Tips for Successful GIS Use

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What should a garden do when starting to use GIS for collections and facilities tracking? The experts recommend a few key elements to ensure success, and the Alliance for Public Gardens GIS is working to remove as many barriers as possible, including by providing free training.

•**Attend an information or training session** at an APGA event, or attend the San Diego Esri user conference to which the ArcGIS for Public Gardens grant provides free access.

•Be prepared to **dedicate staff time to learn the software**, and to work on the GIS. GIS-trained college students can help kick start a GIS program through internships or student projects, but for long-term sustainability, some staff time should be expected.

•**Acquire a recent, high-quality ortho-rectified aerial photo** to begin to create a working base map for your garden. An orthophoto is an aerial image that has been corrected for topography and true distance. These types of aerial photos may often be obtained through a request to a local government authority, but a garden in need of a recent orthophoto may also hire a contractor to fly over a site and create one. Orthophoto access from some organizations may come with usage agreements or fees, and orthophotos will need to be refreshed every few years in order to remain current to any on-the-ground site changes. Aerial photos may also be provided by Esri or public domain data such as Google maps satellite imagery, but expect the resolution of the image to be lower and, therefore, less useful for accurate map visualization.

•**Obtain a GPS (Global Positioning System) field data collection unit** for on-the-ground inventories. GPS uses signals from satellites to log the longitude and latitude of locations, and the precision can be down to sub-millimeter accuracy, depending on the quality of the GPS receiver. Many gardens are using iPads and Android mobile devices with GPS capabilities as basic field data collection units, but more accurate and specialized devices are also available.

•**Try out some of the user-friendly GIS mobile applications for field data collection**, but save any lengthy or complicated plant records data for entry onto a desktop computer. Mobile devices are handy for use with GIS inventories, but go back to the office to verify and reconcile data entered in the field—particularly if using staff, students, or volunteers who are not accustomed to such work.