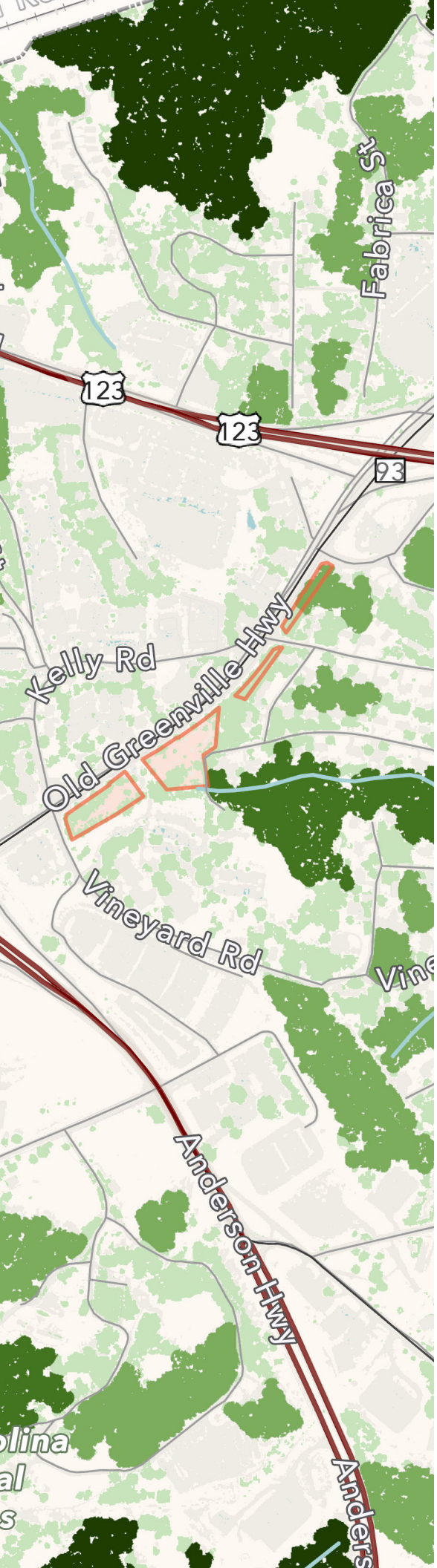



## Forest Patch Acreage

1-10 10-30 30+

Tree Canopy

SOUTH CAROLINA FORESTRY COMMISSION

Green Infrastructure Center

**April 2026**

# Executive Summary

The City of Clemson, South Carolina, is supported by a diverse network of natural assets, including local parks, a robust urban tree canopy, Lake Hartwell, the Clemson University Forest, the South Carolina Botanical Gardens, and the Green Crescent Trail—that collectively increase quality of life and environmental resilience in the city. To improve the protection and management of these resources, the City applied for technical assistance to evaluate its natural green infrastructure, the interconnected corridor network across the city, and associated opportunities and risks. A group of local stakeholders including City representatives, Clemson University, the SC Botanical Garden, local nonprofits, and community organizations, participated in a series of four workshops. These workshops involved reviewing data, learning about the city's natural assets and ecological corridors, and helping to identify potential strategies and actions to better manage and protect these important resources. Many of the objectives in this plan are derived from previous planning efforts such as the City Comprehensive Plan's Natural Resources section, the City's Park Master Plan, and new ideas identified by stakeholders during the technical assistance provided by the Green Infrastructure Center.

The data, maps and strategies in this report serve as a foundation for the city and local stakeholders to plan for and build nature-based solutions in Clemson to benefit the community today and for generations to come. As the City implements the green infrastructure objectives in this report, the Envision tool from Sustainable Infrastructure (link: https://sustainableinfrastructure.org/envision/about/) may be used to evaluate, design and deliver civil infrastructure projects for climate resilience and quality of life.



Forest patches make up 58% of the total tree canopy.

| Forest Patch Size | # of Forest Patches | Total Acres |
|---|---|---|
| 1-10 acres | 281 | 770 acres |
| 10-30 acres | 27 | 466 acres |
| 30+ acres | 7 | 371 acres |

## FAST FACTS

Total Area (City & University): 10.8 $mi^2$

Land Area: 10.1 $mi^2$

Open Water: 424 acres

Wetlands & marshes: 69 acres

Streams: 23.1 miles

Forest Patches: 1,607 acres



*The City's parks and natural areas are major attractions that contribute to the quality of life for its residents, as well as provide habitat for wildlife.*

## Stakeholders

Stakeholders representing a variety of entities participated in online workshops to review data and provide feedback over the course of the technical assistance project. The following groups participated in one or more workshops:

- City of Clemson
- Clemson Sustainability Committee
- Clemson University Extension
- SC Botanical Garden
- SC Forestry Commission
- Upstate Forever
- Native Plant Society, Upstate Chapter
- Earth Designs

# Strategies for Green Infrastructure

## Stewardship

**Objective 1:** Increase capacity for university students to propogate more plants by adding propogation structures at the Hunnicutt Foord Forest.

**Objective 2:** Develop and implement an invasive species eradication program.

## Outreach & Education

**Objective 1:** Offer plant propagation workshops to the public culminating in a community planting project using propagated material.

**Objective 2:** Promote the Southeast Native Seed Network's work on preserving the biodiversity of native plants and the importance of native plants to the public.

**Objective 3:** Educate the community on watershed issues by hosting walking tours with experts on stream health and stormwater.

**Objective 4:** Collaborate with Clemson Extension Service to create educational resources that help homeowners implement sustainable stormwater solutions on their properties.

**Objective 5:** Develop a Blueways or "water path" program that informs and connects people to amenities, points of interest, and attractions near water features and public launch points.

**Objective 6:** Establish a program that recognizes neighborhoods and houses whose yards are certified as native habitat.

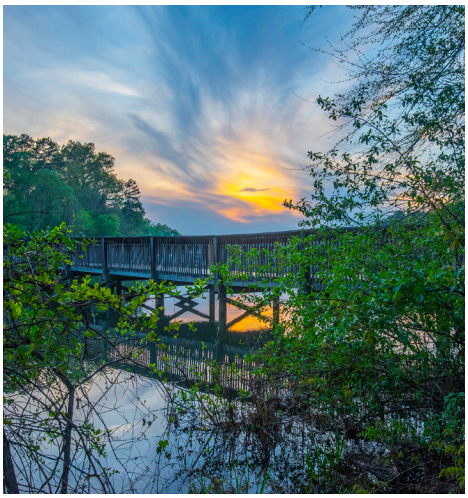


*Forests help buffer local waterways and are key corridors that allow wildlife to safely move across the urban landscape.*

**Objective 7:** Map houses that are certified native habitats and then assess the connectivity and participation gaps in the program.

