



## **Session 1.2**

**Barefoot in the Park: How contact with nature can affect our health and wellbeing**

**Chair: Thomas Hofer**



**World Forum on  
Urban Forests**



# 2nd World Forum on Urban Forests

Washington DC, 2023

*Barefoot in the Park: How contact with nature can affect our health and wellbeing.*

## Creative Community Engagement Strategies for Green Infrastructure Projects



---

### Presented by

Matthew López-Jensen  
Environmental Artist & Educator  
(The New School & Fordham University)





**2nd World Forum on  
Urban Forests**

Washington DC, 2023

**THANK YOU!**

**World Forum on Urban Forests**

**The New York City Urban Field Station**

**The Nature of Cities (TNOC)**

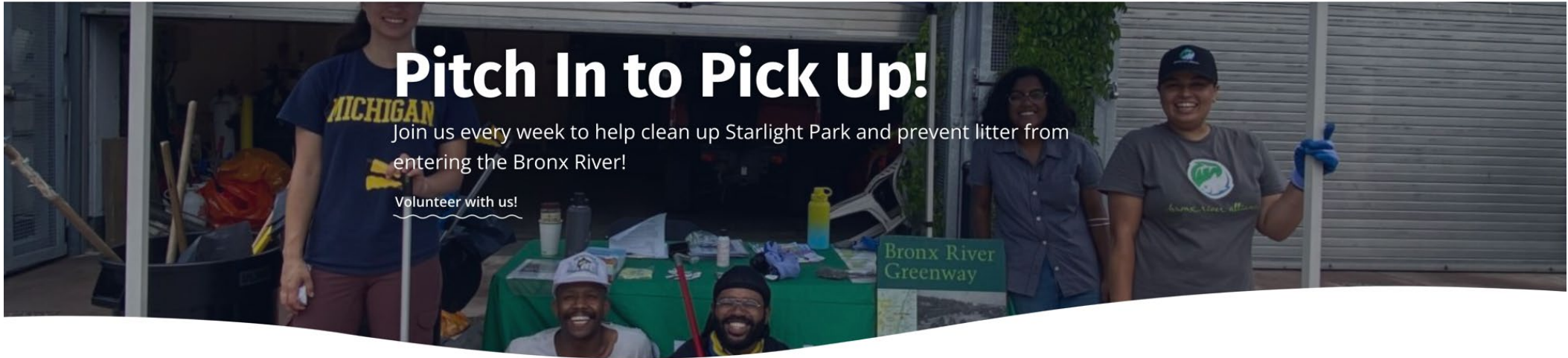
**The New School**

**Everyone who selected this session!**





The environmental arts course I created and teach at Fordham University.



# Pitch In to Pick Up!

Join us every week to help clean up Starlight Park and prevent litter from entering the Bronx River!

Volunteer with us!



Bronx River Greenway

**Come  
explore the**

Volunteer With Us

**Meet  
some  
new  
friends.**

Community Partner



The course is anchored in the history of community activism.



This is the Bronx!

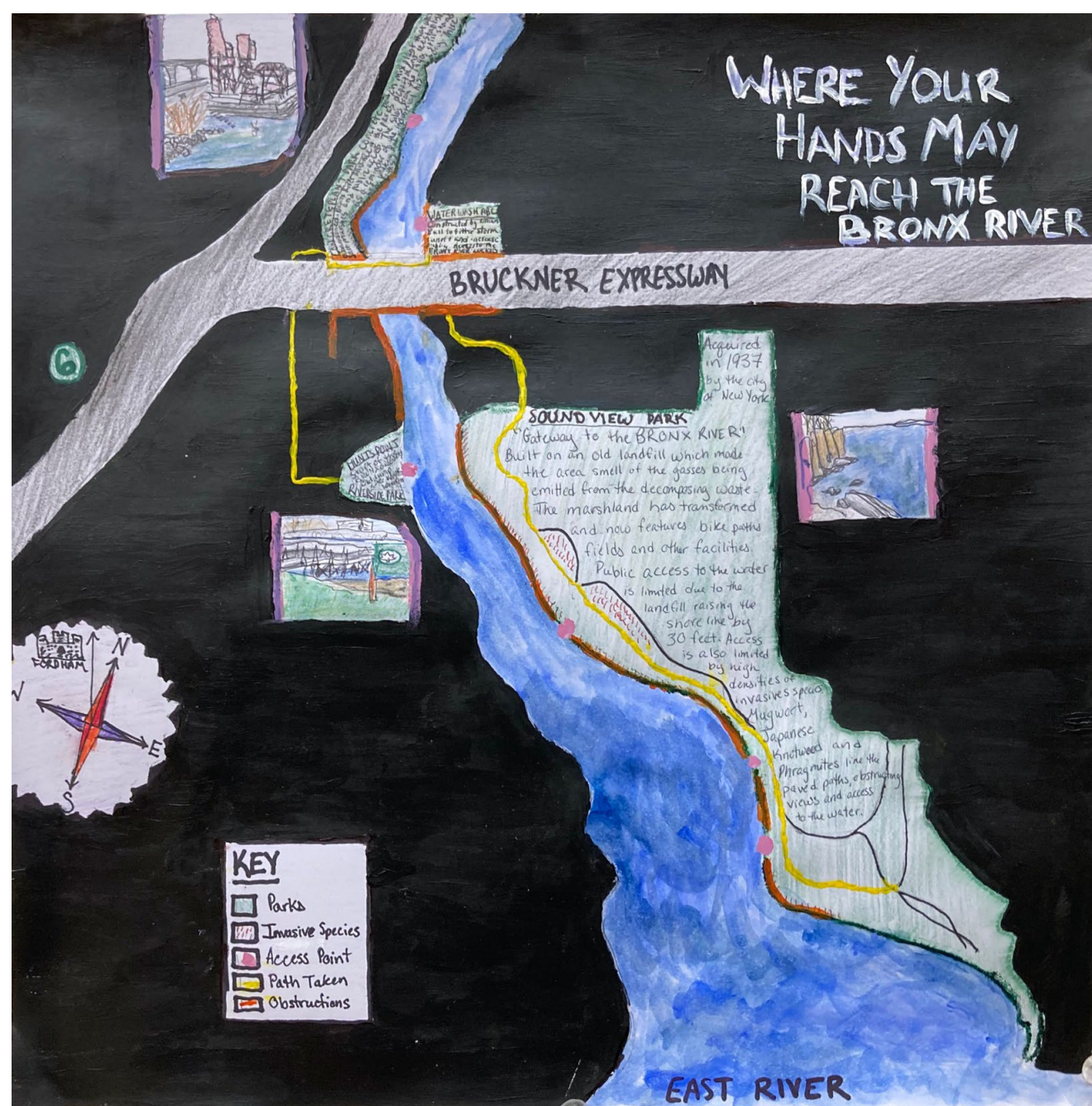


Student work, Plant ID cards, donated to the Bronx River Alliance for use by educators





Student work, Plant ID cards, donated to the Bronx River Alliance for use by educators



Student work, creative mapping, creative maps donated to the Bronx River Alliance for use by educators



Student work, textile maps donated to the Bronx River Alliance for use by educators



Student work, textile maps donated to the Bronx River Alliance for use by educators



Student work, bottle cap "snake" made from caps removed from park, donated to the Bronx River Alliance for use by educators

THE NEW SCHOOL

# COURSE CATALOG

PSAM  
2891

## IMAGE, ACTION, & ENVIRONMENT

PARSONS SCHOOL OF DESIGN: ART, MEDIA &  
TECHNOLOGY

### IMAGE, ACTION, & ENVIRONMENT FALL 2022

TAUGHT BY: MATTHEW LÓPEZ-JENSEN

SECTION: A

CRN: 14664

Credits: 3

This course is designed around direct experience with New York City coastlines, parks, and community gardens. Students will use their creative, social media, and photography skills as advocacy tools for sites of their choosing and to further ecological and environmental justice initiatives. Students will also experiment with care-centric actions such as planting, cleaning, fixing, maintaining, and other activities that are now extensions of contemporary art practices. This course celebrates blurring lines between art-making and activism. Throughout the semester we will visit and photograph a range of sites and meet with the community stewards and non-profit organizations charged with maintaining and protecting these spaces. We will learn about environmental and commercial threats facing these places and create work that advocates for change. We will acknowledge and explore Indigenous histories of the landscape and how these relate to current land management conflicts and contemporary art practices. We will also explore artists whose work combines social practice, activism, and environmental action.

*Open to: All University undergraduate students. Successful completion of first year*



Historic community garden action in the South Bronx

The environmental arts course I created and teach at The New School.



# Assignment 1

Plant a tree.

Make it art.



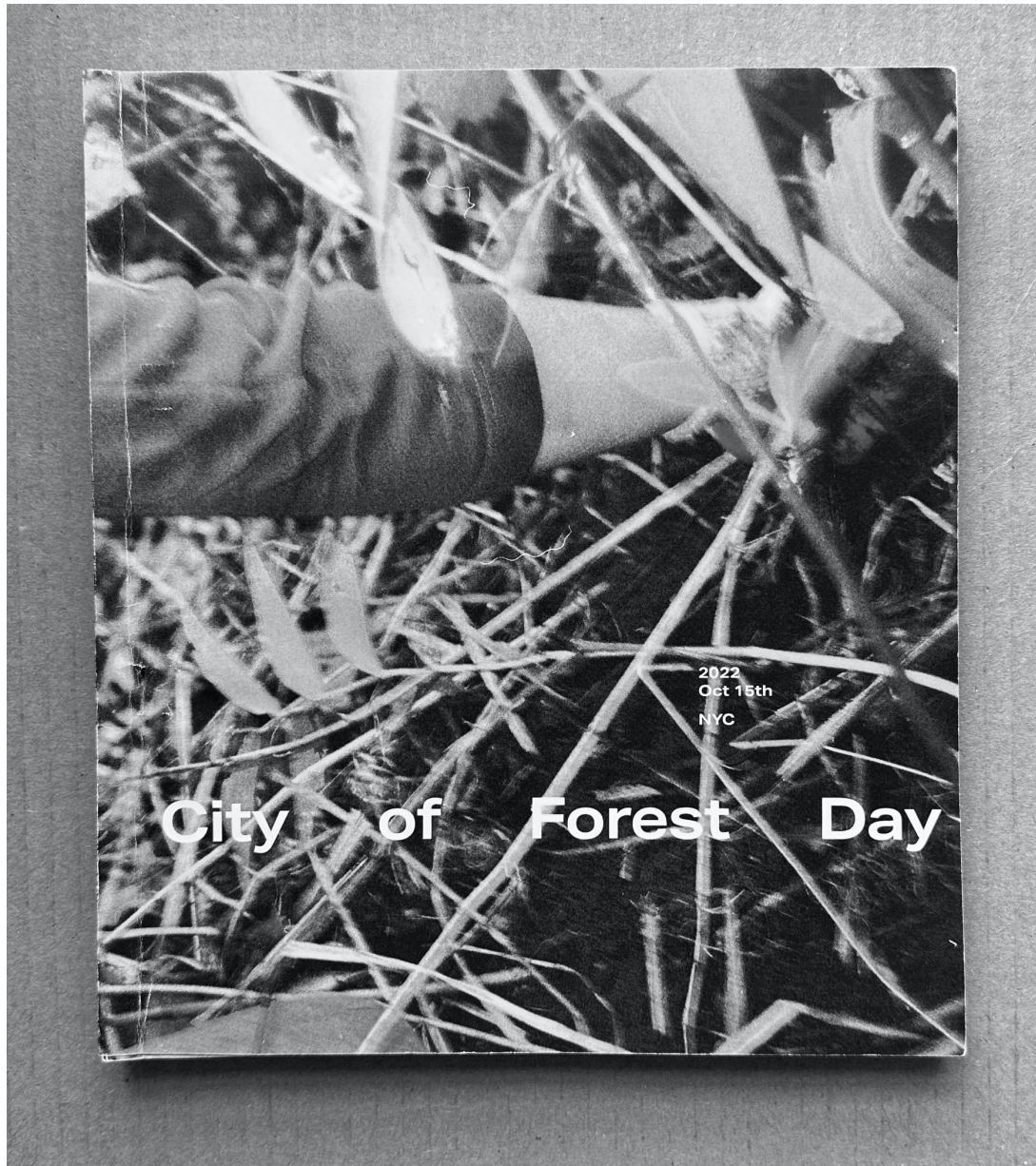


Join us **Saturday, October 14, 2023** for the second annual City of Forest Day! After a successful inaugural City of Forest Day last year, we are thrilled that this citywide celebration of the urban forest will take place again this fall. Presented by Forest for All NYC in partnership with the Parks and Open Space Partners – NYC Coalition and NYC Parks, City of Forest Day is an annual day of activities across the city to raise awareness of the importance of the New York City urban forest, and the essential role New Yorkers play every day in caring for the “lungs” of our city.





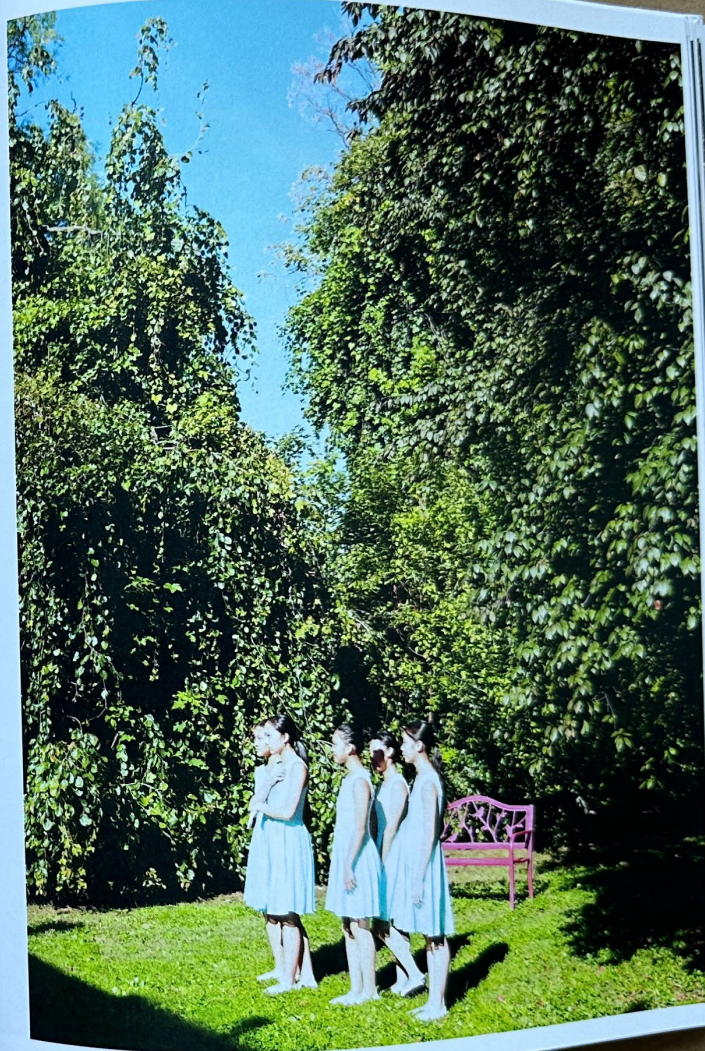
Student work from City of Forest Day  
(pictures of stewardship)



City of Forest Day Magazine: Issue 1

Delancy Mai

It was my first time  
attending a birthday  
party of a tree, it was  
fun and exciting.



# **THE ERIE CANAL**

**Artist-in-Residence**



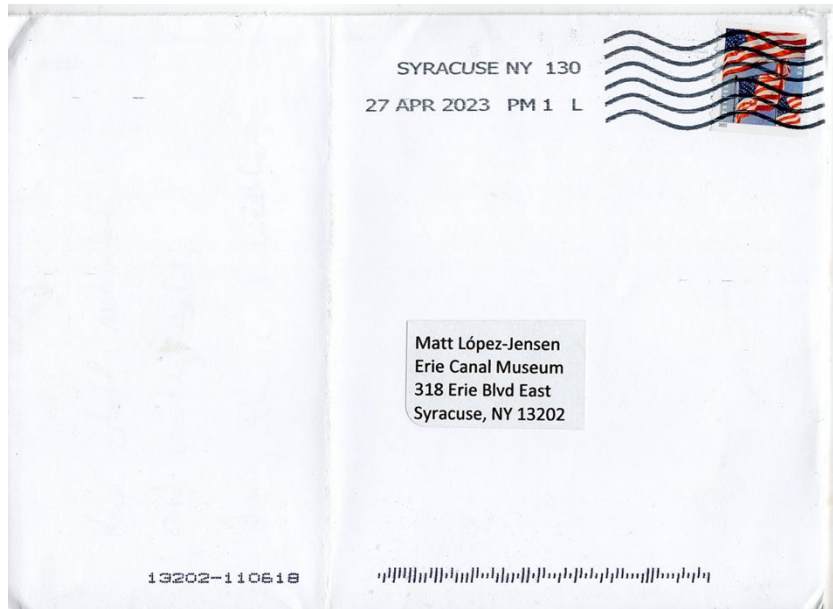


# Participation and Engagement

Employees who work in the field throughout the system were mailed a personal call for participation. Each letter contained a thank you note, photo postcard, hand-decorated cards for participation, and a stamped return envelope.

This is the first time canal employees have interacted with an artist-in-residence in the 200-year history of the system. The contributed texts will define the finished series of works. They will also remain in the archive at the Erie Canal Museum.

The idea is to create a series that recognizes the off-season work and the unseen labor that makes this recreational corridor function.



# THE WORK AND THE WATER

Name: *Steve ThoyP*  
(optional)

Site/Location/Lock: *Lysander*  
(optional)

## Question 1:

Describe one of the more challenging tasks you do during non-nav season?

(Use the other side of the card)



IN THE FALL we Remove  
Heavy electrical equipment FROM  
CABINETS. We move it TO our  
ONSITE work Shop where we  
disassemble inspect and REFINISH IT  
BEFORE Reassembly. Then Reinstalled  
IN CABINETS BEFORE NAVIGATION  
Season.

DEGREASING

GEARS

The reason we do tree  
Maintenance is not just for  
Looks. It prevents dam failures  
and blockages important for water  
level control

OPENING VALVES TO  
ALLOW THE GATES TO OPEN.

$H_2O$  IS EXTREMELY STRONG.

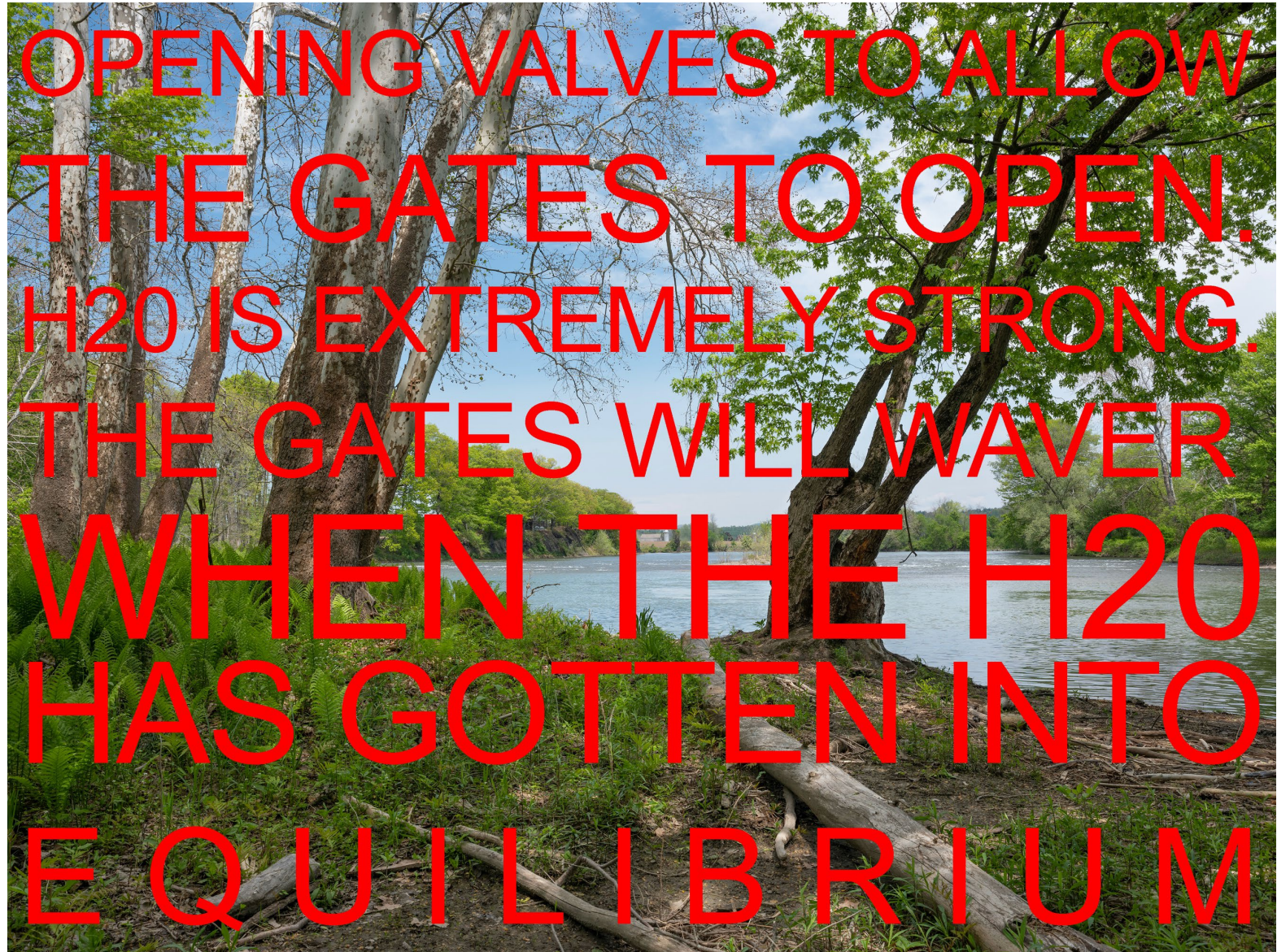
THE GATES WILL WAVER WHEN

THE  $H_2O$  HAS GOTTEN INTO

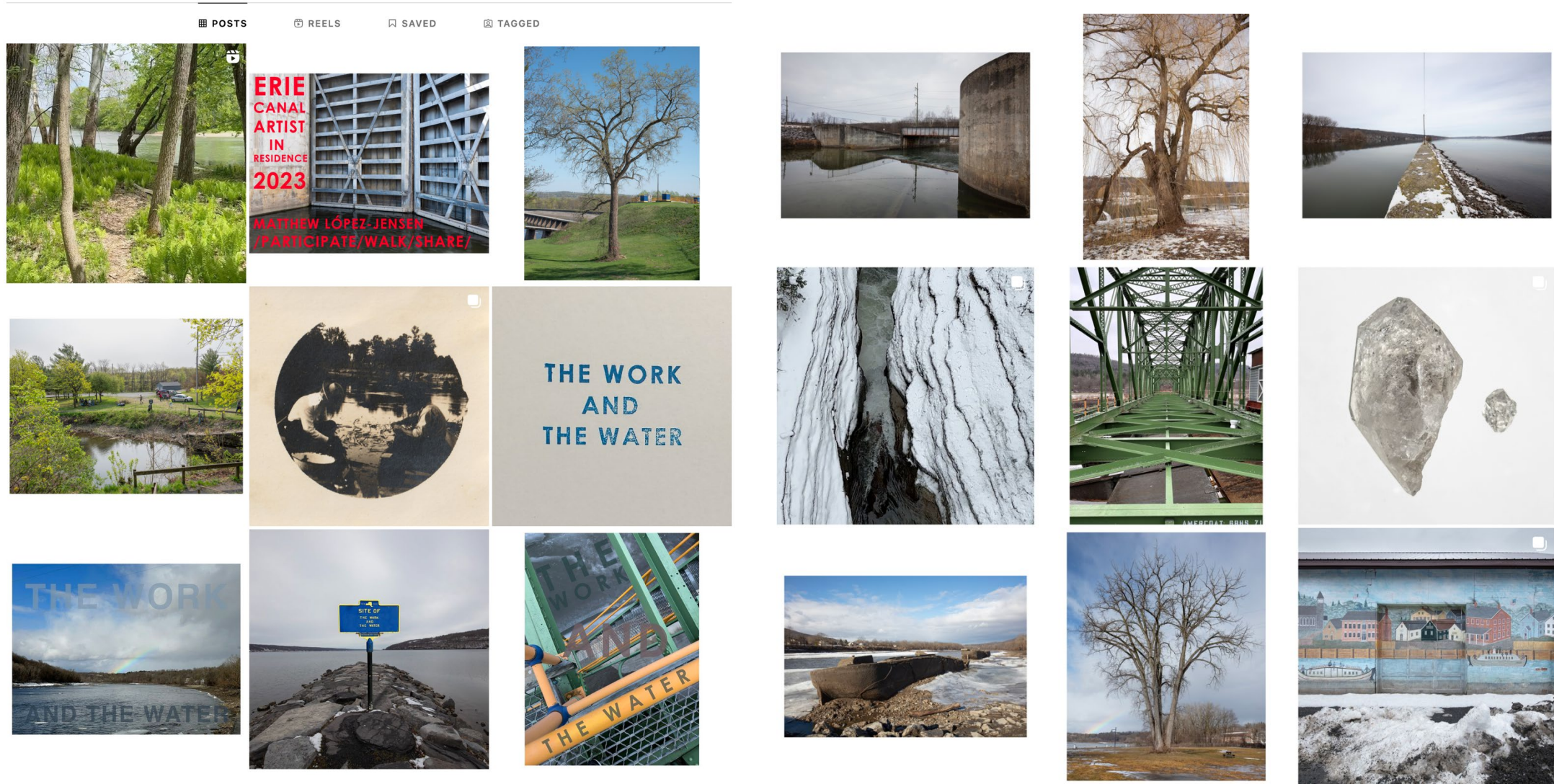
EQUILIBRIUM. VERY COOL.

SPECTATORS ARE VERY IMPRESSED.



A scenic view of a riverbank. In the foreground, there is a fallen log on the ground, surrounded by green ferns and other vegetation. The middle ground shows a calm river flowing through a lush green landscape. In the background, there are several tall, slender trees with light-colored bark, possibly poplars, standing against a clear blue sky. The overall scene is peaceful and natural.

OPENING VALVES TO ALLOW  
THE GATES TO OPEN.  
H<sub>2</sub>O IS EXTREMELY STRONG.  
THE GATES WILL WAVER  
WHEN THE H<sub>2</sub>O  
HAS GOTTEN INTO  
EQUILIBRIUM



Instagram @all524miles

**“Remember when we...”**

**vs**

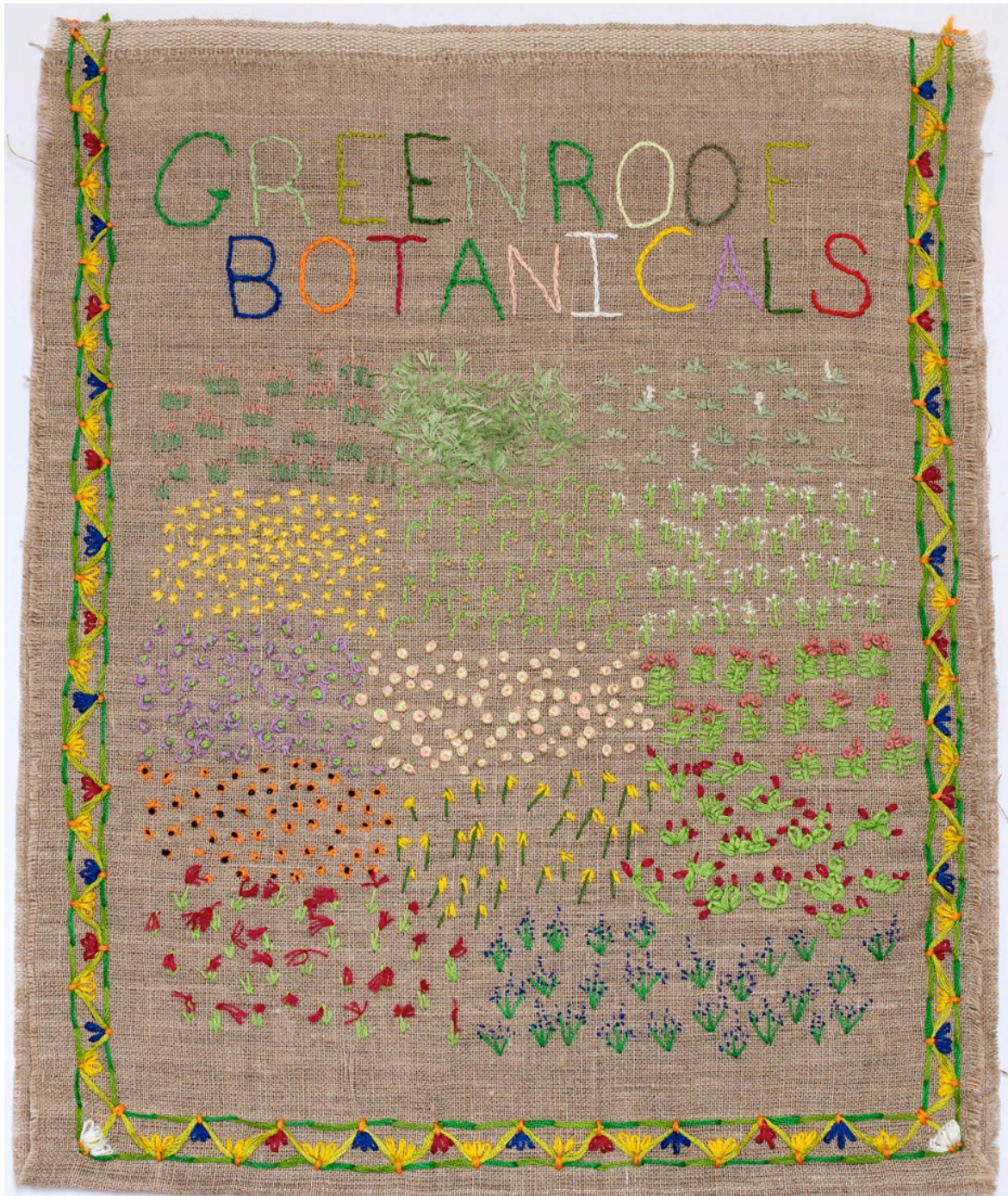
**“Remember when they...”**

--- Someone in a community somewhere

## Project 1: The Tibbetts Estuary Tapestry

### A community-embroidered map and provocation in the Northwest Bronx

- Storm water management
- Historic waterways
- Combined sewer overflow
- Green roofs
- Heat island effect
- Pedestrian access
- Native flora



