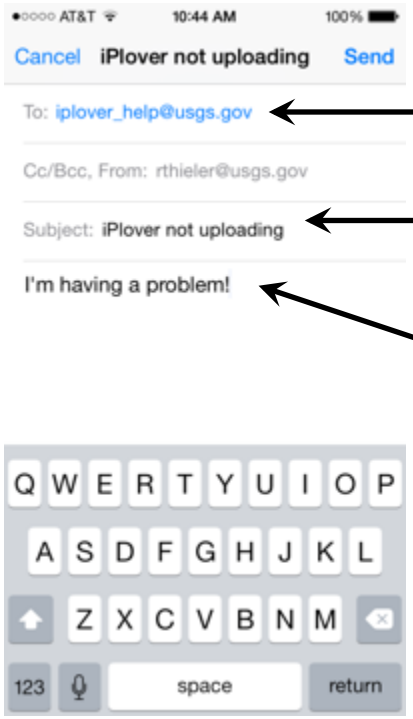
iPlover Data Collection

Project Lead

Rob Thieler
U.S. Geological Survey
Woods Hole, MA

Getting Help

Email



iplover_help@usgs.gov

put iPlover in subject

Describe problem, or ask for a phone call. Provide contact info.

Email to **iplover_help** goes to 9 people on the team. We'll get back to you!

Telephone

Sara Zeigler (USGS), 540-750-3879 (cell)
- technical support questions, field description questions
- 9a-5p ET, M-F

Rob Thieler (USGS), 508-922-7108 (cell)
- Any question or complaint
- Any time

Megan Hines (USGS), 608-821-3917 (office, Wisconsin)
- technical support questions
- 10a-6p ET, M-F

Sarah Karpanty (Va Tech), 540-557-7432 (cell)
- science, field description questions
- call "anytime"

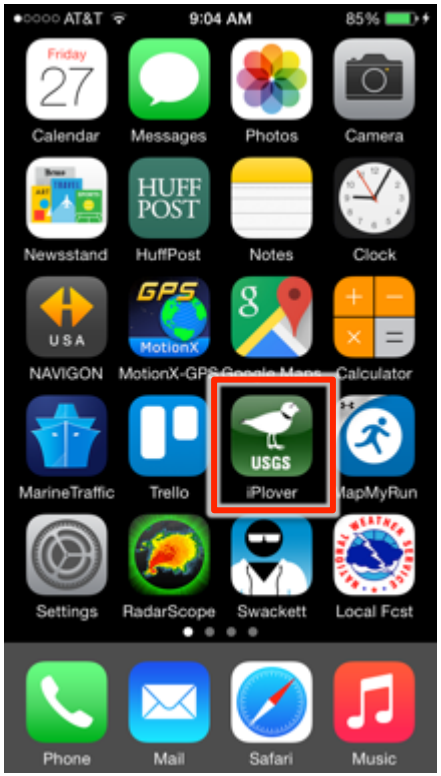
Anne Hecht (FWS), anne_hecht@fws.gov
- or call 413-575-4031
- leave call-back number
- how to maximize the value of iPlover data collection while minimizing adverse effects on plover breeding activity

Suggested Workflow

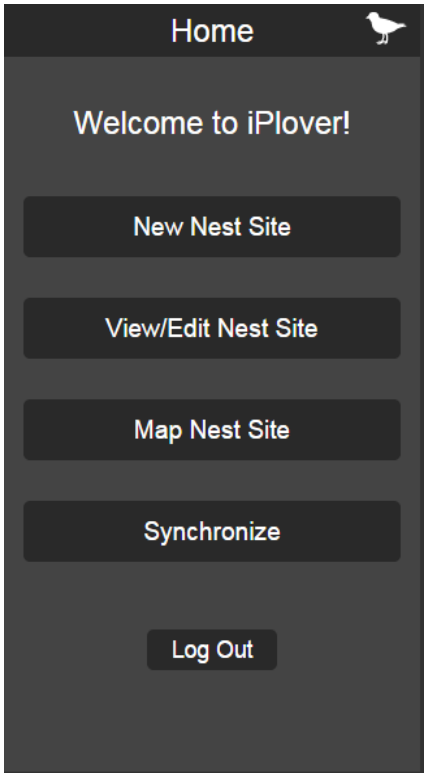
1. Open iPlover application
2. Approach nest and establish your position
3. Tap **New Nest Site**
4. Get a good GPS fix – tap **Lock Location** if good accuracy
5. Move to 5 m from nest and take picture
6. Move away from nest to complete Site ID and other data fields

Using iPlover

After finding a nest….

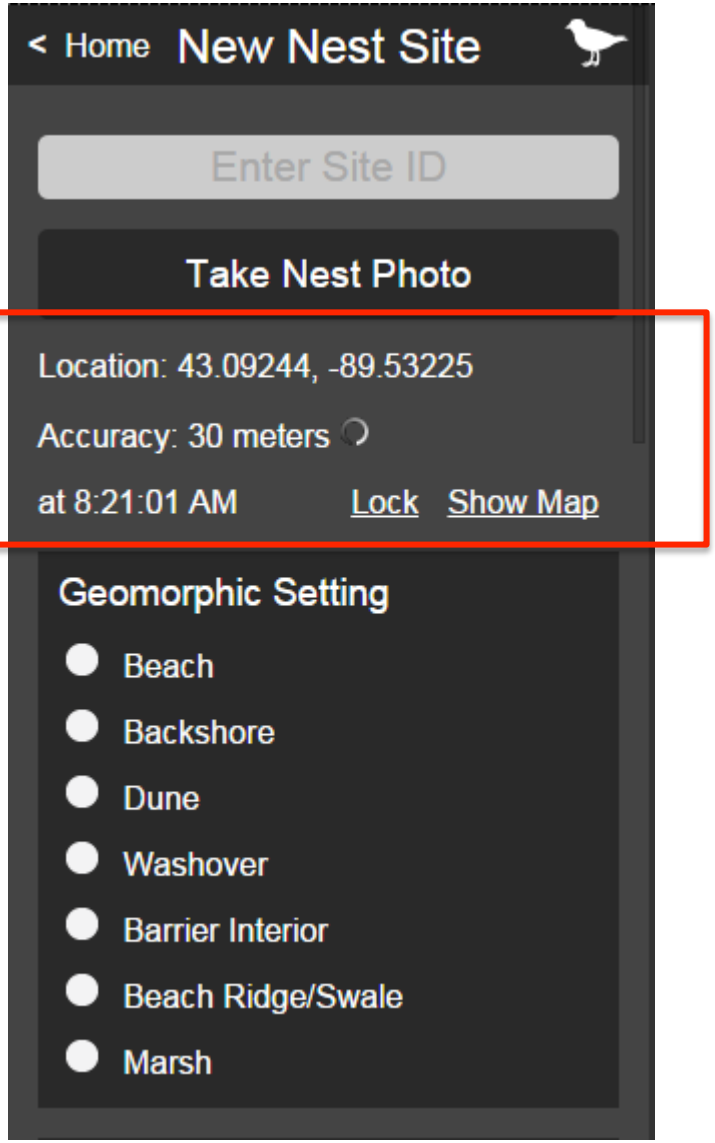


Tap iPlover home screen icon to start app



Tap **New Nest Site** to add data specific to this nest

Site Information – Location



- Stand 1-2 m from nest
- iPlover will automatically start computing location using phone's internal GPS for 60 second
  - Accuracy should improve with time

- If accuracy immediately < 5m, tap **Lock Location** to save current GPS fix

- If accuracy poor (> 15-20 m), the GPS will stop automatically after 60 seconds. If accuracy still poor, tap **Refresh** to start another 60 second attempt.
- If accuracy improves, tap **Lock Location**
- If it does not improve, move on

