

Survey of Laurel Plant Communities in South Carolina 2008

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Background

- According to the National Vegetation Classification, there are nine plant communities assigned to SC with a dominant or diagnostic species in the Lauraceae

Community	Community(detailed)	Rank	Range	Species
Loblolly-bay Forest	Loblolly-bay - Sweetbay - Swampbay / Peatmoss species Forest	G4	FL, GA, NC, SC	Persea palustris
Outer Coastal Plain Sweetbay Swamp Forest	Sweetbay - Swampbay / Shining Fetterbush Forest	G3	FL, GA, SC	Persea palustris
Maritime Red Bay Shrub Swamp	Swampbay / Wax-myrtle Maritime Forest	G1	NC, SC	Persea palustris
Maritime Live Oak Hammock	Live Oak - (Slash Pine, Cabbage Palmetto) / Redbay - Beautyberry Forest	G2	AL, FL, GA, NC, SC	Persea borbonia
Atlantic Coast Maritime Evergreen Forest	Live Oak - Sand Laurel Oak - Loblolly Pine / (Redbay, Swampbay) - Yaupon Forest	G2	NC, SC, VA	Persea spp.
Atlantic Coastal Fringe Evergreen Forest	Live Oak - Sand Laurel Oak - Loblolly Pine - Southern Red Oak / Swampbay Forest	G2	NC,SC	Persea palustris
Atlantic Coastal Plain Blackwater River Terrace and Ridge Forest	Diamondleaf Oak - Overcup Oak / American Hornbeam - Swampbay / Mayberry Forest	G4	NC, SC	Persea palustris
Atlantic Coastal Plain Acidic Loam Beech - Magnolia Forest	American Beech - Southern Magnolia / American Holly - (Redbay) / Partridgeberry Forest	G2G3	GA, SC	Persea borbonia

G1 = Critically imperiled community

G2 = Imperiled community

G3 = Community vulnerable to extinction

G4 = Community vulnerable to extirpation

G5 = Stable

Goals

- Quantify changes in plant species composition over time in habitats that currently support Lauraceous species in South Carolina
- Document changes in woody stems in these communities
- Study changes in populations of Lauraceous species before and after being infected with Laurel Wilt Disease to demonstrate the demographic effects of the disease across different community types

