East Pensacola Heights Tree Canopy Restoration Project

East Pensacola Heights Neighborhood Association (EPHNA)
The City of Pensacola Tree Grant Program
November 2, 2021

Abstract:
The objective of the project is to restore large canopy trees to the neighborhood of East Pensacola Heights through a community-wide tree-planting effort led by the East Pensacola Heights Neighborhood Association. Due to tree loss from storms, most recently Hurricane Sally, and the prevalence of the fragile Upland Laurel “water” Oak species in our community, EPH neighborhood storm protection and resiliency has been greatly degraded. Our goals include planting hardier native storm-resistant species creating wind barriers for future storms, increasing energy efficiency of our homes, increasing property values and improving watershed protection- functions. We envision promoting the overall beauty and livability of East Pensacola Heights by providing a healthy canopy for the next four generations while building knowledge with our neighbors concerning “the right tree, the right place,” and that proper care and stewardship will ensure the health of the trees and the long-lasting return on investment (ROI) of this project.

Introduction

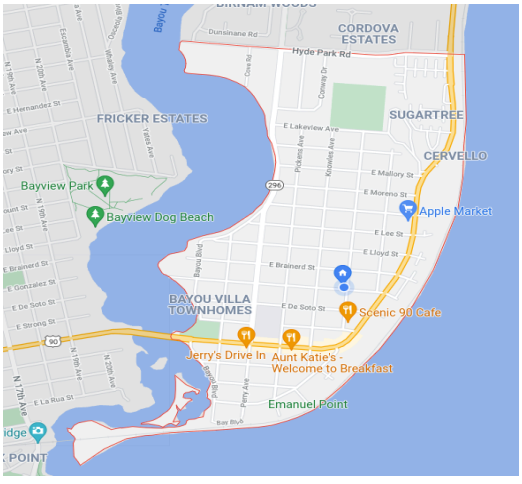
Due to extensive canopy loss in recent years, a strong interest in canopy revival, and as an organized and unified neighborhood association, we believe that East Pensacola Heights (EPH) is an excellent candidate for a community-led tree planting program. For this reason, we are requesting the city's assistance through the grant program established in the recently updated Tree Ordinance.

As The City's 2014 Pensacola Urban Canopy Study states, the benefits of trees are solid and unquestionable, including "improving water quality, lowering ambient temperatures, saving energy, reducing noise and air pollution, increasing neighborhood desirability and quality of life, enhancing property values, providing wildlife habitat and providing aesthetic benefits." (32) We label these benefits Community ROI . Hurricane Sally and the ensuing losses to our canopy, combined with many neighborhood trees reaching the end of their natural lifespan, have made trees a priority to promote our objectives of livability and quality of life. This grant will provide future residents and us with a healthier, more livable EPH.

East Pensacola Heights Neighborhood Association is a 501c3 nonprofit created in the spirit of friendship and community with the purpose of promoting the interests and well-being of our neighborhood.

The EPH Neighborhood Association was re-established in March 2020 "to provide an organized framework for enhancing the livability of the neighborhood, for preserving the quality of life and values of the neighborhood, maintaining or increasing property values in the neighborhood, and facilitating communication between the neighborhood and local government" (Statement of Purpose 2020). Concern about the loss to our tree canopy was a key motive for many members forming and joining the Association. Our initial project was obtaining trees for EPH Lions Park. EPH members carefully planned this project with expert consultation; Parks and Recreation approved the project at the end of the year, and we planted the trees in early March 2021. If awarded this grant, we plan to build on our track record by planning and executing a successful community-led tree planting program.

Figure 1: East Pensacola Heights Boundaries



Literature Review

As you can see from the maps prepared for Pensacola's 2014 Urban Tree Canopy Study, East Pensacola Heights is not immune to the city-wide deforestation trend of the last thirty years:

Figure 2: Canopy Loss 1994-2014 as Shown in Figure 5 of the City of Pensacola's 2014 Tree Canopy Study