**Objective 8:** Develop a master contact list of local groups and conservation partners to more easily leverage existing resources for green infrastructure programs or projects.

**Objective 9:** Publicly recognize and celebrate landowners who voluntarily protect their property through conservation easements or other methods.



*The City's green infrastructure is important for protecting water quality.*

## Sustainable Development

**Objective 1:** Incentivize the use of resilient, low impact designs in developments through the implementation of a point allocation system.

**Objective 2:** Partner with neighborhoods and private land owners for planting native habitats. Use those opportunities to leverage biodiversity cost share practices.

**Objective 3:** Maintain and enhance habitat diversity for wildlife through native plantings and protection of waterways.



*Forests and trees provide shade and play an important role in enhancing children's cognitive development and mental well-being.*

# Strategies for Green Infrastructure

**Objective 4:** Encourage sustainable development techniquesuch as green roofs, cool roofs (roofs with reflective material), permeable pavement, or living walls with density bonuses, parking relief, or other development incentives.

**Objective 5:** Limit construction on slopes greater than 15%, require erosion control measures such as retaining walls or terracing, and promote low-impact development techniques.

**Objective 6:** Utilize native vegetation on slopes to stabilize soil and reduce erosion risks.

**Objective 7:** Incorporate permeability standards into development codes to limit impermeable surfaces and promote sustainable site design.

**Objective 8:** Create a program where landowners in designated conservation zones can sell their development rights for use in designated "receiving areas" (high-density zones), effectively compensating landowners for preserving their property.

**Objective 9:** Work with land trusts to secure options or purchase key parcels before they are put on the open market for development.

## Planning

**Objective 1:** Identify, inventory, and develop a report on significant natural features in the City.

**Objective 2:** Create protection plans to maintain and support the City's natural features.

**Objective 3:** Purchase land outright for use as parks, natural areas, or future green space.



*The Green Crescent Trail is on of many recreational assets that are supported by the City's network of forest patches and green infrastructure.*

**Objective 4:** Create binding agreements with established regional land trusts (Upstate Forever, The Nature Conservancy, local watershed trusts) to define roles, responsibilities, and priority areas for conservation within and surrounding the city limits.

**Objective 5:** Mandate wider vegetative buffers along waterways (streams, rivers, lakefront) and sensitive ecological areas.

**Objective 6:** Designate specific areas as conservation zones, critical environmental areas, or future parkland.

## Financing

**Objective 1:** Local Option Sales Tax: Dedicate a small percentage to land acquisition.

**Objective 2:** Earmark funds specifically for conservation projects, subject to voter approval.

**Objective 3:** Implement fees on new development that contribute to a conservation fund, offsetting the impact of growth.

**Objective 4:** Offer reduced property assessments or tax credits for landowners who place a permanent conservation easement on their property (facilitated by the land trust).



*Trees are a key part of a community's green infrastructure. The City's tree canopy report outlines strategies to support tree cover into the future.*

