

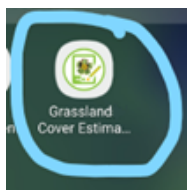
# Grassland Cover Estimator App (iOS)

Version 1.0.31.0

## Guide on App

### Open App

- Open to start Grassland Cover Estimator by tapping the following icon:



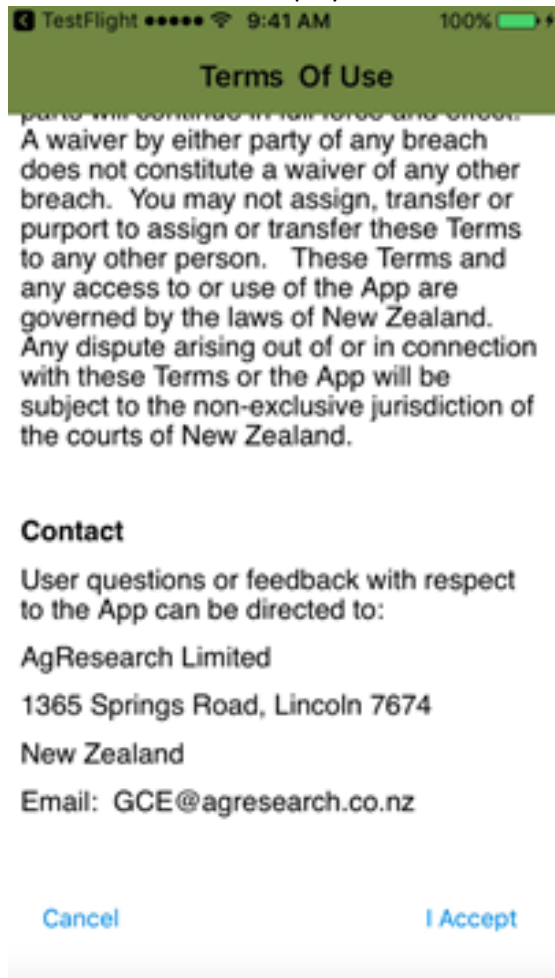
### Start Up

- Splash screen may be displayed on start up:

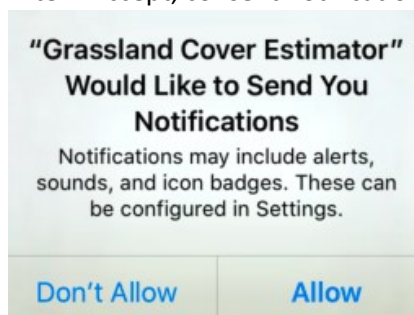


## First Time Use

- Terms Of Use will be displayed for user to Accept or Cancel:

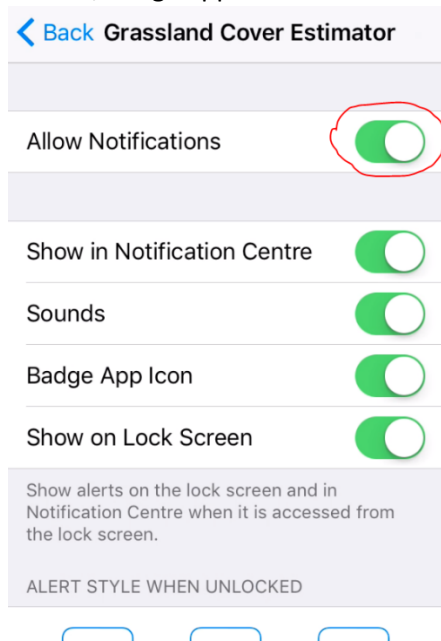


- After I Accept, consent notification will be asked as follows:

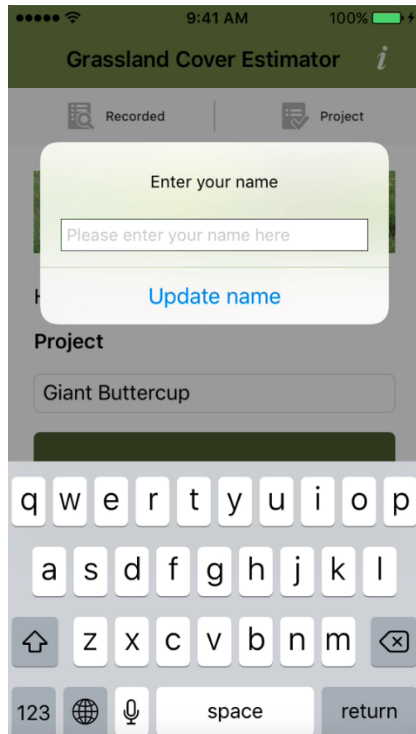


- Tap **Allow** to give permission GCE push notification display on your device.

- When **Don't Allow** is chosen no push notification from GCE app will be displayed. User need to manually enable notifications under settings Notification then Grassland Cover Estimator by turning it ON. Here user can also turn ON/OFF show in notification centre, sounds, badge application or show on lock screen as

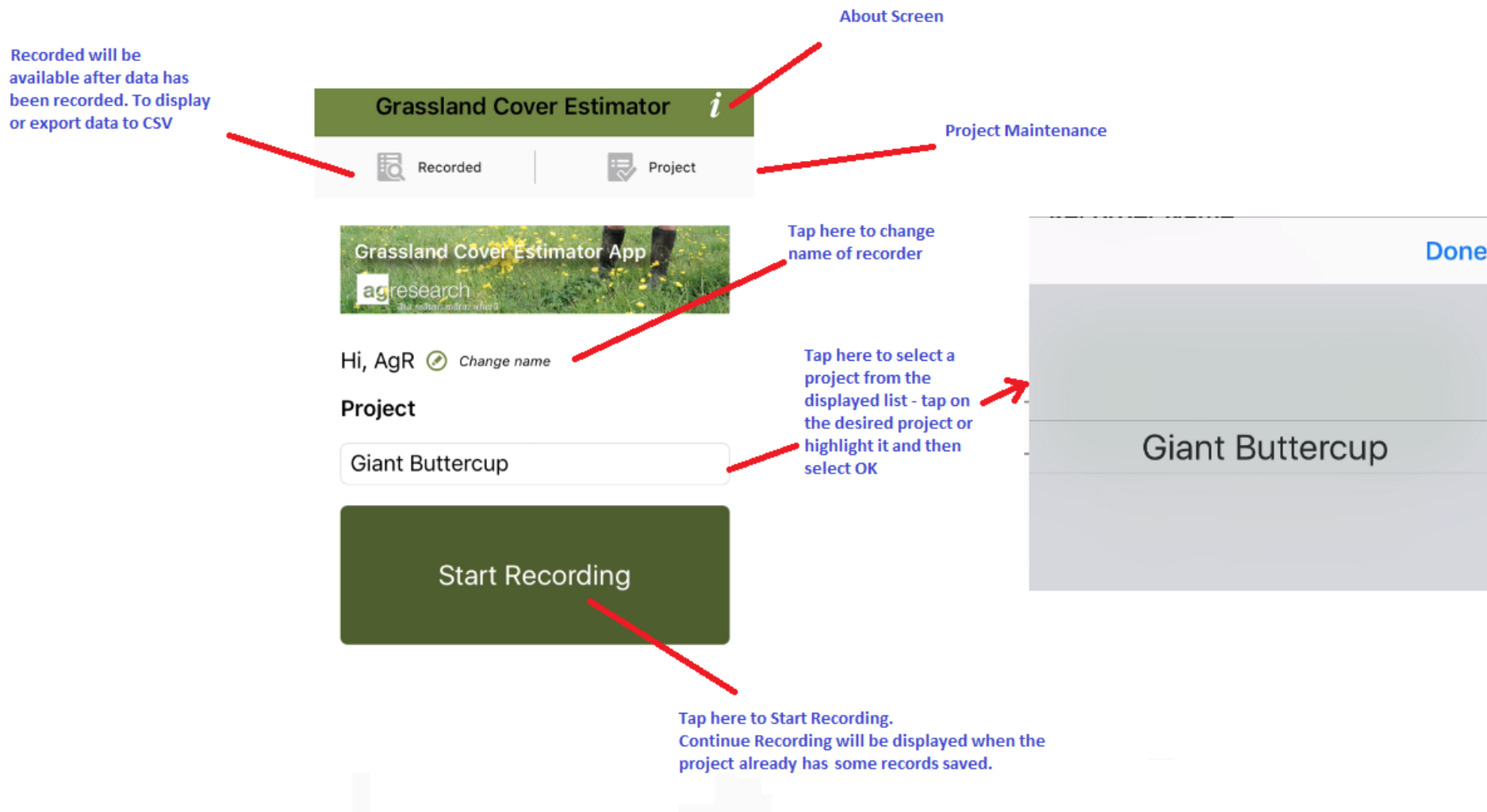


- User needs to enter their name (can be updated later):



