Department of
**Primary Industries and
Regional Development**
GOVERNMENT OF
WESTERN AUSTRALIA

Industry
Funding
Scheme
Grain, Seeds & Hay

Skeleton weed mapping with QField

**Landholder mapping guide**

Contents

Purpose of this guide

The Skeleton Weed Program delivered by the Department of Primary Industries and Regional Development under the Grain, Seeds and Hay Industry Funding Scheme (GSHIFS), assists landholders who contribute to the scheme to find and eradicate skeleton weed infestations from their properties. Part of the program is the Search Assistance Scheme, where contributing landholders can apply to undertake summer searching of their paddocks and are eligible to claim for the associated costs.

These guidelines have been developed for landholders claiming search assistance to guide them in using a digital mapping tool. A free downloadable app 'QField' is loaded to a mobile device along with a skeleton weed mapping template provided by the department to map plants and identify treatment areas. By using this app, landholders can record tracklogs of their search, removing the need for program staff to perform an audit on each claimed paddock, allowing landholders to map any plants as they find them and sending accurate data back to their local Skeleton Weed Program staff or Local Action Group coordinator.

Who is this guide for?

If you're a landholder contributing to the GSHIFS through the sale of grain, seed or hay in Western Australia and have elected to do your own searching for skeleton weed in your paddocks, then this guide is for you. It provides a mapping template and guidance on how to load it and use it on your device. Follow this guide to acquire the template and the instructions on the following pages. The workflow below explains the sequence of steps.
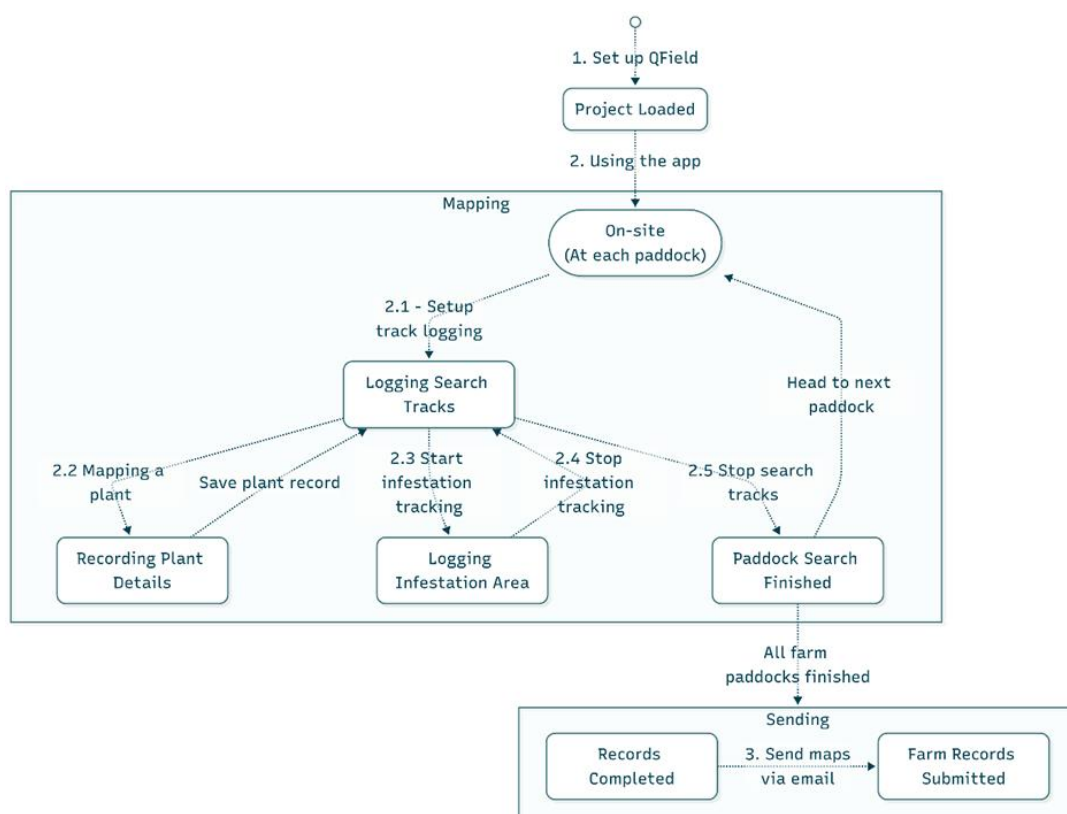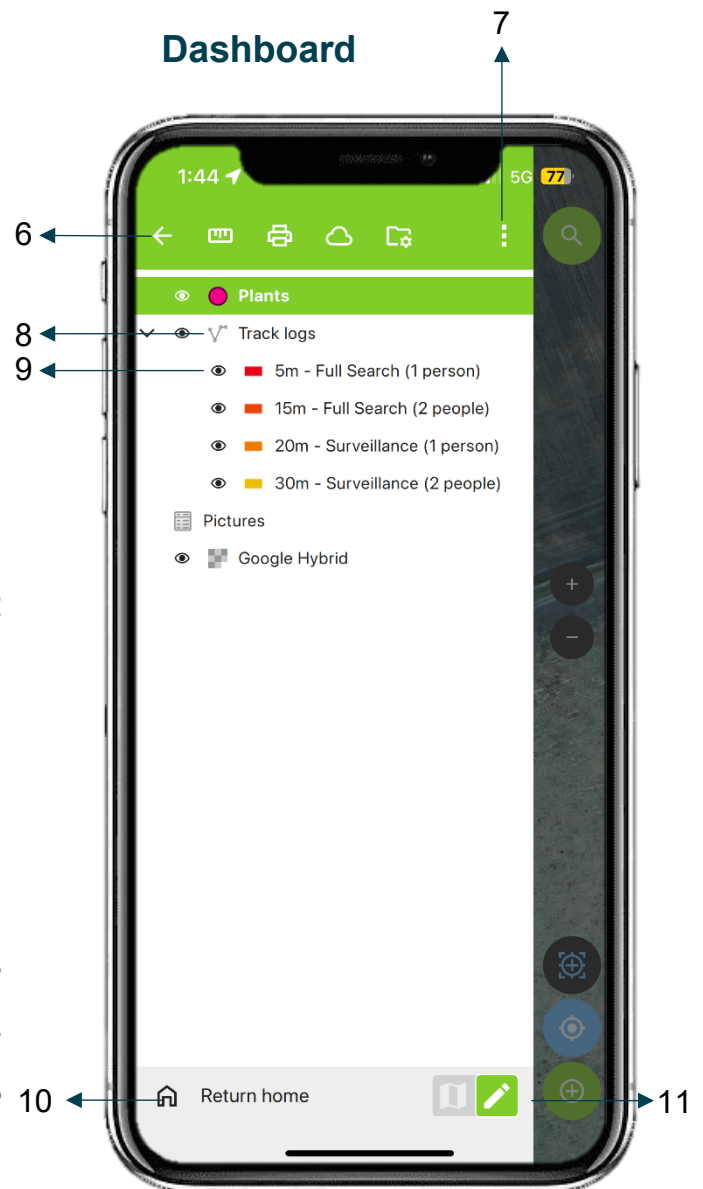
Functions of the app

