



Café

TITLE: Occupational Therapy Supports for Natural Resource Volunteers

DATE: 5/8/23

Presenters: Carrie Packard, OTD, Midwestern University

Emilian Geczi, Manager of Early Childhood Programs, The Morton Arboretum

Spencer Campbell , Program Coordinator of Collections Volunteers, The Morton Arboretum

Café Agenda/Overview

- Introductions
- What is OT?
 - What is ergonomics
 - Needs of volunteers
- Occupational therapy resources to promote health and safety
 - Principles of body mechanics
 - Adaptive tools and equipment
- Implementation at The Morton Arboretum
 - Methods for sharing information
 - Effectiveness of methods
- Recommendations
 - Importance of resources
 - Questions



Who Am I?

Hi, my name is Carrie Packard and I am a newly graduated Occupational Therapist from Midwestern University. During my coursework I completed my Capstone project at The Morton Arboretum in Lisle. I have a passion for creating sustainable, inclusive, and supportive communities that cater to people of all ages and abilities and enjoy working with people in nature.



What is OT?

Occupational Therapy is the therapeutic use of activity to help people of all ages and ability levels engage in meaningful and purposeful occupations that enhance their lives and their ability to participate in life to the fullest.

Occupational Therapists can work in various settings like hospitals, inpatient rehab centers, clinical settings, schools, community settings and more.

What is Ergonomics?

Ergonomics is the study of the workplace and is concerned with finding ways to keep people safe, comfortable and productive by designing tasks, workspaces and equipment to fit individuals' physical capabilities and limitations. (International Ergonomics Association, n.d.)

Volunteers in Natural Resource Settings

- Volunteers are a vital resource for managing healthy landscapes
 - Help remove invasive species, burn brush, monitor species, collect seeds, and more throughout the year.
 - Physically demanding tasks
 - Work outdoors, in various weather conditions
- Volunteering has been found to increase social participation, quality of life, and life satisfaction and is associated with higher levels of light physical activity and lower inactive time which may provide health benefits. (Kenaley, 2018) (Martinez-Amezcu, 2018)
- The majority of volunteers in the US are between the ages of 41-56. (Census Bureau, 2023)

How do we help individuals continue to volunteer into older adulthood?

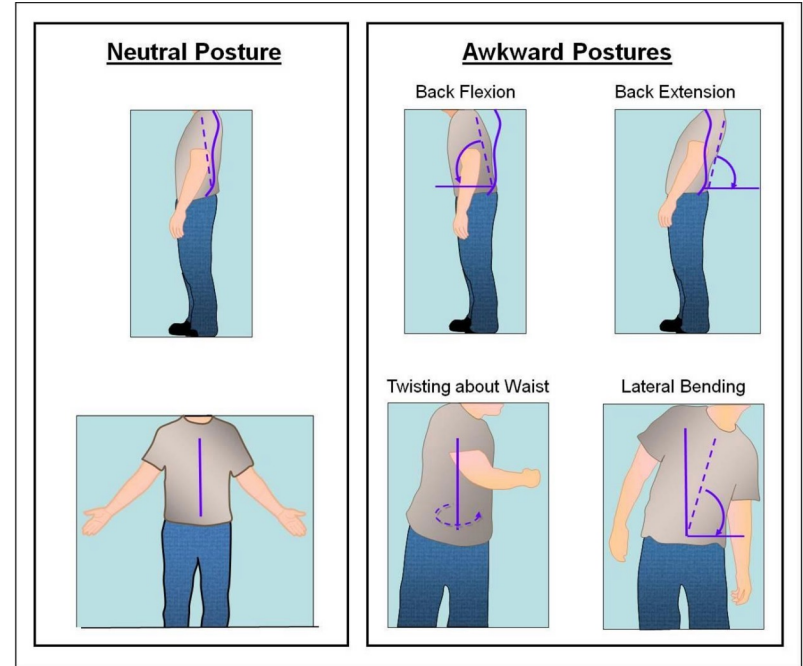
Needs of Adult Volunteers

- Common health concerns
 - Heart disease, cancer, stroke, and diabetes
 - Vision, hearing, and mobility impairments
 - Pain management
- Musculoskeletal Conditions
 - Cumulative trauma disorders (CTDs)
 - Repetitive strain injuries (RSI's)
 - Musculoskeletal Disorders (MSDs)
 - Repetitive motion injuries (RMIs)
- Retirement transition
 - Continued engagement in physical and social activities helps maintain mental and physical health of people of all ages

Principles of Safe Body Mechanics

The mechanical principles that directly relate to how the body moves.