# The Tibbetts Estuary Tapestry

Matthew López-Jensen

and

Ana de la Cueva



Map Overview Back to Beginning

## Walking Tibbetts

### Stop 1: Tibbetts Brook Park, Yonkers

*Alosa pseudoharengus*, a river herring (Alosa) or shad, or false sea herring (pseudoharengus), once swam up this spot where people on the bridge now look down. Also known as ale-wife, ellwife, ellwop, or the gaspereau or klack in Canada, it plated Tibbetts Brook with moving quicksilver this time of year. The ale-wife is named for its fat head reminiscent of a corpulent inn-keeper's wife. These fish predated the bridge, and the lake which the bridge impounds. They also predate the appellation Tibbetts' Brook, named after George Tippet and/or his father-in-law, William Betts. These fish are older and more noble than the original jonker, or patroon, Adrian van der Donck, for whom the City of Yonkers was named, and by extension the Yonkers River, another name for Tibbetts Brook suggesting the stream's extension north. These fish, with their bulbous eyes and shiny scales, are as a species older even than Moshola, the indigenous Lenape name for the stream, village, and valley in which we stand. For ten thousand years or more, ale-wife swam by this spot, until this bridge, picturesque is it, was dammed in the year of our Lord 1700. Hated but not forgotten, diminished but extinct, the shad walk and hope. Each spring, even as we look on now, the shadshub Amelanchier canadensis remembers, flowering white in anticipation of the day this stream will run silver once again. -Eric Sanderson

StoryMapJS | Map data by OpenStreetMap contributors, CC-BY, Imagery © Mapbox, Imagery © OpenStreetMap contributors, CC-BY, Imagery © Mapbox

Map Overview Back to Beginning

### Stop 2: Tibbetts Marshland

*Spartina alterniflora*, the smooth cordgrass, invokes in it's name the ties that bind (from the Greek, spartínē, for rope or cord). Its alternating grey-green leaves, climbing a tall stiff stalk, once filled the future Tibbetts Park. The path of the Major Deegan Expressway and its green, walled-in verge, mark the low places, where tides would creep up twice per day from the Harlem River and wash the grassy sward. *Spartina alterniflora*, and its community members, endure not only flooding, but flooding by salt water, requiring two-fold special adaptations. They need mechanisms to pump oxygen from the sky to its deep roots plumbing anaerobic soils, and they need means to pump out the salt that would otherwise intrude on its cellular metabolism. Imagine running your hand along the grass leaves which once grew here so abundantly and bringing them to your lips to taste the crystalline salt. One would think that these double burdens of the environment imposed on the unlucky plant would curse the *Spartina*, but in fact they are its greatest blessings, for they keep out interlopers and allow *Spartina* to grow thick and deep. Few other plants or animals can withstand the rigors of the low salt marsh. Hence our forefathers and ancestral mothers filled in the marsh, built a train track, and then a super highway here. As others cruise on to errands far away, ignorant of the park-to-be on its western margin, let us remember, as we stand here ending the din, that it is precisely within conditions of limitation that nature expresses its greatest creativity. Necessity is the mother of invention, and this will once again restore Tibbetts' Brook. -Eric Sanderson

StoryMapJS | Map data by OpenStreetMap contributors, CC-BY, Imagery © Mapbox, Imagery © OpenStreetMap contributors, CC-BY, Imagery © Mapbox

Map Overview Back to Beginning

### Stop 3: 215th Street Station

In order for the daylighting of Tibbetts Brook to succeed, the City must first purchase the required properties. Acquisition of property rights or easements that would be required are under review and discussions with relevant property owners are on-going. The Tibbetts Brook would start to be above ground ("Daylighted") near Van Cortlandt Park South and would follow along on the CSX property between Broadway and the Major Deegan Expressway. The Brook would then have to go below ground under a section of railroad still in use, potentially connect to the existing outfall, and empty out into the Harlem River. From the River Plaza mall parking structure, you can see the decommissioned railroad tracks now being used to store train cars. Unfortunately, there is a lot of trash piling up in this area. Coordinating between all the different parties and building an underground pipe in this section would be a major undertaking but as DEP, we are looking forward to this challenge and successfully daylighting the Tibbetts Brook. -Pinar Balci & Tolga Yilmaz, NYCDEP

StoryMapJS | Map data by OpenStreetMap contributors, CC-BY, Imagery © Mapbox, Imagery © OpenStreetMap contributors, CC-BY, Imagery © Mapbox

Map Overview Back to Beginning

### Stop 4: Van Cortlandt Spillway

Tibbetts Brook originates in Yonkers and flows through Van Cortlandt Park before discharging into Van Cortlandt Lake. Since the early 1900s, the stream has been diverted from Van Cortlandt Lake through an 8 feet diameter tunnel that connects to a combined sewer flowing to the Ward's Island Wastewater Treatment Plant. During wet-weather, overflow from the combined sewer discharges to the Harlem River at an outfall near the abandoned Kingsbridge Substation, which is one of the largest Combined Sewer Overflow (CSO) discharge points in New York City. The proposed Van Cortlandt Lake Improvements and daylighting of Tibbetts Brook would substantially reduce this CSO discharge to the Harlem River. -Pinar Balci & Tolga Yilmaz, NYCDEP

StoryMapJS | Map data by OpenStreetMap contributors, CC-BY, Imagery © Mapbox, Imagery © OpenStreetMap contributors, CC-BY, Imagery © Mapbox

Walking Tibbetts, Interactive web-based map, video, photography, essay, 2021



Tibbetts Brook, as glimpsed from within the fenced off, inaccessible, eco-nightmare that is the golf course.



The last we see of Tibbetts...until the floods.




Pictures I took on the way to get groceries one day when we were making international news.





## *Why New York Is Unearthing a Brook It Buried a Century Ago*

A plan to “daylight” Tibbetts Brook in the Bronx would be one of the city’s most ambitious green infrastructure improvements.

 Share full article



 361





A bit of land along the highway where the future daylighted stream and pedestrian corridor will go/flow.



New York City took the Tibbetts estuary and marshland, filled it in, sold it off, and built on top of it.

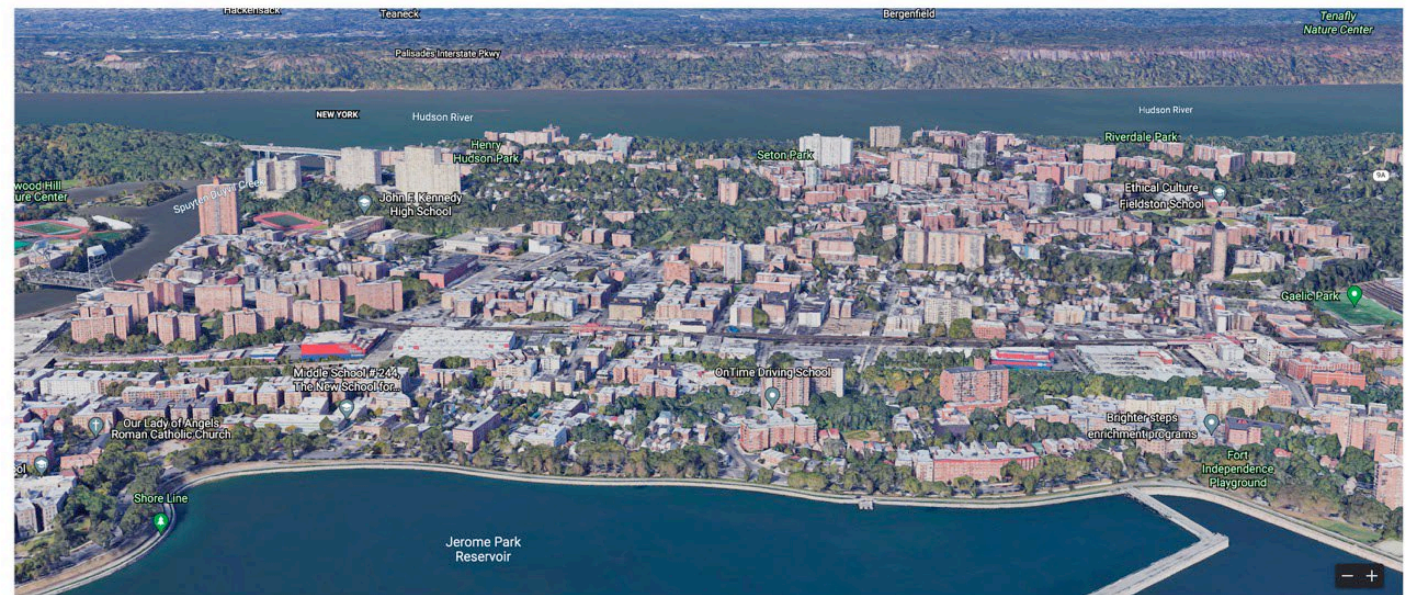
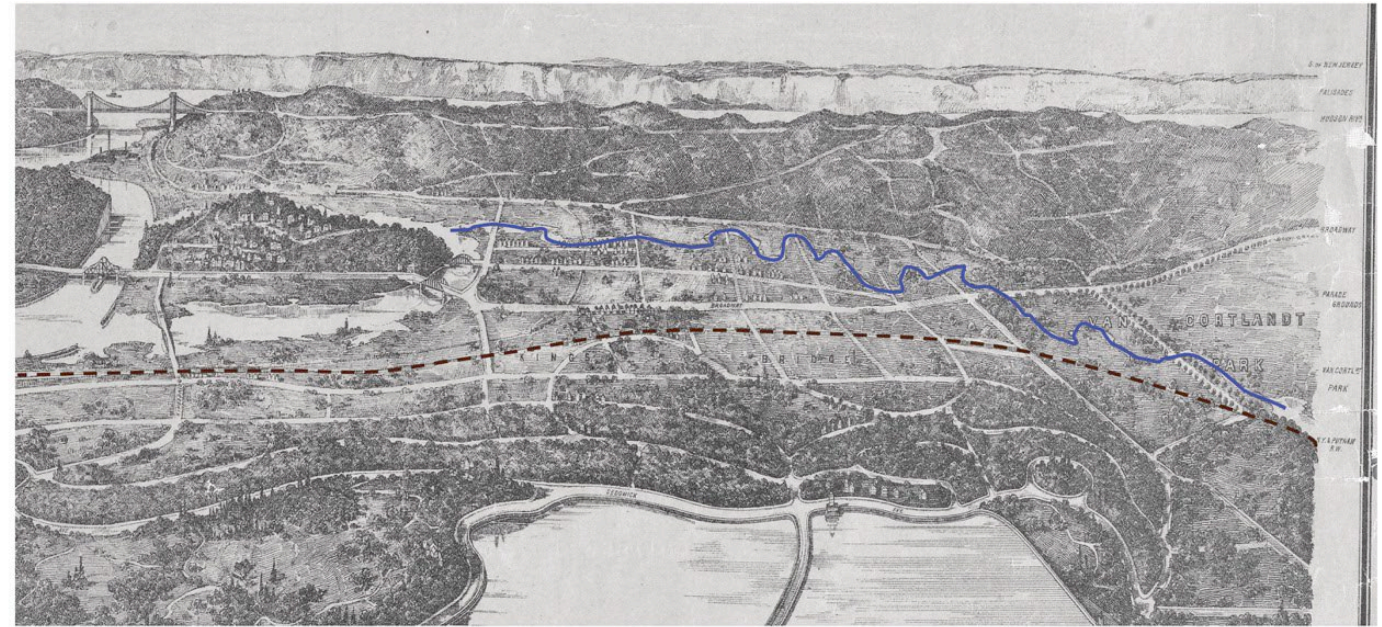
Acres and acres of big box stores with big flat rooves, parking lots, storage units, schools, and not a green roof in sight!

Daylighting Tibbetts is a great start but the real transformation, the real community benefits, will come from green roofs.

NYC should not hide behind regulations and code that can be circumnavigated.

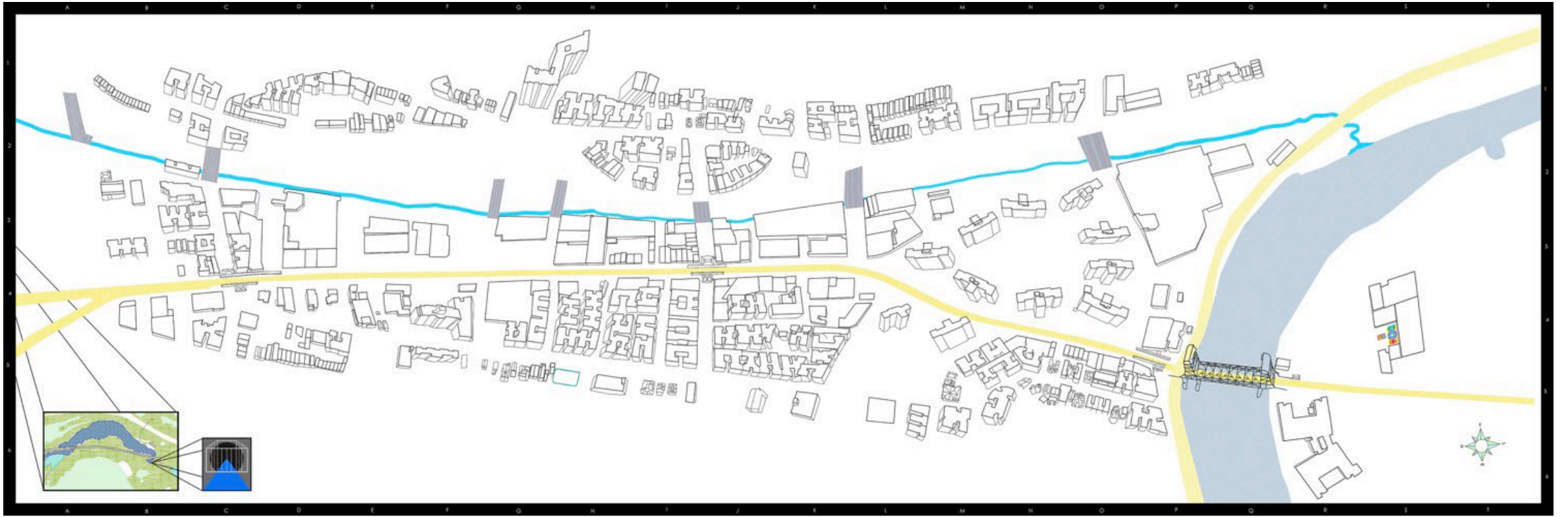
NYC should install the green roofs.

It's cheaper than flood damage and cheaper than an expanded sewer treatment plant.





The former marshland today



Turned into a map

What is a “green roof” and how can it help? This project answers these question using thread.





100 copies, ledger paper, all layers with trees.jpg



A1 With Trees.jpg



A2 With Trees.jpg



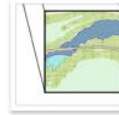
A3 With Trees.jpg



A4 With Trees.jpg



A5 With Trees.jpg



A6 With Trees.jpg



B1 With Trees.jpg



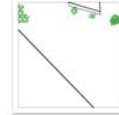
B2 With Trees.jpg



B3 With Trees.jpg



B4 With Trees.jpg



B5 With Trees.jpg



B6 With Trees.jpg



C1 With Trees.jpg



C2 With Trees.jpg



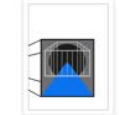
C3 With Trees.jpg



C4 With Trees.jpg



C5 With Trees.jpg



C6 With Trees.jpg



D1 With Trees.jpg



D2 With Trees.jpg



D3 With Trees.jpg



D4 With Trees.jpg



D5 With Trees.jpg



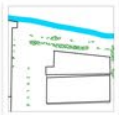
D6 With Trees.jpg



E1 With Trees.jpg



E2 With Trees.jpg



E3 With Trees.jpg



E4 With Trees.jpg



E5 With Trees.jpg



E6 With Trees.jpg



F1 With Trees.jpg



F2 With Trees.jpg



F3 With Trees.jpg



F4 With Trees.jpg



F5 With Trees.jpg



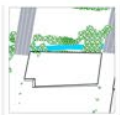
F6 With Trees.jpg



G1 With Trees.jpg



G2 With Trees.jpg



G3 With Trees.jpg



G4 With Trees.jpg



G5 With Trees.jpg



G6 With Trees.jpg



H1 With Trees.jpg



H2 With Trees.jpg



H3 With Trees.jpg



H4 With Trees.jpg



H5 With Trees.jpg



H6 With Trees.jpg



I1 With Trees.jpg



I2 With Trees.jpg



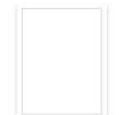
I3 With Trees.jpg



I4 With Trees.jpg



I5 With Trees.jpg



I6 With Trees.jpg



J1 With Trees.jpg



J2 With Trees.jpg



J3 With Trees.jpg



J4 With Trees.jpg



J5 With Trees.jpg



J6 With Trees.jpg



K1 With Trees.jpg



K2 With Trees.jpg



K3 With Trees.jpg



K4 With Trees.jpg



K5 With Trees.jpg



K6 With Trees.jpg



L1 With Trees.jpg



L2 With Trees.jpg



L3 With Trees.jpg



L4 With Trees.jpg



L5 With Trees.jpg



L6 With Trees.jpg



M1 With Trees.jpg



M2 With Trees.jpg



M3 With Trees.jpg



M4 With Trees.jpg



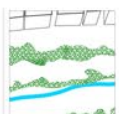
M5 With Trees.jpg



M6 With Trees.jpg



N1 With Trees.jpg



N2 With Trees.jpg



N3 With Trees.jpg



N4 With Trees.jpg



N5 With Trees.jpg



N6 With Trees.jpg



O1 With Trees.jpg



O2 With Trees.jpg



O3 With Trees.jpg



O4 With Trees.jpg



O5 With Trees.jpg



O6 With Trees.jpg



Map fragments turned into machine-embroidered tiles for participants to embroider.



Eastern Prickly Pear (*Opuntia humifusa*)



Early Goldenrod (*Solidago juncea*)

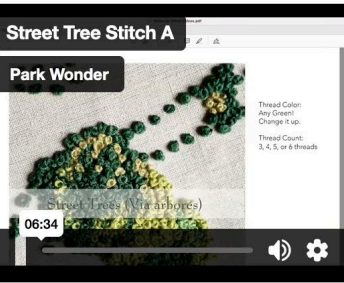


A few of the 15 plant stitches I created for the projects.

**Street Tree Stitch A**  
Park Wonder

Thread Color: Any Green!  
Change 1-Up  
Thread Count: 3, 4, 5, or 4 threads

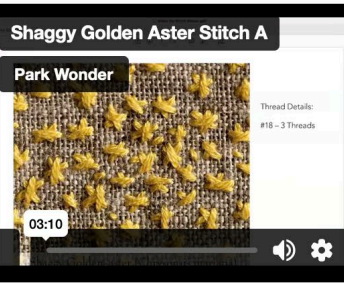
06:34



**Shaggy Golden Aster Stitch A**  
Park Wonder

Thread Details:  
#18 - 3 Threads

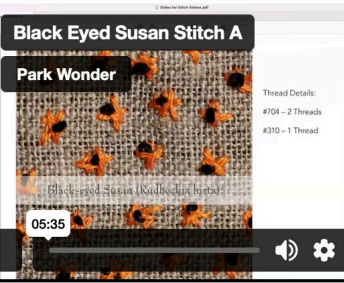
03:10



**Black Eyed Susan Stitch A**  
Park Wonder

Thread Details:  
#704 - 2 Threads  
#310 - 1 Thread

05:35



**Purple Love Grass Stitch A**  
Park Wonder

Thread Details:  
#223 - 2 Threads  
#367 - 1 Thread

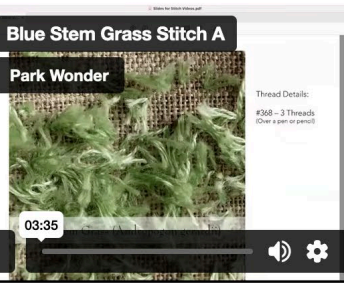
06:37



**Blue Stem Grass Stitch A**  
Park Wonder

Thread Details:  
#368 - 3 Threads  
(Use a pair of pants!)

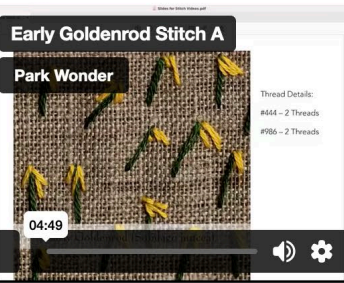
03:35



**Early Goldenrod Stitch A**  
Park Wonder

Thread Details:  
#444 - 2 Threads  
#986 - 2 Threads

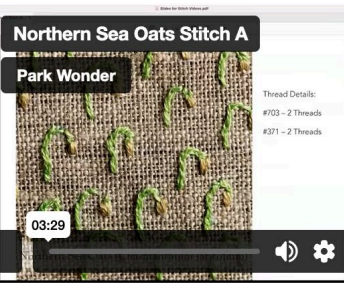
04:49



**Northern Sea Oats Stitch A**  
Park Wonder

Thread Details:  
#703 - 2 Threads  
#371 - 2 Threads

03:29



**Wild Blue Indigo Stitch**  
Park Wonder

Thread Details:  
#700 - 2 Threads  
#796 - 1 Thread

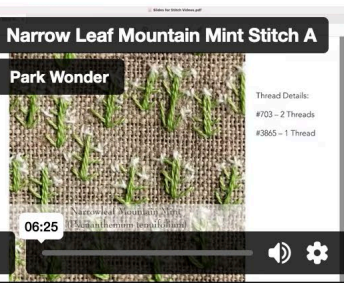
04:32



**Narrow Leaf Mountain Mint Stitch A**  
Park Wonder

Thread Details:  
#703 - 2 Threads  
#365 - 1 Thread

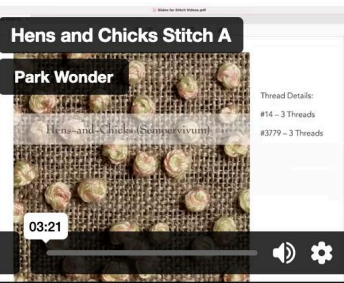
06:25



**Hens and Chicks Stitch A**  
Park Wonder

Thread Details:  
#14 - 3 Threads  
#379 - 3 Threads

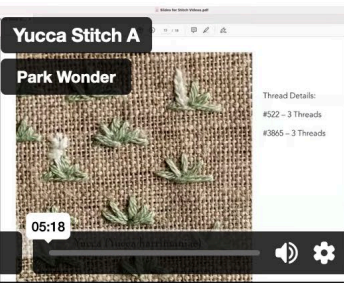
03:21



**Yucca Stitch A**  
Park Wonder

Thread Details:  
#522 - 3 Threads  
#365 - 3 Threads

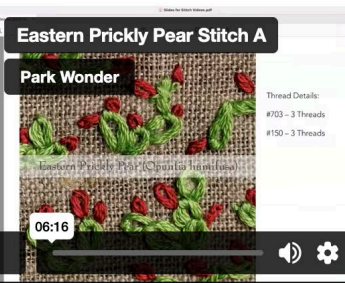
05:18



**Eastern Prickly Pear Stitch A**  
Park Wonder

Thread Details:  
#703 - 3 Threads  
#150 - 3 Threads

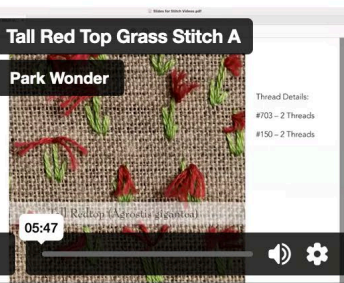
06:16



**Tall Red Top Grass Stitch A**  
Park Wonder

Thread Details:  
#703 - 2 Threads  
#150 - 2 Threads

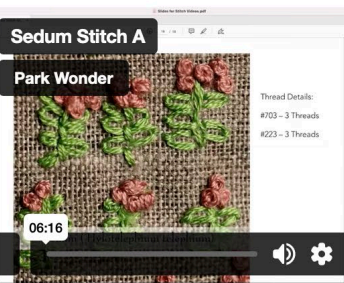
05:47



**Sedum Stitch A**  
Park Wonder

Thread Details:  
#703 - 3 Threads  
#223 - 3 Threads

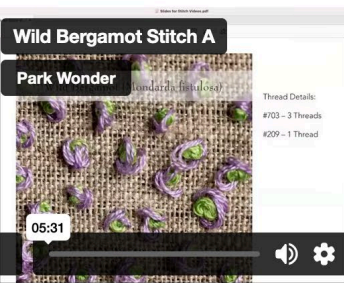
06:16



**Wild Bergamot Stitch A**  
Park Wonder

Thread Details:  
#703 - 3 Threads  
#209 - 1 Thread

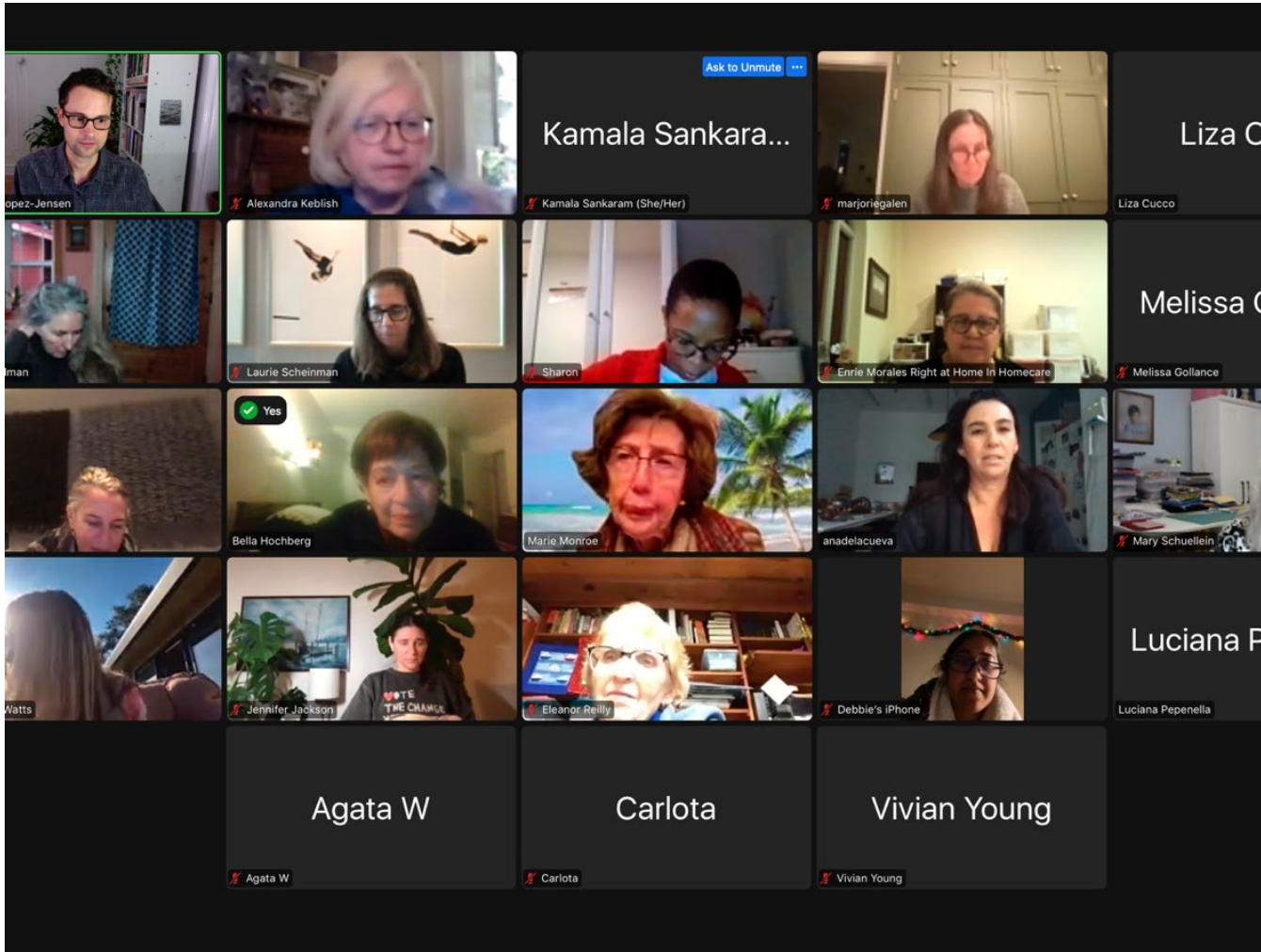
05:31







Teaching embroidery at the farmers market



Zoom calls with volunteers and a bilingual how-to website for teaching.

## The Tibbetts Estuary Tapestry

A Community Embroidery Artist Project

WITH ARTISTS AIA DE LA CRUZ AND MATTHEW LORCA-JENSEN

The Tibbetts Estuary Tapestry Project imagines green roofs on all of the buildings along Broadway that were built on former wetlands.

It is a map of the possible. It suggests an answer to the urgent question: what do we do with all of this water?

Those living in the North East Bronx are familiar with the big box stores along Broadway: the Target, Best Buy, Aldi, Staples, Sams & Sons, and dozens of other commercial spaces from the Hudson River to Van Cortlandt Park. The buildings are huge and flat and they were built on land that was once a rich tidal estuary: the Tibbetts Estuary. When the subway was authorized this for north the views from the platforms were mostly of abandoned. Now it is mostly rooftops. And now flooding is a huge problem. But what if there was a coordinated effort to create a striking collection of continuous green roofs? It would cool the neighborhood, clean the air, provide habitat for plants, insects, and birds, and mitigate flooding events for generations. And it would be beautiful.

Learn all about the project from Aia and Matthew in the video to the left.

Aia & Matthew introduce the project | Aia & Matthew presentation of projects

### How can I get involved?

Artist Matthew Lorca Jensen and Aia de la Cruz have designed this public art project to imagine the possibilities of green roofs with Street. The finished tapestry will be 10000 feet long and six feet tall and will consist of 1200 tiles. As a participant you will receive one of these tiles to embroider botanical and street scenes. When your tile is complete it will be stitched together with all the others to create the final tapestry. It's easier than it sounds!

No experience with embroidery is necessary and perfection is not expected! Learning how to embroider is part of the experience.

Once you sign up there you will receive a Tibbetts Kit in the mail or you can pick one up at an in-person event. (See event schedule below.)

Each kit will include two pieces of fabric, one to practice and one that is a section of the neighborhood map with rooftops for you to embroider a garden. The kit will include: needles, a hoop, embroidery thread, and instructions. The artists have created How-To videos for the project and for many stitches. These can be found below.

And our team can walk you through every step if you get stuck.

You can request an embroidery kit be sent for you in the mail and follow the entire video and events, to learn more, or you can pick up the kit from one of our outdoor public events or collection locations in the Kingsbridge area.

[To sign up click here!](#)

### Attend an event, online or in-person

Throughout September, October, and November, we'll be having a few virtual and outdoor in-person events where you can embroider with others and learn a bit more about Tibbetts Brook, roof gardens, and more. All events are free. It is encouraged to RSVP for in-person events, but drop-ins will be welcome. For virtual events, use the RSVP to get the zoom link. Please note that all outdoor events will follow covid-19 safety protocols.

### Learn the Botanical Stitches for Your Garden

Below are 10 stitch patterns that represent different plants. You will be amazed at how easy they are to do! In a few days, these photos will be replaced by videos of Matthew Lorca Jensen and Aia de la Cruz operating how to create the botanical stitches. The stitch designs are inspired by a collection of plants that could thrive on the rooftops of the buildings along Broadway. You can follow along with these videos to learn how to embroider each plant. Then use the stitches to design your own gardens. It's easier than it looks!