Map   ## Dashboard

1. **Menu button:** Opens up the Dashboard
2. **Zoom buttons:** Pinch in/out gesture also controls zoom level.
3. **Coordinate cursor:** locks the cursor to your position
4. **Canvas follows location:** enables the map to move along with you See section 4.10 for more details
5. **Add feature**: Maps a plant while the *Plants* layer is selected

6. **Back:** Closes down the Dashboard
7. **Options ellipsis:** Lists options Undo, Redo, Settings, and others
8. **Plants layer**: Press and hold to start tracking around infestations
9. **Track logs layer:** Press and hold to start tracking in each paddock
10. **Return home:** will take you to the app's homepage
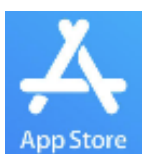11. **Edit button:** Must be enabled to map plants

1. Setting up the QField QGIS app

You will only need to follow this chapter once per device setup.

1.1 Download the free Qfield QGIS app

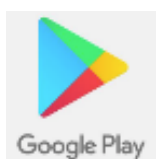To begin, download the free QField for QGIS app to suit your smartphone or device.

Click a link below or scan the QR code to access your desired store:

Apple App store

For iPhones and iPads, download on your device via the Apple App store.

https://apps.apple.com/us/app/qfield-for-qgis/id1531726814

Google Play store

For Android devices, download on your device via the Google Play store.

https://play.google.com/store/apps/details?id=ch.opengis.qfield&hl=en_AU

Look for the green icon of the QField QGIS app

1.2 Load the Skeleton weed mapping template

The QField app allows you to open a working copy of a mapping project in mobile devices for field data collection. For QField to open a packaged project, its files need to be stored within the **Imported Projects** folder created when the app is installed. The field data is updated to the project files in that folder and can be shared from within the app once mapping is completed.

You can obtain the Skeleton weed mapping template as a zipped folder (.zip) via email from your local Skeleton Weed Program staff or download it directly from the QR code or URL displayed below.

Some devices may not automatically recognise .zip files as being able to be opened with QField, so the following steps list the preferred methods. Alternatively, please contact your local Skeleton Weed Program staff or refer to QField documentation [1] for alternative ways to copy packaged projects into Android or iOS devices.

How to download the ZIP file

Scan to access the template ZIP file

Android: You can use your Camera app or the Google Lens app

iPhone: You can use your native Camera app

Or click the link below

[Access the template](#)

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[1] QField Storage Management – **Copying project to target device (**[docs.qfield.org/get-started/storage/)](#)

## 1.2.1. Load template on Android devices

Alternative 1 – Received via email

1. Using your device installed with the QField app, open the Skeleton Weed Mapping.zip file by tapping the email attachment received from your Skeleton Weed Program officer or Local Action Group coordinator or the downloaded file.
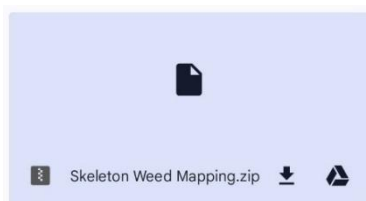
2. You may need to tap on the vertical ellipsis button and choose Open in another app

3. Select **QField** and tap 'Just once'.
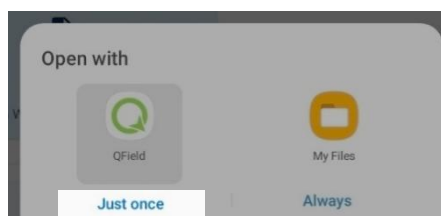
Alternative 2 – Download from the department's website

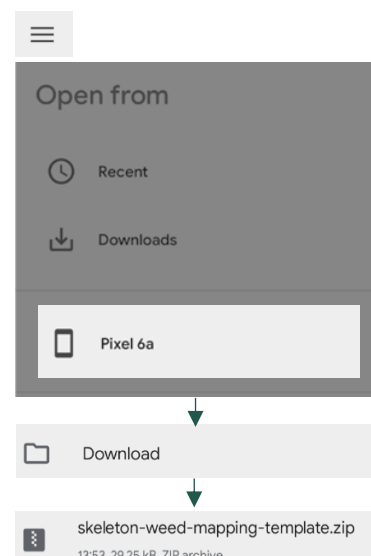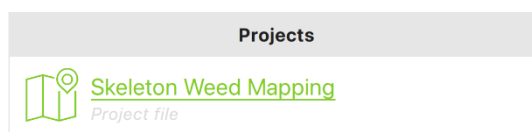1. Download the skeleton-weed-mapping-template.zip file – refer to previous page.

2. Open QField and tap 'open local file'.

3. Tap on the 'add' button and choose Import project from ZIP

4. **Important:** Don't use the 'Downloads' shortcut. Instead, navigate to Your Device > Download as shown below Tap on the navigation button, choose your device name, open the Download folder, then select the ZIP file.

5. Tap on the project 'Skeleton Weed Mapping'.

The mapping template will now open in the app. Please continue to step 1.3 (page 10).

1.2.2. Load template on Apple iOS devices

[Access the template](#)

First, download the ZIP file to your downloads folder:

1. Open the email from your Skeleton Weed Program officer/LAG coordinator or download the ZIP file by scanning QR code or clicking the URL on the previous page.

