Old World Bollworm
Trapping & Treatment Scouting
Data Collection
User Manual

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Program: Old World Bollworm

Application: ArcGIS Field Maps / ArcGIS QuickCapture

Host: USDA-MRP GIS Enterprise (Portal)

Trapping Map Title: PPQ OWB Trapping 2024 Field Map

Treatment Scouting: PPQ OWB PreTreatment Scouting 2024 QuickCapture

CHECK USDA-MRP Portal URL! https://maps.mrp.usda.gov/arcgis/

** Refer to the "Mobile Data Collection Tools" public webpage for all training support.

2024 Disclaimer: Training techniques or workflows held within are designed as basic job aids. Mobile collection tools and technology used are constantly being improved upon. End users should consult with management for current workflows and standards.

CONTENTS

Overview

There are <u>no data collection changes</u> for the 2024 application from the previous year.

This document provides guidelines for conducting electronic data collection for the Old World Bollworm (OWB) program using the ArcGIS Field Maps application on mobile devices. The application was developed to reflect program specifics and is intended to replace paper surveys.

ArcGIS Field Maps

The data form asks the user to identify the "Rusty Patch BB zone".

> This is informed by the reference layer "USFWS RPBB Risk Zones 2024" which the user must first enable to view.
> Defaulted to "N/A", the user is expected to consult the reference layer and enter if "Red" or "Yellow" is the appropriate entry.

To record pollinator bycatch trap swaps, users select changes to green or yellow traps in the Activity Type data entry.

ArcGIS QuickCapture

The OWB program will use ArcGIS QuickCapture to quantify projected treatment areas and to ground-truth treatment acreage after the contractor has sprayed. This data is meant as a secondary comparison dataset.

ArcGIS Enterprise (USDA-MRP GIS Portal)
Sign In

Requires Wi-Fi connection and eAuthentication Level 2 User ID and Password.

You will need to sign into ArcGIS Enterprise (USDA-MRP GIS Portal) to locate maps shared with your USDA-MRP GIS Portal user account. Once signed in, ArcGIS Field Maps will retain your sign in for offline data collection.

The MobileLinc authentication option uses an identity established within the Entrust application to confirm authentication for use of the ArcGIS mobile applications.

Some in PPQ Field Operations are exempt from this option and can enter their eAuthentication user ID and password manually using the Log in with Password option. If your device is managed by Intune, contact CEC IT for support in creating that Entrust identity to enable sign in with MobileLinc.

ArcGIS Field Maps
Locate the ArcGIS Field Maps application icon and tap to open it. (Figure 1)

Figure 1. *ArcGIS Field Maps application icon*

Field Maps presents with sign-in options for "Sign in with ArcGIS Online" or "Sign in with ArcGIS Enterprise". (Red box in Figure 2)

Tap "Sign in with ArcGIS Enterprise".

Figure 2. *ArcGIS Field Maps Sign in screen*

On first opening the application, you will have to add the ArcGIS Enterprise URL. Once established, your device saves this as a sign in option. The red box in Figure 3 indicates a saved URL and the yellow box in Figure 3 highlights the option to "Specify a New URL".

Official Data Collection
USDA-MRP GIS Portal URL: https://maps.mrp.usda.gov/arcgis

<u>Training Maps and Practice</u>
USDA-MRP GIS Stage portal: https://maps-stg.mrp.usda.gov/arcgis

*BE SURE TO ENTER REAL DATA IN PRODUCTION MAPS ONLY!!!** <u>Sign out</u> when training exercises are completed to avoid accidental data entry when performing "real" survey activities.

Specify a New URL
If choosing to "Specify a New URL", this is entered manually using the keyboard. Check it carefully and then tap "Ok". (Figure 4)
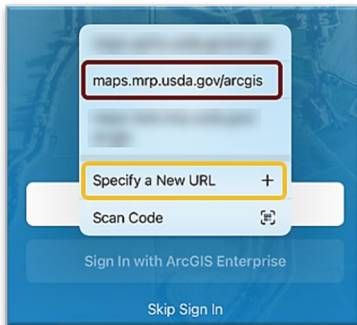

Figure 3. *Sign in with ArcGIS Enterprise options*

Figure 4. *Specify a New URL*

Next you may be asked to confirm "usda.gov" to Sign In.
Tap "Continue". (Figure 5)

Figure 5. *Confirm usda.gov sign in*

ArcGIS QuickCapture
Locate the ArcGIS QuickCapture application icon and tap to open it. (Figure 6)

QuickCapture presents with sign-in options for "Sign in with ArcGIS Online" or "Sign in with ArcGIS Enterprise". (Figure 7)

Tap "Sign in with ArcGIS Enterprise".

