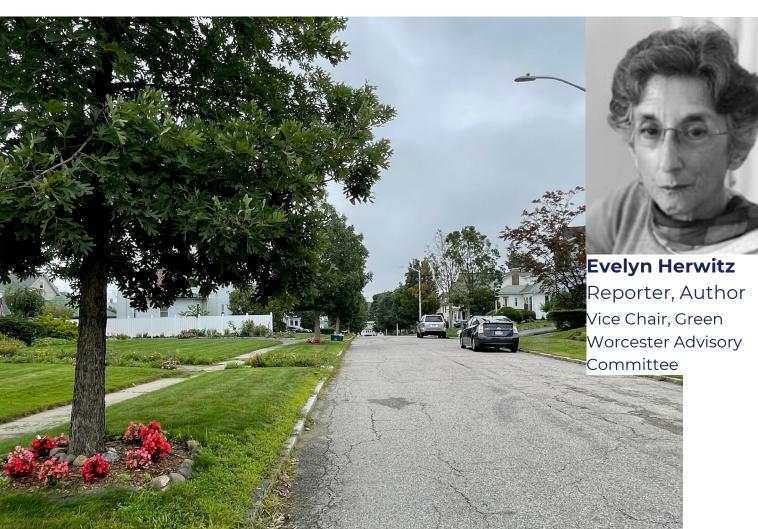


# **How It All Started**





# **Project Inception**





# CITY OF WORCESTER, MA

Eric D. Batista City Manager

### **WORCESTER AWARDED \$409K CLIMATE RESILIENCE GRANT**

FOR IMMEDIATE RELEASE: 9/13/2023 9:37 AM

**WORCESTER, Mass.** – The City of Worcester is thrilled to announce it has received a \$409K climate resilience grant to plant two Miyawaki forests and design two resilient community place-making spaces.

Awarded by the Healey-Driscoll Administration's Municipal Vulnerability Preparedness (MVP) program, which is administered by the Executive Office of Energy and Environmental Affairs (EEA), these grants support communities in identifying climate hazards, developing strategies to improve resilience, and implementing priority actions to adapt to climate change. Worcester is one of 79 projects to have received action grant funding in the latest round of applications.

"This grant will empower the City to take a big step forward in planting its first two Miyawaki forests, which will address urban heat islands and provide numerous climate mitigating benefits," said Chief Sustainability Officer John Odell. "Prior to planting, we will seek public input to assist in identifying possible locations for the forests that are within environmental justice communities."

Miyawaki forests are named after Japanese botanist Dr. Akira Miyawaki, who developed a method of creating fast-growing native forests that are densely arranged and multi-layered. The forests are known to help with carbon dioxide absorption and managing stormwater run-off.

"We thank the Healey-Driscoll administration for this grant as it will help grow our tree canopy and bring relief to urban heat islands as we continue to prepare our community for a changing climate," said City Manager Eric D. Batista.

The MVP program, created in 2017, provides funding for community-driven climate resilience planning and action. A total of 349 out of 351 of the Commonwealth's cities and towns are participating in the program and more than \$131.5M has been awarded for local climate resilience planning and projects.

