City of Pensacola
Tree & Landscape Ordinance
Promulgated

By: Laurie Murphy

Executive Director, Emerald Coastkeeper
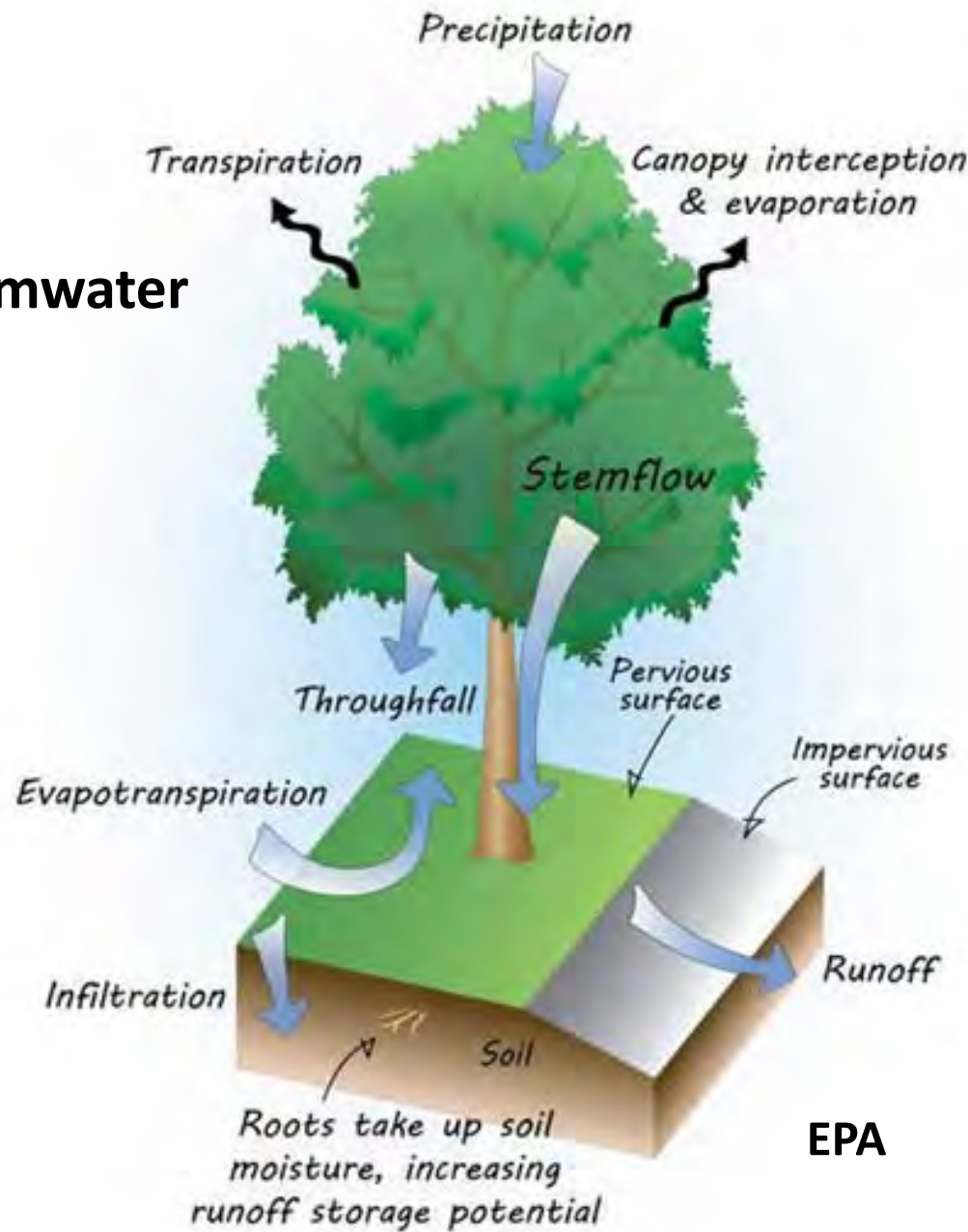
FAB*ulous Trees*
(**F**eatures **A**nd **B**enefits)