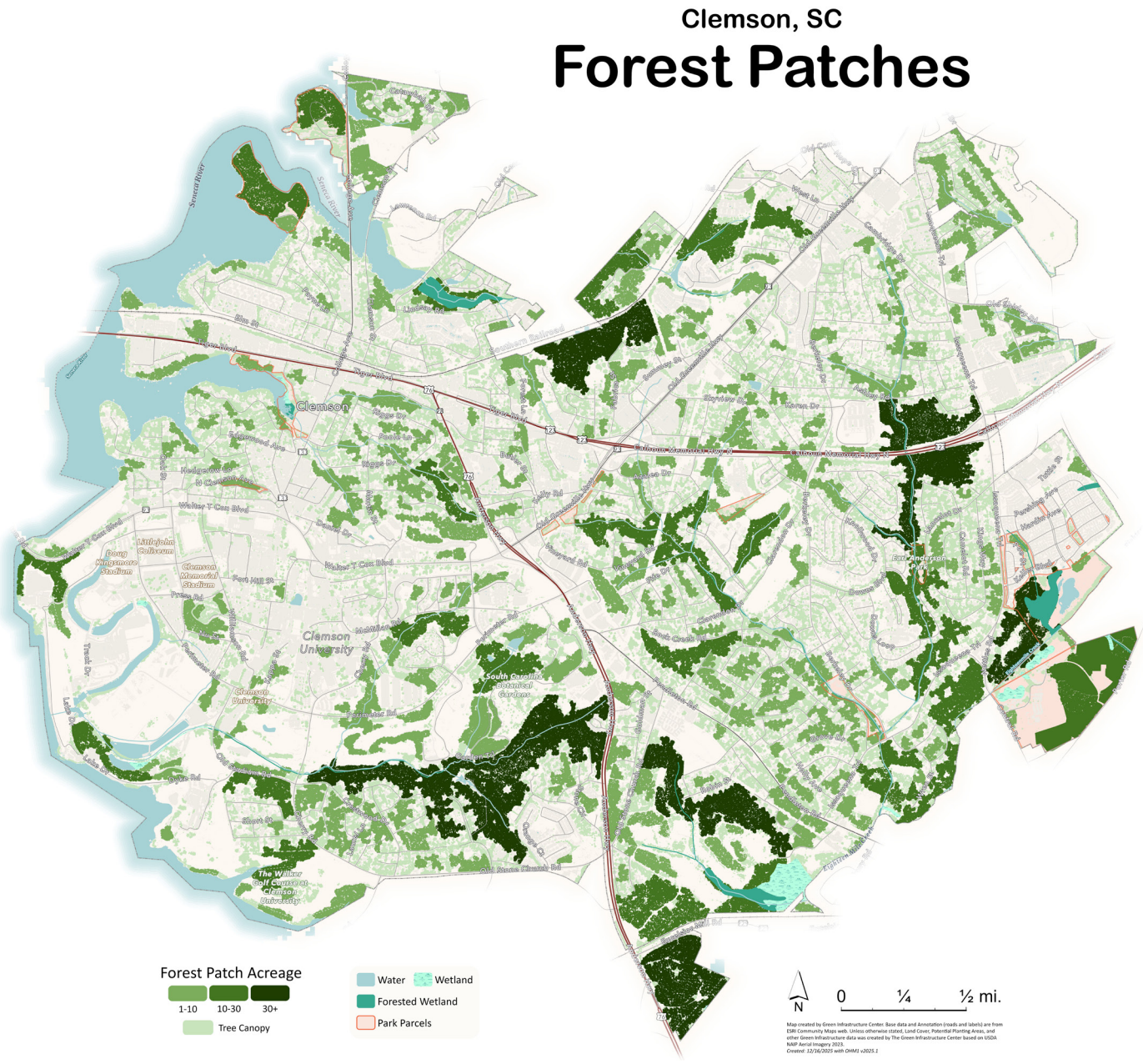



*Figure-1: This map depicts forest patches by acreage in the City of Clemson and Clemson University. Mapping the existing green infrastructure network is the first step in understanding what to protect and restore.*

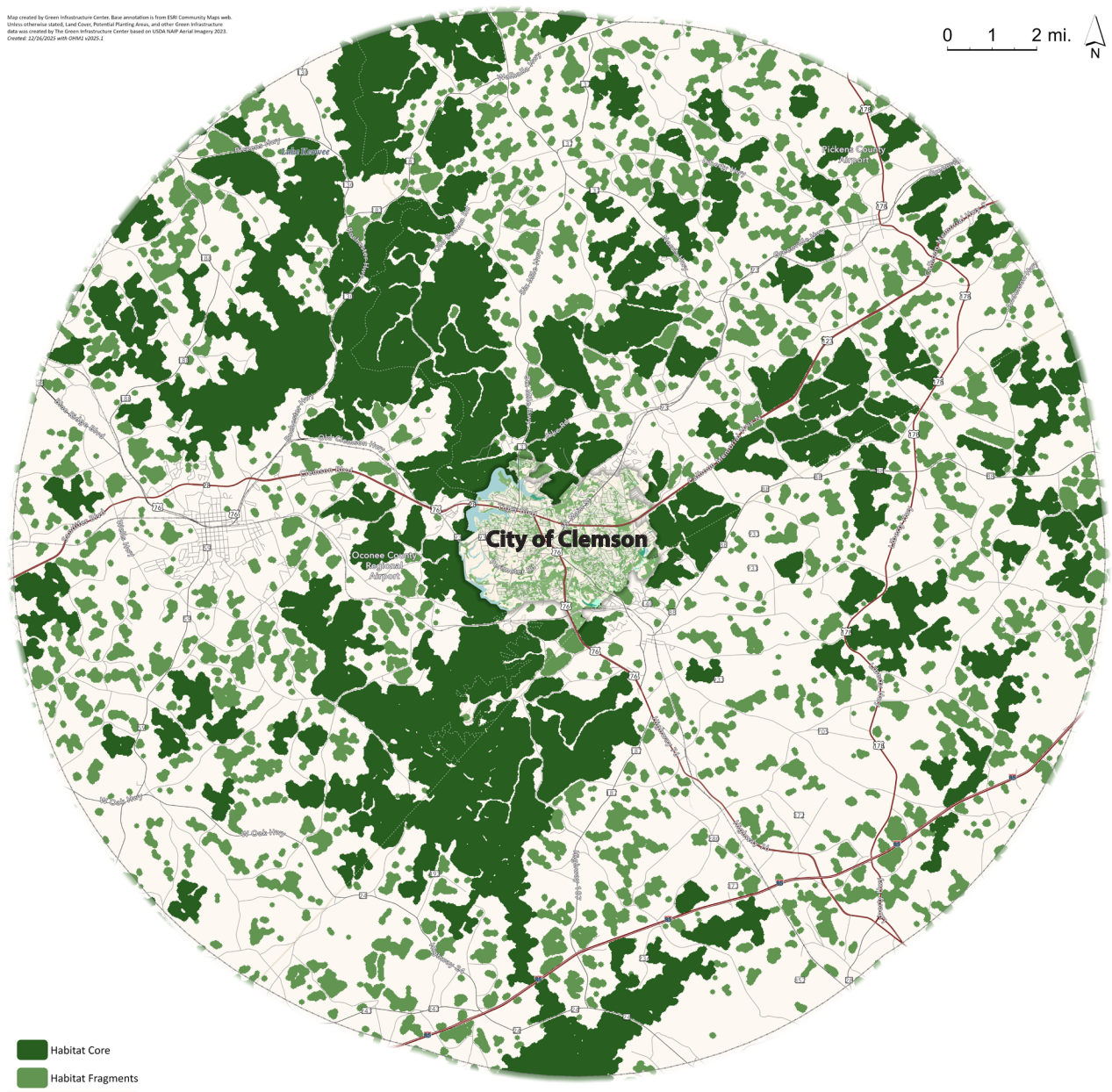



*Figure-2: This map places the city and university in its regional context depicting the regional habitat cores outside their boundaries. Habitat cores are intact natural landscapes large enough (greater than 100 acres of interior habitat) to support interior forest or marsh dwelling species.*

