Grassland Cover Estimator App (*iOS*)

Version 1.0.26.0

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:
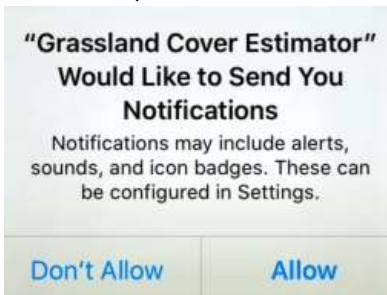
First Time Use

- 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.

- o 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
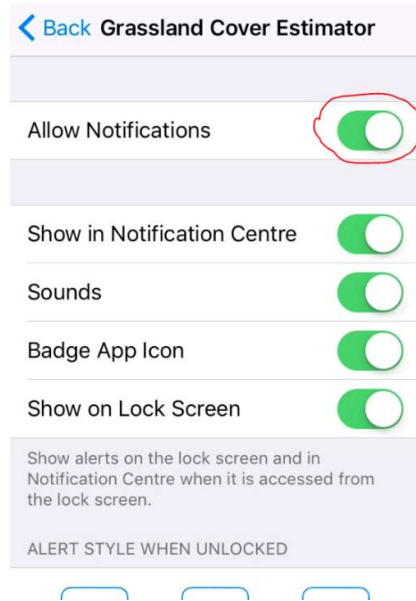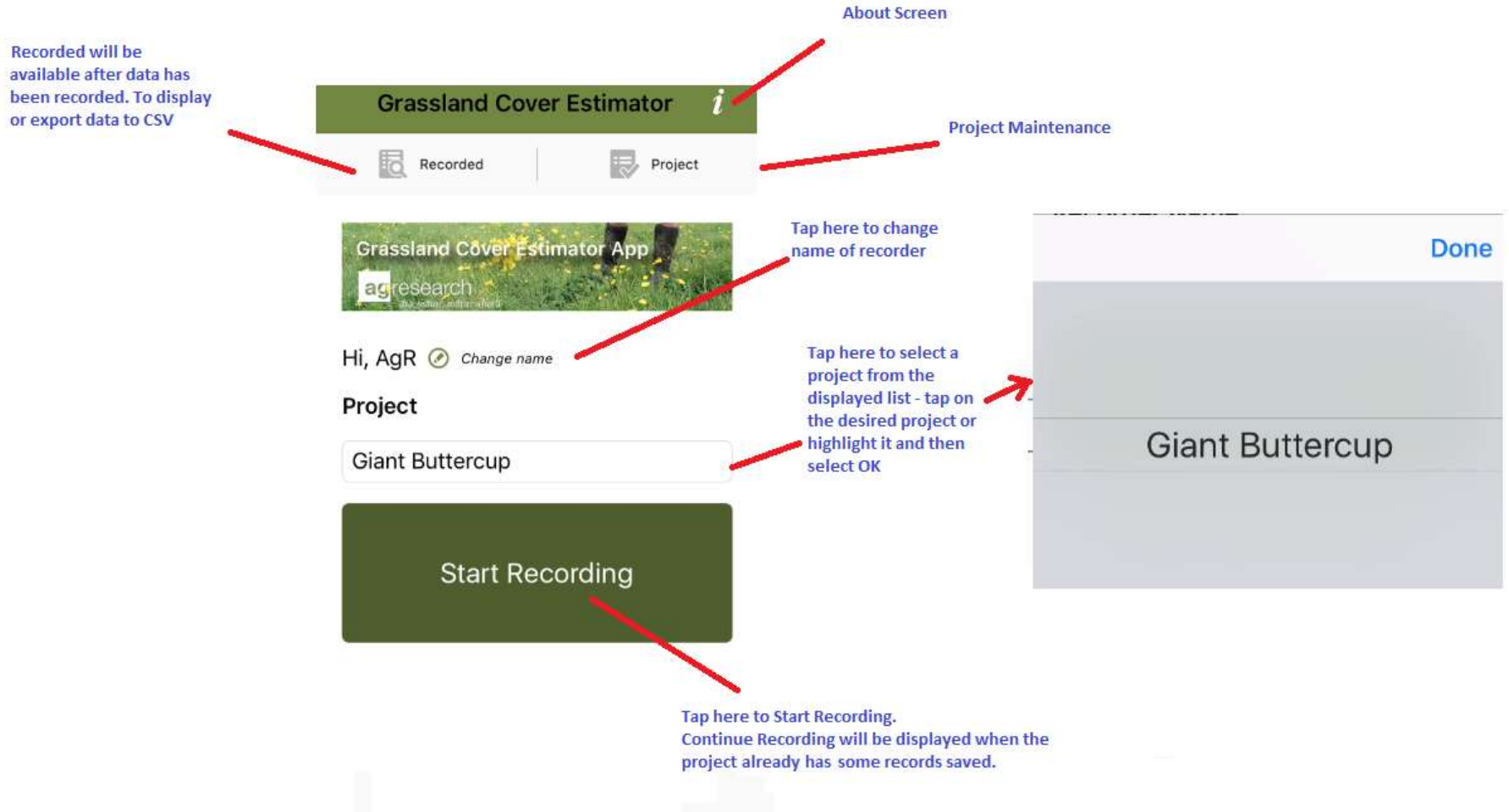

