

# STAFF REPORT

DATE: July 19, 2018

RE: **Ordinance to Provide Incentive for Planting Canopy Trees**

FROM: Karen DeMaria, City of Key West Urban Forestry Manager

When regulated dicot trees are removed from within the City limits of Key West, the planting of approved replacement dicot trees is required. Dicot trees are trees with leaves also called canopy or sub canopy trees and the Tree Commission has an approved list of tree species that can be planted to close out the removal permits. Currently, City ordinance allows for a 2:1 replacement credit for State Listed endangered and threatened tree species. Tree Commission policy since April 9, 2018 allows for the 2:1 replacement credit for named canopy trees if the trees are at least 2 caliper inches at the time of planting (see attached list). This policy change was initiated in hopes of encouraging property owners to plant more of the true canopy trees.

The public has stated a desire to increase the protection of the Royal Poinciana tree and to require more plantings of the tree, recently named the Official City Tree. The public has also stated a desire to require more planting of true canopy trees species due to the recent hurricane impacts and data from the tree permitting database that shows a low amount of canopy trees being replanted.

In 2016, the City of Key West received a grant from the Urban Forestry Council to map the canopy of Key West and to document the species, size, and condition of the City owned street trees. A report regarding the grant was presented to the Tree Commission in March 2017 (copy attached).

Last month, an update was done to update and document the canopy report to show impacts from Hurricane Irma using the same methodology.

## Canopy Tree Coverage

\*Information created using the I-Tree Canopy computer program  
as per Urban Forestry Grant

<u>1995</u>	<u>2004</u>	<u>2006</u>	<u>2015</u>	<u>2017</u>
21%	24%	16%	30%	28%

Significant events that impacted the canopy:

September 25, 1998	Hurricane Georges
October 24, 2005	Hurricane Wilma
September 10, 2017	Hurricane Irma

In May 2018, a request was made by Mayor Cates that the Tree Commission review the requirements for the replacement of dicot trees especially Royal Poinciana trees. At their June 28, 2018 workshop, the Tree Commission reviewed presented data and discussed options (see attached data). At their July 9, 2018 meeting, the Tree Commission voted to incentivize the planting of certain canopy trees species, including the Royal Poinciana, and to increase the replacement credit to 4:1. These select canopy species include Gumbo Limbo, Royal Poinciana, Strangler Fig, Shortleaf Fig, Sapodilla, Spanish Lime, Jamaica Dogwood, and Mahogany.

## Canopy Tree Data 2015 - June 6, 2018

### From Permitting Files

Replacements Planted *	Species	# Permitted for Removal
68	Gumbo Limbo	201 **
11	Royal Poinciana	107 **
0	Ficus (Strangler and Shortleaf)	65
0	Sapodilla	32
0	Spanish Lime	45
11	Jamaica Dogwood	55
33	Mahogany	80

\* Data for years 2015-2016 are incomplete

\*\* Note-Subterranean termite investation heavily impacted these species

## Canopy Trees Planted By the City (Streets and Projects)

Replacements Planted	Species
111	Gumbo Limbo
29	Royal Poinciana
26	Ficus (Strangler and Shortleaf)
0	Sapodilla
0	Spanish Lime
40	Jamaica Dogwood
26	Mahogany

# CITY OF KEY WEST DICOT TREE REPLACEMENT LIST

## Canopy and Subcanopy Trees:

\*Highlighted in Blue are State Listed Endangered or Threatened trees and qualify for the 2 for 1 caliper inch replacement credit. This credit does not apply to emergency permits that require a one or two tree replacement.