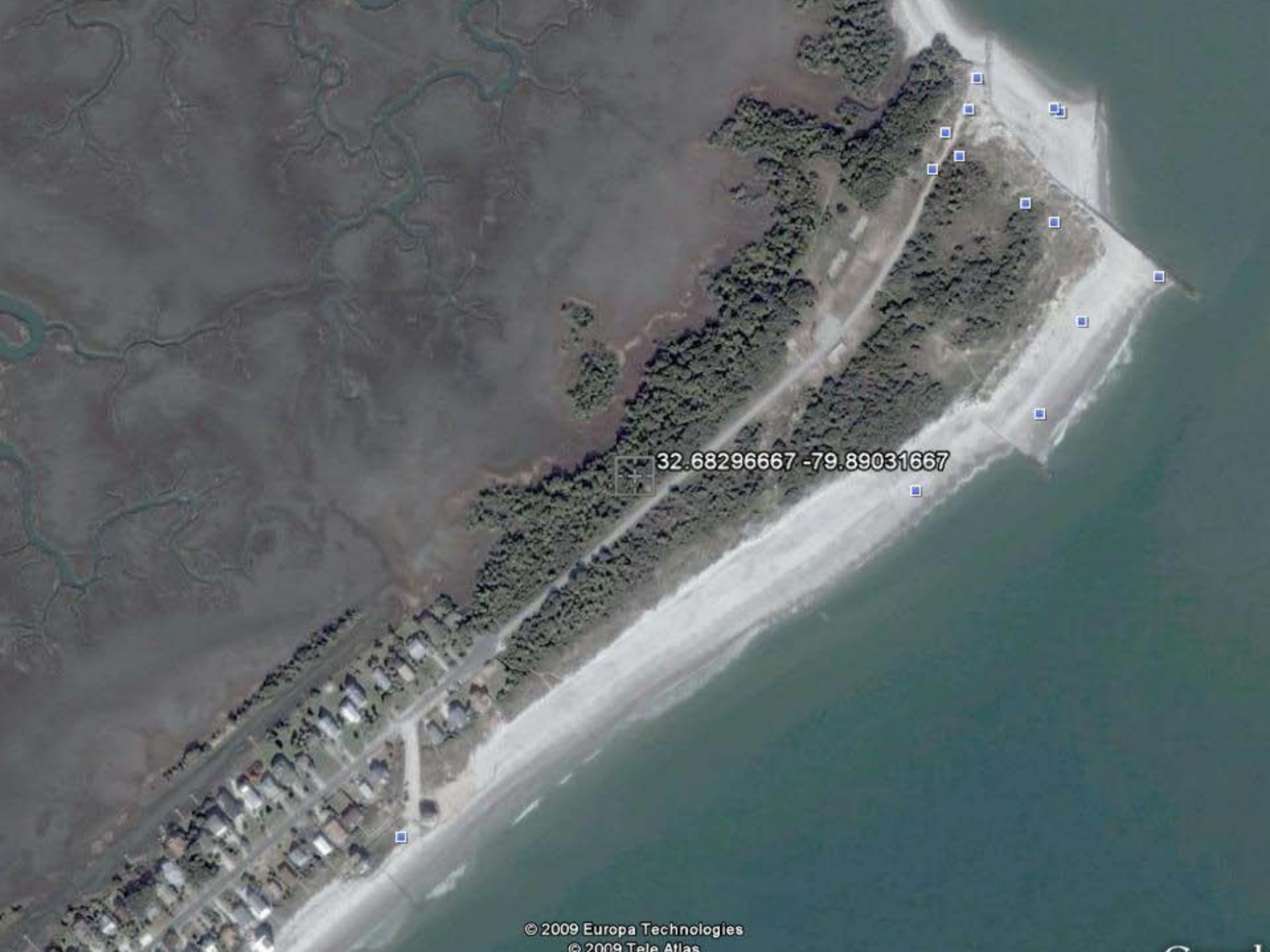
Site Selection

- Infected and uninfected sites
- Maritime forest and swamp forest assemblages



33.57013735 -79.1034298

o Vaux Island



32.68296667 -79.89031667

Site Selection

- Infected and uninfected sites
- Maritime forest and swamp forest assemblages
- Multiple Lauraceae species
- Access and repeated sampling

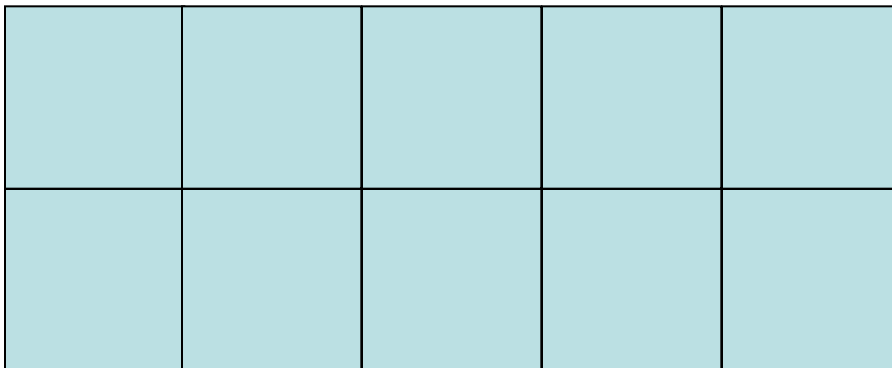
Methods

- Carolina Vegetation Survey
 - Flexible, multi-scalar approach
 - Primarily used to classify or monitor plant communities