- User needs to enter their name (can be updated later):
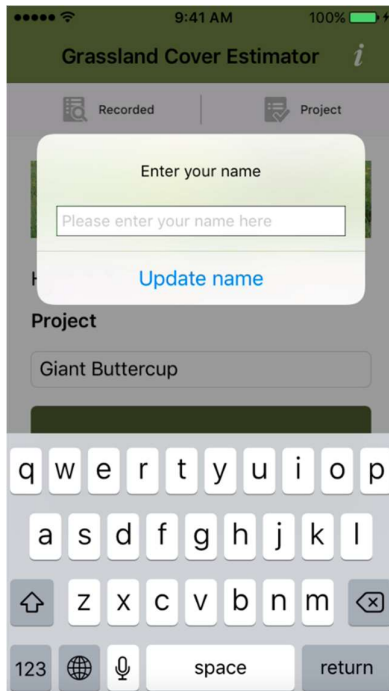
Main Page

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

About Screen

Recorded will be available after data has been recorded. To display or export data to CSV

Grassland Cover Estimator *i*

Recorded | Project

Project Maintenance

Grassland Cover Estimator App

agresearch

Tap here to change name of recorder

Hi, AgR ⊘ Change name

Project

Giant Buttercup

Tap here to select a project from the displayed list - tap on the desired project or highlight it and then select OK

Done

Giant Buttercup

Start Recording

Tap here to Start Recording. Continue Recording will be displayed when the project already has some records saved.

About Page

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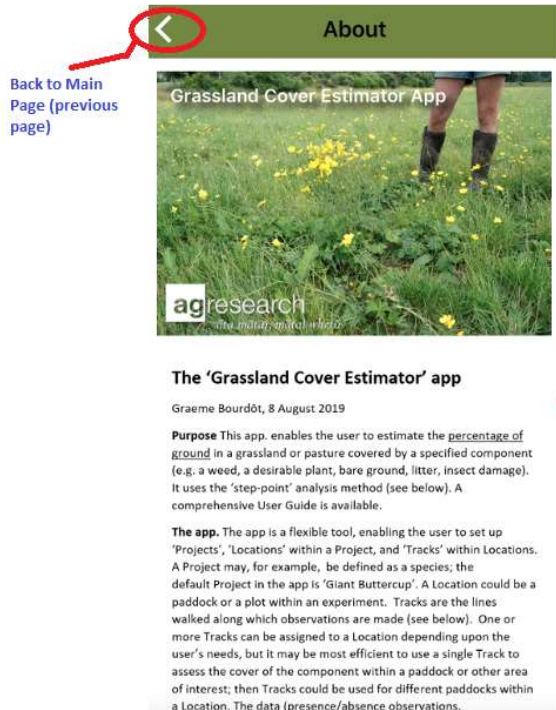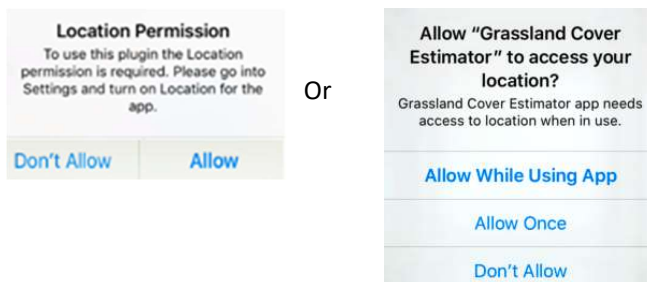

Recording Data

- Tap Start Recording after Project has been selected:

Allow Permissions

- 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:

o   The app will notify user that the Location permission is required. It will ask user to choose the following:
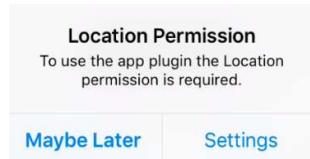
o   If **Maybe Later** were chosen, the app will ask for permission again when the user comes back to the Recording Data page or when Location icon has been turned on. It will keep doing that until While Using the App is chosen. (Users need to do a manual setting, see next step)

o   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:
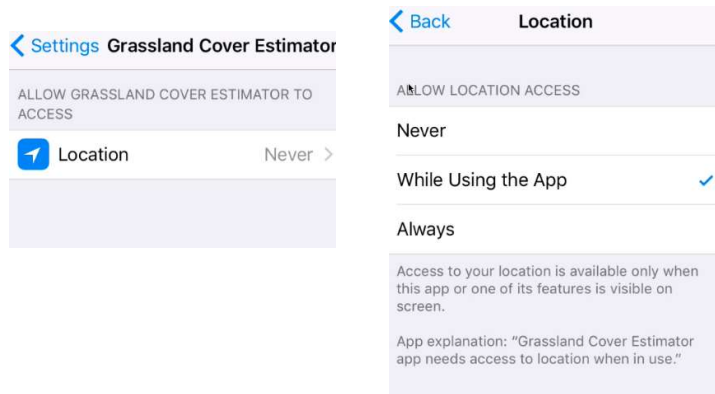
o   Users can still give permission manually to the app from Settings outside the app as example above.