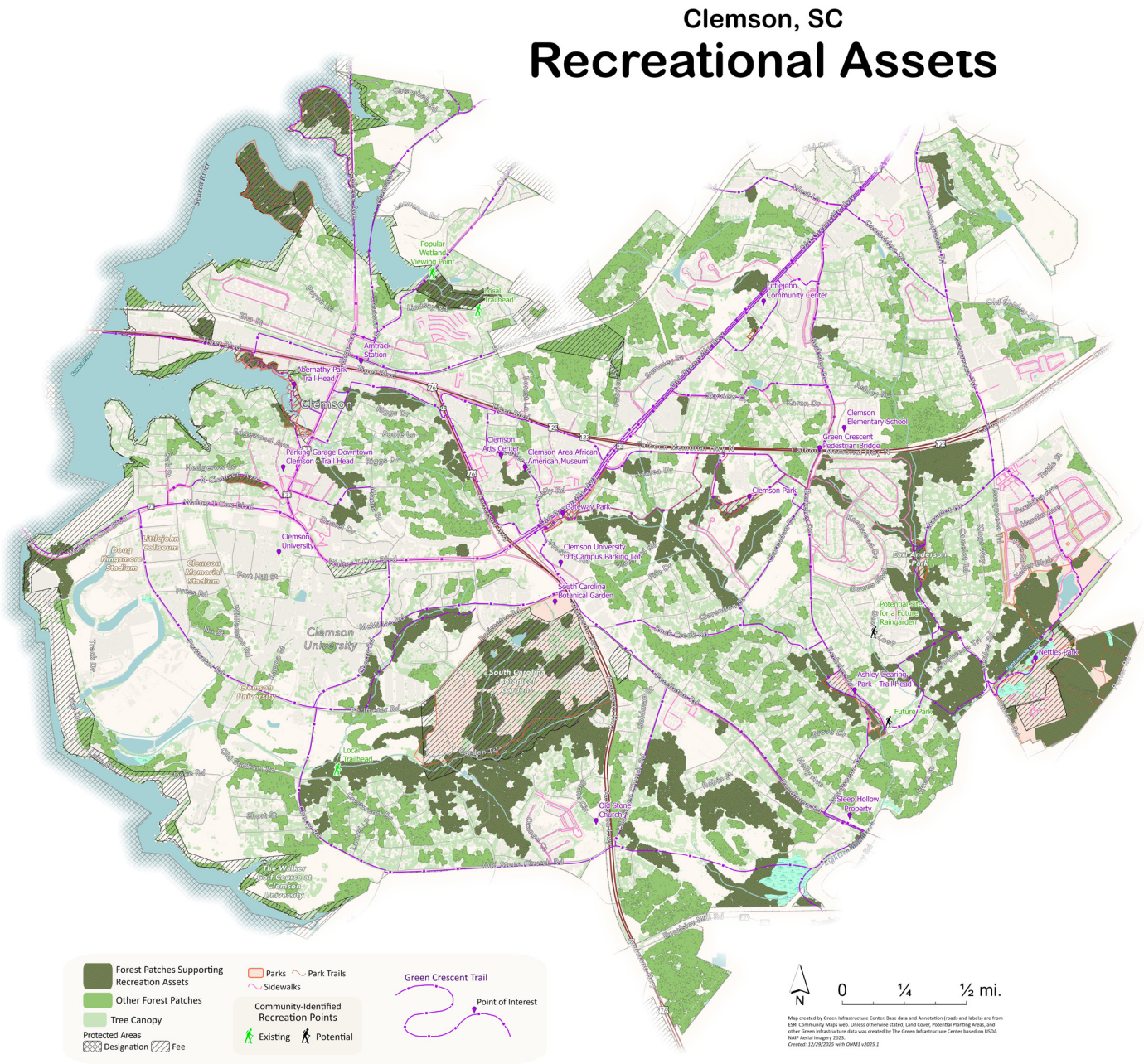



*Figure-3: This map identifies recreational assets in Clemson that are supported by green infrastructure. Many recreational activities depend on a healthy landscape for their enjoyment, such as hiking, birding, boating, fishing, hunting, and other nature-based sports. A healthy landscape provides both access and scenic settings for enjoying the outdoors.*

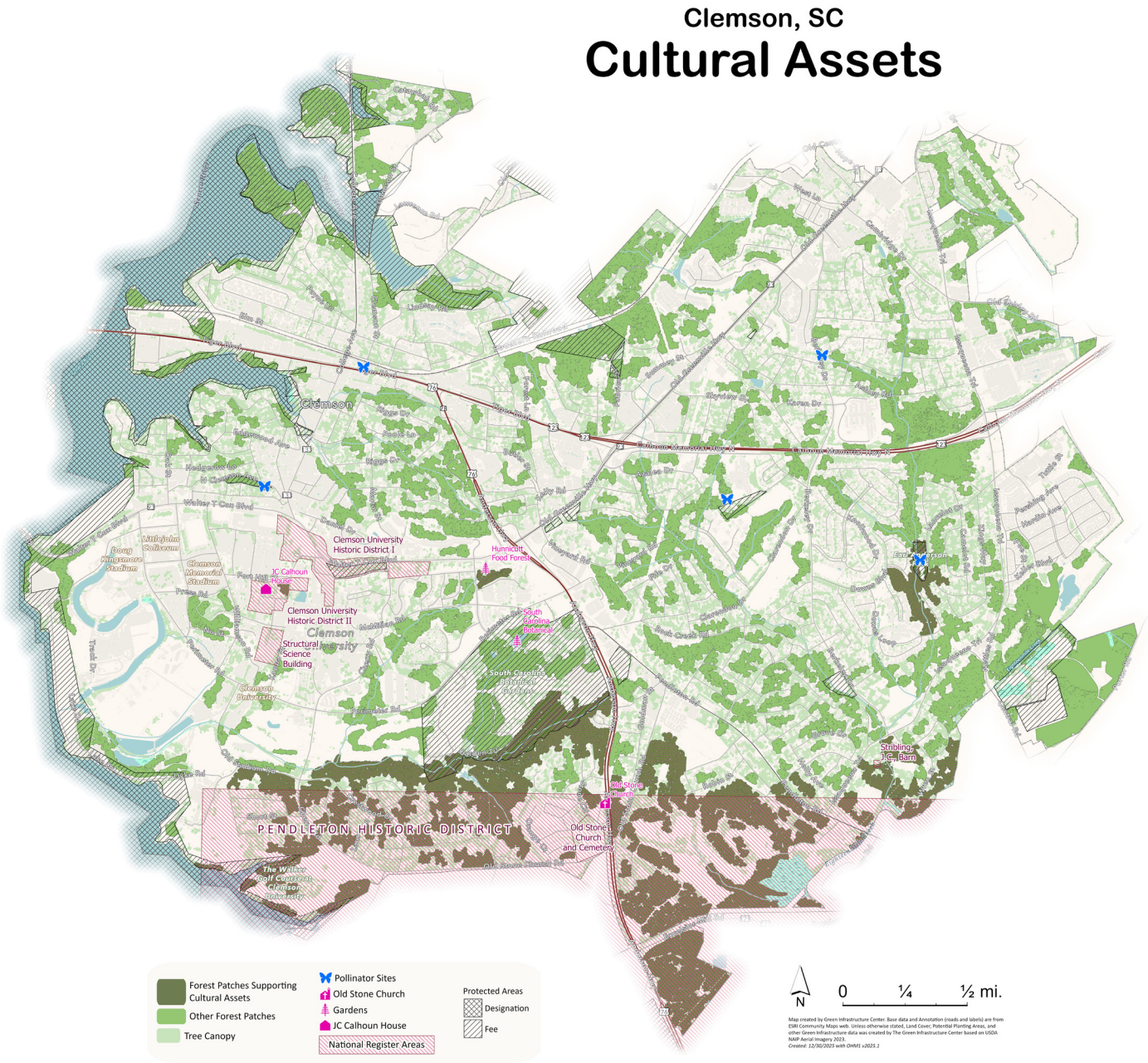



*Figure-4: This map identifies cultural assets in Clemson that are supported by green infrastructure. Natural landscapes provide the context, backdrops, and buffers for these sites and contribute to their settings and beauty.*