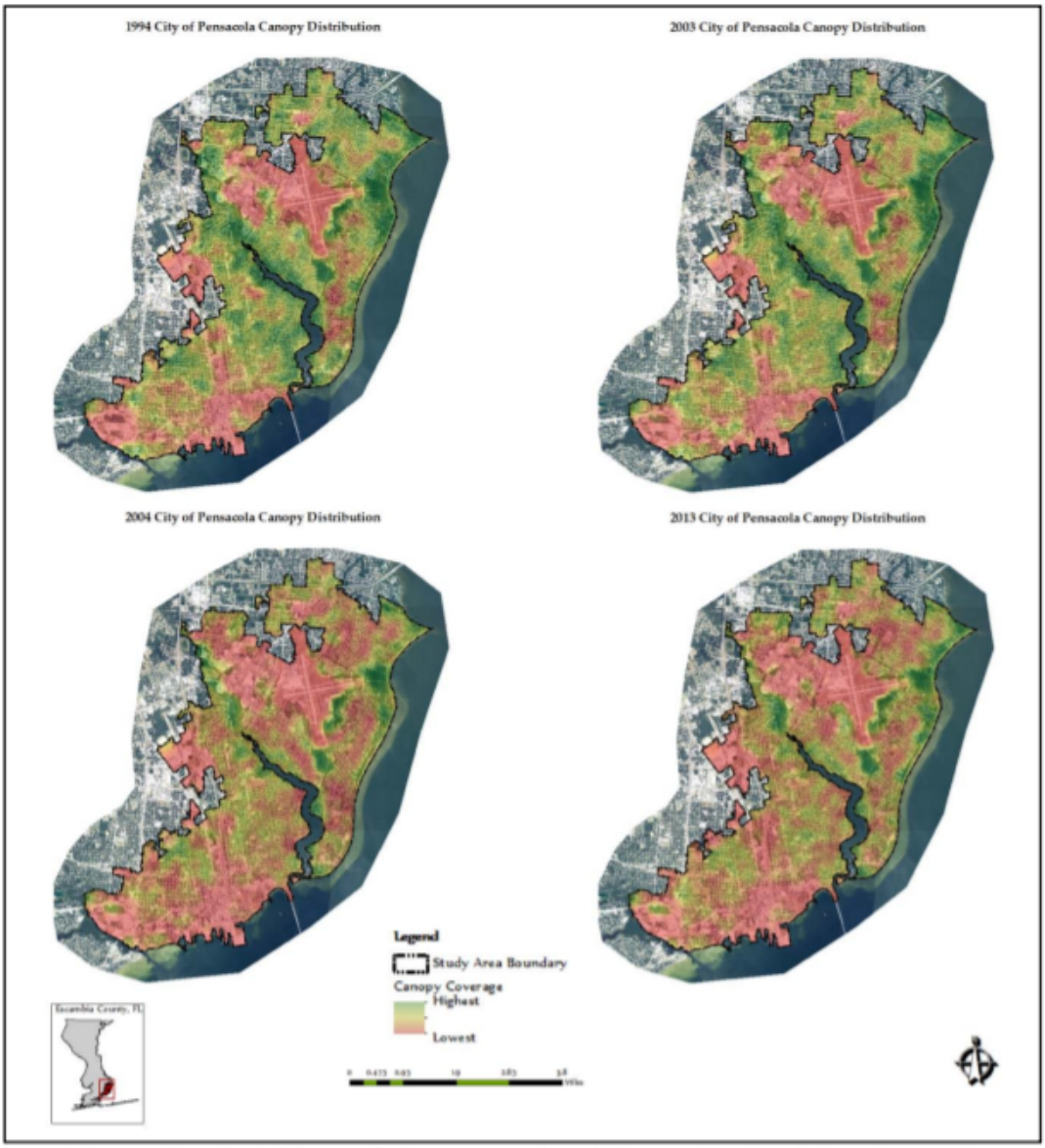


Figure 5: Canopy Trend Model. Detailed canopy trend modeling provides insight into the actual distribution of canopy within the study area. Four representative sample years of specific interest are presented (1994, 2003, 2004 & 2013), covering the nineteen year study window as well as a pre/post major hurricane event (Ivan) to be analyzed. Overall canopy coverage metrics for the sample years in this figure are: 1994 (40.2%), 2003(39.4%), 2004 (28.4%) and 2013 (29.3%).

