



CITY OF TITUSVILLE

TITUSVILLE ENVIRONMENTAL COMMISSION

AGENDA

Regular Meeting

July 9, 2025 - 5:30 PM

Council Chamber at City Hall

555 South Washington Avenue, Titusville, FL 32796

All persons who anticipate speaking on any Public Hearing item must fill out an Oath Card to be heard on that agenda item and sign the oath contained thereon. These cards are located on the table near the entrance to the Council Chamber or may be obtained from the Recording Secretary. This meeting will be conducted in accordance to the procedures adopted in Resolution No. 24-1997.

Those speaking in favor of a request will be heard first, those opposed will be heard second, and those who wish to make a public comment on the item will speak third. The applicant may make a brief rebuttal if necessary. A representative from either side, for or against, may cross-examine a witness.

Anyone who speaks is considered a witness. If you have photographs, sketches, or documents that you desire for the Commission to consider, they must be submitted into evidence and will be retained by the City. Please submit such exhibits to the Recording Secretary.

1. CALL TO ORDER

2. ROLL CALL

3. DETERMINATION OF A QUORUM

4. PLEDGE OF ALLEGIANCE

5. APPROVAL OF MINUTES

A. Minutes June 11, 2025

Approve minutes

6. PETITIONS AND REQUESTS FROM THE PUBLIC PRESENT (NON-AGENDA ITEMS)

7. OLD BUSINESS

- A. **Native Municipal Tree, Canopy, and Landscape Management Trust Fund**
No action.
- B. **Multi-family ordinance and Definitions**

8. NEW BUSINESS

- A. **Special Presentation: Kim Gibbs on trees that survived the hurricane**
No action.

9. PETITIONS AND REQUESTS FROM THE PUBLIC PRESENT

10. REPORTS

11. FUTURE AGENDA ITEMS

12. ADJOURNMENT

Any person who decides to appeal any decision of the Titusville Environmental Commission with respect to any matter considered at this meeting will need a record of the proceedings, and for such purpose, may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based.

The City desires to accommodate persons with disabilities. Accordingly, any physically handicapped person, pursuant to Chapter 286.26 Florida Statutes, should, at least 48 hours prior to the meeting, submit a written request to the chairperson that the physically handicapped person desires to attend the meeting.

City of Titusville
"Gateway to Nature and Space"

REPORT

To: Members of the Titusville Environmental Commission
From: Bradley Parrish, Community Development Director
Subject: **Minutes June 11, 2025**
Department/Office: Planning

Recommended Action:

Approve minutes

Summary Explanation & Background:

Minutes June 11, 2025

Alternatives:

Item Budgeted:

Source/Use of Funds/Budget Book Page:

Strategic Plan:

Strategic Plan Impact:

ATTACHMENTS:

1. 06.11.25 TEC Minutes Draft

The Titusville Environmental Commission (TEC) of the City of Titusville, Florida met in regular session at City Hall in the Council Chamber located at 555 South Washington Avenue on Wednesday, June 11, 2025, at 5:30 pm.

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Chairman Michael Myjak, called the meeting to order at 5:30 pm. Present were, Vice Chairwoman Laurilee Thompson, Member Jonathan Burdette, Member Michael Browning, Member Hector Delgado and Member Beth Ann Tucker. Member Robert Walter, Alternate Member Joshua Koci and Alternate Member William Young were absent. Staff present were Sustainability Program Coordinator Lily Galleo and Recording Secretary Laurie Dargie.

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Member Delgado made a motion to approve the May 14, 2025, meeting minutes as presented. Member Tucker seconded. There was a unanimous voice vote in favor.

XXX

Petitions and Requests from Public Present

Kay St. Onge of Titusville, Florida came to speak to the Commission about the special City Council meeting on July 22, 2025 at 5:30pm to discuss the Critical Root Zone (CRZ) Ordinance, Native Plant Ordinance, and the Multi-Family Ordinance. Ms. St. Onge spoke of some of the multi-family projects that are currently under review. Ms. St. Onge spoke about Susan Hall who helped write the tree canopy code. Ms. St. Onge said she would like for all developers to work to save tree canopy.

Member Browning said he would like to speak to Susan Hall about the critical root zone requirements that she is working with on the project for preserved trees.

The Titusville Environmental Commission had some discussion about attending the July 22, 2025 meeting at 5:30pm and being sure to attend the meeting to provide input. Chairman Myjak said he will be out of town and would like to attend virtually.

Member Browning made a motion to request that City Council allow the Titusville Environmental Commission members attend the July 22, 2025 City Council meeting at 5:30pm to participate and

also to allow Chairman Myjak to attend virtually. Member Tucker seconded. There was a unanimous voice vote in favor.

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Chairman Myjak said he would like to discuss the differences in townhomes, condos, and subdivisions on tonight's agenda under new business. It was determined that this would need to be an agenda item on the next Titusville Environmental Commission meeting to be properly noticed.

Stan Johnston of Titusville, Florida came to speak about past issues of sewage in the stormwater pond being sprayed and sewage coming up from a manhole.

Chairman Myjak asked Sustainability Program Coordinator Lily Galleo to find out what the procedures are for putting out signage to notify the public of sewage spills.

Toni Shifalo of Titusville, Florida said she is a member of the Titusville Tree Team. Ms. Shifalo stated that the multi-family ordinance does not have the same requirements as residential subdivisions.

Mary Sphar of Cocoa, Florida came to speak about the multi-family ordinance and how it relates to current multi-family proposals. Ms. Sphar said she looked at the proposals and she came to the following conclusions: 1. The majority of multi-family projects do not prioritize saving existing trees. 2. The projects are generally not using Low Impact Development (LID) 3. The trees that are being preserved are mostly in the buffers.

Ms. Sphar asked the Titusville Environmental Commission to ask staff to provide a status update on the Parks and Open Space Ordinance. Ms. Sphar asked that the Titusville Environmental Commission place the Multi-Family Canopy Ordinance and possible adjustments for redevelopment on their July 9, 2025 meeting agenda.

Kim Gibbs of Merritt Island, Florida came to advocate for Florida native plants and Brevard native plants. Ms. Gibbs said that shrubs are very important. Ms. Gibbs explained her work in a multi-family community.

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Old Business

Native Municipal Tree, Canopy, and Landscape Management Trust Fund

Chairman Myjak asked Member Browning to bring the discussion on this topic.

Member Browning explained his work in integrating Chairman Myjak's document and Member Burdette's comments. Member Browning stated that this is an example of an Urban Forestry Plan. Member Browning said the city needs an overall community wide tree canopy project. Trees help infiltrate rainwater and mitigate heat. Member Browning said all streets should have trees. Member Browning said the Titusville Environmental Commission needs to work with staff and City Council to make the funds that developers pay from removing trees to be spent on native tree plantings.

Kim Gibbs of Merritt Island, Florida said it is very important to plant trees in the right places for their survival. Ms. Gibbs said there should be incentives for planting native trees and plants.