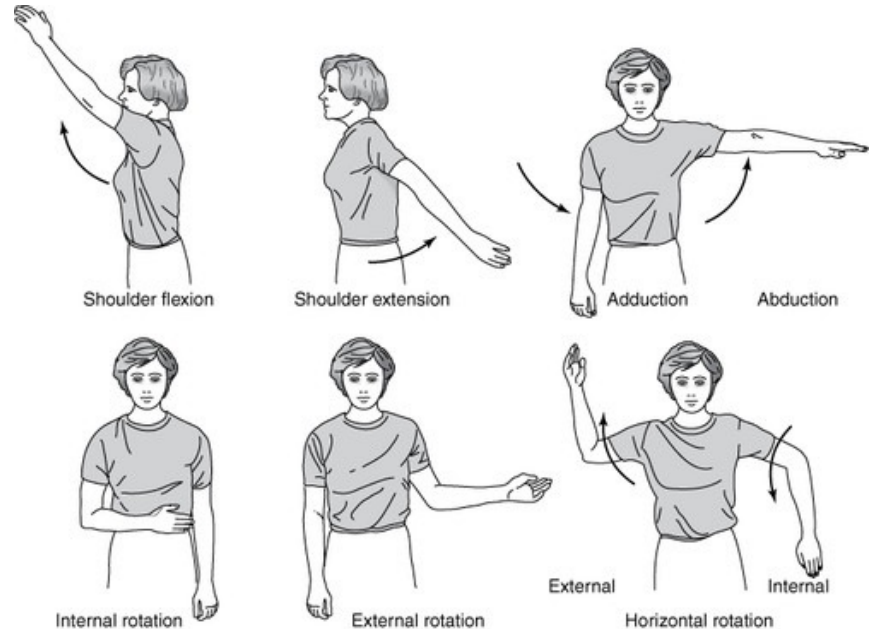
- Posture
 - Neutral, Static, Dynamic, Awkward
 - Goal is Neutral posture
- Joint alignment
- Stressors on the body
- Stability vs. Mobility



Principles of Safe Body Mechanics

The mechanical principles that directly relate to how the body moves.

- Posture
- Joint alignment
 - Range of Motion
 - High Risk Positions
- Stressors on the body
- Stability vs. Mobility



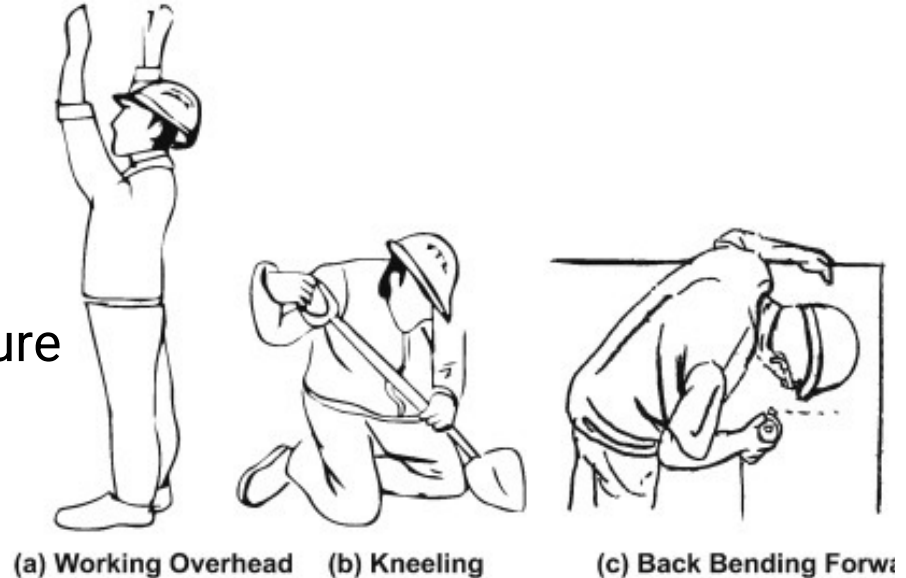
Source: Skinner HB: *Current Diagnosis & Treatment in Orthopedics*, 4th Edition: <http://www.accessmedicine.com>

Copyright © The McGraw-Hill Companies, Inc. All rights reserved.