2. Tap on the ZIP file folder attachment   📁 Skeleton Weed Mapping ZIP - 32 KB
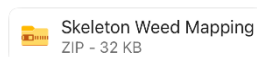
3. Tap the share button arrow in the top right corner   ⬆️

4. Tap on 'share file via…'   Share File via...

5. Scroll down and tap on 'save to files'   Save to Files   📁

6. Select location 'downloads'   ⬇️ Downloads   >

7. Tap 'save' in the top right corner   **Save**

Next, decompress the ZIP file into the QField folder:
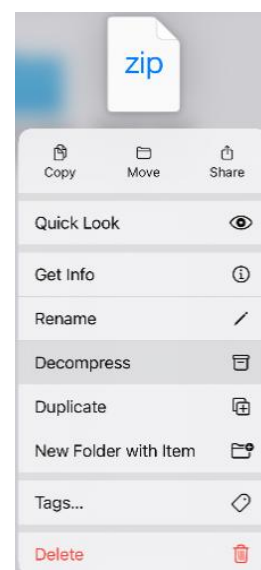
8. Open your 'files' app   📁

9. Go to where you saved the file in your downloads folder

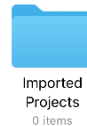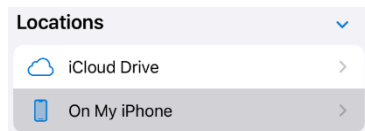10. Press and hold the zip file   📄 zip   and select 'decompress'
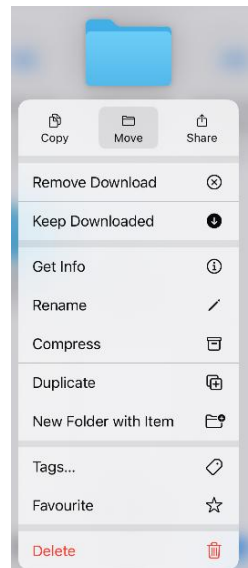
   Skeleton Weed
   Mapping.zip

Copy	Move	Share

   Quick Look   👁

   Get Info   ⓘ

   Rename   ✎

   Decompress   🗄

   Duplicate   ⊞

   New Folder with Item   📁

   Tags...   🏷

   Delete   🗑

11. A new folder will appear next to the zip file press and hold this folder and select 'move'

Skeleton Weed
Mapping
4 items

12. Navigate to 'on my iPhone' > 'QField' > 'Imported Projects'

13. Tap 'copy' in the top right of the screen   **Copy**
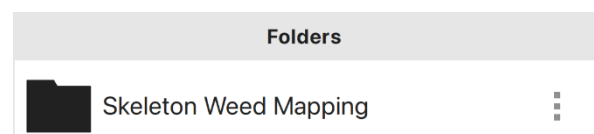
Then, open in QField:

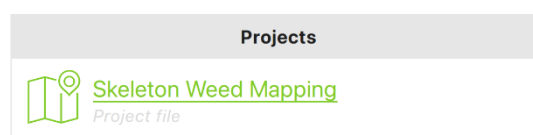14. Go to the QField app

15. Tap 'open local file'

Open local file

16. Tap 'imported projects'   Imported projects

17. Tap the 'Skeleton Weed Mapping' folder

Folders
Skeleton Weed Mapping

18. Tap the 'Skeleton Weed Mapping' project

**Projects**
Skeleton Weed Mapping
Project file

The mapping template will now open in the app. Please continue to step 1.3 (page 10).

1.3 Settings

You will need to update the following settings only once when first setting up your device, before starting your first paddock search.

1. First turn on your location by tapping the location button in the bottom right corner, and when prompted, allow QField to use your location.
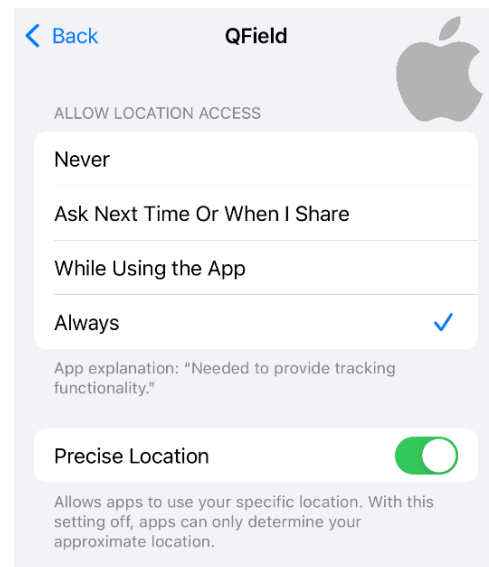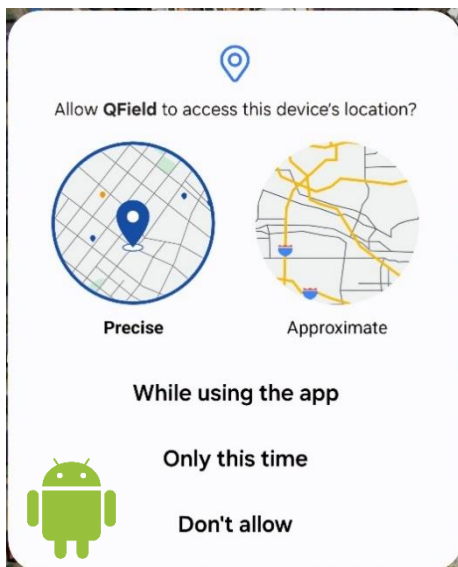
If your device does not give the option to 'always' allow location permission, you may need to keep your app open while tracking.

2. Next tap the menu button in the top left of the screen and tap the pencil button to change into edit mode.

3. Next tap 'plants' in the menu bar

4. Tap the arrow in the top left corner to return to the map, then tap the green plus button
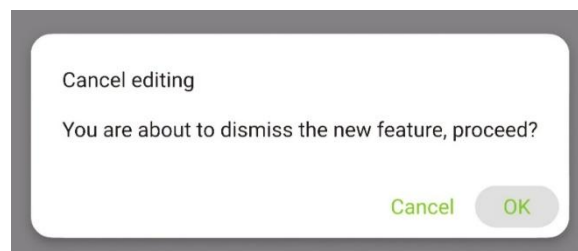
5. Under 'plant_picture', tap the plus button (you may need to add a 7 digit number into the property ID field first e.g 1234567) then tap the camera button

