

Awareness
Resources
Classrooms
Creative Development
Connect Conservation
Relationships Science Opportunities
Meaningful Plants Learning
Trees Action
Relevance
Teachers Education
Collaboration Experiential
Professional Mission

Teacher Training Mash-up: Creative Ways to Break Barriers & Engage Educators

Cindy Brown, Smithsonian Gardens

browncy@si.edu

Lee Coykendall, United States Botanic Garden

lcoykend@aoc.gov

Anamari Dorgan, The Morton Arboretum

adorgan@mortonarb.org

Tanya Zastrow, Ladybird Johnson Wildflower Center

tzastrow@wildflower.org



CHANGING PERSPECTIVES: **PLANTING FOR THE FUTURE**

2016 AMERICAN PUBLIC GARDENS ASSOCIATION ANNUAL CONFERENCE



Teacher Training Mash-up: Creative Ways to Break Barriers & Engage Educators

- Welcome/Introduction
- Food for thought/Guiding question
- Program snapshots
- Q&A
- Rapid fire snapshots
- Break-out
 - ✓ Think
 - ✓ Pair
 - ✓ Share
- Wrap-up/Questions



Guiding Questions

1. What are the most successful methods to raise awareness, communicate, market and connect with teachers?
 - Have you used email, postcards or fliers sent to schools or directly to teachers?
 - Have you found success reaching out to principals, district coordinators, or other administrators as a means to reach teachers?
2. What are the most successful approaches to on-site and/or digital teacher PD delivery?
 - What times of the year do you find best for on-site training or other teacher professional development?
 - What, if any, barriers have you encountered or do you foresee with offering digital PD opportunities?
3. How can we successfully meet in the middle?
 - How do you balance teacher affordability and value with institutional resources and mission?
 - What incentives have worked best for your organization (Continuing Education/Training Hours? Graduate credit? Badging? Free of charge opportunities?)
 - How do you “listen” to teachers? What avenues of feedback are most successful?
4. How do you ensure your institution becomes or remains the cool thing to do/the go-to place for teachers?





Smithsonian Gardens

Highlights:

- Shared space, staff, technology and budget
- Teachers learned about two “hidden” sites and their resources
- Sites developed stronger relationship

Outcomes:

- Added garden stories to Community of Gardens
- Created model to use with national audience

Next Steps:

- Identify new collaborators
- Adapt model for libraries
- Create online template

Telling Garden Stories in the Digital Age

Smithsonian Gardens collaborated with the National Postal Museum to show teachers how Smithsonian’s collections and resources can be used in their curriculum and make connections with their community.



Curating the Landscape



HOPS

(HANDS ON PLANT SCIENCE)

Teacher Institute

The U.S. Botanic Garden established the HOPS Teacher Institute to reconnect classroom teachers with hands-on science:

- disappearing science classrooms
- weeks devoted to testing
- disconnect to the natural world

The goal is to support teachers and inspire them to embrace hands-on learning:

- 15 teachers selected each year with principal recommendation
- exploration of the natural world through 16 hands-on lessons over the course of two days
- teachers are gifted a HOPS box with all the supplies to run the lessons back at their schools

The hope:

- teachers will fight to find time for experiential learning
- connect their students to magical world of plant science
- feel more comfortable outdoors
- consider the U.S. Botanic Garden an extension of their classroom



Highlights

- “The HOPS Institute this past summer is the highlight of 2015 for me. I went back and offered a week botany course during the first term. It was the talk of the students!!! “
- “ Thank you for developing wonder—I love how hands on it was and feel empowered to try these lessons in the classroom.”
- “Having the HOPS box is a HUGE bonus because you know you can walk away and be ready to implement things in your classroom.”