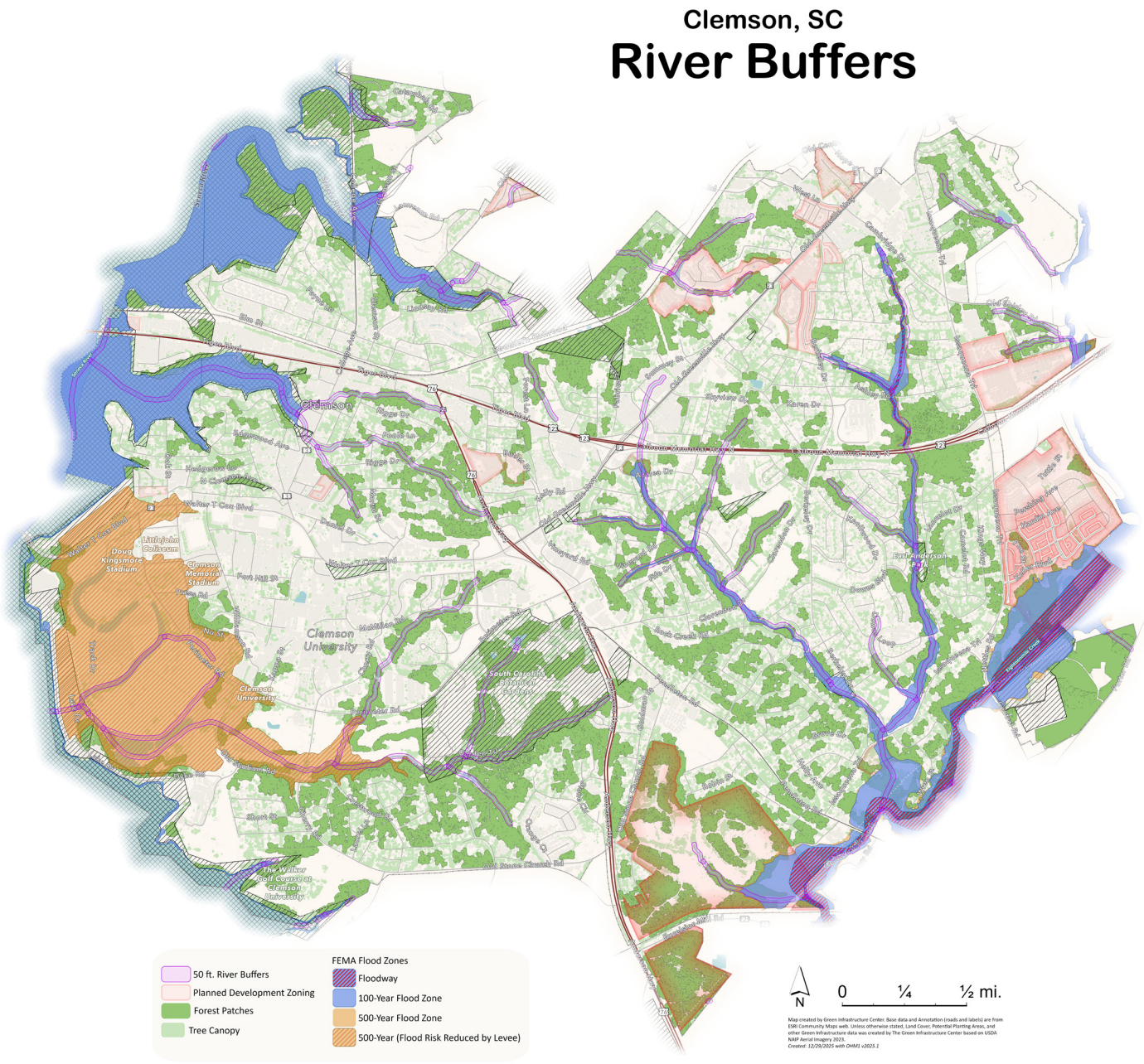



*Figure-5: This map displays forest patches and fifty foot buffers along local waterways and FEMA flood zones. Identifying areas where forest buffers can be expanded will improve local water quality and provide better corridors for wildlife to safely navigate across the urban landscape.*