6. When prompted, allow access to your camera. This allows you to take a photograph when you find a plant. (You must take at least one picture of a skeleton weed plant you have found per infested paddock you are claiming for.)
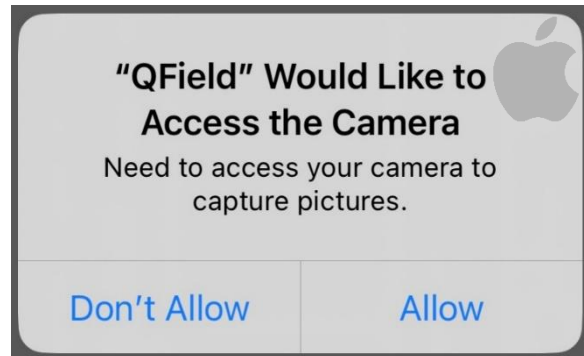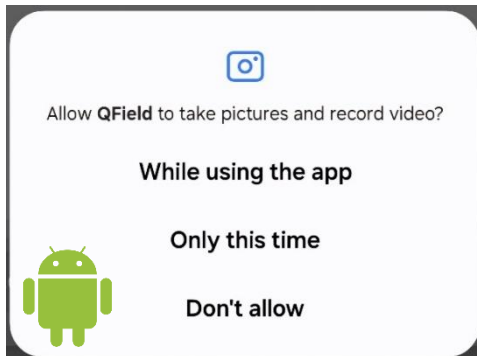
7. Next tap the camera settings button [icon] and ensure the location button [icon] is green (if it is white, tap the button to turn it on).

8. Tap the return arrow [icon] then the green cancel button [icon] then select 'OK', then repeat: tap cancel [icon] and select 'OK' again.

9. Lastly, tap menu [icon] then press and hold 'Track logs' [icons] Track logs

10. Then tap 'setup tracking' [Setup tracking button]

11. Turn on 'distance requirement' and set minimum distance to '10', then turn on 'erroneous distance safeguard' and set the maximum distance to '100'.

Distance requirement	[on]	Erroneous distance safeguard	[on]
Minimum distance [m]	10	Maximum tolerated distance [m]	100
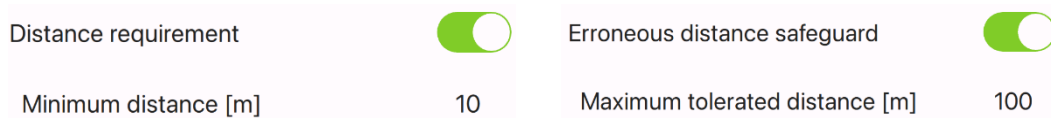
12. Now tap the return arrow [icon] Now you are ready to start your searching.

2. Using the app

When you get to the paddock and are ready to start your search, you will need to start your track log. If you leave the app while tracking, it will continue to record track logs, but they'll only be drawn on the map when you re-open the app. `Replaying collected positions, hold on`

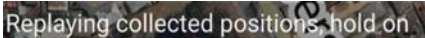However, it is recommended that you keep the app open while logging tracks

2.1 Setup track log
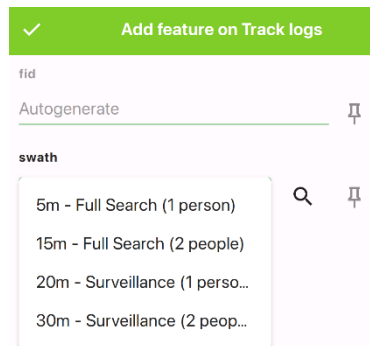
1. Tap menu, then press and hold '*Track logs*'   ∨   👁   ⋁ Track logs

2. Tap 'setup tracking'   [🚶 Setup tracking]

3. Tap 'start tracking'   [🚶 Start tracking]

4. Select a swath width from the drop-down bar; (refer to your latest Skeleton Weed Management guide for search requirements (details in troubleshooting 4.9), 2 people in the vehicle can have a wider swath than one person).

   > **✓ Add feature on Track logs**
   >
   > fid
   > Autogenerate   📌
   >
   > swath
   > 5m - Full Search (1 person)   🔍 📌
   > 15m - Full Search (2 people)
   > 20m - Surveillance (1 perso...
   > 30m - Surveillance (2 peop...

5. Tap the tick [✓] (top left) and tracking will begin

6. Tap the back arrow [←] to return to the map

7. There are 3 buttons in the bottom right of the screen, first tap the top 🞉 button to

   centre the cursor, then tap the middle ◉ button once to keep the map central to your location. (A message saying "canvas follows location" will appear. See section 4.6 for more information).

8. Now start searching. (Refer to 4.6b if you would like to lock the screen).

2.2 Mapping a plant

If you find a plant during your search, you can map the find while still recording your search tracklog. Walk up to the plant (or small group of plants) and follow these instructions:

1. Tap the green plus button (bottom right corner of the screen)

2. Enter how many plants are at your location

3. Enter the property number (tap the pin once

   highlighted, it indicates the value will be remembered for future entries, you won't need to write this again until you move to a different property)

4. Enter the paddock name and tap the pin (be sure to change the name when you move to another paddock)

5. Add a photo of the plant (at least one photo per paddock you find plants in)

   Tap the plus button under 'plant_picture' then tap the camera button

6. Take a photo of your plant using the capture button then tap the tick

7. Tap the green tick in the top left twice to save the photo and the point.

2.3 Mapping a larger infestation of plants

If you find a larger infestation (i.e. too much skeleton weed to drop points on all the plants), you can track a line around the outermost plants in an infestation (where the plants are within 20 meters of each other).

1. Tap menu

2. Press and hold 'Plants'

   👁 🔴 **Plants**

3. Tap 'setup tracking'

   🚶 Setup tracking

4. Tap 'start tracking'

   🚶 Start tracking

5. Select roughly how many plants you can see in the infestation (50, 100, 500, etc)

   NUM_PLANTS

   500   —   +   📌

6. Enter the property number (if you have already mapped a plant on this property and pinned this, it will be automatically filled in)

   PROPERTY_ID

   1234567

7. Enter the paddock name (if you have already mapped a plant in this paddock and pinned this, it will be automatically filled in)

   PADDOCK_NAME

   Test

8. You can add a photo of the infestation

   Picture

   📷

9. Then tap the green tick ✓ to start tracking around the infestation.

10. Tap the return arrow ← to return to the map and then walk/drive (with your device) around the outside of all the plants you see (that are within 20m of each other).