Kay St. Onge of Titusville, Florida spoke about the Urban Forestry Plan. Ms. St Onge spoke about using the tree mitigation funds for planting trees. Ms. St. Onge said that trees should be planted in the right places, especially when planting street trees.

Member Delgado complimented Member Browning on the work he did integrating the documents. Member Delgado said that the Titusville Environmental Commission needs to put together a clear plan that can help with the execution of what the Commission wants to see take place. Member Delgado said that if the plan for execution isn't made clear with facts and data it cannot be done properly.

Member Browning stated that it is important to decide and advocate to have the majority of the funds to be used for native canopy tree plantings.

Vice Chairwoman Thompson said that the issue is not having the funds available to execute buying and planting the trees. Vice Chairwoman Thompson asked Ms. Galleo for an update on the grant for the Urban Tree Forestry Plan. Ms. Galleo said that the Florida Department of Agriculture of Consumer Services is doing their evaluation tomorrow, June 12, 2025.

Chairman Myjak asked if the Titusville Environmental Commission should divide up the document and take portions to review and then consolidate the comments for review at the July 9, 2025 Titusville Environmental Commission meeting.

Titusville Environmental Commission
Regular Meeting
June 11, 2025

Draft

The Titusville Environmental Commission members had discussion regarding how to put their execution plan together.

Member Delgado asked why has clear cuttings still been allowed to happen on current city projects. The Titusville Environmental Commission had discussion relating to who approves these, what are the consequences of clear cutting, and who checks over the projects and enforces when things are not done correctly?

Member Tucker asked if the city has a stop work order option that can be used if clear cutting is taking place on a project.

The Titusville Environmental Commission had additional discussion relating to fines, enforcement, consequences and the review of plans.

Chairman Myjak asked how the Commission can divide the document, and each take a portion to work on. Ms. Galleo said all correspondence can be sent to her directly and she would provide it to all of the Commission members.

The Titusville Environmental Commission will work towards getting the document ready with implementation guidelines and funding source so that it can be executed. Ms. Galleo stated that the consultant will also be working on this as part of their task for the Urban Forestry Plan as part of the grant.

Member Browning said he will be providing information to Lily Galleo to forward to the Commission members.

The Titusville Environmental Commission had discussion regarding the three ordinances that will be presented to City Council on July 22, 2025 at 5:30pm. Member Browning said he will prepare a detailed document on the Critical Root Zone (CRZ) ordinance that he would like to have provided to the City Council before their July 22, 2025 5:30pm meeting in hopes that it will explain the Titusville Environmental Commission's recommendation in better detail. Member Browning said he will be attending the meeting to speak about it in person.

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New Business

None.

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Petitions and Requests from Public Present

Kay St. Onge of Titusville, Florida came to encourage all of the Titusville Environmental Commission members to attend the City Council meeting and speak about these ordinances.

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Reports

Titusville Environmental Commission Semi-Annual Report

Member Browning made a motion to accept the Titusville Environmental Commission semi-annual report and for Chairwoman Thompson or Member Delgado to attend to present in person at the July 8, 2025 City Council meeting. Chairman Myjak seconded. There was a unanimous voice vote in favor.

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Sustainability Program Coordinator Lily Galleo said she will be presenting a presentation on Low Impact Development (LID) in October 2025. Ms. Galleo said she will be attending the June 18th tree planting and the July 12th river cleanup. Ms. Galleo said that June 13th is the open public comment on the super heavy and starship impact assessment.

Member Burdette said that Carnival Cruise Line donated a hybrid truck to Keep Brevard Beautiful.

Member Delgado said that he saw there were hundreds of plants planted on the south side of the Max Brewer Bridge and cages for the seagrass were also installed. Member Delgado said that the rays are back in the Indian River Lagoon to give birth and can be seen from the bridge.

Vice Chairwoman Thompson said that there is a fence that has been put up to protect the new plants and she would like to make sure that the fence remains up for at least a year to protect the new plants.

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Future Agenda Items

1. Townhomes, condos and subdivision definitions and how they are in the ordinances
2. Native Municipal Tree, Canopy, and Landscape Management Trust Fund

***Titusville Environmental Commission
Regular Meeting
June 11, 2025***

Draft

3. Special presentation by Kim Gibbs about the trees that survived the hurricanes and the ones that did not
4. Multi-family Ordinance (redevelopment)
5. Status report on Parks & Open Space Ordinance

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Member Delgado said he will not be able to attend the August 2025 Titusville Environmental Commission meeting and will send an email with his request to be excused by City Council to Ms. Galleo.

XXX

Adjournment 8:30 p.m.

DRAFT

City of Titusville
"Gateway to Nature and Space"

REPORT

To: Members of the Titusville Environmental Commission
From: Bradley Parrish, Community Development Director
Subject: **Native Municipal Tree, Canopy, and Landscape Management Trust Fund**
Department/Office: Planning

Recommended Action:

No action.

Summary Explanation & Background:

During the May 14th 2025 meeting Council Member Browning volunteers to draft a combined version of Chairman Myjak's and Council Member Burdette's Native Landscape Trust Fund documents for the Commission to review.

On June 11, 2025, the Titusville Environmental Commission stated they will work towards getting the document ready with implementation guidelines and funding source so that it can be executed.

Alternatives:

Item Budgeted:

Source/Use of Funds/Budget Book Page:

Strategic Plan:

Strategic Plan Impact:

ATTACHMENTS:

1. Beth Ann NLTF & Urban Forest Program
2. Browning NLTF
3. Combined Browning and Burdette NLTF

From Beth Ann Tucker – considerations for Urban Forest Management Program
Sustainable Forest Management Program

The following is included in the 2 suggested formats with emphasis on a few key points

- Develop incentives – Establish the % structure
- Mitigation structure -Fines, Fees. Prioritize allocation
- Business/Public/Private Partnerships

LID -as pertains to Urban Forest Program

Hire Urban Forest Manager/Forester – QUALIFIED

Add to job description: Seek/secure sources for trees/vegetation

Soil Scrutiny – Tier soil types with most critical at the top

Apply this tier to mitigation structure

CRZ

H2O capture – Trees boxes, Rain Gardens

Right Tree Right Place

Get Ordinance(s) in place

*****Endemic and Threatened species and Soil should be NON-NEGOTIABLE**

After Urban Forest Manager/Forester is in place:

Begin Urban Forest Program with Large trees.

Implement sub-canopy and ground cover requirements AFTER canopy is established

Native Municipal Tree, Canopy and landscape Management Trust Fund

(Myjak 2024, Burdette, et al)

The Native Landscape Trust Fund

Summary

There is a growing loss of native Florida due to human development. Our environment, the natural life-giving habitat, is being consumed by concrete, impervious surfaces and compaction. If this continues, it will squeeze “the Nature” right out of Titusville’s Motto.

