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Version: Android Marshmallow 6.0.1

EXERCISE 2

An Overview of SPB Collector Workflow

Using the SPB Collector application streamlines and standardizes field data collection. The graphic below shows a variety of ways in which data can be collected and integrated into the SPB database for upward reporting. The Collector input is the most direct link! However, data that is collected via DMSM or other means can also be loaded into the Collector application and evaluated in the field.

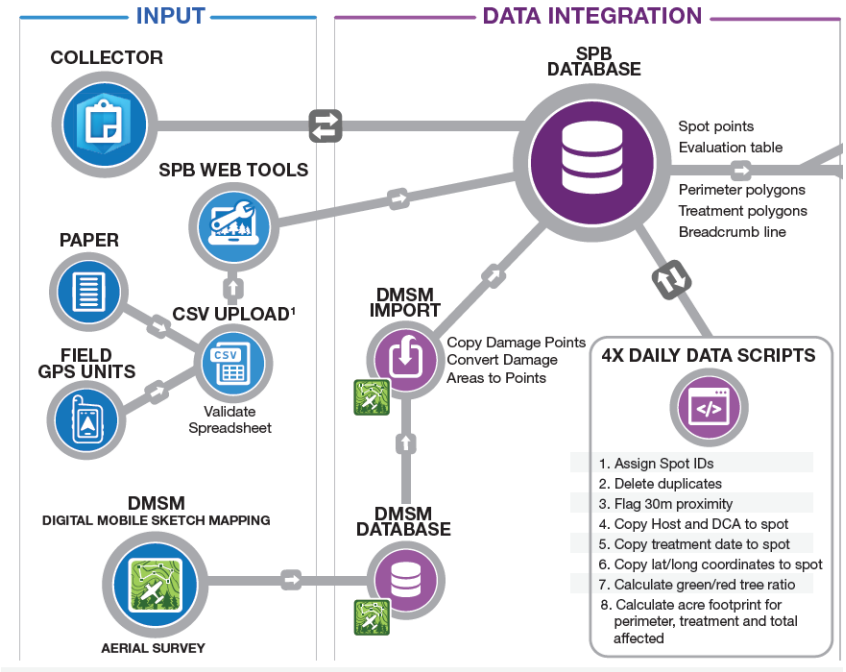
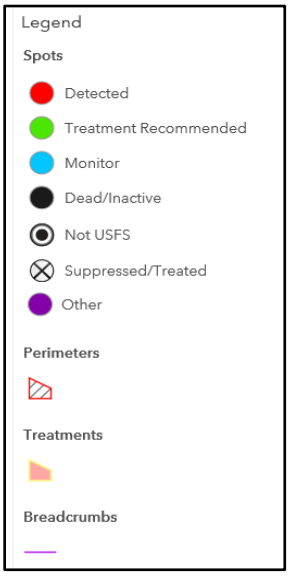


Table of Contents

Background



A. Data

When you open your SPB Spots for Collector map you will see 4 different data types on your map:

1. **Spots.** Spots are SPB sites that have been collected. Spots can be collected via aerial survey (DMSM) or via ground survey through Collector, GPS field units, or paper forms. The spot color indicates the status of the spot.
   i. Red Spot – A red spot has been detected but not evaluated. It was likely been collected via aerial survey but not been visited by a ground crew to have a treatment recommended.
   ii. Green Spot – A green spot has been visited by a ground crew and the ground crew has recommended a suppression treatment but that treatment has not been applied yet.
   iii. Blue Spot – A blue spot has been visited by ground crews and they have determined that the spot does not require a suppression treatment yet. But they are recommending that the spot be monitored for possible treatment in the future.
   iv. Black Spot – A black spot is dead or inactive, meaning there is no treatment to be applied.
   v. Black Dotted Spot – A spot with a black dot in the center can be a variety of treatment levels but ultimately the black dots indicate that the spot is not collected by the U.S. Forest Service.
   vi. Black X Spot – A spot with a black x through it indicates that this spot was likely green before and had a recommended treatment but a contractor has now visited the spot and applied that recommended treatment. Ground crews may revisit the spot to evaluate the success of the treatment.
   vii. Purple Spot – Purple spots are spots that do not fit into the spot scenarios above.
2. **Perimeters**

i. Perimeters are polygons on the map which outline the spot. Perimeters are collected when a field crews visit a spot and observe the extent of the spot (i.e. at the same time a spot evaluation is created).