Principles of Safe Body Mechanics

The mechanical principles that directly relate to how the body moves.

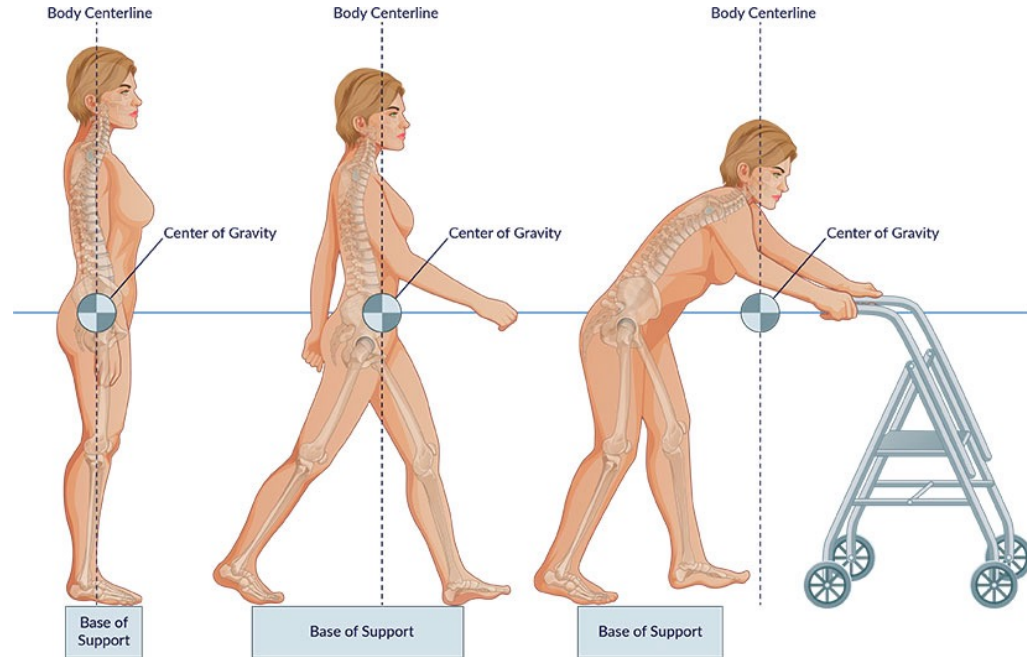
- Posture
- Joint alignment
- Stressors on the body
 - Repetitive motions
 - Extreme Force
 - Awkward or sustained posture
 - Contact stress
 - Extreme temperatures
 - Vibrations
 - Work schedule and duration
- Stability vs. Mobility



Principles of Safe Body Mechanics

The mechanical principles that directly relate to how the body moves.

- Posture
- Joint alignment
- Stressors on the body
- Stability vs. Mobility
 - Inverse relationship
 - Center of Gravity
 - Base of Support
 - Line of Gravity



Tips for reducing MSD's

- Provide tips and things to avoid for high-risk actions like bending, kneeling, reaching, gripping, and lifting
- Incorporate Stretches
 - Stretching prepares your muscles and joints for physical activity
 - It reduces the risk of injury and soreness
- The importance of microbreaks
 - Allows you to check in with your body and prevent discomfort
 - Great opportunity to stretch
 - Helps improve blood circulation
 - Stretch in the opposite direction you were just working
 - Use visual or auditory reminders to take small breaks
 - Regular microbreaks improve your productivity and concentration

Adaptive Tools and Equipment

- Tools should be comfortable to hold
- Select tools that use mechanical advantages to reduce the force required to use them
- Select tools that maintain neutral joint alignment
 - Bend the tool, not the wrist
- Choose tools that reduce the need for repetitive motions
- Keep tools in good working conditions
- Maintain a variety of tools so everyone can find tools that best suit their individual needs



Volunteering at The Morton Arboretum

- The Arboretum has over 1,500 active volunteers
 - Over 300 volunteers work in the Natural Resource setting
 - The majority of volunteers are retired
- Main reasons they enjoyed volunteering
 - Being outdoors and in nature
 - Getting exercise and increased physical activity
 - Learning new things and educating others
 - Community and relationships with staff and other volunteers
- Difficulties of volunteering
 - Bad weather/ changing demand of tasks throughout the year
 - Infrequent or inadequate time for breaks
 - Not knowing how to handle situations that are safety concerns
 - Tasks that are too physically demanding

How information was shared

- In-services were provided to Natural Steward Volunteer Leaders
- Handouts were created containing important information related to body mechanics and ergonomics
- Visual examples and videos were created
- OT attended workdays to implement and work with volunteers one on one
- Resources were compiled into a [webpage](#) for easy access by volunteers

HIGH RISK ACTIONS

BENDING

When bending you increase the pressure on your low back, hips, and knees.