- Decreased stormwater runoff, improving water quality
- Helps filter rainwater
- Reduces erosion & sedimentation
- Provides biodiversity for wildlife habitat
- Reduces air pollution
- Reduces greenhouse gas emissions
- Reduces pavement maintenance
- Lower energy use-heat island affect
- Improves mental health & recovery time from illness
- Promotes traffic calming
- Encourages active commuting-shade & cooling
- Encourages social cohesion
- Increases property values
- Reduces noise pollution

Decreases stormwater runoff

Precipitation

Transpiration

Canopy interception & evaporation

Stemflow

Throughfall

Pervious surface

Impervious surface

Evapotranspiration

Infiltration

Runoff

Soil

Roots take up soil moisture, increasing runoff storage potential

EPA

Improve our water quality

Name	Type	Size	Status
Carpenter Creek	390	12.0 Acres	Impaired
Pensacola Bay (North Segment)	566	7.6 Miles	Impaired
Jones Creek	460	2.1 Miles	Impaired
Santa Rosa Sound	566	25.5 Miles	Impaired
Pensacola Bay (Mouth)	566	1.5 Miles	Impaired
Bayou Grande	460	0.0 Miles	Impaired
Bayou Grande	566	1.7 Miles	Impaired
UNNAMED BRANCH	390	70.1 Acres	Impaired
UNNAMED BRANCH	460	1.2 Miles	Impaired
Escambia Bay (N)	566	7.5 Miles	Not Assessed
Escambia Bay (South Segment)	566	8.0 Miles	Impaired
BAYOU MARCUS CREEK	460	7.6 Miles	Impaired

EPA

1 OF 375 **TREES THAT**
CLEAN RAINWATER

Photo courtesy of Barr Engineering

Reduces negative impacts
To waterbodies

Bayou Texar

Ellison Drive

CERTIFIED
WILDLIFE
HABITAT
FOOD · WATER · COVER · PLACES TO RAISE YOUNG

Pensacola in top 5 nationwide for reduced air quality on July 13, 2019

Trees help reduce air pollution

Current AQI

Current AQI	**Forecast**	**AQI Loop**	**More Maps**

Current AQI (Combined PM and O₃)
Saturday, July 13, 2019 1:00 PM EDT

(Map showing Atlanta, Birmingham, Savannah, Tallahassee, Jacksonville, Orlando, Tampa, Miami)

0 25 50 100 Miles

Generated: 2019-07-13 17:31:50Z

■ National Parks/Monuments   ■ Tribal Boundaries
The tribal boundaries shown here are provided by the Bureau of Indian Affairs and are intended to be used as a general spatial reference only. They are not a formal determination of tribal boundaries by the EPA.

Good **Moderate** **USG** **Unhealthy** **Very Unhealthy** **Hazardous** **! Action Day**

State Air Quality Resources
American Lung Association (ALA) of Florida
Florida DEP Air Resource Management
Florida DEP Air Resource Management - Contact Information
Florida Department of Environmental Protection (DEP)

Data and Forecasts courtesy of:
Broward County Environmental Protection and Growth Management Department, City of Jacksonville - Environmental Quality Division, Environmental Protection Commission of Hillsborough County, Florida Department of Environmental Protection, Miami-Dade County - Department of Environmental Resources Management, Orange County Environmental Protection Division, Palm Beach County - Environmental Public Health Service, Pinellas County Environmental Management

Click on the city name for more detailed information. printable summary	FORECAST Sat Jul 13	FORECAST Sun Jul 14	CURRENT AQI
Baker County	n/a	n/a	59
Bay and Gulf Counties	n/a	n/a	96
Belle Glade	Good	Good	69
Citrus County	n/a	n/a	61
City of North Miami	n/a	n/a	10
Columbia and Suwannee Counties	n/a	n/a	59
Daytona Beach	Good	Good	27
Fort Myers	Mod	Good	34
Fort Pierce	Mod	Good	72
Ft. Lauderdale	Good	n/a	58

Gainesville	Good	Good	n/a
Hamilton County	n/a	n/a	59
Highlands County	n/a	n/a	60
Holiday	Good	Good	31
Hollywood	Good	n/a	13
Holmes, Jackson, and Washington Counties	n/a	n/a	75
Jacksonville	Good	Good	62
Lake County	Good	Good	71
Lakeland	Good	Good	28
Melbourne	Good	Good	28
Miami	Good	Good	52
Naples	Mod	Good	64
Nassau County	n/a	n/a	25
Ocala	Good	Good	60
Okaloosa County	n/a	n/a	16
Orlando	Good	n/a	71
Osceola County	Good	Good	71
Pensacola	Good	Good	104
Sarasota	Mod	Good	60
Seminole County	Good	Good	31
St. Petersburg	Good	Good	63
Tallahassee	Good	Good	75
Tampa	Good	Good	63
Taylor County	n/a	n/a	70
West Palm Beach	Good	Good	69