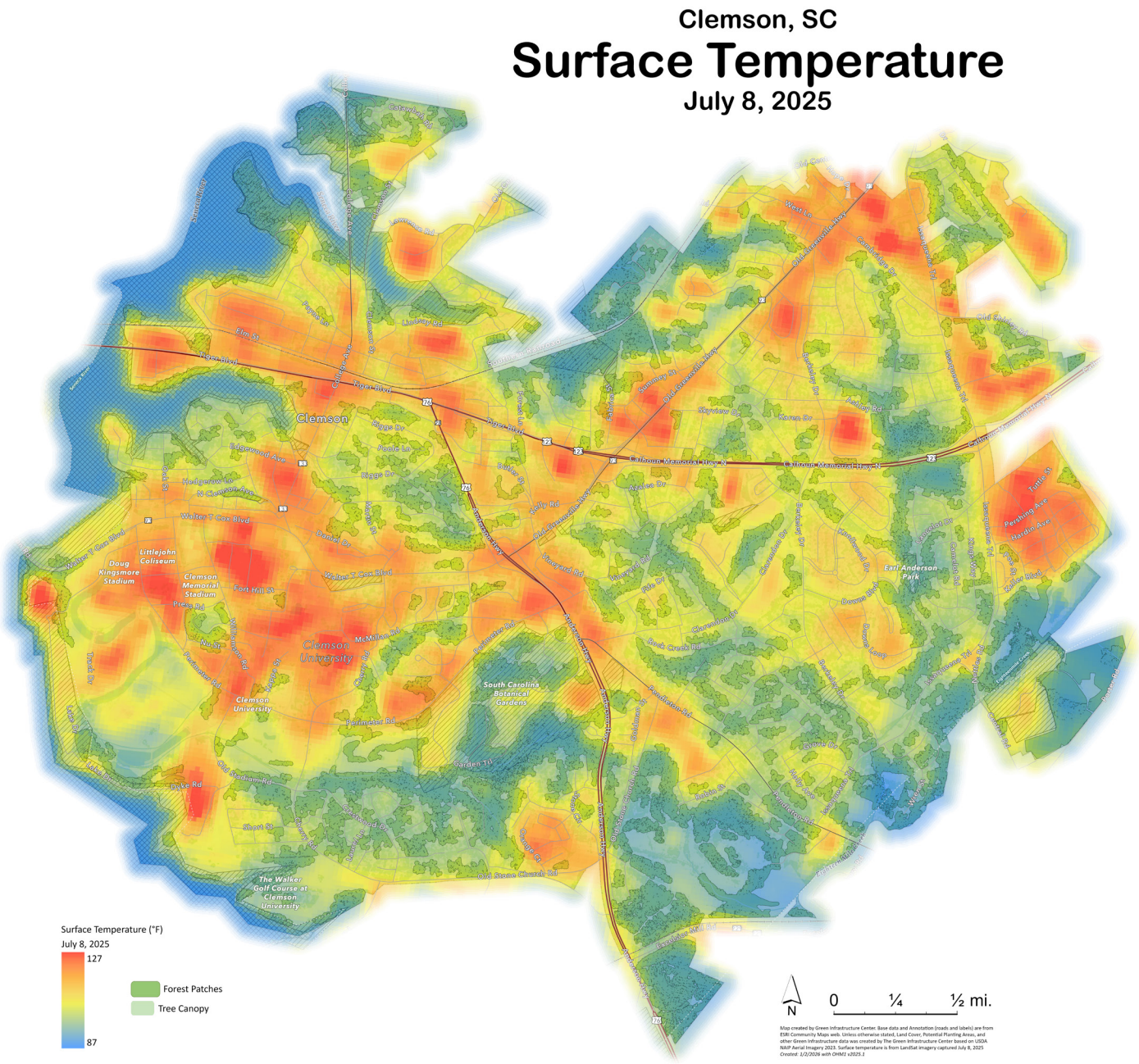



*Figure-6: This map shows the city's forest patches and surface temperature data collected on July 8, 2025 by Landsat. Forest patches cool the city through shade and evapotranspiration, creating conditions that increase the quality of life for residents during hot summer months.*

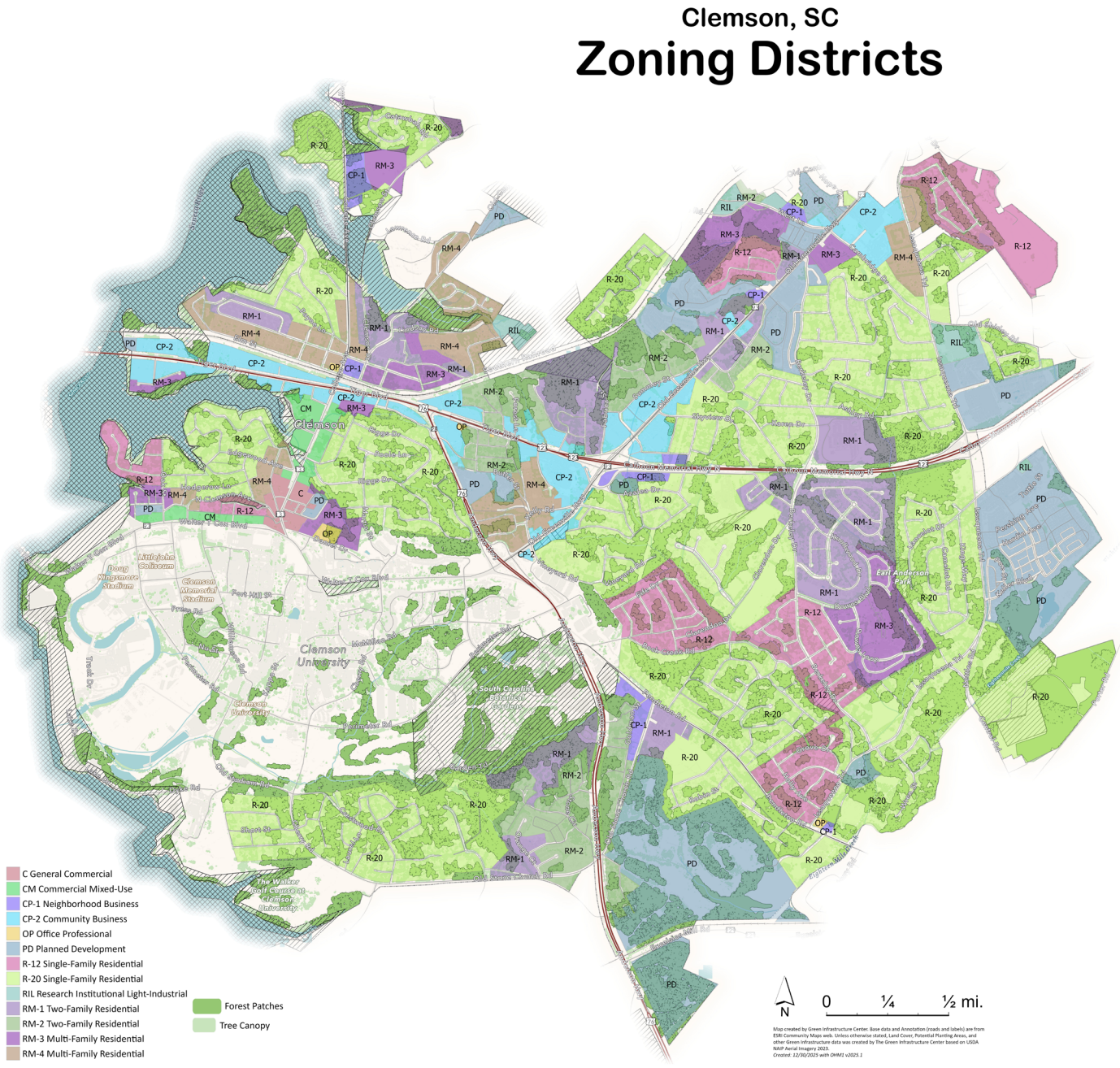



*Figure-7: This map depicts the city's forest patches by zoning class. Future growth and development will impact the city's existing network of green infrastructure. By understanding how current zoning impacts forests and corridors, the City can minimize future impacts to the network through more sustainable development practices.*