On first opening the application, you will have to add the ArcGIS Enterprise URL. Once established, your device saves this as a sign in option.

Official Data Collection
USDA-MRP GIS Portal URL:
https://maps.mrp.usda.gov/arcgis

Training Maps and Practice
USDA-MRP GIS Stage portal:
https://maps-stg.mrp.usda.gov/arcgis

Figure 6. *ArcGIS QuickCapture Mobile Application*
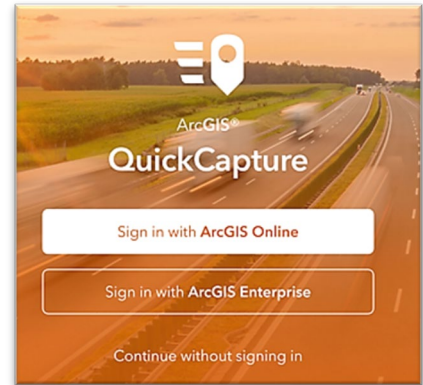
Figure 7. *ArcGIS QuickCapture Sign in screen*

Both ArcGIS Field Maps and ArcGIS QuickCapture
Again, choose the Enterprise login by tapping on the blue "eAuth Account" button. (Figure 8)
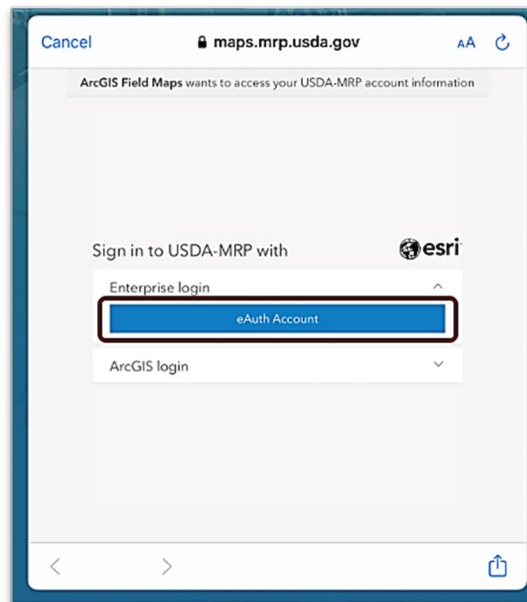

Figure 8. *Sign in to USDA-MRP with eAuth Account*

CEC IT is deprecating the MobileLinc credentialing using the Entrust application. For new or recently re-enrolled mobile devices the Certificate Based Authentication (CBA) process uses the USDA Work Account sign in option.

Select MobileLinc. (Figure 9)

Enter your User ID (eAuthentication user name) using the keyboard. Tap Log In with MobileLinc. (Figure 10)
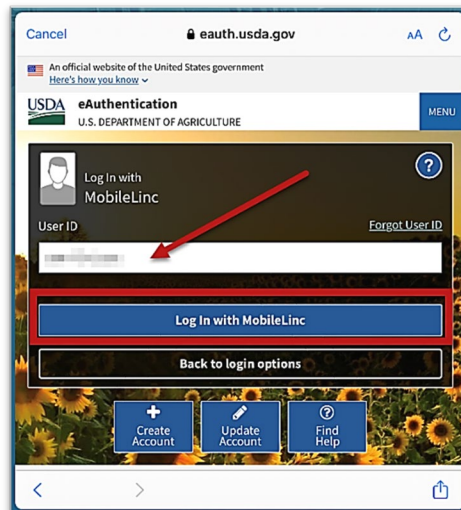

Figure 9. *eAuthentication options*

Figure 10. *MobileLinc User ID & Log In*

Entrust Application Security Challenge
A "New Security Challenge" message should drop down along the top of the screen. Tap this message to open Entrust. (Figure 11)