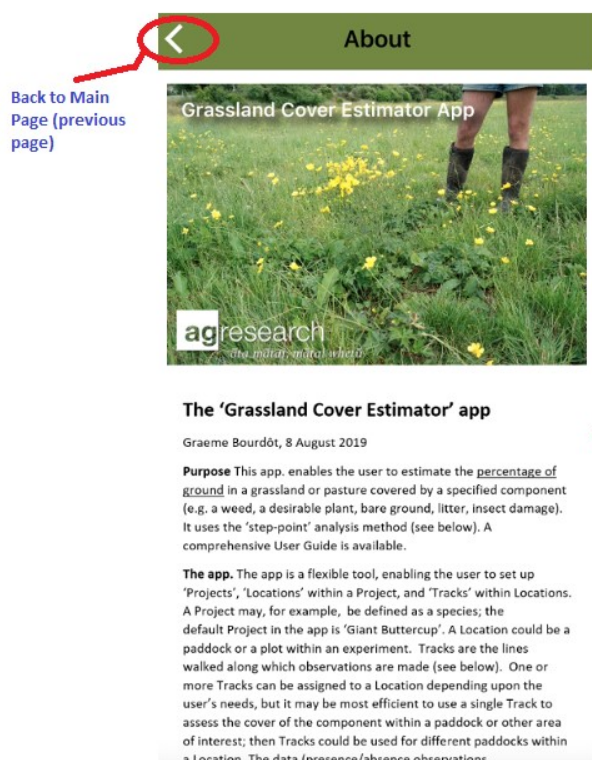
### Main Page

- The Main Page will be displayed after splash screen and the following picture explains its functionality:



## About Page

- On the Main Page, tap **About** on the top ribbon. The following will be displayed:

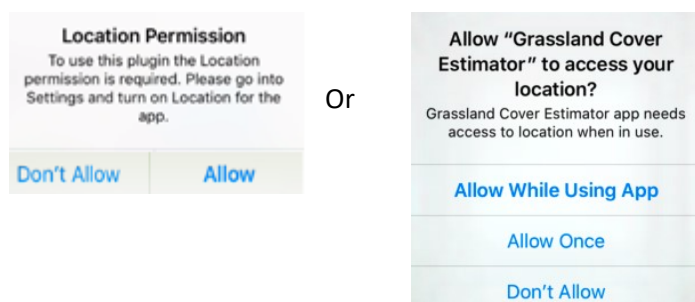


## Recording Data

- Tap Start Recording after Project has been selected:

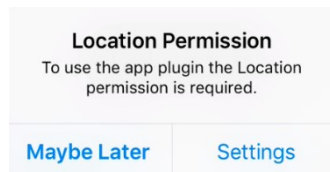
### Allow Permissions

- Also at the first run of the installation, consent for device's location will be asked as follows:

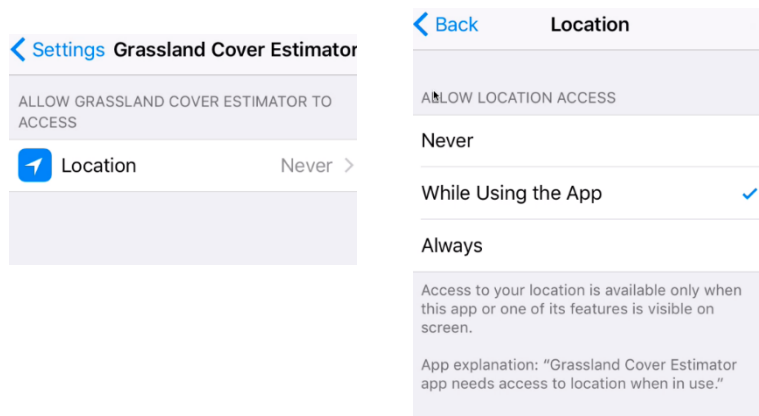


- Tap **Allow** or **Allow While Using App** to give permission, otherwise this app won't work as intended.
- When **Allow Once**, this app will keep ask permission again when
- When **Don't Allow** is chosen:

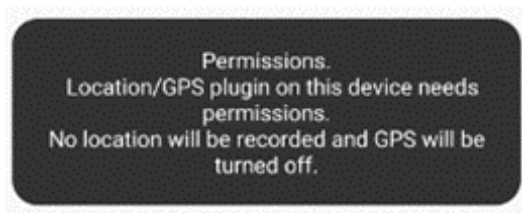
- The app will notify user that the Location permission is required. It will ask user to choose the following:



- If **Maybe Later** were chosen, the app will ask for permission again when the user comes back to the Recording Data page or when Location icon has been turned on. It will keep doing that until While Using the App is chosen. (Users need to do a manual setting, see next step)
- If Settings were chosen, the Settings screen will be displayed. Find Location Services, choose Grassland Cover Estimator and turn on Allow Location Access to While Using the App on App permissions screen below:



- Users can still give permission manually to the app from Settings outside the app as example above.
- By default, the user will still be allowed to record data, however, GPS location coordinates will not be recorded. The following alert message will be displayed:



Recording Page

**Recording Page UI Elements:**

- Top Bar:** Back to previous screen or exit without last page being saved (Back arrow), Compass On/Off, Swipe On/Off, Record Location On/Off, Sound On/Off (Vibration).
- Project Header:** Show/Hide Project Header (Show/Hide icons), Finish (Finish icon).
- Location:** Location (Pick from previous location), Enter Location Name (Text input), Choose Location Name from previous location name on same project.
- Coordinate:** Coordinate (Search current location), Search GPS location by device (Text input), Type location name.
- Track Number:** Track Number # (Info icon), Tap here on how Track Number is implemented, Tap + to increase Track #, Tap - to increase Track #, Description depending on Swipe On or Off, Tap Absent or Present Image to record.
- Recording Options:** Absent (Tap here for Absent when Swipe mode is Off), Present (Tap here for Present when Swipe mode is Off), Running total of the number of Presents recorded.
- Coordinates:** 43° 38' 33" 099 S 172° 28' 14" 479 E, This location coordinate will be only displayed when GPS is ON. Tap on it will display current location on device Maps app.
- Map:** Track Map (Aerial view), Polyline of current location recorded track (when current Location has coordinate and has some recorded data only), Hide Recorded Track, Hybrid, Show/Hide Polyline, Map Mode: Street or Satellite or Hybrid.
- Summary:** Finish (Flag icon), Project Name: Giant Buttercup, Number of Recorded: 2, Total No: 1, Total Yes: 1, Total Coverage: 50%, Track No: 1, Track Yes: 1, Track Coverage: 50%.
- Compass:** Compass icon (N, S, E, W).

**Icon Status Legend:**

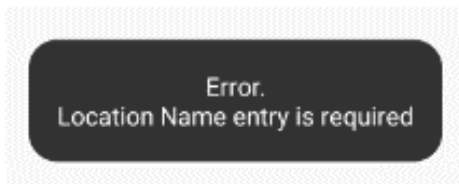
- Swipe Mode ON
- Swipe Mode OFF
- Record Location ON
- Record Location OFF
- Sound/Vibration ON
- Sound/Vibration OFF
- Show Project Header
- Hide Project Header
- Turn Compass ON
- Turn Compass OFF

**Formula:**

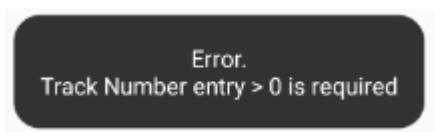
$$\% \text{ cover of } Y \text{ in Area} = \left( \frac{\# \text{ Points where } Y \text{ is Present}}{\text{Total \# Points}} \right) \times 100$$

### Validation

- To be able to record data (either by swiping Left/Right or tapping Absent/Present Image), Location Name is required. The following alert message will be displayed at bottom of screen otherwise:

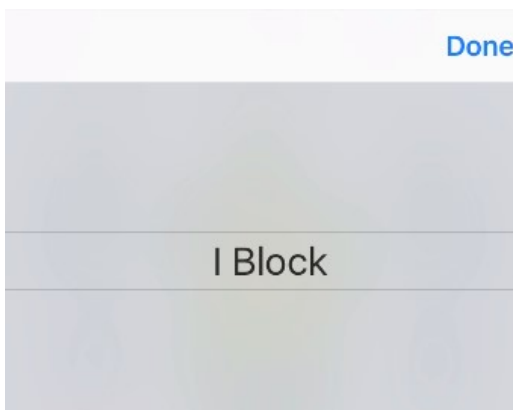


- Track Number # is a whole number greater than 0. The following alert message will be displayed at bottom of screen otherwise:

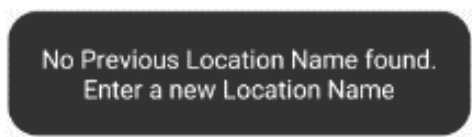


### Pick from Previous Location

When Location name is tapped then a list will be displayed to allow user to select from previous locations that have been recorded and still exist on the system.

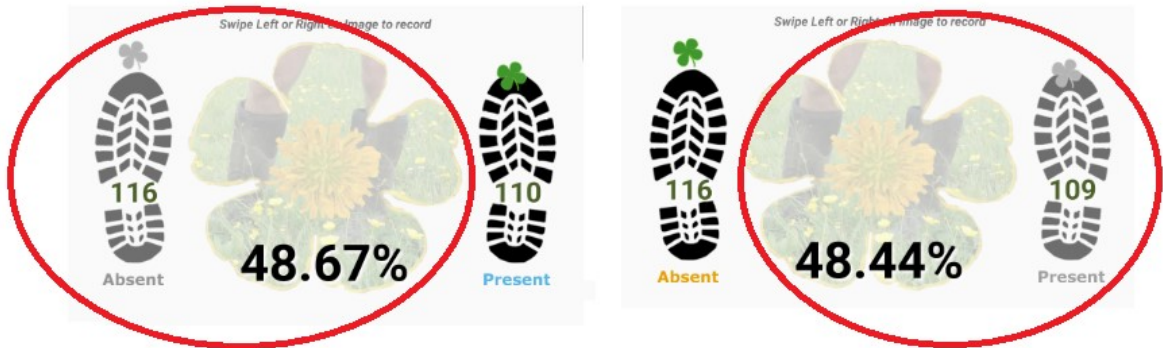


If no data, then the following will be displayed:





- UI feedback on user experience during data recording when app still processing:
  - On Swipe left/right. Default image will have some opacity while the boot image will be changed to grey colour accordingly as follow:



Swipe Left

Image and Left Boot will be opaque and grey when app still recording

Swipe Right

Image and Right Boot will be opaque and grey when app still recording

- On Tap left/right. Boot image will change to grey colour:



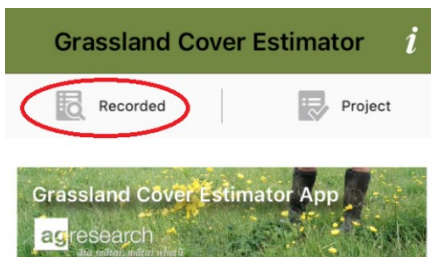
Tap Left

Left Boot changed to grey

Tap Right

Right Boot changed to grey

## Export Data

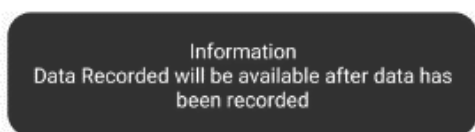


Hi, AgR Change name

Project

### *Export Data Page Access*

- To access, tap Recorded on Main Page
- When no data is available, the following will be displayed:



Data Recorded Page

**Information**  
Giant Buttercup : 5 record(s)  
OK

**Data to export**  
Exported Data

**Record Date** ▲ **Observed** ▲

Giant Buttercup @I block #0001 > 20% <

Date Time Recorded	Observer Name
24/12/2019 10:37:46 a.m.	AgR
24/12/2019 10:37:48 a.m.	AgR
24/12/2019 10:37:49 a.m.	AgR

Absent/Present

**Record Date** ▲ **Observed** ▲

Giant Buttercup @I block #0001 > 20% <

24/12/2019 10:37:46 a.m.	AgR	
10:37:48 a.m.	AgR	Delete
24/12/2019 10:37:49 a.m.	AgR	

Tap Delete to remove selected record

**Location**  
I block

**Coordinate**  
43° 38' 33".448 S 172° 28' 14".389 E

**Track Number #** ⓘ  
1

Swipe Left or Right on Image to record

Absent Present

20%

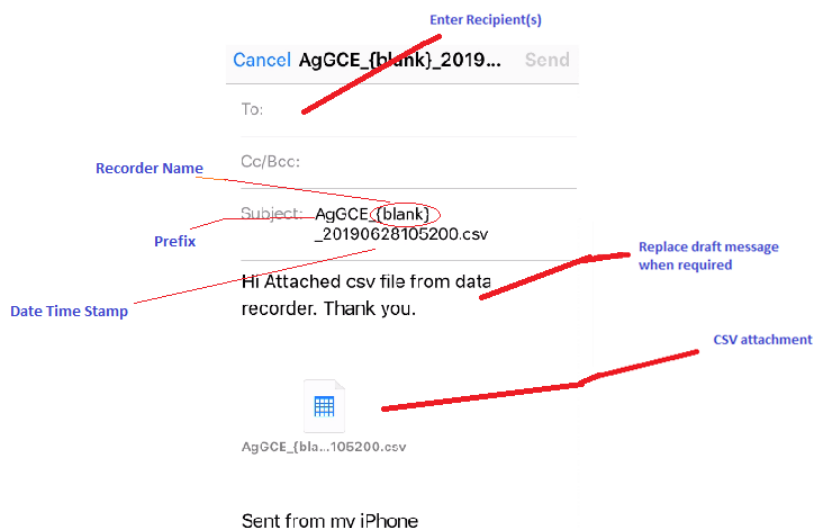
**Observe**

Annotations:  
 - Information on Project Record that can be exported  
 - Export Data to CSV  
 - List of record(s) that have been Exported to CSV  
 - Sort Record Date Ascending/Descending Group by project & location  
 - Sort Observed Ascending/Descending Group by project & location  
 - Group Header gives Project, Location Name, Track # and Coverage Percentage Area  
 - Date Time Recorded  
 - To Delete, Swipe Left on selected record  
 - To Cancel, Swipe Right on Selected Record or any other screen  
 - To Edit Absent/Present only Select and Tap a record  
 - Show/Hide Project Header  
 - To Save and Exit if Observe has been switched, i.e. On to Off or Off to On  
 - Cancel/Back to previous screen  
 - Switch to change Observe ON/OFF  
 - Absent = OFF Present = ON