Pensacola, FL; July 12, 2019

Current: Good
Forecast: Good
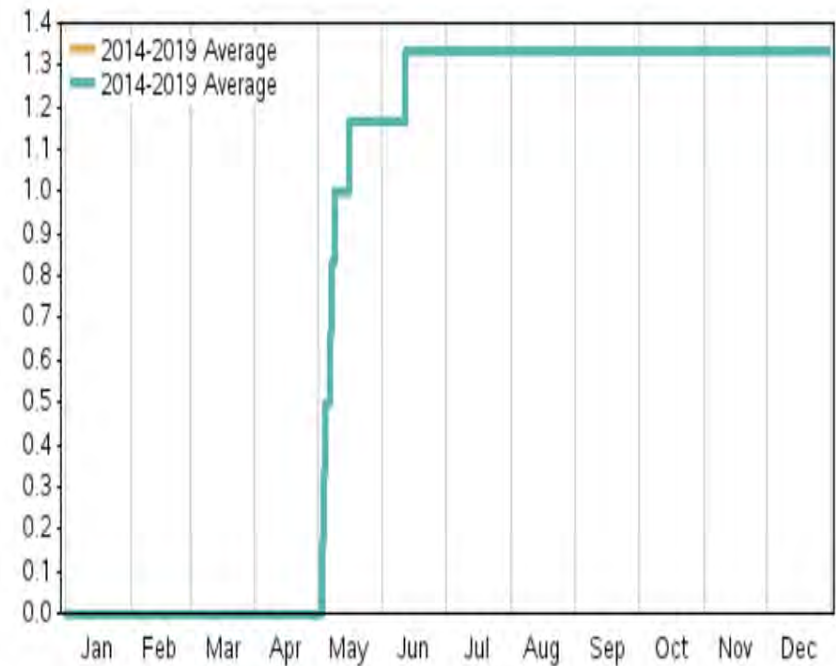
Escambia County, FL

July Air Quality Average (2015)

- Good
- Moderate

July Historical Air Quality (2012-2015)

Good   Moderate   Unhealthy_f...   1/2
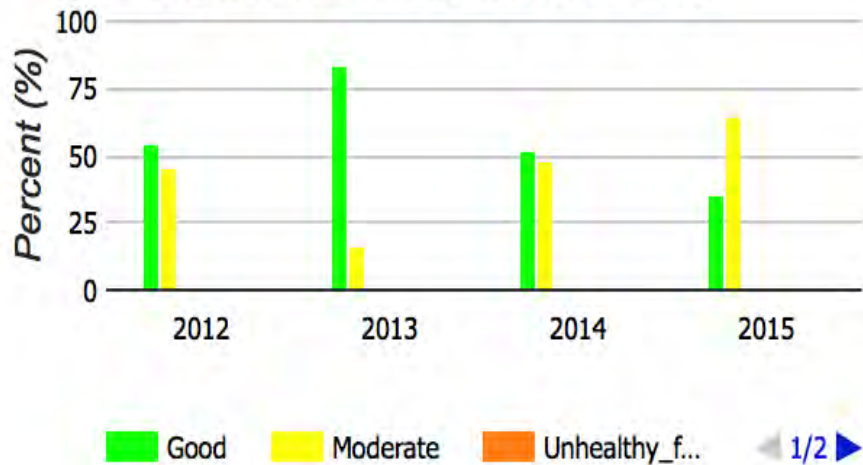
Cumulative Number of Days 8-hr Ozone Daily Max > 0.070 ppm
2014-2019 Average vs. 2014-2019 Average
in Pensacola-Ferry Pass-Brent, FL

- 2014-2019 Average
- 2014-2019 Average

Note: Based on ALL sites
Source: U.S. EPA AirData <https://www.epa.gov/air-data>
Generated: July 13, 2019

