District of Columbia Urban Forestry Advisory Council meeting minutes

Meeting Chair - DDOT	Earl Eutsler	Earl.eutsler@dc.gov	202.673.6813
Meeting Chair - DOEE:	Steve Saari	Steve.saari@dc.gov	202.535.2961
Meeting Scribe:	Jim Woodworth	james.woodworth@dc.gov	202.535.2244
MEETING TITLE:	**UFAC Spring Meeting, Web-Ex**		

Call to order: 9:00AM, Thursday, April 7, 2022

Council Members (* if in attendance):

Steve Saari, DOEE*	Patrick Campbell, NPS*	Nathan McElroy, Pepco*
Earl Eutsler, DDOT*	Maureen Alonso, GSA*	Dennis Chestnut, comm. rep.*
Brent Sisco, DPR	Maureen Holman, DC Water*	Delores Bushong, comm. rep.*
Angela Scott, DGS	Mark Buscaino, Casey Trees*	Brenda Richardson, comm. rep.
		Carol Herwig, comm. rep.

Invited Guests:

Robert Corletta, DDOT*	Stephen Gyor, OP	Peter Norden, DPR*
Joi Ruffin, DCPS	Matt Weber, DOEE*	Kasey Yturalde, DDOT*
Stephanie Free, NCPC	Sally Claggett, USFS	Julie Mawhorter, USFS*
Phillip Rodbell, USFS	Nancy Sonti, USFS*	Mary Pat Rowan, community*
Kelly Collins Choi, Casey Trees*	Rob Shaut, Casey Trees*	Iris Allen, MD DNR
Ashlyn Pouvaranukoah, UDC	Annie Acostia, community	Allison Clausen, community*
Darryl Ross, community*	Deborah Shapley,RMA*	Nathan Harrington, Ward8Woods
Rasma Plato, GSA*	Joseph Luebke, GSA*	Matthew Flis, NCPC*
Matthew Baker, UMBC*	Mike Alonzo, AU*	Michaila Musman, Casey Trees*
Spenser Balog, Casey Trees*	John Boland, Casey Trees*	
Liz Crafford, community*	Deborah Shapley, RMA*	Catherine Stratton Treadway, community*

Quorum: YES

UFAC Meeting Notes

1. Welcome, Introductions – Jim Woodworth, DOEE

2. Legislative Update – Kelly Collins-Choi, Casey Trees

- Emergency Legislation introduced by CMCheh; unanimously approved by council;
- permanent bill 24-44 introduced in January, markup by committee on transportation and environment.
- Stop work authority for DDOT urban foresters
- Strengthen tree preservation plans; Defines critical root zone; require submission at start of process
- Enhanced penalties for bad actors; aimed at developers pay fines as cost of doing business
- Violation by developer or landowner can result in revocation of construction permits, business license; fines can be tripled
- Applies to District owned lands to protect special and heritage trees
- Emergency Authority expires in June
- Create more efficient and effective permitting pipeline for projects to resolve, mediate issues before land disturbance
- Pressure from development community seeking legislative exemptions
- Proposal does not expand authority on private lands; makes more implementable, achievable.

3. Langdon Park Forest Patch Project Update - Delores Bushong, Mary Pat Rowan, and Alison Clausen, community members"
    - It is axiomatic that it is easier to sustain existing native communities than it is to reestablish them"

Project started in 2020. 3 years of learning and observing. Working along the edge, finding native trees amongst invasive vines. Removing vines, documenting what we saw. Building awareness of benefits. Presentations to: UFAC, ANC 5C07, Woodridge Civic Association, site visits with many partners, presentation at 2021 Tree Summit.

- Casey Trees received a community stormwater solutions grant, for trail building, invasive removal, community engagement, allowing safe access to interior.

- "tiny forest" - 25 trees planted in March 2021; August 2021 176 seedlings regenerated. Inspired design of research project to understand the seed bank, value of forest re-planting itself. Importance of forest regenerating itself.
- 4 survey plots ~ 100 meters square; 2x2 m plots
- Clear ivy; with CT crew and volunteers, hand tools, ~ 1 month. 139 hours.
- 4 Treatments (12 samples, 48 plots total:
    - A –vine removal
    - B vine removal + soil disturbance (10cm dig and turn over)
    - C vine removal + soil disturbance + mulching
    - D. Tree planting (including vine removal, soil disturbance and mulching)
- Signage to communicate to community about research

4. Beaver Management Issue Update – Jim Woodworth, DOEE

- Brenda Richardson and Duff McCully organized an alternative spring break community service project for college students to work in Marvin Gaye Park/Watts Branch stream valley removing invasive plants and installing beaver fencing around trees prioritized for protection.
- DDOT-UFD, WABA and DPR provided support.
- Resurgence of beaver in the creek.
- Damning and creating some urgent hazard tree issues.
- Response included interagency conversations, and creation and dissemination of beaver FAQ.
- New beaver activities at Oxon Run and Spring House Run

5. Forest Health updates – Kasey Yturralde, DDOT Urban Forestry Division
    - Crape myrtle bark scale
    - Met w/AOC
        - Manage Botanic Garden, Arboretum, Supreme Court, etc.
        - Monitoring and treatment
    - Starting monitoring
        - Does spacing impact infestation?
        - No difference in susceptibility depending on cultivar!
        - Draft management plan
        - New website: trees.dc.gov/pages/crape-myrtle-bark-scale
        - Links to photos, more information and maps of distribution of trees ~2.6% of inventory, ~4,700+ trees

    - Spotted Lanternfly – Lycorma delicatula
    - Invasive Species - Spotted Lantern Fly | DDOT Urban Forestry (dc.gov)
    - Forest Health | DDOT Urban Forestry (dc.gov)
        - Monthly meetings with DOEE, others in PRISM
        - 50 traps received; ~10 placed across the District
        - Reporting mechanism: survey 123.
            1. Observations in District, but not infestation.