CVS Overview - <http://www.bio.unc.edu/faculty/peet/lab/CVS/>

Methods

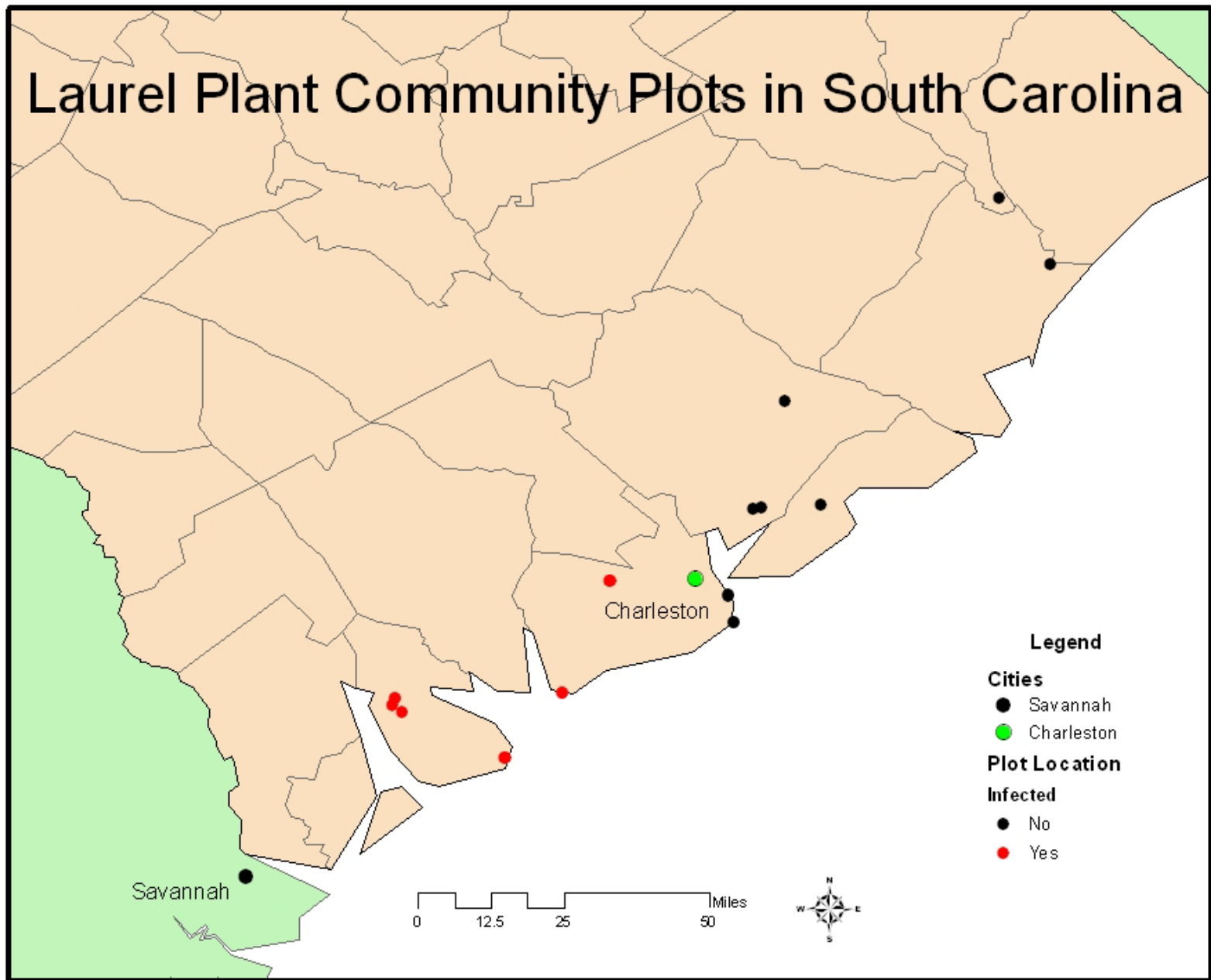
- Carolina Vegetation Survey
 - 20 m x 50 m rectangular plot (1000 m² or .1 ha)
 - Ten 10 m x 10 m subplots (100 m²) a.k.a modules