Tips:

- Bend from the hips and knees
- Keep back and hips in line when bending
- Use abdominal muscles to protect low back
- Use long handled tools when appropriate

AVOID:

- Bending to reach objects
- Twisting or lifting while bent



KNEELING

When kneeling, greater stress is placed on your knee joint when flexed bent.

Tips:

- Use knee pads or foam pad/kneeler
- Kneel with one knee on the ground and the other leg up
- Alternate which knee is on the ground
- Sit on a bucket, kneeling pad, or the ground

AVOID:

- Kneeling with both knees on the ground
- Arching back while kneeling

REACHING

When reaching you increase the stress on your shoulders, upper back, and neck.

Tips:

- Keep shoulders back and down
- Move closer to the workspace or change your position

LIFTING

When lifting heavy objects, you increase the stress on your low back, upper limbs, shoulders, wrists, and legs.

Tips:

- Get close and square up to the load
- Bend your knees and use legs to lift
- Pivot head, torso, hips and feet to turn directions while carrying object

AVOID:

- Bending your back while reaching to lift
- Lifting objects above your waist
- Twisting while carrying objects
- Lifting heavy objects after prolonged bending or kneeling

GENERAL TIPS

- Avoid staying in the same position for extended periods of time
- Take micro-breaks every 20 minutes to stretch and check in with your body
- Stretch in the opposite direction you were just working
- Use the right tool for the job

WARM-UP STRETCHES

9 Stretches to do before starting a volunteer workday

Stretching should be gentle and not cause pain. You know your body best. If something feels odd or you must stop, talk to your supervisor or your physician before performing any of the following stretches.

Neck Rotations

Start with your head tilted down and facing forward. Begin gently making circles clockwise with your nose to rotate your whole head around. Repeat 3-5 times. Return to center, then make circles counterclockwise, repeat 3-5 times.



Torso Extension

Stand with your feet shoulder width apart with your right hand on your hip. Slowly raise your left hand above your head, then gently lean towards your right side and hold for 5 seconds. Repeat with your right arm raised and lean towards your left side.



Torso Rotation

With both hands crossed over your chest slowly turn your head, shoulders and torso together to look towards your left shoulder, hold for 5 seconds. Return to center then turn slowly to look towards your right shoulder, hold for 5 seconds.



Marches in Place

Stand with feet shoulder width apart and hands on your hips or holding onto a solid surface, like a tree or table. Slowly raise your right knee as high as is comfortable, hold for 5 seconds, lower back to the ground. Then raise your left knee as high as is comfortable, hold for 5 seconds, lower back to the ground. Repeat 3-5 times.



Shoulder Circles

With your arms hanging at your sides, slowly rotate your shoulders in a circular motion forward 5 times, then backwards 5 times.



Wrist Circles

One hand at a time, hold your arm out in front of you with your hand in a fist. Rotate your hand clockwise 5 times then counter clockwise 5 times.



Wrist and Shoulder Stretch

Interlace both hands together and turn palms facing out. extend both arms in front of yourself, hold for 5 seconds. Raise hands above head and reach towards the sky, hold for 5 seconds. Repeat 3-5 times.



Partial Squat

Stand with legs shoulder-width apart. While keeping your head, torso, and hips aligned and centered slowly bend both of your knees as far as is comfortable, hold for 5 seconds. Repeat 3-5 times.



Toe and Heel Raises

Stand with legs shoulder width apart. Slowly rock up onto your toes and hold for 5 seconds. Repeat 3-5 times.