3. **Treatments**
   i. Treatments are polygons on the map which outline where a treatment has taken place. Treatments are collected when a field crews visit a spot *after* a treatment has been applied and observe the treatment.
4. **Breadcrumbs**
   i. Breadcrumbs are polylines on the map which describe a good route to take to a spot. These are collected when a crew visits the spot and takes note of a preferred route to the spot.

Example Scenario 1 – Recently Flown SPB Survey

NOTE: *The second example scenario describes a timber sales specialist examining data in SPB Spots for Collector to determine forest quality for timber sales. If that is a more relevant example for you, you can skip to that part.*

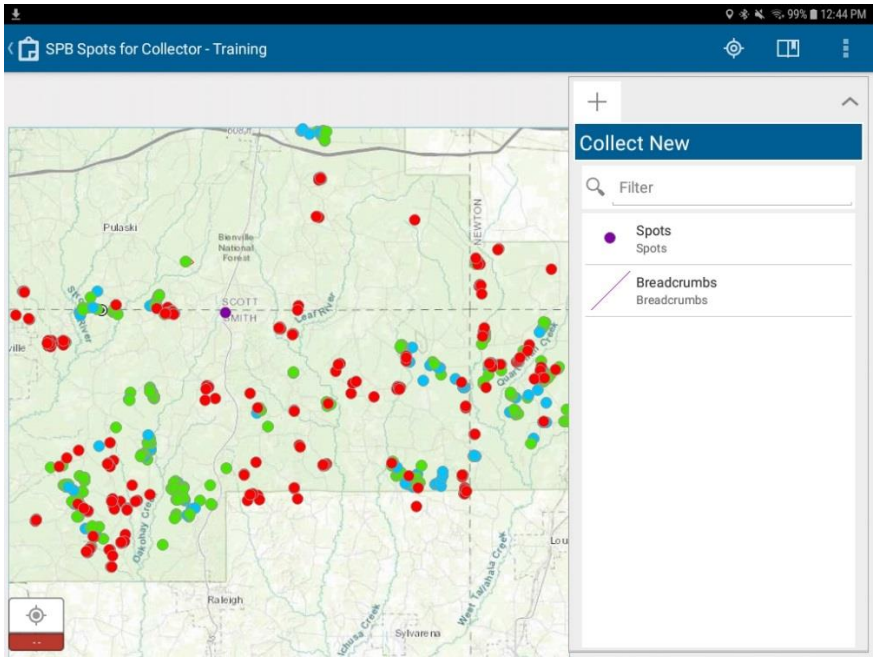
You are a member of a field crew monitoring SPB spots. Your district recently flew an SPB survey flight. The crew performing the aerial survey recorded 150 spots. Because these spots have been detected but have not yet been evaluated they will appear red in your map. Your job will now be to visit the spots in the field and evaluate them.

A. Prepare for Field Work

1. Before you can begin your field work you need to acquire the hardware you'll take into the field such as your tablet and an external GPS antenna.
2. Once you have your tablet you'll need to make sure you have an organizational AGOL account and be a member of the Southern Pine Beetle Group. This group contains feature services and web maps for SPB Spots for Collector. To sign up for this group refer to exercise 1, which has instructions for how to sign up for such an account.
3. Once you have your tablet and an organizational AGOL account you'll download the Collector app.
4. With the Collector app downloaded and installed you should download the map of the 150 spots that were detected to your device. You learned how to do this in Exercise 1.
   i. Once a map is downloaded and you're collecting data you'll need to sync data to push data back to the SPB server. This will also have the effect of pulling data that has been created since your download to the tablet.
   ii. There are two hosted feature services, one for Training purpose and one for real Field usage. In this Scenario described, you would want to grab the *production map*: **SPB Spots for Collector – Field Service**. But for the exercises you will go through, you will use the *Training map*. It is very important that you don't accidentally use the training map for production data or use the production map to collect training data.