Outcomes

- Teachers reaching out to the Garden for additional resources
- Teachers bringing their students to the Garden for the first time
- Local environmental organizations reaching out to run joint teacher trainings
- School district requesting professional development for their teachers

Next Steps



CHANGING PERSPECTIVES: **PLANTING FOR THE FUTURE**

2016 AMERICAN PUBLIC GARDENS ASSOCIATION ANNUAL CONFERENCE





Exploring the Native Plant World

Highlights

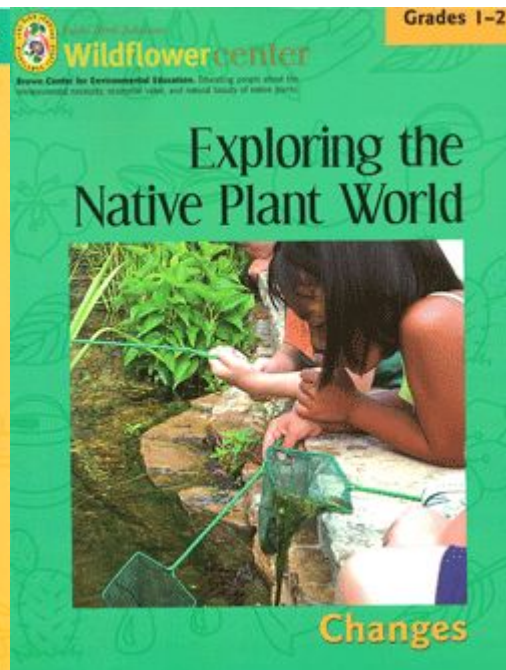
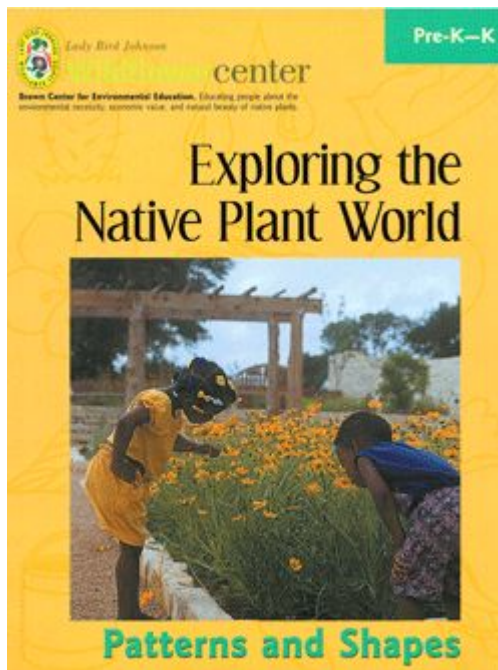
- Curriculum for PreK-6th Grade based on native plants.
- Aligned to Texas Education and Knowledge Standards (TEKS)
- Teachers attended Native Plant Summer Institutes
- Trained teachers taught the curriculum on field trips
- Supported by Austin Independent School District

Outcomes

- Standardized curriculum for self-guided field trips
- Generated a network of trained teachers
- Ability to provide programming with low staff involvement

Lifespan

- Interest in the teacher trainings dropped as teachers focused on other subjects and places.
- Curriculum became available online for anyone to use
- Activities are still in use by schools, especially homeschool groups.
- Interest to update the curriculum to meet Next Generation Science Standards and the current TEKS
- Update curriculum to include the Luci and Ian Family Garden



CHANGING PERSPECTIVES: PLANTING FOR THE FUTURE

2016 AMERICAN PUBLIC GARDENS ASSOCIATION ANNUAL CONFERENCE





Goal

- To provide teachers an opportunity to learn about the environmental education opportunities available for their classes.

Highlights

- Invited members from Children in Nature Collaborative of Austin
- Started the evening with a short presentation
- Teachers explored the gardens and visited with CiNCA organizations
- Food and drinks provided