If you lose track of the message, tap Home button, locate and open the Entrust application. You may need to tap to open the Challenges menu along the bottom of the Entrust application screen.
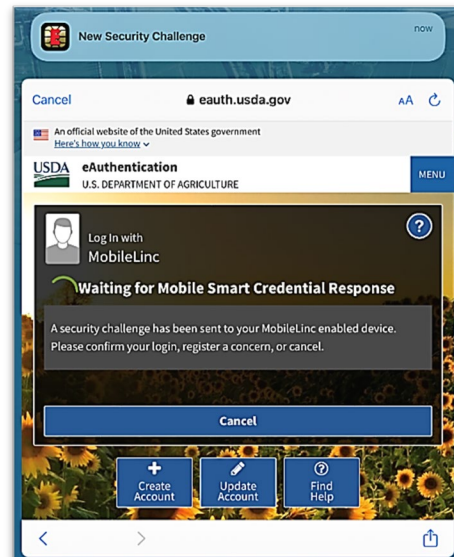

Figure 11. *New Security Challenge*
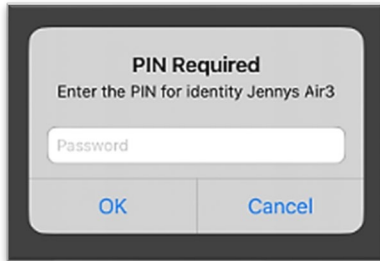
Enter your PIN. (Figure 12)

Figure 12. *Entrust PIN*

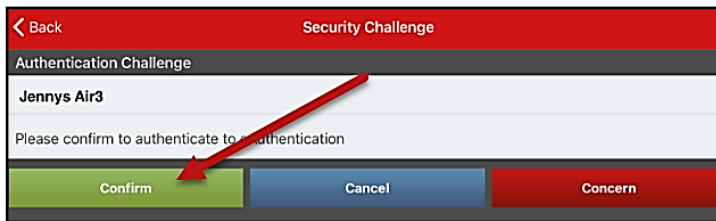Tap Confirm (Figure 13) and Yes to allow this action (Figure 14).

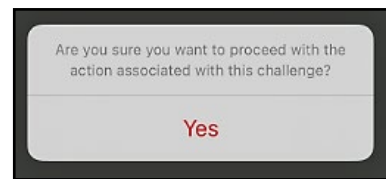Figure 13. *Confirm Authentication*

Figure 14. *"Yes" to proceed*

Return to ArcGIS Field Maps. If shown, tap Accept at the U.S. Government information warning message. (Figure 15)

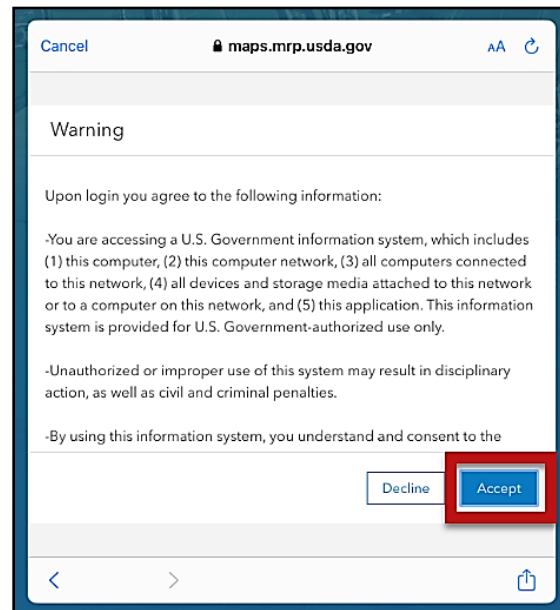Locate your map or survey and begin field data collection!

Figure 15. *US Government warning*

USDA Work Account

CEC IT is deprecating this MobileLinc credentialing using the Entrust application. For new or recently re-enrolled mobile devices the Certificate Based Authentication (CBA) process uses the USDA Work Account sign in option.

Select USDA Work Account. (Figure 16)

Tap "OK" at the next screen to confirm.