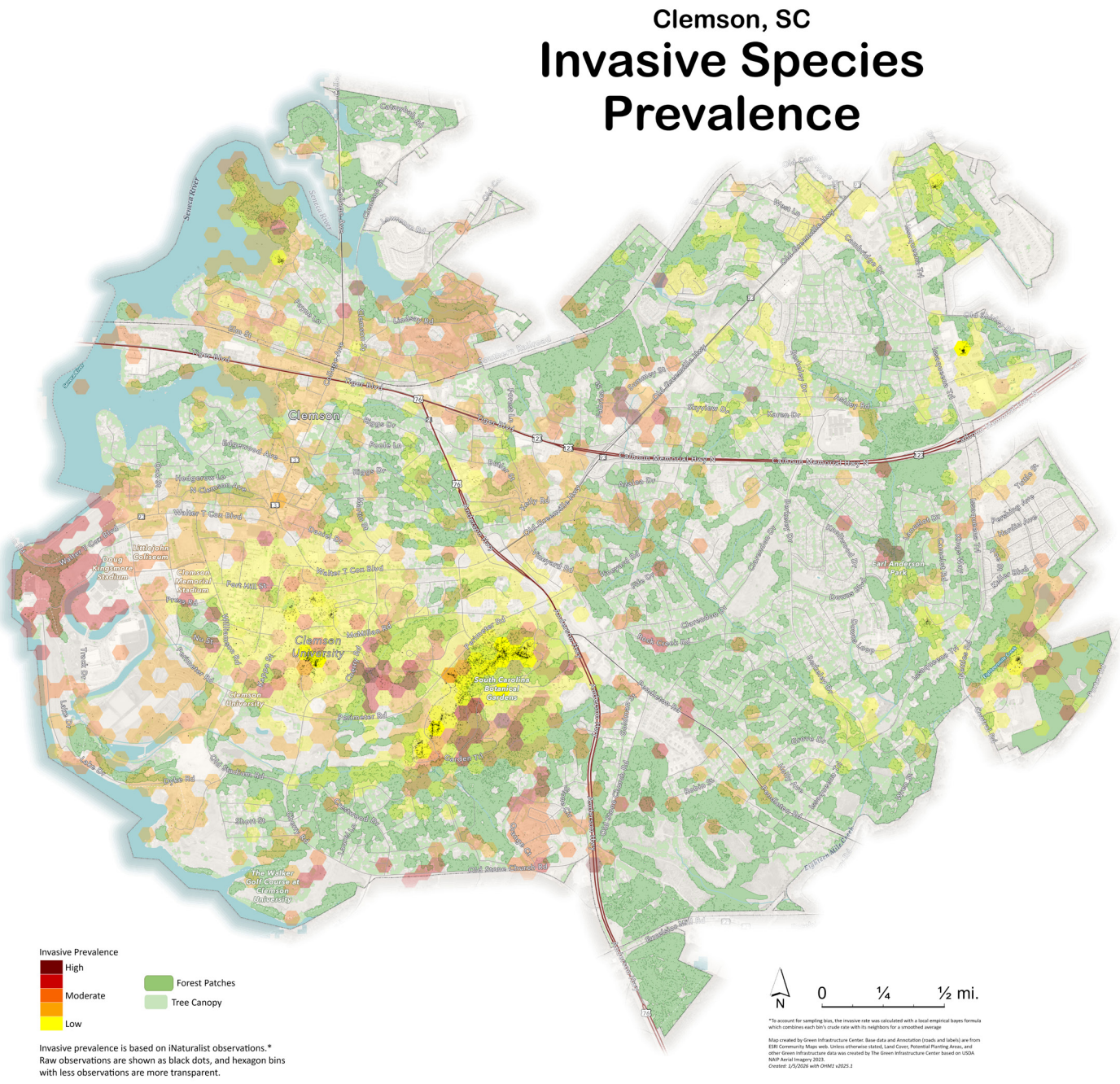



*Figure-8: This map shows the prevalence of invasive species in the City of Clemson and Clemson University based on recorded iNaturalist observations. This map and data can support a strategic invasive species management program and identify gaps where additional surveys are needed.*




*Figure-9: This map depicts the local corridors that connect the green infrastructure network in the city. The more connected the landscape, the more resilient it is and the more pathways there are for people, pollinators, and plants.*