** After location is locked, can move away from the nest to complete rest of data entry

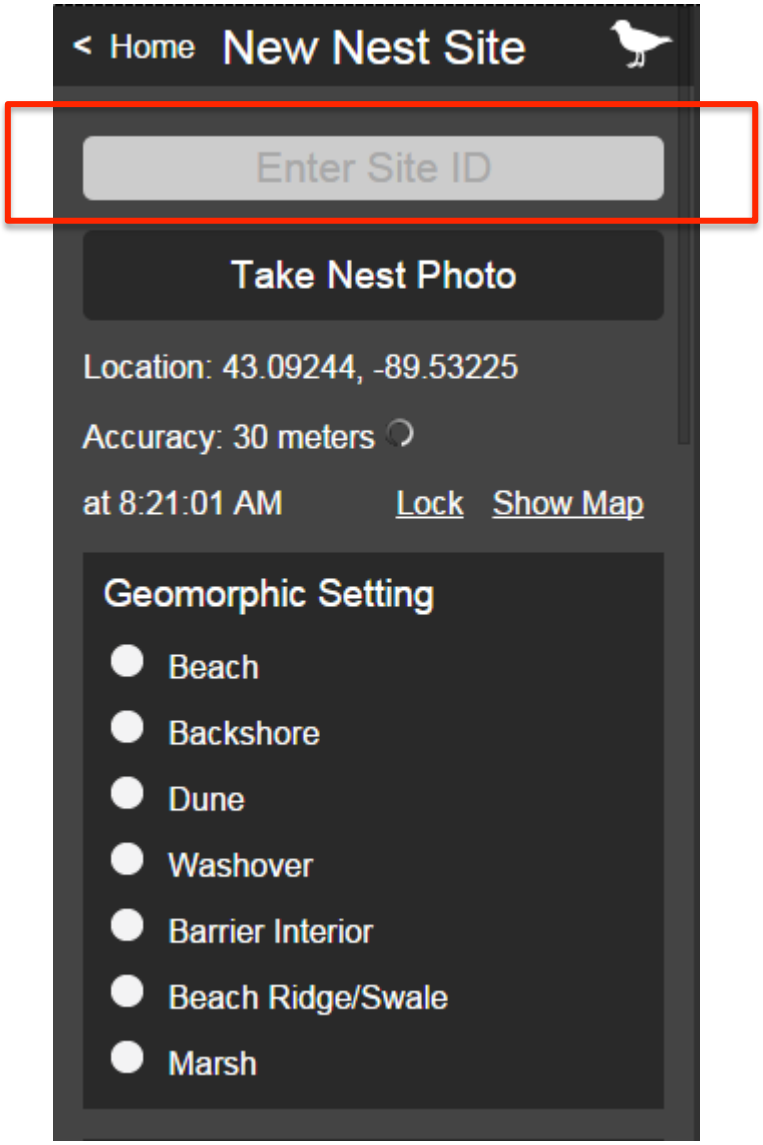
Site Information - Location

- When obtaining point location, stand 1-2 m away from the point
  - For nests - minimizes disturbance
  - For random points – for consistency

No

Yes

Site Information – Site ID

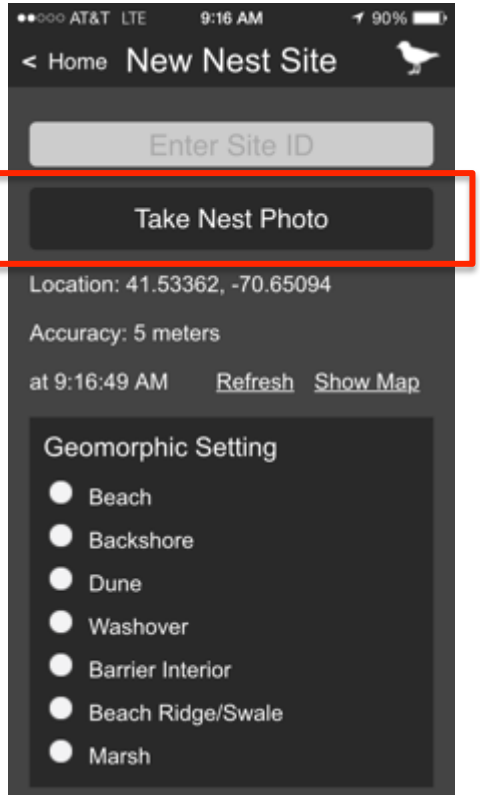


Enter a site ID:

- For Nests: enter name that is **based on your site's typical nest naming conventions** – be consistent
- For Random Points: enter the name associated with point in the original random point file we sent to you

Site Information – Photo

To take photo of nest or random point, first **stand 5 m from the point**; **do not zoom the lens**, **hold phone horizontally** then:



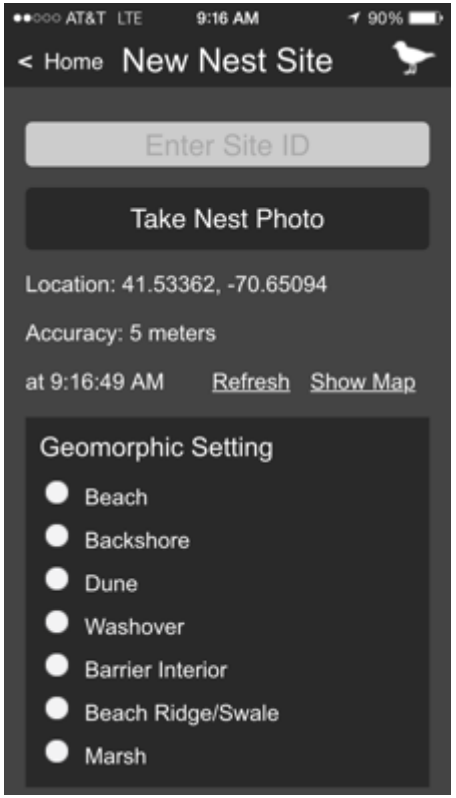
Tap **Take Nest Photo** to attach a photo to the site

Take picture, tap **Use Photo** (or **Retake** if you want a do-over)

Site Information – Photo – Android

When encountering a nest and using an Android device:

1. Take nest photograph before starting to enter the new record



2. When recording details in the new record, tap the 'Take Nest Photo' button and select the photo from your files that you previously took in step one

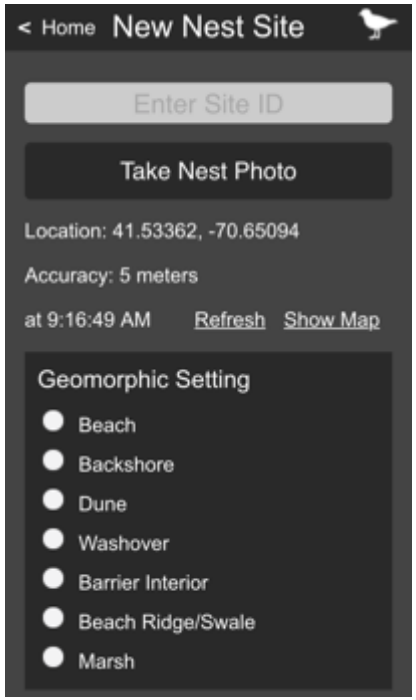
3. To select a different file, tap button that reads "Retake Nest Photo"