o   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:

Grassland Cover Estimator App User Guide - iOS

Recording Page

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

Icon Status

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

Track Map

Project Name : Giant Buttercup

Number of Recorded : 2		
Total No	Total Yes	Total Coverage
1	1	50%
Track No	Track Yes	Track Coverage
1	1	50%

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:

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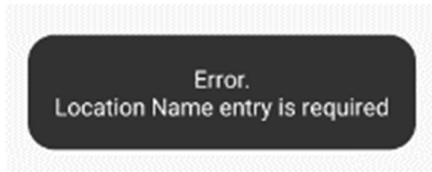
- Track Number # is a whole number greater than 0. The following alert message will be displayed at bottom of screen otherwise:
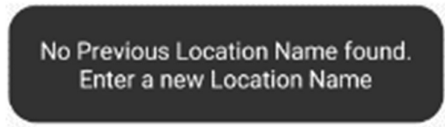
Error.
Track Number entry > 0 is required

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.

Done

I Block
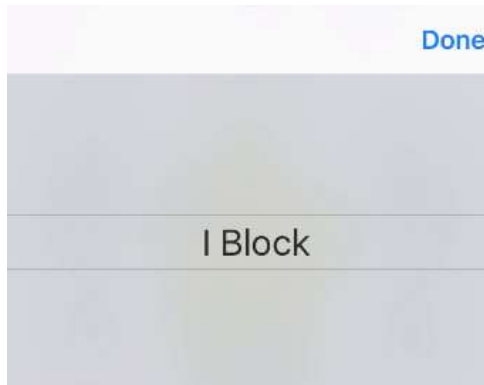
If no data, then the following will be displayed:

No Previous Location Name found.
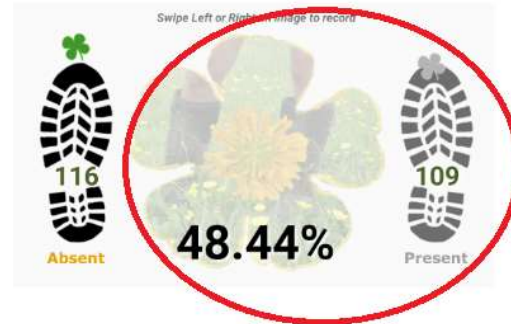Enter a new Location Name

- 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:
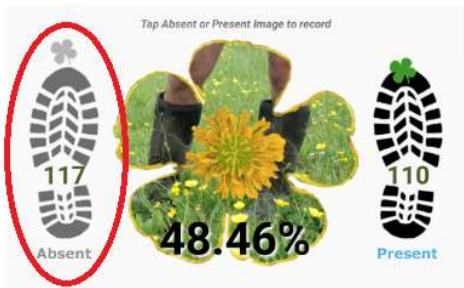

Swipe Left

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
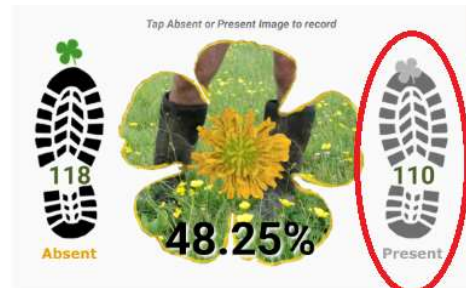
Tap Right