### Learn more about Tibbetts Brook and Green Roofs!

Here's an interactive map, a collection of videos, and other resources to help you learn more about the environmental science behind this project and the history of Tibbetts Brook in the Bronx.

FOLLOW THE BROOK IN THIS STORYMAP BY MATTHEW LORCA-JENSEN

WATCH A PROGRAM ABOUT THE INSPIRATION FOR THIS PROJECT

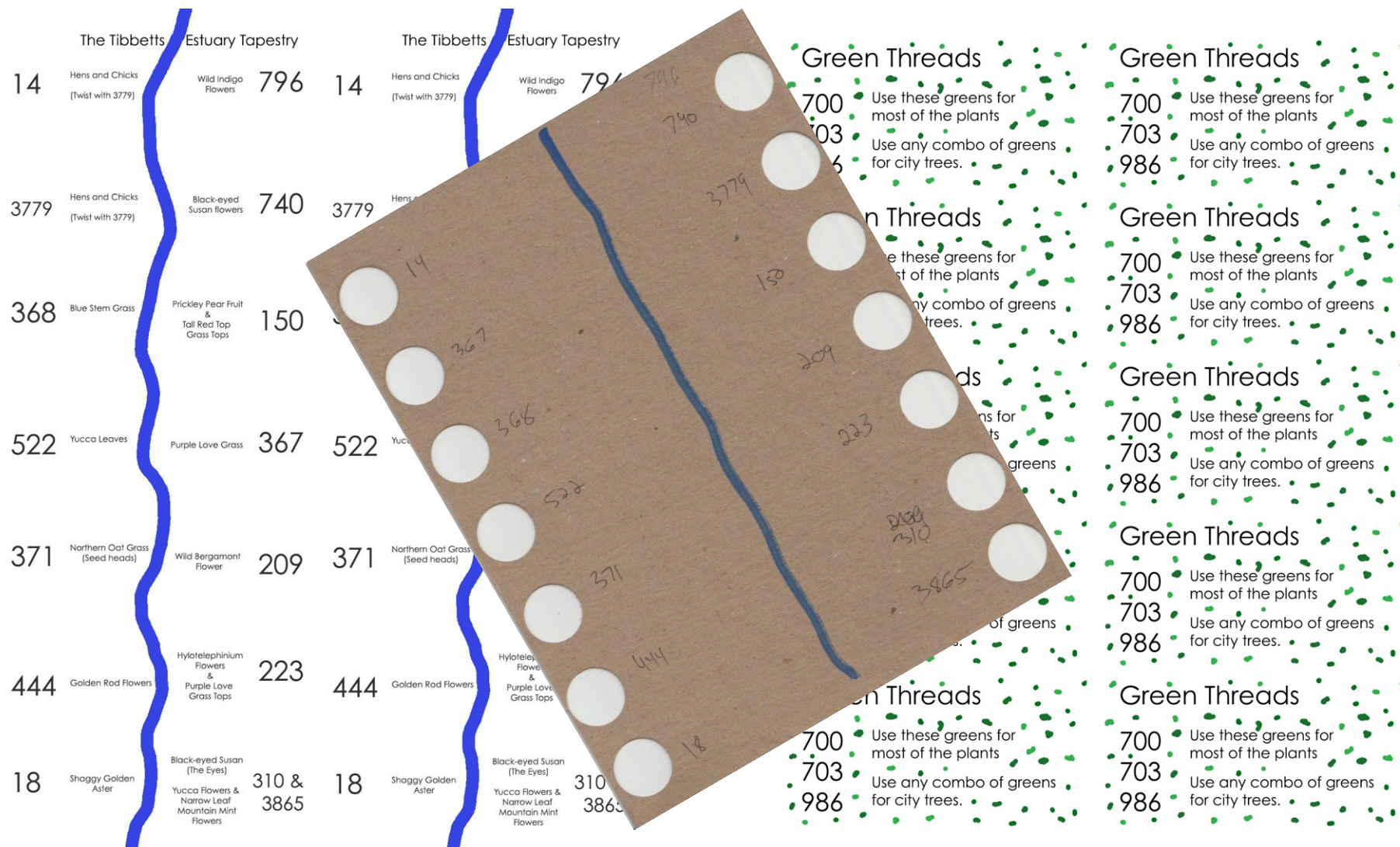
HEAR FROM AN EXPERT ABOUT TIBBETTS BROOK



EL EQUIPO

## THE KIT





Parts of the thread kit before being assembled

Sample tile  
embroidered  
by a volunteer.









The Tapestry on exhibit in the Van Cortlandt House Museum, 2022













SJR  
72



Volunteer stitcher talking about the process and personal experience of working on the project during the pandemic, Riverdale Senior Center, 2023



Volunteer stitchers pointing out their squares, Van Cortlandt House Museum, 2022

## Project 2: The Mosholu Teaching Forest

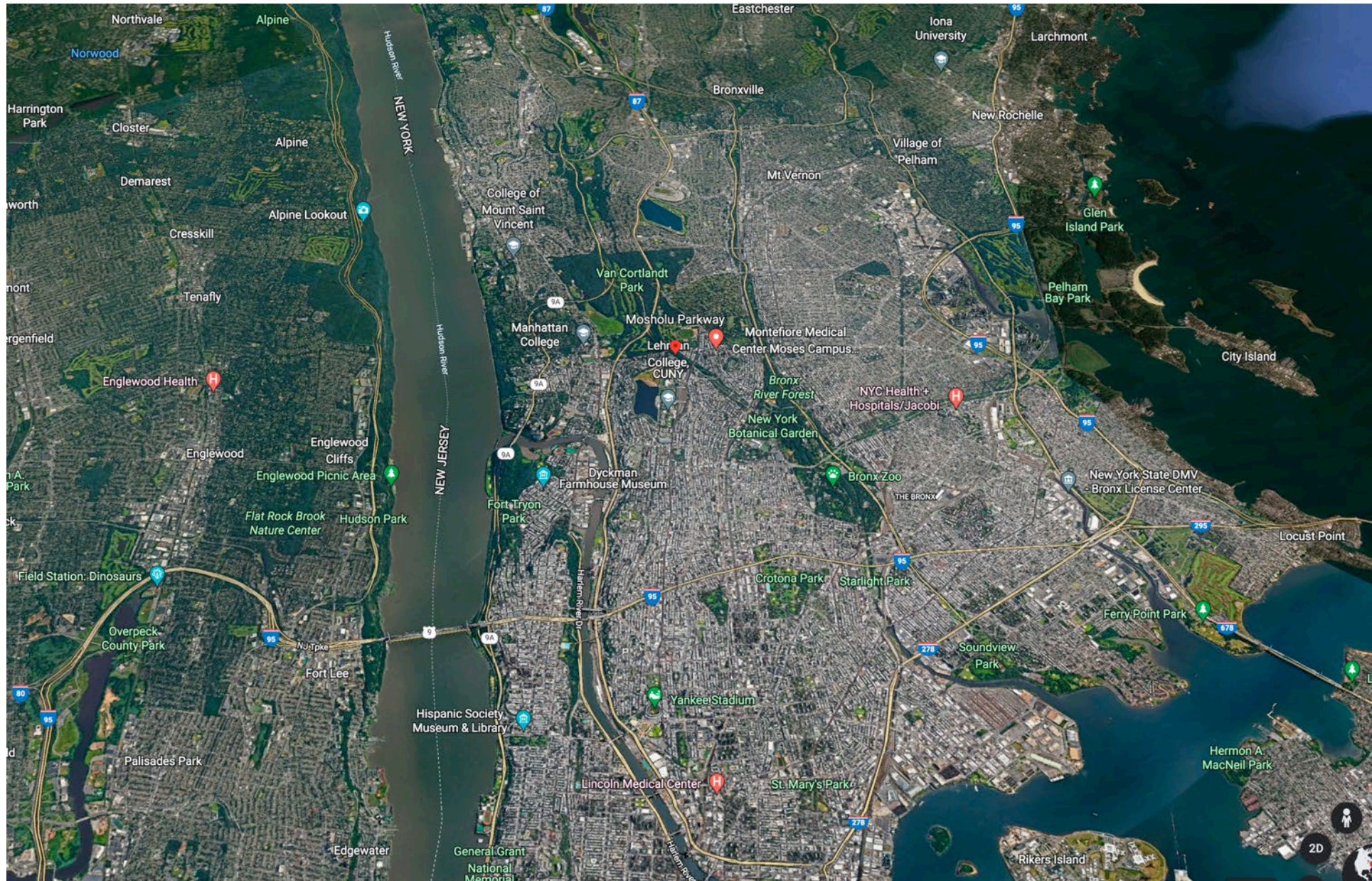
A community-building adventure centered on the restoration and reforestation of land in Norwood, a neighborhood in North Central Bronx.

- Urban heat island effect
- Storm water retention
- Tree canopy cover
- Green career pathways for Bronx students
- Vine and invasive management
- Trail building
- Native flora

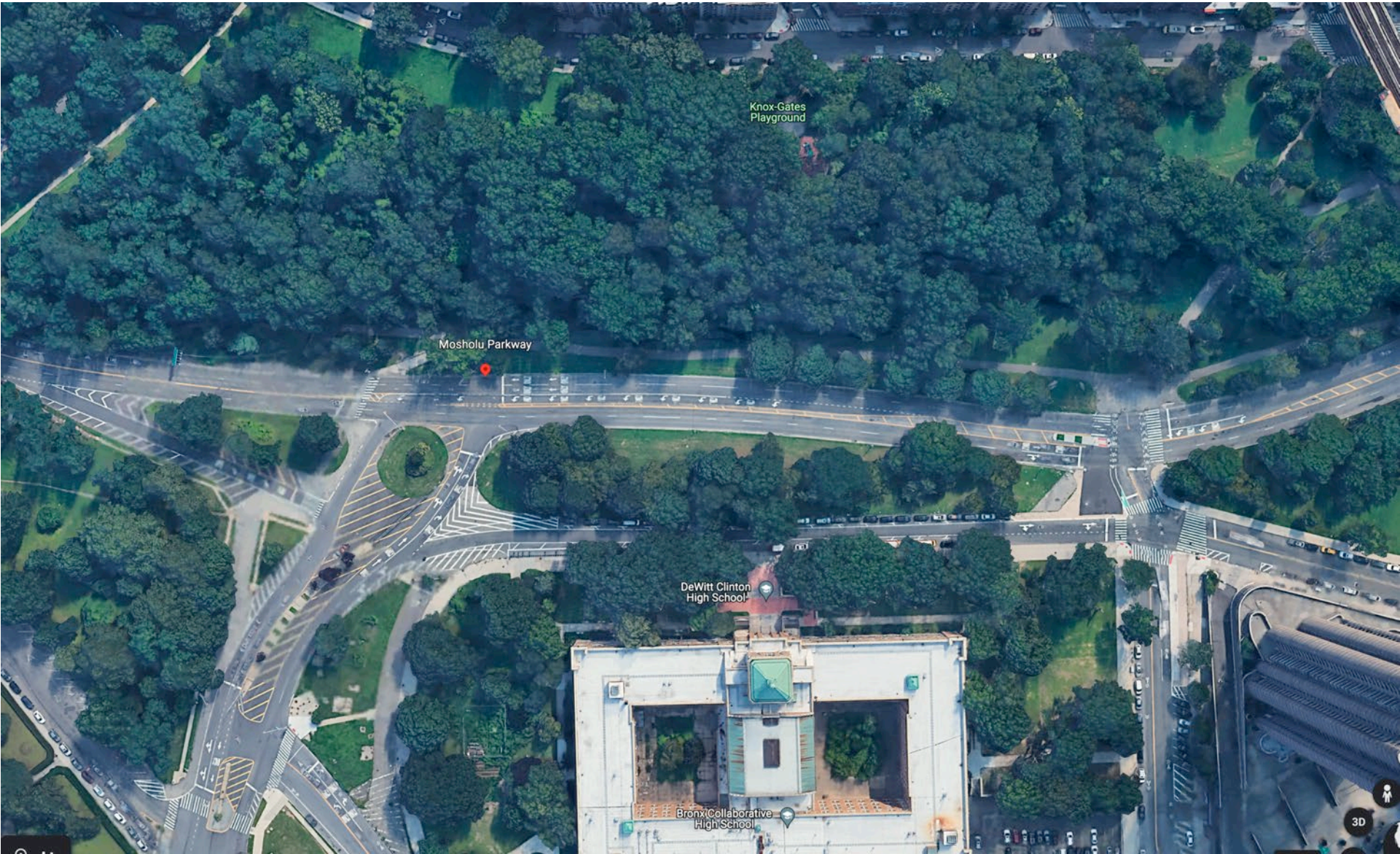


**Q: What do you do with a semi-abandoned 20-acre forest in the middle of a neighborhood, surrounded by schools and public transit, in the Bronx?**

**A: Restore, clean, replant, and reconnect the forest to the community to create a space for learning and establish pathways for students to pursue green careers.**









View from Mosholu Forest side of the Parkway

## Mosholu Parkway "The Hill"

Site for the "Mosholu Teaching Forest" project

### High Schools Nearby:

Dewitt Clinton  
Bronx Collaborative High School  
Bronx Science  
Academy of Mt St. Ursula  
HS of American Studies

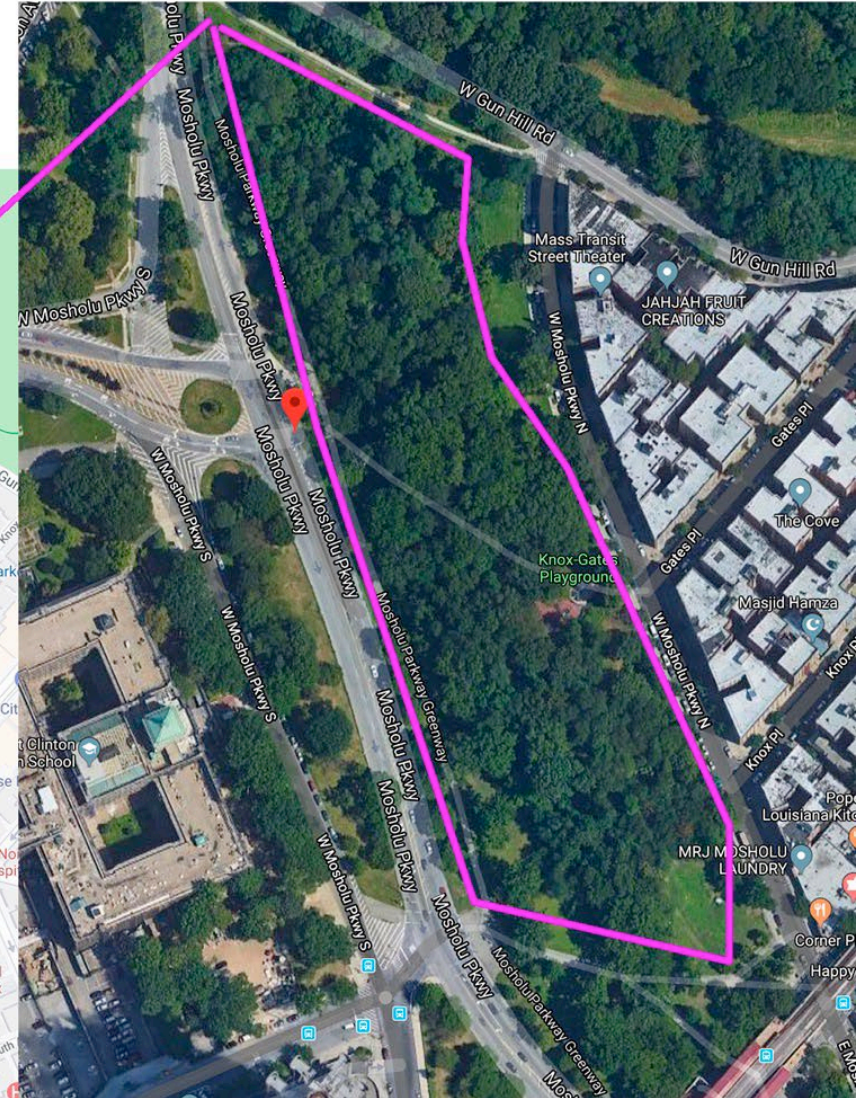
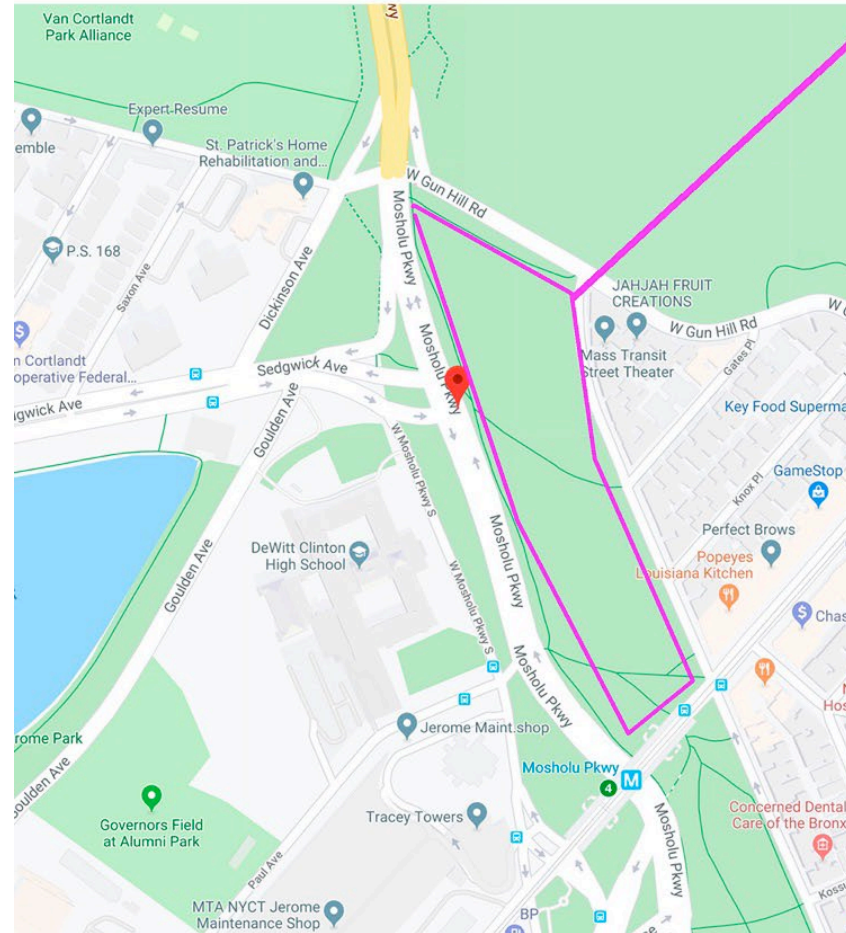
University: Lehman College

### Grade and Middle Schools

PS. 051  
PS. 095  
PS. 008  
PS. 20  
PS. 280  
PS. 056  
PS. 094

Pre-K Sites Nearby: 6

Head Start Programs Nearby: 3





Mosholu Vineland, March 2022 (Cleared and remediated in 2023)



Mosholu Vineland, March 2022 (Cleared and remediated in 2023)





Mosholu Vineland, March 2022 (Cleared and remediated in 2023)

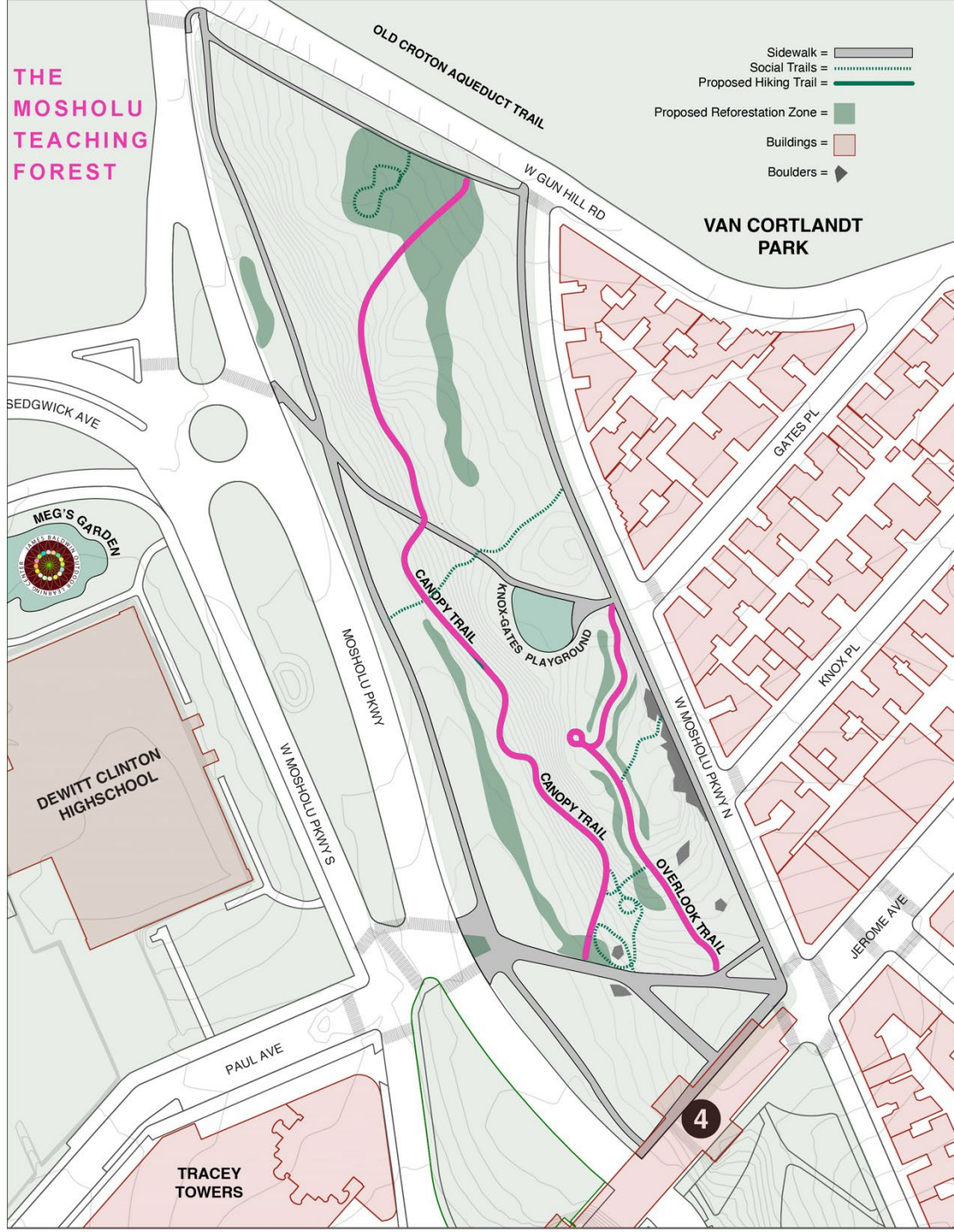


Mosholu Dump Site, March 2022 (Cleared in 2023)

White oak lost to vines  
(one of the One-Million  
Trees).

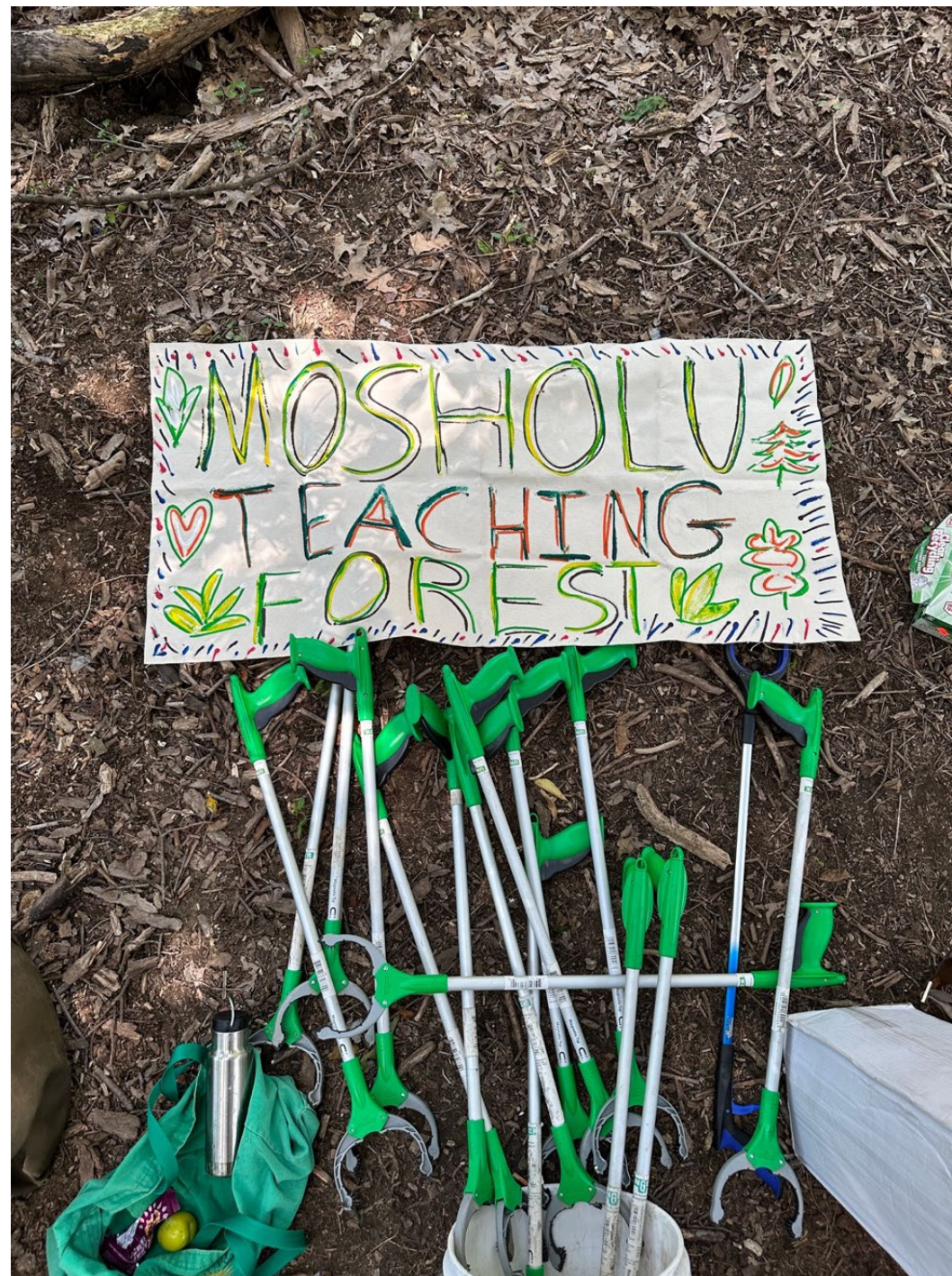
When you plant trees but  
don't support community  
stewardship the trees don't  
always make it.





Pink Lines = Proposed Trails

**STEWARDSHIP IS  
MAKING A  
DIFFERENCE!**





Wave Hill WERMS



**Fordham Environmental Studies Students**



**Summer Youth Employment Crew  
with the James Baldwin Outdoor  
Learning Center directors**





Adam Thornbrough, NYC Parks Arborist, invasive plant removal



A Plant Walk, 2022



Drawing the future trail.

## Creative Time Walk Artist Walk, August 2023



# Creative Time Walk Artist Walk, August 2023



# The First Community Walk and Talk, September 2023



Visiting the dead zone (future planting site)

# The First Community Walk and Talk, September 2023



The First Community Walk and Talk, September 2023



Planting hickory nuts



## The First Community Walk and Talk - September 2023



Using photographs to show progress, seasons, and histories

A few educational highlights...

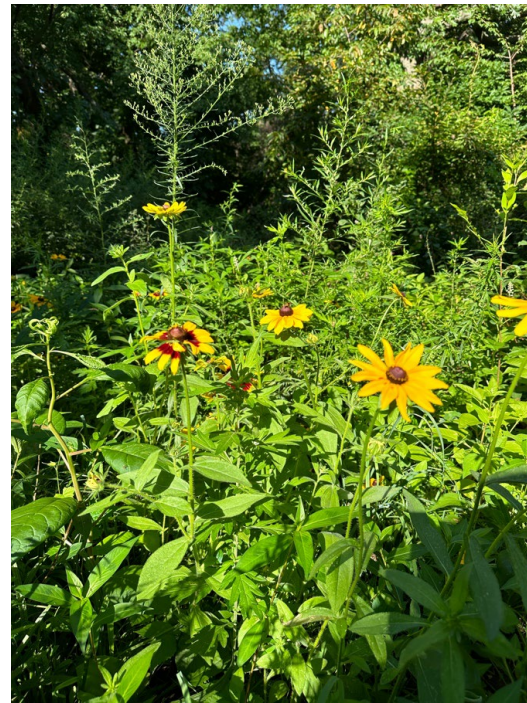


Largest sassafras tree in the Bronx, one of the oldest in NYC



Visiting the largest, oldest tree in the forest (pin oak)





New growth!

Wildflowers and native plants.



Amazing examples of glacial carved bedrock

## Mushrooms and Slime Molds



Community mushroom walks now happen in the Mosholu Teaching Forest!



Using the remaining (and endless) vine problems as community-building stewardship opportunities.

## Project 3: New York City Street Tree Tarot

A tactile tool for teaching about street trees, stewardship, and storytelling.

- Urban heat island effect
- Storm water retention
- Tree canopy cover
- Street trees
- Community stewardship



NEW  
YORK  
CITY  
STREET  
TREE  
TAROT

MATTHEW LÓPEZ-JENSEN  
2023



NEW  
YORK  
CITY  
STREET  
TREE  
TAROT

MATTHEW LÓPEZ-JENSEN

2023



*New York City Street Tree Tarot, 78-card tarot deck & book of texts, 2023*



*The Dawn Redwood Card* features a view up through the fractal-like boughs of a magnificent tree growing out of the most unlikely four-square-feet on East 16<sup>th</sup> Street near Union Square Park. The needles of this conifer are soft, almost fur-like, and the tree is deciduous, meaning it loses its leaves in the winter. The needles turn the most vivid yellow, then a rusty orange, before dropping. The bark on the tree has a shagginess that invites someone to pet it like a large animal. The tree is native to China and has proven to be a surprisingly successful street tree.

This specific tree has managed to survive years of scaffolding and has grown wide buttress roots at the base. This tree is doing the impossible with grace and beauty. It is thriving while the world around it is being reconstructed. The thousands of tiny needles take advantage of the ambient light from the sky and of the few moment each day when the sun shines directly down between the buildings.

Sometimes we thrive out of place, often so much that it surprises everyone around us. The view up into the canopy of the tree symbolizes the mind, intellect, and persistent growth. The complexity of this growth pattern has something to do with its success in this location. One important element to this card is the care evidenced at the base of the tree. There are a homemade tree guard and flowers. Someone cares for this tree and they no doubt watch over it from one of the adjacent apartment windows. Recognizing these sometimes-invisible relationships is an important part to understanding one's success.

