



# Promoting integrated land management through public private partnerships and in-house GIS

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## Abstract

Public lands are highly cherished by local community groups across the United States. However, conservation, management, and the subsequent geographic analysis of these sites is often handed off to third party companies, thus breaking out of the local scope. While local government is often the mediator of these interactions, it is often outside entities creating management plans and applications for stewardship of public natural habitats. Local government has the capacity and the tools to build integrated conservation plans while skipping this third party step by partnering with local stakeholders and utilizing principles of community geography. Athens-Clarke County has both a plethora of natural areas on public land (23 parks) as well as an abundance of motivated community partners making it an ideal space for management through community engagement. This project aims to utilize in-house GIS tools and techniques as well as the expertise afforded to us by local non-profit groups to 1) Develop an application for baseline data collection of natural areas in the county 2) Utilize baseline data to drive the construction of management plans for each of our natural areas 3) Use GIS applications enable community volunteers assist in data driven cataloging and removal of invasive species.



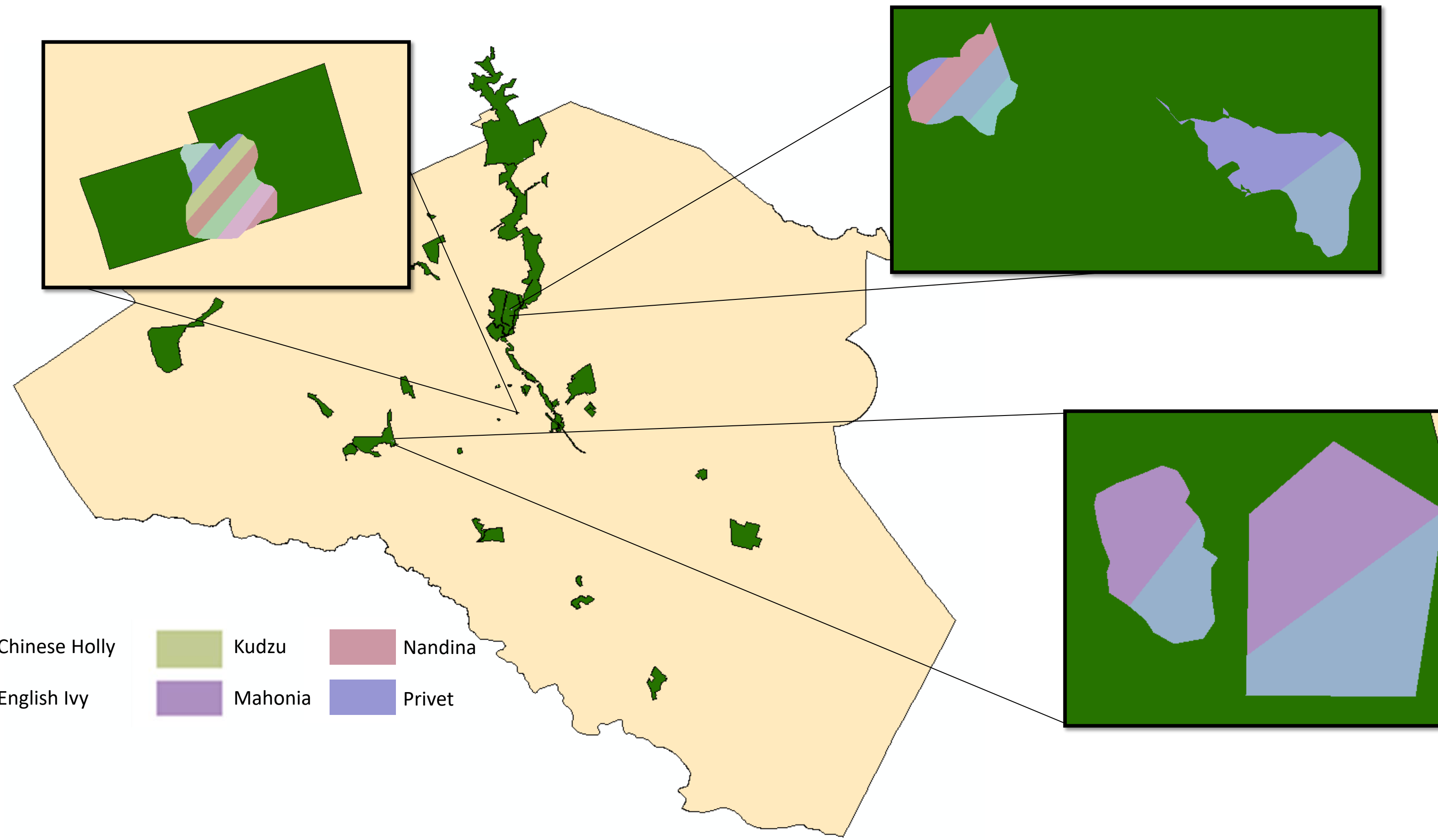
## Project Goals

- Create in house GIS tools that allow government to work in conjunction with local community groups to manage land
- Comprehensively track all invasive species removals and create a coverage map that outlines progress and allows experts to identify where to remove next
- Allow Sustainability Department to collect cover type data and use said data to create management plans for natural areas in the county