# Project team

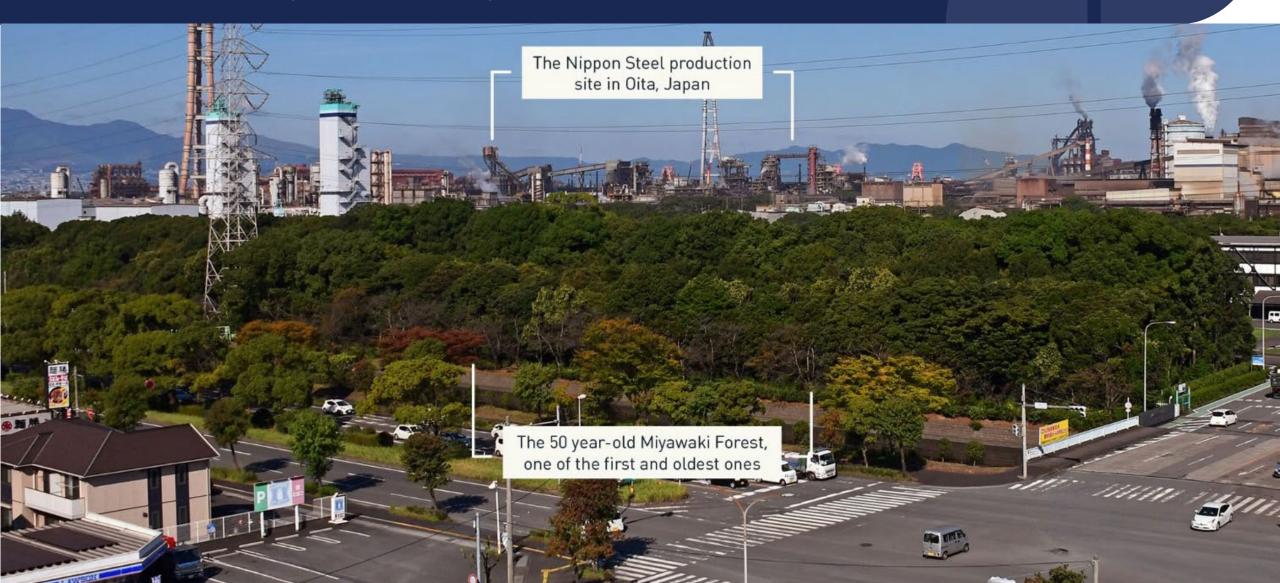






# Miyawaki Method Origin

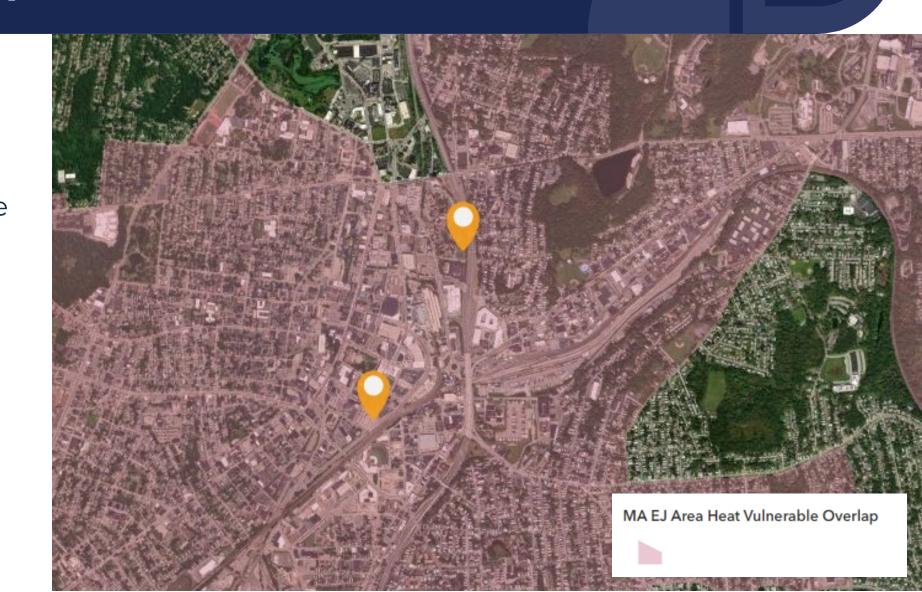
# Back Story, The Miyawaki Method



# **Site Selection**

# **Miyawaki Forests**

- McGrath Municipal Parking
- Plumley Village Site (private, License Agreement)



# Miyawaki Sites

# McGrath Lot Site (public)

- Replaced 6,500 ft. of asphalt with forest
- At maturity, approximately 20,000 ft of canopy





# Plumley Village Site (semi-private)

- Replaced 8,000 sq. ft. of sod
- At maturity, approximately 18,000 ft. of added canopy

# **Project Benefits**

# McGrath Lot Site

- Lowers the temperature in the parking lot
- Increases biodiversity and habitat value
- Absorbs stormwater and pollution in the parking lot and along McGrath Boulevard
- Social soothing, gathering, and education
- Comparable in cost to other landscape





# **Project Benefits**



Savanna Forest Edge (0 m)

Forest Interior (100m)







# **Outreach & Education**





What's New with Our Miyawaki Forests and CoolPockets Project?

Foraging Days Completed in March & April

With over 25 people showing up to forage, we were able to collect vital elements to create a forest environment, specifically those that can't be bought, propagated, produced, and are regional to the area. These materials will soon be placed at McGrath Parking Lot and Flumley Village.