B. Your Field Mission

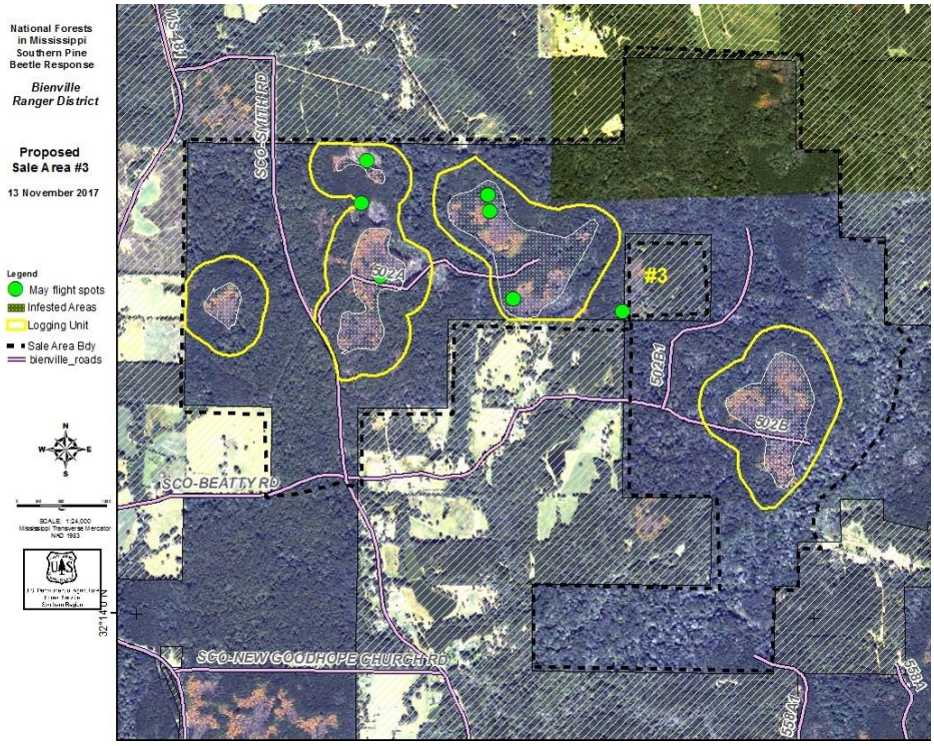
1. When you open your SPB Spots for collector on your map it will look similar to this:



2. Your process will be to travel to the new detected spots (the red spots) and give them spot evaluations which will also involve recommending a suppression treatment. You will learn to do this in Exercise 3.
3. You need to sync data you collect to SPB servers. Traveling to all 150 spots will take a long time. You'll need to take multiple trips to the field. While you're traveling to and from the field there will be others who will want the data you're updating and you may need data that gets collected while you've been out doing a day of field work. So at the end of each day when you have a Wi-Fi connection you should sync data collected on your device back to the SPB database. You'll download the latest data each morning before you go out. You'll learn to do this in Exercise 3.
4. While you visit the newly detected spots you'll need to add your own data to SPB Spots for Collector too. If you visit a spot that is tricky to get to then you can add a bread crumb. If you find a spot that wasn't detected during the survey you can add a new spot, and you can update the perimeters of other previously detected spots. You'll learn to do all of this in Exercise 4.