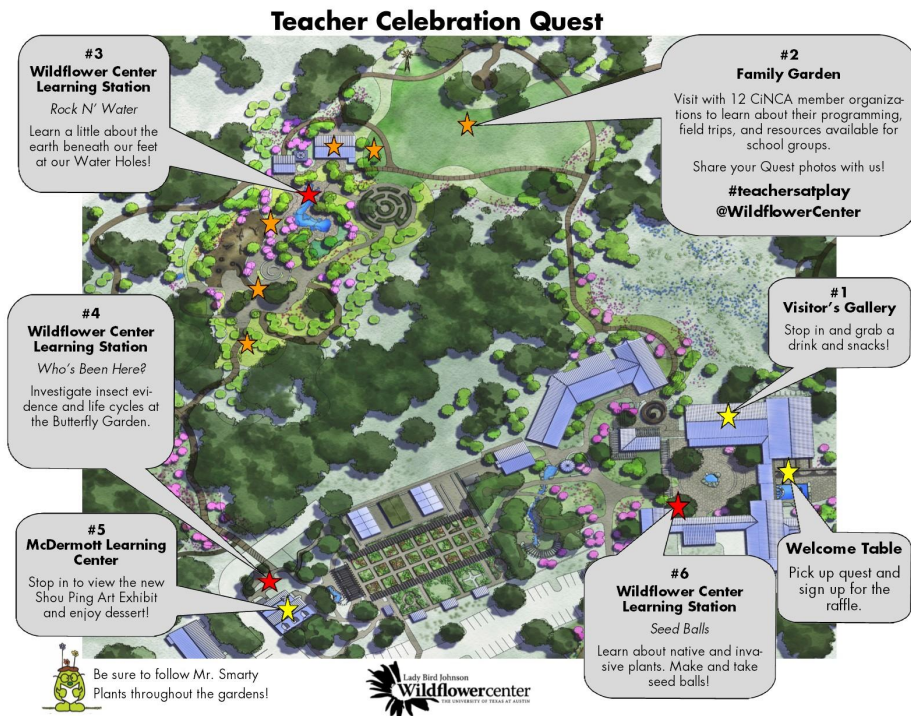
Outcomes

- Strengthened relationships between CiNCA organizations
- Introduced teachers to the Wildflower Center programming
- Ability to provide programming with low staff involvement
- Nice attendance from homeschool parents

Challenges

- Hot 95 degree evening in early September
- Conflicting events on same evening
- Austin Museum Partnership held similar event a month later
- Traffic!

Teacher Celebration



CHANGING PERSPECTIVES: PLANTING FOR THE FUTURE

2016 AMERICAN PUBLIC GARDENS ASSOCIATION ANNUAL CONFERENCE



Highlights

- Arboretum scientists introduce tree science disciplines and discuss relevance to the classroom
- Research topics included: dendrochronology, tree breeding and hybridization, plant pathology, oak biodiversity, natural areas management, and tree architecture
- Participants guided by staff educators through an afternoon workshop

Outcomes

- 106 teachers (grades 5-12) participated in three separate workshops
- Each participant creates a custom outline of project-based learning applications that connect the day's research to NGSS applications in their classrooms
- Positive survey feedback

Next Steps

- Identify ways to make this opportunity more accessible to educators (time, cost, value)
- Identify ways to minimize scheduling barriers to integrate staff research team into ongoing teacher professional development

NGSS in Your Backyard

The Morton Arboretum established NGSS in Your Backyard in 2014. This day-long workshop connects teachers with Arboretum scientists and educators.

The program goals are to share the Arboretum's unique tree expertise, increase comfort with Next Generation Science Standards among Illinois teachers, and offer practical ways to integrate urban tree research and practice into classrooms.



Teacher Tuesdays

Highlights

- Each teacher received an info packet promoting field trip options, professional development opportunities, and classroom resources upon entry

Outcomes

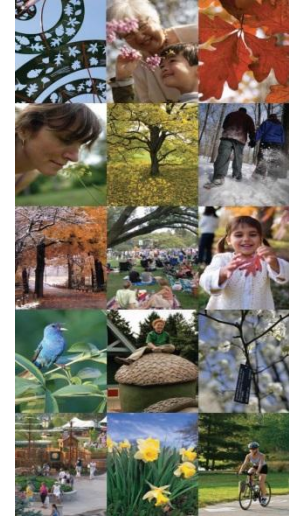
- Tracked free admissions
- 600+ Chicagoland area teachers in 2015
- Positive social media traction

Next Steps

- 2016 – begin tracking influence of the program
- 2016 – offer teachers option to check out a self-guided school field trip back-pack to test drive during their visit

The Morton Arboretum established Teacher Tuesdays in 2015, offering free admission to teachers (pre-service through college) with a valid ID from June through August.

Our goal is to deepen our relationship with the local education community and to expand awareness of The Morton Arboretum as an excellent location for field trips and resources for teacher classroom and professional development needs.