Figure 16. *USDA Federal Login*

Type in your Microsoft Sign In email. Likely this is something like: First.Last@usda.gov
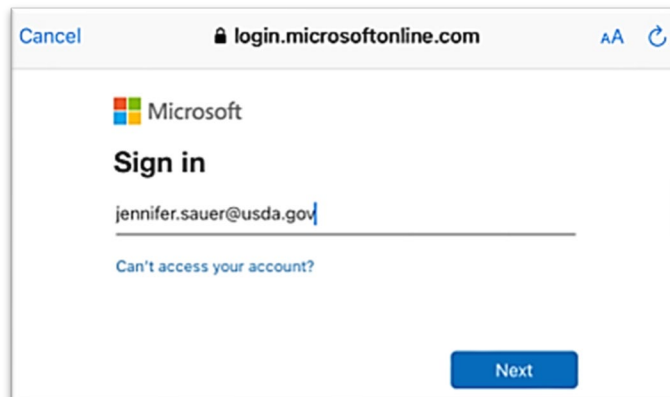
Then tap "Next". (Figure 17)

Figure 17. *Microsoft Sign in – Email*

You may need to tap and scroll to find the certificate listed with your name. Tap to select that line. (Figure 18)
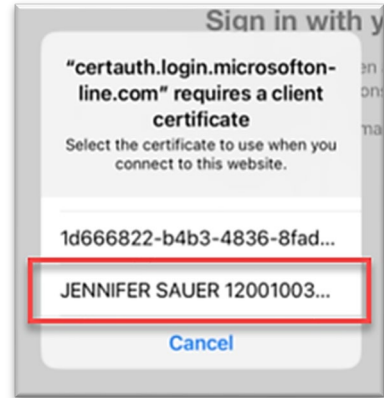

Figure 18. *Select the certificate*

ArcGIS Field Maps opens to the main map gallery.
Locate your map or survey and begin field data collection!

Sign Out

To sign out of any environment, tap the profile icon on the Maps page in the upper left, scroll down, and tap "Sign Out". (Figure 19)

Tap "Sign Out" again to confirm the action. (Figure 20)

Then choose "Sign In with ArcGIS Enterprise" to enter the correct URL. For reminders on signing in, see Sign In section.
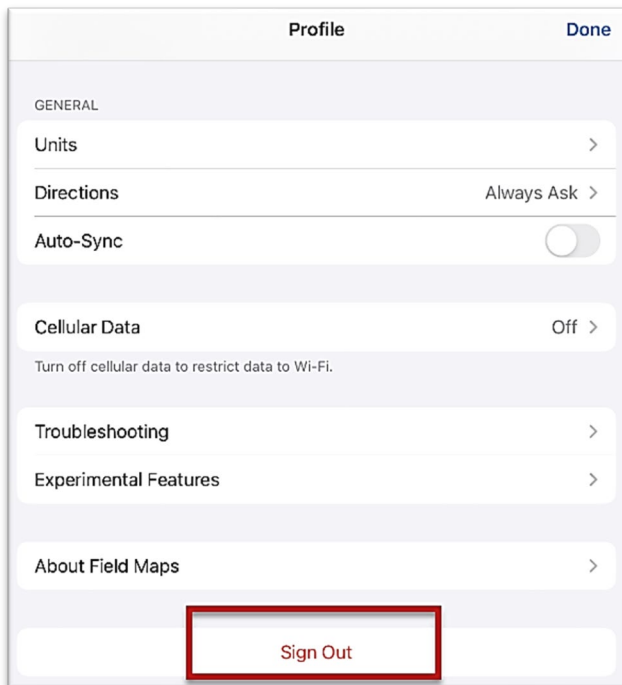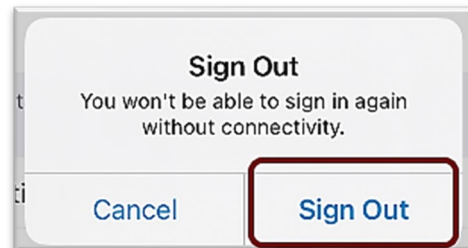

Figure 19. *Profile Menu*

Figure 20. *Sign out confirmation*

Disconnected Data Collection

The ArcGIS Field Maps application is specifically designed to operate in disconnected mode. An area of interest is downloaded to your device while connected to a Wi-Fi network. Then the device is disconnected from the internet and field data collection is performed. Once a reliable network connection is regained, the data is synchronized with the online map hosted in the USDA-MRP GIS Enterprise (Portal).

It is common for a pest program surveyor to download a map area for a season/year and continuously use it. This means daily sync of data collected in the morning (before start) to pull new data into the map view and in the evening (end of daily data collection) to push out data collected for the day on that device.