<i>Acacia choriophylla</i>	Cinnecord/Tamarindillo
<i>Acacia farnesiana</i>	Sweet or Pine Acacia
<i>Acacia macracantha</i>	Long-spine Acacia
<i>Amphitecna latifolia</i>	Black Calabash
<i>Amyris elemifera</i>	Torchwood
<i>Annona glabra</i>	Pond Apple
<i>Ardisia escallonioides</i>	Marlberry
<i>Ateramnus lucidus</i>	Crabwood
<i>Bourreria cassinifolia</i>	Little Strongbark
<i>Bourreria ovata</i>	Strongbark
<i>Bourreria radula</i>	Rough Strongbark
<i>Bumelia celastrina</i>	Saffron Plum
<i>Bumelia salicifolia</i>	Willow Busic
<i>Byrsoniama lucida</i>	Locust berry
<i>Calyptanthes pallens</i>	Spicewood/Pale Lidflower
<i>Calyptanthes zuzygium</i>	Myrtle-of-the-river
<i>Canella winterana</i>	Wild Cinnamon
<i>Capparis cynophallophora</i>	Jamaica Caper
<i>Capparis flexuosa</i>	Limber Caper
<i>Casasia clusiifolia</i>	Seven Year Apple
<i>Cassia chapmanii</i>	Bahama Senna
<i>Cassia keyensis</i>	Key Cassia
<i>Chiococca alba</i>	Common Snowberry
<i>Chiococca parvifolia</i>	Pineland Snowberry
<i>Chrysobalanus icaco</i>	Cocoplum
<i>Chrysophyllum oliviforme</i>	Satin Leaf
<i>Clusia rosea</i>	Pitch Apple
<i>Citharexylum fruticosum</i>	Fiddlewood
<i>Coccoloba diversifolia</i>	Pigeon Plum
<i>Colubrina arborescens and cubensis</i>	Greenheart/Colubrina
<i>Colubrina elliptica</i>	Soldierwood
<i>Conocarpus erectus</i>	Green Buttonwood
<i>Conocarpus erectus var. sericeus</i>	Silver Buttonwood
<i>Cordia sebestena</i>	Orange Geiger
<i>Crossopetalum rhacoma</i>	Rhacoma
<i>Cupania glabra</i>	Cupania
<i>Dodonia viscosa</i>	Varnish Leaf
<i>Drypetes diversifolia</i>	Milkbark
<i>Drypetes lateriflora</i>	Guiana Plum
<i>Erithalis fruticosa</i>	Black Torch
<i>Eugenia axillaries</i>	White Stopper
<i>Eugenia confusa</i>	Redberry Stopper
<i>Eugenia foetida</i>	Spanish Stopper
<i>Eugenia rhombea</i>	Red Stopper
<i>Exostema caribaeum</i>	Princewood
<i>Exothea paniculata</i>	Inkwood

# CITY OF KEY WEST DICOT TREE REPLACEMENT LIST

\*Highlighted in Blue are State Listed Endangered or Threatened trees and qualify for the 2 for 1 caliper inch replacement credit. This credit does not apply to emergency permits that require a one or two tree replacement.

<i>Forestiera segregata</i>	Florida Privet
<i>Guaiacum officinale</i>	Cuban Lignum Vitae
<i>Guaiacum sanctum</i>	Lignum Vitae
<i>Guapira discolor</i>	Blolly
<i>Guettarda elliptical</i>	Velvetseed
<i>Guettarda scabra</i>	Rough Velvetseed
<i>Gyminda latifolia</i>	West Indian False Boxwood
<i>Hamelia patens</i>	Firebush
<i>Hypelate trifoliata</i>	Inkwood/White Ironwood
<i>Ilex cassine dahoon</i>	Dahoon Holly
<i>Jacquinia keyensis</i>	Joewood
<i>Krugiodendron ferreum</i>	Black Ironwood
<i>Lysiloma latisiliquum</i>	Wild Tamarind
<i>Manilkara bahamensis</i>	Wild Dilly
<i>Mastichodendron foetidissimum</i>	Mastic Tree
<i>Myrica cerifera</i>	Wax myrtle
<i>Myrcianthes fragans/</i>	
<i>Eugenia simpsonii</i>	Simpson's Stopper
<i>Myrsine floridana</i>	Myrsine
<i>Nectandra coriacea</i>	Lancewood
<i>Pimenta dioica</i>	Allspice
<i>Pimeta racemose</i>	Bay Rum
<i>Pinus elliotii var. densa</i>	Dade County Slash Pine
<i>Pisonia rotundata</i>	Devil's Smooth Claws
<i>Pithecellobium keyense</i>	Blackbead
<i>Psidium longipes</i>	Long-stalked Stopper
<i>Randia aculeata</i>	White Indigo berry/Randia
<i>Reynosia septentrionalis</i>	Darling Plum
<i>Sapindus saponari</i>	Soapberry
<i>Savia bahamensis</i>	Bahama Maidenbush
<i>Schaefferia frutescens</i>	Florida Boxwood
<i>Schoepfia chrysophylloides</i>	Graytwig
<i>Simarouba glauca</i>	Paradise Tree
<i>Suriana maritima</i>	Baycedar
<i>Trema lamarckianum</i>	West Indies Trema
<i>Trema micranthum</i>	Florida Trema
<i>Ximenia americana</i>	Hog Plum
<i>Zanthoxylum fagara</i>	Wild Lime
<i>Zanthoxylum flavum</i>	Yellow-heart