Helps sequester carbon

6294   Main Street, Cornwall Conn.

Reduces heat island effects
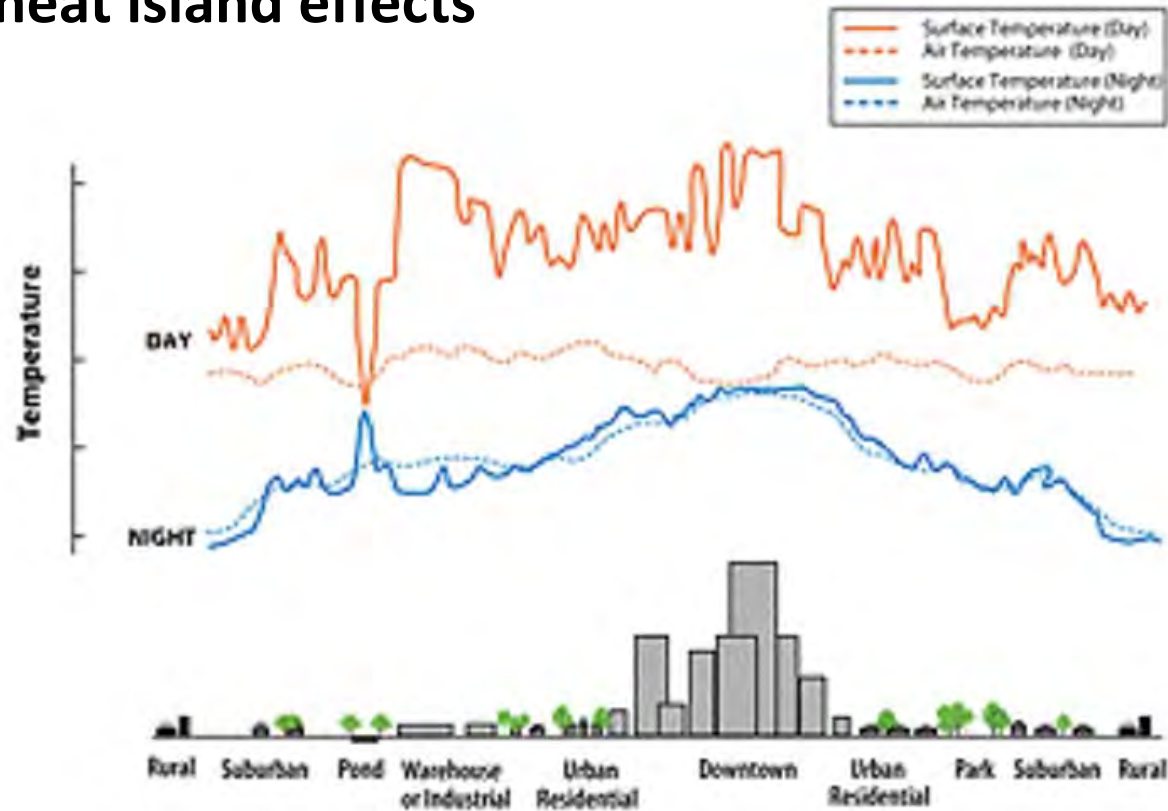
Note: The temperatures displayed above do not represent absolute temperature values or any one particular measured heat island. Temperatures will fluctuate based on factors such as seasons, weather conditions, sun intensity, and ground cover.

. https://www.epa.gov/heat-islands/heat-island-compendium.