2.4 Finish mapping the larger infestation

(Once you have gone around all the plants you see within 20 metres of this infestation)

1. Tap menu

2. Press and hold 'plants'

   👁 🔴 **Plants** 🚶

3. Tap 'stop tracking'
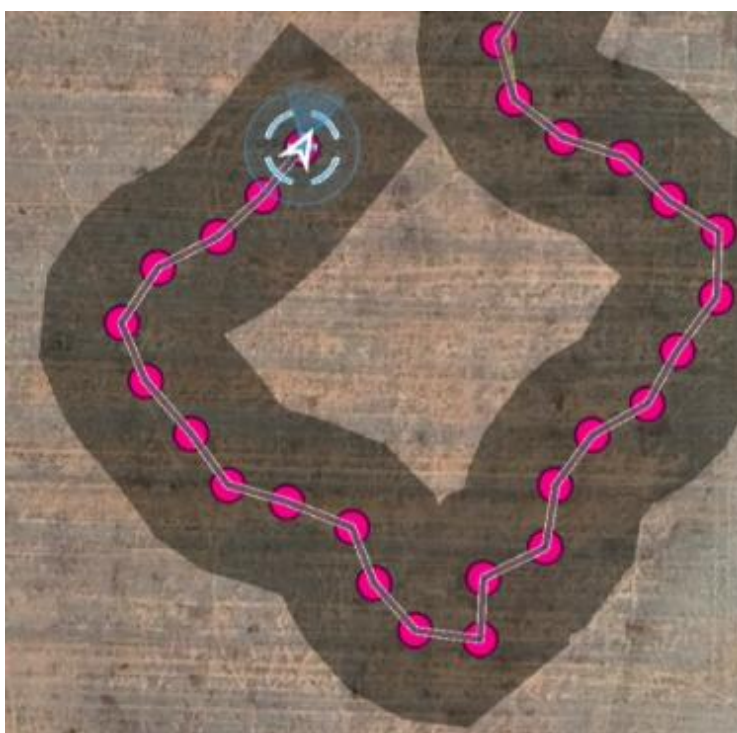
   🚶 Stop tracking

2.5 Finishing a search

Once you have finished searching each paddock, make sure you stop the track log.

1. Tap menu

2. Press and hold 'track logs' ∨ ⊙ ⋁° Track logs
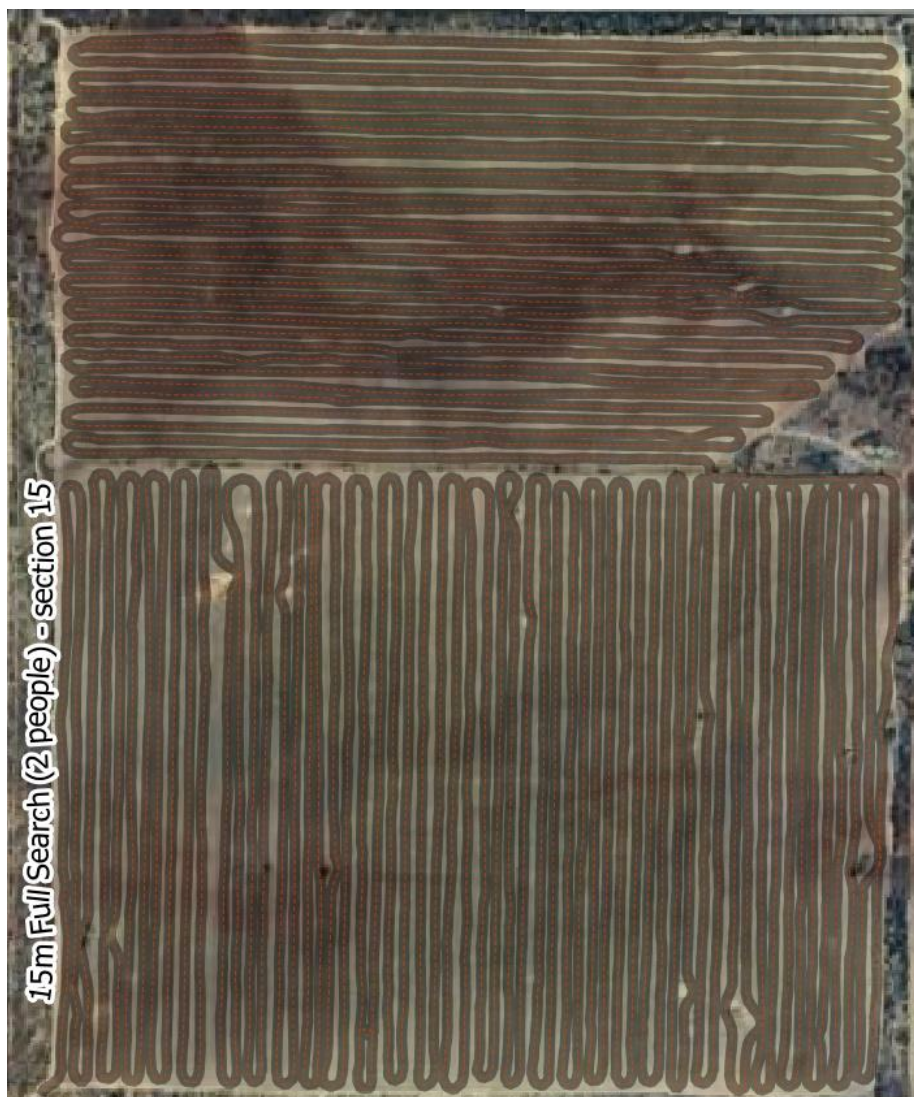
3. Then tap 'stop tracking' 🚶 Stop tracking

15m Full Search (2 people) – section 15

3. Sending your mapping back

When you have finished your searches for the season, you will need to return your search records back to your local Skeleton Weed Program officer or LAG coordinator.

3.1 Android

1. Tap menu

2. Tap 'return home'   🏠 Return home

3. Tap 'open local file'   [Open local file]

4. Tap 'imported projects'   📁 Imported projects

5. Tap the ellipses button to the right of 'Skeleton Weed Mapping'

   Folders

   📁 Skeleton Weed Mapping   ⋮
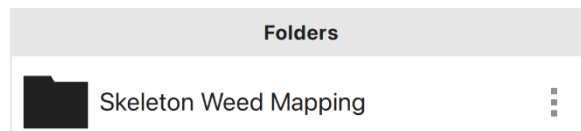
6. Tap 'send compressed folder to…'   Send compressed folder to...

7. Tap on the email app you use (e.g. Gmail or Outlook) and email back to your Skeleton Weed Program officer or LAG coordinator. (Speak to your local officer about sending in other formats like text, Bluetooth, USB, etc.)