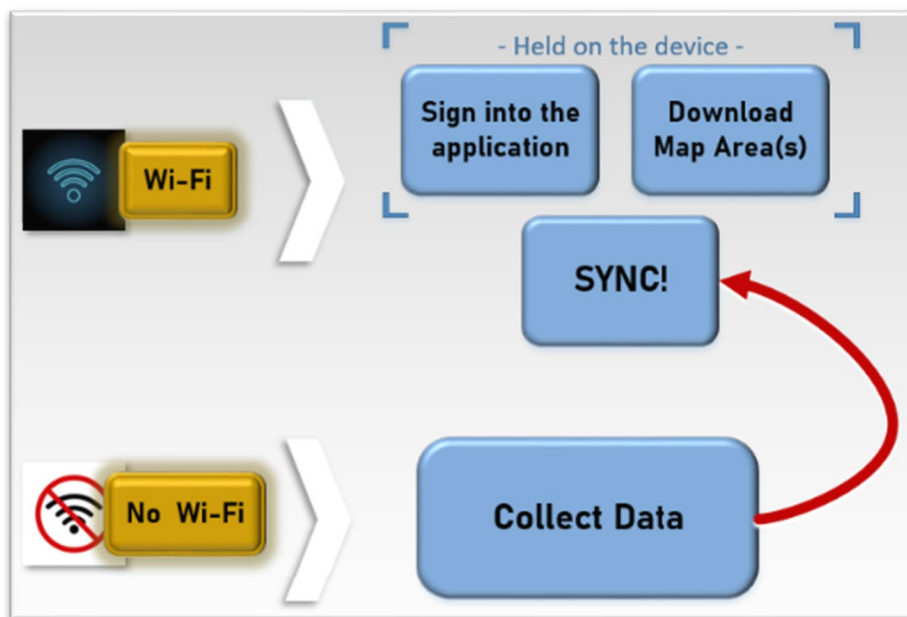The diagram below (Figure 21) represents the workflow of the disconnected mode concept.

Figure 21. *Wi-Fi preparation and disconnected data collection*

<u>Never assume</u> you are prepared for offline data collection. ALWAYS perform a few tests in the parking lot before you go. For a sample set of steps, see the next section on <u>Before You Go</u>.

Before You Go

Be sure all is ready for field data collection in disconnected mode *before* you leave. This includes downloading and testing a map area and performing a data sync.

Download Map Area(s)

This step may be carried out or overseen by your supervisor or local GIS Specialist. If performing yourself, make sure of the appropriate Level of Detail and Area of Interest.

A strong Wi-Fi connection is key to success. For detailed steps, refer to the ArcGIS Field Maps Getting Started Guide.

Download QuickCapture Project

Parking Lot Tests

From the Settings application on your device:
1. Turn Wi-Fi OFF (on a phone: also turn off Cellular Data)
2. Turn Location Services ON
3. Open the ArcGIS Field Maps app
4. Locate and open the offline map area:
    a. Zoom in/out
    b. Tap the add data button to be sure the data form appears to the left with GPS reading in blue (not red)
    c. Tap "Cancel"
    d. Then "Discard" that point

You have confirmed offline use. Now you are ready to head out to the field!

If you do not see your map or it does not open as expected or you are not signed in…
        Go back inside, connect back to Wi-Fi, and try again.

Collect Data

Reminder! Synchronize your map at the beginning and the end of each workday.

ArcGIS Field Maps automatically opens in the last map view used. If the Before You Go steps were performed, opening ArcGIS Field Maps should also open the previously downloaded map area. Tap the back arrow at the top left of the screen to locate the appropriate downloaded map area for data collection, if needed.

**Always follow program survey protocol to determine suitable locations for performing surveys.

Trapping

Place a Trap

Reminder!! Synchronize your map at the beginning and the end of each workday.
When? The first data entry in the *OWB Trapping 2024* layer establishes a location for the trap site.

All future visits to this site are considered trap activities and are recorded in the Trap Activities table associated with that location.

**Always follow program survey protocol to determine suitable locations for performing surveys.

1. Tap the layers icon 📑 and tap the toggle switch to the right of the desired layer name to make additional layers visible for data entry. A blue toggle switch indicates the layer is visible. (Figure 22)

2. Stand near the survey location.

3. Tap the blue icon with the white plus sign ⊕ located in the lower-right corner of the screen.

Figure 22. *Map layers*

4. Fill out the main data form.
    * Asterisks indicate mandatory fields.
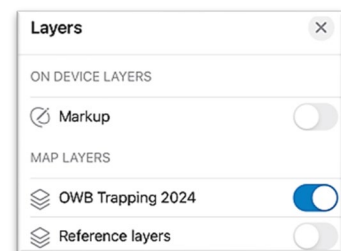
    Optional fields should be completed following survey protocol.
    Drop-down lists are auto-complete enabled. Start typing to narrow options quickly.
    Verify the *Install Date* entry is correct.