Improves healing & reduces stress

Massachusetts General Hospital Lunder Building - NBBJ

NAC
ARCHITECTURE
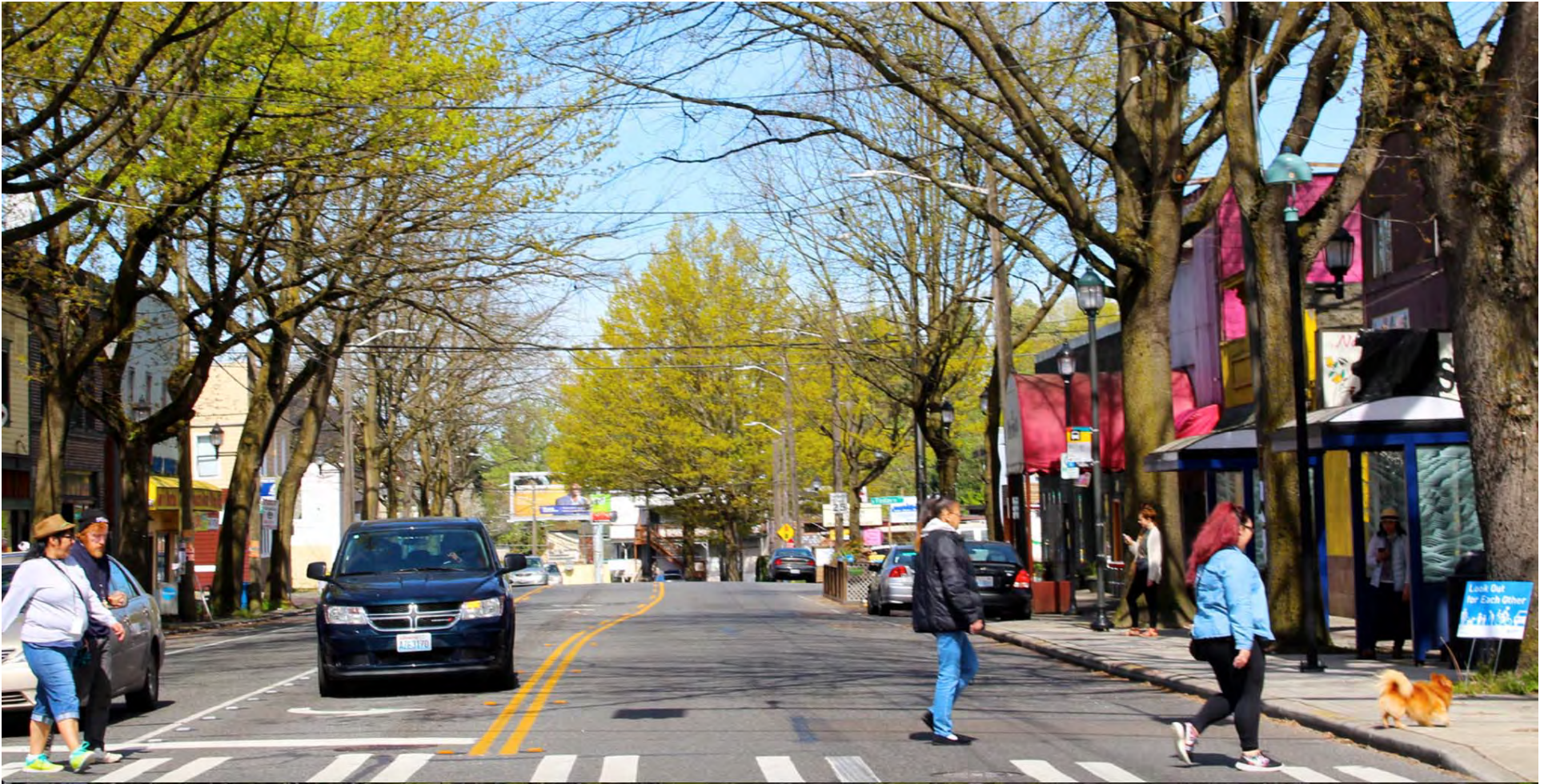
Traffic Calming using trees reduces both vehicle and pedestrian accidents on urban streets

VISION ZERØ
SAFER STREETS FOR SEATTLE

Active Commuting

Project: **Bryant Park**
Location: **New York, NY** Firm: **OLIN**
Year: **1991**

Quality shade trees encourage social cohesion

Project: **Bryant Park**
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Add value to your property

So, how will the City of Pensacola *benefit* by changing our current Tree and Landscape ordinance?

It will improve our quality of life!