Develop applications for baseline data collection of natural areas in the county

Utilize baseline data to drive the construction of comprehensive management plans for each of our natural areas

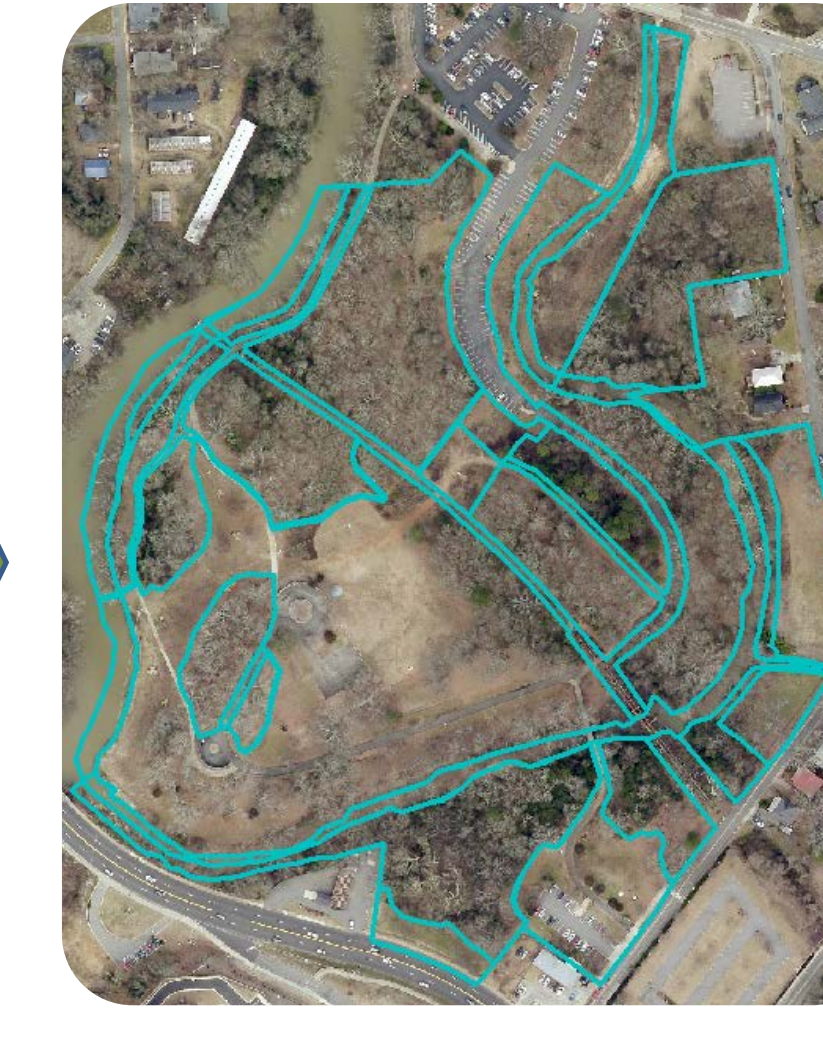
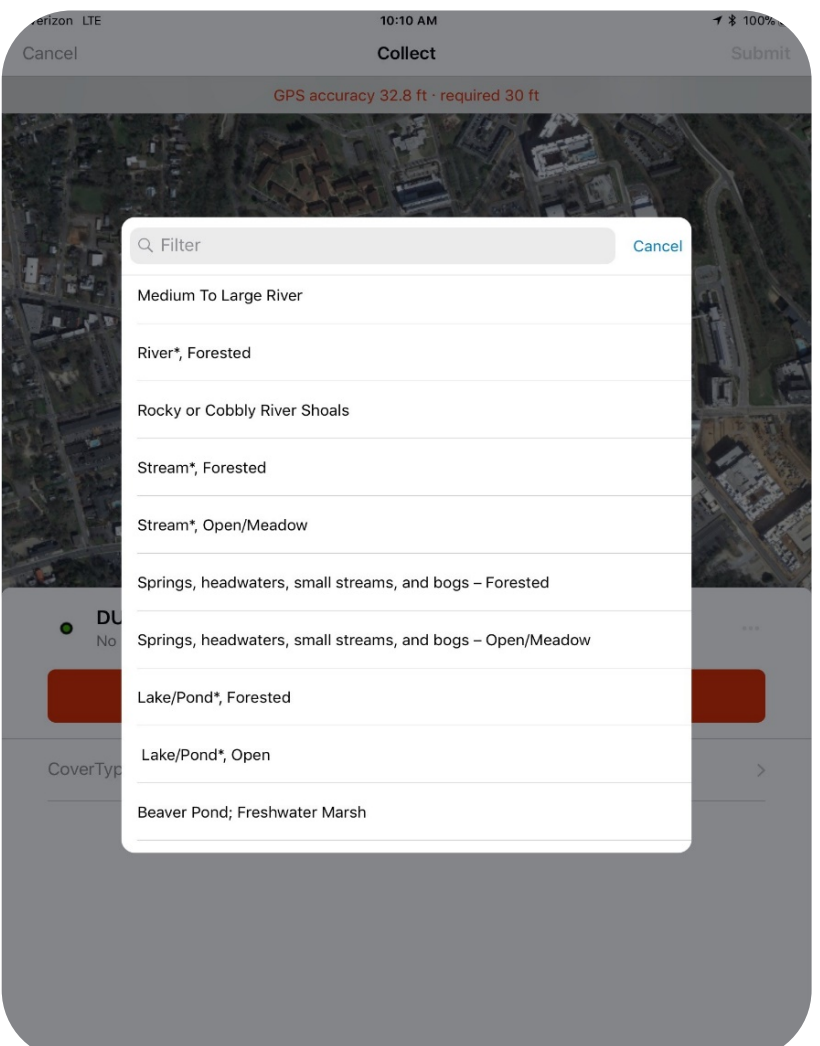
Utilize GIS applications to enable community volunteer assistance in data driven cataloging and removal of invasive species.