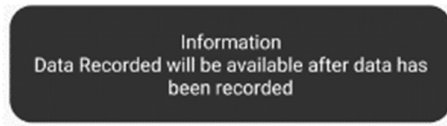**Right Boot changed to grey**

Export Data

Export Data Page Access

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

Information
Data Recorded will be available after data has
been recorded

Data Recorded Page

Information on Project Record that can be exported

Export Data to CSV

List of record(s) that have been Exported to CSV

Sort Observed Ascending/Descending Group by project & location

Sort Record Date Ascending/Descending Group by project & location

Group Header gives Project, Location Name, Track # and Coverage Percentage Area

Date Time Recorded

Show/Hide Project Header

To Save and Exit if Observe has been switched, i.e. On to Off or Off to On

To Edit Absent/Present only Select and Tap a record

Cancel/Back to previous screen

Absent/Present

Observer Name

To Delete, Swipe Left on selected record

To Cancel, Swipe Right on Selected Record or any other screen

Tap Delete to remove selected record

Switch to change Observe ON/OFF

Absent = OFF
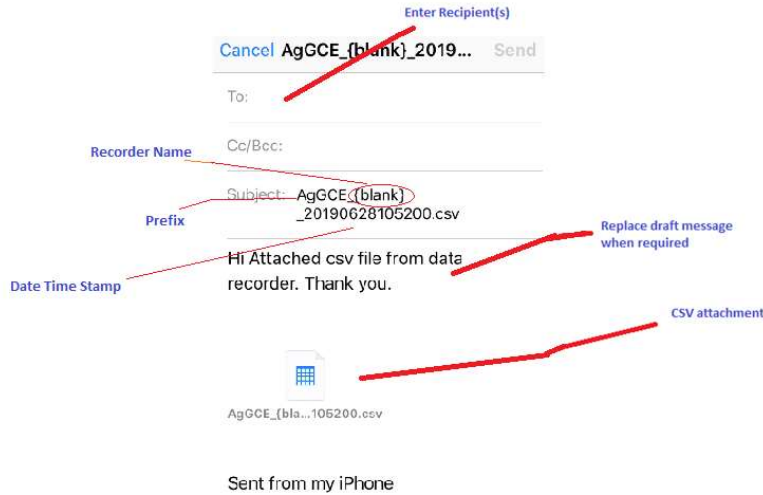Present = ON

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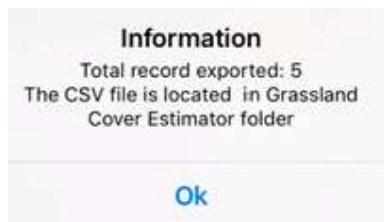
Email Mode

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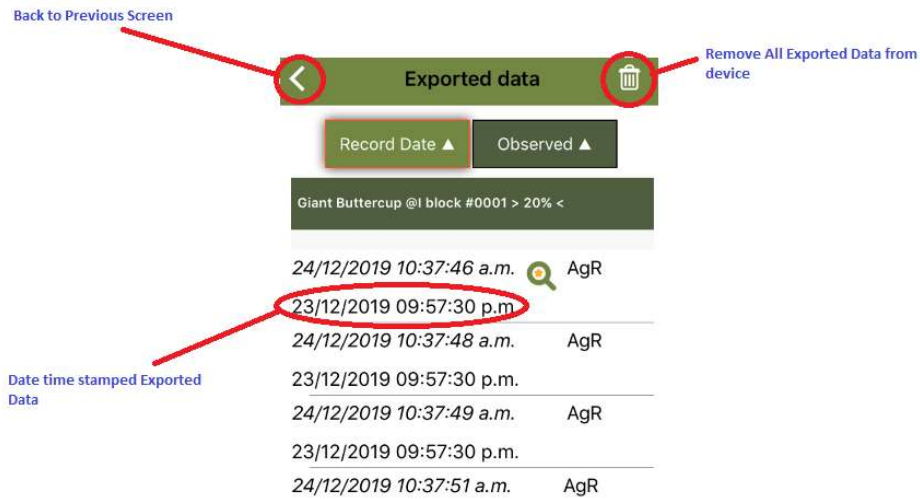
- Note:
    - When all exported data has been removed from the device, the Pick Location will not be available to pick on Recording Data page anymore. User will need to re-enter Location Name and Location Coordinate again.
    - Cover Estimate Calculation will not include data from Exported Data

Project

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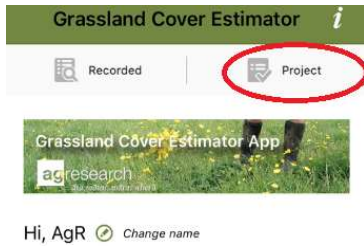

This default project can be deleted as long as no active record is attached to it.

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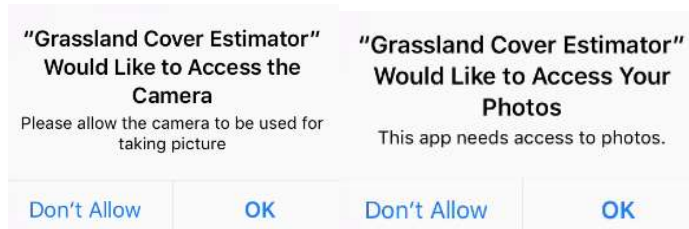
Project Page Access

- To access, tap *Project* on Main Page
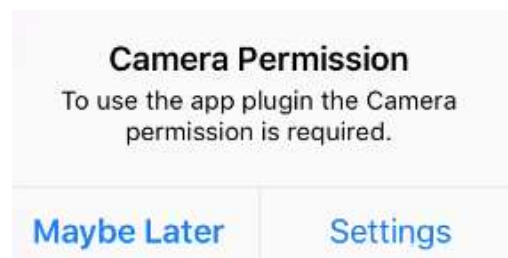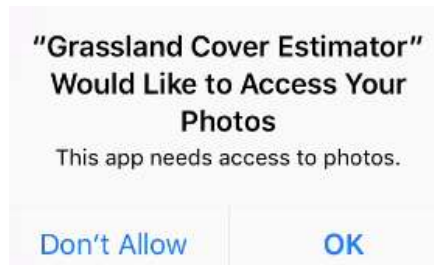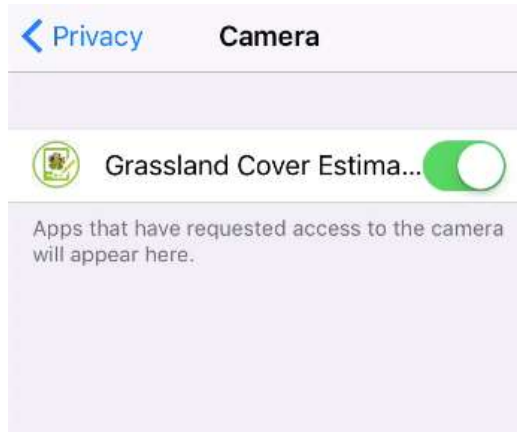