So we must prepare for the future, and the city has been moving in the right direction:

- Comp Plan: Elements with direct reference, or indirect corollaries to trees under Conservation, Capital Improvements, Recreation and Open Space, and City Wide.
- Sustainability Action Plan (2023) and ‘Resilient Titusville’ (2019)
- Natural Resources Public Engagement (2024/2025)
- Urban Forest Management Plan Grant

What will our city look like? Tree advocates here have insisted that the welfare of our community’s trees be entrusted to professional management. The city has responded. Based on the above documents, it is apparent that there is some consensus among city staff and Council to include trees as important infrastructure. Now, with the prioritizing of canopy shade must come a commitment to funding. Why is robust funding for an ongoing urban forest management plan important?

One university study indicates that only 39 percent of our municipalities systematically care for their publicly owned trees, and fewer than 15 percent hire foresters. The result is that many of our urban forests are in trouble. Throughout America’s cities, more shade trees are dying than are being replaced. Scarce financial resources for many cities are wasted.

By contrast, communities that employ a professional to manage their trees are the big winners. This does not happen just in large cities. Native plants, especially those largest in the landscape, are features of our land, of our community, that must be preserved where possible, and enhanced where needed the most. Canopy shade trees are the workhorses of the natural environment, and as such, they should be equitably distributed. Once preserved, or established, they can mostly exist without fertilizers, insecticides or supplemental watering. They are more capable of surviving drought, fire, heavy rains and

all manner of bugs because natives are naturally resistant to them and they have evolved with the native fauna and the coastal environment for thousands of years.

Better practices are needed –

- A managed Urban Forest (yes, from canopy to Mycelium, maintenance too)
- Structured Wetlands
- Alternative and creative stormwater practices
- Rain Gardens, (incentivize on private property and build models on public land.
- Incentivize canopy tree plantings on single family residential sites

In summary, lets do some engineering *with* nature.

Outline of the NLTF plan

1. Assess mitigation fees.
 - By raising the size of existing tree removal that requires fees, or recompense, we have constrained and limited funding for a city wide forest management plan.
 - Is a re-assessment of credits given to land developers needed? It's been four years since the 2021 adoption of the new tree ordinance. Has there been enough post-ordinance development to do a fair study whether recent changes in raising the size of trees to be recompensed is working?
2. Assess Development Incentives using mitigation reimbursement to incentivize:
 - LID in any development
 - Contributions toward advancing Titusville's Urban Forest.
 - Promoting native habitats and conservation subdivision planning
 - Others?
3. Should we seriously consider that the majority funds are dedicated to the Urban Forest Management Program?

Native Plant Mitigation Assessment – some considerations:

Value of existing habitat and soil types:

- Consider Environmental Value of existing Habitats and soil types vs. post development impacts. Does the city have adequate expertise on staff, so that such review and evaluation required could be done in-house efficiently as part of the Development Review Committee work?

- Consider scenic heritage and natural beauty of Natural vs. Disturbed vs. Redeveloped lands. Should we map scenic road corridors and bikeways, and prioritize them for heat island mitigation, along with the mapping of obvious local attractions, such as the coastline of the IRL?

Hydrological services rendered: (Canopy shade tree contributions to stormwater management cannot be emphasized enough)

- Stormwater absorption
- Groundwater recharge (Do we incentivize 100% infiltration on site enough?)
- Carbon capture
- Disturbance of the typology/mycelium (Critical Root Zone (CRZ) or Tree protection zone (TPZ) enhancement would be a critical element, especially where CRZ is adjacent to preserved and existing stormwater management facilities.

Endemic threatened or endangered Wildlife:

- Can be inferred by soil/habitat type/loss. Note that wildlife moves around when existing habitat has been disturbed. Are we preserving enough green corridors and other spaces to maintain native fauna?

Nutrient load increases due to:

- Loss of vegetation leading to less transpiration, leading to increased stormwater on the ground to manage.
- Introduction of fertilizers, pesticides, herbicides or any chemical available for retail
- New Sanitary Sewers means increase black water processing, potential effluent releases, and biosolid production.
- Increased freshwater flow into the estuary.

Groundwater Resource Impacts:

- Groundwater recharge is diminished due to increased impervious surfaces. Are we strictly adhering to the non-development of critical watershed land?
- Future groundwater reserves will be diminished due to this loss of pervious land.
- Increased potable water demands with population growth (conflicts with failure to protect watersheds around city wells.

LID Development:

- Recovers up to 50% of mitigation fee based on post development environment. Is 50% about right? How do we know 50% is appropriate. What prior studies support this?

Vouchered Brevard County Native Plants:

- Recovers 0-25% of the mitigation fee when planting 30% to 80% respectively of Brevard County Native plants vouchered in the Atlas of Florida Native Plants.
- more discussion requested– Brevard specific vs. Central Florida climate zone. Kimley Horn had some interesting review comments about this

Florida Regional Native Plants:

- Recovers 0-12.5% of the mitigation fee when planting 30%-80% respectively of Florida Regionally Native Plants as vouchered in the Atlas of FNP. Are these percentages of mitigation fees appropriate. Discuss and clarify from where these percentages were derived.
- More discussion needed. See Kimley Horn comments

Non-Native or Exotic Plants not found in the following:

- Federal Noxious Weed List managed by USDA APHIS PP
- Florida Noxious Weed List by the Florida Dept. of Agriculture and Consumer Services (FDACS)
- Florida Prohibited Aquatic Plant List currently under the jurisdiction of FDACS (according to FDAC Rule 5B-64)
- Florida Exotic Pest Plant Council (FLEPPC) Plant List
- Recovers 0% of the mitigation fee

Urban Forest Management

- Given the importance of canopy shade as infrastructure, the majority of the Native Plant Trust Fund should be committed to the Urban Forest Management Plan.
 1. Funds year-round Urban Forest Management Program
 - ❖ Funds a full-time Urban Forester, which reports to the Tree Board
 - Prepares Urban Forest Plan
 - Oversees Community Tree Awareness Programs
 - Ensures fund resources are spent wisely
 - Initiates and assists Volunteer Groups
 - Provides valuable localized tree care
 - Trains/supervises city crews & contractors on ordinance compliance
 - Manages tree plantings and preservation of existing trees

Works with engineers to protect trees during highway construction.

2. Provides Budget and gets support of Community plantings
3. Funds Tree Board activities, workshops, plan development, etc.
4. Implements Tree Board's Urban Forest Plan

Other Considerations?

1. Should we insure that planting large canopy trees and managing urban canopy is the dominant objective of the NLTF? and that the fund is not used for landscaping unrelated to the much more important canopy goals. Should funding of "beauty treatments" of municipal landscape be derived from other sources? If so, What are those potential sources? The more sources we come up with, the less pressure there will be to use NLTF for municipal "freu-freu". We should not native canopy shade tree removal for flowers!