Figure 3: Street Level Views of Canopy Loss

3006 E Lee St

April 2013

September 2021

E Gonzalez St in EPH

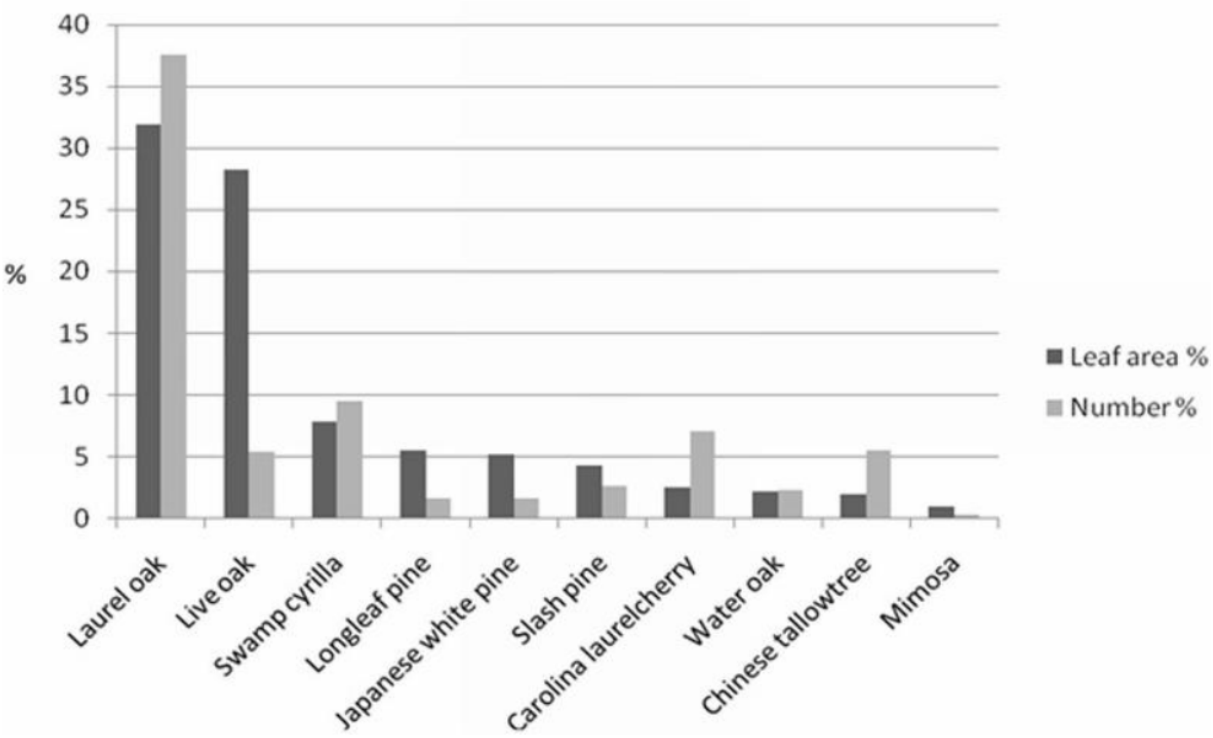
April 2013

September 2021

Indeed, taking into account the damage from Hurricane Sally in September of 2020 and the lack of urban restoration efforts to our canopy, we have sustained substantial losses here since the 2014 study, including in the last year alone. Many of the trees in our neighborhood are the Laurel species of oak. They are also shorter-lived, prone to injury, and have less hurricane resistance than the heartier Live Oaks and Sand Live Oaks. Because EPH was planted with laurel oaks 80-100 years ago, these most prevalent canopy trees are reaching the end of their life expectancy. The street-level images below provide stark examples of canopy losses between 2013 and the present.

As the city's 2014 study explains, "[p]lanting in Pensacola is especially important, with over 50% of Pensacola's existing tree canopy comprised of short-lived and exotic trees including laurel oak, water oak, popcorn, and cherry laurel trees." (Escobedo et al. 2009, 31). For this reason, the list of tree species discussed in our Tree Canopy Restoration Plan does not include Laurel or Water Oaks. Instead, it includes Southern Live Oak, Sand Live Oak, Overcup Oak, Red Maple, Bald Cypress, Longleaf Pine, and Loblolly Pine. These large canopy trees "provide the most environmental and economic value" (Escobedo et al. 2009, 5), and "[t]rees with a long life expectancy and high storm resiliency should be provided extra protection and maintenance. For example, the southern live oak has an average lifespan of 350 years and represents only 5 percent of existing trees in Pensacola. However, this historically significant tree is almost 30% of the overall canopy" (Escobedo et al., 2009 quoted in the 2014 Tree Canopy Study, 32).

Figure 3: Percentage of Trees and Leaf Area by Species (From Excobedo et al.



As the figure above illustrates, although Laurel Oaks comprise nearly 40 percent of Pensacola's trees and live oaks comprise only five percent, the total leaf area provided by live oaks nearly equals that of laurel oaks, demonstrating the far greater benefits to the canopy, tree for tree, of live oaks over their smaller and shorter-lived cousins.