Workers field collect data based on real world land cover types with a custom made Collector application

Field collected data is loaded into ArcGIS, symbolized, and used to preliminarily create a management plan

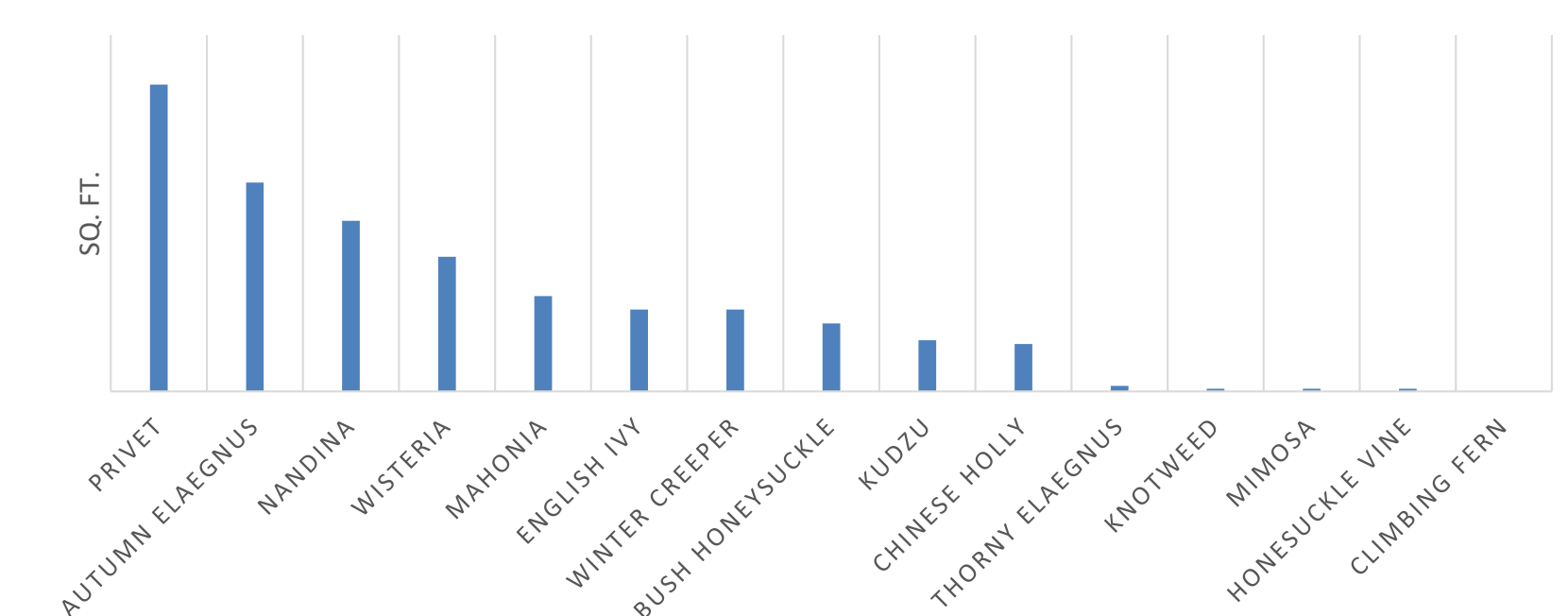
Management units are hand drawn and finalized with a past, present, and proposed, cover type