Let's take a look…
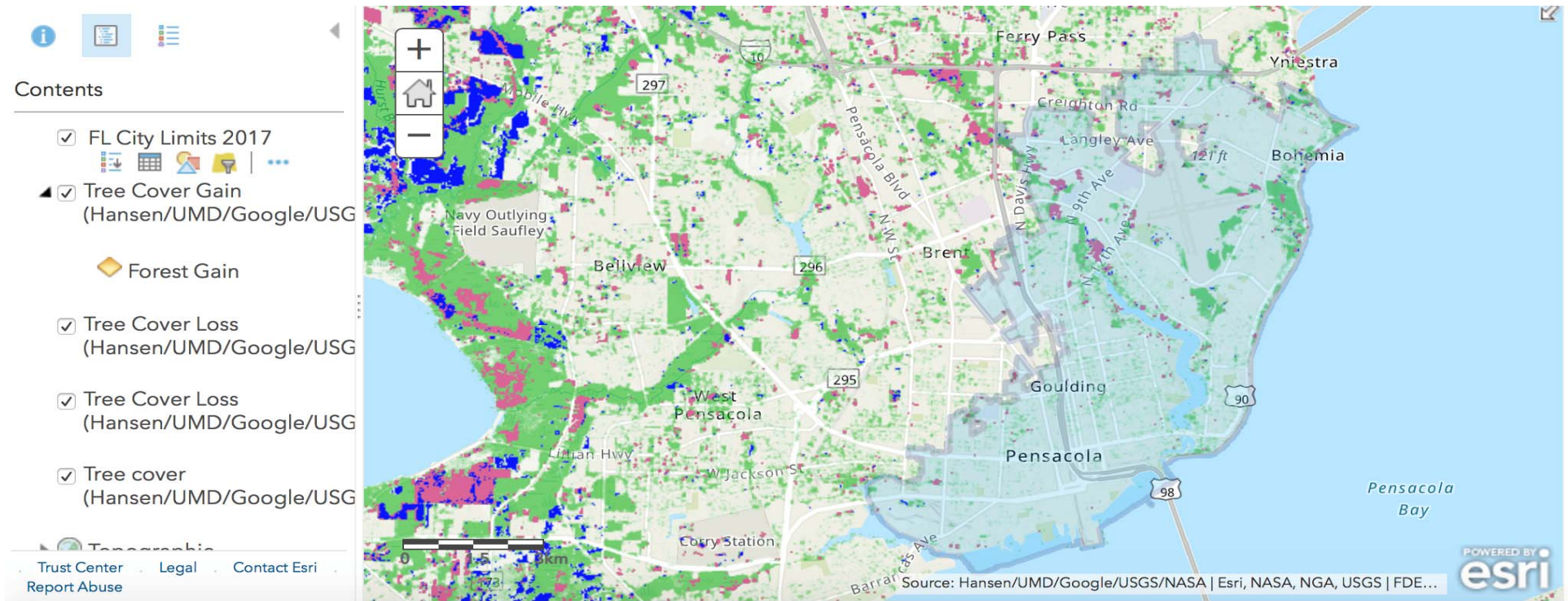
Pensacola Tree Cover, Loss & Gain