Potential  
Uprightness  
Achievement



*The White Oak Tower Card* is a tragic scene. All the windows on the top floor of the yellow brick apartment building are open because of a recent fire. The curtains are billowing in the breeze, the entire building has been vacated. No one died, but forty families were displaced. Green scaffolding, green construction walls, and the signature white and orange plastic barriers have been set up to deal with the forthcoming construction. They have been erected around a young fastigiata white oak tree. Only the top five feet of the tree now have access to sunlight, and it is unlikely any rain will reach its roots.

This card symbolizes a breakdown in the material world, likely triggered by something outside of our control. However, it is important to not center our focus on the cause but on your connections to whatever was damaged. Finding any shred of a silver lining in the situation may be necessary. The process of rebuilding whatever it is that fell apart may take years. Its impact may never leave our body. This young tree will likely lose all the branches below its crown. It will grow differently in the future and only the neighbors will know why. Like the tree, getting through this difficult situation will require outside intervention. Someone will have to ensure this tree is watered over the next few years because no rain will reach its roots until the scaffolding comes down. Seeking help can be very difficult, especially for those who are particularly independent.

Destruction  
Repair  
Adaptation



*The Ailanthus in Love Card* shows two trees joined, or kissing, through a chain link fence. How exactly this union happened is hard to say. The technical term for this phenomenon is inosculation and it is not such an uncommon occurrence. Regardless, since finding each other, these two have grown through and around what once kept them apart.

This card is about love and relationships. The ailanthus tree is out of place in North America, but it has found a way to thrive. It could be that the parties in a relationship have been bound by this shared experience of displacement. The fence separating these two trees represents some form of institutional blockade, but one that was no match for the relationship. The vines adorning the trees are a source of color and celebration. In the distance is a large highway sign, perhaps symbolizing the role that travel or relocation plays in this connection.

Love  
Obstacles  
Bonds

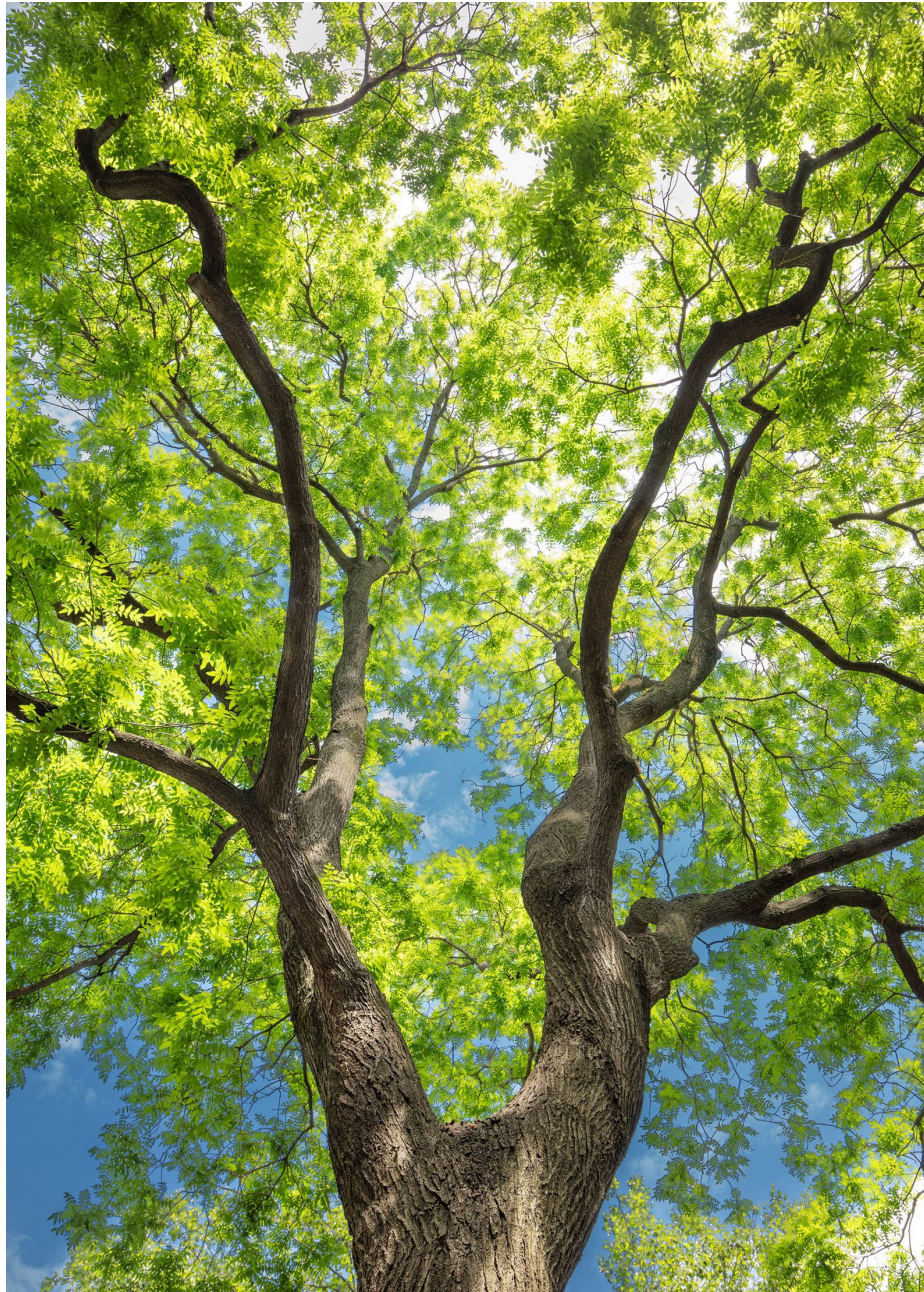


*The Foolish Tree Card* is a reminder to lighten up. Trees are very serious business, but not always. They are often the stage for seasonal joy and can be the focal point of reverie. It is critical to sustain and nurture the uplifting and positive experiences that trees and forests provide to humans. This young tree is wearing a green witch's nose. It had two googly eyes, but one fell off. It is smiling and adorned with a dangling plastic jewel. It is ready for the party.

Ecological calamities are now part of the news cycle and landscapes, particularly forests, are exhibiting signs of climate stress. It is hard to watch. The silver car behind this tree takes up most of the image, but it is such a familiar sight that we hardly notice it as anything more than a backdrop. However, it is creating a blockade between us and our home. How do we face such an omnipresent industry positioned as the backbone of civilization? Perhaps in disguise.

The card also reads as a collection of childhood memories; dressing up for Halloween, driving in the backseat of the car, our homes being the center of the world. How can we bring some of that lightheartedness into our lives now?

Levity  
Disguise  
Childhood



*The Magnificent Pagoda Tree Card* depicts the space and volume found within a single, old Japanese pagoda tree. The scale is hard to comprehend in a small photograph. It really requires a few minutes of patient firsthand observation of this six-story marvel. As air moves into this space it is cooled and calmed before reaching the sidewalk. As we look up at this tree, we notice that it mirrors the branching bronchi of our lungs, the tiny leaflets are dispersed like thousands of alveoli.

Another name for this tree is “the scholar tree” as it was commonly found planted around Japanese Buddhist temples. It is also a powerful ancient medicine with all parts of the plants utilized in different ways to treat a range of ailments. The card combines strength, longevity, and coolness.

Focus on the breath and finding your reflection in the natural world. This card signifies a flow of positive energy that moves between the external and internal, the body and the mind. Pursing goals with balance, equanimity, and positivity, leads to amazing things.

Purity  
Beauty  
Grandeur



*The Timeless Death Card* features a long dead Bradford pear tree surrounded by a mess of crab grass. It takes a few years for a dead street tree to lose its bark in such a way. This might represent a loss that happened over a protracted period of time. At the top of the tree there is the faint trace of ribbon, a likely residue of flags draped between the jewelry store and the tree, perhaps celebrating a grand opening. This small clue is a reminder that there were moments of celebration in the past and these are now important memories to celebrate.

The façade of the newly constructed white building next door features the face of a clock without hands. It is a powerful symbol reminding us that time is simply a construct of our waking minds. The new glass building in the distance seems to present a confrontation between historic traditions and the anonymous future.

The tonic to this anxious image is found in the small potted plant placed on a small white tray on the sidewalk in front of the window. It seems abandoned but is surely being watched over by whoever is growing flowers and herbs on the balcony. Those who were connected to whomever or whatever was lost are still here, continue to care, and might also need attention.

Forgotten  
Continuation  
Change





*The Green Flame Card* features a lone columnar elm tree in the South Bronx surrounded by an inhospitable environment of scorching urban surfaces. The razor wire on top of the metal fence adds an aggressive level of protection to the scene. This card is a warning about the loneliness that comes when humans are cut off from the natural world. It might be here in the South Bronx, it could easily be in a new glass tower complex in Hudson Yards, but a lack of other beings can take a psychic toll.

Jet streams and crisscrossed wires move across the horizon as a lone figure walks in the shade. A trickle of water leaking from a fire hydrant flows along the old bluestone curb. Perhaps some of this water is reaching this tree, but most of this precious resource is being wasted. At the base of the tree, easily overlooked, there is a shallow guard of red bricks, placed by someone in the past as a small sign of care.

The scene is one of emotional juxtapositions. The tree is a sign of hope, survival, resistance, and resilience, all wonderful things. But we can be hopeful, and survive hardship, resist our surroundings, be praised for our resilience, and still be lonely.

Isolation  
Hopefulness  
Possibility



*The East Village Willow* is a powerful being. It is also very rare; it might be the only street tree willow in Manhattan and one of a handful in all of New York City. As soft and gentle as the tree seems, despite its gifts as a healer (willow bark is the original aspirin), it can survive in this most impossible location. This tree is something of a badass, but it can also work a bandage if necessary. The card symbolizes perseverance and is a celebration of being out-of-place.

The tree proudly bears its scars, the result of continual impacts with trucks. It is certainly the product of another time. Its origin story is likely lost. Maybe it is a volunteer tree growing in the space where another tree once grew. Maybe it was planted decades ago by a community gardener. It certainly breaks all the rules in contemporary urban forestry principals, which, unfortunately, do not favor planting fast-growing, water-loving trees like willows. The tree is also very responsive to air, dancing in the slightest breeze, and to finding underground sources of water.

Behind the tree there is a laundromat, a dentist's office, and a kitchen appliance shop, each a manifestation of care in some form. Our clothes, our teeth, and the preparation of food are central to our daily lives. This card is a reminder to center what is important and necessary. However, rock on, and look for the hidden door in the back of the laundromat that leads to a bar in the secret subbasement. The password is "salicin."

Resilience  
Contradictions  
Care



*The Leaning Golden Rain Tree* card features a perfect example of this beautiful tree draped with its signature paper lanterns. And it is perfect because it has more character than others. This tree was likely backed into by a car not long after it was planted. And then it was left to grow. And it did. The adjacent minivan is parked in just the right spot to create the illusion of impact, it seems as though the tree is in the process of falling.

There is something endearing about a crooked tree. Almost every tree in nature bares the sign of some past trauma or blight. Many renderings of trees in landscape paintings, especially in historic scrolls from China and Japan, where this tree is native, depict weathered trees in the most curious forms and inhospitable places. This card is about growing into one's perfection despite (or because of) a disruptive event in one's youth. Few people make it to adulthood without experiencing some life-altering trauma or loss. Now, years later, we can look back at that situation and understand how it changed our path. The tree in this card is thriving. It might serve as a lesson or as a mirror, depending how the trauma has been felt.

Improvisation  
Balance  
Grace



*The Saddest Tree in New York Card* is a reflection on the surrounding environment not on the tree. This young Kentucky coffee tree appears to have eked out an existence for a few years before succumbing to stresses on this block of West 28<sup>th</sup> Street in Chelsea. Planted in a small bed along a south-facing wall, this tree was scorched by the summer sun to the point of breaking. The anonymous government building stretches from 9<sup>th</sup> to 10<sup>th</sup> Avenue and it is a foreboding place, even for a human.

Our built environments can hurt us. Some places are not meant for trees or humans. When something or someone is failing, in health or life, we often assume the fault resides with the tree or person. When this tree dies another will be planted, then another, then another. There are versions of this scenario that play out but with human actors instead of trees. This block has a design problem that needs to be addressed before it is made suitable for life. If trees are truly important for this location, they need to be irrigated, stewarded, and the surrounding pavement made more suitable to life.

This card is a warning to assess our relationships with our surrounding environments at work, home, in the neighborhood, and within relationships. Trees are sessile: they cannot get up and relocate, but humans can, most of the time. And sometimes that is the best thing to do.

Condemned  
Abandonment  
Environment



*The Mossy Elm Card* is a powerful reminder that one tree is an entire ecosystem. This old elm tree in the West Village has defied the odds, growing on a narrow street, out of a space no larger than the base of its trunk, and while facing the same blights that felled so many majestic elm trees. We often forget, or simply never learn, that every single tree is also so many other living organisms. Similarly, we are rarely taught about how our human bodies are also their own ecosystems filled with and affected by so many unique organisms.

The mossy side of the tree does, in fact, face north, just like in folk tales about wayfinding in the forest. The trunk stays green all year long. A cold wet rain in February will revive this vibrant bit of life months before the first leaves return. The card is a reminder that we are doing something even when we think we are doing nothing. We might even be helping others find the way. It takes time to stand out but eventually we establish ourselves, and when we do we bring a bit of life and color to the world at the hardest times.

Pathways  
Direction  
Softening



*The World Card* features a vibrant and artful pocket garden planted in the rotten stump of an old street tree. Based on the size of the stump, the tree must have lived for over 100 years. Surely its loss was felt by the neighborhood. In its place, until a new tree is planted, there is a delightful garden, full of life, solar powered flower lights, and painted stones. The horse with googly eyes is hard to miss and the eyes of the ladybug rock follow you as you walk by.

All life, human and non-human alike, lives, loves, thrives, and parties, in the remains of all that once lived. Every organic nutrient in the soil was once living a life. Trees spent millions of years living and dying, terraforming, and designing the atmosphere to be perfect. We humans came from other humans and our present existence required the passing of others. Celebrating can be a form of honoring everyone and everything that came before us. But we must do so with the awareness that we are on our way to being ancestors ourselves and leaving the world safe for future life is necessary.

Regrowth  
Loss  
Expression



*The Scrap Guard Card* features an assemblage of objects gathered up from the curb and used to make a messy, but functional, garden guard in an empty tree bed. It has a certain artfulness to it. A few contemporary artists come to mind. The black handle might have been an umbrella, or maybe a child's fishing rod. There seem to be some shelving components, maybe an old granny-cart broken down for parts. Sometimes it is a relief to encounter something that is not perfect.

It is time to be resourceful. Everything we need is already around us. All we need to do is make the connections and we will have constructed something that is unique and special. Once that has been accomplished, we can cultivate whatever we want or just sit back and see what grows within the created space. Some might see this structure as a total mess, and it is. Yet it is also the perfect symbol for many functioning systems and relationships that are nothing more than a confused collection of temporary solutions and personal connections.

Thrifty  
Resourceful  
Creative

# Neighborhood-as-Nursery

What if all the trees we needed in urban spaces were grown, from seed, in the spaces or landscapes, or the very tree beds, where they would otherwise be planted as larger trees?

- Instead of money spent elsewhere, to companies with no community ties, someone in each neighborhood would be watching over the trees, allowing each tree to learn and adapt to the spaces where they will grow into maturity.
- Conditions for the young trees would have to be improved and those conditions would be shared by the humans in the area.
- Fewer trees would die in the shocking process of being bagged, transported, placed in a new micro-climate, and expected to survive. A tree is not a streetlamp.
- The bond between urban residents and urban trees would grow, inequities would be reduced, and we would have fewer dead trees.
- Trees are, essentially, free. Support stewardship.



**"Remember when we grew these trees from seed and watched them grow tall?"**

--- A community member somewhere



# Want a Street Tree Tarot reading?

Join the off-site event: The Multi-Sensory Urban Forest: Many Ways of Knowing, Sensing, and Caring Organized by USDA Forest Service and The Nature of Cities

Today from 1:30 - 3:00pm

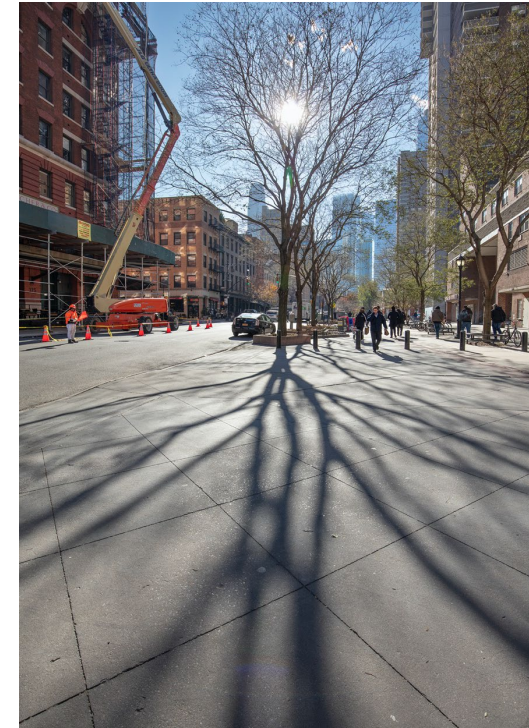
Location: Martin Luther King Jr. Memorial Library, 901 G St NW, Room 401A



PAST



PRESENT



FUTURE



# Thank you

**Matthew López- Jensen | Artist**

**Educator: The New School & Fordham University**



**mjensen54321@ yahoo.com**

**Instagram @ mattlopezjense**

**www.Jensen- Projects.com**



**Food and Agriculture  
Organization of the  
United Nations**



**Arbor Day  
Foundation**





**2nd World Forum on  
Urban Forests**

Washington DC, 2023

---



**DOWNLOAD PRESENTATION HERE**

# **2nd** **World** **Forum on** **Urban** **Forests**

**2023**



**World Forum on  
Urban Forests**



**Salud**

# Effects of nature immersion therapy: Results from a pilot study

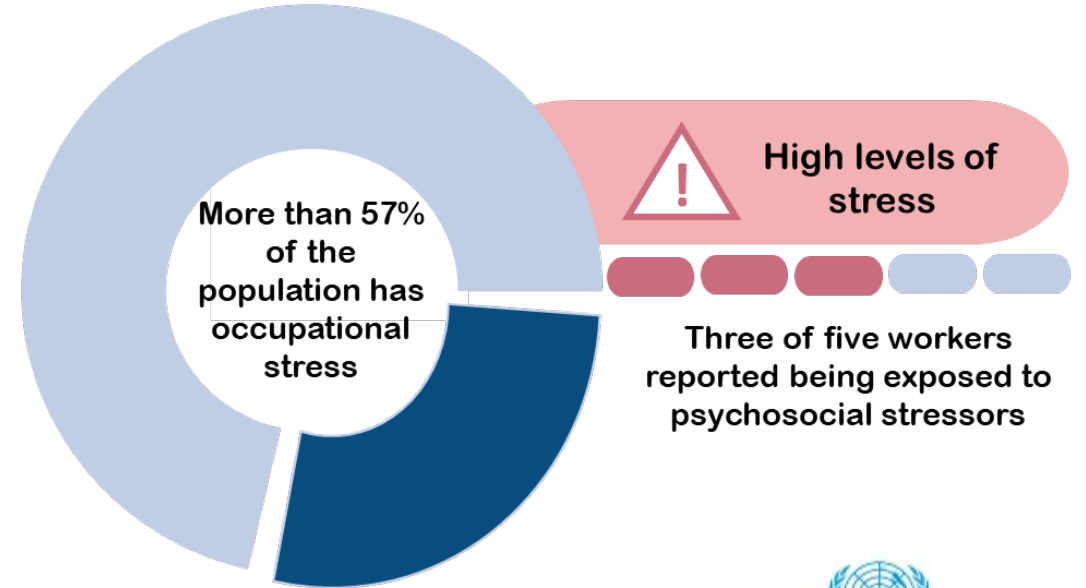
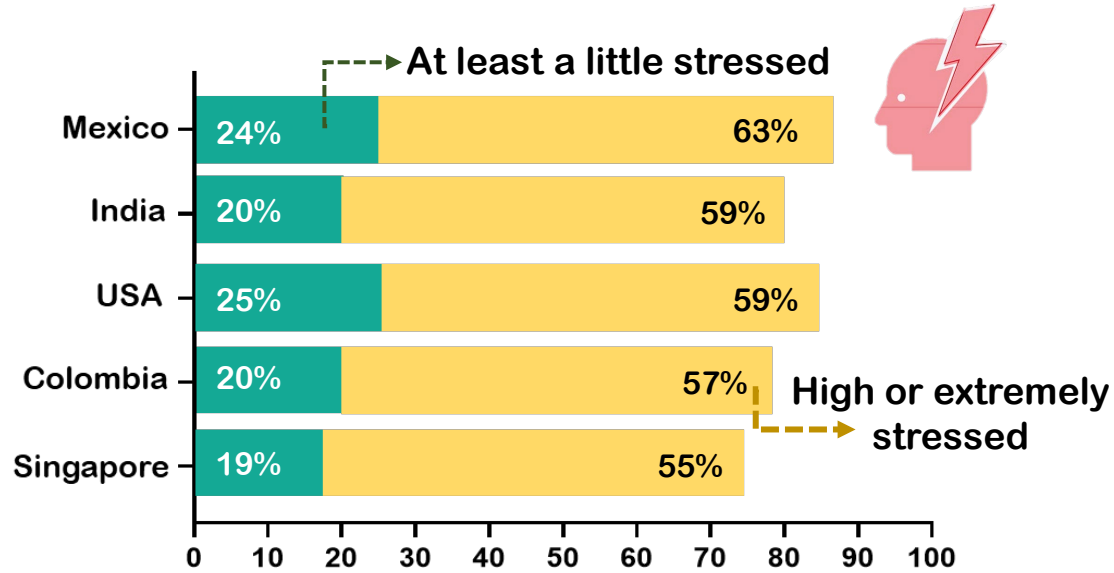
**Dr. Diana Marcela Paredes Céspedes**

Environmental and Occupational Health Research Group

Instituto Nacional de Salud

---

October 16, 2023 – Bogota, Colombia



**High workload**

**Lack of independence and autonomy**

According to the Ministry of Health, depression is the second cause of health problems in Colombia.

21 million Colombians in the last year reported working more than 40 hours per week.

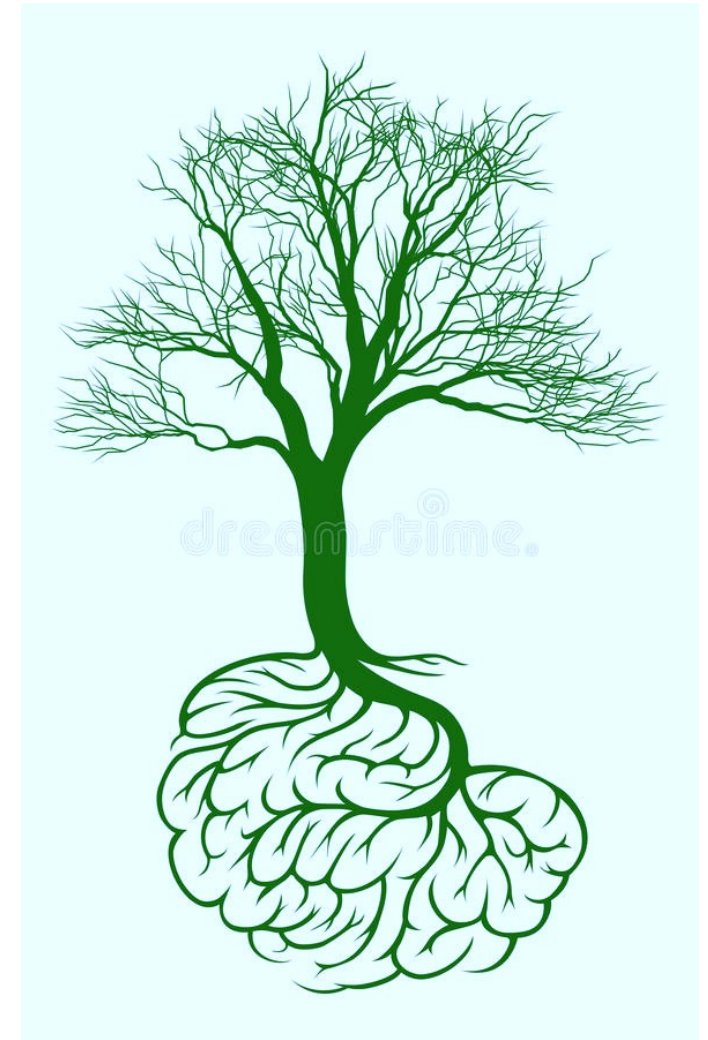
**3 GOOD HEALTH AND WELL-BEING**



**3.4** By 2030, promote mental health and well-being.

## AIM

Evaluate the effects of immersion therapy in nature "Vitamin N" for the reduction of stress levels compared to the regular intervention carried out by epidemiological surveillance programs in conventional psychosocial risk in Colombia, 2022 - 2024.





# Pilot study



## Phase 1



## Phase 2



## Phase 3

- Sociodemographic conditions
- Perceived Stress Scale - 14
- The State-Trait Anxiety Inventory (STAI)
- Pittsburgh Sleep Quality Index

Saliva samples - Cortisol quantification



1st week

2nd week

3rd week

4th week



- Perceived Stress Scale - 14
- The State-Trait Anxiety Inventory (STAI)
- Pittsburgh Sleep Quality Index

Saliva samples - Cortisol quantification



# RESULTS

## Pilot study



**Table 1.** Sociodemographic characteristics of the study population

Sociodemographic characteristics	Control <sup>1</sup> (n=8)	Parks <sup>1</sup> (n=9)	Forrest <sup>1</sup> (n=8)	p <sup>2</sup>
<b>Age</b>	41 (37, 50)	39 (32, 44)	36 (30, 58)	0.9
<b>Sex</b>				>0.9
Male	3 (38%)	4 (44%)	4 (50%)	
Female	5 (62%)	5 (56%)	4 (50%)	
<b>Marital status</b>				0.3
Married	3 (38%)	4 (44%)	1 (12%)	
Divorced	1 (12%)	1 (11%)	0 (0%)	
Single	3 (38%)	2 (22%)	6 (75%)	
Common-law marriage	1 (12%)	2 (22%)	0 (0%)	
Widowed	0 (0%)	0 (0%)	1 (12%)	
<b>Educational level</b>				0.3
Doctorate	1 (17%)	0 (0%)	1 (12%)	
Postgrade	4 (67%)	1 (14%)	2 (25%)	
Highschool	1 (17%)	1 (14%)	2 (25%)	
Technical	0 (0%)	1 (14%)	2 (25%)	
University	0 (0%)	4 (57%)	1 (12%)	
<b>Socioeconomic status</b>				0.06
2	2 (29%)	4 (44%)	3 (38%)	
3	4 (57%)	0 (0%)	4 (50%)	
4	1 (14%)	5 (56%)	1 (12%)	

<sup>1</sup> Median (IQR); n (%)

<sup>2</sup> Kruskal-Wallis rank sum test; Fisher's exact test

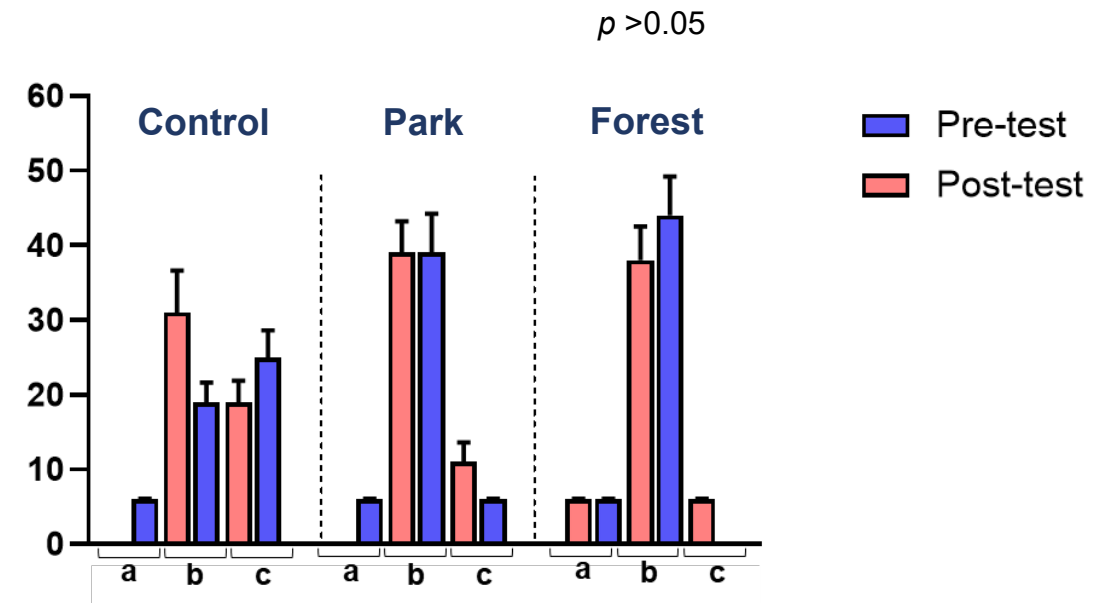
# RESULTS

## Pilot study

**Table 2.** Yoshitake and Pittsburgh scales scores

Group	Scale	Pre	Post	Delta	<i>p</i> *
Forest	Yoshitake-Physic	1.75	1.50	0.25	0.26
	Yoshitake-General	3.00	2.13	0.88	0.07
	Yoshitake-Mental	1.75	1.38	0.38	0.14
	Pittsburgh	65.00	56.00	9.00	0.17
Parks	Yoshitake- Physic	1.22	0.89	0.33	<b>0.04</b>
	Yoshitake-General	2.00	1.89	0.11	0.42
	Yoshitake-Mental	2.00	1.89	0.11	0.41
	Pittsburgh	67.00	58.00	9.00	0.05
Control	Yoshitake- Physic	2.38	1.25	1.13	<b>0.01</b>
	Yoshitake-General	4.63	3.00	1.63	<b>0.03</b>
	Yoshitake-Mental	3.25	3.00	0.25	0.39
	Pittsburgh	68.00	68.00	0.00	0.50

\*Paired t-test. Alternative hypothesis: the mean difference is greater than 0.