Allow Permissions

- 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:
  - o The app will notify user that the Storage/Camera permission is/are required. It will ask user to choose the following:

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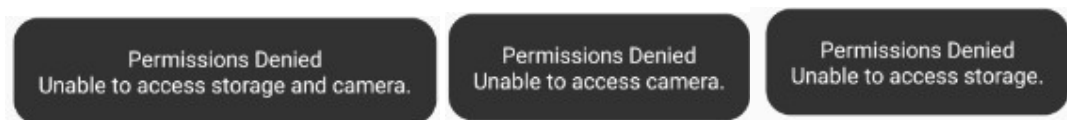
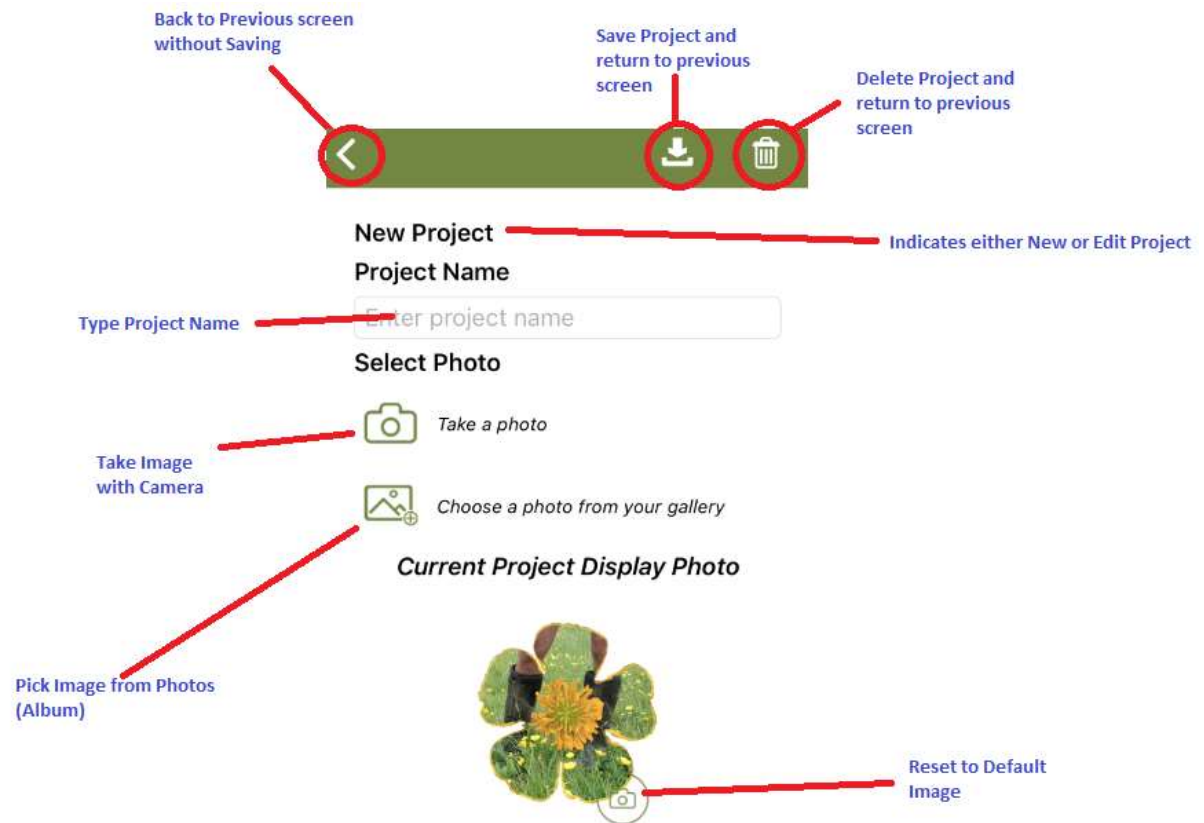*Project List Page*
- After tapping Project on secondary menu, Project List Page will be displayed:

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 <u>Photos</u>
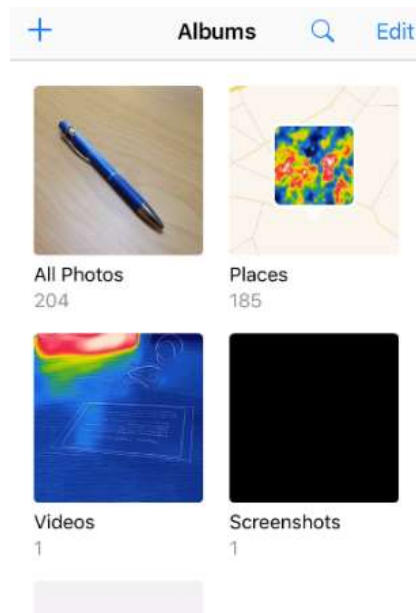
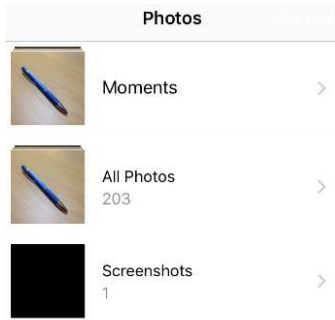*Select Image from Photos/Album*