   Skeleton Weed Mapping.zip

   Quick Share   Bluetooth   Gmail   OneDrive   Outlook   QField   Teams   Mo
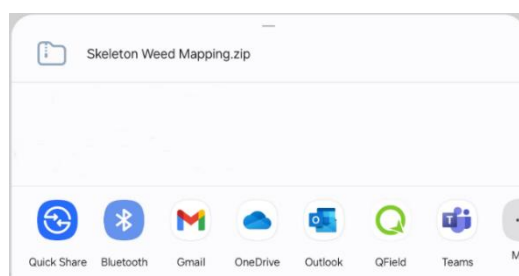
3.2 Apple/iOS

1. Go to your files app and locate where you saved the project

On My iPhone > QField 3 items > Imported Projects 0 items

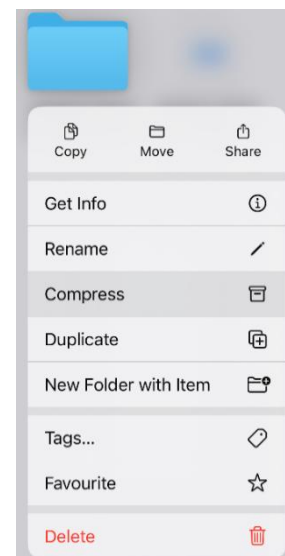2. Press and hold the 'Skeleton Weed Mapping' folder

Skeleton Weed Mapping

3. Tap compress
(The compressed file will then appear next to the folder)

Copy	Move	Share

Get Info ⓘ
Rename ✏
Compress 🗄
Duplicate ⊞
New Folder with Item 📁
Tags... 🏷
Favourite ☆
Delete 🗑

4. Press and hold the new compressed file, tap share and email back to the skeleton Weed Program staff. (Other options such as text or airdrop available)


Quick Look 👁
Get Info ⓘ
Rename ✏
Decompress 🗄
Duplicate ⊞
New Folder with Item 📁
Tags... 🏷
Delete 🗑

Skeleton Weed Mapping 24-25 2
ZIP Archive · 4 MB

AirDrop Messages Mail Outlook

Copy
New Quick Note
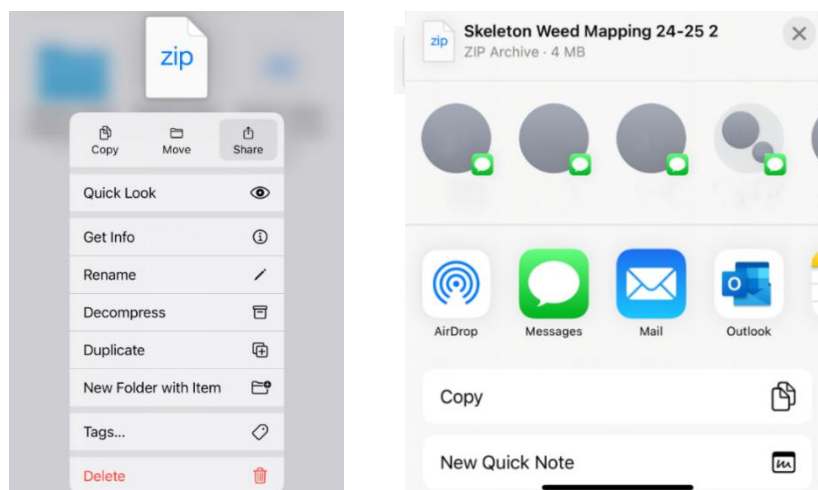
4. Troubleshooting

If you have further questions review the information below or reach out to your Skeleton Weed Program officer or LAG coordinator.

4.1 You have mistakenly added a plant point or a tracklog that you want to delete?

1. On the map, tap the plant (pink dot) or track log (red line with black swath) that you want to remove. A list of 'features' in the location will appear
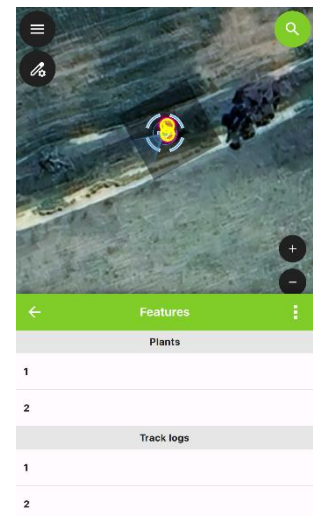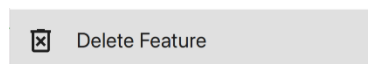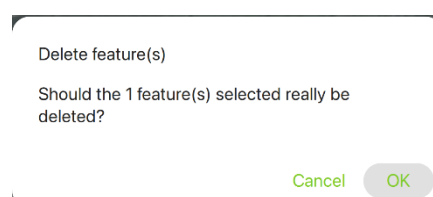
2. Select the feature you wish to delete
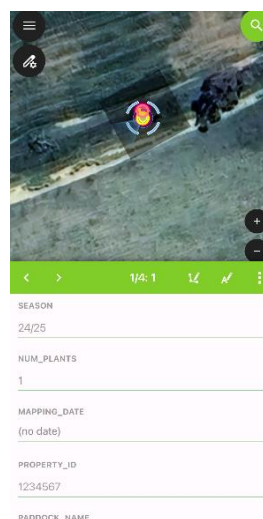
3. Tap the ellipses button ⋮ on the top right of the box.

4. Select 'delete feature' ☒ Delete Feature

5. Tap 'OK'

Delete feature(s)

Should the 1 feature(s) selected really be deleted?

Cancel   OK

If you want to delete multiple features:

1. Zoom out on the map so the features you wish to delete are grouped close together, then tap on the group of features
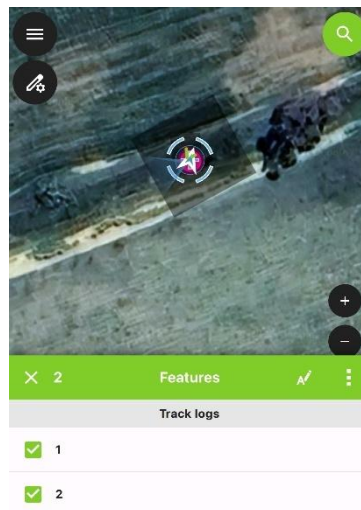
2. Tap the ellipses button

3. Select 'Toggle Feature Selection'

   ☐ Toggle Feature Selection

4. On the list of features, select all the ones you wish to delete (they're highlighted green on the map when selected)
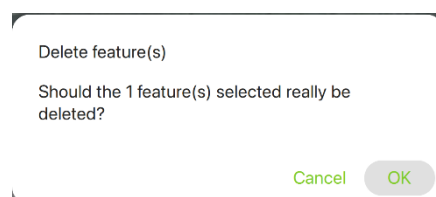

5. Tap the ellipses button   select 'Delete Selected Features'

   ⊠ Delete Selected Feature(s)

6. Tap 'OK'

   Delete feature(s)

   Should the 1 feature(s) selected really be deleted?