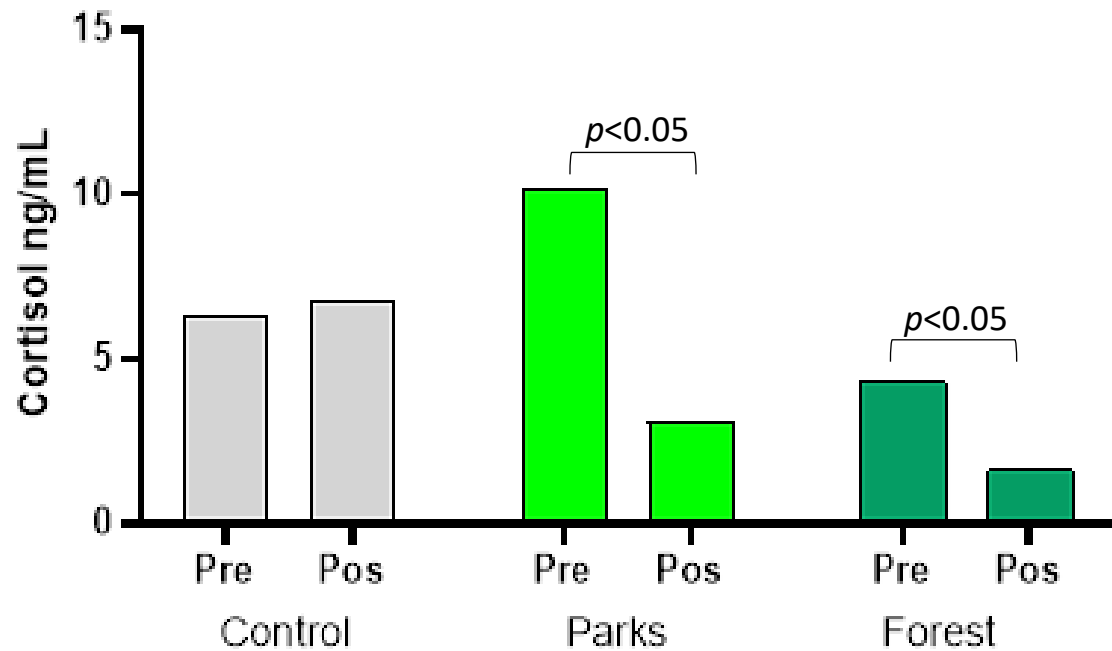


**Figure 1.** Perceived stress levels by study group

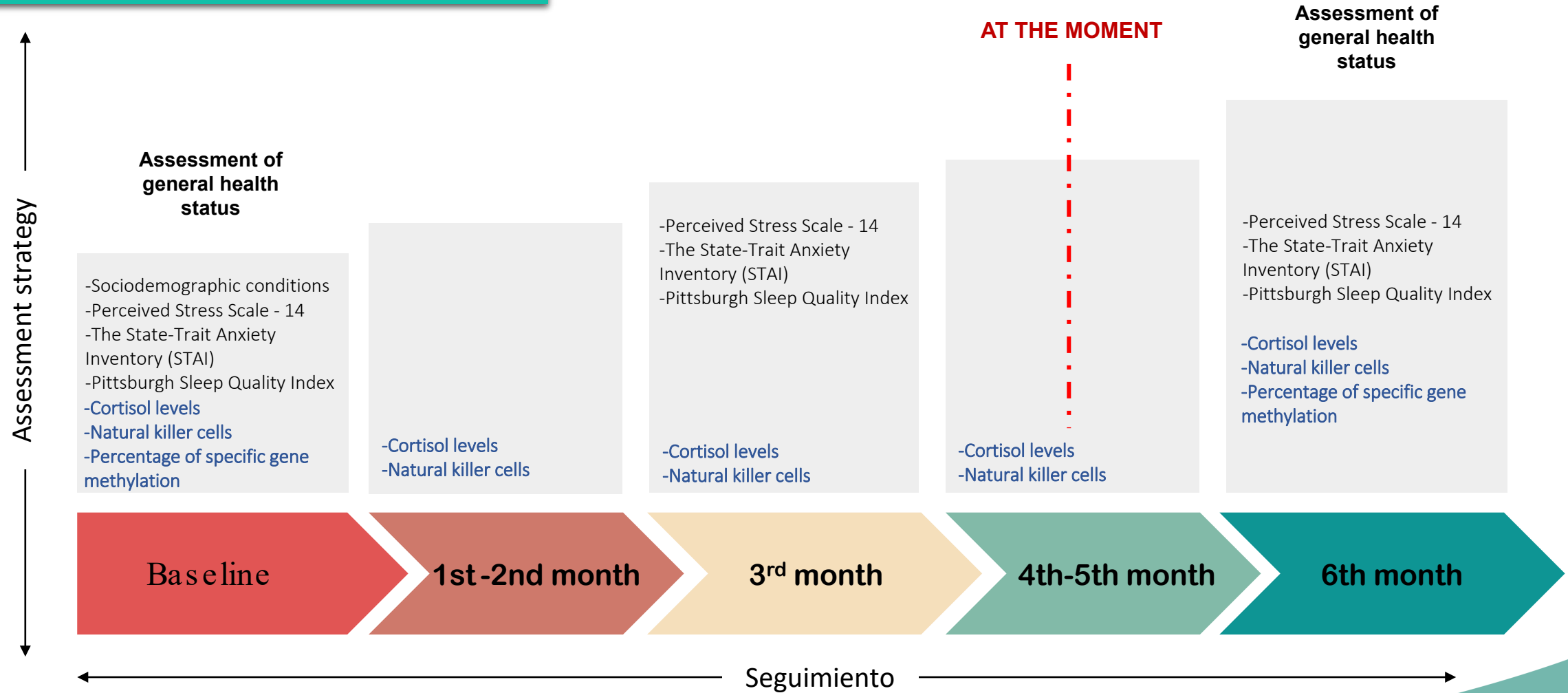
- a. Almost never
- b. Sometimes
- c. Fairly often

# RESULTS

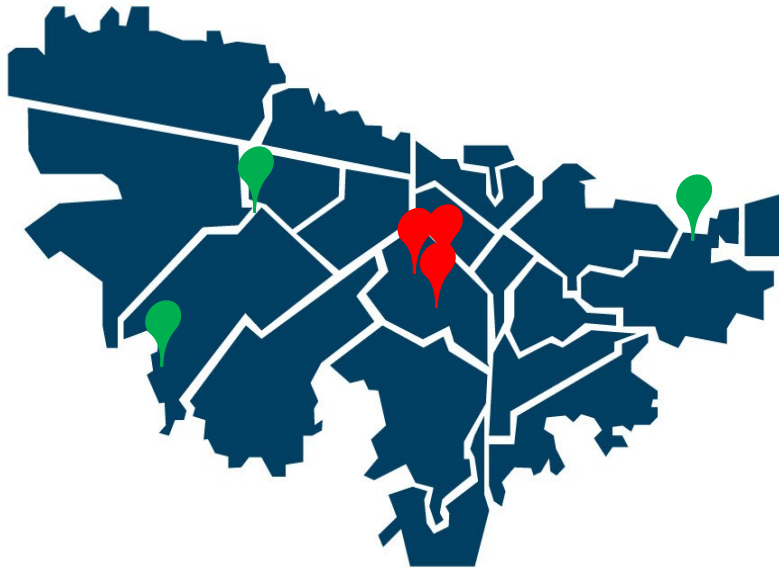
## Pilot study



## Timeline of the experimental phase



# Population study



Forest/Intervention group



INS

Total

Age  $\bar{X}$  (range)

Control group

20

16

36

41.5 (22, 57)

Park/Intervention group

15

21

36

42.3 (26, 66)

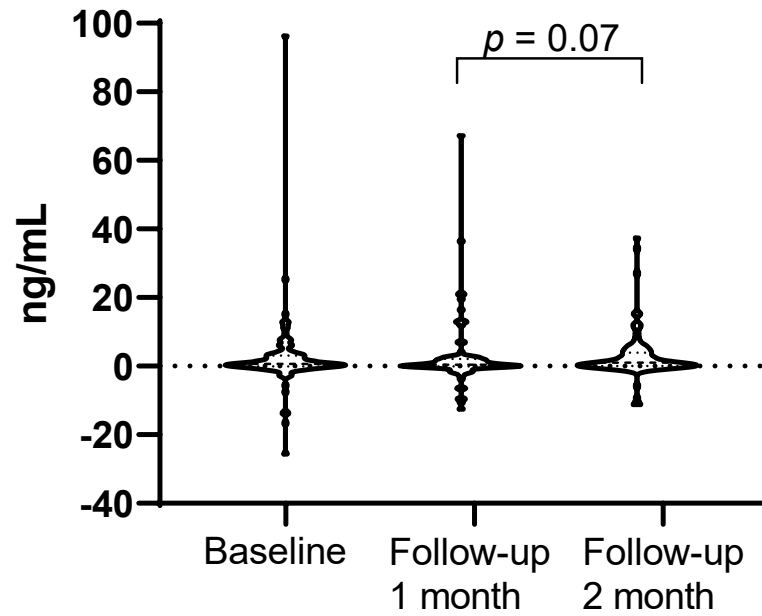
**Total**

47

61

108

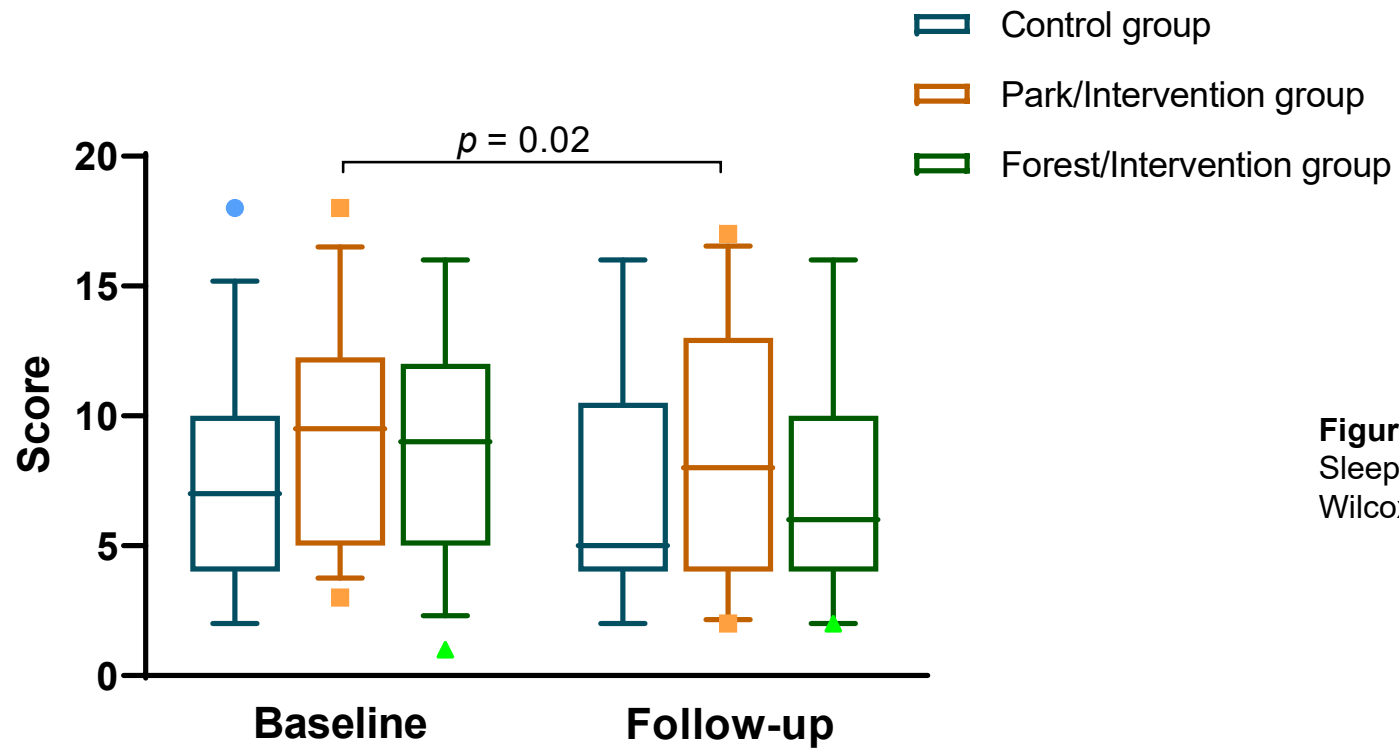
## CAR



**Figure 1.** Results of Cortisol Awakening Response. The value of  $p$  was obtained by Wilcoxon signed rank test.



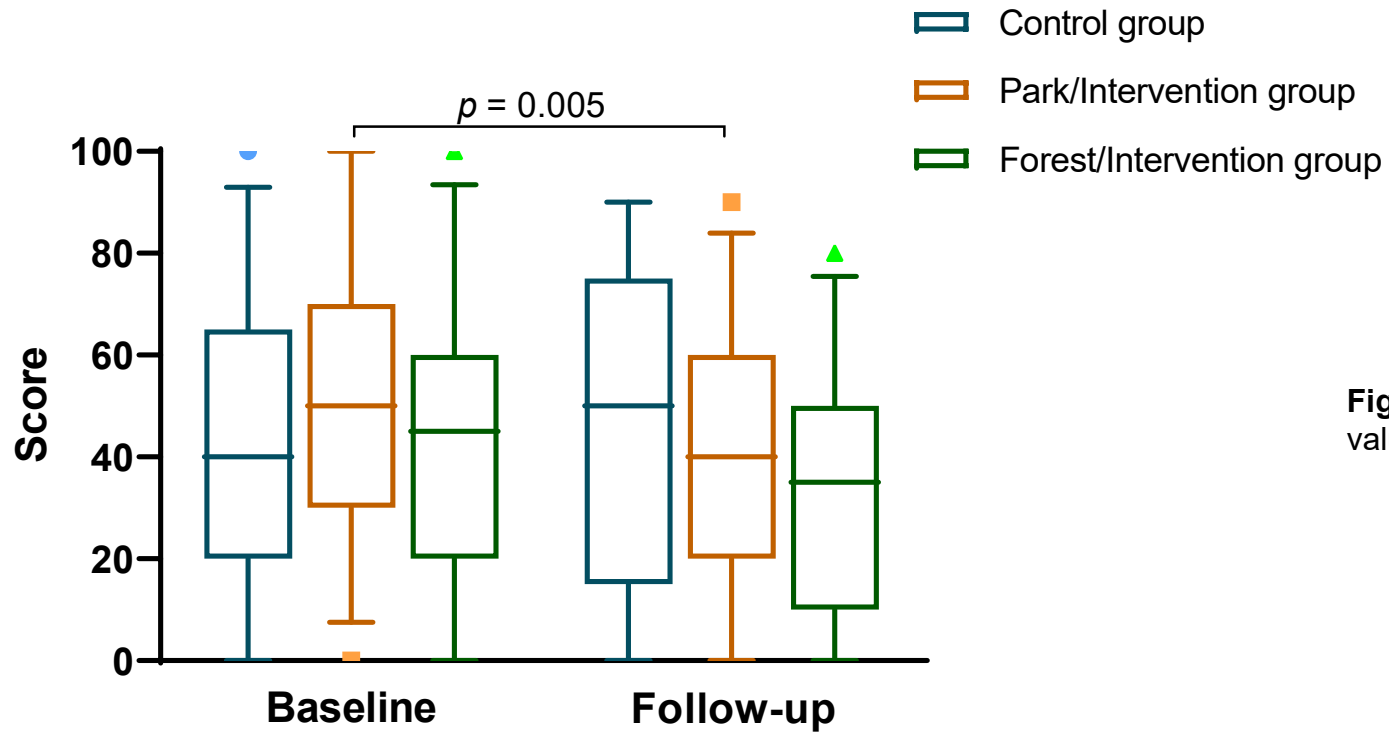
## Sleep quality



**Figure 2.** Perception of sleep quality through The Pittsburgh Sleep Quality Index (PSQI). The value of  $p$  was obtained by Wilcoxon signed rank test.

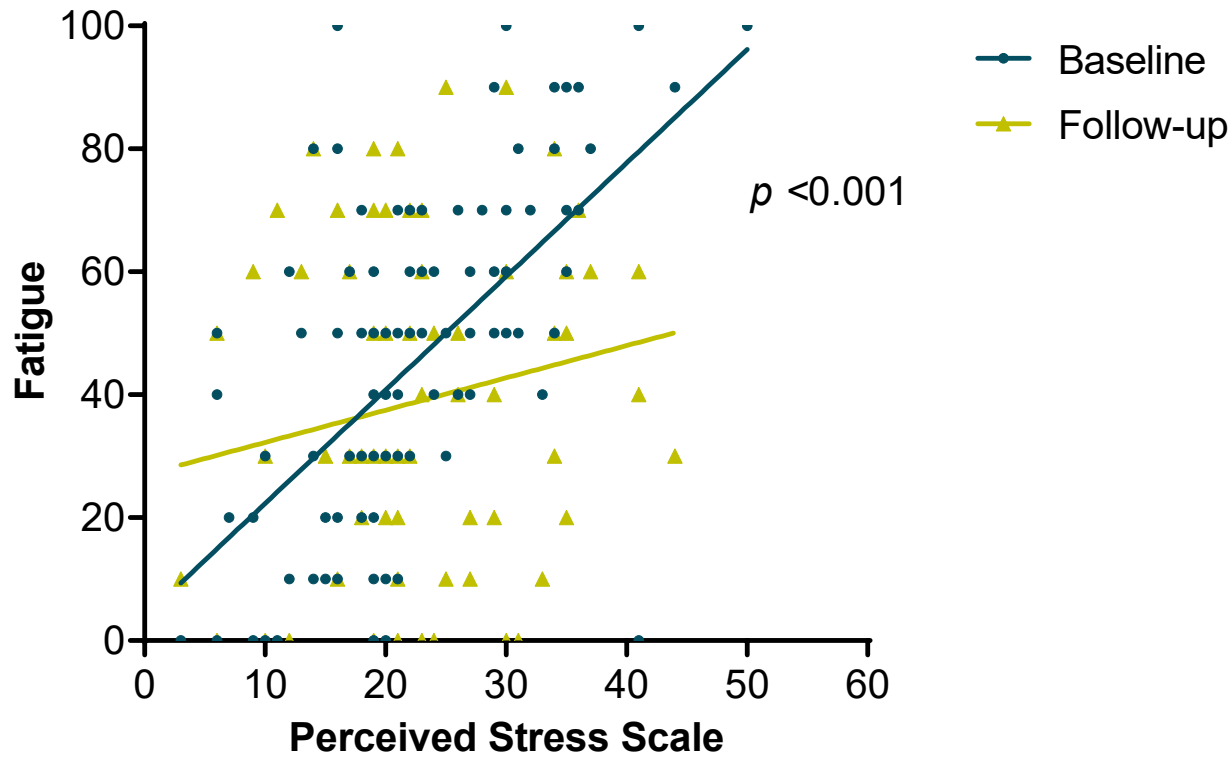


## Fatigue



**Figure 3.** Results of Yoshitake fatigue questionnaire. The value of  $p$  was obtained by Wilcoxon signed rank test.

## Correlation



**Figure 4.** Correlation between Perceived Stress Scale and Fatigue score. The value of  $p$  was obtained by Spearman correlation test.

## Multivariate model

**Table 3.** Multivariate analysis for the Cortisol Awakening Response

Parameter	$\beta$	95% CI	<i>p</i>	R- adjusted
Sex				
Male	Base			
Female	0.93	-5.33, 7.18	0.19	
Intervention group				
Control	Base			0.117
Forest	-3.89	-10.37, 2.59	0.24	
Park	-5.99	-12.26, 0.28	<b>0.06</b>	
Age	0.16	-0.80, 0.41	0.19	
PSQI - follow up	5.06	1.88 – 8.25	<b>0.002</b>	

\**p* value was obtained by a multivariate linear regression analysis. 95% CI: 95% confidence interval.



*Thank you...*



ALCALDÍA MAYOR  
DE BOGOTÁ D.C.

JARDÍN BOTÁNICO  
DE BOGOTÁ



October 16, 2023 – Bogota, Colombia



INSTITUTO  
NACIONAL DE  
SALUD

## #OrgullosamenteINS



@INSColombia



@insaludcolombia



Instituto Nacional de Salud de Colombia

Avenida Calle 26 # 51 - 20 / Bogotá, Colombia • PBX: (601) 220 77 00 exts. 1101 - 1214

# **2nd** **World** **Forum on** **Urban** **Forests**

**2023**



**World Forum on  
Urban Forests**



# 2nd World Forum on Urban Forests

Washington DC, 2023

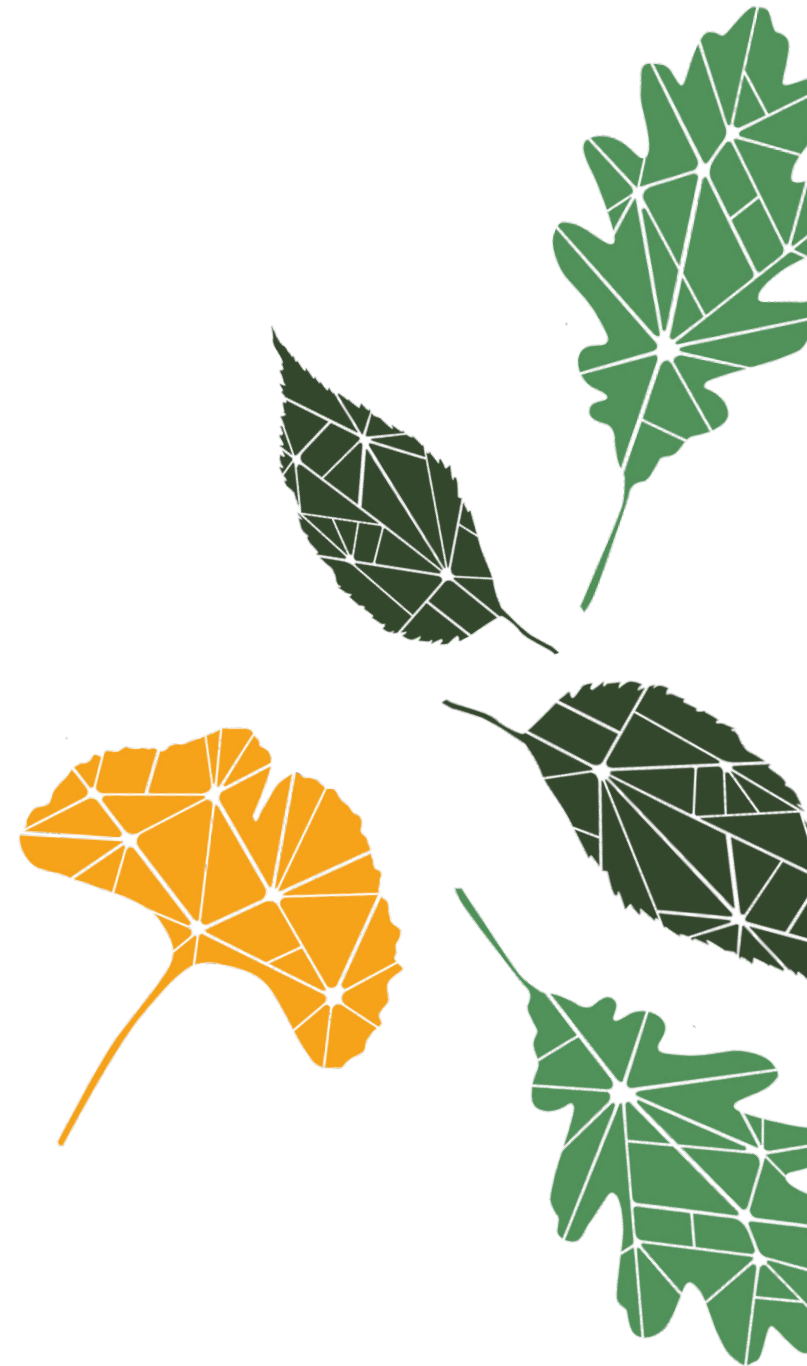
## Community Tree Stories:

Exploring Healthy Environments in Three  
Boston EJ Neighborhoods



---

Presented by  
David Meshoulam & Jerel Ferguson  
Speak for the Trees Boston  
[treeboston.org](http://treeboston.org)



# Overview of Project

- Supported by Environmental Protection Agency (EPA) EJ grant
- Focused on 3 Environmental Justice (EJ) communities in Boston
- Multiple partners, including 3 community organizations, American Forests, Boston University URBAN, and storytelling NGOs
- Goal: learn from residents about their relationships to trees, explore relationships between people and trees, and share those stories through community walks



EVERYDAY BOSTON

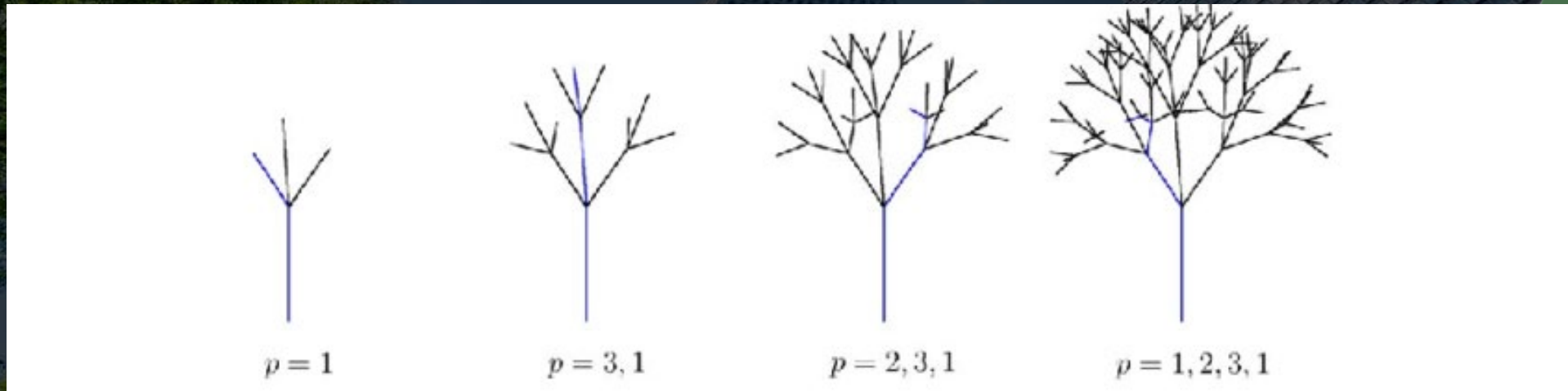




# Framework: Trees as Fractals

## Fractal (n.)

A curve or geometric figure, each part of which has the same statistical character as the whole.  
Similar patterns recur across scales.



# Framework: Trees as Fractals

**Just like trees, our relationships are fractals.**  
They repeat across scales of relationships:

- with ourselves
- with each other
- with our community
- with the universe

**These story walks are patterns that can scale within and across people and neighborhoods.**



# Process: 5 phases

## Phase 1: Prep and Solicitation:

Develop marketing and outreach materials to target and solicit the most aligned community groups in each of the project neighborhoods



**EPA Tree Walks Meeting - Codman Square Neighborhood Development Corporation**

Join Speak for the Trees and the Codman Square Neighborhood Development Corporation to design our *Community Tree Walk* through Dorchester. Based on our last meetings, we've shared stories, learned some science and explored a neighborhood map, now it's time to put it all together.



### CODMAN SQ TREE WALKS

- Create a route in Dorchester, starting from Southern Ave or whichever location is determined at the meeting.
- Points of interest marked (min of 5, maximum of 7) based off of previous map activity.
- Tree Stories: Secure a speaker, who is excited to share their tree story in person and on camera!
- Which BU URBAN grad to re-invite (gas leaks, air pollution, or soil health)?
- Start scheduling dates for the 2 walks (April - June)
- Mock walk - to predetermine areas of interests (gas leaks, empty tree pits, dead trees)

RISE GATEWAY TO BOSTON

JULY 13 TUESDAY

MATTAPAN  
**COMMUNITY TREE WALK**

THE EDGEWATER NEIGHBORHOOD ASSOCIATION

Join the Edgewater Neighborhood Association & Speak for the Trees, as we engage with residents about the urban tree canopy, climate resilience and healthy neighborhoods.