5. Review your entered data carefully prior to submitting the form.

6. Tap the Submit button on the upper-right corner of the form to save the new trap site record.

NOTE: If the Submit button fails, you have not completed all required fields or GPS accuracy requirements were not met.

Trap Activities

Once a trap is placed, an action performed on any future visit is considered a Trap Activity. When a trap is removed, missing, or relocated, you must record the appropriate trap activity.
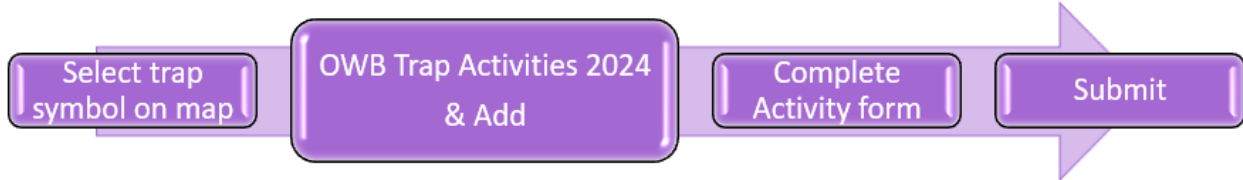
1. Locate the appropriate trap site and tap its symbol on the map.
   When selected, the point's symbol is highlighted in cyan, and the *OWB Trap Sites 2024* data form opens on the left side of the screen.

   <u>Select carefully</u> (by zooming in) and verify the point selected is correct by reviewing the *Trap ID* or other unique field.

2. Scroll down the data form and tap "OWB Trap Activities 2024" or tap the link icon. (Figure 23)

Figure 23. *Activities link*

3. Tap the blue Add button to add a new activity. (Figure 24)

4. Fill out the activity data form.
   * Asterisks indicate mandatory fields.
   Optional fields should be completed following survey protocol.
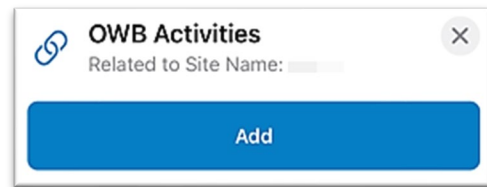   Verify the *Activity Date* field is Today.

Figure 24. *Add a new trap activity*

5. Verify all is correct and tap Submit in the upper right corner of the screen to complete the activity entry.

NOTE: Choosing "Remove" as the activity type does not remove the symbol on the map but records a final activity of remove on the historic data record for that site.

Trap Schedule Status

Defaulted to begin as "Current", the Trap Site Status layer is updated nightly to indicate trap sites that are:
- "Current" – trap servicing is up-to-date
- "Due" – trap needs servicing
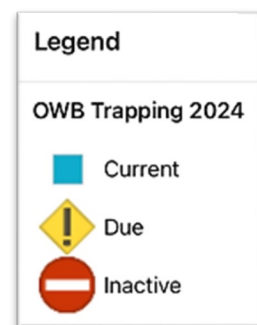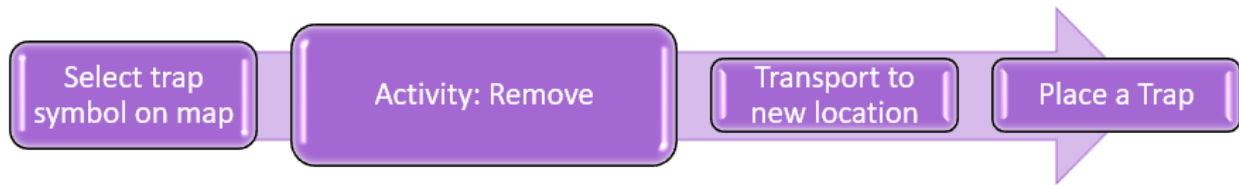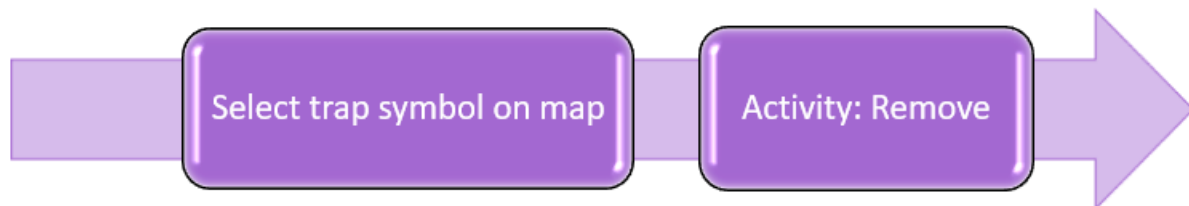- "Inactive" – trap is no longer present at site