Potential items to fund from NLTF:

- Salaries of Urban forester and other staff involved in Tree inventory
 - Purchase forested land
 - Tree mapping software / Other tree management software
 - Planting trees
 - Tree maintenance funds to Public Works, Parks & Rec. personnel, etc.
 - Periodic Canopy studies to assess how we're doing.
 - Exotic plant removal
 - Education (and related elements, like signs, posters, videos, etc.)
2. "Do No Harm"a basic tenet of managing health– How do we know when, as a community, we have allowed the urban forest to not only diminish, but slip into a pronounced downward trend that will take generations to recover? What metrics are important? (e.g. 2023 COT canopy assessment) (e.g. Critical Root Zone - This one is of particular importance. The city has codified a tree protection zone that is harmful and has no basis in basic tree biology) More on this later in presentations to Council.
 3. From Burdette research: Start seeking to form Public/Private partnerships now. Encourage Business to help fund green infrastructure projects in exchange for branding opportunities.

(from Jonathan Burdette / TEC meeting April 2025 TEC meeting)

Native Landscape Trust Fund Ideas and Implementation (For Burdette ideas on implementation see his original brief)

These integrations echo practices from leading sustainable cities. The intent obviously is to be coordinated with Comp Plan, COT Sustainability Action Plan and Natural Resource preservation and enhancement priorities.

GIS SYSTEMS: New York City actively cares for more than 800,000 mapped trees using an extensive tree mapping system for urban forest planning. It includes a classification of the kind of tree, trunk diameter, location, and assigns it a “Tree ID number” to use for inspection/care logs. It also calculates the benefits of each tree by yearly estimates of stormwater intercepted, energy conserved, air pollutants removed, and total annual value.

(<https://www.nycgovparks.org/news/press/-releases?id=22036>)

(<https://tree-map.nycgovparks.org/tree-map>)

- **MIYAWKI FORESTS:** The UK’s Creating Tomorrow’s Forests initiative applies the Miyawki method to establish dense, native forests rapidly, This approach plants diverse species closely together, accelerating growth and boosting biodiversity, with sites showing improved soil health, carbon sequestration, and wildlife habitats within years. Cities like Utrecht, Netherlands, also adopt this planting method for rapidly greening.
(<https://www.creatingtomorrowsforests.co.uk/blog/the-miyawki-method-for-creating-forests>)
- **TREE BOXES:** Philadelphia’s “Green City, Clean Waters” program uses tree boxes to manage stormwater sustainably. These systems integrate trees with engineered soil and drainage structures along streets, capturing runoff, reducing flooding, and filtering pollutants, while supporting urban tree growth and improving water quality.
(<https://water.phila.gov/green-city/>)
- **PUBLIC-PRIVATE PARTNERSHIPS:** Singapore’s National Parks Board (NParks) fosters public-private collaborations to expand green spaces. Business sponsor projects like park enhancements and tree plantings, gaining visibility through signage, which funds biodiversity efforts and strengthens community ties to nature.
(<https://www.nparks.gov.sg/>)

For Titusville, they enhance the NLTF's mission to preserve native ecosystems, manage stormwater, and engage the public – positioning the city as a sustainability leader.

“The time has come for urban communities to stop seeing the trees and start looking at the forest.” John P. Rousakis, mayor of Savannah, Georgia, at the first National Urban Forestry Conference, 1978.

Burdette's research brought forth numerous ideas for implementation. His notes are referenced here, within the context of a typical Urban Forest Plan. This is based on the idea that Titusville's Urban Forest Plan, in whatever form is finally taken, is the proper context for these ideas. Also, this may help further the notion that most all funds derived from “fees” or “recompense” are used to further Titusville's Urban Forest. As opposed to giving an overabundance of “credit” back to developers for doing what they should be doing in the first place. i.e. producing good plans.

Burdette's research/ideas have been aligned herein within the context of a formal example of Municipal Urban Forest Plan (MUFP). The Plan outlined here is from ISA's “Municipal Specialist Certification Study Guide”. It is an example, not a proposal. ISA MUFP guidelines were published in 2008, and offer step by step framework of how to begin and manage a municipal urban forestry program. FYI, City of Titusville has two certified arborists and we know they have this publication, so it's not a program for which COT should be unfamiliar.

Topics within this guide to an MUFP as follows:

1. Municipal Arboriculture and Urban Forestry

- General introduction
- Looking at the Trees and the Forest

2. Planning the Urban Forest

- Community and Regional Planning (note Burdette's comments on “Integration Opportunity” where the Urban Forest Plan aligns with COT's Sustainability Action Plan (SAP 2.1.1”Manage a database of natural resources and collaborate with local agencies to promote environmental stewardship”)
- Sustainable Urban Forestry – The Ultimate Goal
- Developing Urban Forest Plans (See Burdette's notes on Miyawaki Forests initiative. Where would a priority assessment lead to this concept?)

3. Assessing and quantifying the Urban Forest

- Tree Inventories (See Burdette's notes on GIS Systems)

- Natural Resources Inventories
- Conducting the Inventory
- Using the Inventory Information
- Cost-Benefit Analysis

4. Planting the Urban Forest

- Planting Goals (Miyawaki Mini Forest applicability)
- Selecting the Species (partnerships with local tree farms can inform the growers what species the city is looking to plant, which helps the farms know what to plant, and when)
- Selecting a Quality Tree
- Preparing the Site (See Burdette’s notes on Tree Boxes. This is one example of the application of trees in an urban streetscape, where trees are planned in conjunction with stormwater devices and other plantings to collect, filter, infiltrate the first flush of stormwater off urban streets)
- Planting techniques (See James Urban’s “Up By Roots” – the ultimate guide to planting and establishing canopy in an urban environment)

5. Maintaining the Urban Forest

- Maintenance standards, Specifications and Safety
- Maintenance Operations (Just one critical area where City’s GIS team (data management) works with the Urban Forester (verifies data))
- Care of Newly Planted Trees (potential for private/public partnership)
- Managing Tree/Pavement Conflicts (See Burdette’s comments on Forester’s role in Coordinating with Public Works)
- Managing Tree/Sewer Conflicts (See Burdette’s comments on Forester’s role in Coordinating with Public Works)
- Tree Removal (See Burdette’s comments on Forester’s role in Coordinating with Public Works)
- Recycling Wood Waste
- Green Maintenance Practices

6. Managing Risk in the Urban Forest

- General principles of Risk Management
- Risk Management in Municipal Arboriculture
- Tree-Infrastructure Conflicts (MUFP is coordinated with Public works to understand where PW has interest and need to review and comment)
- Storm Disaster Emergency Response

7. Protecting the Urban Forest

- Municipal Tree Ordinances and By-Laws

- Policies (Coordinated with and approved by COT council, staff and various depts.)
- Standards, Specifications and Best Management Practices (BMPs developed by Urban Forester)
- Permits
- Plan Review (Urban Forester becomes part of LDR review process)

8. Administrative Duties of the Municipal Arborist

- Organizational Theory and Public Administration
- Public Administration and Management – The big picture (From Burdette’s notes: COT finance dept. tracks sponsorship revenue)
- Municipal Governance (TEC / COT oversight)
- Administrative duties of the Municipal Arborist
- Financing and Budgeting (Where public/private Partnerships can occur, like those mentioned in Burdette’s notes)
- Performance Monitoring and Evaluation
- Personal Management (including private/public partnership efforts)
- Fleet and Equipment
- Communications and Public Relations (See Burdette notes on Public/Private Partnerships and Sponsorships)
- Communication Skills.