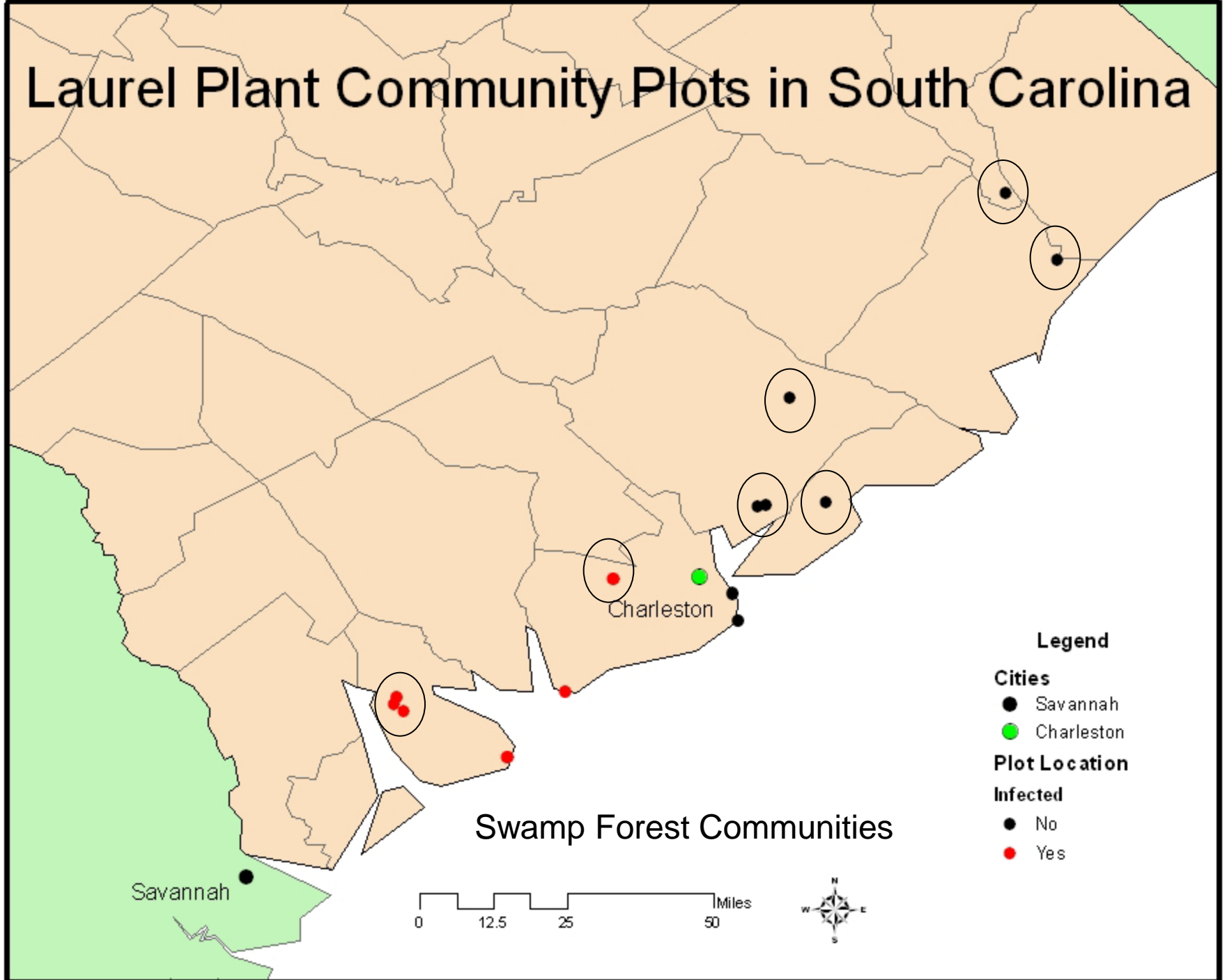
Methods

- Carolina Vegetation Survey
 - 3 Primary types of plant data
 - Presence/absence
 - % Cover
 - DBH