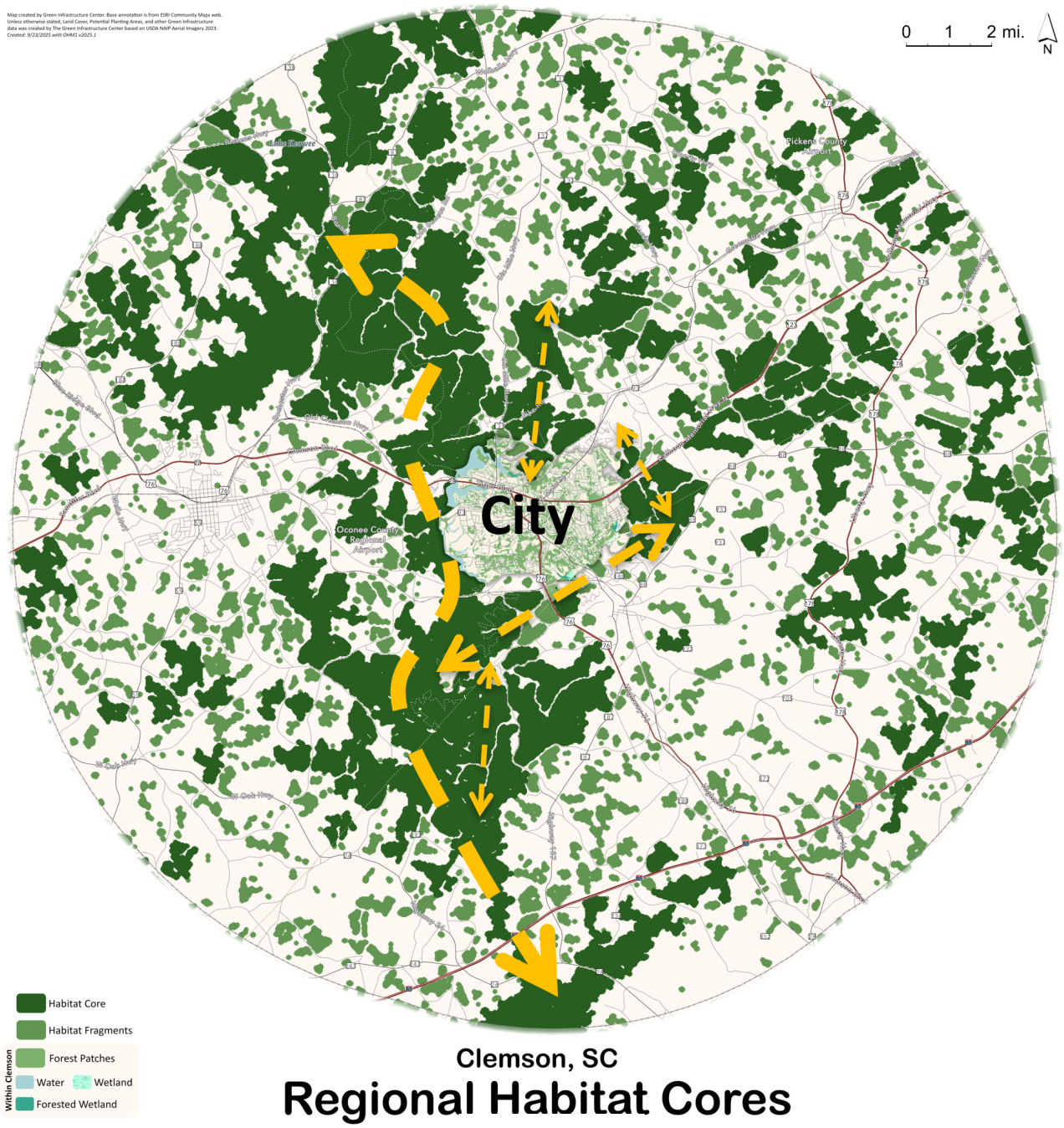



*Figure-10: This map depicts the regional corridors connecting habitat cores surrounding and connecting the city to the larger landscape and ecosystems.*

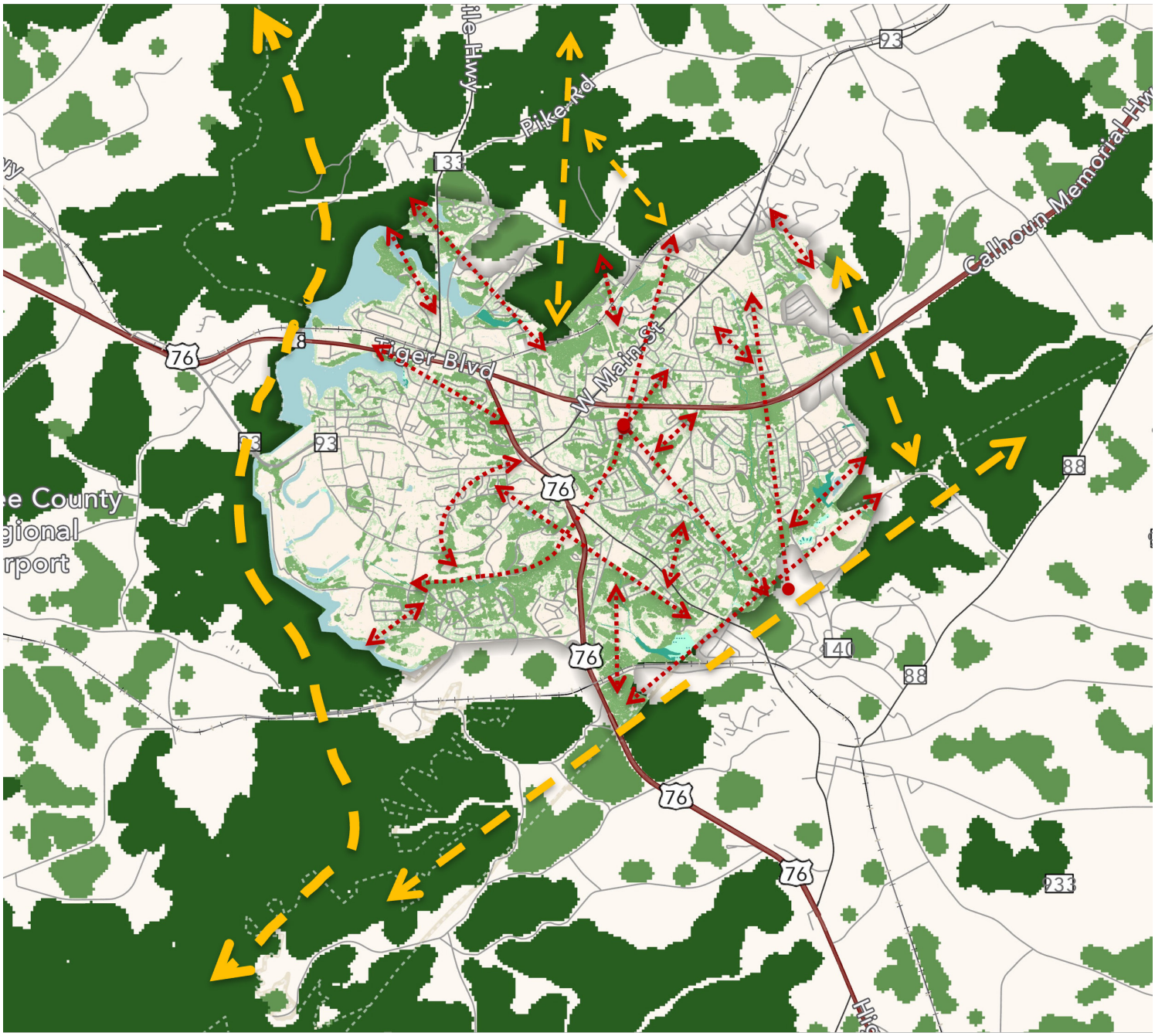



*Figure-11: This map shows how the regional corridors (yellow) connect to the city corriodrs (red). The more connected the landscape, the more resilient it is.*