MEETING AT 5:30PM  
640 RIVER ST, BOSTON, MA 02126

EDGEWATER NEIGHBORHOOD ASSOCIATION

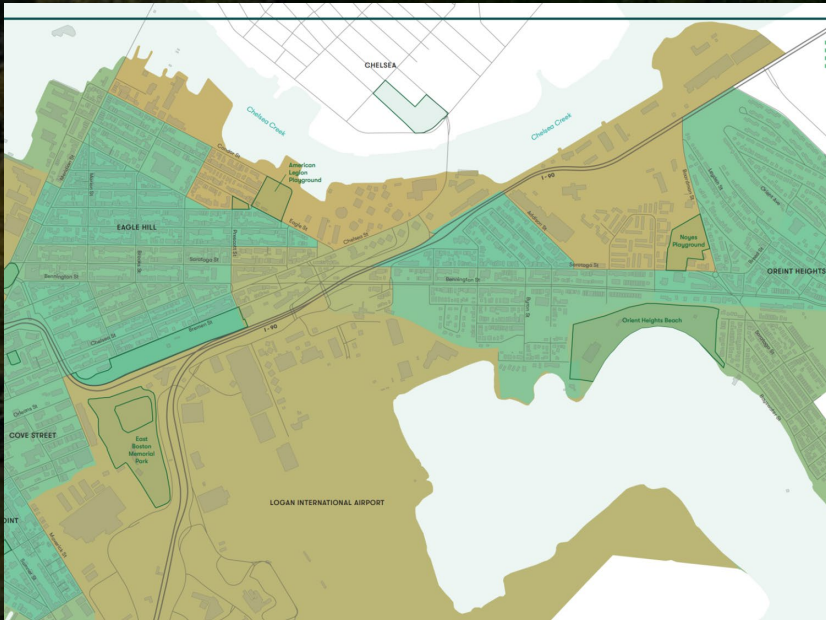
SPEAK FOR THE TREES



# Process: 5 phases

## Phase 2: Engagement

Facilitate in person opportunities to learn about residents' experiences regarding issues of environmental health and quality of life through surveys and the sharing of personal narratives related to trees, quality of life, and history



# Process: 5 phases

## Phase 3: Creation

Co-develop community tree walks to explore issues that surfaced during stage 2



# Process: 5 phases

## Phase 4: Implementation

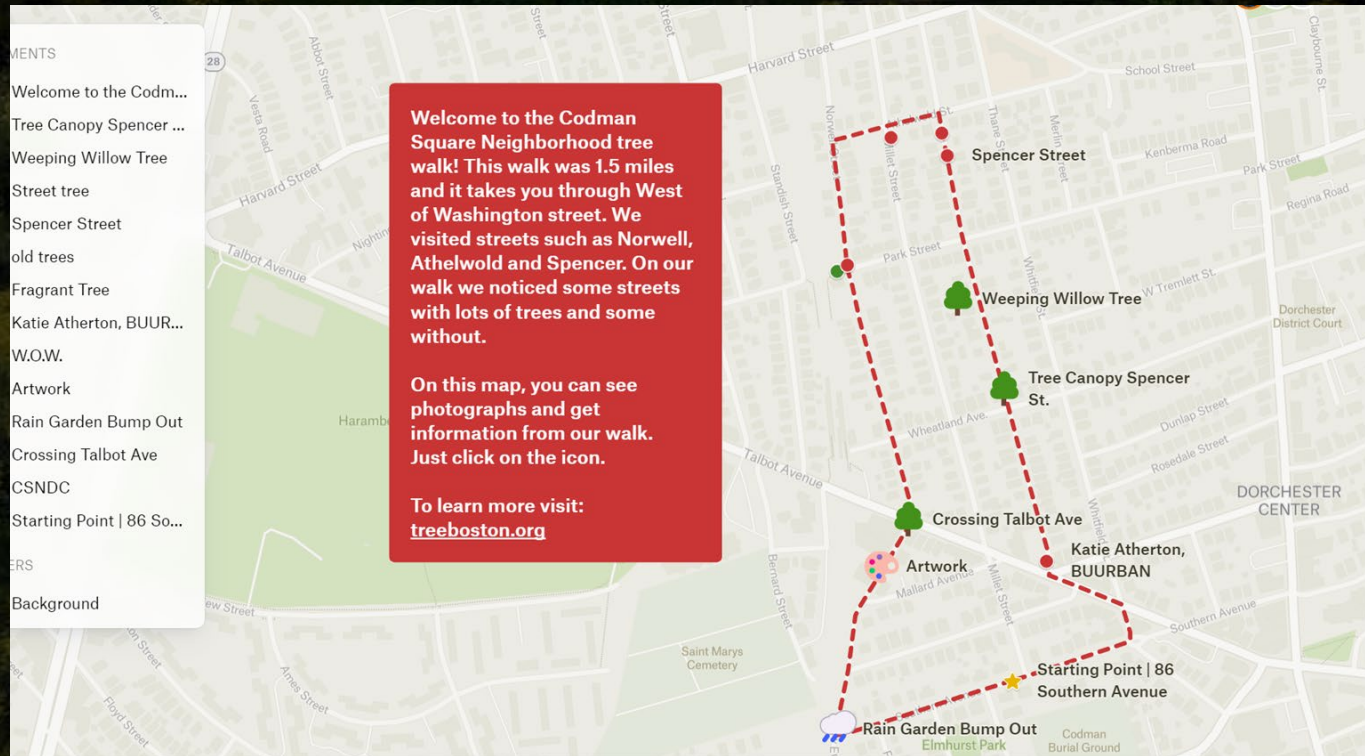
Invite members and advertise and carry out neighborhood tree walks



# Process: 5 phases

## Phase 5: Sharing

Create an artifact, either digital or print, that provides a retelling of the neighborhood stories and the walk



# Process: 5 phases

## Phase 5: Sharing

Create an artifact, either digital or print, that provides a retelling of the neighborhood stories and the walk





# Reflection

- Partnership coordination takes time - give it the time it deserves
- Maintain clear expectations and lines of communication at all times
- Community members have powerful narratives and are eager to share, learn, & engage
- We all have stories, but they need trusted space to emerge: sharing them provides entry point to connect and learn
- Everyone is busy - respect others' busy schedules, especially working families
- Provide multiple opportunities and ways to engage, from language accessibility to reflection time
- All communities value their trees for vibrancy and the meaning and sustainability they provide to residents





# Thank you

David Meshoulam & Jerel Ferguson

Speak for the Trees, Boston

✉ [david@treeboston.org](mailto:david@treeboston.org)

✉ [jerel@treeboston.org](mailto:jerel@treeboston.org)



Food and Agriculture  
Organization of the  
United Nations



Arbor Day  
Foundation



International Society of Arboriculture



Smithsonian



FOREST SERVICE  
U.S. DEPARTMENT OF AGRICULTURE

# **2nd** **World** **Forum on** **Urban** **Forests**

**2023**



**World Forum on  
Urban Forests**



# 2nd World Forum on Urban Forests

Washington DC, 2023

Introducing a

Human-Centered Planting Metric



---

**Presented by**

Rachelle Lim

City Forest Credits

In Collaboration with



CITY FOREST  
CREDITS

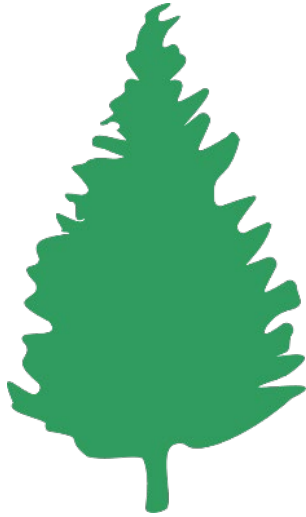


Supported by

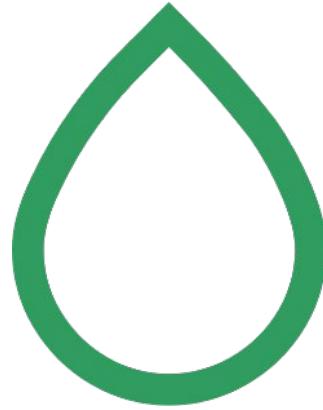




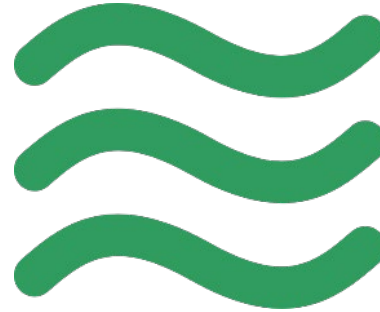
# Quantified Ecosystem Co-benefits



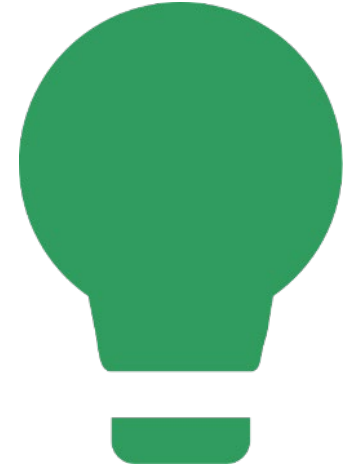
Carbon  
Dioxide



Rainfall  
Interception



Air  
Quality



Energy  
Savings

e.g., i-Tree tools



# 2nd World Forum on Urban Forests

Washington DC, 2023





# Positive Health & Social Impacts of Trees

## Reducing Harm

- Improve air quality
- Protect from UV
- Provide thermal comfort
- Reduce crime

## Restoring Capacities

- Restore attention
- Improve mental health
- Reduce physiological stress
- Improve clinical outcomes

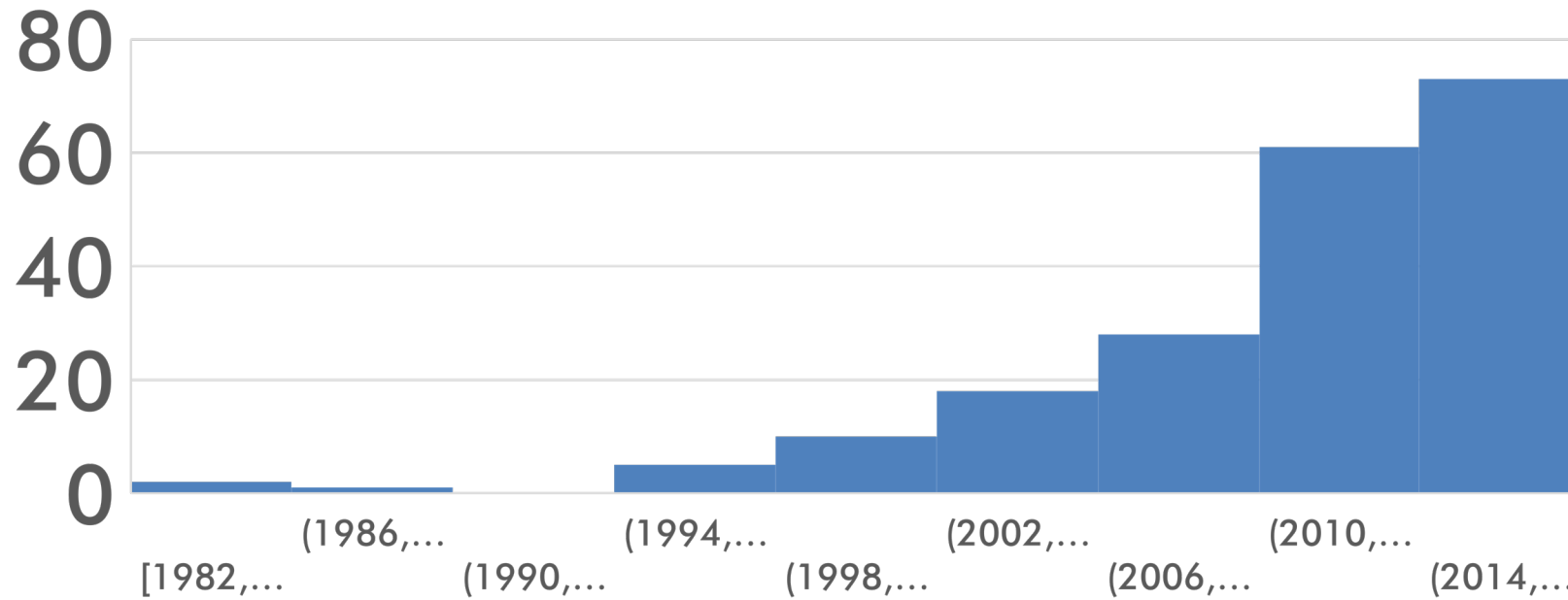
## Building Capacities

- Improve birth outcomes
- Strengthen immune system
- Promote active living
- Improve cardiovascular function
- Strengthen social





# Studies on Human Health and Trees



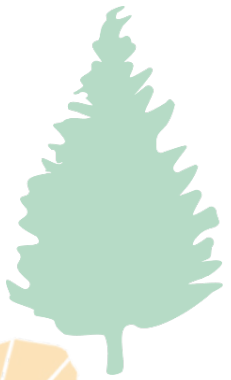
Data adapted from Wolf et al., 2020



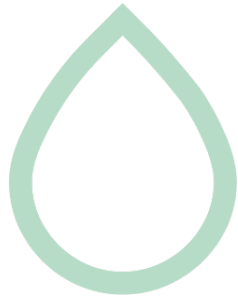




# The Human-Centered Metric



Carbon  
Dioxide



Rainfall  
Interception



People  
Impacted



Air  
Quality



Energy  
Savings



# Nature-Based Solutions Program

## Tree Planting and Restoration Projects



in data center communities around the world



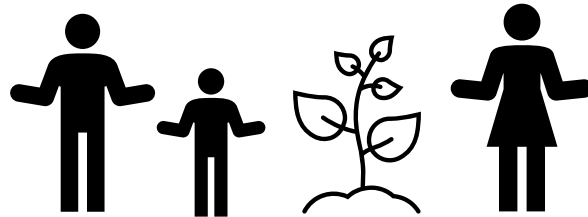
Supported by





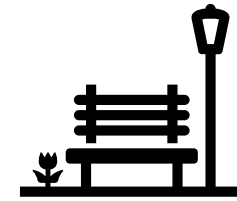
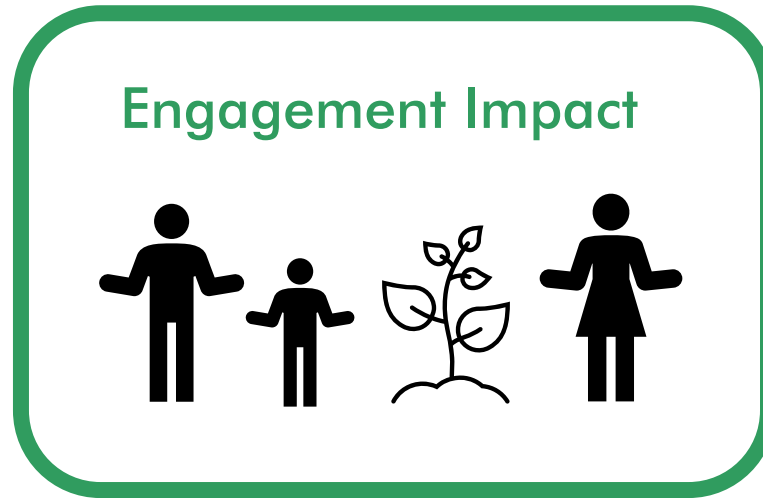
# Who are the beneficiaries of a tree planting project?

Engagement Impact





# Who are the beneficiaries of a tree planting project?



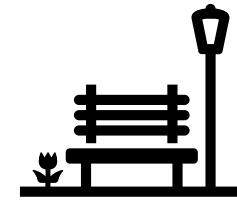
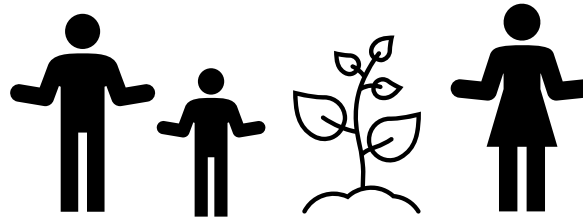


# Who are the beneficiaries of a tree planting project?

Proximity  
Impact



Engagement Impact



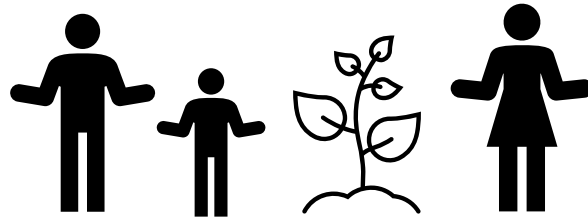


# Who are the beneficiaries of a tree planting project?

Proximity  
Impact



Engagement Impact



Sustained  
Impact



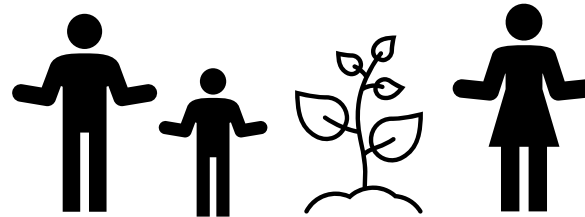


# Who are the beneficiaries of a tree planting project?

Proximity  
Impact



Engagement Impact



Sustained  
Impact



Extended Impact



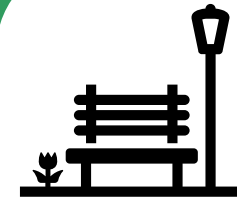


## Human-Centered Metric

Proximity  
Impact



People  
Impacted



Sustained  
Impact





# 2nd World Forum on Urban Forests

Washington DC, 2023

## Methodology

### What are the impacts?

**Impact Summary**  
Growing Futures  
Des Moines, IA  
Trees Forever  
CITY FOREST CREDITS

**Project Goals**  
Growing Futures is a youth employment and tree planting program that addresses critical social, economic, and environmental needs in Des Moines, Iowa. This innovative approach engages youth, provides a path to green careers, and plants trees to improve residential neighborhoods. The near-term goals are to increase tree equity across the city by planting trees in neighborhoods and along major street corridors and work with contractors and Growing Futures youth. Program partners include Trees Forever, City of Des Moines, and Microsoft.

**Human Health**  
26/50  
Wellness & Mental Health

**Social Equity**  
25/50  
Community Engagement

**Environment**  
33/50  
Land Use

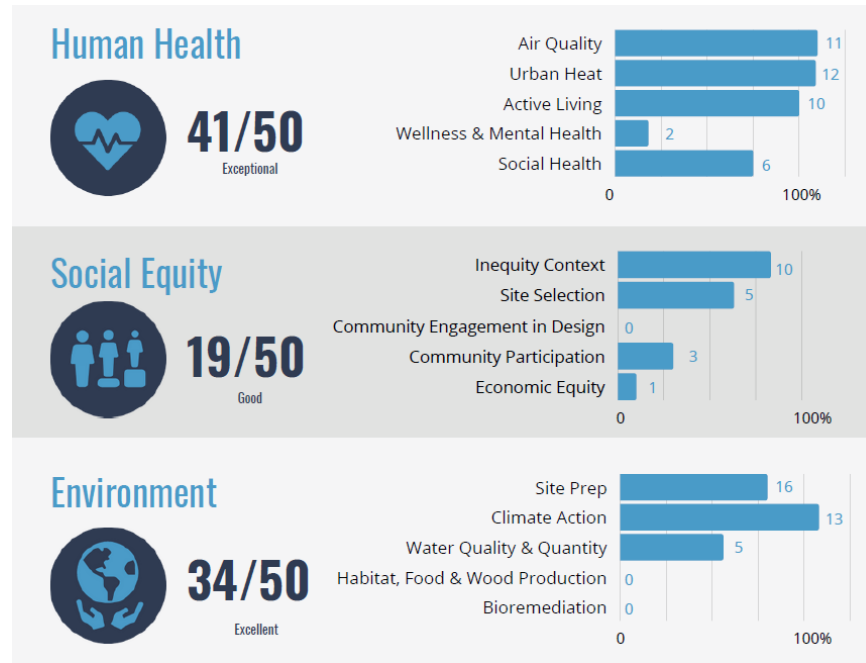
**Reforestation and workforce training program**  
The Growing Futures program grows leaders by planting and tending young trees, with a special focus on youth from diverse backgrounds. In 2022, 71 trees and 23 adult tree leaders were planted at 10 sites. The program planted 60 trees along streets and in parks, including along student walking routes every week, including routes leading to school, street intersections, and green job training.

**UN Sustainable Development Goals**

**Quantified Benefits**  
Air Quality: 11  
Urban Heat: 12  
Active Living: 10  
Wellness & Mental Health: 2  
Social Health: 6

**Quantified Benefits**  
Inequity Context: 10  
Site Selection: 5  
Community Engagement in Design: 0  
Community Participation: 3  
Economic Equity: 1

**Quantified Benefits**  
Site Prep: 16  
Climate Action: 13  
Water Quality & Quantity: 5  
Habitat, Food & Wood Production: 0  
Bioremediation: 0



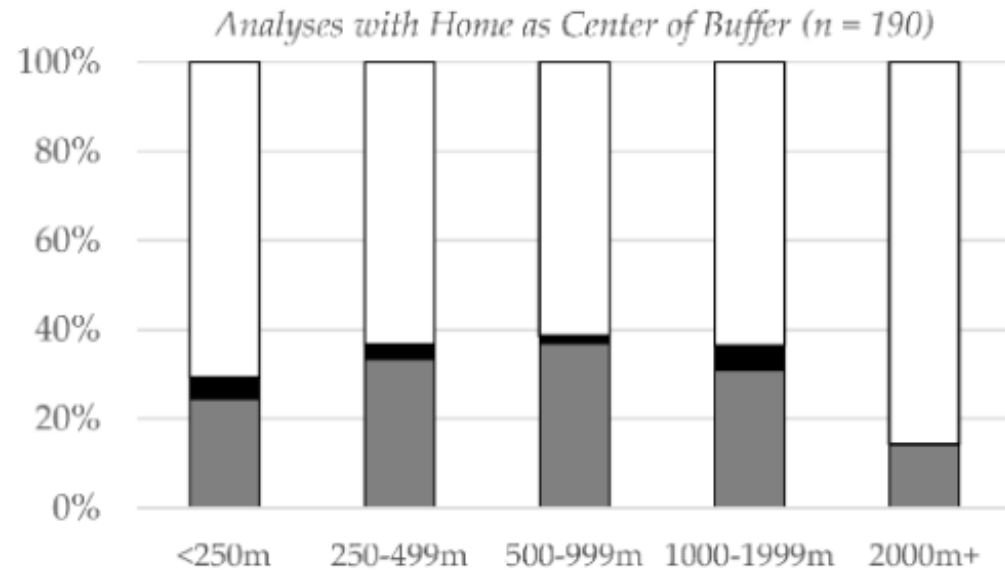
# 90 impacts & indicators





# Methodology

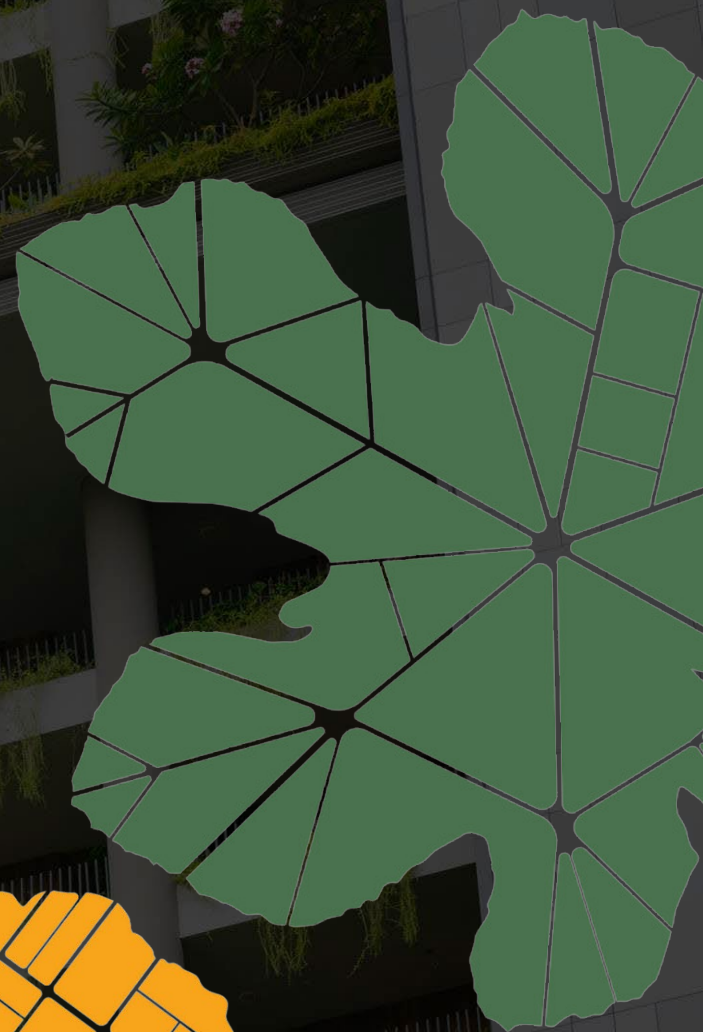
At what scale & threshold do they operate?



Browning & Lee, 2017

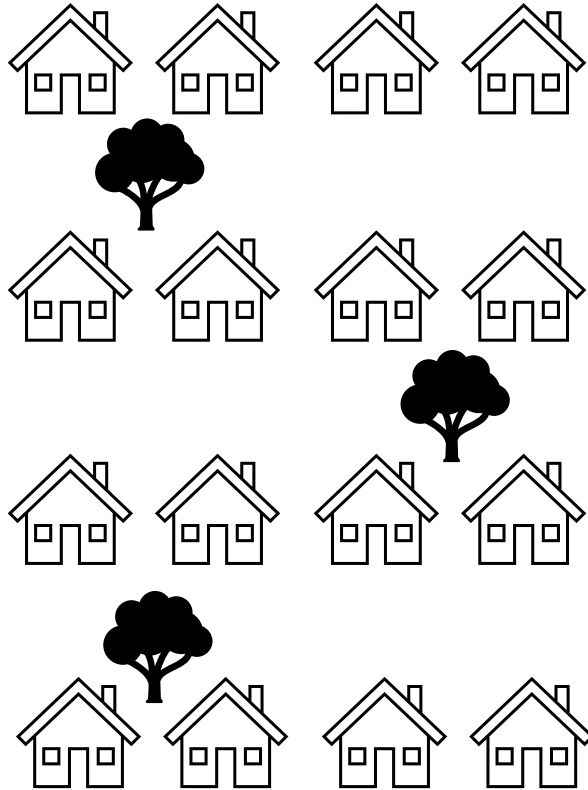


# Proximity Impact



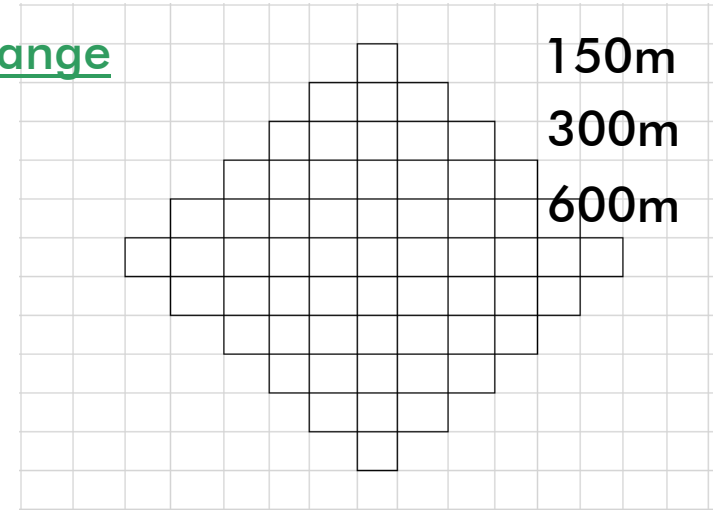
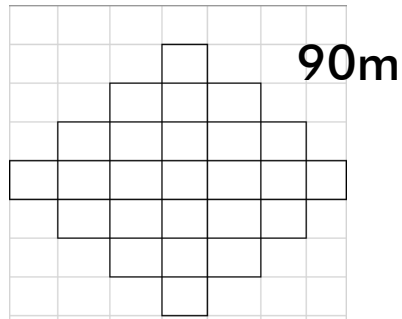


# Proximity Impact Methodology



□ 30m

Canopy Change



Mortality Rate

Population Data

= Number of People Impacted





**2nd World Forum on  
Urban Forests**

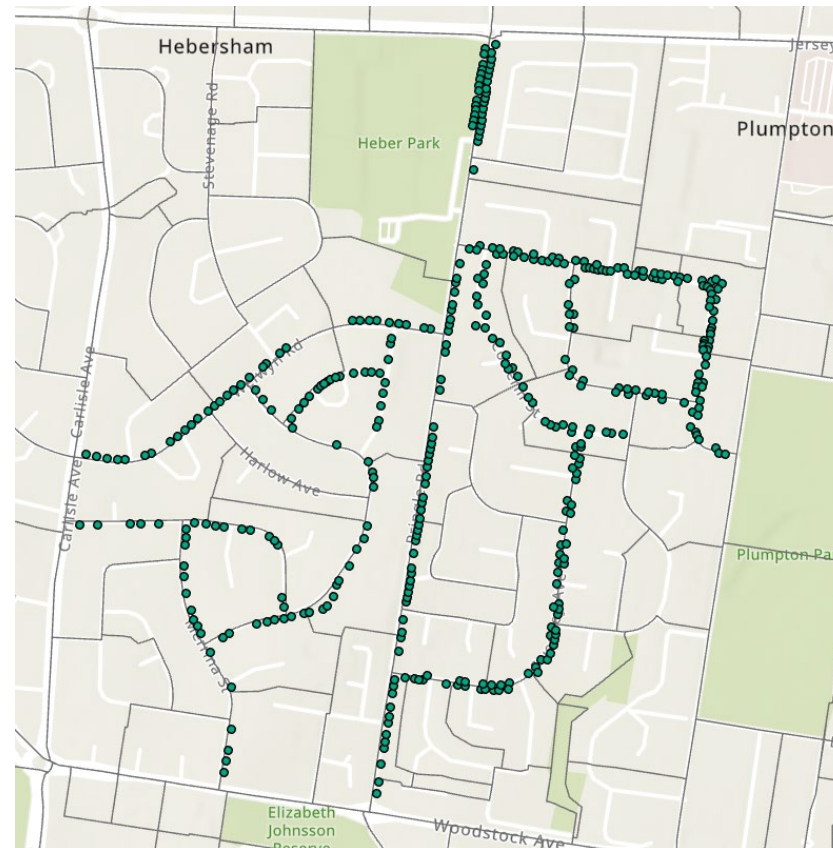
Washington DC, 2023

# Blacktown, Australia Tree Planting Project



Supported by  Microsoft

400 street trees





# Blacktown, Australia Tree Planting Project



Supported by  Microsoft

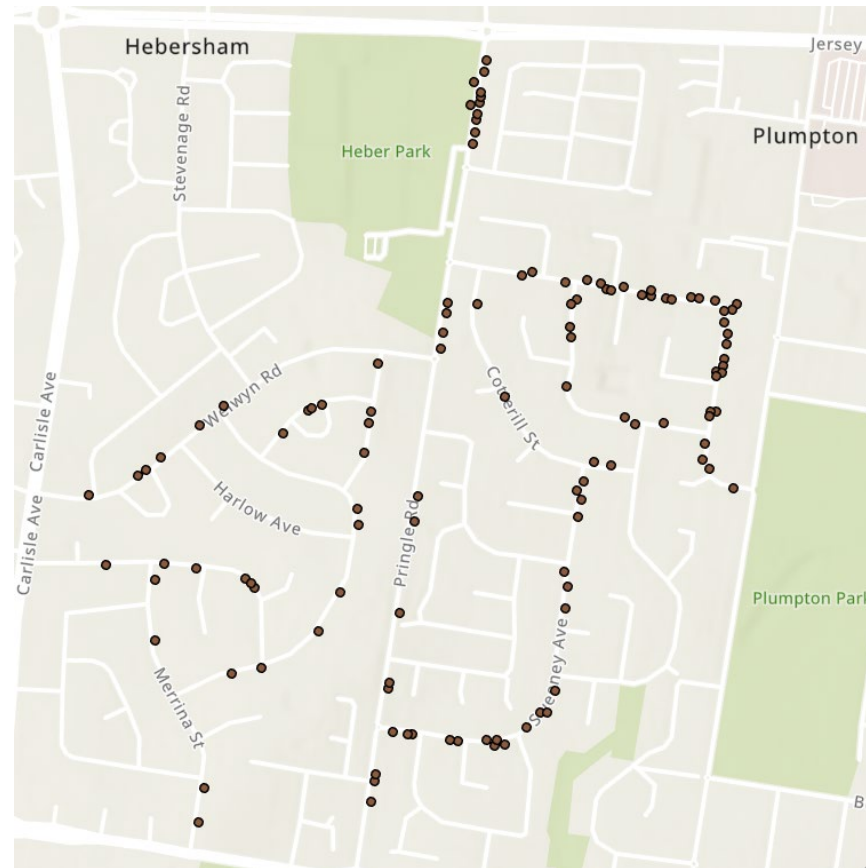
400 street trees

Survival Rate

30%

120 street trees

600sqft of tree canopy





**2nd World Forum on  
Urban Forests**

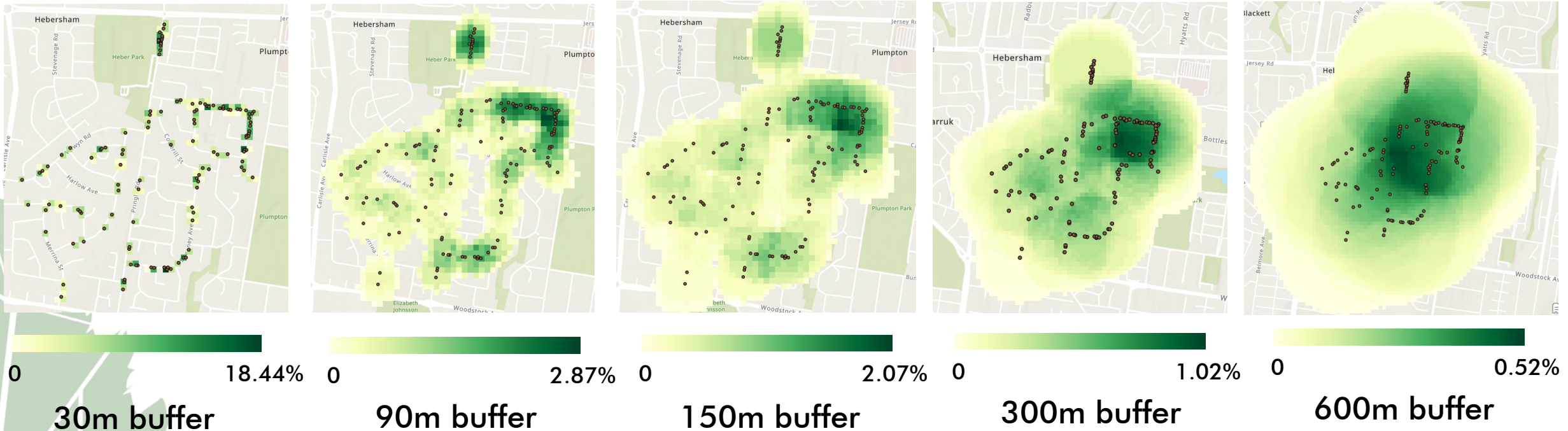
Washington DC, 2023

# Blacktown, Australia Tree Planting Project



Supported by  Microsoft

## Estimated Future Canopy Change





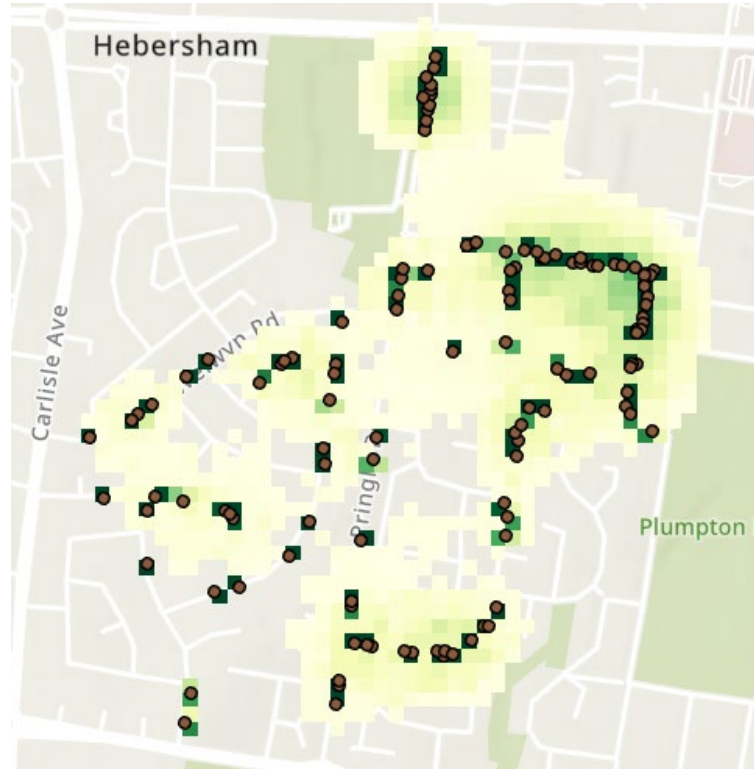
# Blacktown, Australia Tree Planting Project



Supported by  Microsoft

## Estimated Future Canopy Change

Maximum canopy  
change of at least  
0.5% across 30m,  
90m, 150m, 300m,  
or 600m scales



0.5

18.44%





# Blacktown, Australia Tree Planting Project



Supported by  Microsoft

## Estimated Future Canopy Change

Areal  
interpolation  
with census  
block data to  
understand  
number of  
people  
impacted



0.5

18.44%

Just one of  
many  
possible  
scenarios

....