# CITY OF KEY WEST DICOT TREE REPLACEMENT LIST

## Canopy Trees:

\*The following canopy trees highlighted in Red qualify for the 2 for 1 caliper inch replacement credit. This credit does not apply to emergency permits that require a one or two tree replacement.

*Bursera simaruba*  
*Delonix regia*  
*Ficus aurea*  
*Ficus citrifolia*  
*Manilkara zapota*  
*Melicoccus bijugatus*  
*Piscidia piscipula*  
*Swietenia mahagoni*

*Gumbo Limbo*  
*Royal Poinciana*  
*Strangler Fig*  
*Shortleaf Fig*  
*Sapodilla*  
*Spanish Lime*  
*Jamaica Dogwood*  
*Mahogany*

## Fruit Trees:

*Annona muricata*  
*Annona squamosa*  
*Averrhoa carambola*  
*Citrus aurantifolium*  
*Citrus sp.*  
*Mangifera indica*  
*Persea americana*  
*Pouteria sapota*  
*Psidium guajava*  
*Tamarindus indica*

*Soursop*  
*Sugar Apple*  
*Starfruit*  
*Key Lime*  
*Sour Orange*  
*Mango*  
*Avocado*  
*Mamey Sapote*  
*Guava*  
*Tamarind*

\*\* contact Urban Forestry Manager to discuss approval of additional fruit tree replacement plant species

## Flowering Trees:

*Bulnesia arborea*  
*Cassia fistula*  
*Cassia javanica*  
*Cassia bakeri and grandis*  
*Plumeria sp.*  
*Tabebuia aurea*  
*Tabebuia bahamensis*

*Verawood*  
*Golden Shower tree*  
*Apple Blossom tree*  
*Pink Shower tree*  
*Frangipani*  
*Silver Trumpet Tree (yellow flowers)*  
*Bahamian Trumpet Tree/Five Fingers*

**NOTE: Replacement trees must be a minimum of 5 feet in height (measured from the ground to top of branch/trunk).**

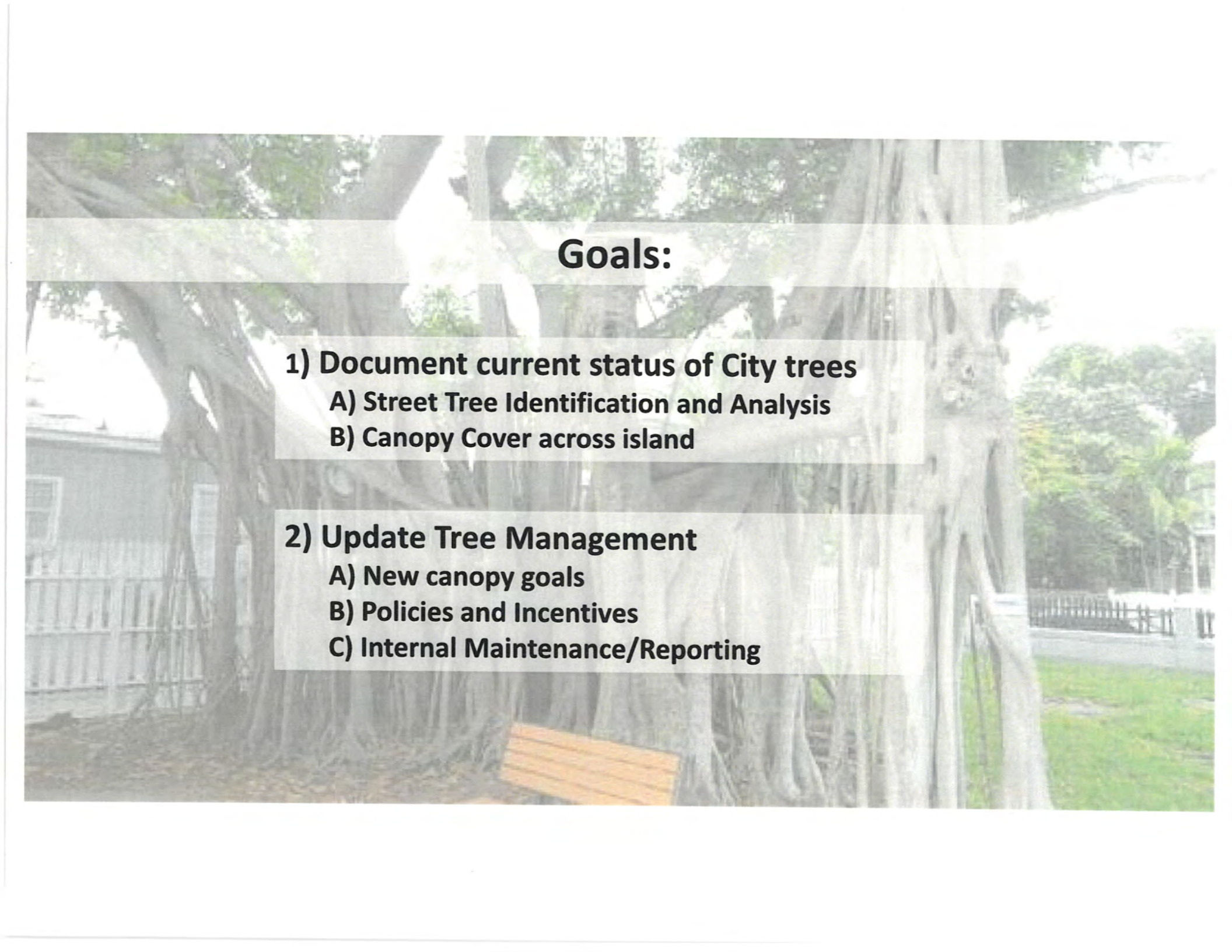
**Caliper is a diameter (width) measurement of the trunk of the tree measured 6 inches up from the ground on the trunk.**

# Grant Report: Key West Tree Survey & Assessment

March 2017

*Made Possible by the US Forest Service and Florida Division of Forestry*



The background of the slide is a photograph of several large, mature trees with thick, gnarled trunks and dense green foliage. A wooden bench is visible in the lower foreground, partially obscured by the tree roots. The scene is set outdoors, likely in a park or residential area, with a fence and a building visible in the background.

## **Goals:**

### **1) Document current status of City trees**

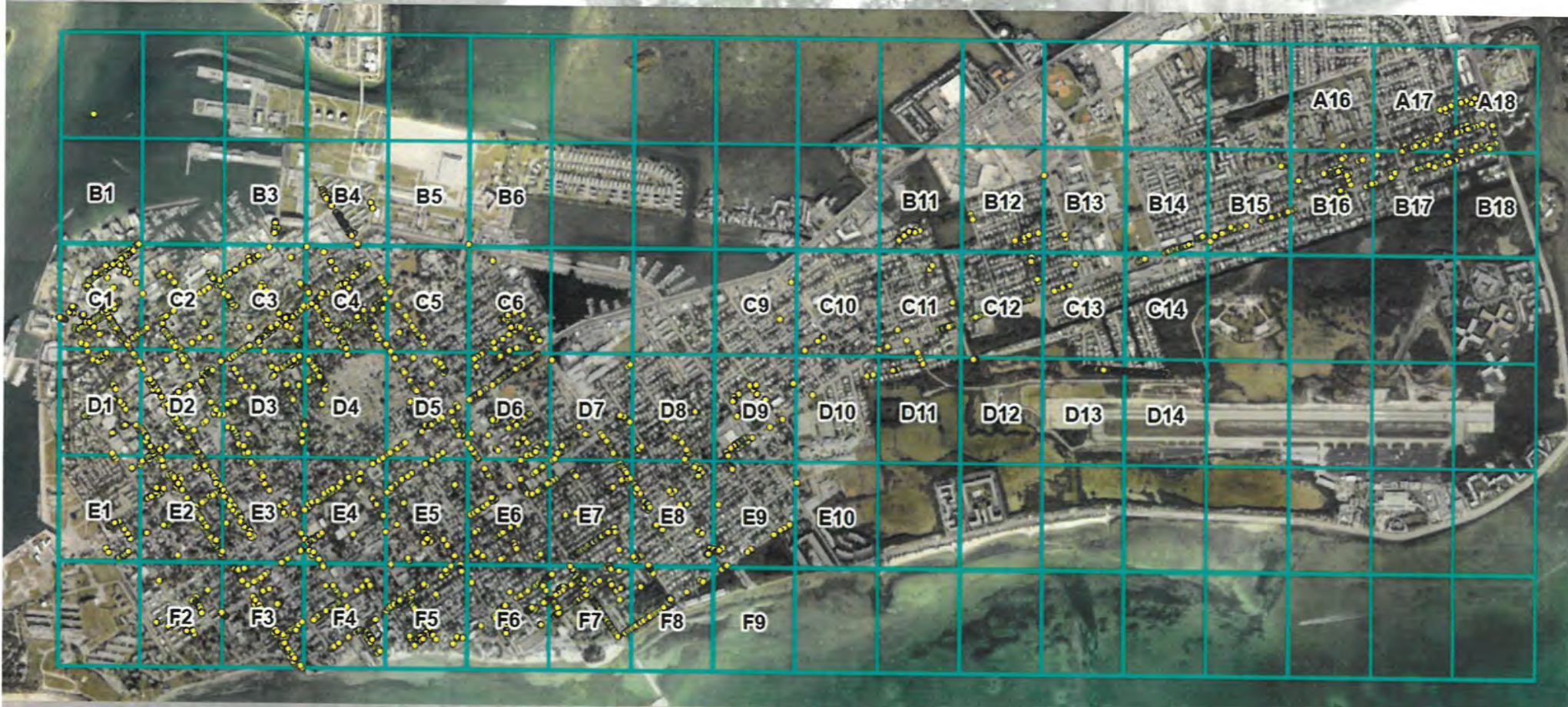
- A) Street Tree Identification and Analysis**
- B) Canopy Cover across island**

### **2) Update Tree Management**

- A) New canopy goals**
- B) Policies and Incentives**
- C) Internal Maintenance/Reporting**



3,052 GPS'd trees = 2/3 of island streets



Recorded Species, Height, DBH, Stems, Defects, Health, Pests, Sidewalks, Utilities, New planting sites,

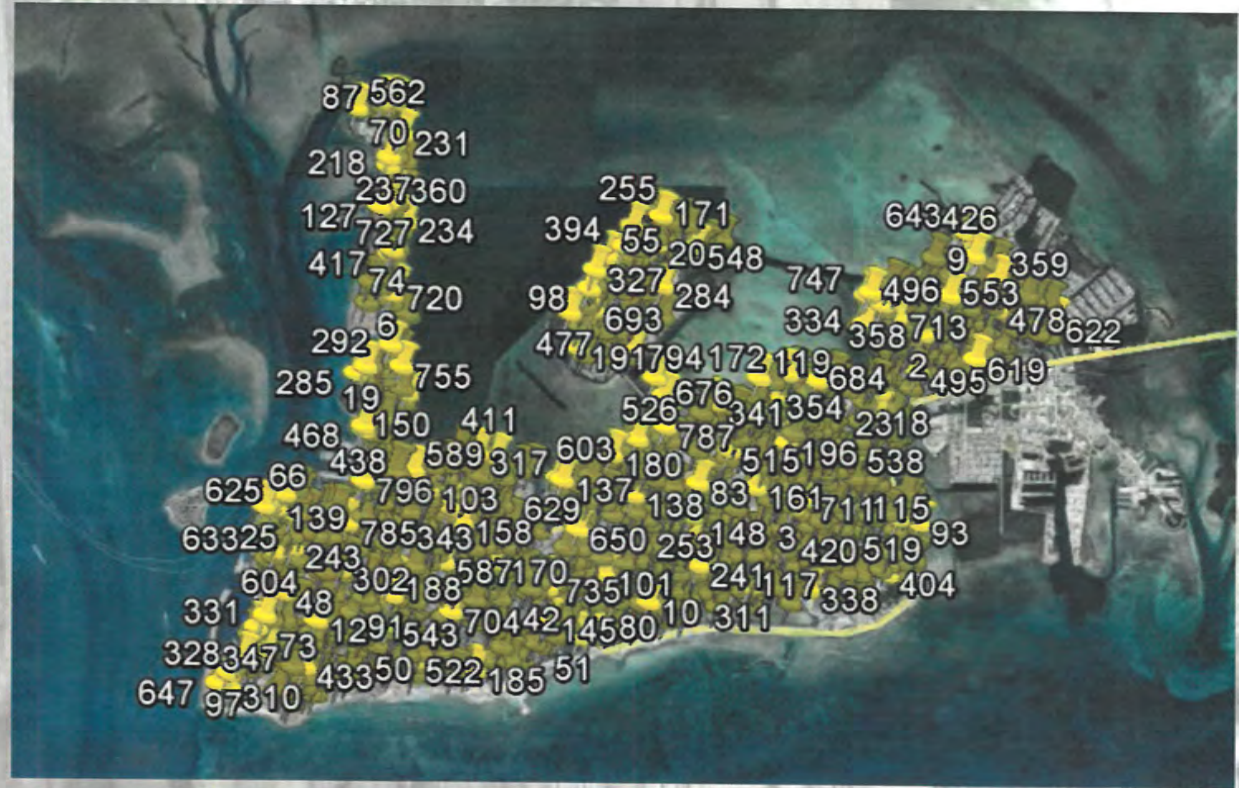
# Major Findings:

- Most prominent (>33%): Coconut palms, Silver buttonwood, Christmas palms
- Highest public value: Sandbox, Sapodilla, Banyan Tree, Mango
- Highest \$ value: Mahogany, Royal Poincianna, Gumbo Limbo
- 98% of planting sites already planted
- 29% are “young” trees (shorter than 15’)
- 14% had associated sidewalk damage
- 9% conflict with utility lines
- <5% in need of near term maintenance



# Canopy Cover:

- Overall:
  - 30% Canopy (21% pervious)
  - 36% Impervious
  - 17% Short Vegetation
  - 8% Bare Ground
- Canopy in Sub Areas:
  - 34% North Stock Island
  - 32% Old Town
  - 31% New/Mid Town
  - 30% Salt Ponds
  - 19% Military
  - 13% Commercial



# Next Steps / Policy Recommendations:

- More trees planted!
- New Landscape Position
- ROGO/BPAS incentives for street trees
- Maintenance/training for young trees
- Canopy Goals for sub areas
- Pilot of new planting technologies
- Stronger punitive measures for re-offenders
- More flexipave, less sidewalk
- Adopt a Heritage/Landmark/Champion Tree
- City request app for mobile phones
- Increased parking lot planting
- Increased permeability!
- Arbor Day (4/29/17)



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