Announcements: Arbor Day!

Tree planting & scavenger hunt, with MacFarland ES (w/PEPCO)

Re-launching Pop-up Arboretums, including at Langdon Park Forest Patch

6. Urban Wood Reutilization partnership with USFS and Architect of the Capitol (AOC) – Earl Eutsler, DDOT Urban Forestry Division
    - Activation of outdoor spaces in schools
    - Briya PCS network 3 of 4 schools
        - Creating nice spaces, benches, tables, seats, etc.
        - Approaching our 100th request!
        - Form on website for requests
        - Shaun McKim is coordinator
        -
    - National Christmas Tree "Sugar Bear"
        - Transported out to Casey Tree farm
        - Set of Ballou HS students making trip to mill
        - Collaborating with USFS to send back milled wood back to Six Rivers National Forest, northern California, to repurpose it.
        - Normally it gets mulched!
        - 2022 Christmas tree being sourced from North Carolina
        - Received to other trees from AOC, including a large beech
    - Strengthening ties, diverting wood
    - Mount Pleasant project – milled a log cabin at new park

7. Research Presentation: Urban Forest Patches – Matt Baker, UMBC & Mike Alonzo, AU

Delineation and mapping of urban forest patches as a basis for policy, management, and the scientific study of their ecosystem services.

Mapping patterns of urban forest patches in Mid-Atlantic cities.

- Baltimore GreenSpace, USFS, graduate students.
- Mapping method that can be applied to other cities.
- 2008 UMBC joined Smithsonian ForestGEO forest plot network (across globe)

Urban plots, Highest species/unit area, invasives and edges.
Baltimore side lot program – affected woodland distribution across city.

Overhead imagery can distort understanding of forests v. trees;
structural diversity, stem density, edge effect, soil compaction, other ways to measure differences, shift, compositional changes, distance from edge/interior, transition zones.

MSPA: morpha-metric spatial pattern analysis – edge width parameter ~15 meters

- 'Core', 'perforations', 'branches', 'bridges', 'islets', 'loops' etc.
- Balt., Philly, NYC, DC

Example in Rock Creek Park, near Zoo.
% of total canopy which is:

- Hard canopy – over impervious cover
- soft canopy over lawn, duff
- core thickness >11 meters.
- Core, edge, islets, connected edges and use LIDAR to show differences in height
- % invasive ground covers -> management

- Assessing vertical structure, distribution of heights
- Urban-rural demarcation lines, distribution of forest patches
- Edges matter for ecology, but also management

Ecosystem Cooling from Canopy
Urban air temperature modification by tree canopy and impervious surface
Mapping urban heat islands, air temperature sampling over transects, different times of day

- 5am-6am
- 2pm 3pm
- 6pm 7pm
- Aug 28, 2018, by 9 cars!

Trying to understand spatial and temporal variations in heat, with eye towards environmental justice and equity, and mitigation strategies.

Different ways people are impacted. Pedestrian v. at night w/ or w/o AC

- Standard depiction of heat island, downtown core.
- Wind blowing hot air around.
- Some tall Buildings offer shade.
- Larger industrial/commercial areas w/low slung buildings may be ripe for mitigation.

Shading, transpiration, correlates with areas of reduced impervious surfaces, .
What is neighborhood of influence? 90 meter radius?

- Cooling depends on land cover within a certain radius 'neirhborhood'
- Possibly need more than ~40% canopy cover to drive cooling.
- Impervious surfaces warm at all times of day
- Air temp. v. surface temp. are not the same thing! Air temperature is what is felt by people moving about a city.

How does tree canopy modify temperature depending on time of day?
How does tree planting site related to capacity for cooling?

- Do you get more cooling from trees shading paved or unpaved surfaces?
- Big parks / patches v. evenly distributed canopy?

When and where is impervious surface cover the key driver of heating?

- Tree canopy fraction
- Soft v. hard canopy
- Patches v. distributed canopy

How do you model? Generalized additive model w/radius of 200 meters.

Take-aways?

- For cooling in hottest part of day, Need large canopy patches. Can prioritize removal of IC
- Evening: long shadows means distributed canopy has cooling benefits.
- Equitable planting, possible to maximize earl evening benefits.

Trend under way where open land is being converted to solar farms, replacing forest patches. CUA planned, adjacent to one of these hot zones. Possible serious negative consequences exacerbating heat exposure problems. V. off set or sponsor solar off-site. Negative benefits passed along to community.

How can we afford to convert greenspace or parkland for solar when we have large areas of flat roofs?

Public map viewer of forest patches – can USFS or Casey Trees or other platform host this data?

Can this research understand penetration of invasive vines? A lot of variability due to land use history, human management etc.

How can we use forest patch data to make decision re protection, management, conservation easements, and other strategy?

Stay tuned for forest patch field trip to visit 3 sites w/ Baltimore GreenSpace scheduled for May.

Next meeting poll to come soon, for late September/early October.

Meeting adjourned: 11:00 am

Zoom-in to Langdon Park to view through Matthew Baker's arcmap viewer: can identify soft, hard canopy, MSPA: core, interior/groves/forested natural areas, and narrower/thinner bridge/connector areas.

~<=15 meters = 'all edge'. (Some of which is a robust stand of bush honey suckle.)
Red bridge area is where 'Tiny Forest' plot is!
Can turn the red and orange areas to green?!
Very few invasive tree species, but lots of invasive vines and shrubs.