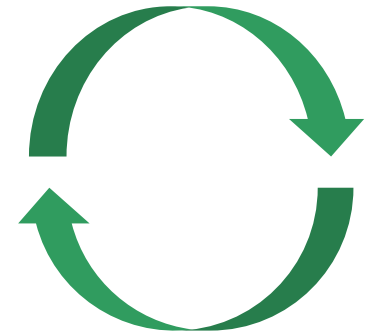
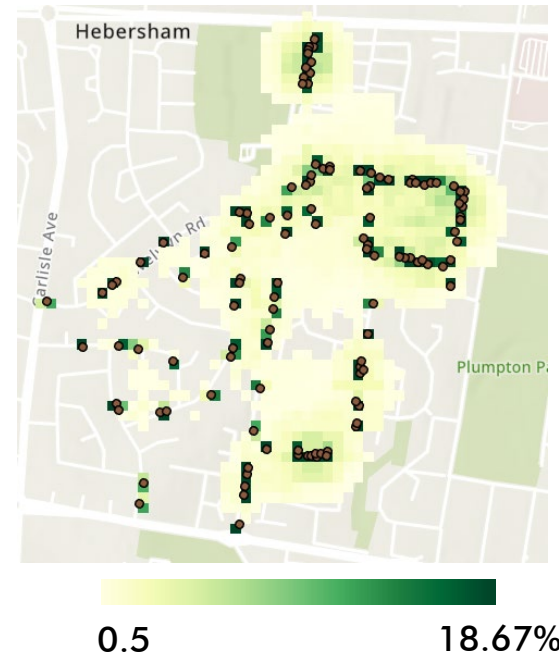
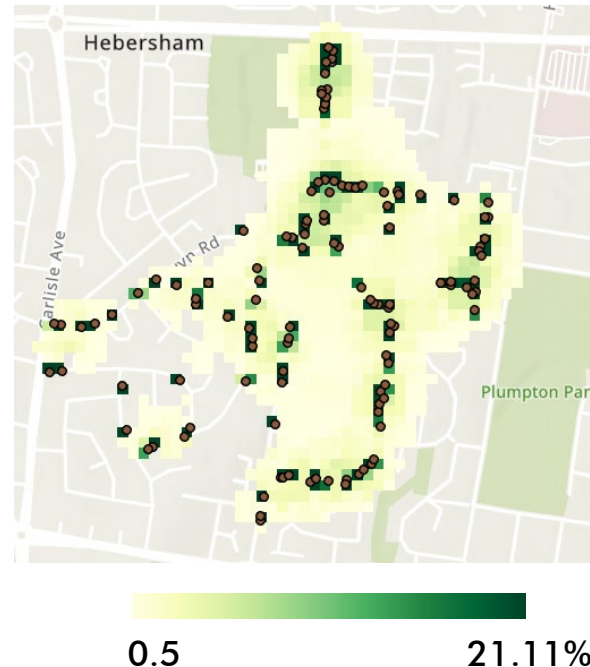
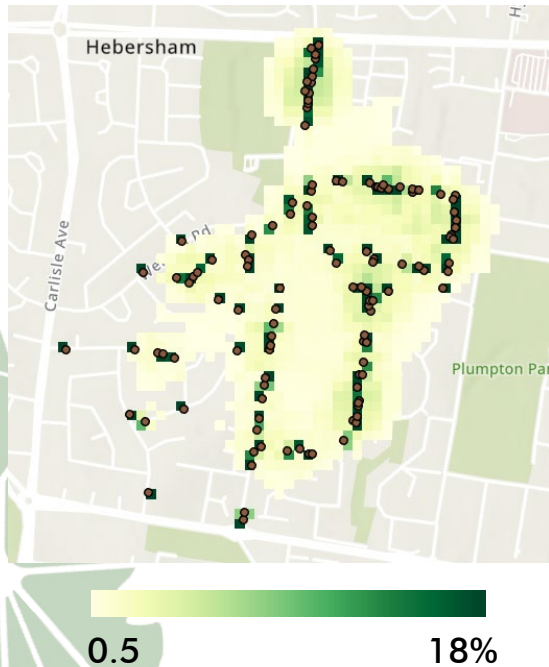
# Blacktown, Australia Tree Planting Project



Supported by  Microsoft

## Estimated Future Canopy Change

Repeated analyses of 30% random samples...





**2nd World Forum on  
Urban Forests**

Washington DC, 2023

# Blacktown, Australia Tree Planting Project



Supported by  Microsoft

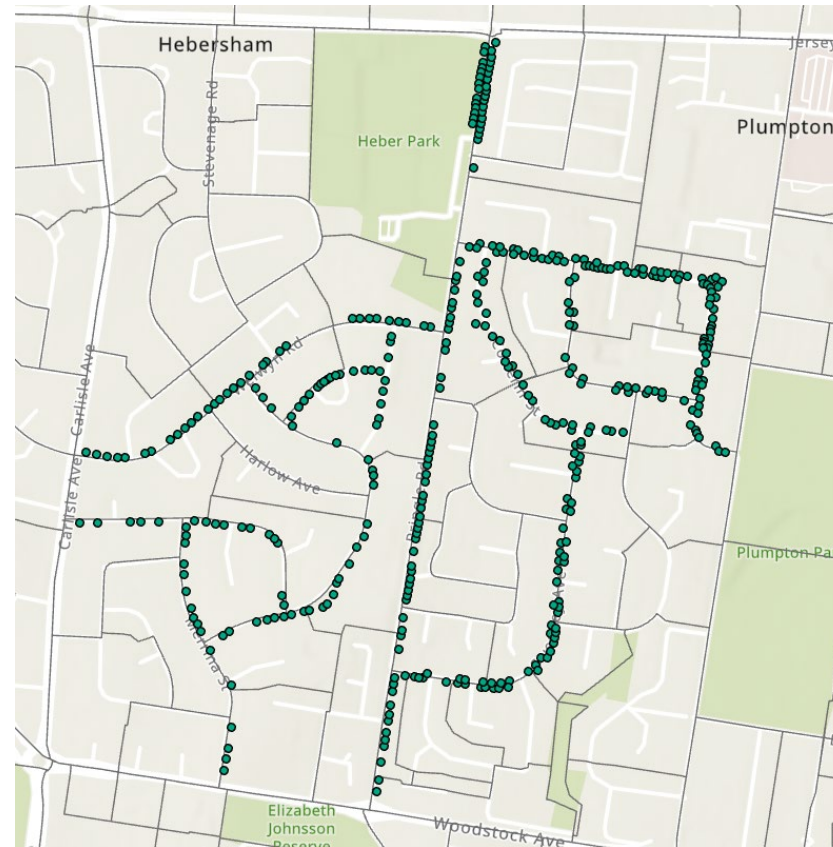
400 street trees

30% survival

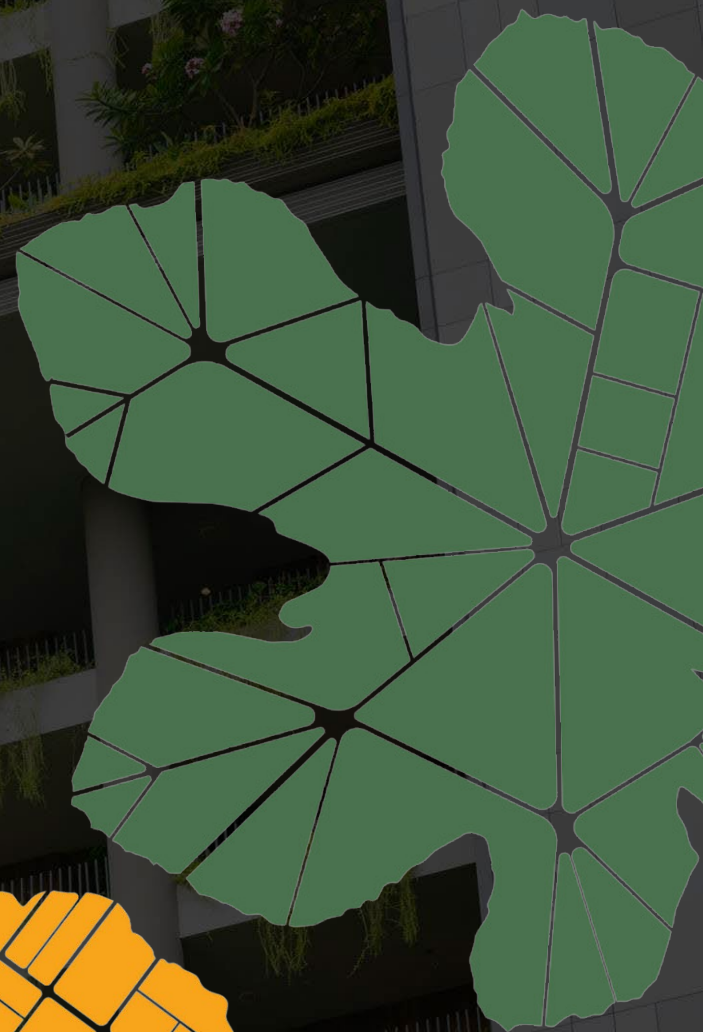


3,100 ± 100

People Impacted



# Sustained Impact





**2nd World Forum on  
Urban Forests**

Washington DC, 2023

# Chicago, IL, USA Tree Planting Project



CHICAGO  
REGION  
TREES  
INITIATIVE

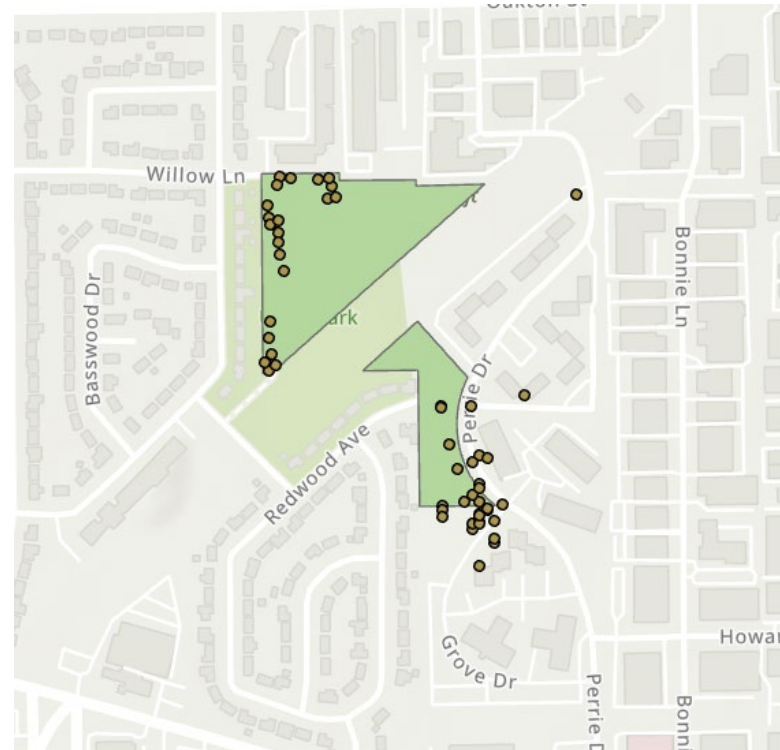


American  
Forests™

Supported by



57 trees at Udall Park  
in Elk Grove Village





# Chicago, IL, USA Tree Planting Project



CHICAGO  
REGION  
TREES  
INITIATIVE



American  
Forests™

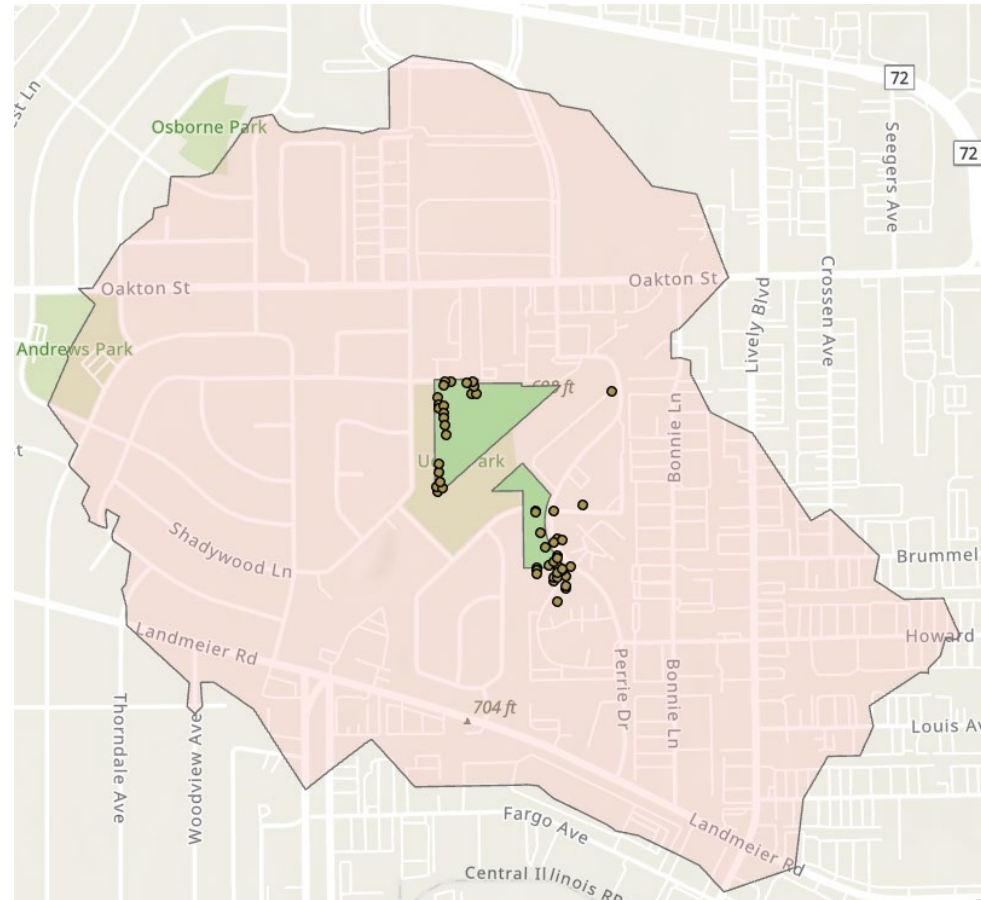
Supported by



Trust for Public Land ParkServe:  
10 Minute Walk Network Buffer

ParkIndex  
(Kaczynski et al., 2020)  
10 Minute Walk Network Buffer

- Model park attributes:
  - Size: 9.53 acres
  - Park quality score: 68.65
- Average probability of park visit:  
32.15%





# Chicago, IL, USA Tree Planting Project



CHICAGO  
REGION  
TREES  
INITIATIVE



American  
Forests™

Supported by

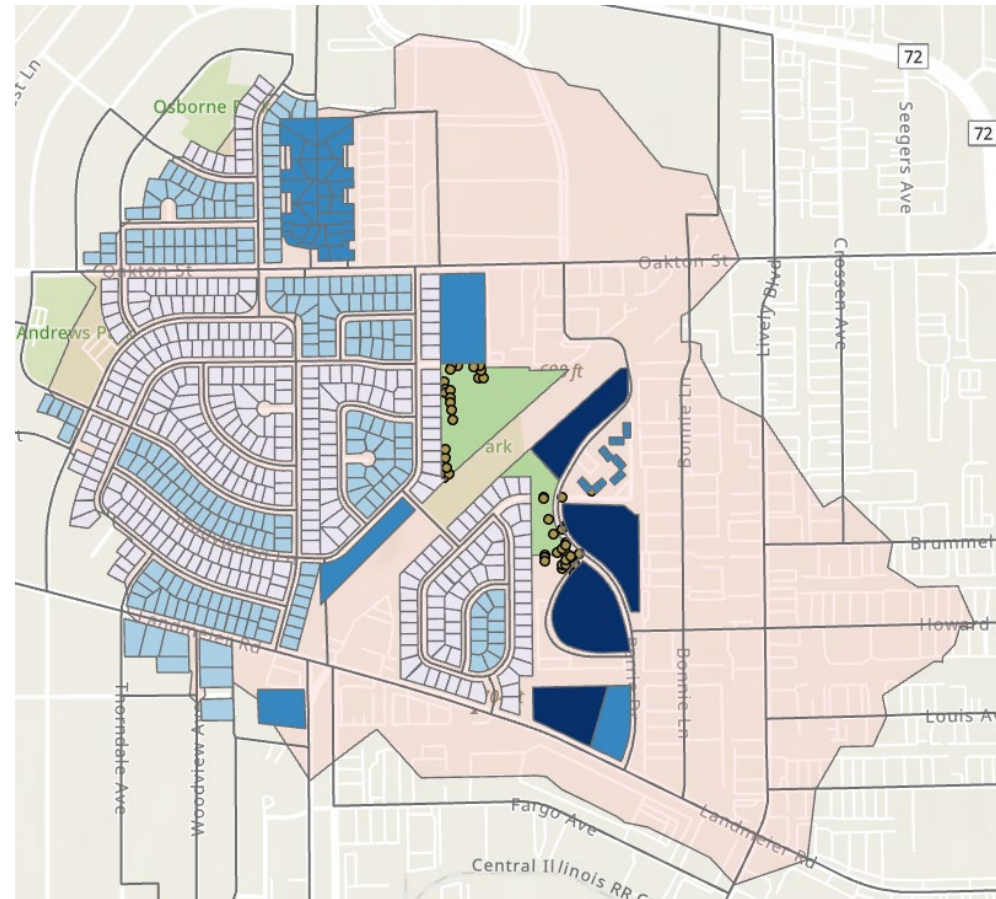


## Sustained Impact



Approx. 1 000

People Impacted





# Chicago, IL, USA Tree Planting Project



CHICAGO  
REGION  
TREES  
INITIATIVE



Supported by  Microsoft

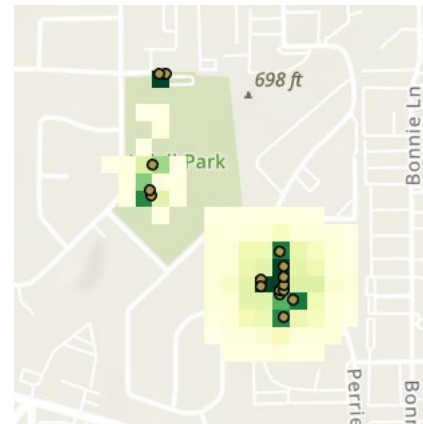
## Proximity Impact



$200 \pm 100$

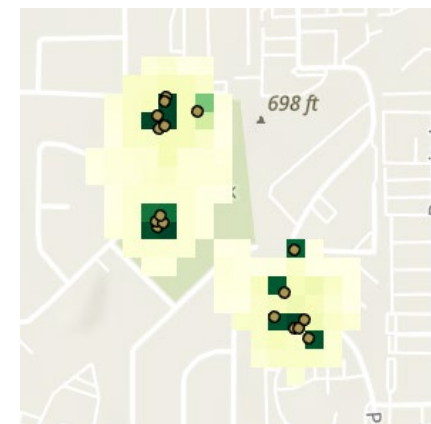
People Impacted

## Repeated canopy change analyses of 30% survival



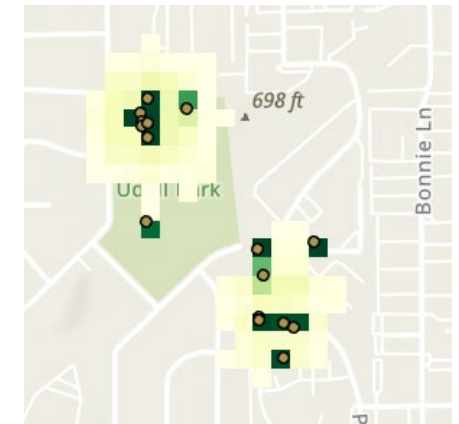
0.5

22.8%



0.5

16.78%



0.5

12%





# Chicago, IL, USA Tree Planting Project



CHICAGO  
REGION  
TREES  
INITIATIVE



American  
Forests™

Supported by  Microsoft

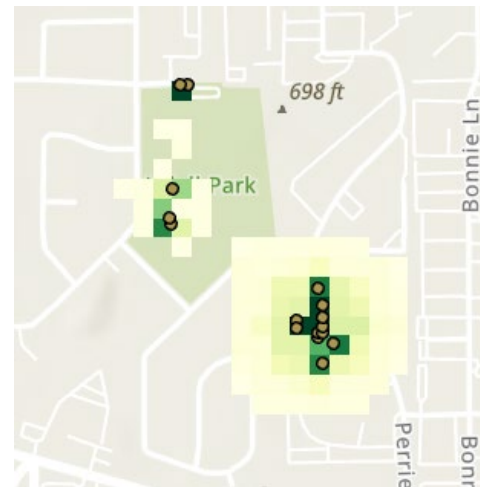
## Proximity Impact



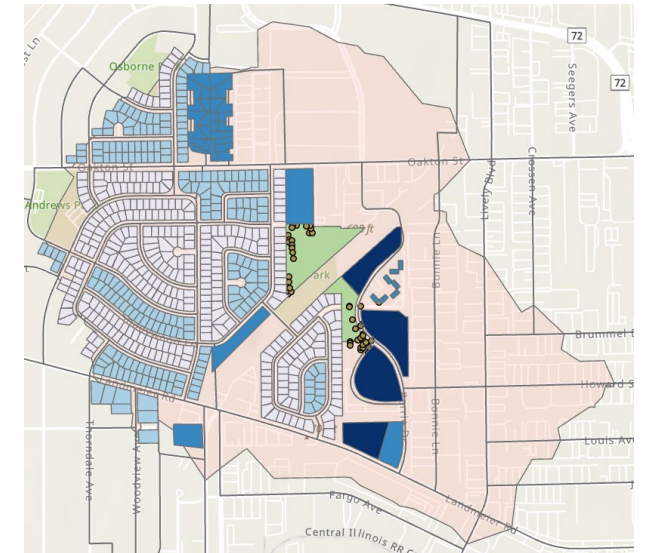
$200 \pm 100$

People Impacted

=



-



Population estimated to be  
impacted by canopy change

Estimated park visitors  
(assuming equal distribution)



# Chicago, IL, USA Tree Planting Project



CHICAGO  
REGION  
TREES  
INITIATIVE



American  
Forests™

Supported by

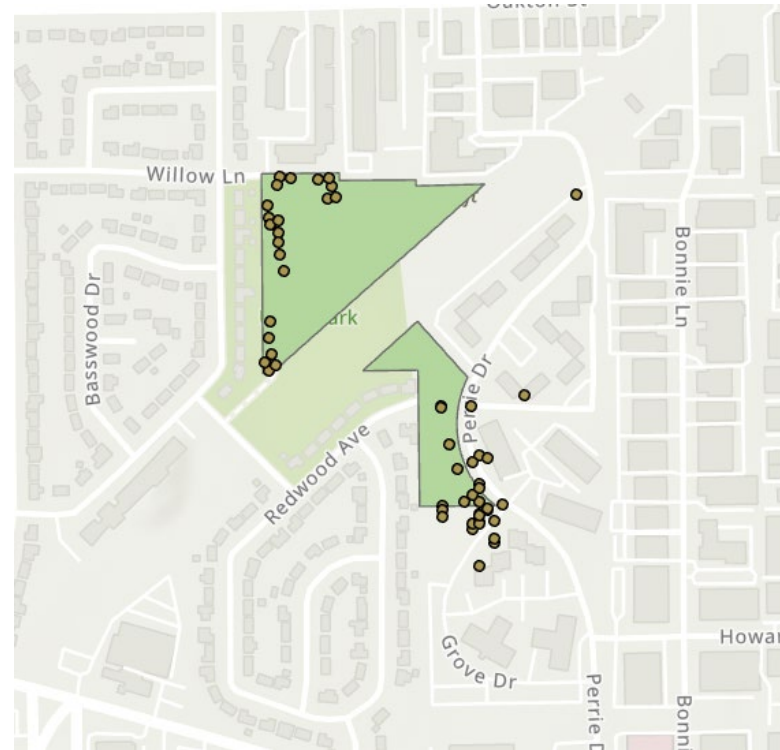


57 trees at Udall Park



Approx. 1,200

People Impacted





## Path forward

- Continue to iterate on methodology
- Long-term vision: open-source tool



# Thank you

## Rachelle Liml City Forest Credits

✉ [rachelle@cityforestcredits.org](mailto:rachelle@cityforestcredits.org)

### Acknowledgements:

Dr. Kathleen Wolf, University of Washington  
Holly Beale, Microsoft  
American Forests  
One Tree Planted  
Society for Ecological Restoration  
Chicago Region Trees Initiative  
Blacktown City Council



Food and Agriculture  
Organization of the  
United Nations



# **2nd** **World** **Forum on** **Urban** **Forests**

**2023**



**World Forum on  
Urban Forests**



# Healing Power of Nature: Forest Therapy in Action

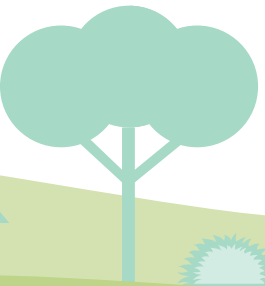
**Won Sop Shin, Ph.D.**  
**Chungbuk National University, Korea**  
**Tamberly Conway, Ph.D.**  
**Conservation Conexion**





# FOREST THERAPY

Human Origin



# Background

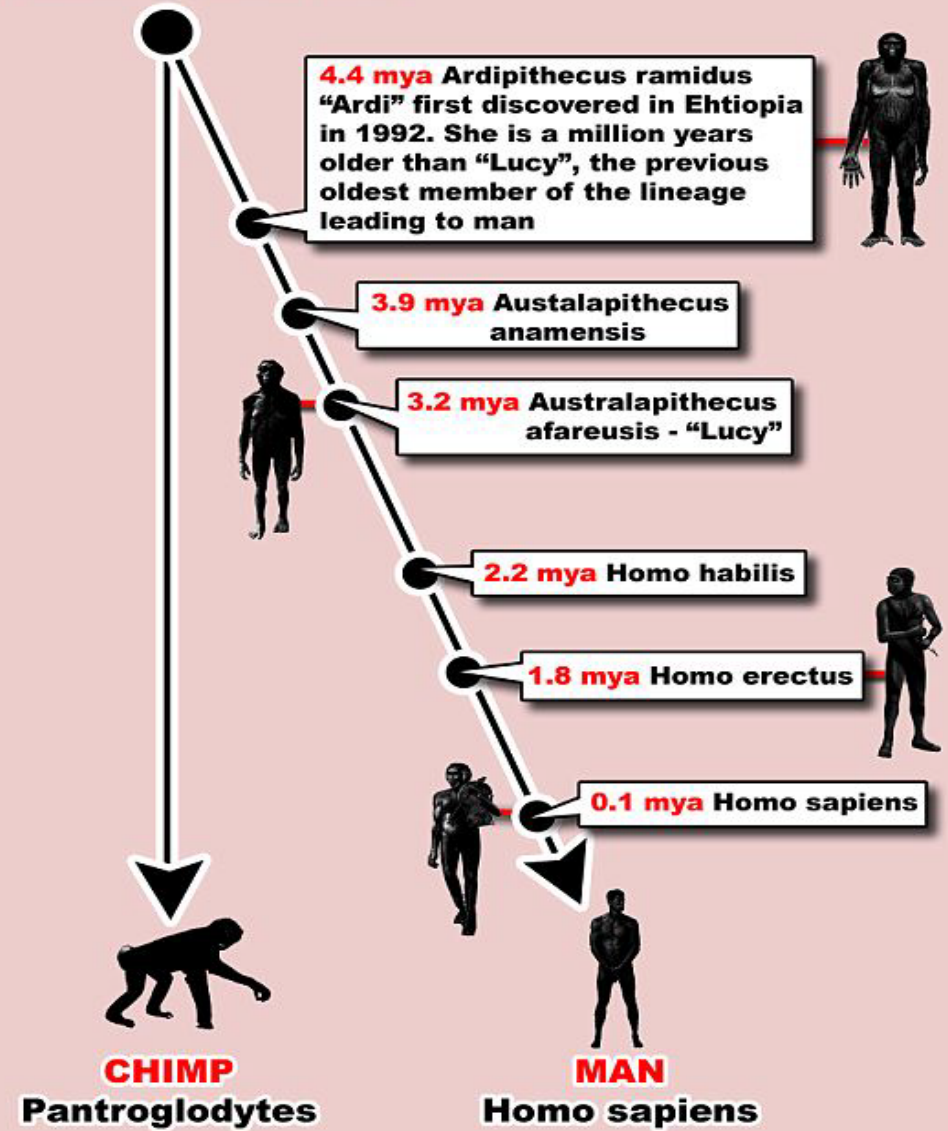
bio·phil·ia

(bahy-oh-fil-ee-uh) noun

an innate and  
genetically determined  
love for the natural world  
felt universally by humankind.