Native Municipal Tree, Canopy and landscape Management Trust Fund

The Native Landscape Trust Fund

Summary

There is a growing loss of native Florida due to human development. Our environment, the natural life-giving habitat, is being consumed by concrete, impervious surfaces and compaction. If this continues, it will squeeze “the Nature” right out of Titusville’s Motto.

So we must prepare for the future, What will our city look like? Every citizen wants professional police protection, a high quality fire department, and the best possible administrators the city can offer. But how many people insist that the welfare of their community’s treasure of trees be entrusted to professional management?

One university study indicates that only 39 percent of our municipalities systematically care for their publicly owned trees, and fewer than 15 percent hire foresters. The result is that many of our urban forests are in trouble. Throughout America’s cities, more shade trees are dying than are being replaced. Scarce financial resources are being wasted on plantings that are doomed from the start, and life-extending practices such as soil improvements, pruning and disease control are often neglected.

By contrast, communities that employ a professional to manage their trees are the big winners. In our community, native plants, trees and shrubs win big! They have lived here for thousands of years, without fertilizers, insecticides or watering (once established) They survive drought, fire, heavy rains and all manner of bugs because natives are naturally resistant to them. These are features of our land.

Development is not likely to stop. So proper resource management should be key.

Better practices are needed –

- A managed Urban Forest (yes, from canopy to Mycelium, maintenance too)
- Structured Wetlands
- Alternative and creative stormwater practices
- Rain Gardens, **canopy tree plantings on single family residential sites**

In summary, let's do some engineering *with* nature.

Outline of the NLTF plan

1. Assess mitigation fees
 2. Assess Development Incentives using mitigation reimbursement to incentivize:
 - LID in any development
 - Contributions toward advancing Titusville's Urban Forest (**discuss in more detail relative to #3 below**)
 - Promoting native habitats and conservation subdivision planning
 - Others?
 3. Remainder of funds go towards Urban Forest Management Program
 - It's what the NLTF underwrites with the remainder of the mitigation fees.
-

Native Plant Mitigation Assessment – some considerations:

Value of existing habitat and soil types:

- Consider Environmental Value of existing Habitats (s) and soil types vs. post development impacts.
- Consider scenic heritage and natural beauty of Natural vs. Disturbed vs. Redeveloped lands

Hydrological services rendered:

- Stormwater absorption
- Groundwater recharge
- Carbon capture
- Disturbance of the typology/mycelium

Endemic threatened or endangered Wildlife:

- Can be inferred by soil/habitat type/loss

Nutrient load increases due to:

- Loss of vegetation leading to less transpiration, leading to increased stormwater on the ground to manage.
- Introduction of fertilizers, pesticides, herbicides or any chemical available for retail
- New Sanitary Sewers means increase black water processing, potential effluent releases, and biosolid production.
- Increased freshwater flow into the estuary.

Groundwater Resource Impacts:

- Groundwater recharge is diminished due to increased impervious surfaces
- Future groundwater reserves will be diminished due to this loss (of pervious land)
- Increased potable water demands with population growth

LID Development:

- Recovers up to 50% of mitigation fee based on post development environment

Vouchered Brevard County Native Plants: (more discussion requested– Brevard specific vs. Central Florida climate zone)

- Recovers 0-25% of the mitigation fee when planting 30% to 80% respectively of Brevard County Native plants vouchered in the Atlas of Florida Native Plants.

Florida Regional Native Plants: (more discussion requested)

- Recovers 0-12.5% of the mitigation fee when planting 30%-80% respectively of Florida Regionally Native Plants as vouchered in the Atlas of FNP

Non-Native or Exotic Plants not found in the following:

- Federal Noxious Weed List managed by USDA APHIS PP
- Florida Noxious Weed List by the Florida Dept. of Agriculture and Consumer Services (FDACS)
- Florida Prohibited Aquatic Plant List currently under the jurisdiction of FDACS (according to FDAC Rule 5B-64)
- Florida Exotic Pest Plant Council (FLEPPC) Plant List
- Recovers 0% of the mitigation fee

Urban Forest Management

- Recovers the remainder of the Native Plant Trust Fund (Should we build in
 1. Funds year-round Urban Forest Management Program
 - ❖ Funds a full-time Urban Forester, which reports to the Tree Board
 - Prepares Urban Forest Plan
 - Oversees Community Tree Awareness Programs
 - Ensures fund resources are spent wisely
 - Initiates and assists Volunteer Groups
 - Provides valuable localized tree care
 - Trains/supervises city crews & contractors on ordinance compliance
 - Manages tree plantings and preservation of existing trees
 - Works with engineers to protect trees during highway construction.
 2. Provides Budget and gets support of Community plantings

3. Funds Tree Board activities, workshops, plan development, etc.
4. Implements Tree Board's Urban Forest Plan

Other Considerations?

1. How do we insure that planting large canopy trees and managing urban canopy is the dominant objective of the NLTF? and that the fund is not used for landscaping unrelated to the much more important canopy goals. Should funding of "beauty treatments" of municipal landscape be derived from other sources? If so, What are those potential sources? The more sources we come up with, the less pressure there will be to use NLTF for municipal "freu-freu".
2. "Do No Harm"a basic tenet of managing health– How do we know when, as a community, we have allowed the urban forest to not only diminish, but slip into a pronounced downward trend that will take generations to recover? What metrics are important? (e.g. 2023 COT canopy assessment) (e.g. Critical Root Zone - This one is of particular importance. The city has codified a tree protection zone that has no basis related to basic tree biology)
3. From Burdette research: Start seeking to form Public/Private partnerships now. Encourage Business to help fund green infrastructure projects in exchange for branding opportunities.

Basics of an Urban Forest Plan

In the April TEC meeting, TEC board member Burdette's research brought forth numerous ideas for implementation. Burdette's notes will be reintroduced here. For starters, instead of regurgitating six pages of research, and attempting to integrate that research within the outline by Myjak, you'll find notes in red as to instances where Burdette's research/ideas align within the context of a formal Municipal Urban Forest Plan (MUFP). The Plan outlined here is from ISA's "Municipal Specialist Certification Study Guide". ISA MUFP guidelines were published in 2008, and offer step by step framework of how to begin and manage a municipal urban forestry program. FYI, City of Titusville has two certified arborists and we know they have this publication, so it's not a program for which COT should be unfamiliar.

Topics within this guide to an MUFP as follows:

1. **Municipal Arboriculture and Urban Forestry**
 - General introduction
 - Looking at the Trees and the Forest
2. **Planning the Urban Forest**

- Community and Regional Planning (note Burdette’s comments on “Integration Opportunity” where the Urban Forest Plan aligns with COT’s Sustainability Action Plan (SAP 2.1.1”Manage a database of natural resources and collaborate with local agencies to promote environmental stewardship”)
- Sustainable Urban Forestry – The Ultimate Goal
- Developing Urban Forest Plans (See Burdette’s notes on Miyawaki Forests initiative. Where would a priority assessment lead to this concept?)