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

- 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:
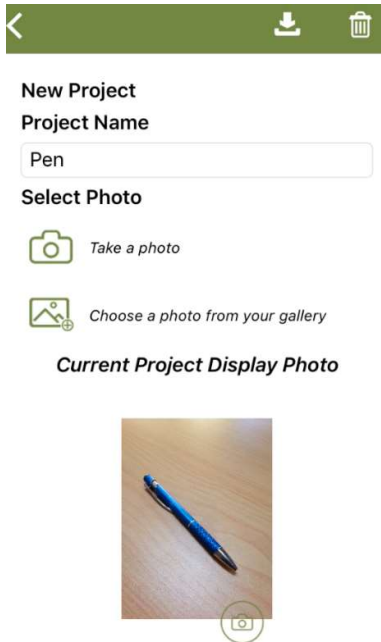
- Tap Save icon to save this new project.

- 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:

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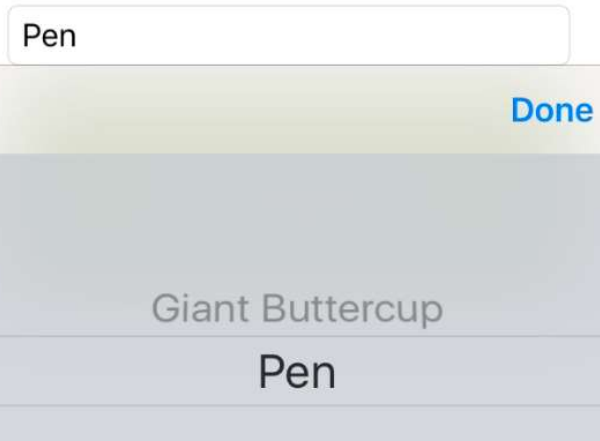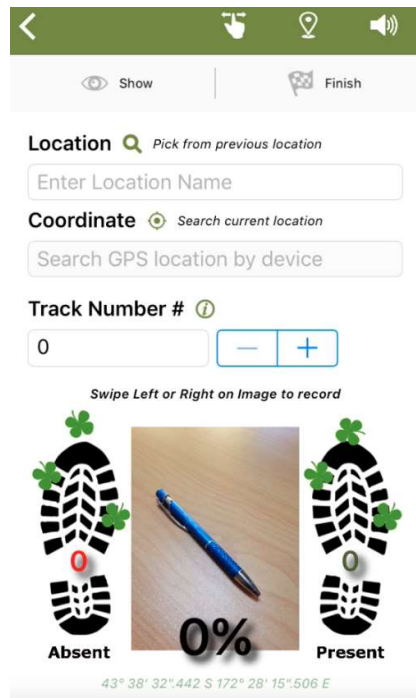

- **Note**: if Project Image not selected or assigned, default image will be used.

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

T&DS Solutions Team, 2020

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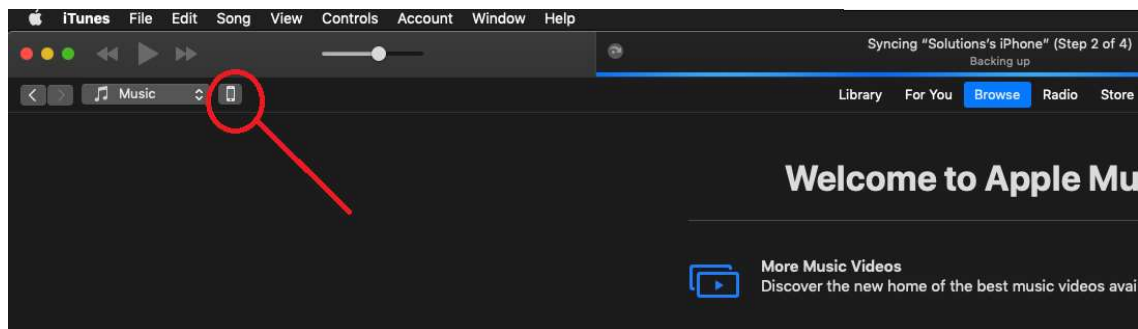
If you don't see your device name listed, make sure it is plugged in properly. Try disconnecting the USB cable from both your device and the computer, and then plugging it in again.

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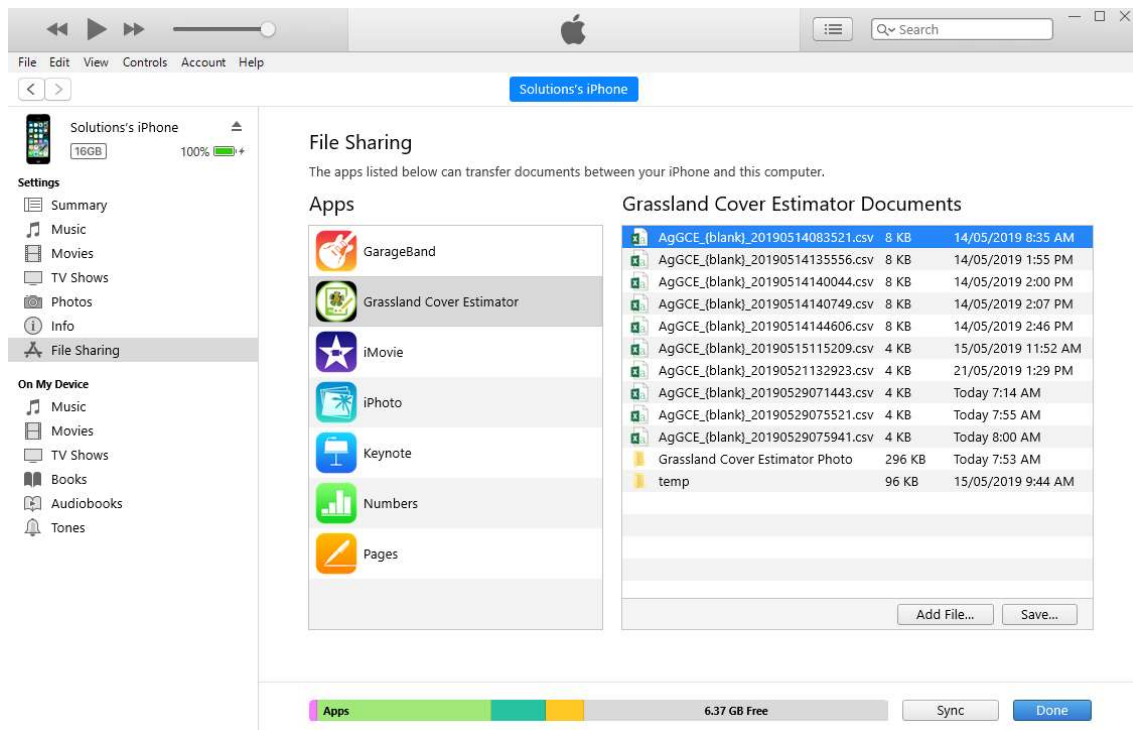
If you don't see your files listed, make sure it is plugged in properly. Try disconnecting the USB cable from both your device and the computer, plugging it in again and follow Step 2. Reboot/Restart your iPhone could also help.


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).
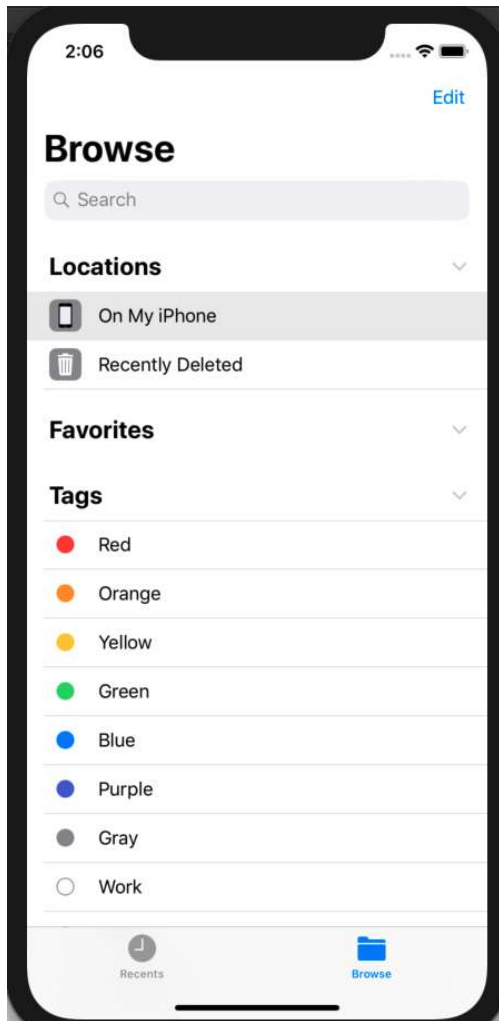
Appendix B

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).

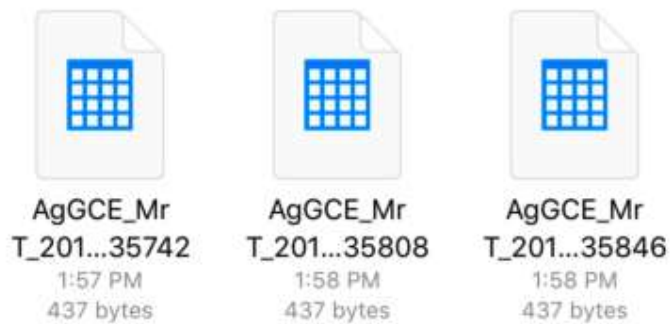Tap the following to launch Files app
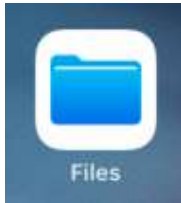
Choose Option Browse (tap icon Browse button) the following will be displayed:

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

Grassland
Cover...imator
4 items

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

AgGCE_Mr	AgGCE_Mr	AgGCE_Mr
T_201...35742	T_201...35808	T_201...35846
1:57 PM	1:58 PM	1:58 PM
437 bytes	437 bytes	437 bytes