- When Export Data to CSV is tapped, the app will execute an Email app depending on user device

#### Email Mode

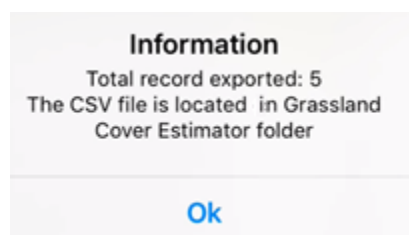
- Example email as follows:



- After email has been sent or discarded, the process will return to the Grassland Cover Estimator App
- If email is cancelled user will need to manually compose an email to send the csv file(s)

#### Finish Export Data

- When the exporting process has finished the following will be displayed:



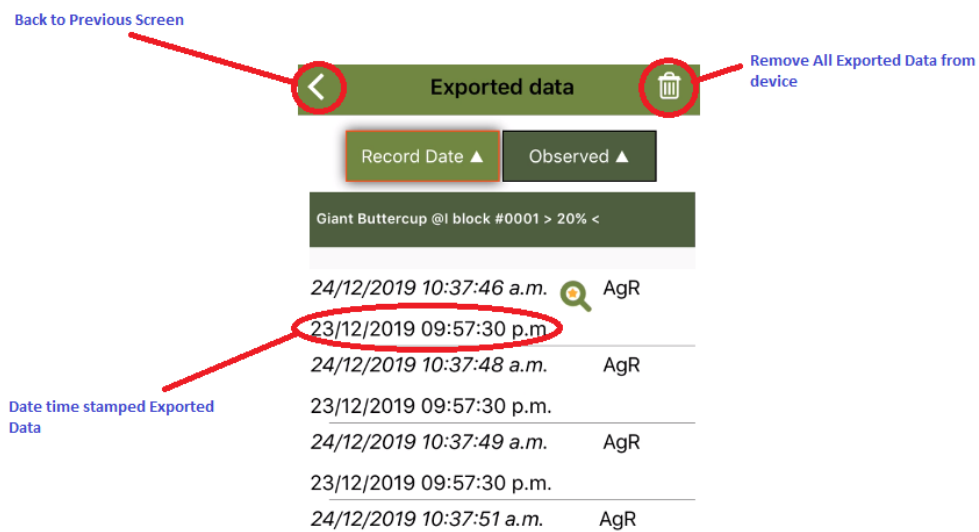
- All records that have been exported will be removed to Exported Data page

#### CSV File

- Filename will have prefix **AgGCE\_** followed by recorder name then by datetime of yyyyMMddHHmmss (Year Month Date Hour Minute Seconds), i.e. *AgGCE\_Estimator\_20190423090154.csv*
- See Appendix A on how to get csv file from iOS device.

#### Exported Data Access

- To access as previous picture, select the Exported Data (secondary menu), as following example:



- Note:
  - When all exported data has been removed from the device, the Pick Location will not be available to pick on Recording Data page anymore. User will need to re-enter Location Name and Location Coordinate again.
  - Cover Estimate Calculation will not include data from Exported Data

## Project

By default one project will be populated for the Grassland Cover Estimator app, the Giant Buttercup project, with default image:

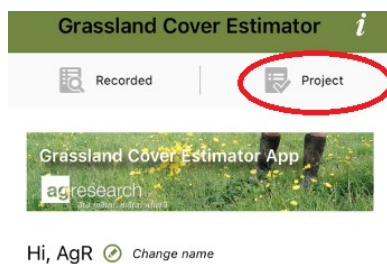


This default project can be deleted as long as no active record is attached to it.

User can also add a new project in case user would like to use this app other than Giant Buttercup.

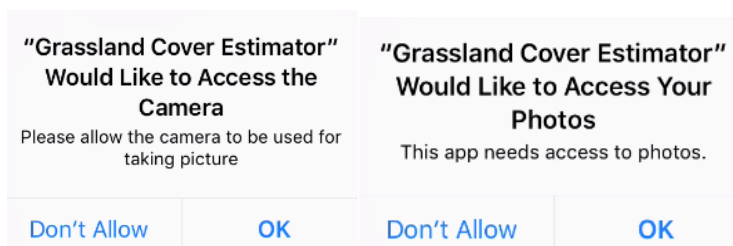
### Project Page Access

- To access, tap *Project* on Main Page

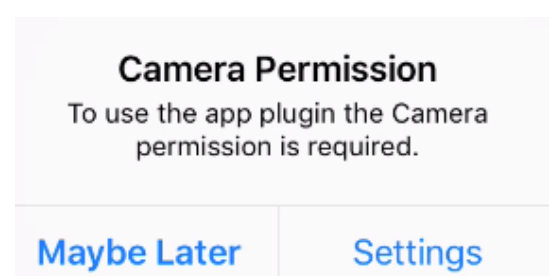
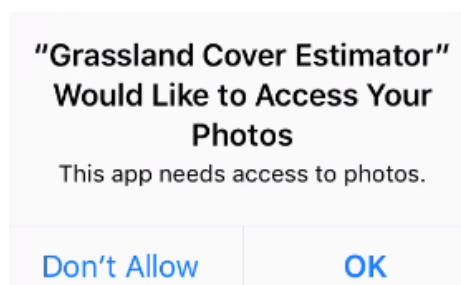


### Allow Permissions

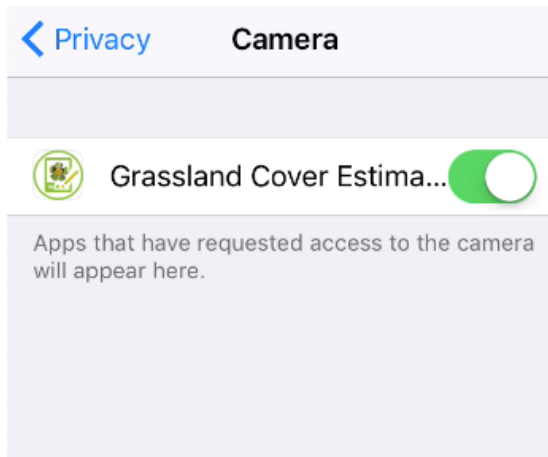
- At first run of installation, consent to access photos, media and files as well as to access camera on device will be asked as follow:



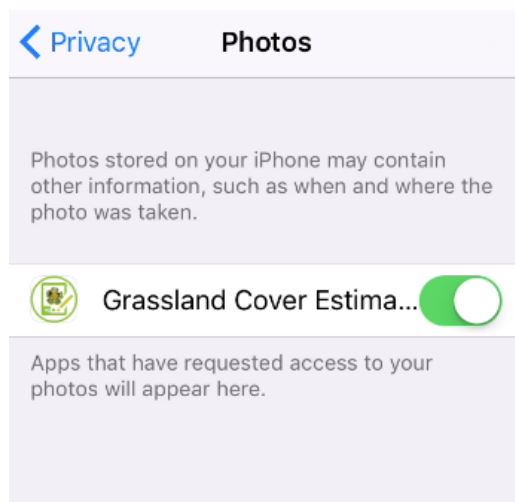
- Tap Allow to give permission, otherwise this app won't work as intended
- When **Deny** is chosen:
  - The app will notify user that the Storage/Camera permission is/are required. It will ask user to choose the following:



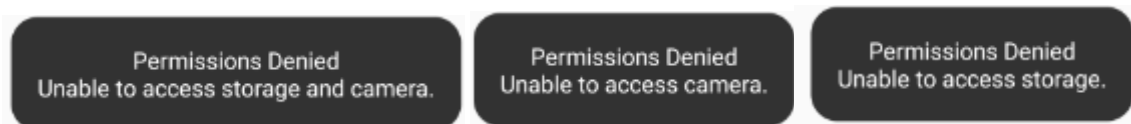
- If **Maybe Latter** were chosen. The app will ask for permission again when the user comes back to the Recording Data page. It will keep doing that until User manually turn the Storage/Camera Setting On (from Device Settings)
- If **Settings** were chosen.
  - For Camera permission, search Privacy then Camera then turn it on for Grassland Cover Estimator



- For Photo permission, search Privacy then Photos then turn it on for Grassland Cover Estimator

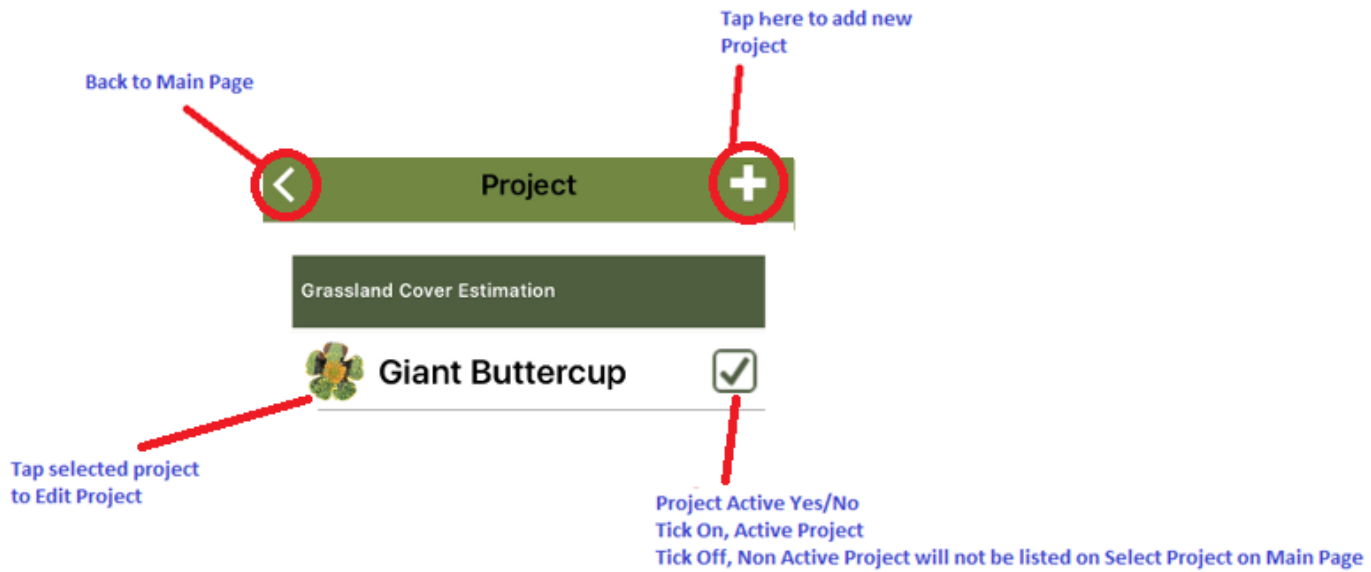


- To be able to take picture by device camera, Allow consent is required for Camera and Photos permission. The following alert message will be displayed otherwise:



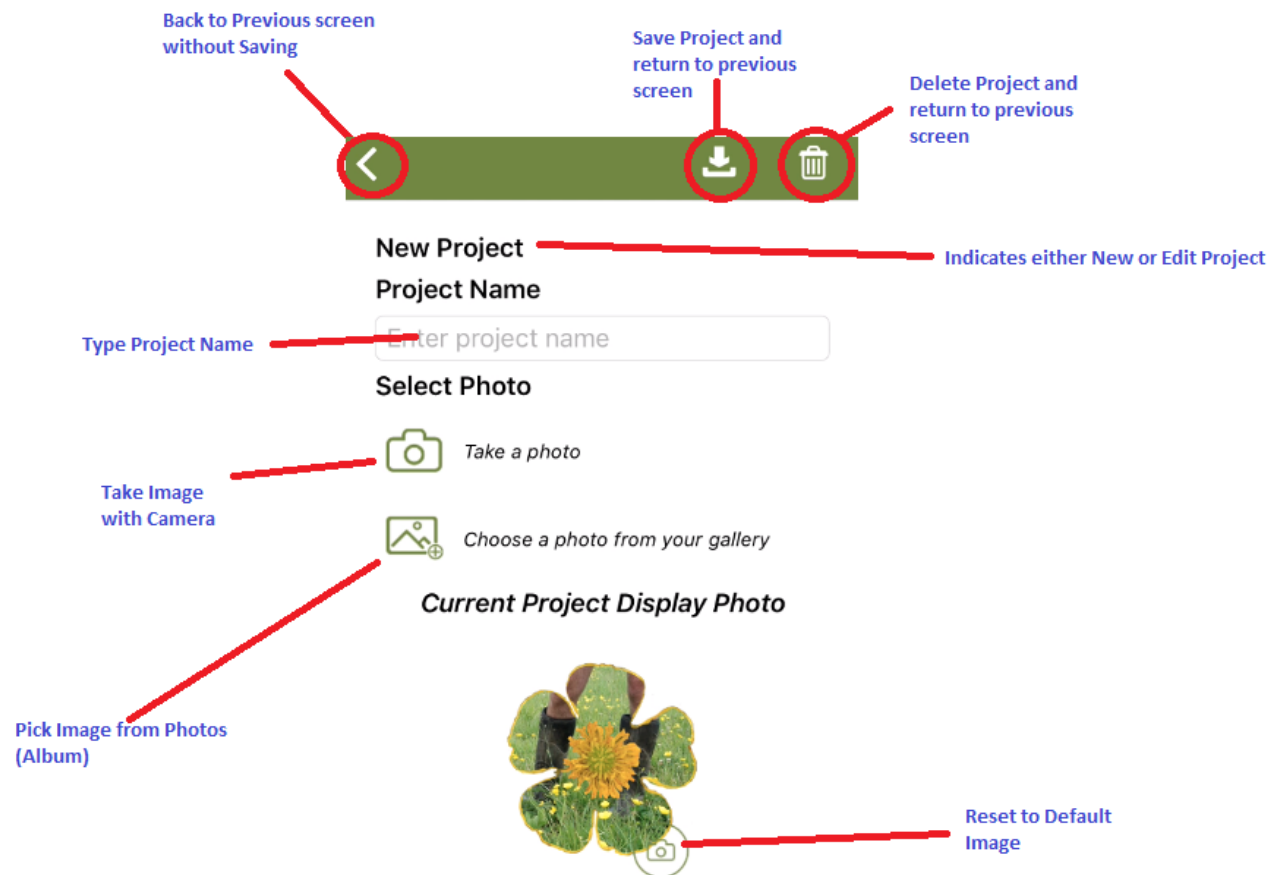
Project List Page

- After tapping Project on secondary menu, Project List Page will be displayed:



Add New Project

- Tap + to add new project, the following will be displayed:





### Validation

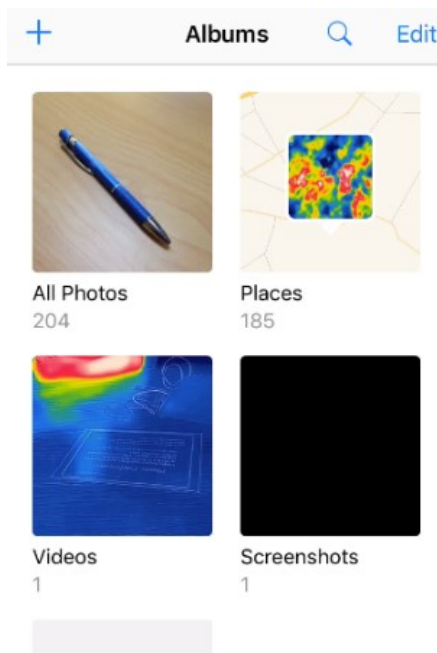
- Duplicate Project is not allowed
- Project can't be deleted if there is any data related to it still existing as either data recorded or exported or if it is the default Project (Giant Buttercup)

### Take Project Image by Camera

- Tapping on Camera icon on Take a Photo will bring up camera
- Take picture with camera as default device settings
- After photo has been taken, Preview Image will be displayed. Tap **Use Photo** to accept Photo or **Retake** to take another shot

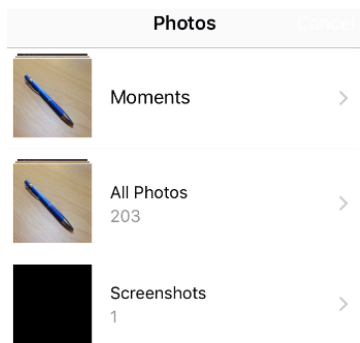


- Project Image location will be populated
- Image will be stored in All Photos album on Photos



### Select Image from Photos/Album

- Tap on Gallery Image to choose a photo from your gallery will bring up Photos/Album on your iOS device as follows:

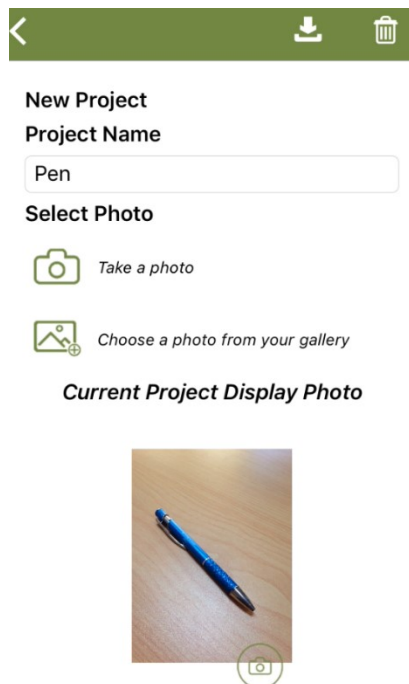


#### My Albums

- Select Photo that you wish to use then tap it.
- Project Image location will be populated based on the location of Photo selected

### Save Project

- After adding new Project Name and populating Project Image Location (either by camera/gallery or manual input) as example below:



- Tap Save icon to save this new project.

- It will return to Project List page as follows:



*Use New Project Example*

- On Main Page user will be able to pick new project as in Project Pen example:



Hi, AgR  Change name

**Project**

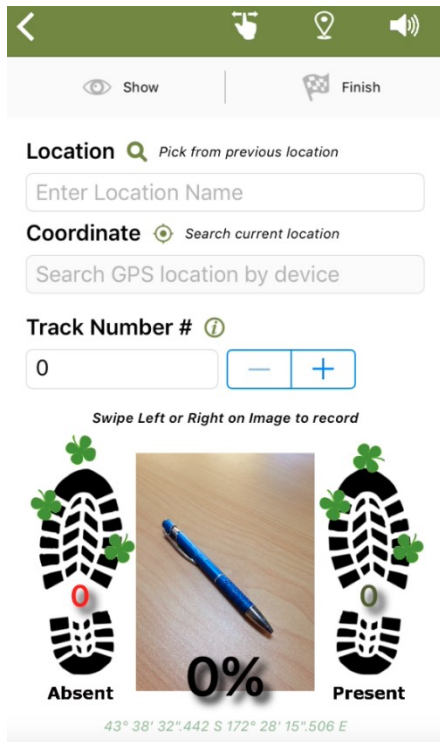
Pen

Done

Giant Buttercup

Pen

- On Record Data page, Image taken by camera or selected from Gallery of new Pen project will be displayed



- **Note:** if Project Image not selected or assigned, default image will be used.

## CSV Format

- Filename convention: **AgGCE\_RecorderName\_YYYYmmddHHMMSS.CSV**
- Content will include title of table as follow:

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Id	ProjectId	ProjectName	LocationName	LocationLatitude	LocationLongitude	TrackNumber	TrackNumberLatitude	TrackNumberLongitude	IsObserved	ObservedLatitude	ObservedLongitude	RecordSequenceCount	UserName	RecordDateTime	PublishDateTime
1	1	Giant Buttercup	abc	-43.64221239	172.4705368	1	-43.64221239	172.4705368	TRUE	-43.64221239	172.4705368	1	{blank}	29/04/2019 3:37:23 p.m.	29/04/2019 3:37:48 p.m.
2	1	Giant Buttercup	abc	-43.64221239	172.4705368	1	-43.64221239	172.4705368	FALSE	-43.64221239	172.4705368	2	{blank}	29/04/2019 3:37:26 p.m.	29/04/2019 3:37:48 p.m.
3	1	Giant Buttercup	abc	-43.64221239	172.4705368	1	-43.64221239	172.4705368	TRUE	-43.6424725	172.4708526	3	{blank}	29/04/2019 3:37:29 p.m.	29/04/2019 3:37:48 p.m.
4	1	Giant Buttercup	abc	-43.64221239	172.4705368	1	-43.64221239	172.4705368	FALSE	-43.64248273	172.4708279	4	{blank}	29/04/2019 3:37:30 p.m.	29/04/2019 3:37:48 p.m.
5	1	Giant Buttercup	abc	-43.64221239	172.4705368	1	-43.64221239	172.4705368	TRUE	-43.64248273	172.4708279	5	{blank}	29/04/2019 3:37:33 p.m.	29/04/2019 3:37:48 p.m.

- Id is unique Id on particular device
- Project Id is Id for project on particular device.
- New Project Id for different Project Name

## TestFlight Update App

Tap install after you receive notification that app has an update as shown in installation section

IT Solutions Team, 2024



## Appendix A

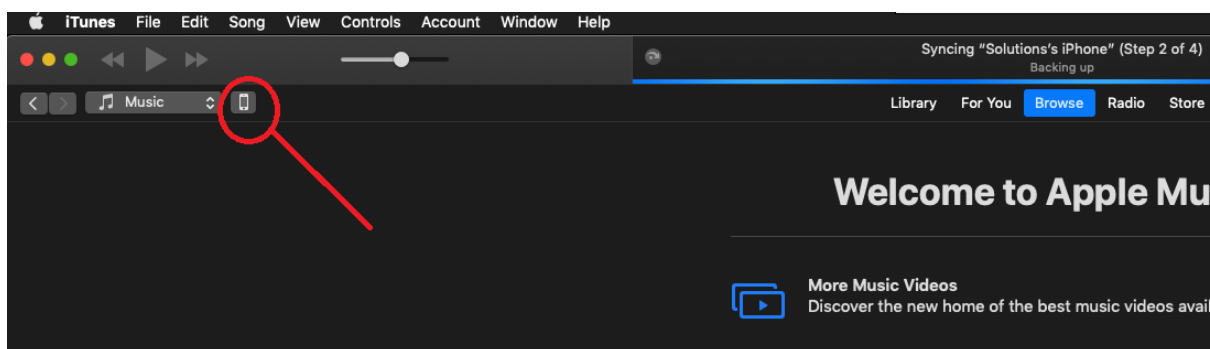
### How to Get a CSV file from iOS device

#### **STEP 1: CONNECT YOUR DEVICE TO ITUNES**

Plug your iPhone into your computer via the Apple USB cord. Start iTunes on your computer or wait for it to automatically start.