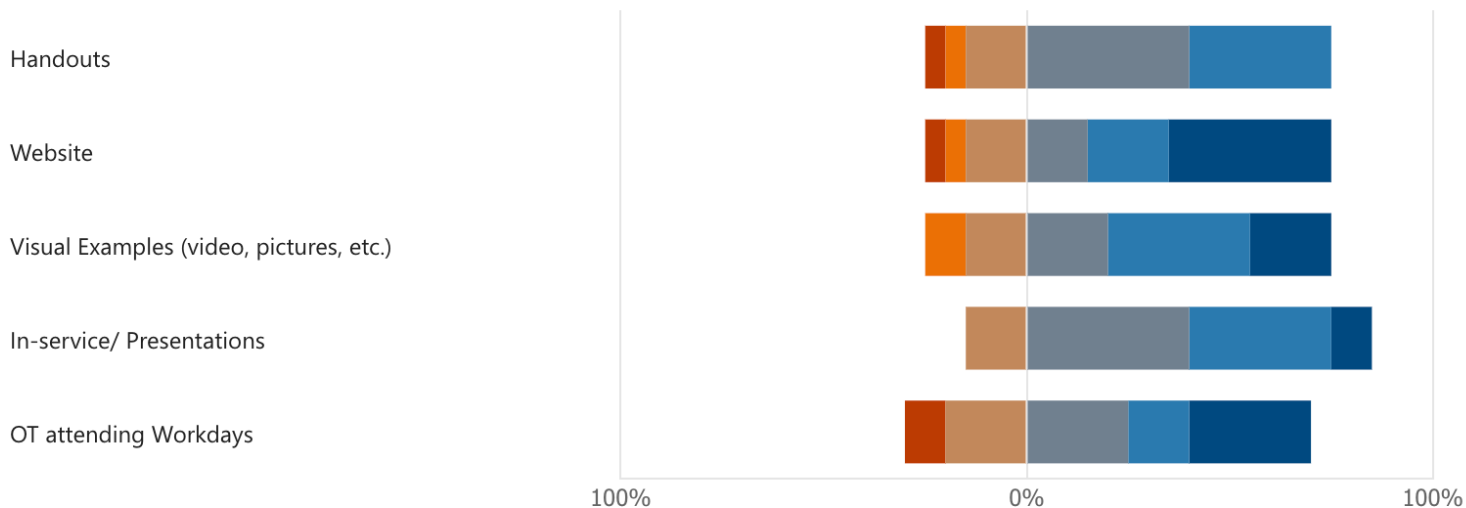


What were the most effective methods?

6. Please rate how useful you found each of the following type of resource:

[More Details](#)

■ Not at all Useful ■ Somewhat Useful ■ Moderately Useful ■ Very Useful ■ Extremely Useful ■ Did Not Use

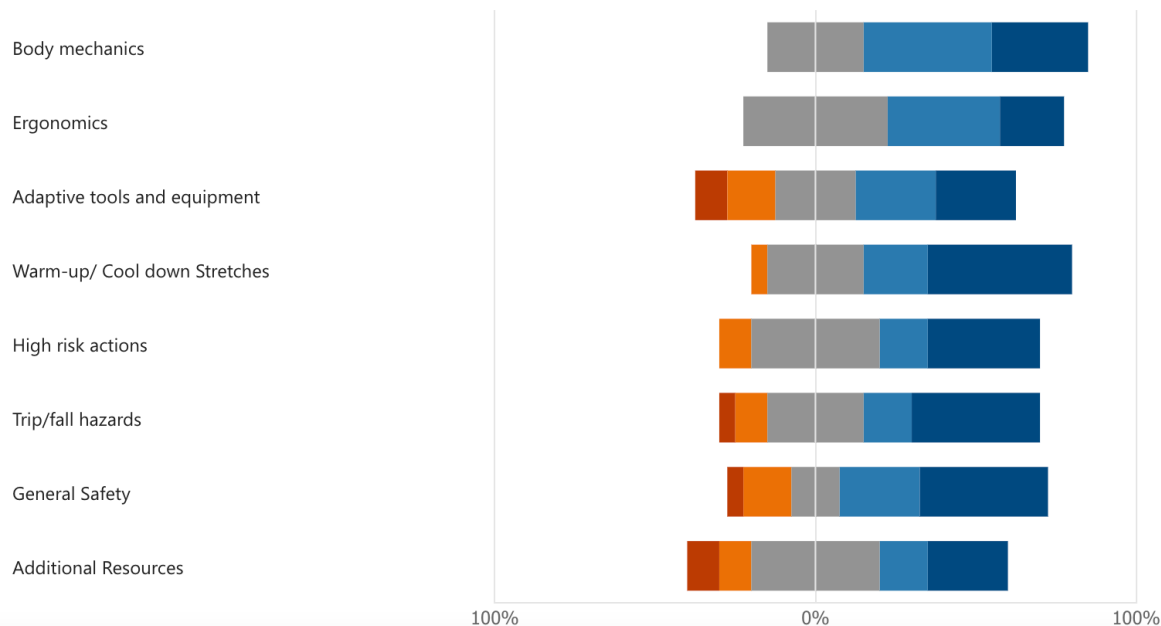


What were the most effective methods?