Thank you to all the volunteers who came out to help in this effort!







 $\label{thm:continuous} The \ Miyawaki \ forest \ in \ Cambridge's \ Danahey \ Park. \ \textit{Suzanne Kreiter} \ / \ \textit{The Boston Globe}$ 

The Buzz with City Manager Batista | Miyawaki Forests

at the Worcester Public Library.

BSC @ BSC Group 8,129 followers 6mo • Edited • (3)

Imagine a thriving, biodiverse forest in the heart of Worcester. That future is here with the Miyawaki Forest. Spearheaded by the City of Worcester with BSC leading the project team, the Miyawaki Forest project will bring ecological richness, climate resilience, and sustainability to Worcester. This innovative approach uses the Miyawaki method: densely planting native trees to combat heat and flooding. In this new video update on the project, community liaison Guillermo Creamer Jr explains the vision and scope, detailing the planned conversion of the 6,000 sq ft McGrath parking lot into an urban eco-sanctuary. Watch the full video here: https://lnkd.in/q\_vfqC9P

The Worcester Miyawaki Forest is made possible by the Massachusetts Municipal Vulnerability Preparedness program, designed to support cities and towns across the state in preparing for the challenges of climate change. #BuildSupportConnect #WorcesterMiyawakiForest #ClimateResilience

### **Biodiversity for a Livable Climate**



McGrath Miyawaki Forest Call-to-Action youtube.com

Wanaadyour Halpwaningour Chry Graener

C.

guillermo\_creamerjr and bscgroup
Original audio



guillermo\_creamerjr 
Worcester residents, your voice matters! 
We're excited to introduce the new Crowdsource Map, a simple tool for you to share your ideas for greener solutions in our city!

Tap the link in bio to start making a difference today. Let's work together for a more sustainable Worcester! ♥ #GreenWorcester #SustainableCity #CommunityPower

#CrowdsourceMap #EcoFriendly #WorcesterResidents

#MakeADifference #CityOfWorcester

#Worcester #WorcesterMass

#GreenWorcester

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153 likes June 20

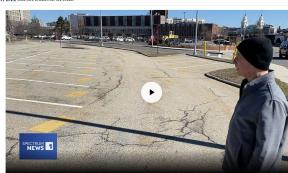
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WORKESTER > | OCTORER 24 2024 | HOSBANET

SPECTRUM 1

LATEST NEWS WEATHER TRAFFIC POLITICS SPORTS SHOWS OUR JOURNAL

WATCH LIVE click boso to watch our live stream



Chief Sustamability Officer John Odell at the future site of a Miyawaki Forest in Worcester, (Spectrum News/Dan Reidy)



# **Educational Materials**

































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# McGrath Lot Before & During Implementation













# **Forest Structure**

# **Canopy**

American Chestnut (Castanea dentata) Linden (Tilia spp.) Walnut (Juglans spp.) White Oak (Quercus alba) Red Maple (Acer rubrum)

# **Shrubs**

Witch Hazel (Hamamelis virginiana)
Dogwood (Cornus florida)
Winterberry (Ilex verticillata)
Red Currant (Ribes rubrum)



### Soil

Inoculated with beneficial soil organisms
Decompacted + amended with nutrients

# **Understory**

Serviceberry (Amelanchier spp.) Elderberry (Sambucus canadensis)

# **Ground Cover**

Wild Geranium (Geranium maculatum) Mountain Mint (Pycnanthemum muticum) New England Aster (Symphyotrichum novae-angliae)

# **Duff & Deadwood**

Leaves, downed branches, and logs added to accelerate establishment of forest soil + carbon dyanmics











turned a section of McGrath Parking lot from this...





..into this!





