UF IFAS UNIVERSITY of FLORIDA

SCHOOL OF FOREST RESOURCES & CONSERVATION

RESIDENTIAL LANDSCAPE ECOLOGY PROGRAM

A McIntire-Stennis supported project since 2016

Residential landscapes are the fastest growing land cover type in the USA, contributing to habitat loss, the introduction of exotic species, and the creation of new designer ecosystems (e.g. ornamental gardens and stormwater ponds). Nevertheless, we know little about the ecology of these landscapes.

The overarching goal of this project is to quantify spatial ecological patterns and their drivers within and around residential landscapes in order to inform: (1) the mitigation of the environmental impacts of residential landscapes and (2) the design, construction, and management of more ecologically functional urban and residential landscapes. Individual projects currently focuses on three common designed ecosystems—ornamental gardens, stormwater ponds, and lawns.

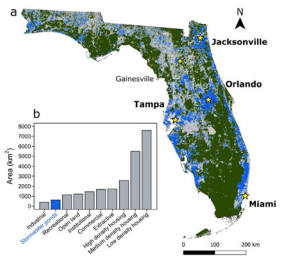
Investigations include how plant diversity and structure in ornamental gardens contribute to plant pest resistance, the degree to which stormwater ponds serve as habitat for invasive plants and protect downstream wetland plant communities, how plant diversity in lawns affects lawn resiliency, arthropod diversity, and human perceptions, and how overuse of common ornamental plant species and cultivars contribute to long-term patterns of plant naturalization.

COLLABORATION

In partnership with:
Florida Nursery Growers and Landscaping Association
Florida Fish and Wildlife Conservation Commission
Lakewood Ranch Inter-District Authority
Altec Lakes and Natural Areas
Down to Earth Landscape & Irrigation
Weyerhaeuser
UF/IFAS Program for Resource Efficient Communities
UF/IFAS Center for Land Use Efficiency
Alachua County School Board
Gainesville and Alachua County Utilities
Florida Agricultural Experiment Station
Manatee County

IMPACT

Commitments from FL master-planned community, Manatee County and a land developer to plant stormwater ponds to protect urban wetlands and water quality. Major box store and international plant breeder serving on advisory panel for plant invasion project to learn how to limit invasions.



LEARNING MORE ABOUT STORMWATER PONDS

Mapping revealed over 76,000 stormwater ponds in Florida (blue on map) taking up a large portion of urban land cover. Storwater ponds also harbor a diversity of invasive plants largely introduced for ornamental use. Planting stormwater ponds with ornamental plants when residents perceive standard vegetative buffer zones as messy to residents can prevent bank erosion and improve water quality by decreasing phosphate.

About McIntire-Stennis

The McIntire-Stennis program, a unique federal-state partnership, cultivates and delivers forestry and natural resource innovations for a better future. By advancing research and education that increases the understanding of emerging challenges and fosters the development of relevant solutions, the McIntire-Stennis program has ensured healthy resilient forests and communities and an exceptional natural resources workforce since 1962.

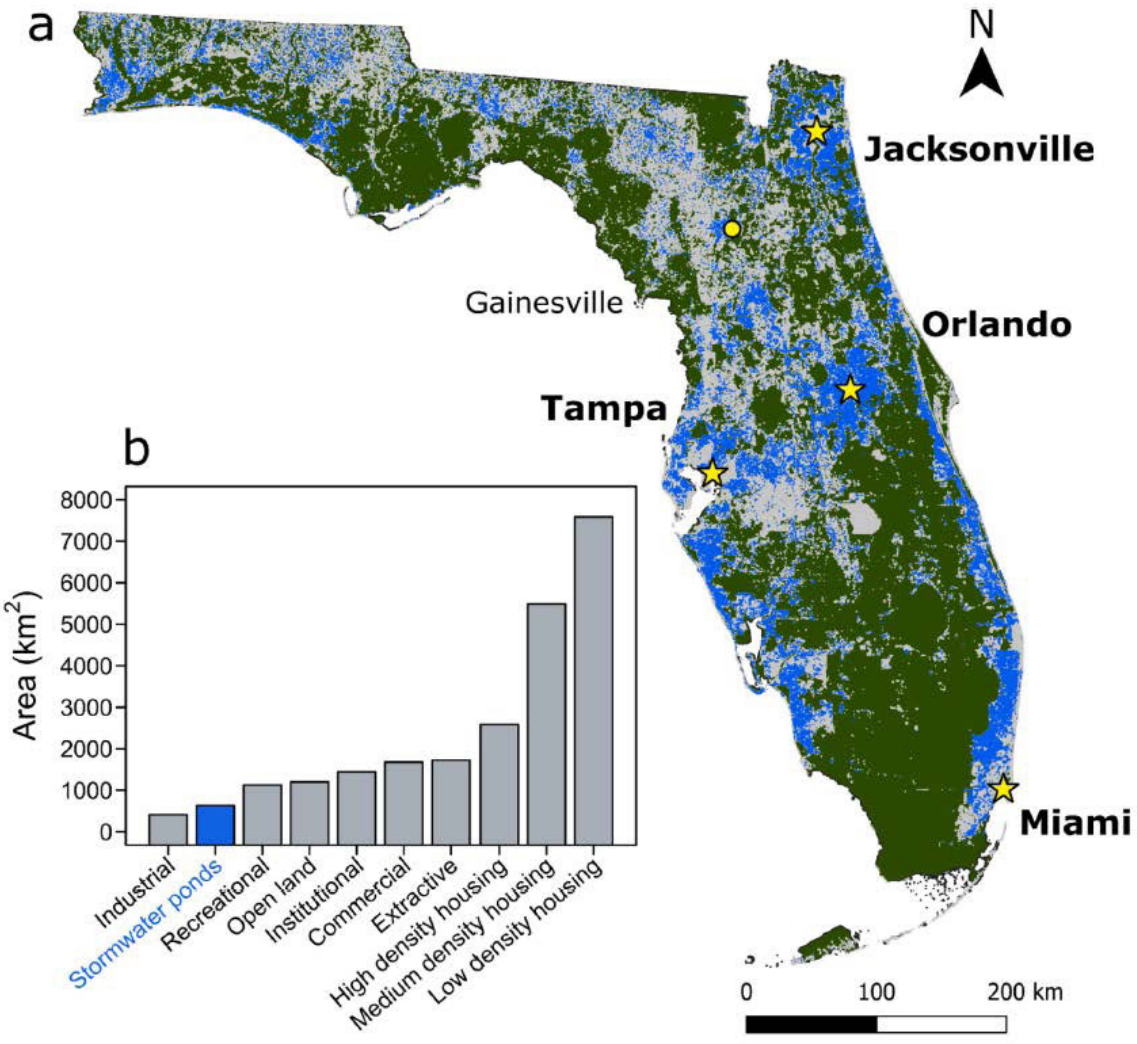
USDA

796 Stakeholders Educated

Nearly 800 stakeholder learned strategies to enhance biodiversity and ecological functionality in urbanizing landscapes.

30,258 Visits

Over 30,000 visits to on line extension products (databases, web portal, and blogposts) about project findings and applications.


a
N
Jacksonville
Gainesville
Orlando
Tampa
Miami
0
100
200 km
b
Area (km^2)
8000
7000
6000
5000
4000
3000
2000
1000
0
Industrial
Stormwater ponds
Recreational
Open land
Institutional
Commercial
Extractive
High density housing
Medium density housing
Low density housing