Land Development Intensity
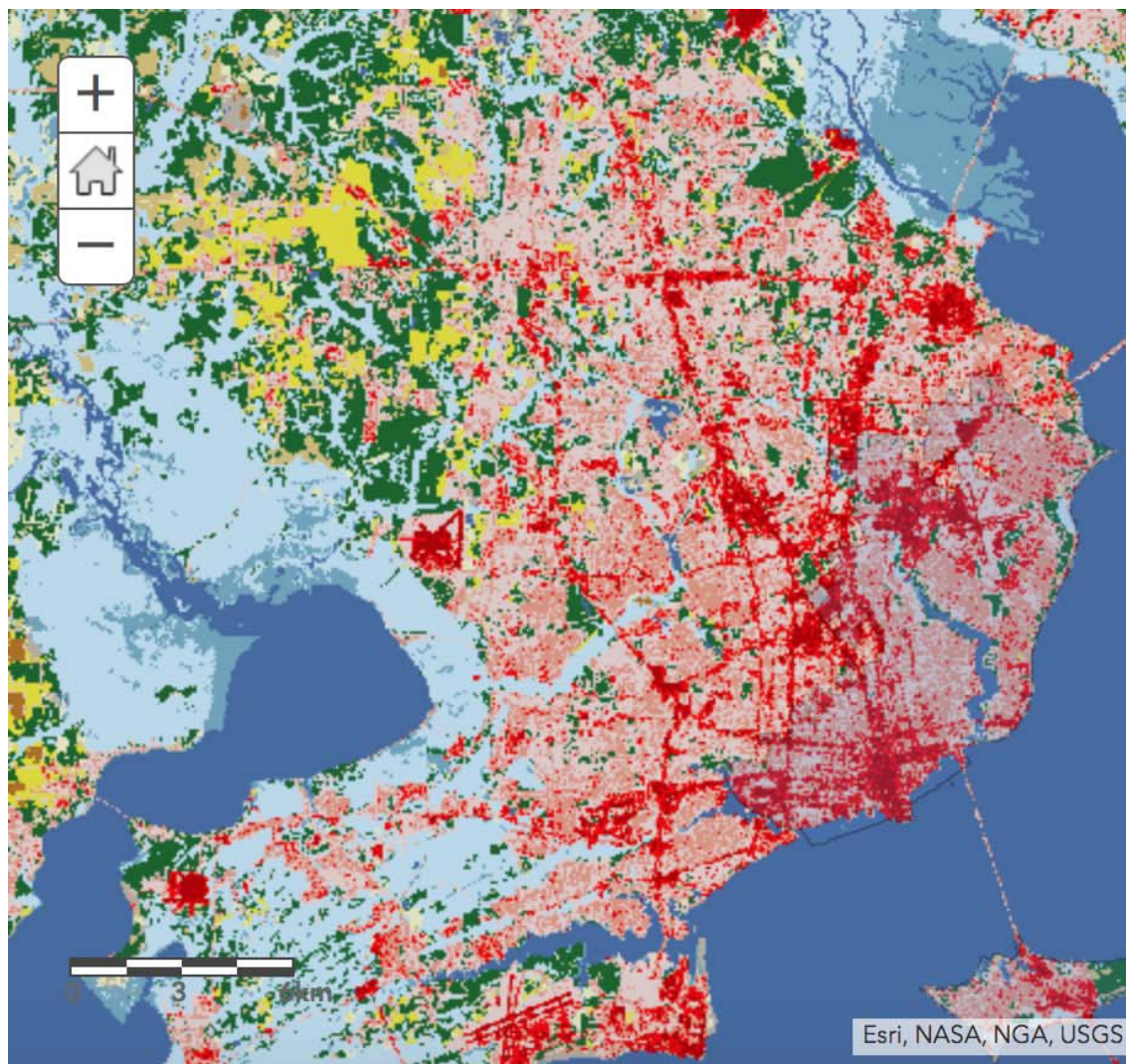
NLCD Land Cover Classification Legend
- 11 Open Water
- 12 Perennial Ice/ Snow
- 21 Developed, Open Space
- 22 Developed, Low Intensity
- 23 Developed, Medium Intensity
- 24 Developed, High Intensity
- 31 Barren Land (Rock/Sand/Clay)
- 41 Deciduous Forest
- 42 Evergreen Forest
- 43 Mixed Forest
- 51 Dwarf Scrub*
- 52 Shrub/Scrub
- 71 Grassland/Herbaceous
- 72 Sedge/Herbaceous*
- 73 Lichens*
- 74 Moss*
- 81 Pasture/Hay
- 82 Cultivated Crops
- 90 Woody Wetlands
- 95 Emergent Herbaceous Wetlands

Esri, NASA, NGA, USGS |

Where do we start?

- Reduce size of protected trees
- Encourage mindful development
- Encourage the use of high quality shade trees
- Encourage diversity of trees
- Promote different ages of trees
- Provide plan to eliminate invasives
- Promote proper care & maintenance of trees
- Incentivize green stormwater infrastructure
- Encourage green spaces in nontraditional settings
- Develop BMP's for tree mitigation
- Let's not forget the heritage of the Long Leaf Pine!

Let's start with the **DBH**

The City of Pensacola currently protects many species of trees with a **D**iameter **B**reast **H**eight (*4.5 feet or 54" above ground*) of 34 inches.

What does that look like size wise?

Does size count?

According to the International Society of Arboriculture, we can figure out the approximate age of a tree by using the following formula:

DBH X Growth Factor = Tree Age

Age is important

Growth factors depend on the species of tree.

Ranging from 3-7. For the sake of any discrepancy, we will work on the low end of the spectrum:

34" Heritage Tree X 3 (Growth Factor)= 102 yrs. old

If we remove this one 102 yr. old tree and replace it with 8 (3-inch) trees, we end up with 8 (9 yr. old) trees.

Large canopies generate large benefits!