# McGrath Lot Growth Succession









Painted Lady













Aphrodite Fritillary





Hairstreak



Hairstreak











# Macroinvertebrates





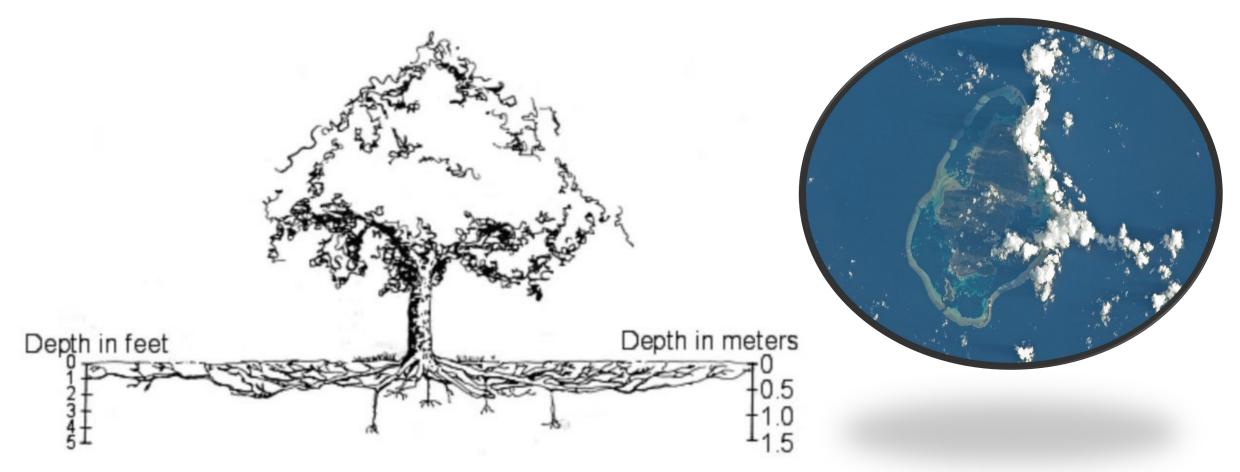
# Macroinvertebrates

- A. Water bears
- B. Nematode
- C. Pot worm
- (D-G) Springtails
- (H-I) Mite
- J. Wood lice
- K. Beetles
- L. Earthworm
- M. Millipede
- N. Centipede
- O. Spider



**Cooling The City** 





# **Learn More: Check Out Our StoryMap**





Please reach out to: greenworcester@worcesterma.gov with questions for the city

Learn about the city's other sustainability and resilience projects, go to worcesterma.gov/DSR

# Multidisciplinary Project Team & Partners

# **City of Worcester**

### John Odell

Chief Sustainability Officer

### Luba Zhaurova

Director of Projects

### **Jessica Davis**

Sustainability Project Manager

# **Evelyn Herwitz**

Vice Chair, Green Worcester Advisory Committee

### **Ellen Foranti**

Master Gardeners

# **BSC Group**

# Caseylee Bastien, RLA, CPSI

Senior Landscape Architect and Ecologist

# **Aqsa Butt, SITES AP**

Senior Planner & Co Project Manager

# **Heather Gould, AICP**

Director of Planning & Lead Project Manager

# **Community Liaison**

### **Guillermo Creamer**

Project Community Liaison

# Biodiversity for a Livable Climate (Bio4Climate)

### **Maya Dutta**

Director of Regenerative Projects

### **Alexandra Ionescu**

Bio4Climate

# Massachusetts EEA MVP Program

# **Hillary King**

Municipal Vulnerability
Preparedness (MVP) Program
Regional Coordinator

# **Maintenance**

Reimagined Roots

# The Community Builders

Plumley Village LLC

# Our Community Volunteers

# **Site Tour!**





### **Outdoor Nature Scavenger Hunt** How many treasures can you find?



☐ White Oak A plant that feeds moths, butterflies, & birds.



Poplar Leaf A plant whose leaves flip and flap to soften noise.



☐ Elderberry A plat that produces very nutritious bird food.



Sycamore Leaf A plant whose fuzzy leaves clean the air.



Black Willow A plant that feeds animals & cleans the water.



☐ Groundsel A plant that protects the forest from salt & feeds pollinators.

What else did you find? Write or draw it here (optional):





**Outdoor Nature Scavenger Hunt** How many treasures can you find?



Song Bird Box Temporary housing until our trees are big enough to provide natural nesting sites.

pollinators.



Ground Bee Box Some pollinators live in sandy soil when a tree falls. This box mimics that home.





Cavity Nest Snag Tree Branches & hollow Beetle holes in dead trees stems are home to many create nesting spaces for pollinators.



☐ Brushy Thicket Many creatures rely on piles of fallen branches for

What else did you find? Write or draw it here (optional):



**Prize: Plantable Pencils!** 

**Plant** 

Your

Pencil