3. Assessing and quantifying the Urban Forest

- Tree Inventories (See Burdette’s notes on GIS Systems)
- Natural Resources Inventories
- Conducting the Inventory
- Using the Inventory Information
- Cost-Benefit Analysis

4. Planting the Urban Forest

- Planting Goals (Miyawaki Mini Forest applicability)
- Selecting the Species (partnerships with local tree farms can inform the growers what species the city is looking to plant, which helps the farms know what to plant, and when)
- Selecting a Quality Tree
- Preparing the Site (See Burdette’s notes on Tree Boxes. This is one example of the application of trees in an urban streetscape, where trees are planned in conjunction with stormwater devices and other plantings to collect, filter, infiltrate the first flush of stormwater off urban streets)
- Planting techniques (See James Urban’s “Up By Roots” – the ultimate guide to planting and establishing canopy in an urban environment)

5. Maintaining the Urban Forest

- Maintenance standards, Specifications and Safety
- Maintenance Operations (Just one critical area where City’s GIS team (data management) works with the Urban Forester (verifies data)
- Care of Newly Planted Trees (potential for private/public partnership)
- Managing Tree/Pavement Conflicts (See Burdette’s comments on Forester’s role in Coordinating with Public Works)
- Managing Tree/Sewer Conflicts (See Burdette’s comments on Forester’s role in Coordinating with Public Works)
- Tree Removal (See Burdette’s comments on Forester’s role in Coordinating with Public Works)
- Recycling Wood Waste

- Green Maintenance Practices
- 6. Managing Risk in the Urban Forest**
 - General principles of Risk Management
 - Risk Management in Municipal Arboriculture
 - Tree-Infrastructure Conflicts (MUFP is coordinated with Public works to understand where PW has interest and need to review and comment)
 - Storm Disaster Emergency Response
- 7. Protecting the Urban Forest**
 - Municipal Tree Ordinances and By-Laws
 - Policies (Coordinated with and approved by COT council, staff and various depts.)
 - Standards, Specifications and Best Management Practices (BMPs developed by Urban Forester)
 - Permits
 - Plan Review (Urban Forester becomes part of LDR review process)
- 8. Administrative Duties of the Municipal Arborist**
 - Organizational Theory and Public Administration
 - Public Administration and Management – The big picture (From Burdette's notes: COT finance dept. tracks sponsorship revenue)
 - Municipal Governance (TEC / COT oversight)
 - Administrative duties of the Municipal Arborist
 - Financing and Budgeting (Where public/private Partnerships can occur, like those mentioned in Burdette's notes)
 - Performance Monitoring and Evaluation
 - Personal Management (including private/public partnership efforts)
 - Fleet and Equipment
 - Communications and Public Relations (See Burdette notes on Public/Private Partnerships and Sponsorships)
 - Communication Skills.

City of Titusville
"Gateway to Nature and Space"

REPORT

To: Members of the Titusville Environmental Commission
From:
Subject: **Multi-family ordinance and Definitions**
Department/Office: Planning

Recommended Action:

Summary Explanation & Background:

At the June meeting Ms. Sphar asked that the Titusville Environmental Commission place the Multi-Family Canopy Ordinance and possible adjustments for redevelopment on their July 9, 2025 meeting agenda.

Mary Sphar of Cocoa, Florida came to speak about the multi-family ordinance and how it relates to current multi-family proposals. Ms. Sphar said she looked at the proposals and she came to the following conclusions: 1. The majority of multi-family projects do not prioritize saving existing trees. 2. The projects are generally not using Low Impact Development (LID) 3. The trees that are being preserved are mostly in buffers.

Ms. Shifalo stated that the multi-family ordinance does not have the same requirements as residential subdivisions.

At the June meeting Chairman Myjak said he would like to discuss the differences in townhomes, condos, and subdivisions on tonight's agenda under new business. It was determined that this would need to be an agenda item on the next Titusville Environmental Commission meeting to be properly noticed.

At this time, these are how the terms are appear in the Land Development Regulations in Sec 37-1.

Definitions;

https://library.municode.com/fl/titusville/codes/land_development_regulations?nodeId=TILADERE_C

- **Condominium:** A building, or group of buildings, in which units are owned individually, and the structure, common areas and facilities are owned by all the owners on a proportional, undivided basis.
- **Townhomes:** A one-family dwelling in a row of at least three (3) such units in which each unit has its own front and rear access to the outside, no unit is located above or below another unit.
- **Subdivision:** All divisions of a tract or parcel of land into two (2) or more lots, building sites, or other divisions of land. The term "subdivision" includes re-subdivision (minor adjustment or vacation of property line, reallocation or consolidates land area of contiguous lots or parcels), and when appropriate to the context shall relate to the process of subdividing or to the land subdivided, provided, however, that the following

shall not be included within this definition nor be subject to these [Land Development] Regulations:

- (a) The combination (consolidation into fewer number) or recombination (new configuration or consolidation) of previously platted lots where the total number of lots is not increased, the resulting lots are equal to or exceed the standards of the City as required by these regulations and necessary adjustments in utilities and site improvements meet the approval of the Public Works Official.
- (b) The public acquisition of strips of land for the widening or opening of streets.
- Major subdivision: The division of land (parcels or tracts) into three (3) or more lots in conformity with requirements of the zoning district applicable to the lots created. This shall also include the creation, or dedication of public streets, or any change in an existing public street. The following shall not be considered subdivisions:
 - (a) Lot split.
 - (b) The combination or recombination of lots or parcels, when the total number of lots is not increased and the resultant lots are equal to or exceed the requirements of the zoning district in which they are located.
 - (c) The public acquisition of strips of land for the widening or opening of streets pursuant to the action of the City Council.

Alternatives:

Item Budgeted:

Source/Use of Funds/Budget Book Page:

Strategic Plan:

Strategic Plan Impact:

ATTACHMENTS:

None

City of Titusville
"Gateway to Nature and Space"

REPORT

To: Members of the Titusville Environmental Commission
From: Bradley Parrish, Community Development Director
Subject: **Special Presentation: Kim Gibbs on trees that survived the hurricane**
Department/Office: Planning

Recommended Action:

No action.

Summary Explanation & Background:

During the June 2025 TEC meeting, it was asked that Kim Gibbs be invited to present her findings about the trees that survived the hurricanes and the ones that did not.

Alternatives:

Item Budgeted:

Source/Use of Funds/Budget Book Page:

Strategic Plan:

Strategic Plan Impact:

ATTACHMENTS:

1. 20250709 TEC - Stormscaping in Central Florida



STORMSCAPING IN CENTRAL FLORIDA WITH FLORIDA NATIVE PLANTS

A journey through central Florida counties
Brevard and Pasco after hurricane Milton.
Protecting your home and property with wind-
resistant landscaping.

