3. This will change the options on the SPB map from Sync or Download to Remove. Tap **Remove**.
4. In the Remove Map window that appears tap **Remove features and basemap**. This will remove the map from your device.

Congratulations! You've completed this exercise. You've now learned more about how to collect a new spot for SPB in Collector and how to collect ancillary information for the field crews in the form of bread crumbs. You've also learned to sync data back to the AGOL server so you're ready to begin collecting data in the field!