#### **STEP 2: CLICK ON YOUR DEVICE NAME IN ITUNES**

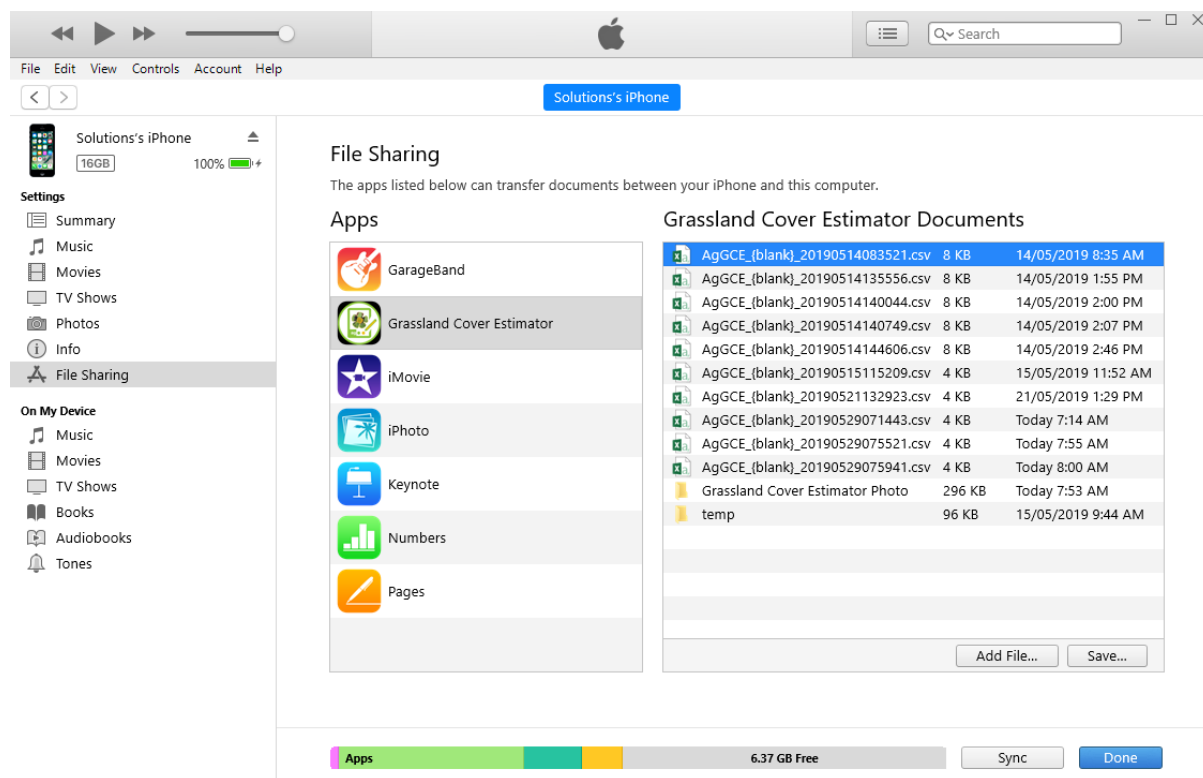
Inside iTunes, click on the icon for your iPad, iPhone, or iPod Touch. You will find the device icons at the top of the iTunes screen. Make sure you click on the device that you want to copy procedures to.



If you don't see your device name listed, make sure it is plugged in properly. Try disconnecting the USB cable from both your device and the computer, and then plugging it in again.

#### **STEP 3: CLICK ON THE FILE SHARING FOR YOUR DEVICE**

Inside the window for your device, click on the 'File Sharing' listing on the left. It should show all of the apps you have installed on your device on the right. Click on 'Grassland Cover Estimator'. On the right, you will see a listing of 'Grassland Cover Estimator Documents' as on the following picture:



If you don't see your files listed, make sure it is plugged in properly. Try disconnecting the USB cable from both your device and the computer, plugging it in again and follow Step 2. Reboot/Restart your iPhone could also help.

#### STEP 4: SAVE YOUR CSV FILE FROM ITUNES

Select a file or files that you would like to Save onto your PC/Mac as listing of 'Grassland Cover Estimator Documents'. Click Save Button and select destination Folder and click Select Folder (on PC) or Save (on Mac).

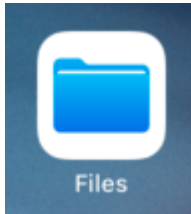


## Appendix B

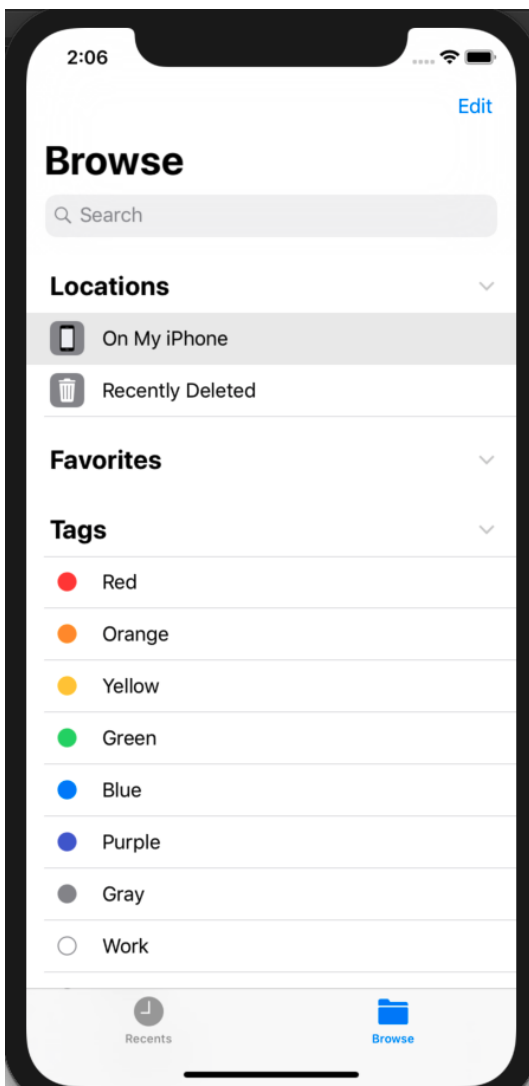
### How to Get a CSV file from iOS device with Browse

Introduced in iOS version 11, the Files app lets you open documents, photos that have been created by Grassland Cover Estimator (Note: iOS < 11 need to use iTunes to retrieve csv document).

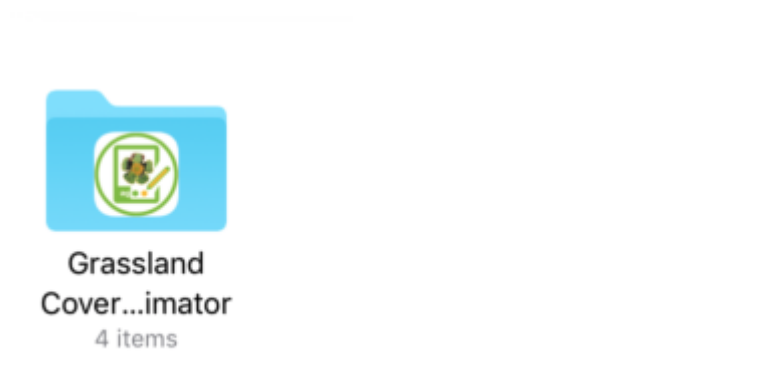
Tap the following to launch Files app



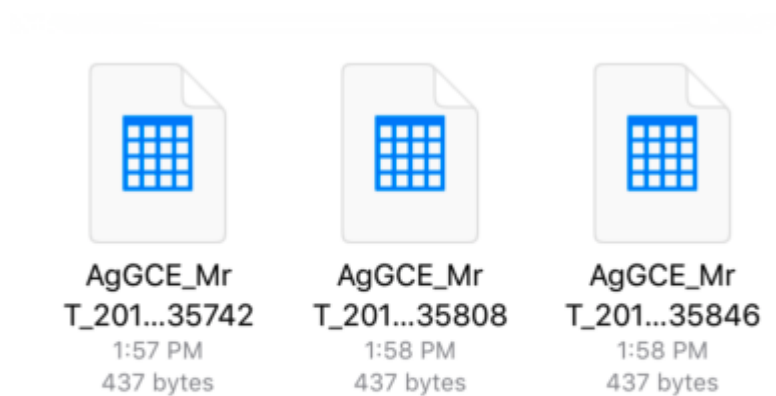
Choose Option Browse (tap icon Browse button) the following will be displayed:



On **Locations** section, Tap **On My iPhone**, Grassland Cover Estimator folder should be found here:



Tap on folder, list of csv files that have been generated will be displayed:



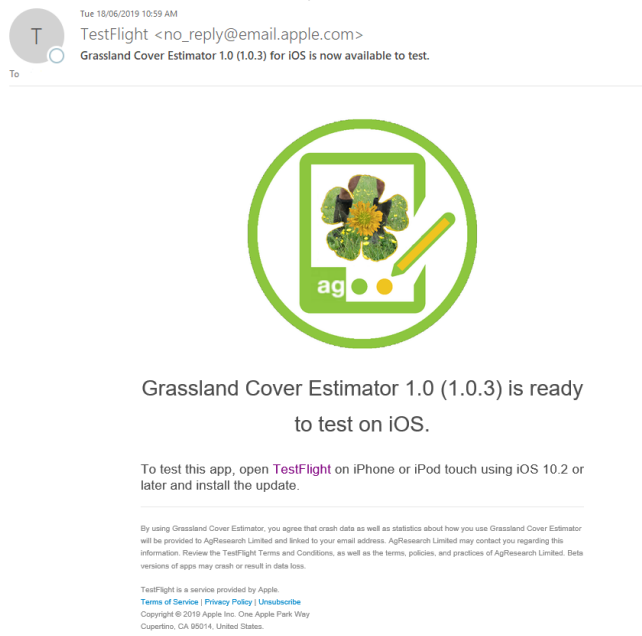
From here you can copy to your PC or Mac as required.

(NB: You can also email or Air Drop it from here).

## Appendix C

### TestFlight Installations *(Internal & Beta Release Testers Only)*

- Read Apple guidelines for TestFlight installation → <https://testflight.apple.com/>
- After email invitation notification, i.e.



- Click on TestFlight link on email to accept the invitation, the following will be displayed on your browser. When you accept the invitation you will receive a redeem code as well.

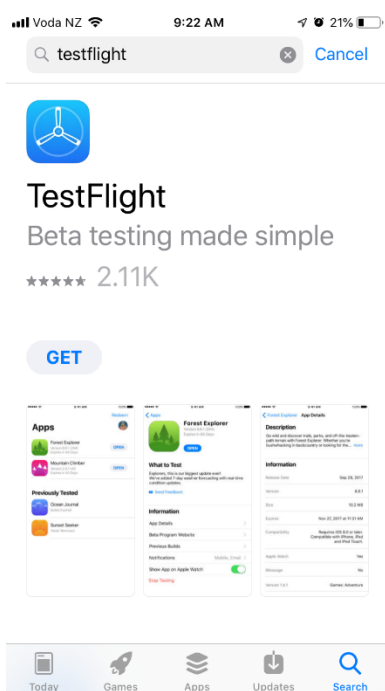


You have been invited to a TestFlight beta app.

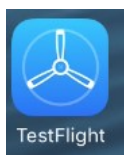
**Accept the invitation in TestFlight.**

If you don't have TestFlight installed on your iOS device, [get it on the App Store](#).  
TestFlight requires an iOS device with iOS 8 or later.

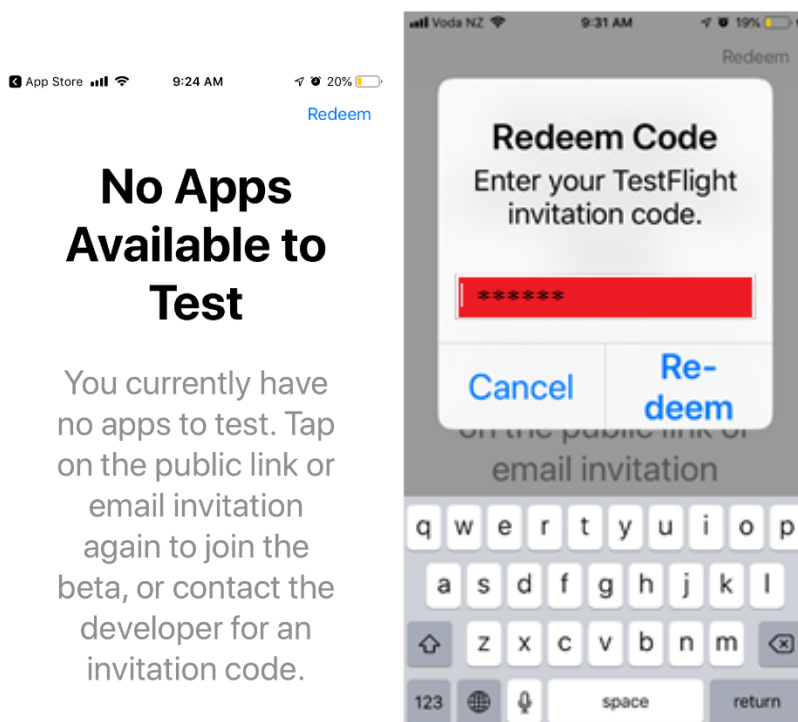
- Install TestFlight from AppStore:



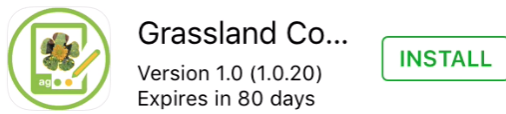
- After TestFlight has been installed it should have the following icon on iOS device:



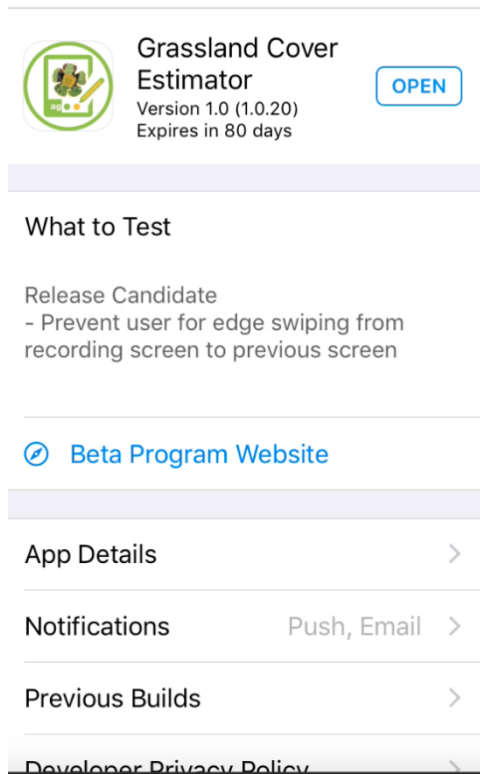
- Tap TestFlight and redeem your app by entering your code:



- Tap to install/update Grassland Cover Estimator listed on TestFlight:



- Finish Installation:



- Open to start Grassland Cover Estimator by tapping Open on TestFlight or go back to home screen on iOS device by tapping the following icon:

