

MEETING MINUTES

Shade Tree Committee
City Hall – 280 Grove Street, Jersey City NJ 07302
Councilmember Mira Prinz-Arey, Chair

Meeting: Jersey City Shade Tree Committee Meeting

Date / Location: 20 July 2020 – 6:30 p.m.
Videoconference remote meeting via Zoom

Attendees: **Voting Committee Members**
Councilwoman Mira Prinz-Arey, Chair
Denise Bailey
David Hurtle
Marc Wesson

Non-Voting Committee Members/City Representatives
Cameron Black, Senior Planner, Jersey City Division of Planning
Kate Lawrence (Secretary), Director, Jersey City Office of Sustainability
John McKinney, Jersey City Department of Law
Edward O'Malley, Jersey City Forester
Adam Cohen, alternate voting member

Presenters and Members of the Public
Saul Contreras
David Diaz
Jatziah Guzman
Javonica Latimore
Alexa Lima
David Lisboa
William Montgomery
Miranda Muniz
Matthew Trump

Prepared By: Kate Lawrence

Date Prepared: July 21, 2020

Date Approved: August 17, 2020

ROLL CALL

The Committee meeting commenced at 6:30 PM. Four of five voting committee members were present at the time of the roll call. Three members are needed to meet quorum.¹

¹ Matthew Trump has not yet officially been appointed as a member of the Committee. Mr. Trump's appointment was approved by Council but he still needs to be sworn in by the City Clerk.

PUBLIC NOTIFICATION

Meeting notice was sent to the City Clerk's Office, Jersey Journal, and Hudson Reporter on July 17, 2020. It was also posted on posted to the JCMakeItGreen.org calendar.

APPROVAL OF PREVIOUS MINUTES

The Committee members did not feel that they had enough time to review the previous meeting's minutes. Therefore, approval of the February minutes was deferred to the next meeting.

NEW BUSINESS

Special Guests – Montclair State University Green Team – Jersey City Tree Mapping Project

- The five students that make up the Jersey City 2020 Green Team through the Montclair State University PSEG Institute for Sustainable Studies summer Green Team program gave a presentation on their project so far. [*The presentation is attached to these meeting minutes.*]
- The team is working with the Office of Sustainability, the City Forestry, the Division of Planning, and the Division of Architecture to continue the City's tree mapping project that was started in the summer of 2019. They are mapping the trees in Ward B and F in accordance with the City's specifications, using sensitive GPS equipment and ArcGIS mapping software. In addition to tree location, they are capturing data on tree health, tree pit measurements, trunk diameter at breast height, and tree species. They are also analyzing the carbon capture of the City's trees, based on tree species.
- Committee member Marc Wesson asked who asked for this work.
 - Secretary Lawrence says that the City requested the Green Team. An application to MSU for a Green Team for this project was submitted to MSU back in the fall of 2019.
- Mr. Wesson asked about duplication of efforts.
 - Secretary Lawrence stated this project meets City needs and is continuing the work that began since the spring of 2019.
- Mr. Wesson asked if Ash trees were being identified as part of this effort.
 - Secretary Lawrence and the Green Team noted that tree health is being measured, as well as tree species. In addition, every tree mapped has a picture taken of its leaves and any issues for later identification.
- Forester O'Malley said tree species distribution data looked good
- Ms. Bailey asked if SJC would be able to offer a similar presentation to talk about their tree mapping project.
 - Chair Prinz-Arey said yes, at next meeting.

Special Guests – David Diaz and Alexa Lima, Central Ave SID

- David Diaz introduced Alexa Lima as the new executive director at CASID. David Diaz was previous Executive Director – now working in the BA's Office in City Hall
- Mr. Diaz gave an overview of the current streetscape project along Central Ave.
 - The Central Ave SID is working with Engineering and Forestry.

- As part of the project, more trees will be planted along Central Ave.
 - They are preserving as many healthy trees as they can.
- Mr. Diaz mentioned that there was an issue with the Forestry Standards and the prohibition on tree grates. Mr. Diaz would prefer to continue using iron grates in the tree pits.
 - Previously established method of planting male Ginkgoes and using tree grates works well.
 - Why does it work well? Lots of foot and truck traffic.
 - David Diaz is concerned about suggested alternative: porous pavement.
 - Trucks jump curb. Need tree grates to support weight.
 - Mr. Diaz is just looking to have the tree grate ban lifted within commercial corridors.
 - Male ginkgoes grow very slowly and require very little maintenance
 - 15-ft wide sidewalks along Central Ave – every inch counts.
- Mr. Wesson stated he had problems with single species within corridor. Said there were other species that would work.
 - Mr. Cohen asked why the City was solving the issue of trucks driving on sidewalk by girdling trees. Also trucks driving on sidewalks buckle pits – causing tripping hazards.
 - Mr. Cohen shared some examples of pervious pavement options.
- Other Committee members expressed concern with Mr. Diaz's proposal.
- Ms. Bailey requested agendas in advance.
- Chair Prinz-Arey requested that individuals not on STC not send emails to entire group but rather just to their representative on the Committee or the Chair or Secretary.

Introduction to Chapter 321

- Ed O'Malley – Comments and challenges
 - Forester O'Malley would like more enforcement of fines related to non-compliance with the ordinance. He asked John McKinney, an attorney with the City's Law Department, about fines.
 - Mr. McKinney stated there is only so much leeway because of New Jersey state statutes.
 - Mr. McKinney recommended most details regarding tree rules and management should go in Forestry Manual so they can be more easily amended in the future.
 - Mr. Wesson asked whose responsibility is it to maintain trees in front of homes. What if a tree causes a tripping hazard?
 - Forester O'Malley – it's murky.
 - Mr. McKinney – homeowner's responsibility. Not necessarily fair. He will get back to Committee with more info on responsibility.
 - Chair Prinz-Arey asked Mr. McKinney if we could assess how much City money goes to trip and fall lawsuits and we be more proactive.
 - Mr. McKinney will look into it.
 - Mr. Cohen suggested that a dedicated fund for tree planting would help.
 - Mr. McKinney stated that a dedicated fund will not work.

- Mr. Wesson asked why not. He pointed to the Open Space Fund as an example. Mr. McKinney said this was different because the State of New Jersey explicitly allows for an Open Space Fund. NJ won't let us dedicate fines to a fund. Must go in general fund.
- Kate Lawrence – Comments and challenges
 - Secretary Lawrence stated that there was a lot of room for improvement in the enforcement and permitting process related to the Forestry Standards.
- Committee Discussion – Committee introduced ideas/comments/suggested changes
 - Mr. Black – The Division of Planning conditions any Planning Board or Zoning Board approval on following the Forestry Standards and submitting a permit application. Then application goes to Parks Dept. with any related fee.
 - He recommended more definitions should be in ordinance
 - Pricing for violations should be adjusted based on age of tree.
 - Mr. Trump – not a lot of feedback from the Jersey City Environmental Commission (JCEC). The members of the JCEC are pretty happy with the current wording but have an issue with enforcement of ordinance.
 - How can we use money collected towards replanting trees?
 - He emphasized that we should make sure trees are really being valued.
 - Ms. Bailey – agree that there should be additional definitions.
 - Should add “owner” to definitions to clarify.
 - Look at alternatives for guards around trees to protect them. Things that don't pierce or puncture trees
 - Define requirements for people maintaining trees in public right of way
 - She stated that “improved design” needs to be defined. Currently too vague.
 - Healthy existing mature trees should not be removed.
 - Developers should have to provide a management plan for trees that they plant.
 - Mr. McKinney cautioned the Committee to not get too strict about what is allowed and what is not.
 - Mr. Wesson – responsibility for tree management and enforcement is not clearly defined within ordinance.
 - Wants to see more connection between the City's various plans.
 - He has major problem with the way PSE&G deals with trees next to power lines.
 - Stated that we need enforceable standards to be able to hold PSE&G accountable so that they do not damage trees.
 - Mr. McKinney says we can do this already but there is an issue with capacity and manpower in enforcing the standards.
 - Mr. Wesson – lots of old growth trees inappropriately planted beneath wires.
 - Forester O'Malley noted that PSE&G is supposed to replace removed trees 2 to 1 but they get around this by just cutting trees back so drastically that they end up dying.

- Mr. Cohen – question about sidewalk “sheds” (AKA scaffolding). Developers build scaffolding over trees and then they stay up for two years, effectively killing the trees.
 - Mr. Wesson asked if protection of trees during construction was in the ordinance.
 - Secretary Lawrence stated that yes, these protections are in the Forestry Standards. However, the issue is that these protections and rules are not enforced.
- Mr. McKinney noted that public outreach was part of role of the Shade Tree Committee. He suggested the group do public outreach regarding what is allowed and not allowed when it comes to trees.
 - Chair Prinz-Arey – suggested the Office of Innovation create a graphic for trees.
- Mr. Hurtle – only thing he has issue with is empty tree pits – it should be prohibited for people to fill them in with cement. Then you lose the pit.
 - Forester O’Malley noted that putting trees in filled pits costs twice as much.
 - Mr. Hurtle also said it was too onerous to require the City or developers send out letters to everyone within 200 feet whenever a tree gets cut down within x number of feet. Forester O’Malley and Secretary Lawrence pointed out that this requirement wasn’t currently part of the ordinance but was rather a recommendation included in the comments from SJC.

Public Comment

No members of the public other than the invited speakers were present.

Open Discussion

No additional discussion

Adjournment

- The meeting was adjourned at approximately 8:45 p.m.

NEXT MEETING

The next meeting of the Jersey City Shade Tree Committee is scheduled for Monday, August 17, at 6:30 p.m. It is unknown at this time if this meeting will be held in person or remotely as a videoconference.



Team Jersey City

PSEG ISS Green Teams Internship

The Tree Canopy Assessment



MONTCLAIR STATE UNIVERSITY

PSEG INSTITUTE FOR
SUSTAINABILITY STUDIES



Presentation to the Jersey City Shade Tree Committee, July 20, 2020



Saul Contreras
Montclair State University
Physics



Jatziah Guzman
Rowan University
Geography Information Systems &
Sustainability



Miranda Muniz
Montclair State University
Sustainability Science



Javonica Latimore
Kean University
Environmental
Engineering

David Lisboa
Fairleigh Dickinson
University
Biology





Our Tasks and Deliverables for Jersey City

- **Make considerable progress in accurately mapping and analyzing Jersey City's trees per Forestry protocols - Continue 2019 mapping of Ward A into Ward B and Ward F**
- **Generate science-based estimates of carbon sequestration by the city's trees using an Infrared Gas Analyzer**
- **Make recommendations for a method of communicating tree-related data and information to the public**
- **Develop a report and presentation that offers a plan for improving the city's tree canopy**






How we Approached the Deliverables:

- Conducting field work in pairs, Mon-Weds
- Working in pairs to take down attributes of each tree in ward B and ward F
- Adding that data to a online mapping program to display information
- Analyzing information about JC's tree canopy from our maps
- Using this information to later estimate canopy's carbon sequestration rates

Ward_B - Wild Cherry

PIT_L	48
PIT_W	48
CAL	3
SCI_NAME	Prunus avium
COMMON_NAME	Wild Cherry
CON	2
REASON	Dead branches
INSP_BY	DJ
INSP_DATE	7/7/2020
STUMP	<Null>
COMMENTS	<Null>
Y_LAT	40.709269
X_LON	-74.084642
ACCURACY	0.08



74.0846418°W 40.7092693°N





IRGA - LI-6400XT
Portable
Photosynthesis
System



Leica Zeno 20



Survey123



Microsoft Excel



ArcGIS Pro



Tools to Accomplish our
Deliverables



THE IMPORTANCE OF A MAPPED TREE CANOPY



38.4%

Out of the 941 trees collected in Ward F as of July 15th 2020, about 38.4 % or 392 trees are either Unhealthy, dead or an empty pit.

Having a mapped tree canopy helps show the areas that may need more attention throughout the city.



ACCURATE, THOROUGH, AND EFFICIENT.

With the combined efforts of the Leica Zeno 20, the portable wifi (Mifi), and the easy to navigate app Survey 123, we are getting more accurate points at the touch of a button. All this data can then be exported to an excel sheet. Where it can be uploaded onto ArcGIS Pro to be viewed by the public.

FAST FACTS

"URBAN LANDSCAPING, INCLUDING TREES, HELPS LOWER CRIME RATES."

"STUDIES SHOW THAT URBAN VEGETATION SLOWS HEARTBEATS, LOWERS BLOOD PRESSURE, AND RELAXES BRAIN WAVE PATTERNS."

"THE BENEFITS OF TREES." CANOPY, 17 MAY 2018, CANOPY.ORG

WHY ACCURACY IS IMPORTANT?

JERSEY CITY TREE CANOPY



Satellites move throughout the day affecting the accuracy of their GPS tracking



Precise GPS data allows foresters to find each tree and pit marked on the map



Dead and unhealthy trees are reported leading to a healthier tree canopy



Accuracy saves time by giving the city and the public information they can trust

Fun Facts for Trees

The average Cincinnati community tree saves the average household \$56 annually in cooling costs by reducing electricity use.

Trees properly placed around buildings can reduce air conditioning needs by 30% and can save 20-50% in energy used for heating.

In New York City, trees save an average of eight lives every year.

In one year, an acre of mature trees absorbs the amount of CO2 produced by a car driven 26,000 miles.

Chicago public housing residents with nearby trees and natural landscapes reported 25% fewer acts of domestic aggression and violence.

Tree Facts

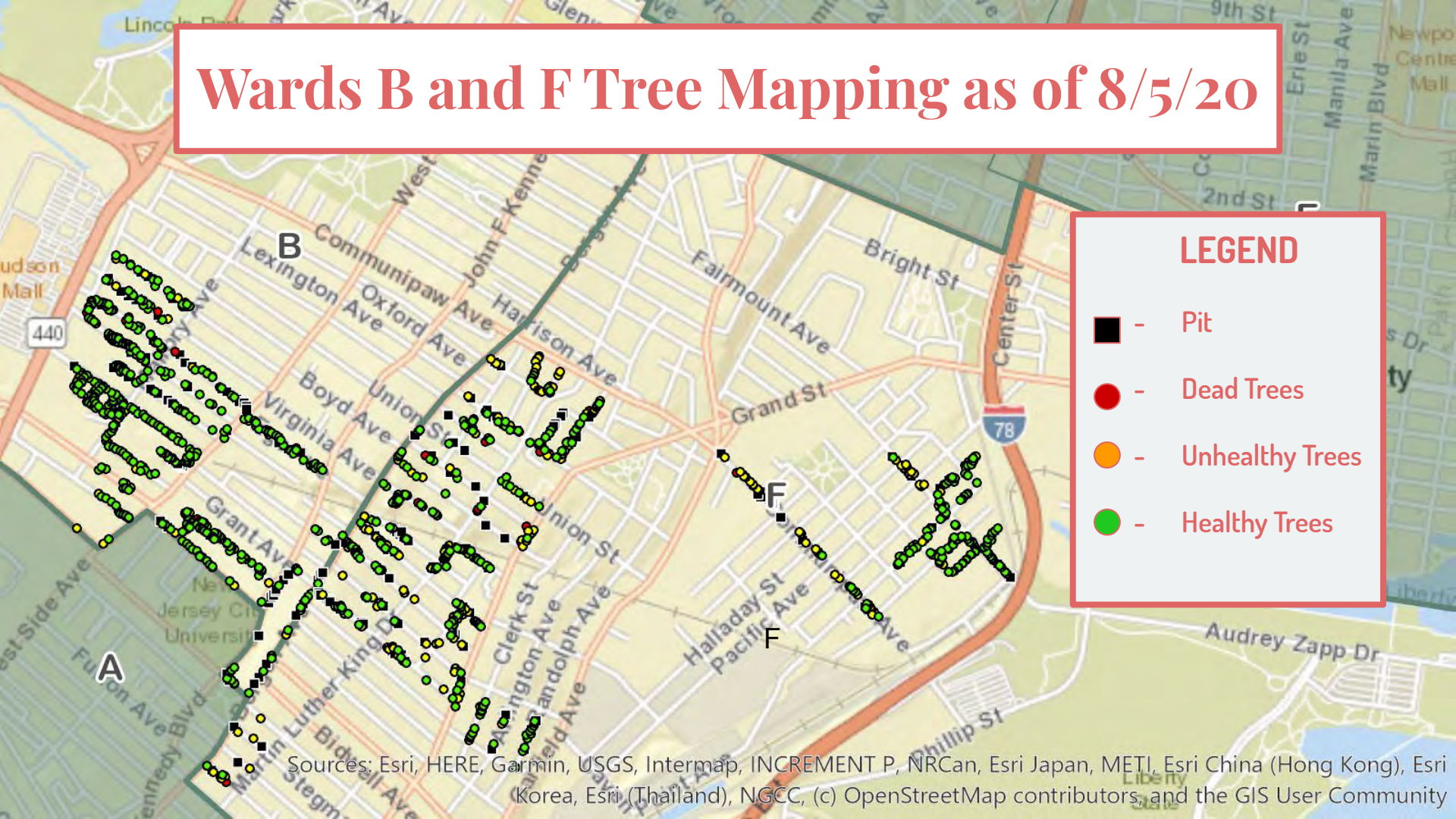
Retrieved from
<https://www.arborday.org/trees/treefacts/>

Ward A 2019 Tree Mapping

LEGEND

- - Pit
- - Dead Trees
- - Unhealthy Trees
- - Healthy Trees

Wards B and F Tree Mapping as of 8/5/20



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri (Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

Tree Conditions

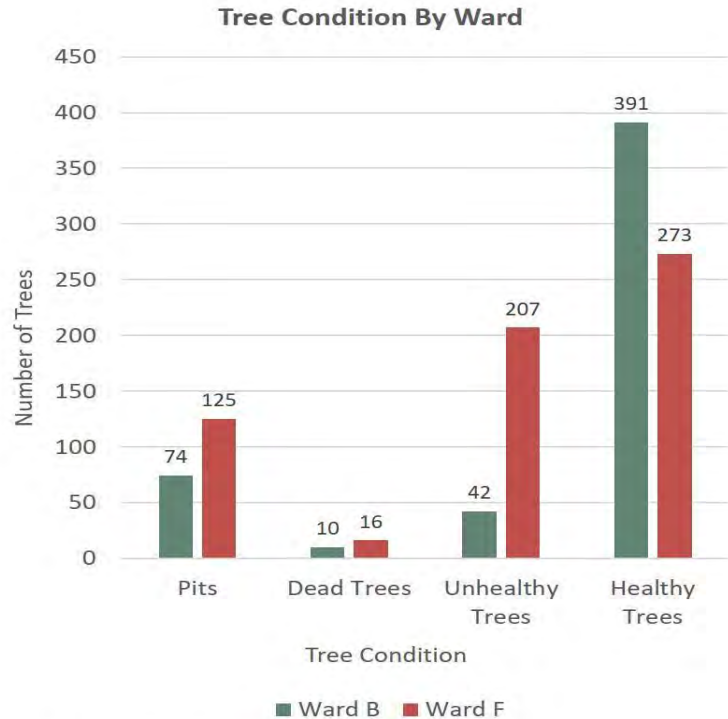


Figure 6. Tree conditions separated by ward.

Predicted Tree Conditions for All Six Wards

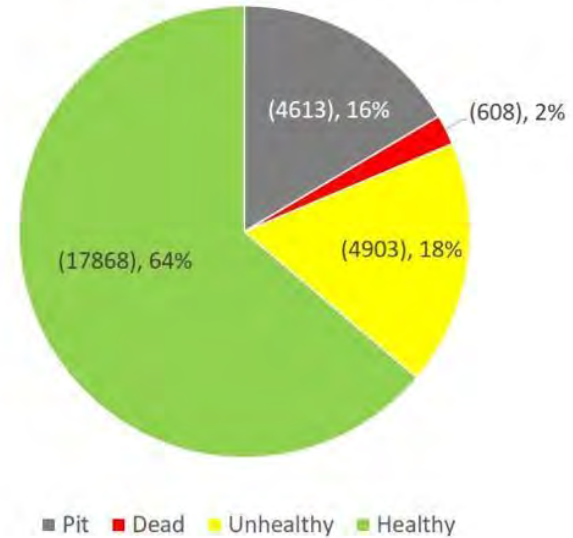
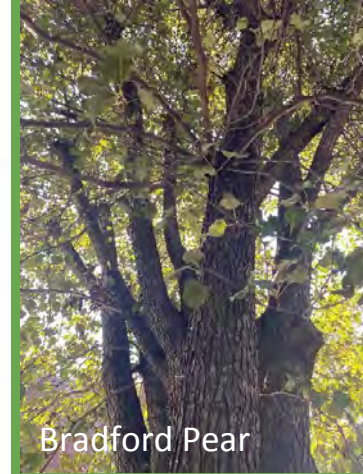
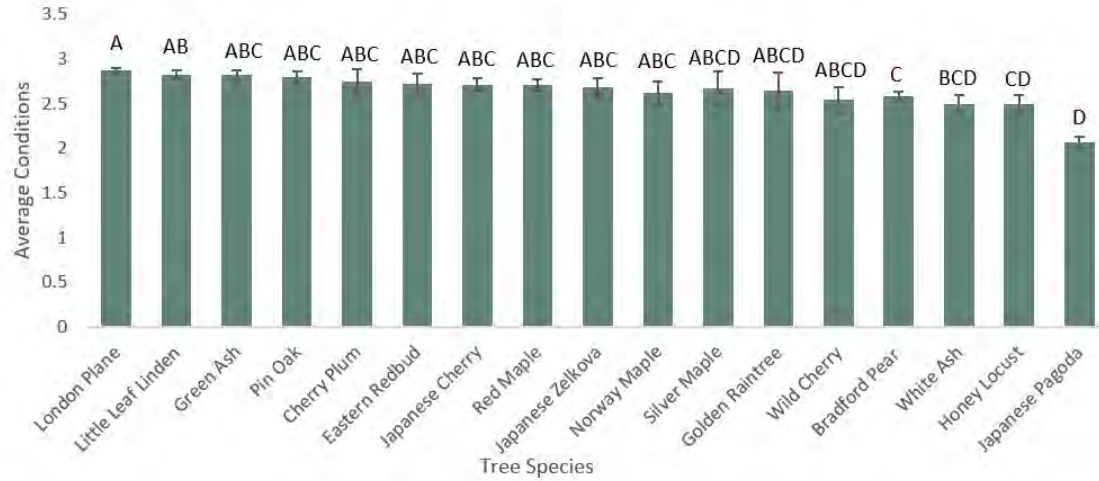


Figure 15. Predicted tree conditions for all wards.

Health According to Species



Dead



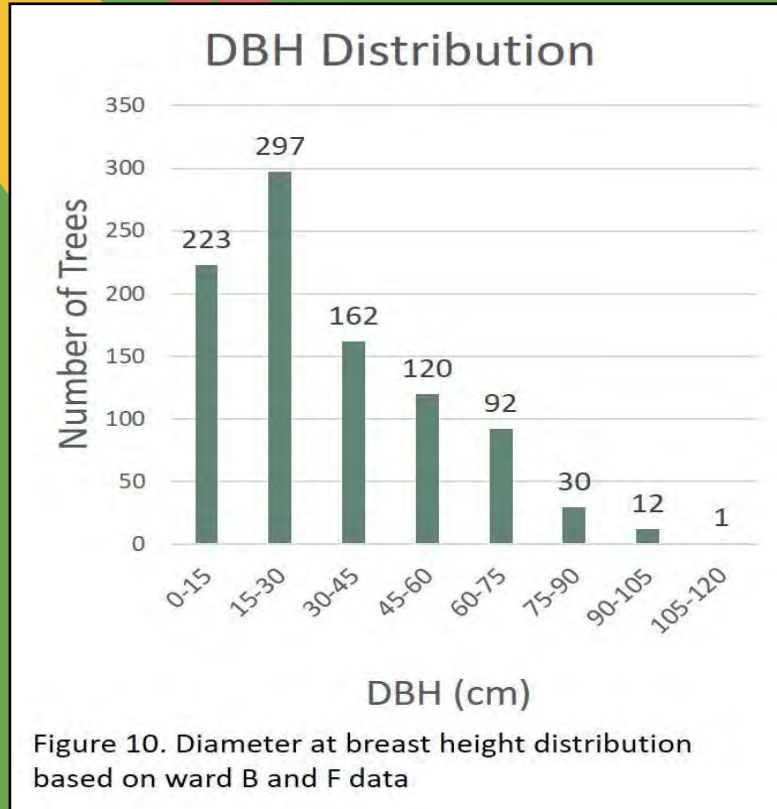
Unhealthy



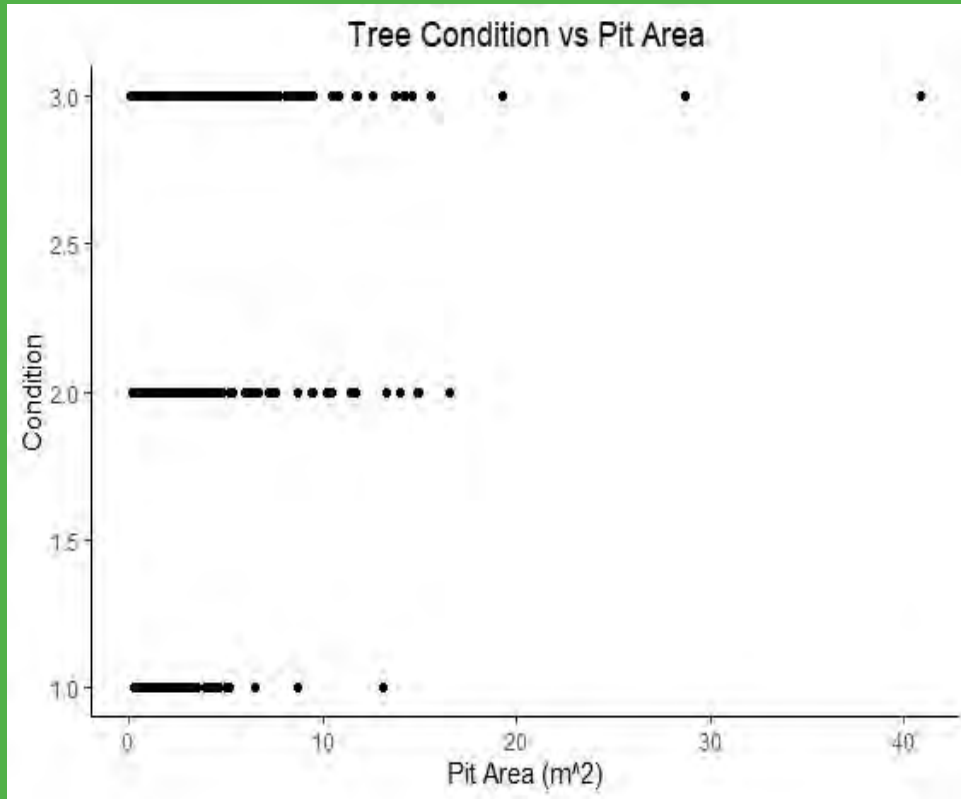
Healthy

- Species with similar letter arrangements are similar in average condition.
- Species with different letters such as Bradford Pear and Japanese Pagoda are significantly different in average condition.





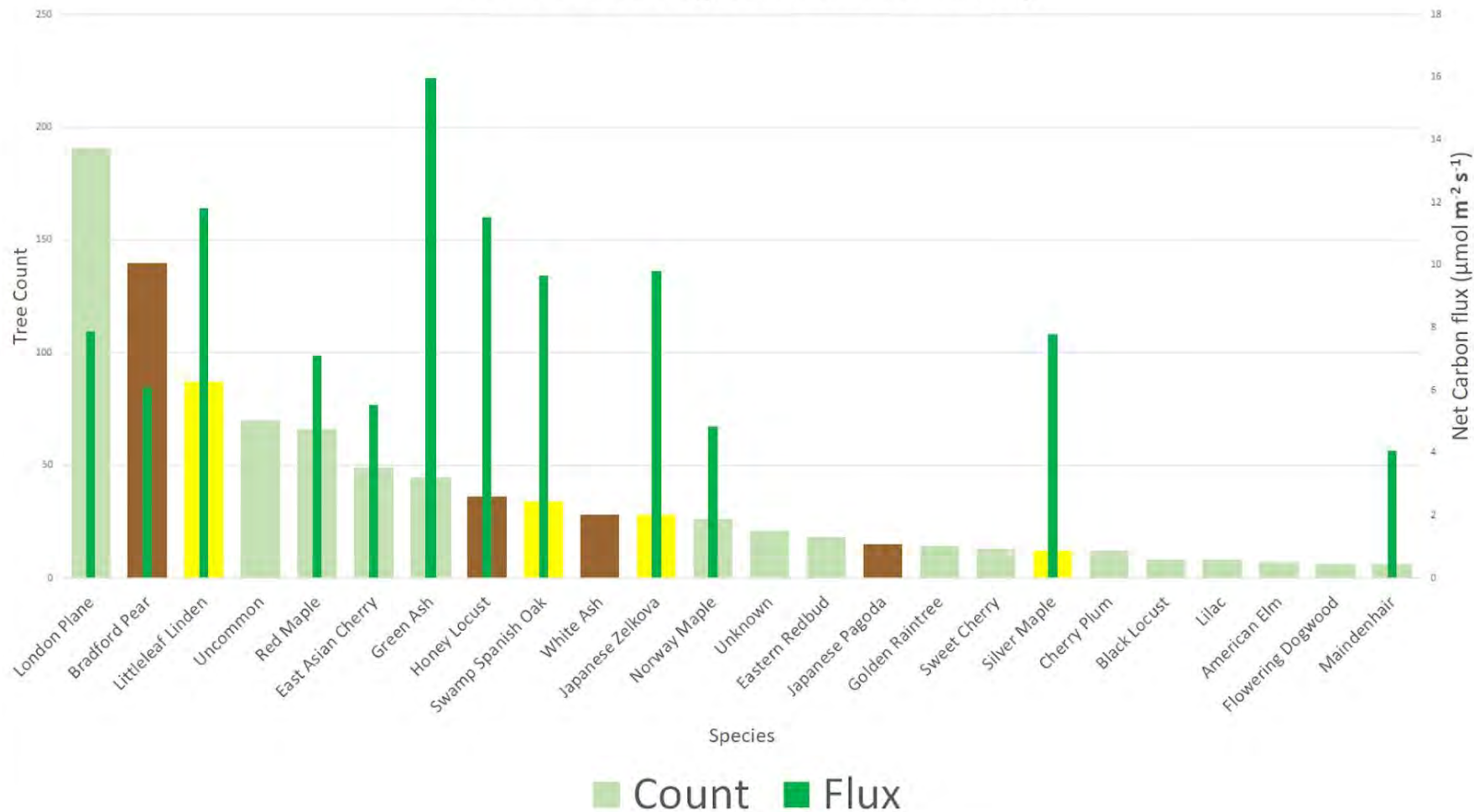
Diameter at breast height is measured 4.5 ft or 1.3 m from the ground (~ breast height)



Ward	Average Pit Area (sq m)	Average Health
F	2.12	2.51
A	2.25	2.72
B	2.68	2.87

- Statistics suggest that there is not a strong correlation between Pit Area and Health
 - p-value = 0.3271
- Healthy trees may be found growing in pits of various sizes
- Unhealthy trees were mostly found in smaller pits

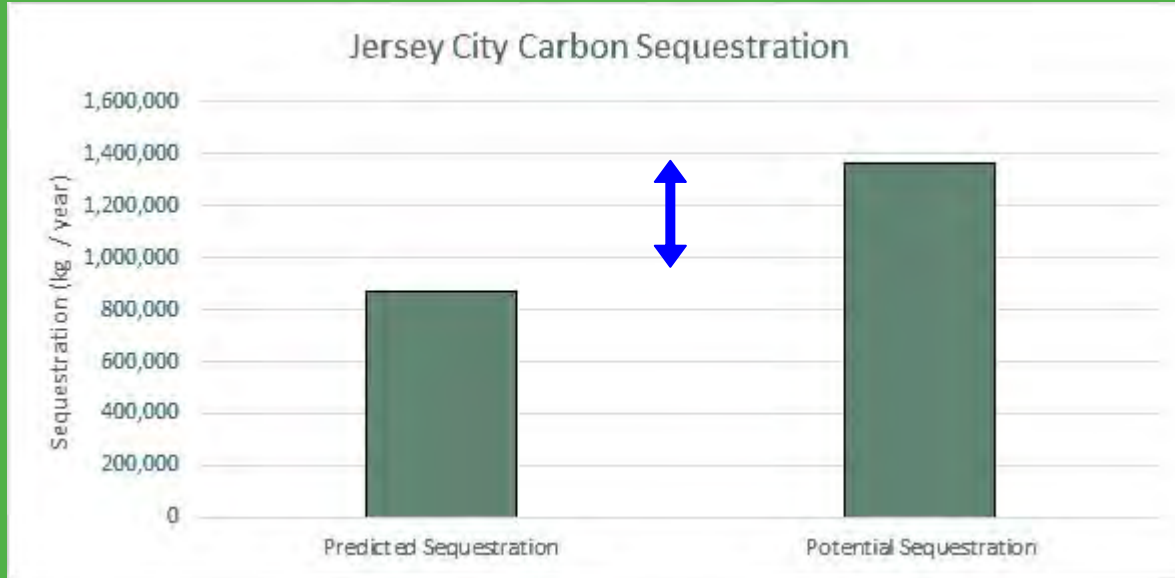
Tree Count and Average Flux of Trees in Jersey City



Carbon Sequestration Estimates

Number of Trees: 23,346

All pits, dead and unhealthy filled with healthy trees → **57%** increase in sequestration



* (Pending further verification based on leaf area estimates vs. allometric equations)



3,498,293



Pounds of coal
burned



7,878,138



Miles driven
by an average
passenger
vehicle

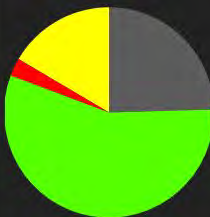


404,900,734



number of
smartphones
charged

Conditions for All Data



Last update: a few seconds ago

Legend

Ward A

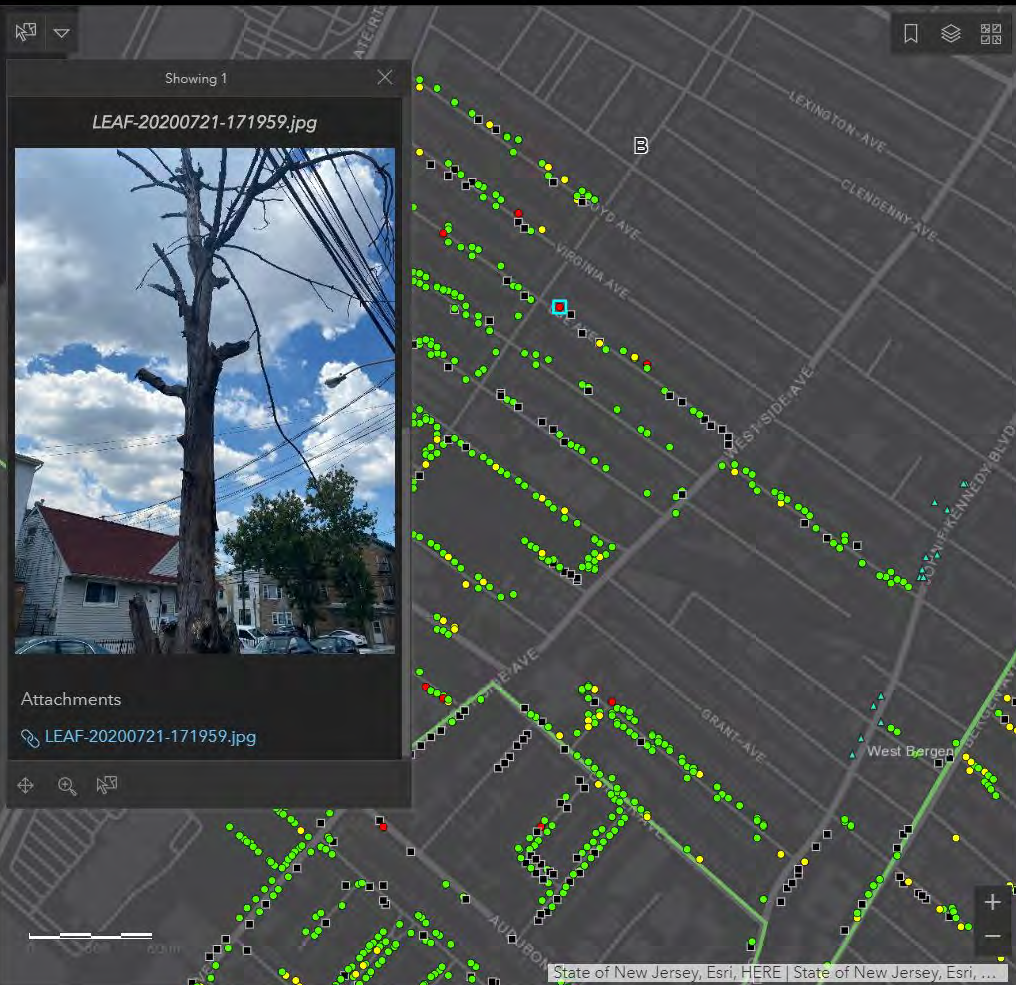
- Healthy Trees
- Unhealthy Trees
- Dead Trees
- Empty Pits

Ward B

- Healthy Trees
- Unhealthy Trees
- Dead Trees

▲ Trees and Pits: 3,947
Trees: 2,978

Last update: a few seconds ago



Tree Conditions



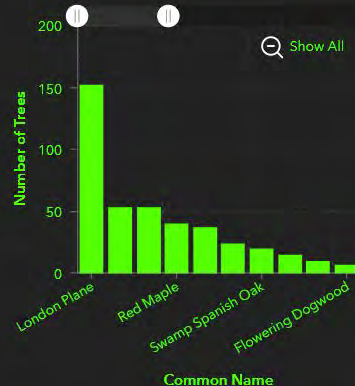
Last update: a few seconds ago

Ward F

Ward B

Ward A

Ward B Tree Species Abundance



Last update: a few seconds ago



Introduction to Urban Tree Ca...



Watch later



Share





Collaborators

- **Kate Lawrence - City of JC Sustainability Director**
- **Carolina Ramos - City of JC Sustainability Program Manager**
- **Dr. William Montgomery - Prof. of Geosciences & GIS at NJCU**
- **Lindsey Sigmund - City of JC Environmental Planner**
- **Edward O'malley - City of JC Forester**
- **Dr. Dirk Vanderklein - Head of Biology Department at MSU**
- **Dr. Josh Galster - Assoc. Prof. of Earth & Envir. Sciences at MSU**
- **City of JC Division of Architecture**



A detailed botanical illustration serves as the background for the slide. It features various green leaves of different shapes and sizes, along with several flowers: a large pink flower in the upper left, a yellow flower in the lower left, and a cluster of small white flowers in the upper right. The entire scene is set against a solid green background.

Thank You!



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