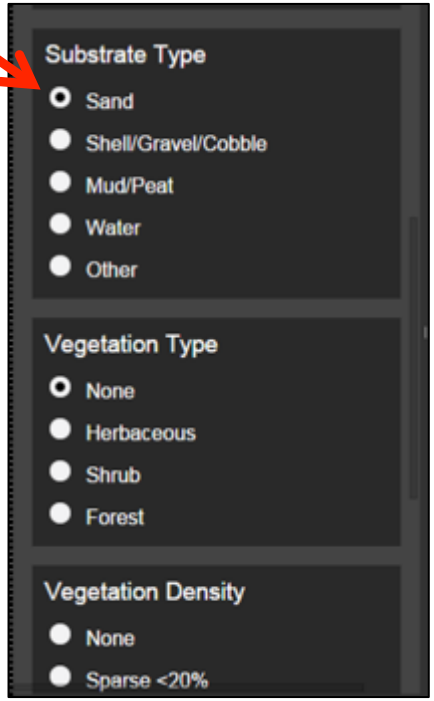
Android alternate workflow

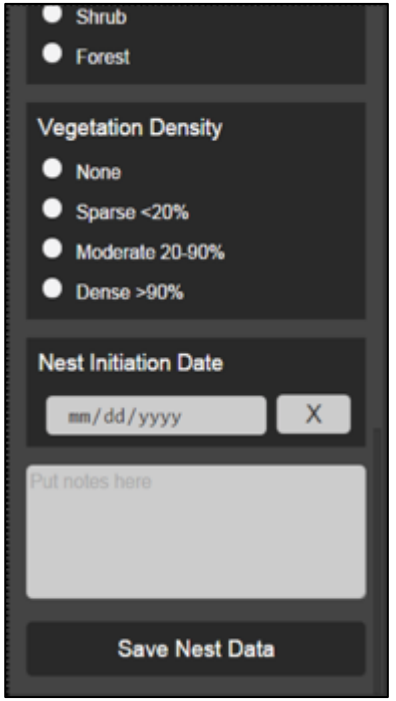
Site Information

For series of data fields:

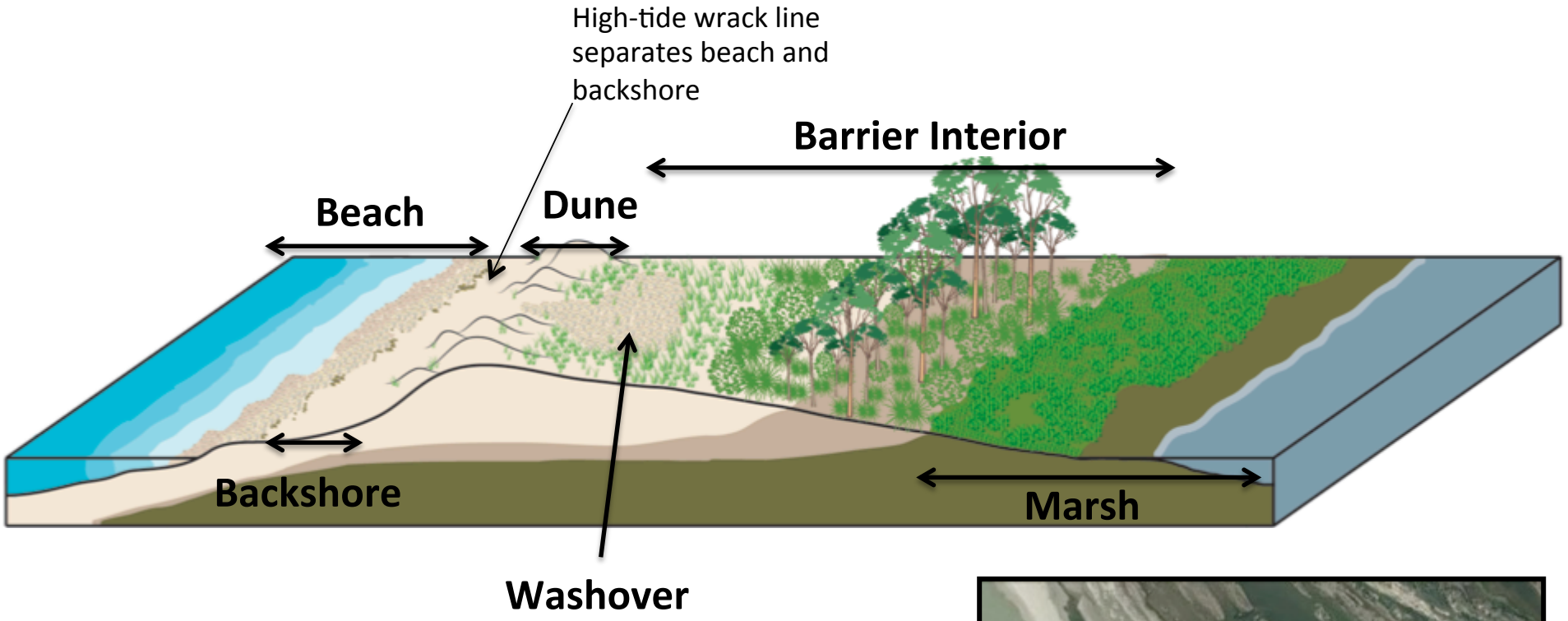
- Possible selections next to "radio buttons"
- Tap radio button to select option
- You can choose only 1 option for each field
- The selected button will darken

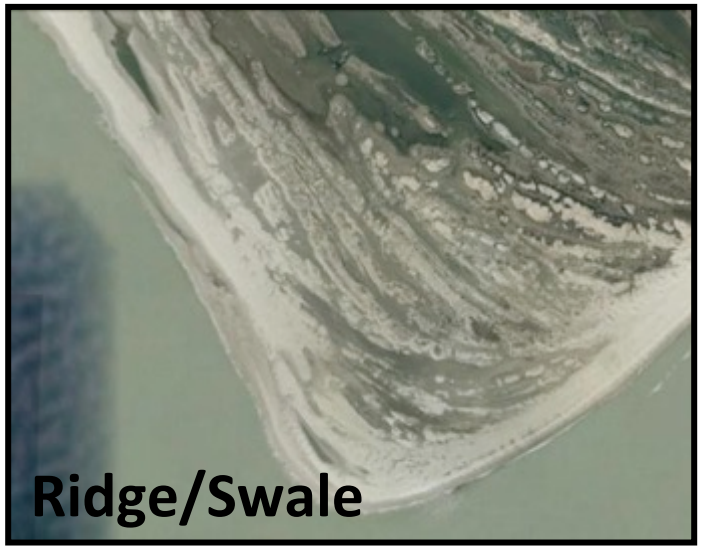




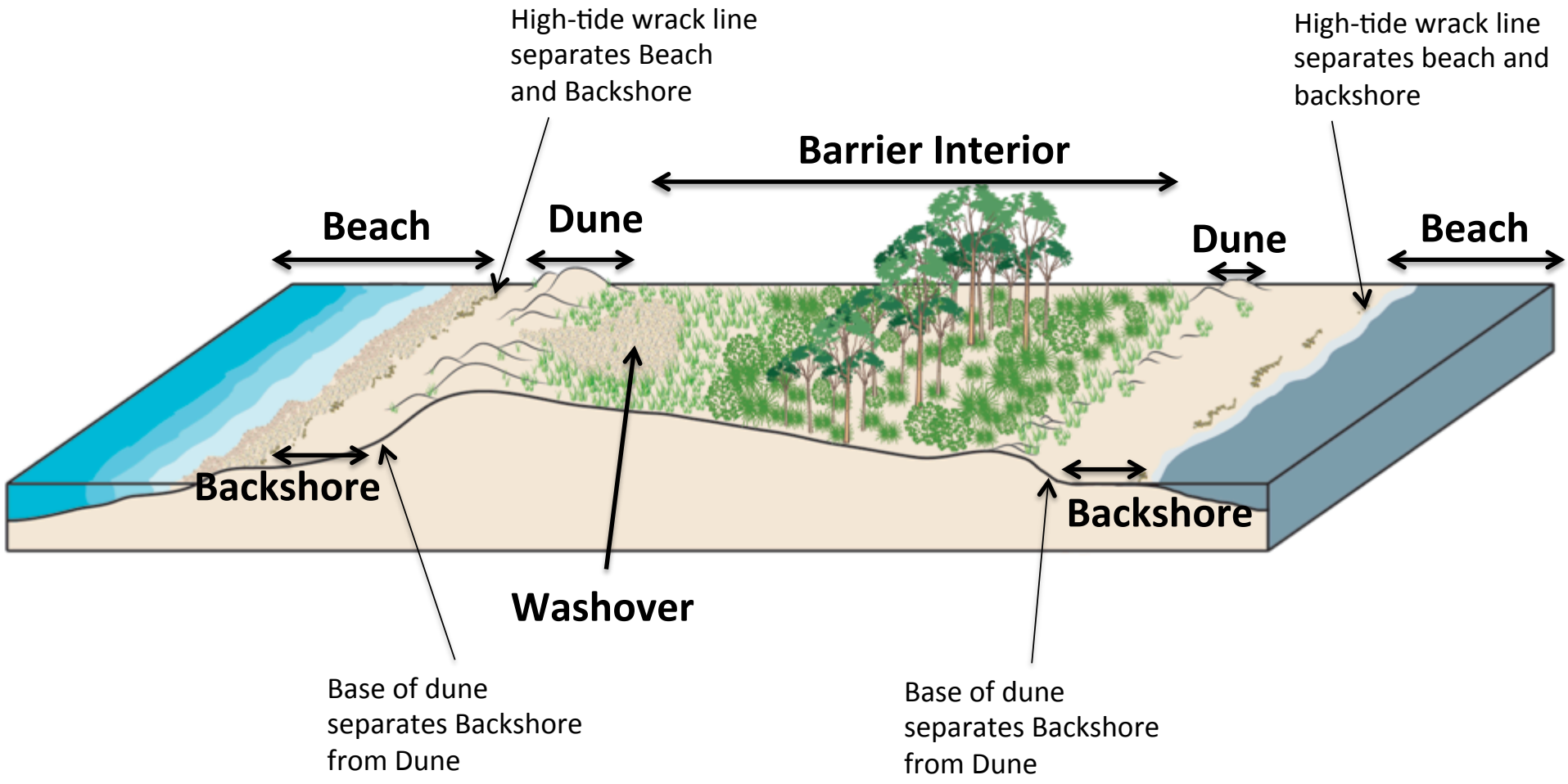


Geomorphic Setting (if back-barrier contains marsh)



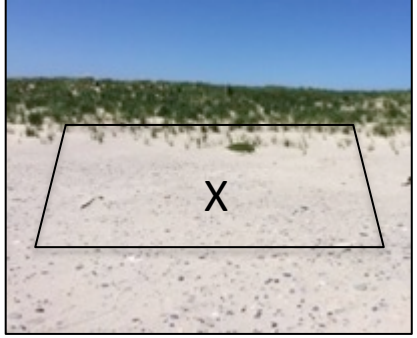


Geomorphic Setting (if back-barrier is mirror of front)



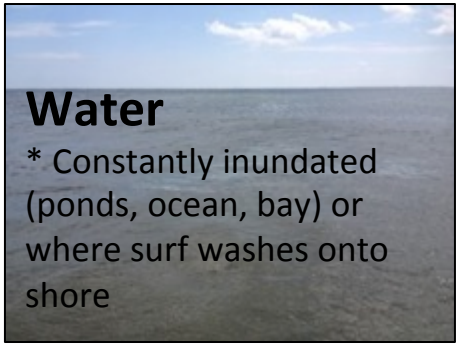
Substrate Type

* Characterize substrate type in 5x5 m area with nest/ random point at center



Sand

Predominantly sand, few shells or rocks (contains ~ <30% shells, gravel, rocks)



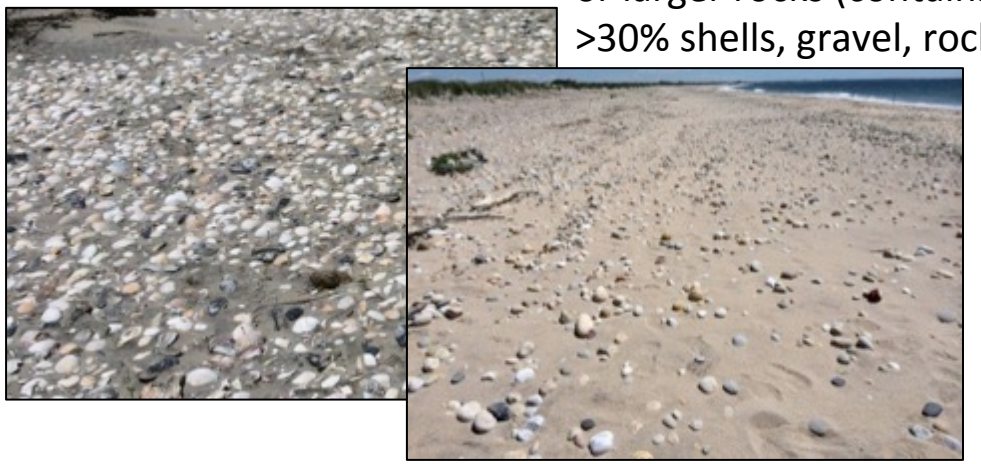
Water

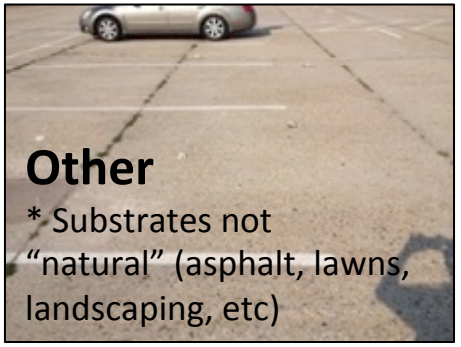
* Constantly inundated (ponds, ocean, bay) or where surf washes onto shore

Mud/Peat

Shell/Gravel/Cobble

Sand mixed with shells, gravel, or larger rocks (contains ~ >30% shells, gravel, rocks)



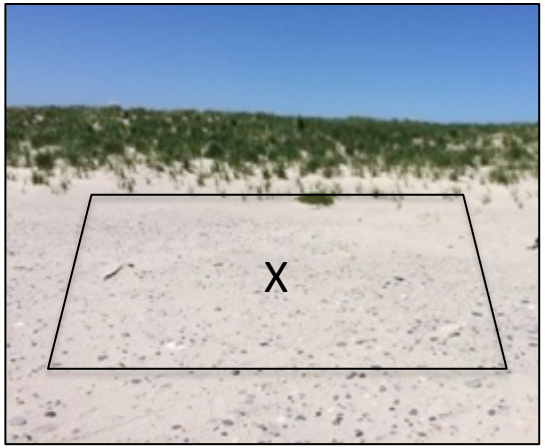


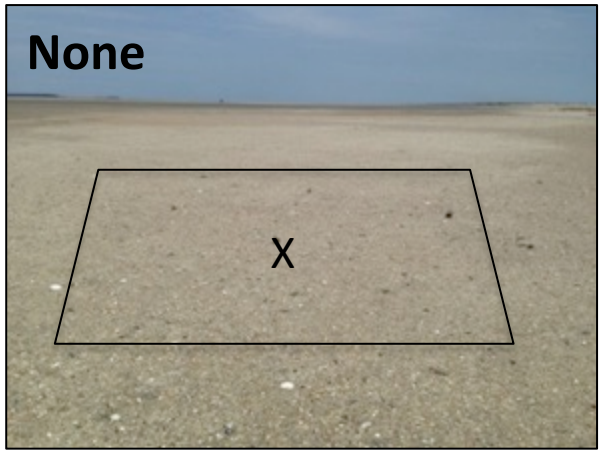
Other

* Substrates not “natural” (asphalt, lawns, landscaping, etc)

Vegetation Type

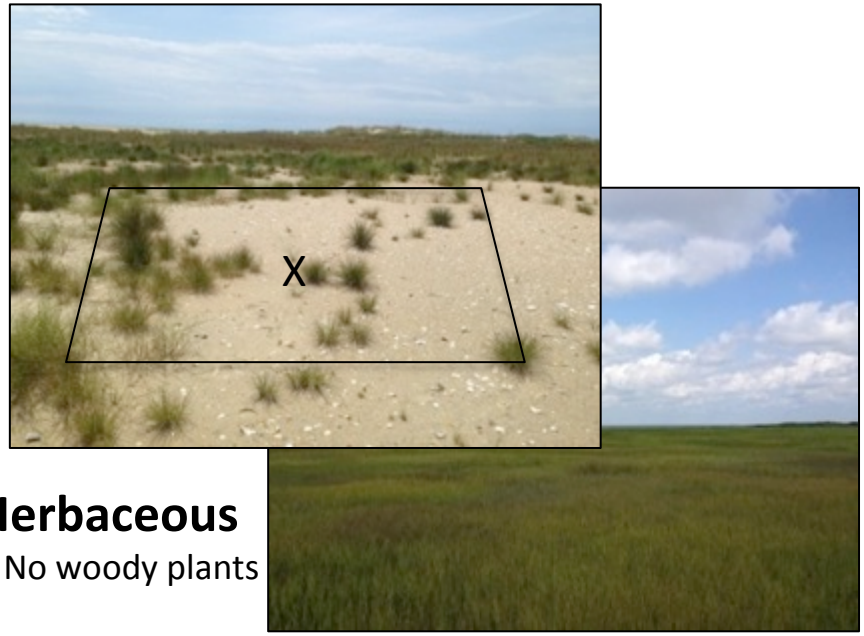
* Characterize veg type in 5x5 m area with nest/random point at center





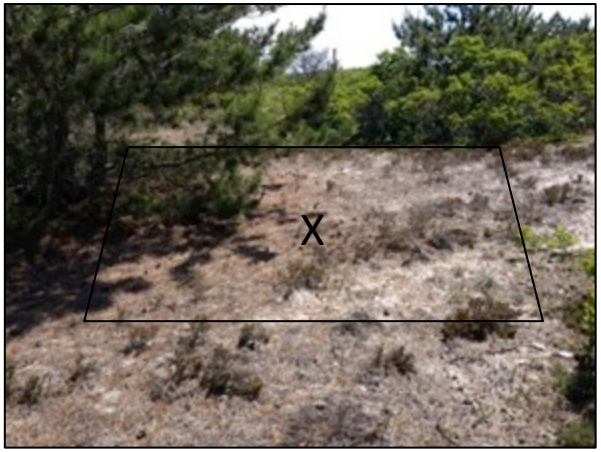
Shrub

* Contains woody plants but no trees



Herbaceous

* No woody plants

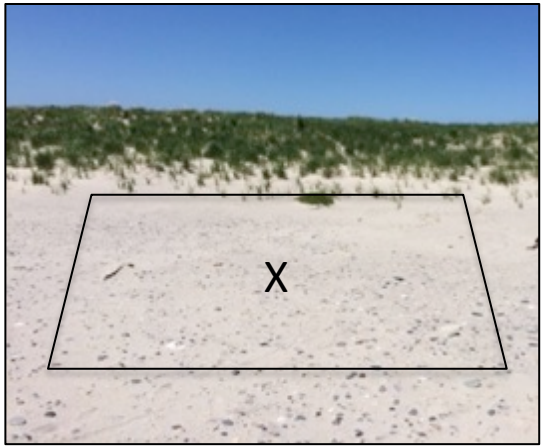


Forest

* Contains trees

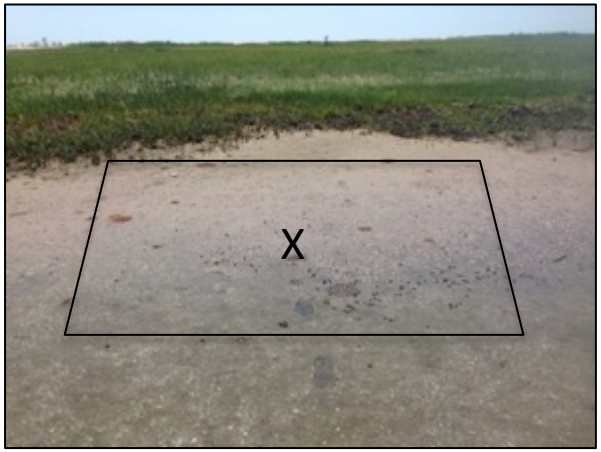
Vegetation Density

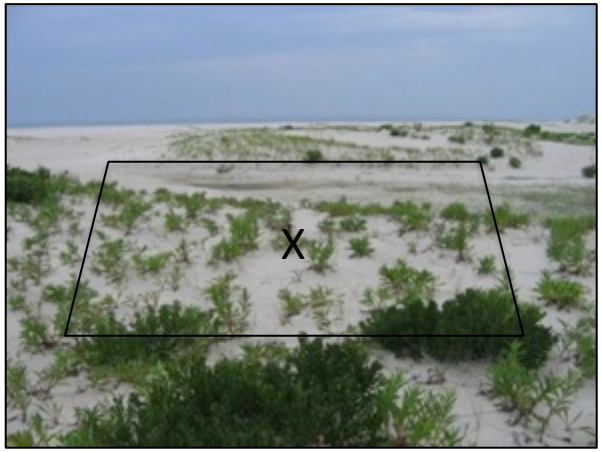
* Characterize veg density in 5x5 m area with nest/random point at center



None

* No vegetation



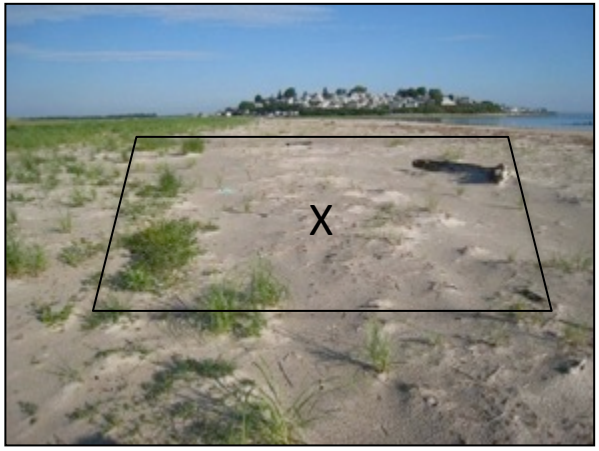


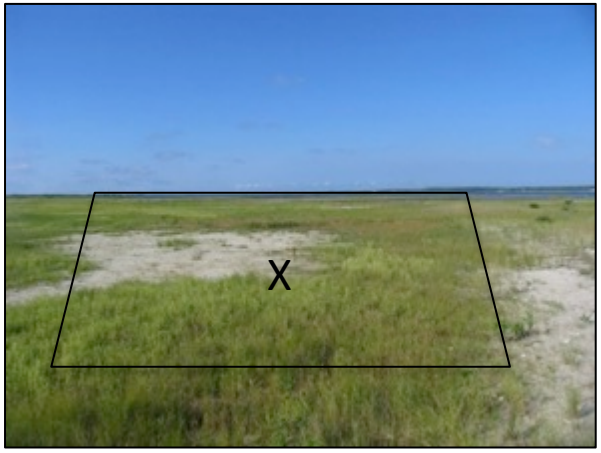
Moderate

* 20-90% vegetation cover

Sparse

* 1-20% vegetation cover





Dense

* > 90% vegetation cover

Things to Remember!

1. Sand = predominantly sand (~ < 30% of 5x5m area contains shells, gravel, or cobble)
   vs.
   Shell/Gravel/Cobble = mix of sand and shells, stones and/or rocks
   (~ > 30% of 5x5m area contains shells, gravel, or cobble)

2. Beach = area from water up to obvious high tide wrack line
   vs.
   Backshore = area from high tide wrack line to base of dunes

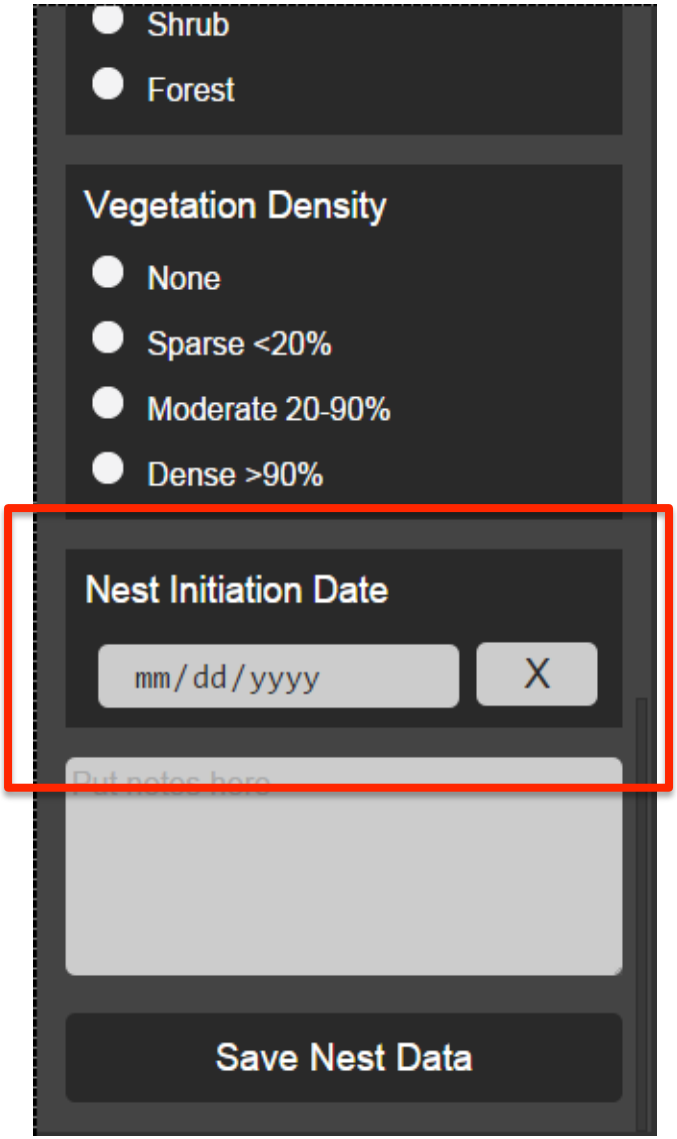
3. Get GPS fix while standing 1-2 m from nest BUT take photo standing ~ 5 m from nest (while holding the phone horizontally)


GPS


Photo

Site Information – Nest Initiation

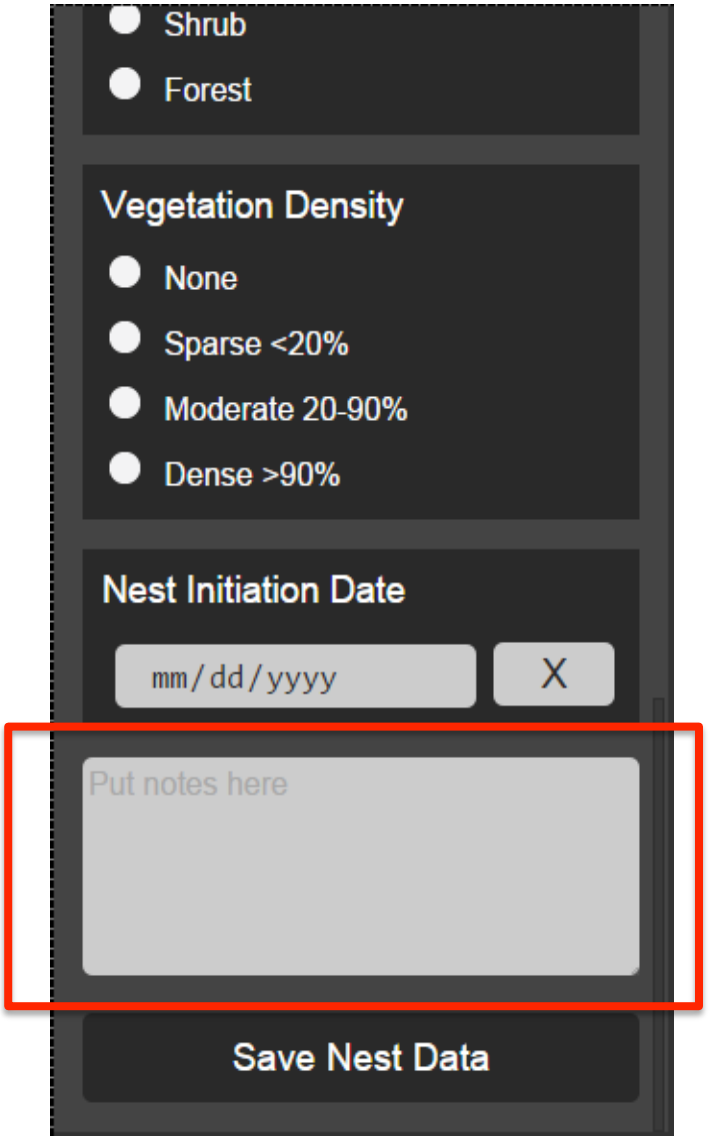
- In this field, enter estimated date for nest initiation
- If this date unknown or not applicable, leave this field blank
- If date is entered erroneously, tap the **X** to clear



Site Information – Notes

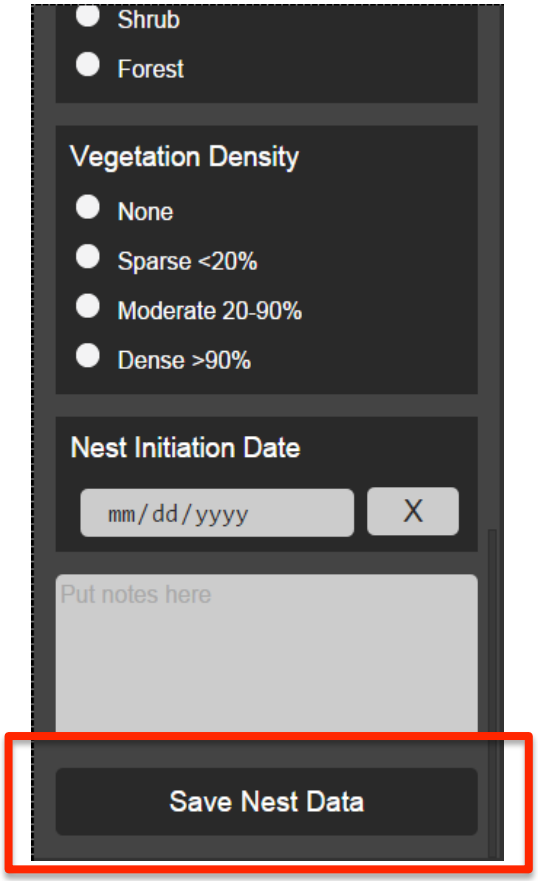
- This is a free text entry field
- Tap in the white area to bring up keyboard
- Add any supplemental information you think is important
  - Nest status (active, failed, fledged)
  - Exclosed
  - Uncertainty in observations (e.g., “This site has ~20% vegetation and could be sparse or moderate density")

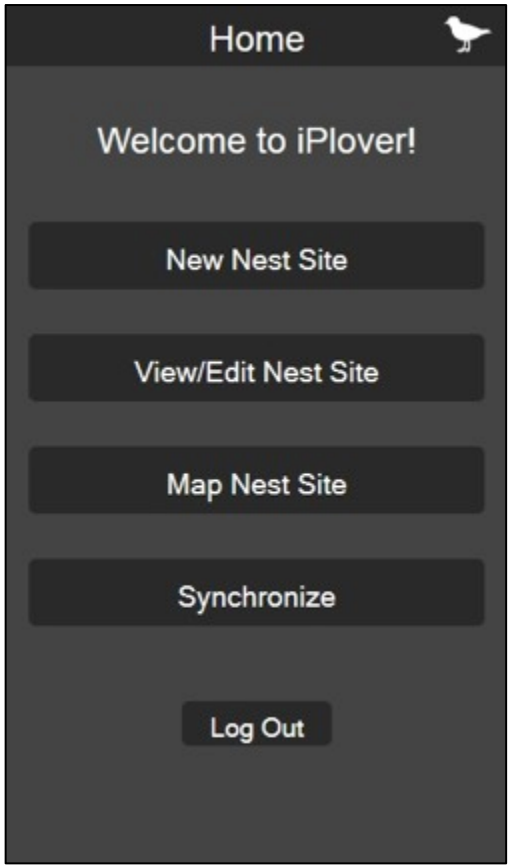
**Important: if you are collecting a re-nest, indicate “re-nest” in the notes field



Site Information – Save

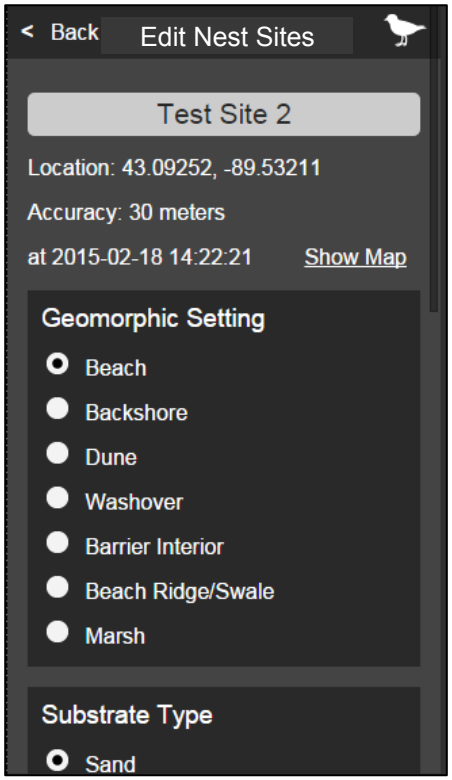
- After all data fields have been added or selected, tap **Save Nest Data**
  - Saves data locally on the iPhone
- The app checks to make sure you entered all required data
- Returns you to home screen

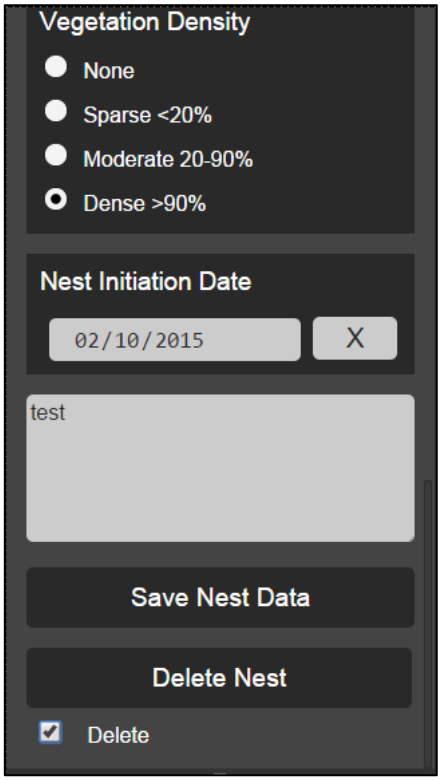




Additional iPlover Options - Editing

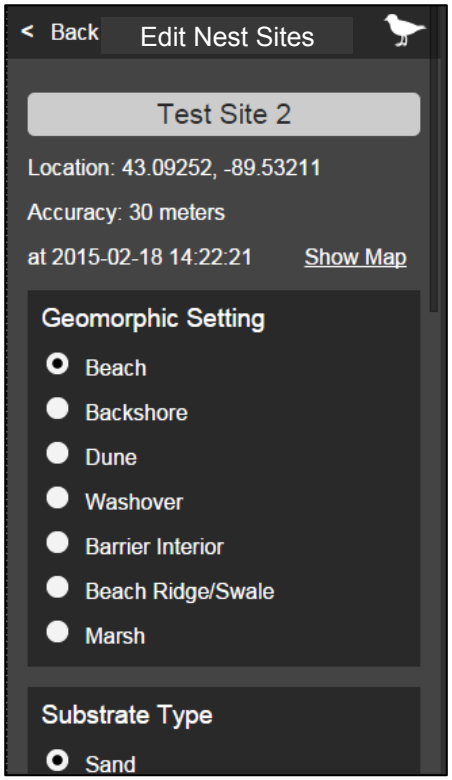
- After a nest or random point is “collected” (and even if already uploaded), it can be edited
- Go to Home Menu and tap **View/Edit Nest Si**te
- In the next screen, select the point you would like to edit
- You will then be taken to that point’s data collection screen where you can edit your previous selections or delete the point

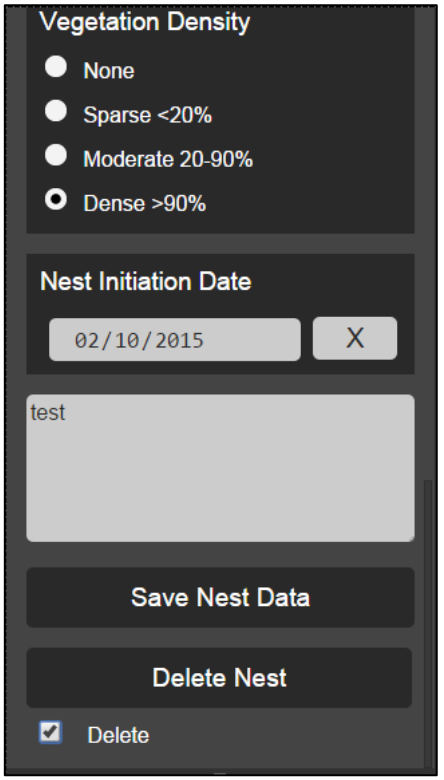




Additional iPlover Options - Editing

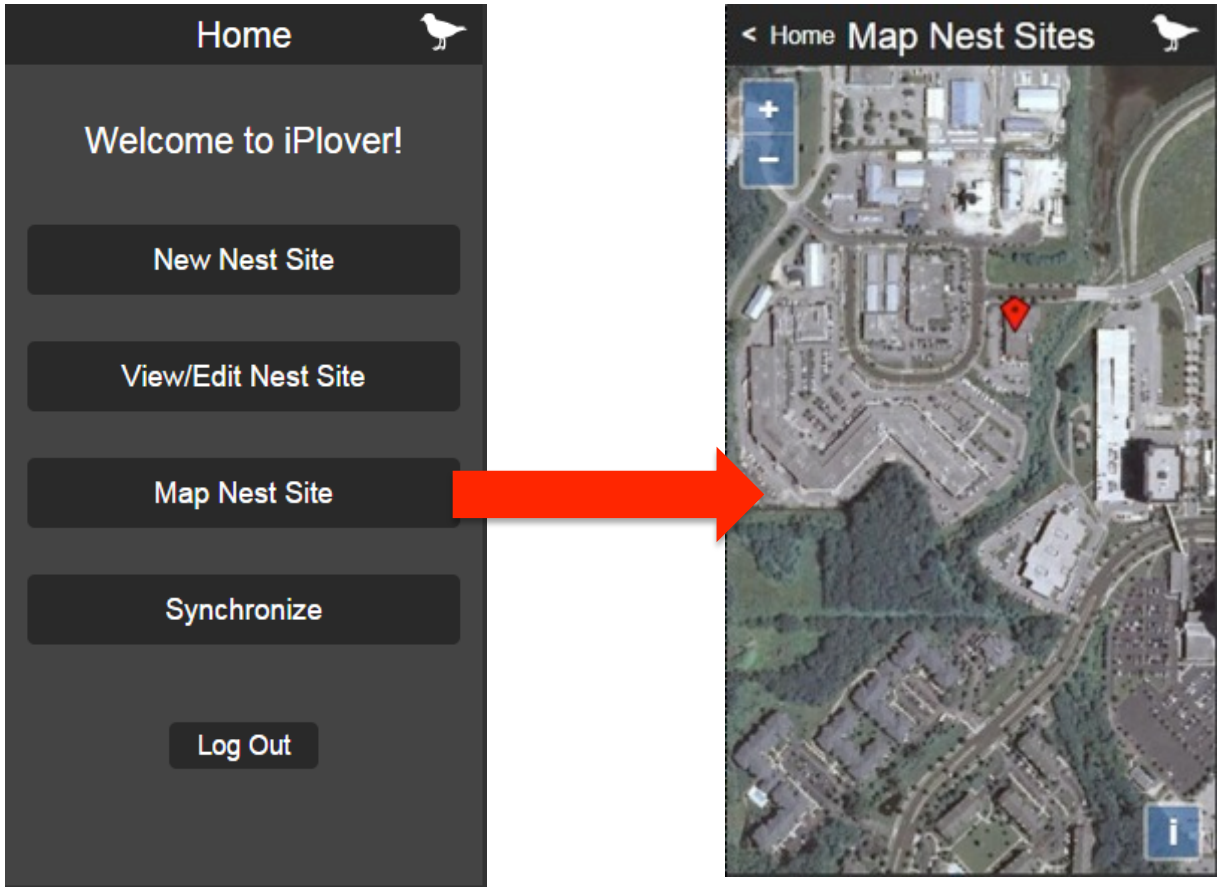
- Can be edited: Site IDs, site characteristics (anything with radio button), Nest Initiation Date, and Notes
- Cannot be edited: photos and GPS coordinates
  - If these things need to be edited, you must delete the record and start over





Additional iPlover Options

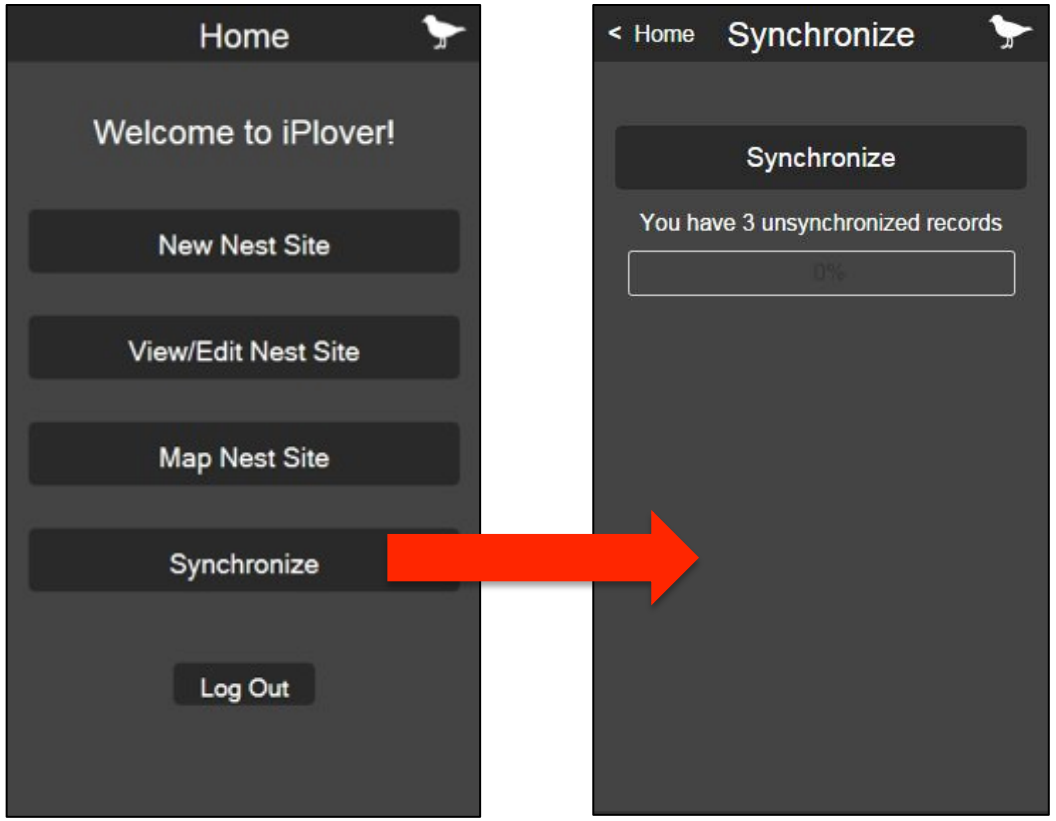
- On Main Menu, tap **Map Nest Site** to see a map of all previously collected nest and random points (both for your site and others)
- Can be used to prevent duplication of nest/random point collection



Upload Data to USGS

- When you have completed data collection for the day, go to the iPlover home screen and tap **Synchronize**
- In the next screen, tap **Synchronize** to upload all unsynchronized data onto the cloud, and download nest site data from other users in your group

- As data synchronize, the progress bar will expand
- When all records have been synchronized, a message will appear to let you know the process is complete.



Upload Data to USGS

Important considerations about synchronizing:

- Protect your data by synchronizing at the end of the day (or when on lunch break, etc.)
  - Unsynchronized data will be lost if something happens to your phone
- Data will take longer to upload when number of unsynchronized records large
- Data can be synchronized in field, but we recommend waiting until on a wireless connection to reduce phone data usage
- Only synchronized data can be “seen” by other users on your team
  - Prevent data collection duplication by synchronizing and checking what others have done
- Synchronized data can still be edited