Example Scenario 2 – Timber Sales

You are a timber sales specialist looking to understand the impacts and extent of SPB on a Proposed Sale Area. In addition to reviewing the polygons and spots in your GIS software (or in the AGOL map viewer), you also want to check the extent of a given Flight spot in the field to determine the extent of the infestation. Using the SPB Hosted Feature Service in AGOL, you can download infested spots to your tablet and take them into the field to review them using the SPB Collector app.



1. To find the data you must have a USFS Organization AGOL account and be a member of the Southern Pine Beetle Group. This group contains feature services and web maps for SPB Spots for Collector. To sign up for this group visit the link:

   http://fswebgstc.gsc.wo.fs.fed.us/services/applications_tools/AGOL/request_access.php

   Enter the required information and indicate that you intend to use AGOL for SPB.
2. Viewing SPB data in AGOL Map. The first thing you might want to do is view data in AGOL in a web map. Viewing the SPB data will be helpful to you as a timber sales specialist because you can see which spots have been treated, which are infected, and which spots have died. This can influence your decision about where usable timber in the forest is.
   i. There are two web maps to choose from: SPBCollector – Training, and SPBCollector – 2018. The first is obviously the training web map (showing results from data collected and used for training purposes) and the latter is the production (or real) web map.
3. Downloading SPB data from AGOL to your tablet.
   i. There are two hosted feature services, one for Training purpose and one for real Field usage. In this Scenario described, you would want to grab the *production map*: **SPB Spots for Collector – Field Service**. But for the exercises you will go through, you will use the *Training map*. It is very important that you don't accidentally use the training map for production data or use the production map to collect training data.
   ii. Go to the field and visit the spot(s) of interest and either make edits or collect new data.
4. You will learn more about the specific process for using the SPB Collector app to review data and collect new data in the field in Exercises 3 and 4. Next, we want you to become familiar with the glossary of terms that are relevant to this type of data collection.

Glossary of Terms

Feature Classes (or Tables), and Data Fields for 'SPB Spots for Collector'. With regard to the naming convention of data fields (in bold below), please be aware of capitalizations, order, spacing, etc.

A. Major Spot Attributes

This is the first page of fundamental spot information completed at the time of initial ground detection or first ground evaluation of previously detected spot.

Field Name	Definition and/or Characteristics of Field
USFS Spot ID	17-digit unique spot ID consisting of (from left to right): 2-digit year code (e.g., 18), 5 digit FIPS code (identifying state and county), 2-digit Region code (e.g., 08), 2-digit Forest code (e.g., 07), 2-digit District code (e.g., 04), and 4-digit unique spot identifier (e.g., 0001)
Latitude	Decimal degrees format using NAD83 map datum, auto-populated from device
Longitude	Decimal degrees format using NAD83 map datum, auto-populated from device
4-Digit Spot ID	Last four digits of above USFS spot ID
Field Spot ID	Alpha numeric field for temporary spot identification, naming, labeling while in the field and prior to script assigning next available 17-digit unique Spot ID following syncing of data
Treated/Suppressed Date	MM/DD/YYYY, entered following treatment/spot suppression or auto-populated from treatment Feature Class
Owner Type	Select one from the following options available via a dropdown menu: • <no value> • State • NIPF • Industry • US Forest Service • Other US Gov't. • Other Public • TIMO_REIT
Estimated Acres	In decimals to nearest 1/100th of an acre (e.g., 1.25)
Damage Agent	Select one from the following options available via a dropdown menu: • SPB (Southern Pine Beetle) • BTB (Black Turpentine Beetle) • Ips (Ips spp.) • Other

User ID	Alpha numeric (e.g., csteiner01) identifying individual assigning spot attributes
State	Automatically populated from latitude and longitude or generated from FIPS code in USFS Spot ID
County	Automatically populated from latitude and longitude or generated from FIPS code in USFS Spot ID
Forest	Automatically populated from latitude and longitude or generated from Forest code in USFS Spot ID
District	Automatically populated from latitude and longitude or generated from Forest code in USFS Spot ID
Notes	50 characters
Detection Date	MM/DD/YYYY
Measured Acres	In decimals to nearest hundredth of an acre, from traverse using device
Treated Acres	In decimals to nearest hundredth of an acre, from traverse using device following treatment
Total Affected Acres	In decimals to nearest hundredth of an acre, includes all treated and any untreated acres of a spot

B. Spot Evaluations

More detailed spot information for use in decision-making concerning potential suppression needs/actions (e.g., type of treatment and priority for treatment), collected following spot detection.