Presented by Kimberly Gibbs

Email: FriendsOfMerrittIsland@gmail.com

Hurricane Milton

On October 9, 2024 at about 8:30 pm, hurricane Milton made landfall on Florida's western coast as a Category 3 hurricane with 120 mph sustained winds.

The storm carved a path of destruction across the state of Florida, from Pasco County on the Gulf Coast through Brevard County on the east coast.

Hurricane Milton – Lots of wind



Hurricane Milton – High winds



Hurricane Milton – and lots of rain too



Hurricane Milton – and lots of rain too



How can we protect our homes and properties from extreme weather events?

Stormscaping Principles

1. Choose wind resistant trees and shrubs
2. Right Plant Right Place
3. Plant trees in groupings instead of as a lone specimen.
4. Create layers of tree and shrub plantings around the property.
5. Proper care and pruning of trees and palms.

1. Choose wind resistant native trees and shrubs

What is a Florida “native” plant and why should I plant them?

A "**Florida native plant**" refers to a species occurring within the state boundaries prior to European contact, according to the best available scientific and historical documentation.

Florida native plants include those species understood as indigenous, occurring in natural associations in habitats that existed prior to significant human impacts and alterations of the landscape.“

Source: <https://www.fnps.org/natives/definition>

Benefits of landscaping with native plants

Authentic Florida landscapes
Are
Environmentally friendly and
Support native wildlife

Trees and Palms

15+ feet tall

(Common in Brevard County)

WATER REQUIREMENTS	COMMON NAME (<i>SCIENTIFIC NAME</i>)
DRIER TO AVERAGE	gumbo limbo (<i>Bursera simaruba</i>) ** pignut hickory (<i>Carya glabra</i>) slash pine (<i>Pinus elliottii</i> var. <i>densa</i>) ** live oak (<i>Quercus virginiana</i>) ** Sand live oak (<i>Quercus geminate</i>) **
MOIST TO WET	red maple (<i>Acer rubrum</i>) strangler fig (<i>Ficus aurea</i>) ** dahoon holly (<i>Ilex cassine</i>) ** southern magnolia (<i>Magnolia grandiflora</i>) ** water oak (<i>Quercus nigra</i>) laurel oak (<i>Quercus laurifolia</i>) cabbage palm (<i>Sabal palmetto</i>) **
* Palm	** hurricane wind resistant

red maple

(*Acer rubrum*)

Mature Height: 45 to 50 feet tall

Shade or fall color tree for moist areas.

Deciduous. Blooms in winter



red maple

(*Acer rubrum*)
continued.



gumbo limbo

(Bursera simaruba)

Size: 20-30(60) feet tall

Interesting bark.

Hurricane wind resistant.



pignut hickery

(Carya glabra)

Size: 30-100' tall

Excellent specimen or shade tree where
its roots will not be disturbed



pignut hickery

(Carya glabra)

continued.

Major storm damage

Avoid planting near structures



strangler fig

(ficus area)

Size: to 60' tall; to 50' wide

Suitable for informal setting in large acreage sites

Hurricane wind resistant



dahoon holly

(*Ilex cassine*)

Size: 20-30' tall

Performs best in wetland site

Evergreen. Showy fruits. Interesting foliage.

Hurricane wind resistant



sweetgum

(*Liquidambar styraciflua*)

Size: To 80' tall; to 30' wide

Plant where its persistent bur-like fruits (gum balls) will not be underfoot.

Storm damage includes damaged branches. Otherwise is good condition.



southern magnolia

(*Magnolia grandiflora*)

Size: 50' to 65' tall; to 40' wide

Showy, fragrant flowers

Interesting foliage

Hurricane wind resistant



southern magnolia

(*Magnolia grandiflora*) continued.



No
Storm
Damage



southern magnolia

(*Magnolia grandiflora*)
continued.

Two southern magnolia trees
planted as specimens in the front
yard, with no other surrounding
trees.

Zero storm damage.

Notice limbing up at base.

Alternative option, maintain natural
form and plant saw palmetto
around apron.



slash pine

(*Pinus elliottii* var. *densa*)

Size: 80-100' tall

Hurricane wind resistant



slash pine

(*Pinus elliottii* var. *densa*)

Storm damage is mostly
broken branches

A few entire trees down

Most slash pines appear in
good condition



sand live oak

(*Quercus geminata*)

Size: 20-30' tall

Specimen tree, shade tree.
Thicket in dry sandy areas.

Hurricane wind resistant

Suitable for home many
landscapes



live oak

(*Quercus virginiana*)

Size: to 80' tall; to 100' wide

Hurricane wind resistant



laurel oak and water oak

(*Quercus laurifolia* and *Quercus nigra*)

Size: large shade trees to 80' tall

Weaker than the live oak

Sustained heavy storm damage

Avoid planting these trees near structures



laurel oak and water oak

(*Quercus laurifolia* and *Quercus nigra*)
continued.

Notice the residential lot has been heavily cleared of vegetation and trees, further weakening the forest wind resistance.



cabbage palm

(Sabal palmetto)

Size: to 40' tall

Evergreen. Blooms spring-summer.

Hurricane wind resistant

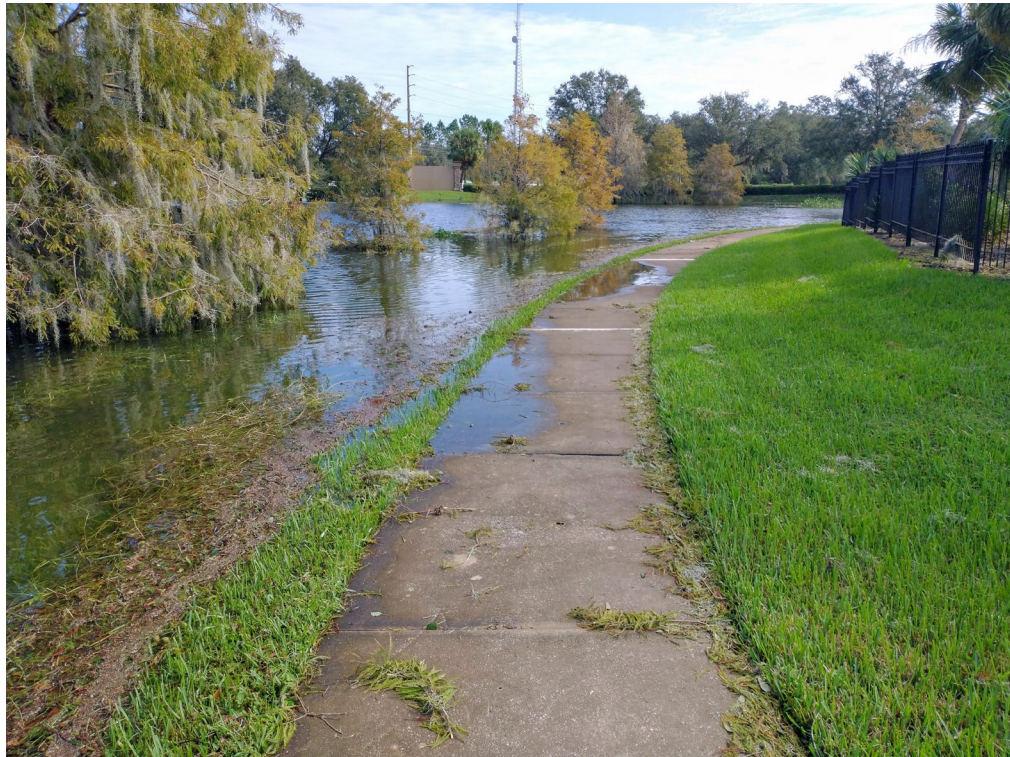


pond cypress

(*Taxodium ascendens*)