Mindful Development

- Tree drip line protection during development
- Irrigation
- Incentives
- Replacement of dead or diseased trees
- Increased mitigation of removed trees

The Blake, Airport Road

Encourage the use of high quality shade trees

- **Use University of Florida Approved list**
- **Maximize conservation of energy**
- **Increase size of DBH when planting**

Constitution Ave, DC Courtesy of faa.org.mt

Remove invasive species

Six Rivers SISMA, Carpenter's Creek

- **Florida Prohibited Aquatic Plants List**

- **Florida Noxious Weed List**

- **Special certifications for wetland applications**

- **Inspections & follow-up**
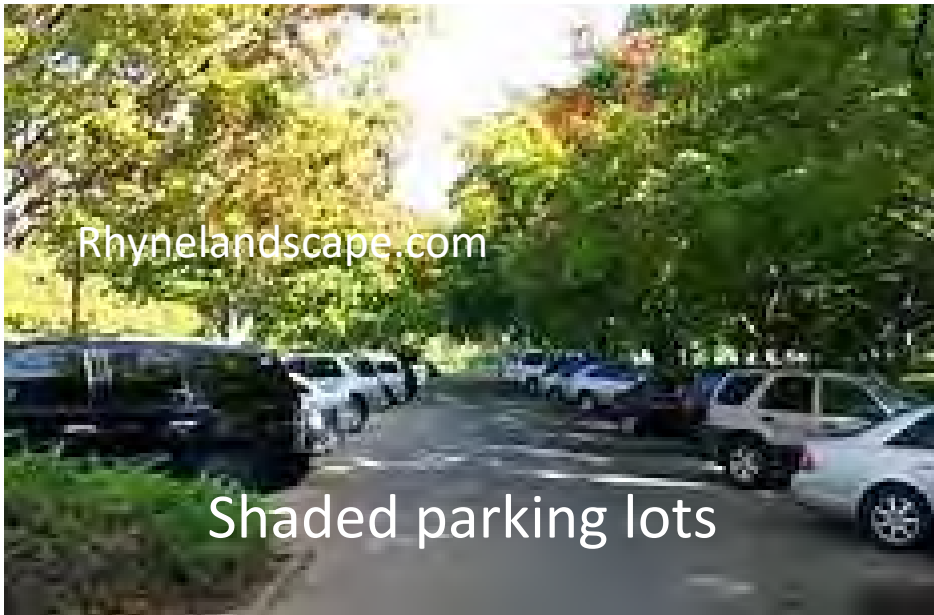
Promote proper care and maintenance of trees

- Irrigation
- Reduce root compaction
- Promote stormwater attenuation

JANUARY 26, 2017 | SHADOW CREEK, NORTH
LAS VEGAS, NEV.
By USGA Green Section

Incentivize Green Stormwater Infrastructure

- Development Incentives
- Grants
- Rebates
- Awards
- Reduced Stormwater Utility

Rhynelandscape.com

Shaded parking lots

Rain Gardens

Southsidegreen.com

Bioretention planters with curb cuts

Encourage Green Spaces in non-traditional settings

EPA.gov

BMP's for tree mitigation

- Replace removed trees with trees that have a larger DBH

- Increase mitigation $ amount to discourage clear-cutting

- Request quality shade trees for replacement

- Require proper care and irrigation

- Require higher percentage of trees left on lot

www.gufc.org

Carpenter's Creek

Camelot Park

Longleaf Pine Forests: A Southern Treasure

These rich and vital forests once blanketed the Southeast but today less than 5 percent remains. *Nature Conservancy*

Dry Stormwater Pond, Carpenter's Creek

It's sad but true. Our remaining longleaf pine system faces many threats: fragmentation, development, improper management, and conversion to other planted pine species that don't harbor as many species, provide lower-quality timber, require more water, and are less adapted to resist catastrophic loss due to fire, storms and forest pests.

The Nature Conservancy

Exceptions

- Exemptions for car dealerships or service-type lots
- Vegetation cannot impede pedestrian, handicapped or bicycle access ways
- Vegetation should allow access to building by emergency vehicles
- Protected trees may be removed if it creates a visibility hazard, cause disruption to public services, construct property improvements, due to disease or City codes

Other

The City designee or appropriate review board may alter requirements based on difficulty in implementation of the ordinance Best Management Practices.

If trees could scream, would we be so cavalier about cutting them down?
We might, if they screamed all the time, for no good reason.

The End

anonymous

Sources

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