Q&A



CHANGING PERSPECTIVES: **PLANTING FOR THE FUTURE**

2016 AMERICAN PUBLIC GARDENS ASSOCIATION ANNUAL CONFERENCE



Rapid Fire Snapshots



CHANGING PERSPECTIVES: **PLANTING FOR THE FUTURE**

2016 AMERICAN PUBLIC GARDENS ASSOCIATION ANNUAL CONFERENCE



Botany Bootcamp

Now in its 22nd year, Botany Bootcamp provides an introduction to botanical and ecological concepts including plant classification, morphology and anatomy, physiology and photosynthesis using appropriate grade level pedagogy and a combination of teaching methods including lecture, plant dissections, lab activities, independent and cooperative inquiry, and guided outdoor instruction.

Highlights

- 22 year history at Fairchild
- 2-week intensive workshop
- Cross-departmental teaching
- Credit from School District and/or Miami Dade College
- Hands-on, using our collection and facilities as a living laboratory

Outcomes

- 550 public and private school teachers have participated (25 per year)
- Created a model for the school district
- *Botany being taught in the classroom!*

Next Steps

- Offer it multiple times per year
- Create online teacher module





CHICAGO BOTANIC GARDEN

Highlights

- 10-12 early childhood PD events throughout the year including custom workshops and conference presentations
- 3rd annual Inspiring Nature Play Conference in May 2016
- Sixth year of offering training for early intervention providers
- We became authorized to offer Gateways to Opportunities credits, an Illinois based crediting system for early childhood educators
- 2016 special lecture by Claire Warden, international educational consultant and nature kindergarten expert

Outcomes

- 440 teachers participated in early childhood events in 2015
- Positive feedback in surveys and evaluations
- Increasing number of collaborations with other organizations to present events

Next Steps

- Develop professional development programs based on the best practices and curriculum of our Nature Preschool
- Continue to expand both on- and off-site PD programs

Nature-Based Early Childhood Professional Development



Through our early childhood professional development programming the Chicago Botanic Garden helps educators discover easy ways to use nature and their school grounds to engage students' natural curiosity in the scientific process and science content.

Now with the opening of our Nature Preschool, we are expanding further by training others in the best practices of a nature-based curriculum and to contribute to systemic change in practices and methodology at a local, regional, and national level.

For more information contact: Rebecca Ammann, manager teacher & student programs, rammann@chicagobotanic.org



CHANGING PERSPECTIVES: PLANTING FOR THE FUTURE

2016 AMERICAN PUBLIC GARDENS ASSOCIATION ANNUAL CONFERENCE



Break-out

✓ Think

✓ Pair

✓ Share



Guiding Questions

1. What are the most successful methods to raise awareness, communicate, market and connect with teachers?
 - Have you used email, postcards or fliers sent to schools or directly to teachers?
 - Have you found success reaching out to principals, district coordinators, or other administrators as a means to reach teachers?
2. What are the most successful approaches to on-site and/or digital teacher PD delivery?
 - What times of the year do you find best for on-site training or other teacher professional development?
 - What, if any, barriers have you encountered or do you foresee with offering digital PD opportunities?
3. How can we successfully meet in the middle?
 - How do you balance teacher affordability and value with institutional resources and mission?
 - What incentives have worked best for your organization (Continuing Education/Training Hours? Graduate credit? Badging? Free of charge opportunities?)
 - How do you “listen” to teachers? What avenues of feedback are most successful?
4. How do you ensure your institution becomes or remains the cool thing to do/the go-to place for teachers?



Wrap-up



CHANGING PERSPECTIVES: **PLANTING FOR THE FUTURE**

2016 AMERICAN PUBLIC GARDENS ASSOCIATION ANNUAL CONFERENCE



Thank you!

Cindy Brown, Smithsonian Gardens
browncy@si.edu

Lee Coykendall, United States Botanic Garden
lcoykend@aoc.gov

Anamari Dorgan, The Morton Arboretum
adorgan@mortonarb.org

Tanya Zastrow, Ladybird Johnson Wildflower Center
tzastrow@wildflower.org