## LAST COMMON ANCESTOR OF MAN AND CHIMP

6 - 7 MILLION YEARS AGO?





# Background

#1

## FASCINATION

Evokes sense of awe and wonder

#2

## BEING AWAY

Detached from worries and troubles

Restorative  
Environments

#3

## EXTEND

Detached from worries and troubles

#4

## COMPATIBLE

Human goals and environment  
characteristics align

Under the background of  
“BIOPHILIA”

1. Attention Restoration Theory



# FOREST THERAPY



Premising to fulfil  
“BIOPHILIA need”



# Background

Forest has been deeply involved in human origin, human-nature, and identity, beyond health and quality of life.

<b>Physiological</b>	Positive effect on human physical function and/or physical health (O'Brien and Forster, 2017; Lee and Shin, 2019; Yi et al., 2019; Berto, 2014; Lee et al., 2014; ...)
<b>Psychological</b>	Positive effect on human mental processes and emotions (Oh et al., 2020; Hansen et al., 2017; Lee et al., 2017; Lee et al., 2011; Shin et al. 2010; ...)
<b>Cognitive</b>	Positive effect on human cognitive ability or functions as well as provision of educational opportunities in an outdoor and healthy environment (Kyu-Won Sim et al., 2018; RSPB, 2013; Shin et al., 2011; Shin et al., 2001)
<b>Social</b>	Positive effect on social skills, interactions, behaviors and lifestyle (Ambrose-Oij and O'brien, 2017; Yeon et al., 2019; RSPB, 2013; Maller, 2009; Shin et al., 2005; ...)
<b>Spiritual</b>	Positive effect on cultural and religious pursuits or spiritual well-being (O'Brien et al., 2017; Collins et al., 2014; Kenter et al., 2014; Laband, 2013; Chen-Hsuan Cheng and Monroe, 2012; ...)
<b>Economic</b>	Positive effect on local economy and employment, especially in smaller and remote mountain areas (Shin et al., 2017; Edwards et al., 2009; Hine et al., 2009)

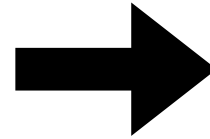


**Forest Therapy in Korea:  
Some Accomplishments**

# SUCCESS OF FOREST RESTORATION



# SUCCESS OF FOREST RESTORATION



“Miracle on the Han River”

# SUCCESS OF FOREST RESTORATION



Forest Restoration :  
A Path to Public  
Health & Welfare

# Why Did Forest for Human Health Policy Emerge in Korea?



- 1. Korea's urbanization and its shade**
  - Rapid urbanization
  - Densely populated country
  - Longest working hours
  - Highest competition, etc.
- 2. Super aged society**
  - Pressure of medical finance
  - Preventive medicine
- 3. Rich forest resources**



## Progress of Forest Welfare/Therapy Policy

2013

Proclamation ceremony for vision of forest welfare  
Comprehensive forest welfare plan

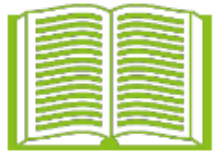
2015

Enactment of 「Act on Forest Welfare Promotion」

2016

Establishment of 「Korea Forest Welfare Institute」

# New Legislation on the Forest Welfare



## Forest Welfare Promotion Act in effect (March in 2016)

To contribute to improve people's health and happiness through various forest welfare services

➔ The **world's first case of legislation** to specify 'forest welfare'



5-year  
Plan



Forest  
Welfare  
Services



Forest  
Welfare  
Complex



Committee



Specialized  
Agency

# Establishment of Specialized Agency



## **Korea Forest Welfare Institute (April in 2016)**

: To promote forest welfare and to make contribution to the improvement of health and quality of life and the pursuit of happiness by providing diverse and well-organized forest welfare services.



Forest Welfare  
Facilities



Tailored  
Services



Professionals  
Education



Programme  
Development

A landscape photograph showing a dense forest of tall, dark green coniferous trees in the middle ground. In the background, a large, light-colored mountain peak is visible under a cloudy, overcast sky. The foreground is filled with a lush field of green plants and white flowers. The text is overlaid in white on the forest scene.

**Forest Welfare/Therapy for life cycle service**

**“From cradle to grave, life with  
forests”**

# Therapeutic Benefits of Forest (Conclusion)

- Forests may provide opportunities which foster the establishment of more efficient and active behavior
- Thereby enhancing mental health and psychological functioning
- Many previous research have examined the therapeutic value of forest
- Most of studies appraised the values of the forest-related clinical programs in improving the effective performance of delinquents; of in- and out-patients

Even previous studies support the health and QOL effects, Forest Therapy now need to expand it's philosophy more fundamental purpose of we Human Being

# Memorandum of Agreement (MOA) signing

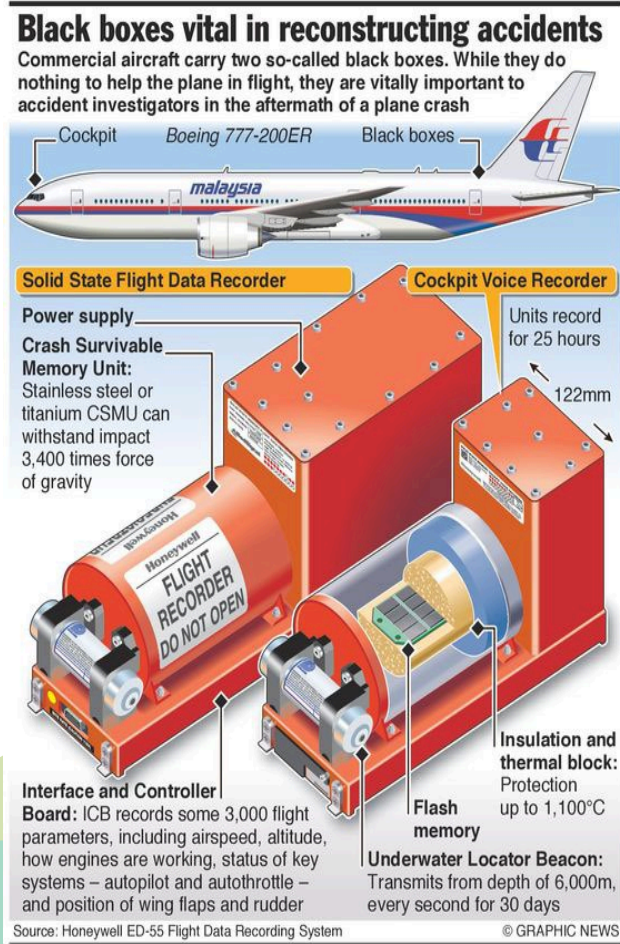


## *Opportunities and avenues for continued collaboration*

- **Co-presentations at national/international conferences**
  - International Forest Therapy Conference, Vancouver, British Columbia, 2022
  - Women's Forest Congress; Minneapolis, MN, 2022
  - World Forum on Urban Forests; Washington, DC, 2023
  - International Union of Forest Research Organizations (IUFRO); Stockholm, Sweden, 2024
  
- **Research and Development collaboration**
  - Improve data collection techniques
  - Collaborate around technology development
  - Engage in collaborative research endeavors



# Challenges



01

- Need more to identify “What beneficial outcomes occur to an individual during one’s experience with forests, especially spiritual aspects and purpose of life

02

- How might this interaction with forest benefit the shaping of a developing public health and well-being

03

- Does an individual’s experience of forest offer an enriched perspective on life



The image features a repeating pattern of watercolor-style green leaves and branches on a white background. The leaves are in various shades of green, from light to dark, and are scattered across the frame. In the center, there is a thin, orange-bordered rectangular box. Inside this box, the words "THANK YOU" are written in a bold, black, sans-serif font with a slight drop shadow.

**THANK YOU**

# **2nd** **World** **Forum on** **Urban** **Forests**

**2023**



**World Forum on  
Urban Forests**



# 2nd World Forum on Urban Forests

Washington DC, 2023

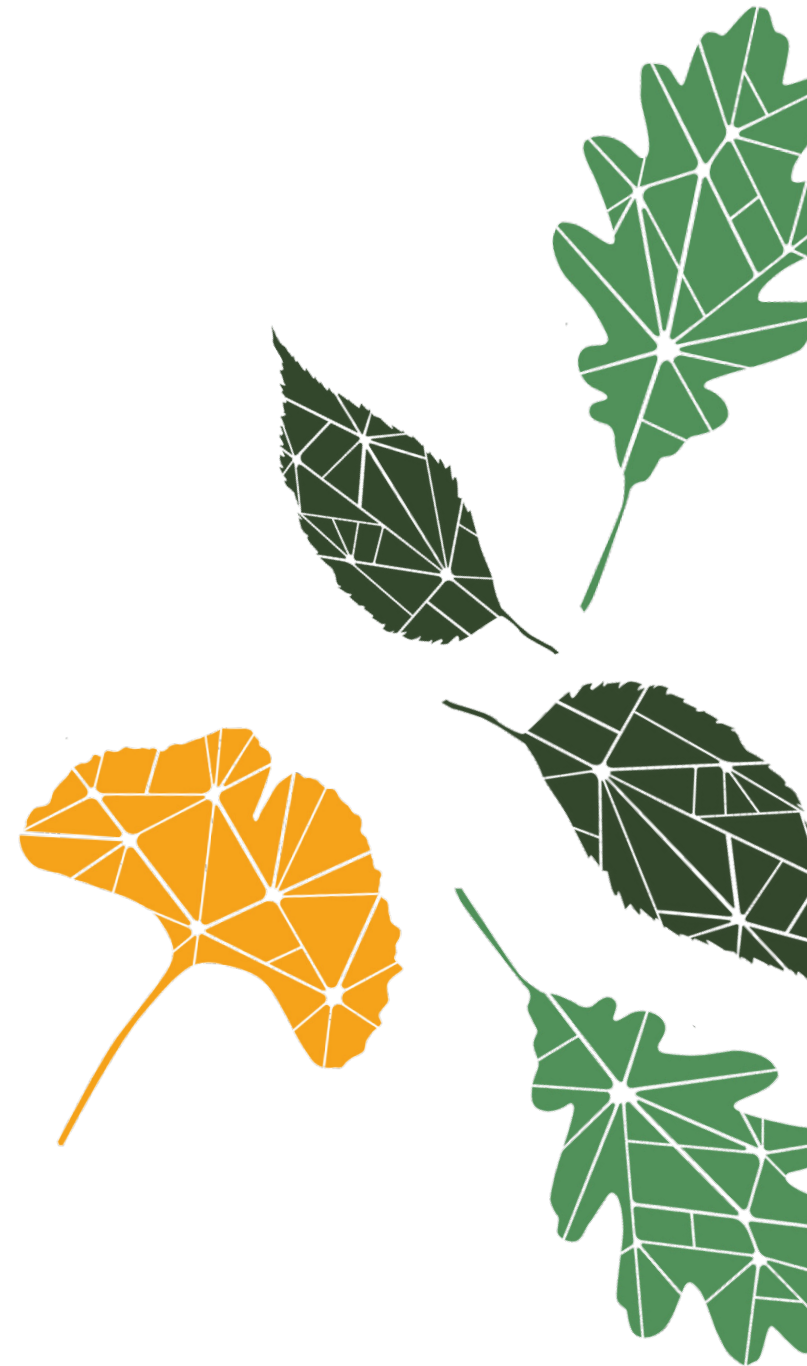
Type of users: pathways towards our  
health and well-being



---

## Presented by

Dr. Cynnamen Dobbs  
Department of Natural Resources and the  
Environment  
University of Connecticut





# 2nd World Forum on Urban Forests

Washington DC, 2023



**URBAN ECOSYSTEM FUNCTIONS**  
primary expertise  
NATURAL SCIENCE

- BVOCs
- Pollen
- Dispersion
- Gas Deposition
- PM Deposition



**Human Health**  
e.g., asthma, COPD, cancer

**URBAN ECOSYSTEM SERVICES & DISSERVICES**  
primary expertise  
EPIDEMIOLOGY

Eisenman et al. 2019  
DOI: [10.1016/S2213-2600\(19\)30193-6](https://doi.org/10.1016/S2213-2600(19)30193-6)





# 2nd World Forum on Urban Forests

Washington DC, 2023

USDA Forest Service U.S. DEPARTMENT OF AGRICULTURE

## URBAN AND COMMUNITY FORESTRY GRANTS

### \$1.5 Billion to Expand Tree Canopy and Access to Nature

100% of Benefits Will Flow to Communities in Greatest Need

Urban and Community Forestry Grants, authorized under the Inflation Reduction Act, provide funding to community-based organizations, Tribes, State and local agencies, public colleges and universities, and non-profits working to provide equitable access to trees and nature and the benefits they provide to urban communities.

USDA is an equal opportunity provider, employer, and lender.



#### Investing in a Healthier Future for America

385 grants were awarded to 50 states, 2 territories, 3 U.S.-affiliated Pacific Islands, and communities with 1 flowing to those in

#### Expanding Tree Canopy in our Communities

Benefiting cities, towns, villages, non-profit organizations, Tribes,

#### The Benefits of Trees in our Communities

Trees mitigate extreme heat, conserve energy, provide shade, absorb storm water, create

#### Confronting the Growing Threat of Extreme Heat and Climate Change

July 2023 was the hottest month on record in communities around the country.

cover ompared ar.

## SENEGAL: Ecolibri to plant an urban forest of 1,300 trees in Dakar

By Inès Magoum - Published on June 8 2021 / Modified on June 8 2021



The environmental organisation Ecolibri has just launched a project to plant an urban forest of 1,300 trees in Dakar, the capital of Senegal. The project, supported by the European Union (EU), aims to accelerate reforestation in order to preserve the environment.



Innovador y ambicioso programa dotará de 30 mil nuevos árboles a comunas con déficit de áreas verdes de la RM

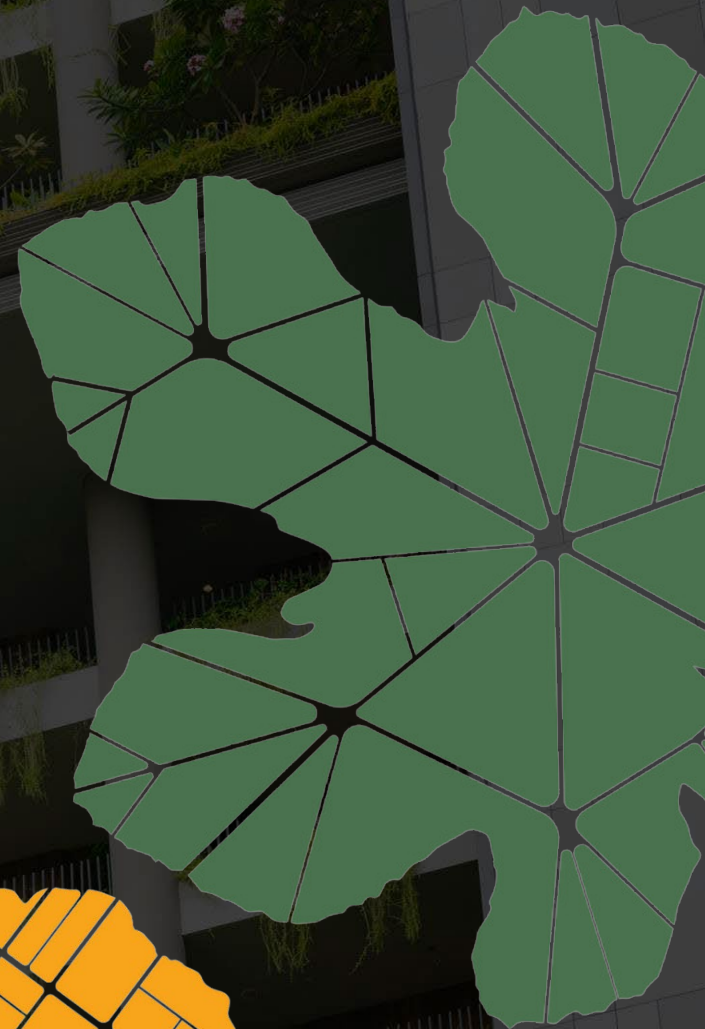


## Are we providing for all?

Greening: distribution of tree cover, densities, diversity – biophysical phenomena

Equity: benefits that people received from trees – socio-cognitive phenomena

Recognizing if our greening is leading to the benefits most value by urban users might better support more just planning





## Some evidence

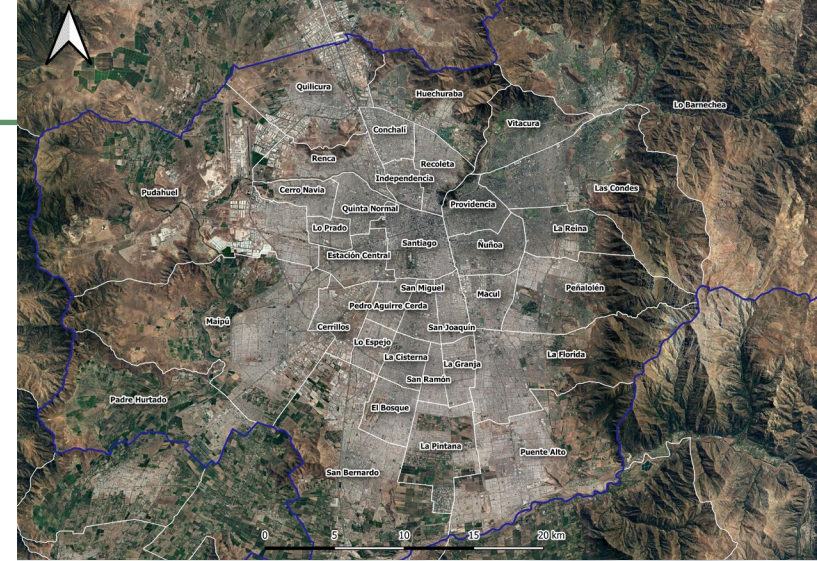
- **Differential patterns of value for nature relate to cultural, historical and contextual factors (Triguero- Mas et al. 2021, Neidig et al. 2023).**
- **Preferences on greens spaces differ by immigrant status and age group (Kabisch and Haase 2014).**
- **Woman and men differentially use, experience and share benefits from ecosystem services (Fortman et al. 2019).**
- **Lack of direct experience with nature can lead to alienation from nature (Soga and Gaston 2016).**
- **Greening can be related to the loss of place- specific culture and traditions because of gentrification (Lliso et al. 2022).**
- **Greening material practices and discourses have excluded marginalized voices producing environmental injustices (Kabisch and Haase 2014).**





# Where did we test this? Santiago (Chile)

- Population: over 7 million
- Environmental issues: air pollution, waste management, drought, climate change and lack of trees and green spaces, biodiversity (MMA, 2019)
- Inequities on urban forests distribution (<math><1\text{ m}^2/\text{inhab.}</math> to







# What did we measure?

- Online survey = 2868 respondents (Netquest Ltda)
- Stratified by socioeconomic distribution of the population, and representing each municipality in the Region
- Age, gender, education, residence, type of residence
- Rate the importance of the following benefits and nuisances delivered by trees in urban areas (Cuan importante son los siguientes beneficios y externalidades negativas de los arboles urbanos?)
- Values on ecosystem services (5-point Likert scale): not important to very important





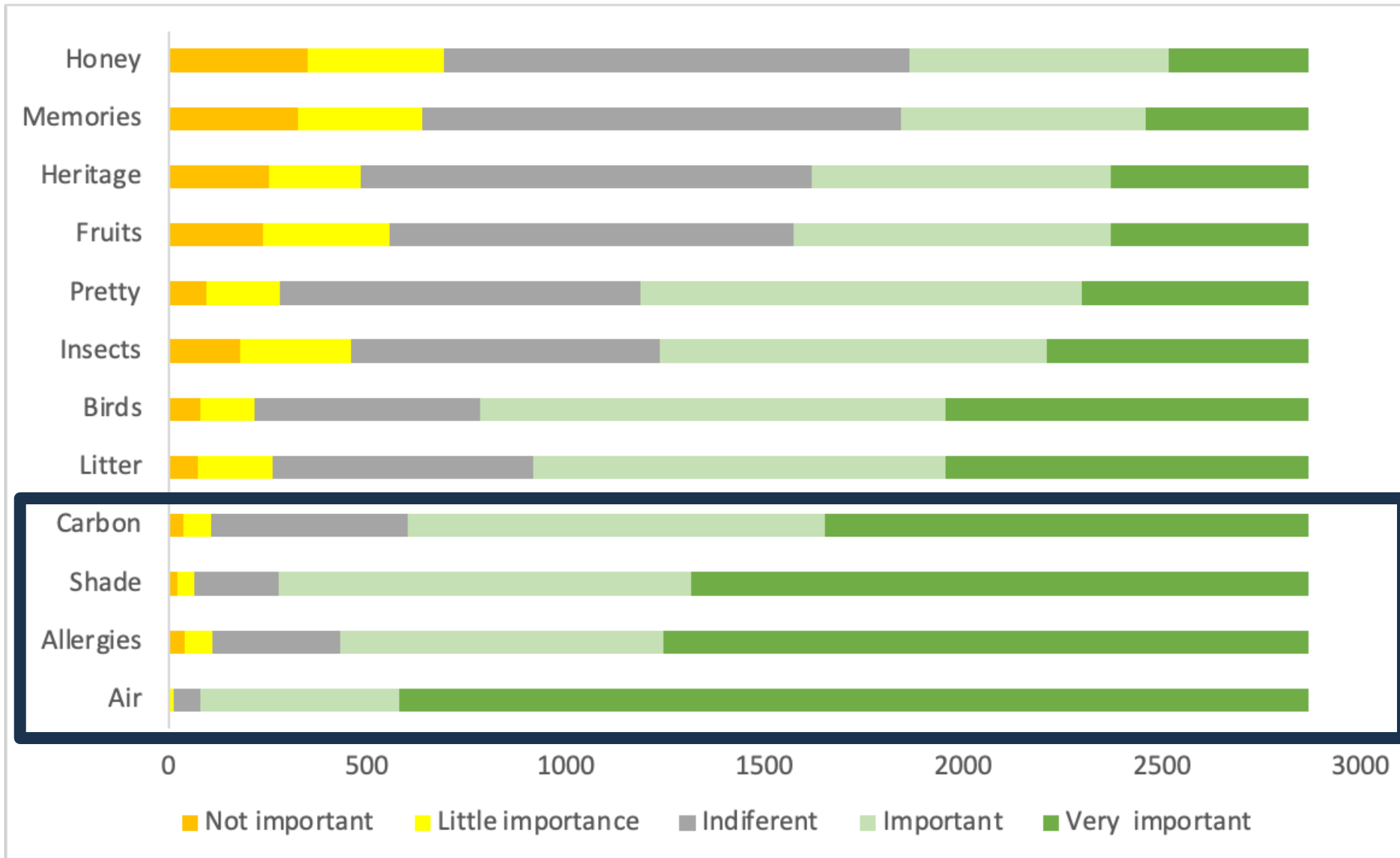
# Can we distinguish groups of values for urban forest ecosystem services and disservices?

Latent Class Analysis  
Respondents classified for the likelihood of importance towards groups of EESS



## 2nd World Forum on Urban Forests

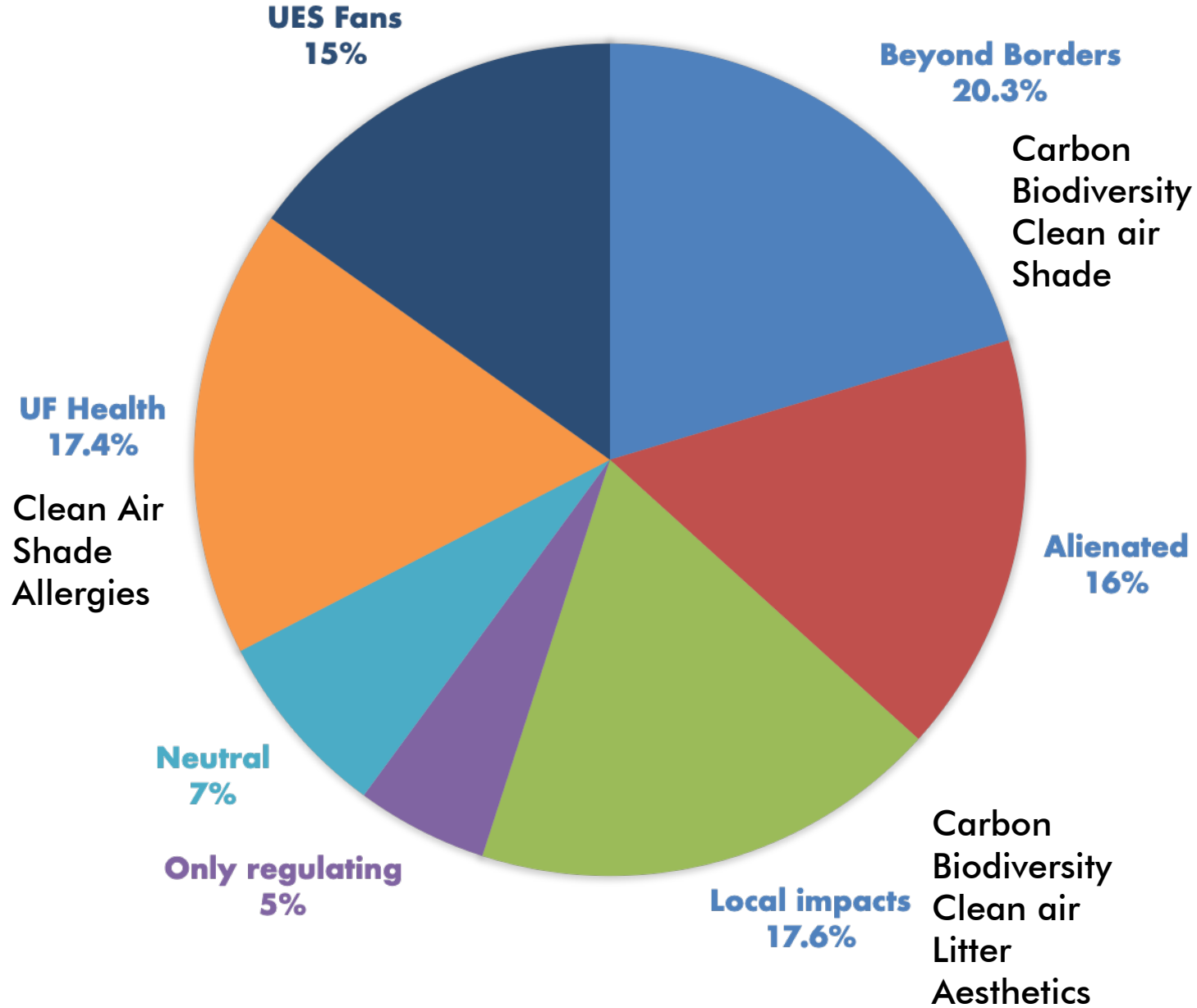
Washington DC, 2023





## 2nd World Forum on Urban Forests

Washington DC, 2023





## Key messages

- **Perspectives on urban forest varied among people living in the same region**
- **There is an agreement on values of urban forests EESS related to local environmental problems**
- **EESS with global impact are valued by less than 50% of the respondents**
- **Disservices were considered important to consider for urban forests for 50% of the respondents**





**Can we distinguish social and environmental drivers of values of the urban forest?**

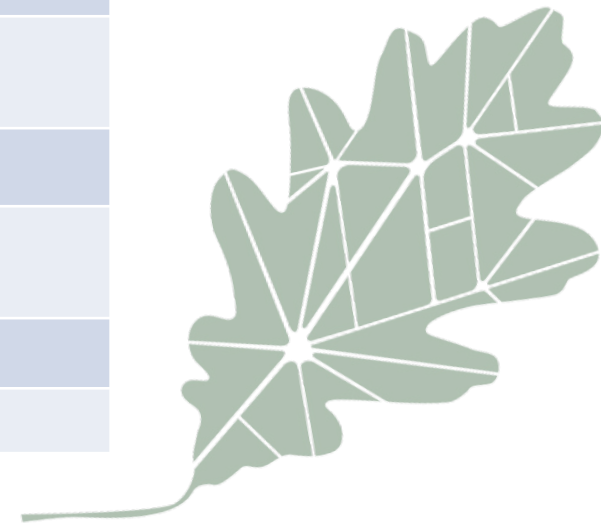
GLM with sociodemographics, municipality of residence, work with nature



# 2nd World Forum on Urban Forests

Washington DC, 2023

Ecosystem Service	Gender	Age	Income	Education	Type of house	Work with nature
Shade			Less more affluent			
Clean Air	Shared highly important					
Carbon	Shared important					
Fruit provision		Higher 36-45			More house	
Honey provision		Higher >25	More high income			
Aesthetics		Higher >56	Less high income			No importance
Cultural identity		Higher >25	More high income	More complete education		No importance
Childhood memories		Higher >36	More high income			
Attractive to birds	Shared low importance					
Attractive to insects		Higher >56				
Allergies	Shared important					
Litter	Shared important					





## Key messages

- **Confirmation of shared ecosystem services and disservices.**
- **Age group should be considered when planning for urban forests.**
- **Higher income population include cultural services in their valued services – already cover their other needs with higher greening?**
- **People working with nature do not give importance to cultural services.**
- **Security was not explored.**
- **Gender did not showed differences for importance for EESS**







## Takeaways for planning

- Place-based planning
- Community participation towards greening decisions
- Greening towards equity should consider the gradient of values and desires
- Greening gives an opportunity for creating links among different groups values
- Disservices should be considered when planning for future greening





# Thank you

**Cynnamon | UConn**

 **Cynnamon.dobbs@uconn.edu**



Food and Agriculture  
Organization of the  
United Nations



Arbor Day  
Foundation





# CEUs

**Session 1.2: Barefoot in the Park: How contact with nature can affect our health and wellbeing**



**PP-23-3556**



**World Forum on  
Urban Forests**