East Pensacola Heights' placement in the southeast corner of Pensacola puts it at the heart of the Bayou Texar Watershed and makes it an excellent candidate for tree canopy restoration:

Figure 4: Map of the Bayou Texar Watershed

https://scapestudio.mysocialpinpoint.com/restore-the-watershed

The EPH neighborhood sits between Pensacola Bay and Bayou Texar. The 2014 Urban Tree study notes that the Bayou Texar Watershed, the largest of the four watersheds, experienced the most significant tree loss post-Hurricane Ivan. The study also concluded that there are adequate planting spaces afforded in this watershed. Still, with over 2,000 acres of potential planting area in this watershed, only 206 acres are on City-owned property. This project offers a unique opportunity to the City of Pensacola to have a community-based organization facilitate tree planting on the commercially and privately owned land on the East side of Bayou Texar. The trees planted in EPH will complement the City's watershed management plan by capturing stormwater runoff into Bayou Texar and Pensacola Bay.

Trees, forests, and other vegetation, according to the Center for Watershed Protection, and their associated soils are often referred to as green infrastructure when used to manage stormwater runoff instead of or in addition to pipes, pumps, storage chambers, or other hard infrastructure. Municipalities are beginning to realize the benefits of green infrastructure and are encouraging green infrastructure stormwater management practices. Green infrastructure practices make sense for our community because stormwater runoff into Bayou Texar has been an ongoing problem. Residents of East Pensacola Heights know that after a heavy rain or storm, we don't swim in the Bayou.

The chart below, of the frequency of health advisories in six local sites from students from the Marine Science Academy at Washington High School, courtesy of an article written by Sea Grant Extension officer Rick O'Connor in 2021:

	Percent of Samples	Requiring a Health Advisory	
Body of Water	2018	2019	2020
Bayou Texar	44%	32%	49%
Bayou Chico	60%	56%	60%
Bayou Grande	47%	28%	47%
Sanders Beach	11%	9%	11%
Park West Pensacola Beach	0%	4%	0%
Casino Beach Pensacola Beach	0%	4%	0%

He points out that 2018 and 2020 had higher rates of rainfall on average, and in turn higher amounts of health advisories. Bringing in this green infrastructure through community tree restoration is a smart and relatively low-cost way to combat these advisories. We would rather be comfortable with our children swimming in the water any time, without checking health advisories or looking for open wounds.

Along with suggesting to plant larger trees as they provide “significantly greater value to the community (p. 37), the study ends with the suggestions that the city “[e]ncourage planting on residential property through education and street tree planting programs placing priority on neighborhoods willing to provide supplemental early tree care. Target and encourage ‘right tree right place’ plantings in areas with lower canopy densities” (p. 33).

As you will see in our Restoration Project Narrative, we will take into account the suggestions of the City’s 2014 Report and focus on educating our neighbors on not just the benefits of the Canopy Restoration Project, but research-based planting placement and care as well. The extension office will provide education to our team leaders, who will pass on their knowledge to residents receiving trees in helping them choose appropriate placement and providing adequate care. The long-term success of our project will promote the well-being of not just East Pensacola residents, but our whole community.

“The right tree, the right place” was a sentiment often echoed throughout urban forestry literature, and our association wants to ensure that residents who receive trees follow these guidelines. This will ensure not only the longevity of the trees and project, but can also increase energy efficiency in our neighborhood. In Escobedo et al Florida’s Urban Forests,” they contend “if deciduous trees, which lose their leaves in the fall, are planted on the south and east sides, the sun’s heat will reach the structure. Ultimately, homeowners determine how cool or warm they prefer the inside of their homes to be and tree placement effects may vary from person to person and home to home” (p. 5). Choosing the right placement for their trees could save homeowners on heating and cooling. Based on 2007 average retail on electricity, Escobedo et

al estimated that $306,000 a year was saved yearly in Southern Escambia County due to reduced air conditioning and heat use thanks to the existing urban canopy (p. 5). Our Education Component of the plan will focus on giving tree planters the information that they need to foster a healthy, long-lived and advantageous tree for generations of East Pensacola to enjoy.