7. How beneficial was the information provided on each of the following topics?

[More Details](#)

■ Not at all beneficial ■ Somewhat Beneficial ■ Moderately Beneficial ■ Very Beneficial ■ Extremely Beneficial



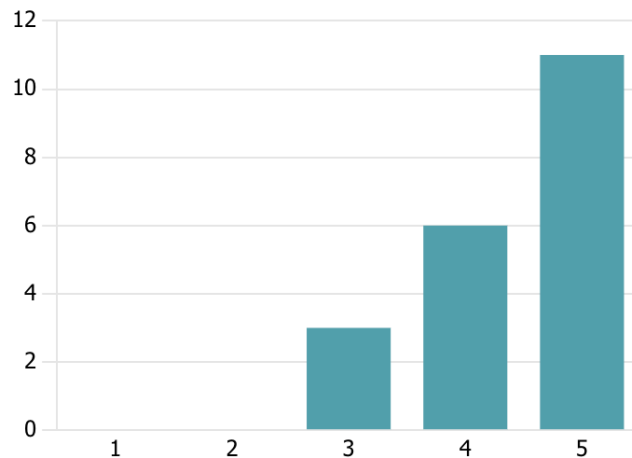
What were the most effective methods?

10. On a scale of 1 to 5, where "1" = "not at all likely" and "5" = "extremely likely", how likely are you to incorporate information learned about body mechanics, ergonomics, warm-up activities, etc. during volunteer days in the future?

[More Details](#)

4.40

Average Rating



Why this is important

- **Physical Safety:**
 - Promote physical safety by educating volunteers on body mechanics and safe practices during conservation activities.
- **Adaptive Tools:**
 - Provide adaptive tools and equipment to ensure the safety and comfort of volunteers with diverse physical abilities.
- **Comprehensive Training:**
 - Equip volunteers with knowledge and skills through comprehensive training programs to navigate natural environments safely.
- **Risk Assessment:**
 - Conduct regular risk assessments to identify and mitigate potential hazards in volunteer work areas.
- **Inclusive Participation:**
 - Create an inclusive environment that supports the safe participation of volunteers of all abilities in natural resource conservation.

What to ask yourself

1. Are we providing comprehensive training on body mechanics and safe practices to ensure the physical safety of our volunteers during conservation activities?
2. Do we have a system in place to assess and meet the adaptive tools and equipment needs of volunteers with diverse physical abilities?
3. Are our training programs effectively equipping volunteers with the necessary knowledge and skills to navigate natural environments safely?
4. Do we regularly conduct risk assessments of volunteer work areas to identify and mitigate potential hazards?
5. Are we actively promoting inclusive participation by creating an environment that supports the safe involvement of volunteers of all abilities in our natural resource conservation efforts?

Questions and Contact information

Carrie Packard, OTD

Carolyn.Packard@gmail.com

Carolyn.Packard@midwestern.edu

(630) 418-1654



CREATE A CAFE!

Are you a Chicago Wilderness Alliance partner with a conservation success story you'd like to share or a topic to introduce and discuss with your peers? We'd love to have you create a Cafe session!

Cafes are conducted via Zoom and typically last 1 hour. Your session should relate to one or more of the [Chicago Wilderness Alliance Green Vision goals](#).

We'll help you decide on a format for your session and can provide template slides or other assistance as needed. We'll also promote your session on social media and in our monthly newsletter.

Download and complete this [Cafe Registration Form](#) to create and hold your CWA Cafe session or contact Laura Reilly to talk through your Cafe session idea. Thanks for sharing your expertise with the Chicago Wilderness network!

Questions?

Laura Reilly, Chicago Wilderness Alliance

Coordinator laura.reillycw@gmail.com



The word "Café" in a white serif font, with a small leaf icon above the 'é', set against a solid green rectangular background.



Café

With Appreciation

Because trees are important to equity as well as to human health, this CWA Café is supported by the [US Forest Service](#) and the [Illinois Department of Natural Resources Urban and Community Forestry Program](#).

The funding supports workshops and trainings so the Alliance can help more communities improve urban tree canopy forests across the region, including through participation in [Tree City USA](#).

These institutions are an equal opportunity provider.

