

Tyler Arboretum

650 acres of connection to the natural world
and the challenge of climate resiliency



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Building climate resiliency into an organization: where to start?

- How does it link to your mission?
Why now?
- How do the effects of climate change manifest on your property or in your programs? (Wildlife/plant connections/seasonal timing of events)
- Who are your institutional champions for responding to environmental change strategically? (Scientists and non-scientists)



30 second refresher of climate change in PA

- Higher temperatures
- Increased precipitation
- Higher numbers of large storm events
- Decreased snow cover
- Changing distributions of some plants and animals
- Increase in **invasive species**

PA DCNR

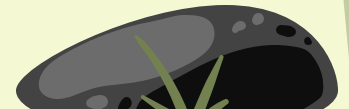
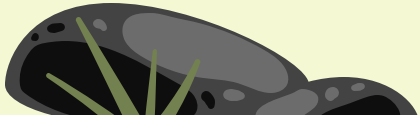


Emerald ash borer: scale and responsibility



Tyler's grounds and the Emerald Ash Borer

- **Responding to the ash crisis and coming out stronger**
Natural lands are 90% of our property, the ash crisis underscored appreciation for this and the need to place planning for these lands at the top of the priority list (beech crisis coming....)
- **Grounding our ash response in science**
What can we learn from DCNR, USDA, PSU? What can we learn from our partners in horticulture and conservation? Responding with regular dialogue via the Ash Ecological Working Group (Board, staff and scientists)
- **Finding the right contractors for this important work**
John Cox and colleagues: Valley Forge National Park, ensuring an ecological lens remains on this important work while out in the field (snags, waterways, brush piles)
- **Fundraising & Sustainability in Natural Lands**
 - Short term plans: restoration of select landscapes/trails
 - Long term plans: ecologist on staff + natural resource management plan



DCNR ash grant for forestry/watershed



Climate resilient trees for Pennsylvania

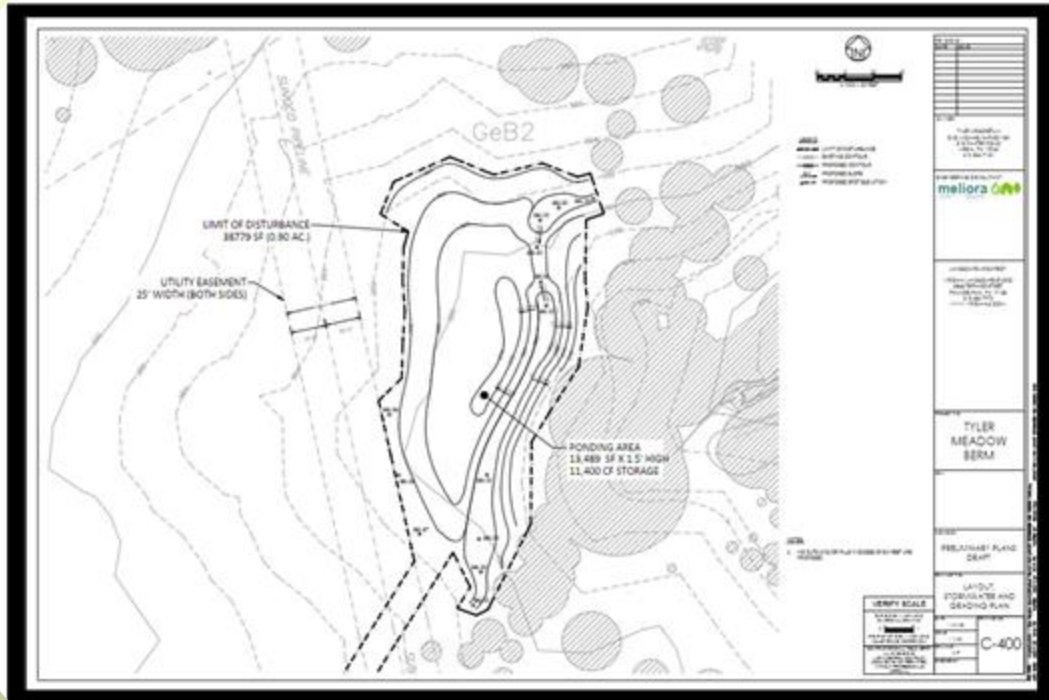
- Northern species like mountain maple, American beech, balsam fir, and paper birch are especially at risk. Our climate may warm too quickly for these species to adapt before dying out.
- Southern tree species that tolerate or prefer wetter soil: sycamore, hackberry, boxelder, eastern redbud
- This effects how we replant ash impacted landscapes