(See legend in Figure 25)

Figure 25. *OWB Trap Sites 2024 legend*

Relocate a Trap

1. Tap the trap symbol on the map to select it. The data form opens on the left.
2. Enter a Trap Activity of "Remove".
3. Transport the trap to its new location.
4. Complete Place a Trap steps.

Remove a Trap

1. Tap the trap symbol on the map to select it. The data form opens on the left.
2. Enter a Trap Activity of "Remove".

NOTE: Choosing "Remove Trap", "Remove Trap (Missing)", or "Remove Trap (Inaccessible)" as the activity type does not remove the symbol on the map but records a final activity of remove on the historic data record for that site.

Treatment Scouting

ArcGIS QuickCapture is being employed to quantify projected spray areas and to ground-truth treatment acreage after the contractor has sprayed. This data is meant as a secondary comparison dataset.

Locate the QuickCapture
Users can locate this QuickCapture option from within the ArcGIS Field Maps OWB Trapping map.

1. Enable the Reference Layers group and the OWB Pre-Treatment Scouting layer.

2. Tap an existing pre-treatment scouting area to open the data form.

3. Tap the prompt "Tap to record a scouted treatment area." (Figure 26)
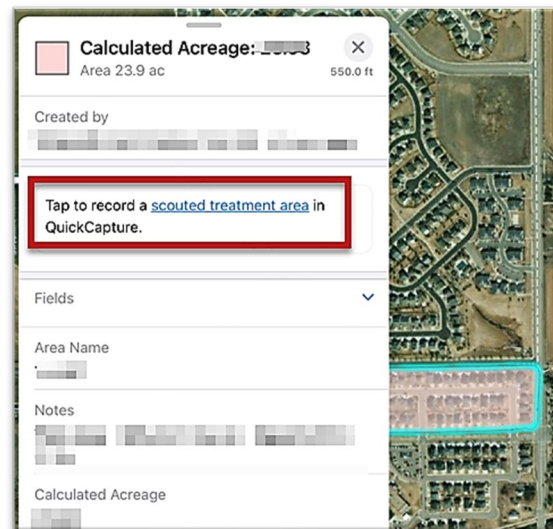
Figure 26. *Link to record a "scouted treatment area"*

To locate within ArcGIS QuickCapture, open ArcGIS QuickCapture and follow the Sign In steps, if prompted.

The QuickCapture project will need to be downloaded to the device when connected to a reliable Wi-Fi.

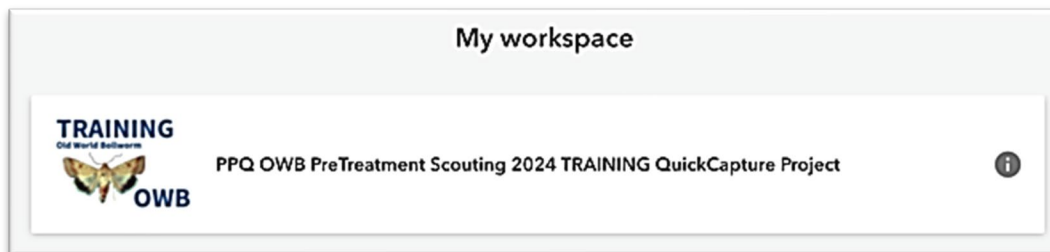Tap to open "PPQ OWB Pre-Treatment Scouting 2024 QuickCapture". (Figure 27)

Figure 27. *OWB PreTreatment QuickCapture card – Training version shown*

Data Collection

Follow the prompt to enter the "Area Name". (Figure 28)