   Cancel   OK

4.2 Is your tracklog jumping miles away?

A. When setting up tracking, ensure you have selected a safeguard distance of 100m

This will disregard data that is picked up over 100m from your last location (for example, pinging phone towers for signal)

B. Check your device's settings to make sure your location permission for the QField app is set to 'always allow' while you are searching. If it is only set to 'while using app', if you lock your device or go out of the app while you are searching (i.e to make a phone call or put on some music) the app will likely not continue to record your track log. (You can change these permissions once you have finished your searches)

4.3 Not seeing the button to mark a plant's location?

A. Make sure you have access to edit by tapping menu

then tap the pencil button

B. Please note; you cannot record plants if the 'track log' line is highlighted. Make sure you have selected the 'plants' option in the menu first.
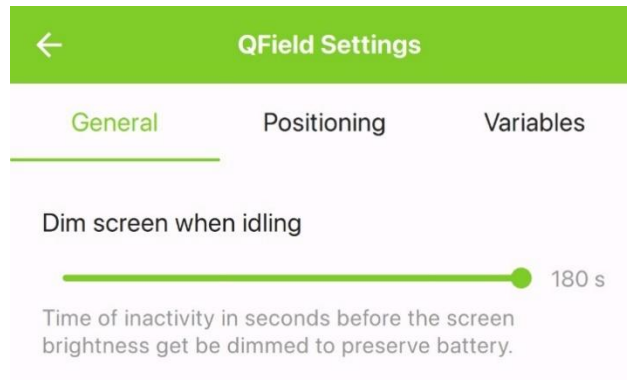
1. Tap menu

2. Then tap

3. Now you should see the button when you return to the map

4.4 Your screen is going dark too quickly while tracking your search?

- In the QField app settings, in the 'general' tab, scroll down until you find an option that says; 'Dim screen when idling'. You can set this to a maximum of 180 seconds. After this, tap the screen to bring the brightness back up.

4.5 Your Skeleton Weed Map doesn't open by default within the QField app?

- If your app opens on the homepage every time you open it, you can set it to open straight onto the Skeleton Weed Map by tapping the button that says 'Load last opened project on launch' underneath the recent projects on the app's homepage.
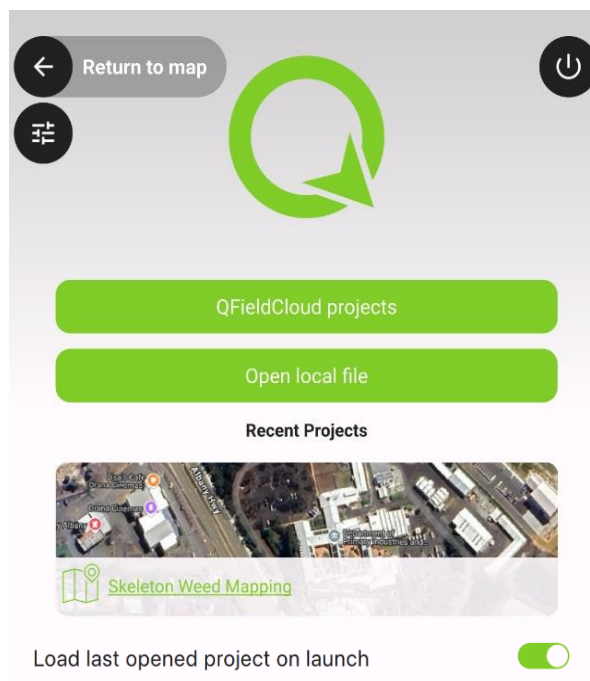
4.6 The map is not keeping your location central on the screen while tracking?

A. On the bottom right corner of the screen, there is a location button tap this just once and a message will appear at the bottom of the screen saying:

Canvas follows location

If you tap the button again you will get a message saying:

Canvas follows location and compass orientation

but we recommend **not** to use this, as the map will spin whenever the device is rotated, making it difficult to view as the satellite imagery will constantly reload and flash white.

B. While 'canvas follows location' mode is active, if you move the map away from your location, a countdown timer of a few seconds will appear before returning to your location. If 'unlock' is tapped, the map will not return to your location.

Follow location paused   Unlock

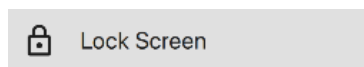There is also the option to lock the screen while you are searching:
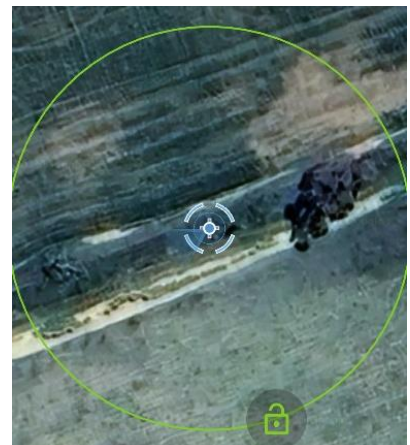
1. Tap menu

2. Tap the ellipsis

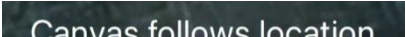3. Tap 'lock screen' Lock Screen

If you find a plant, you will need to first unlock the screen to map it.

1. Tap the screen

2. Press and hold the padlock and drag it to the outside of the circle

3. Now map the plant as normal.

4.7 The map is flashing white and the orientation is moving around?

- Your screen is likely following your location **and** compass orientation. This can be fixed by tapping the compass button to orient the map North up, or you can press the location button once and the message: `Canvas follows location` will appear.