Stormwater: signs we couldn't ignore



North Meadow Restoration Project



Resiliency within the riparian zone- Rocky Run and Dismal Run

- Yes, resiliency is about buffering from floods with riparian vegetation but it's also about what is in that buffer strip
- Diversity of species for riparian buffer (swamp and black willow, willow oak)
- Hotter? Use southern species like sweet pepper bush



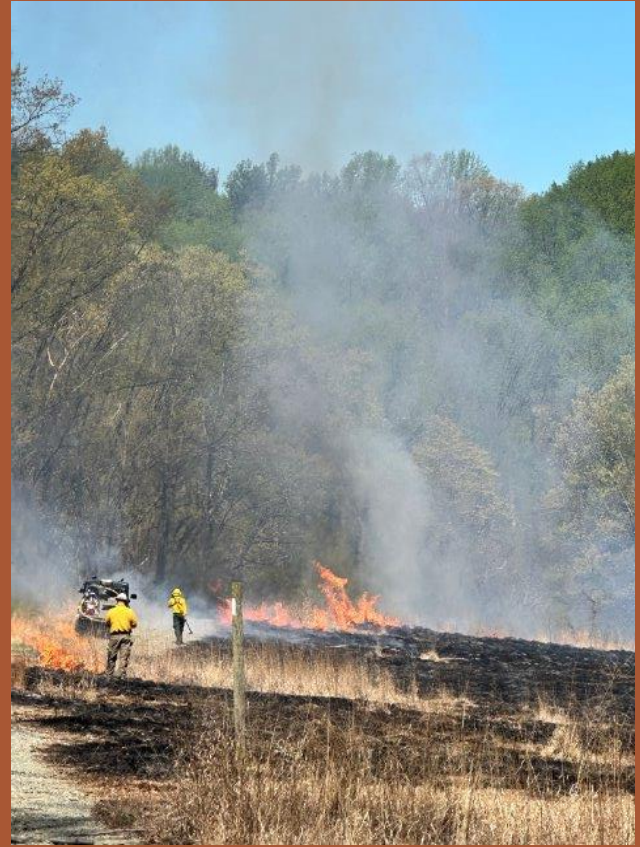
What is in a natural resource management plan?

- Site analysis (what plant communities there are, ecological conditions, water resources, geology/soil)
- Divide the property into management units with similar ecological qualities and/or plant communities (with associated maps).
- Determine conservation priorities (habitat connectivity, carbon storage, invasive management, tree vulnerability response)



Pink Hill Serpentine Barrens

- Rare, threatened and endangered plant species
- Needs disturbance for these species to thrive
- 14 acres, last of the 10 serpentine barrens in Delco, rare elsewhere (Natural Lands, Chesco)
- Serpentine aster, rare butterflies and moths-exploring PSU BW collaboration



Who are your organizational champions to respond to climate change threats?

- Scientists
- Planners
- Lawyers
- Municipal connections
- Volunteers and trail stewards' knowledge on the ground
- Think broad!



Thinking beyond Tyler:

Ridley Creek State Park and habitat connectivity across boundaries



- 2,600 acres adjacent to Tyler's 650 acres
- Shared boundaries, wildlife don't respect park boundaries, habitat connectivity considerations

Lucille's Garden: adapting edibles to a changing climate

- USDA has updated our Plant Hardiness Zone - from Zone 6 to Zone 7.
- Creating hills in a vegetable garden is an old practice. But The hills will also drain more quickly, which is helpful as our storm events bring more and more rain.
- Shade plants adjacent to what you are growing



Pollinator Preserve

- Sleepy orange butterfly's normal range is from Virginia south to Florida, we first saw this butterfly in 2022 where it spent more than a month at the Pollinator Preserve going through its life cycle
- We are in our third year with two different varieties of salvia which didn't previously overwinter here, allowing us to feel more confident about planting other pollinator plants that were restricted to areas south of here.



Education and climate change

- Don't assume they aren't aware-this topic is already being tackled in YOUNG classrooms
- Kids are curious and want to be part of the solution
- Links to geography and connecting wider trends to their every day lives
- 25,000 kids through Tylers doors since '15: time for more climate messaging in the decade ahead



Taking the message home

- How does your mission or programs need to respond to the challenges of climate change?
- Who are your organizational champions to get things going?
- What is your most likely first step?
- 15 minutes of group time
- 15 minutes report back