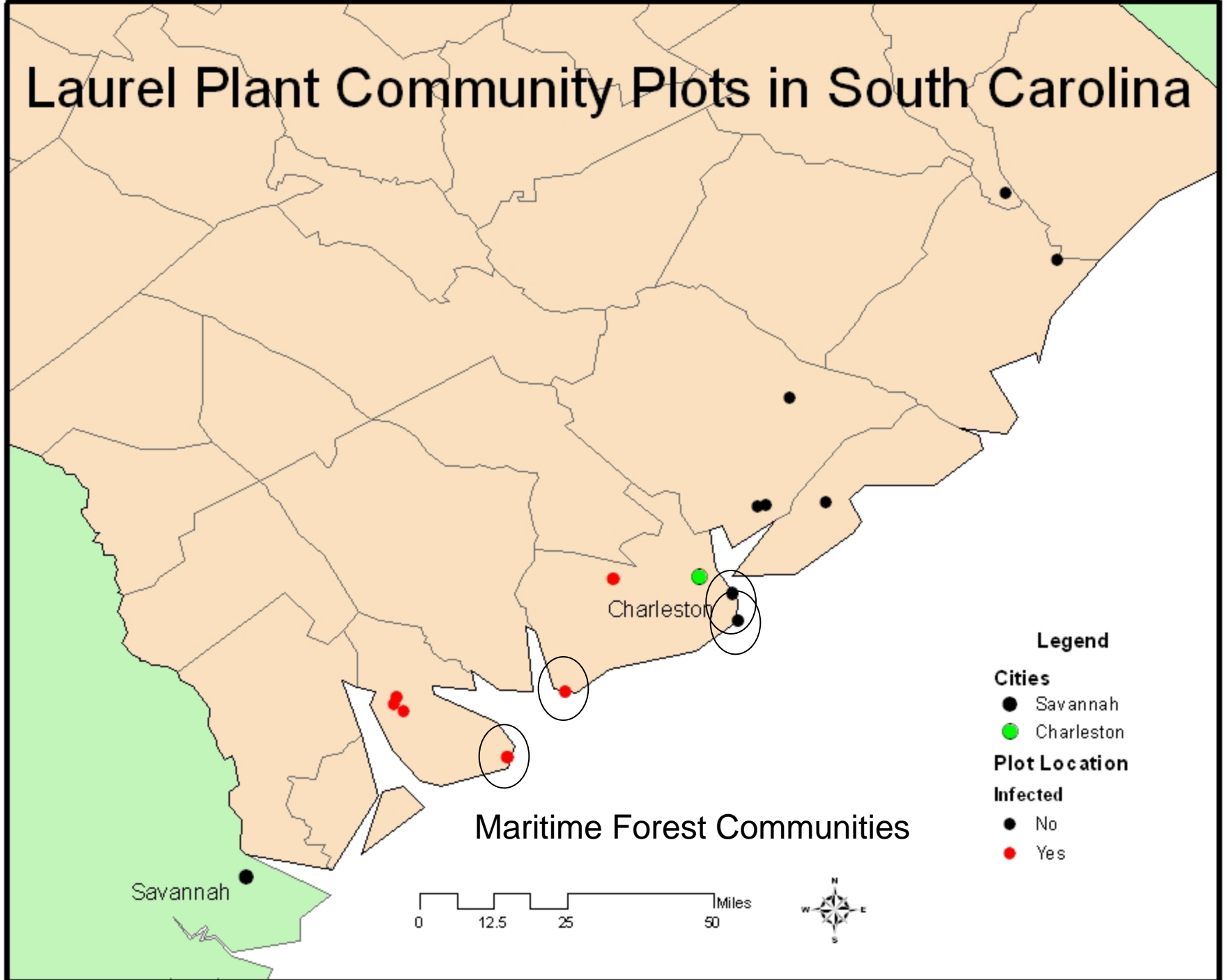
Laurel Plant Community Plots in South Carolina



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Plot Summary from 2008

- 50% uninfected in 2008
- 60% swamp forest / 40% maritime forest
- Plots included: *Persea borbonia*, *Persea palustris*, *Lindera melissifolia* & *Sassafras albidum*

2009

- Resample all 20 plots
- Assign community classifications to each plot by year
- Assess any changes in composition over time
- 2010?

Challenges to Tracking Community Change

- Sampling intensity vs. breadth
- When to reflect?
- How long to collect data?



Support for this project was provided by:

The Citadel

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SC Department of Natural Resources

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