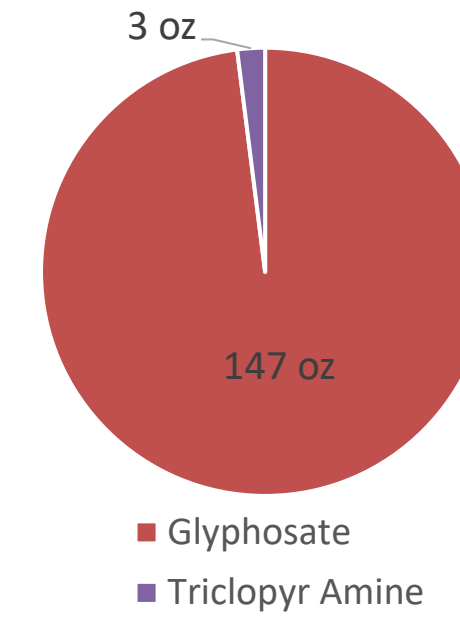
## Results

Though this project is still in it's infancy it has already been utilized to tract important metrics related to our ongoing removal projects countywide. Since October 2018 we've been able to dedicate 257 hrs to removing 63,661 sq. ft of invasive species, a majority of this involving community volunteers. Other data we've been tracking include chemical output, treatment efficacy, and time until retreatment for each site. As we continue to collect data and remove species we expect to see more and more benefits from data driven management.

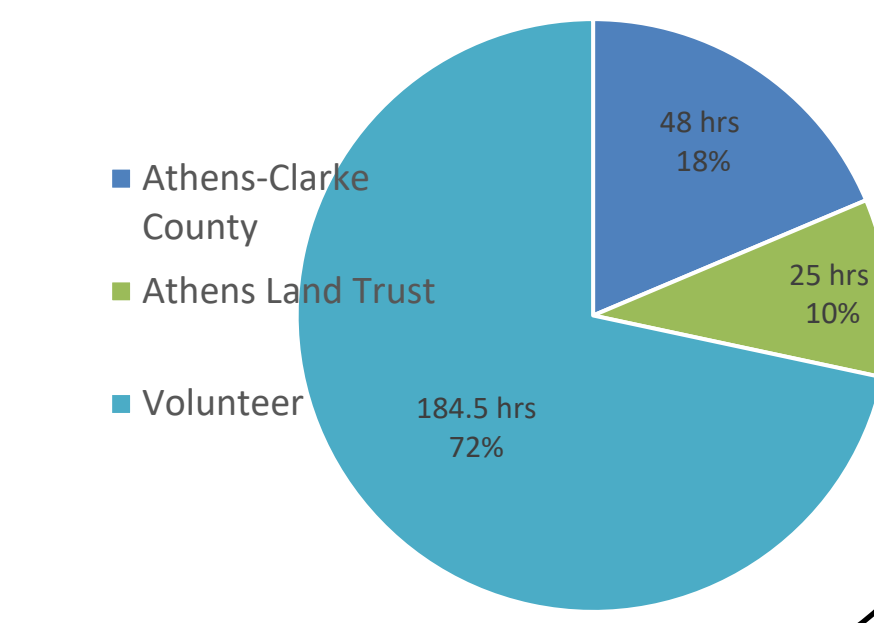
SQ. FT OF REMOVED INVASIVES



Chemicals Used (oz)



Removal Hours



## What's Next?

While we're currently still collecting data and actively using these applications in the field, Athens-Clarke County is constantly looking towards the future. Recent updates of Collector for ArcGIS and a new Beta Version of Survey123 provide promising prospects for streamlining collection and increasing usability. We believe that this project has set up a framework that is efficient, long lasting, and cost effective and flexible enough to incorporate these new technologies, which provide a promising future for the project.

## Acknowledgements

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