Plan of Action

Phase 1: Outreach

1. East Pensacola Heights Neighborhood Association (EPHNA) will place flyers around EPH with information about the canopy restoration project and post them on our Facebook page. As of October 26, 2021, we have 522 followers. The flyers will provide contact information for residents who lack internet or email how to request a tree. We will proactively approach businesses, schools, and churches in the community as well as private homes.
2. We will print door hangers and conduct a door knock campaign focusing on our community north of East Cervantes and South of Hyde Park Road in our neighborhood. This section of the neighborhood has seen the most deforestation in the last few decades. Although other residents of EPH south of Cervantes will be eligible, that section will be a lower priority outreach as they have a more substantial established canopy.
3. Our social media outreach will use Facebook and Nextdoor. We will create a Facebook project page entitled "East Pensacola Heights Canopy Restoration Project." It will contain information about trees, updates on the project's progress, personal narratives, and requests for pictures to create a conversation about trees in our neighborhood and gain interest in our project. We will keep the community informed of the progress via Nextdoor, which is very popular in our neighborhood.

Phase 2: Enrollment

All resident homeowners residing in East Pensacola Heights will be eligible for a street tree. Residents will fill out an application and be willing to sign a commitment of care contract. There will be a limit of four free trees per neighbor, but no limit upon purchased trees. Registration form will ask for the resident's name, address, contact information, number and type of trees requested.

Commitment to Care

Before placing their order, residents must initial a checklist of agreements:

- tree will be planted in EPH
- tree will be planted on the designated planting day
- tree will be planted with appropriate spacing and away from power lines, out of easement, away from stumps and sidewalk, underground utilities, street signs
- will call 811 before they dig
- resident will water tree per recommendations based on tree caliper
- resident will NOT hit tree with lawnmower or weed eater as this will damage or kill the tree
- resident will utilize tree stakes provided as necessary

Phase 3: Planting Day Saturday following Florida Arbor Day January 23, 2022
East Pensacola Heights Neighborhood Association will have five teams of at least 3 people with one team leader assigned. Beth Bolles from the county extension office has kindly agreed to train each team leader so that trees are planted correctly and a barrier is established with mulch to ensure the longevity of the trees. Ms. Bolles will provide handouts that we will include with our tree that include a placement guide, watering guide, pruning guide based on tree type. This education component is key to making sure trees get a healthy start and continued support. Our association will provide compost from ECUA's compost facility and we will provide pine straw to mulch the newly planted tree.

Phase 4: One-Year Follow-up (January 2023)
We will provide a survey a year after planting day to each resident that received a tree. The survey will request information about how many trees the resident planted, how they are doing, whether the commitment to care was followed. A site visit will follow to verify the information provided.

Budget

City of Pensacola

	Amount	Estimated Cost	Total Cost
Estimated Cost of One Native Tree	25	$130.00	$3,250.00
Pine Straw Mulch Bales	25	$5.00	$125.00
Five Gallon Food Grade Bucket	25	$8.00	$200.00
Watering Guidelines Sticker for 5-Gallon Bucket	25	$4.00	$100.00
		Total	**$3,575.00**

East Pensacola Heights Neighborhood Association

ECUA Compost - 40 pounds	25	4.00	100.00
Door Hangers for Outreach	500	0.20	100.00
Flyers	200	0.10	100.00
*Volunteer Hours Planting Day (3 volunteers per tree x 1.5 hours)	112.5	28.00	3,150.00
Maintenance for 25 trees (one hour per week for one year)	54	28.00	1,512.00
		Total	**4,962.00**

*Volunteer hours determined annually by Independent Sector. Basic labor to plant tree with favorable site conditions. Plant tree with up to 2 ft. diameter root ball with soil prep and double staking as necessary. Includes, tree planting training, equipment and material acquisition, area preparation and protection, setup and cleanup.

Conclusion

We re-established the East Pensacola Heights Neighborhood Association in March of 2020. The previous neighborhood association disbanded several years ago. Our first meeting was at the beginning of the Covid 19 pandemic, and it was our only in-person date. Despite this adversity, we all have come together on Zoom each month and successfully carried out an outreach effort that extended to every residence in East Pensacola Heights. We have grown from that initial meeting of twenty neighbors to forty-four members a year later (and growing). As mentioned above, we successfully got fifty trees planted in Lions Park. When the watering crew didn't show up in the first week, the president, vice president, and treasurer, along with several members, came out with hoses, attached them, and ran a line from our VP's house to ensure our trees survived. One of our members, a horticulturist, pointed out incorrectly planted trees. Neighbors came together on their hands and knees to correct the error and ensure that our trees had the best possible shot. In short, East Pensacola Heights Neighborhood Association is a group of enthusiastic, engaged neighbors who see our projects through. We can assure the grant committee that if given the opportunity, we will do everything in our power to promote the longevity of this project.

References

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