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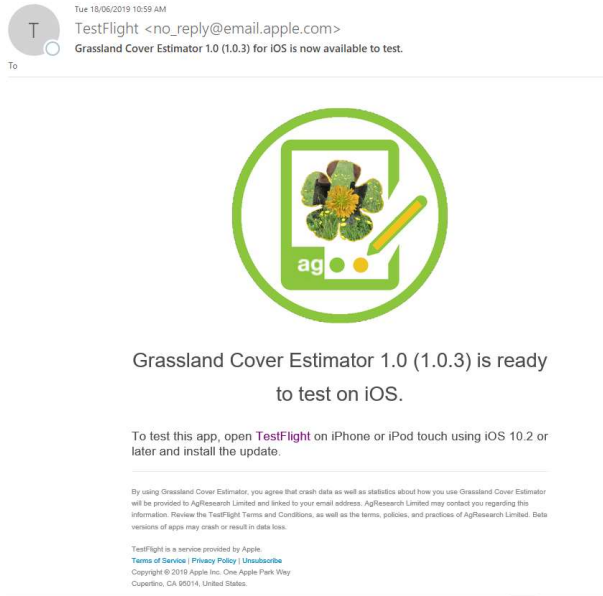
- Click on TestFlight link on email to accept the invitation, the following will be displayed on your browser. When you accept the invitation you will receive a redeem code as well.
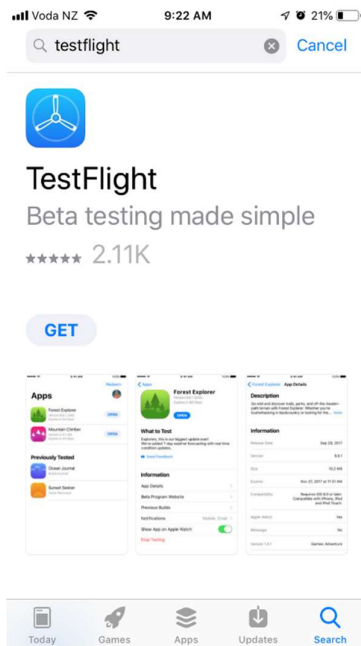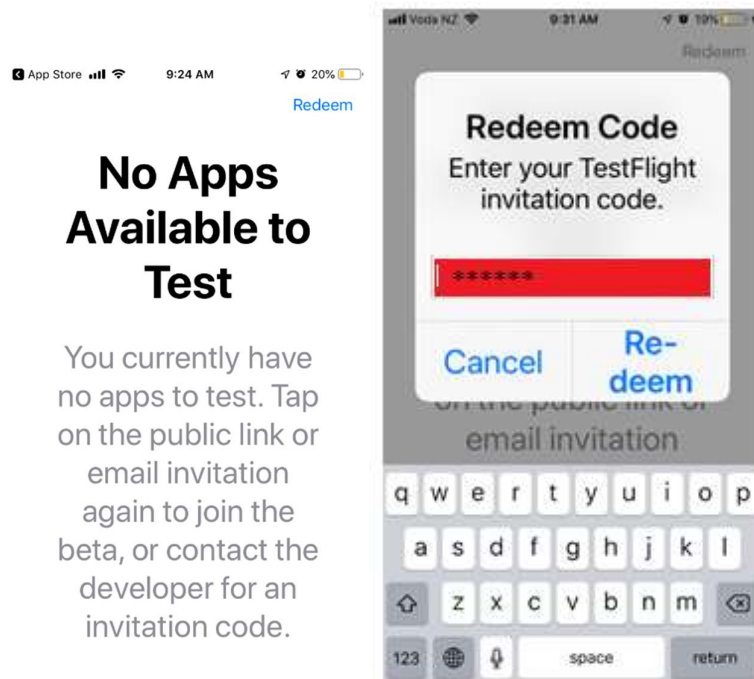
- Install TestFlight from AppStore:

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

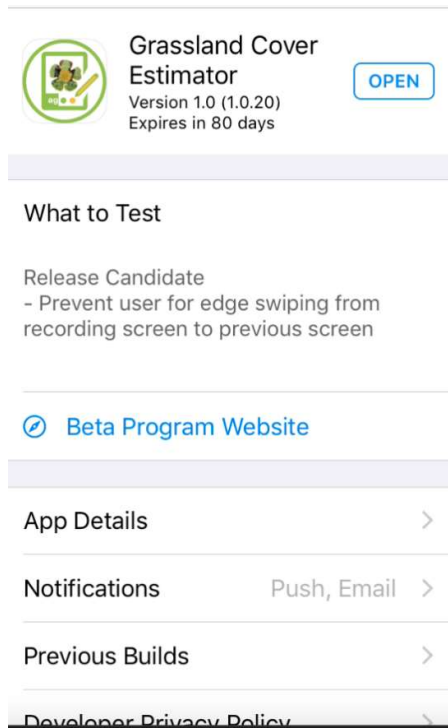- Tap TestFlight and redeem your app by entering your code:

- 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: