



ISLAND
NATURE TRUST

Using Avenza Maps: A Guide for INT Conservation Guardians

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Introduction

Being a Conservation Guardian is a fun and rewarding way to volunteer with Island Nature Trust (INT), and is a valued contribution to our land stewardship efforts. We are piloting this new navigation system as a way to increase accessibility to our properties, while also increasing the safety of our Conservation Guardians when they are in the field. This mapping tool is especially useful for Guardians who do not have access to a reliable handheld GPS unit, and can also be a valuable resource for Guardians who have a GPS unit but would also like to view aerial imagery of INT properties. This imagery can give a better sense of the landscapes and habitat types contained within each INT Natural Area.

What is Avenza Maps?

Avenza Maps is a free app, available on both iPhone and Android (Samsung, Google, etc.) mobile devices. It enables users to download map files onto their mobile phone, allowing for navigation and real-time tracking of your location in the field using your device's built-in GPS function, without using the internet or cellular data. This allows users to locate themselves on the maps even in remote locations where no cellular reception is available. With this app, users can also zoom, pan, record GPS tracks, measure distances, make notes, waypoint important features, and take photos with tagged locations.

The app gives the option to pay for an Avenza Maps Plus subscription, which allows users to access a few additional features and to upload an unlimited number of their own map files. For our purposes, the free version is sufficient.

Getting Started

1. Download the Avenza Maps app for iPhone and Android devices.
2. Sign in with your existing account or create a new one.
3. If a pop-up appears asking permission for Avenza Maps to access your device's location, make sure to choose "allow".
4. Once you create your account, you will see a map called "Getting Started". Viewing this will give a brief overview of the icons and controls used in this app.
5. Free online video tutorials for using this app and getting the most out of its functionality can be found here: <https://www.avenzamaps.com/help/tutorials/>

Adding INT Property Maps

1. INT will email you a georeferenced PDF map file of the property or properties you have chosen to monitor, which you should save to your device or cloud storage. You can then upload the map(s) directly to the Avenza Maps app.
2. When viewing the “My Maps” page, you should see a “+” button (in the lower corner on Android devices, and in the upper corner on iPhones). Click this to import a map from your own files. You can upload/import a map file from your device storage, Dropbox, or Google Drive.
3. Once the map is loaded, you can click on it to view the property boundaries, access roads and their names, along with aerial imagery of the property. As you are viewing the map, playing around with all of the options on screen can be one of the best ways to get to know the features and how to use them.
4. When you go into the field and arrive at the property, you can open this map and press the scope symbol to show your actual location within the map frame. It will automatically update your location as you move around. If you press the symbol again, you can see a compass which shows the direction that you are facing by rotating the screen and displaying the compass bearing (ex: 315° NW). The coordinates (either of your current location or where the grey scope symbol is displayed in the centre of the screen, if looking at a different location) can be seen at the bottom of the screen. These can be changed to a different system by pressing on them. Please ensure that your coordinates are displayed in either decimal degrees (lat/long) or UTM's.
5. Please note that the free version of this app limits users to only having three of their own map files uploaded and stored at one time (though there is no limit to the number of maps you can download from the Avenza Map Store in addition to your three personal files). If you require maps for more than three INT properties, you will need to delete and re-upload the files when needed to fit within the limit. Although users are limited to only storing three uploaded files at a time, there are no limits on the number of photos, waypoints, or other data that can be captured and stored within these maps.

After the Field

Conservation Guardians are still responsible for filling out the regular online reporting form after monitoring their property or properties. This app can be used to help with notetaking and photo-capturing in the field if you would like, along with using a waterproof notebook or whatever method you normally prefer. The waypoints and their GPS coordinates from this app can be referenced when filling out the reporting form to help with locational details. Please make sure that you have recorded any important waypoints or notes before deleting an uploaded map, if monitoring more than three properties.

Things to Remember:

- Always have all of the necessary maps loaded onto your device and in the app **before heading out into the field**. It might also be good to test your map to make sure the file opens properly before you leave.
- Relying on your phone as a GPS can use up a substantial amount of battery, especially if the screen is left on with high brightness for extended lengths of time, or if you are using an older device. Always make sure your phone is fully charged when monitoring an INT property, and ensure that you have enough battery life to make calls if necessary. An extra measure of security would be to carry a portable phone charging device in case of an emergency.
- Be mindful of weather conditions and any property features such as ponds, rivers, or sandy beaches which may be hazardous to your phone. If relying on your phone for navigation in the field, it might be a good idea to invest in a sturdy, protective case to prevent damage from falls or scratches. It might also be good to invest in either a waterproof case or pouch (available at outdoor recreation retailers such as MEC, Sporting Intentions, or Canadian Tire).
- Your device's locational accuracy is highly dependant on a number of factors, including device placement, weather conditions, or the surrounding environment, and can vary by up to 20 metres or more. Some factors that can block the GPS signal, thereby decreasing accuracy, include:
 - If the phone is tucked away in a pocket or stuffed at the bottom of a bag. Try to ensure that your phone has a clear view of the sky, either by carrying it in your hand or having it in a readily accessible pocket at the top of your bag.
 - If you are surrounded by tall trees with a dense canopy cover. When searching for a GPS signal, try moving into a more open environment. If this is not possible, just keep in mind that your locational accuracy might be slightly decreased.
 - If the sky is overcast - especially with dense rainclouds. GPS accuracy will likely be better on sunny, clear days.
- Please **do not share or distribute these map files**. Due to licensing restrictions related to the areal imagery, these maps cannot be used by anyone other than INT staff and Conservation Guardians.

If you have any questions, comments, or suggestions about using this app to navigate and/or collect data, please email Amy Frost-Wicks at land@islandnaturetrust.ca.