Field Name	Definition and/or Characteristics of Field
Spot ID	17-digit code identical to **Spot ID** from first page, tying all spot evaluations to the appropriate spot
Field Spot ID	Identical to **Field Spot ID** from first page
Evaluation Date	DD/MM/YYYY
Evaluation Type	Select one from the following options available via a dropdown menu: • Ground • Aerial • Remote Sensing/Imagery
Observed Market Size Class	Select one from the following options available via a dropdown menu: • <no value> • Pulpwood • Sawtimber • Mix
Measured Acres	In decimals to nearest hundredth of an acre, from perimeter traverse using device
Room to Grow?	Alpha numeric up to 50 characters (typical inputs are 'Yes' or 'No')
Recommended Treatment	Select one from the following options available via a dropdown menu: • <no value> • C&R

	• C&L • CP&B • C&S • Semiochemical • Monitor • Dead/Inactive • C&L Mechanized • C&L Chainsaw
Fresh Attacks Present	Select one from the following options available via a dropdown menu: • <no value> • Yes • No
# of Green Infested Trees	Whole number
# of Red/Fading Infested Trees	Whole number
Green & Red Trees Ratio	Calculated and auto-populated from '# of Green Infested Trees' divided by '# of Red Infested Trees', in decimals to nearest hundredths
# of Dead/Vacated Trees	Whole number
# of Active Spot Heads	Whole number
User ID	Alpha numeric (e.g., csteiner01) identifying individual assigning spot attributes
Host	Select one from the following options available via a dropdown menu: • <no value> • Loblolly Pine • Longleaf Pine • Pitch Pine • Pond Pine • Sand Pine • Shortleaf Pine • Slash Pine • Spruce Pine • Virginia Pine
Pine BA	Whole number
Total BA	Whole number

C. Spot Perimeters

Identifies what particular components of the spot are associated with the polygon traversed with device.

Field Name	Definition and/or Characteristics of Field
Spot ID	17-digit code identical to **Spot ID** from first & second page, tying all spot perimeters (polygon) to the appropriate spot (point)
Field Spot ID	Identical to **Field Spot ID** from first page
Green Infested Trees Surveyed?	Select one from the following options available via a dropdown menu: • <no value> • Yes • No
Red/Fading Trees Surveyed?	Select one from the following options available via a dropdown menu: • <no value> • Yes • No
Dead/Vacated Trees Surveyed?	Select one from the following options available via a dropdown menu: • <no value> • Yes • No
Uninfested Buffer Surveyed?	Select one from the following options available via a dropdown menu: • <no value> • Yes • No
Whole Spot Surveyed?	Select one from the following options available via a dropdown menu: • <no value> • Yes • No
Date Created	MM/DD/YYYY & Time when traverse and polygon created

D. Treatments

Identifies type and timing of treatment associated with the treatment polygon traversed with device.

Field Name	Definition and/or Characteristics of Field
USFS Spot ID	17-digit code identical to **Spot ID** from first page, tying all treatment polygons to the appropriate spot
Field Spot ID	Identical to **Field Spot ID** from first page
Treatment Type	Select one from the following options available via a dropdown menu: • <no value> • C&R • C&L • CP&B

	• C&S • Semiochemical • Monitor • Dead/Inactive • C&L Mechanized • C&L Chainsaw
Treatment/Suppression Date	MM/DD/YYYY& Time when traverse and treatment polygon created

Congratulations! You've become more familiar with the process you will undertake when you use SPB Spots for Collector. In the next exercise you'll learn how to go about executing that process.