Figure 28. *Enter Area Name*

1. Stand at any point on the perimeter of the area you wish to collect.

2. Tap the Collecting button to begin collecting data points. The Area Name field can be edited by tapping on the pencil icon next to it. (Figure 29)
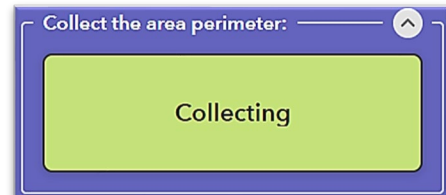

3. Begin travel.

Figure 29. *Collecting button*

4. Once the perimeter is closed/complete, tap the Collecting button to end the data collection.

5. Follow the prompt to enter "Notes" on the area, if desired.   (Figure 30)

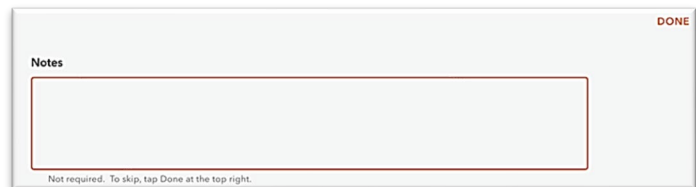
6. Tap Done in the upper right corner.

Figure 30. *Notes (optional)*

NOTE: QuickCapture settings default to automatically send records when the device is connected (or re-connected) to Wi-Fi.

Daily Data Sync (Field Maps)

**Sync your data first thing in the morning AND last thing at night – DAILY!
This process both pushes your data collection out and brings in other edits to your map.
Be sure you are connected to a strong Wi-Fi network.

If you are unable to sync your device, ask for help right away. Your data may be at risk if you delay synchronizing your device.

Be sure you are connected to a strong Wi-Fi network.

Be sure Auto-Sync is OFF. Tap the sync button ↓↑ and then toggle to disable Auto-Sync. (Figure 31)
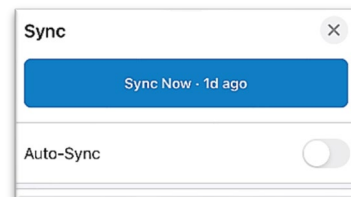

Figure 31. *Auto-Sync toggled to OFF*

You may choose the sync icon from within a map area. Tap the sync icon at the top right of the map. (Figure 32)
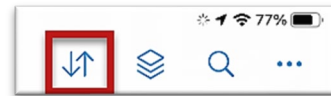

Figure 32. *Icon menu within the map*

OR

You may also choose to sync by choosing the ellipsis menu found on each Offine Area. You will have the option to Sync, Rename, or Remove Area. (Figure 33)
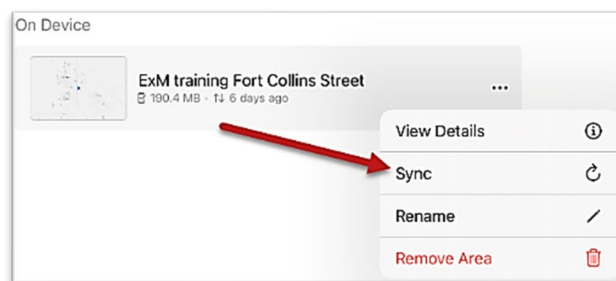

Figure 33. *Offline Area menu*

Getting Help

APHIS PPQ

Before requesting technical support, be prepared with detailed information, including the name of the map, and error messaging experienced. Be as specific as possible. Include screenshots, any troubleshooting you have performed, and indicate the type of device (iPad, laptop, phone, etc.).

For APHIS PPQ users, if you are having issues with the iPad, laptop, Wi-Fi settings, or issues dealing with installing software, open a ticket with CEC IT. CECHelpDesk@usda.gov or 877-873-0783

If you need technical support or help using the ArcGIS Field Maps application, follow this order:

1.   Your field supervisor
2.   Local GIS Specialist that supports your area
3.   Email WebGIS.Connect@usda.gov

Cooperators & Other Nonfederal Users

Contact your State Plant Health Director's office for assistance.

All Training Resources

As new applications and programs are supported, newly created training documents and self-paced training videos are shared on the APHIS public facing website:

Mobile Data Collection Tools

Bookmark this site. Visit often. Provide feedback and ideas freely to the End User Tools Group.