No storm damage

Excellent tree for detention ponds and swales



Plants 5 to 15 feet tall

(Mostly shrubs – common in Brevard County)

PLANT COMMON NAME (SCIENTIFIC NAME)

marlberry (*Ardisia escallonioides*)

salt bush (*Baccharis halimifolia*)

American beautyberry (*Callicarpa americana*)

fiddlewood (*Citharexylum spinosum*)

Florida privet (*Forestiera segregata*)

firebush (*Hamelia patens*)

Simpson's stopper (*Myrcianthes fragrans*)

wax myrtle (*Myrica cerifera*)

myrsine (*Myrsine cubana*)

wild coffees – shiny coffee and velvetleaf coffee (*Psychotria nervosa* and *Psychotria sulzneri*)

Jamaica caper (*Quadrella jamaicensis*)

Saw palmetto (*Serenoa repens*)

elderberry (*Sambucus nigra* subsp. *Canadensis*)

necklace pod (*Sophora tomentosa*)

Walter's viburnum (*Viburnum obovatum*)

Saltbush

(*Baccharis halimifolia*)

Size: to 15' tall

Informal, loose foliage

Grows commonly with wax myrtle



saltbush

(*Baccharis halimifolia*)
continued.

Major storm damage. Regenerative



American beautyberry

(*Callicarpa americana*)

Size: 4-8 feet tall

Showy flowers. Showy fruits.

Tattered in storm but recovering fine



fiddlewood

(*Citharexylum spinosum* syn. *fruticosum*)

Size: 12-25' tall

Aroma. Fragrance. Showy flowers.

Hurricane wind resistant



firebush

(*Hamelia patens*)

Size: to 15' tall

Showy flowers.

Heavily damaged in storm, uprooted and/or major damage to branches

Recovering, leafing out currently. Best used as a background plant.



firebush

(*Hamelia patens*)

Butterflies. Noted for
attracting zebra longwings.



wax myrtle

(*Myrica cerifera*)

Size 10-15 (20) feet tall

Evergreen. Fragrant foliage.

Hurricane wind resistant - somewhat



wax myrtle

(*Myrica cerifera*)

Some fared better than others

Most survived the storm well, with minimal damage

Highly regenerative



myrsine

(*Myrsine cubana*)

Size: 8-15' tall

Evergreen. Interesting foliage.

Narrow in form.



shiny-leaf wild coffee

(*Psychotria nervosa*)

Size: 2 to 6 feet tall

Showy flowers. Showy fruit.

Interesting foliage.

No storm damage



velvet leaf wild coffee

(*Psychotria sulzneri*)

Size: 3 to 4 feet tall

Evergreen. Blooms and fruits year round.

Showy fruits. Interesting foliage.



saw palmetto

(*Serenoa repens*)

Size: 3-9' tall

Evergreen. Blooms spring to summer.

Showy flowers. Fragrant.

Interesting foliage.

Hurricane wind resistant



Saw palmetto

(*Serenoa repens*)
continued.

Zero storm damage.

This yard is undergoing a transformation to native plantings, by removing sections of turf grass and replacing it with native trees and shrubs.



...Compare to non-native philodendron

Meanwhile, just a few feet away in the same yard, the non-native philodendron did not weather the storm well, and they provide no value to wildlife.

Saw palmetto is an excellent replacement plant for philodendron



2. Right Plant Right Place

Plant trees that will become large away from the home foundation, property line and septic system.

Right Plant Right Place

Avoid planting large trees near the house, septic system and neighboring property line.

Do you see a problem here?



3. Plant trees in groupings instead of as a lone specimen. Strive for five.

Strive for five. Plant trees in groupings instead of as a lone specimen. Strive for groupings of 5 trees to allow their roots to grow together for increased wind resistance.

According to a study by IFAS Extension at the University of Florida, trees have more chances to survive hurricane-force winds if planted in groups, even with shallow roots. By group, they refer to 5 or more trees planted within 10 feet of each other.

Planting trees in a row is also an option but with less resistance than grouped trees. If you want a wind barrier to shelter your outdoor space during hurricane season, try making it out of 2 or more rows of trees or hedges.

4. Create layers of tree and shrub plantings

Where appropriate, plant layers of trees and shrubs around the home foundation and perimeter of property.

5. Proper Pruning and Care of Trees and Palms

Hire a qualified arborist to prune high value trees.

This live oak was pruned badly using a technique called “lion-tailing,” which leads to a structurally weak and unhealthy tree.



A healthy cabbage palm with full crown



Palm Pruning Tip: Avoid Over Pruning

- Avoid “hurricane” pruning and other over pruning techniques
- Search online IFAS and “How to prune a cabbage palm”



Avoid planting tall trees under powerlines

The utility company will
Come through and chop it all
down, leaving an unsightly landscape.



Resources for this presentation

- Florida Native Plant Society
Plant profiles available at **FNPS.org**
- Atlas of Florida Plants: <https://florida.plantatlas.usf.edu/>
- Wind and Trees: Lessons Learned from Hurricanes UF/IFAS Publication FR173

Dr. Ginny Stibolt books: *The Art of Maintaining a Florida Native Landscape;*
A Step-by-Step Guide to a Florida Native Yard

<https://www.lawnstarter.com/blog/florida/hurricane-resistant-landscaping-florida/>

Where to buy native plants?

Wild Wet N Wacky Florida Native Plants

1380 D'albora Rd Merritt Island FL

Email: wildwetnwacky@gmail.com

Web: www.wildwetnwacky.com

Florida Native Plant Society – Sea Rocket Chapter

Monthly plant sales are held during spring and fall. Contact chapter for details.

Enchanted Forest Sanctuary Titusville FL

Email: srsecretary@fnps.org

Web: <https://searocket.fnpschapters.org/>

Change of Greenery

Melbourne, FL

Email: ChangeOfGreeneryFL@gmail.com

Web: www.changeofgreenery.org

Native Butterfly Flowers LLC

West Melbourne FL Email: nativebutterflyflowers@gmail.com Web: <https://nativebutterflyflowers.com/Melbourne>

Outside Brevard? Find a native plant nursery at www.PlantRealFlorida.org and www.FANN.org