4.8 When you mark a plant, the point shows up away from where you are?

- It is likely your 'coordinate cursor' is unlocked. To fix this press the ⊕ button at the bottom right of your screen and a message will appear at the bottom of your screen saying: `Coordinate cursor now locked to position`

4.9 You're not sure of the swath width for your paddocks?

- For the 25/26 season, code 1 and 3 paddocks need FULL searches. One person in the vehicle = maximum 5m swath, two people in the vehicle = max 15m swath. Code 2 paddocks can be searched with the wider SURVEILLANCE swath. One person = max 20m swath, two people = max 30m. If you find a plant while searching in surveillance mode it is recommended you stop the surveillance track log and start a new track log as a full search (with the smaller swath width).
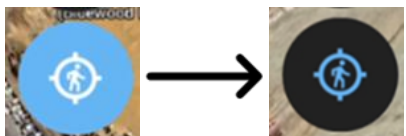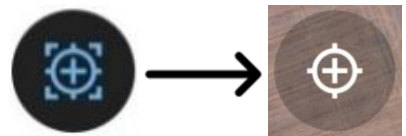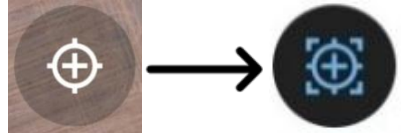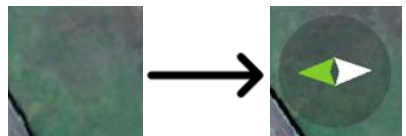
In subsequent seasons please refer to your current SKW Management guide for updated search requirements. This can be found at: library.dpird.wa.gov.au/bs_bulletins

4.10 Button status meanings

The table below explains what each button change means.

Table 1: QField button status meanings

Button status change	Mode transition	Cause
	Canvas follows location Activated (The live map moves with you)	You tapped on the button
	Canvas follows location Deactivated (The live map no longer moves with you)	You tapped on this button, or the 'Unlock' button after moving the map (Refer to section 4.6.B - how to lock the live map)
	Coordinate cursor Unlocked (Where the cursor points is where any plants you map will show up)	You tapped on the button
	Coordinate cursor Locked to your location (Any plants you map will appear at your location)	You tapped on the button
	Orientation compass Free orientation (When compass is visible, user is shown green arrow points North)	You rotated the map
	Orientation compass Lock orientation North-up (When compass no longer visible, user to assume North is up)	You tapped on the compass
Follow location paused Unlock	**Follow location paused** After a few seconds the map will return to following your location, (To turn this off, tap unlock)	You moved the map

Mapping template

Remember to download the mapping template before you begin. Scan the QR code below or click the link to access it. Refer to Page 7 for Android devices or Page 8 for iPhones.

Scan to access the template

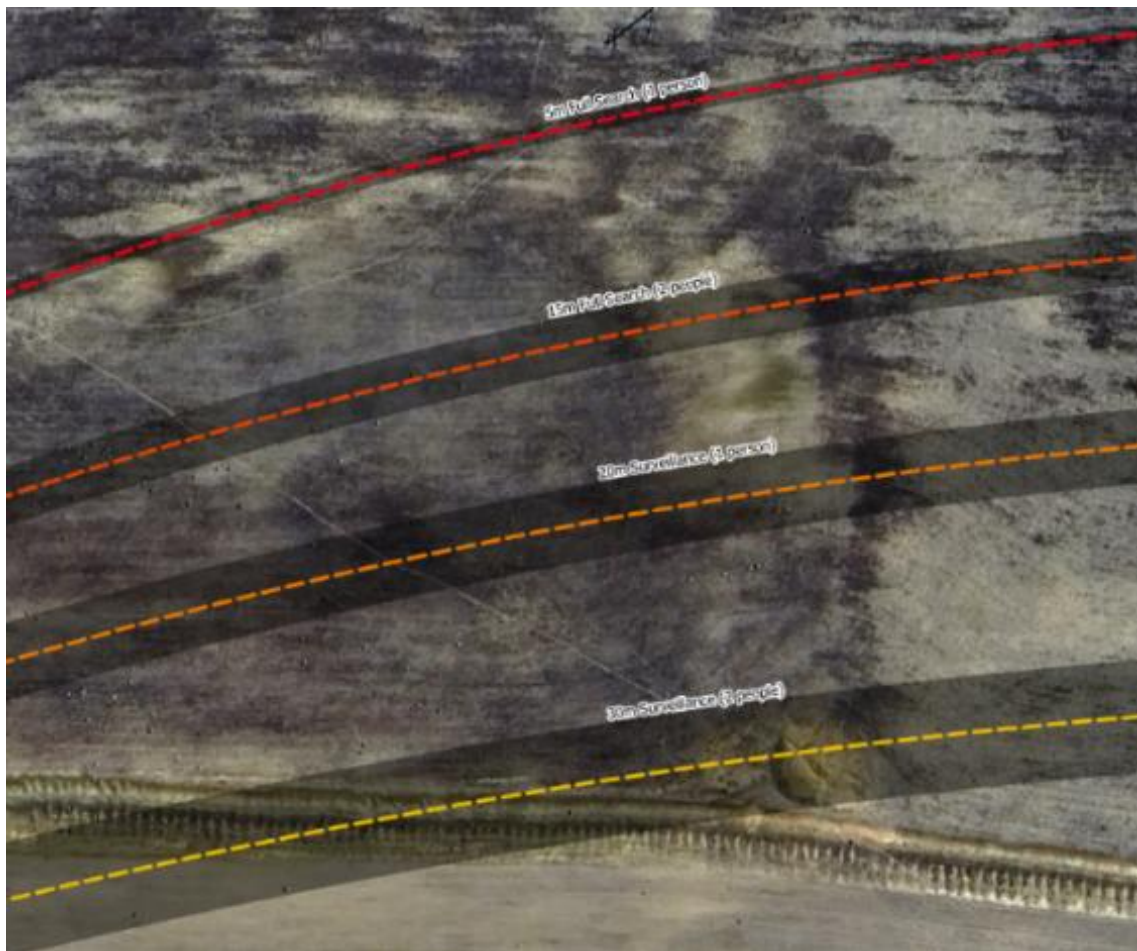**Android:** You can use your Camera app or the Google Lens app

iPhone: You can use your native Camera app

Or click the link below

[Access the template](#)

The mapping template allows you to choose a search swath that conforms to the Skeleton Weed Program specifications. Refer to the 'How to do a full or surveillance search' section on the Management guide to learn more. Visit library.dpird.wa.gov.au/bs_bulletins

Support available

If you have any difficulty using the program, have any feedback or need assistance setting up the project for your searches, please reach out to the Skeleton Weed Program team.

Email: SkeletonWeedProgram@dpird.wa.gov.au

or

Contact your local Skeleton Weed Program officer or Local Action Group coordinator.

Important Disclaimer