Nature

Community Input by Formal Submission

Ideas and Recommendations for Moving Forward

The following information is a collection of formally submitted recommendations to the District Department of the Environment and the Office of Planning by local organizations. The information was reviewed and pertinent comments, suggestions and ideas for the nature working group are included in this document. Much effort by concerned citizens went into the creation of those documents and a lot of relevant material has been compiled. Please review these ideas and concerns to enhance participation in the working group process.

1. Becoming Greenest
Recommendations for a More Sustainable Washington, D.C.
Submitted by the American Society of Landscape Architects

In ***Biophilic Cities: Integrating Nature into Urban Design and Planning***, Timothy Beatley, Teresa Heinz Professor of Sustainable Communities at the University of Virginia, argues that cities must be designed so people feel intimately connected with nature. Beatley describes how "biophilia," a term coined by famed sociobiologist and conservationist E. O. Wilson, can inform how we plan, design, and manage our cities.

Wilson writes in the foreword: "The evidence is compelling that frequent exposure to the natural world improves mental health, it offers a deep sense of inner peace, and, in many ways we have only begun to understand by scientific reason, it improves the quality of life."

Beatley then defines a "biophilic city" as one that puts nature first. "It recognizes the essential need for daily human contact with nature as well as the many environmental and economic values provided by nature and natural systems." In addition, these cities are places where "residents spend time enjoying the biological magic and wonder around them. In biophilic cities, residents care about nature and work on its behalf locally and globally."

Within the District, the goal should be to increase connections to nature — locally, regionally, and globally. Institutions that could have particularly strong roles include botanical gardens, municipal zoos, natural history museums, and conservation groups.

Some sample questions used to guide the development of a biodiversity and environmental education action plan:

What is the percentage of time residents spend outside, understanding that climate must be accounted for?

What percentage of the population is active in nature or outdoor clubs or organizations? How many of these organizations exist in the city?

What percentage of the population can recognize common species of native flora and fauna?

To what extent are residents curious about the natural world around them?

Develop a biodiversity and environmental action plan based on the biophilic design work of Professors E.O. Wilson and Timothy Beatley.

Washington, D.C.'s great riverfronts present opportunities for ecological restoration and preservation as a nature preserve. Tours could be offered through recreated wetlands, and recreation opportunities, including kayaking, could also be extended throughout the District's river habitats. Native wildlife, including fish and water bird species, could be reintroduced in restored areas.

Recreate wetland along riverfront edges and reintroduce native wildlife.

In 2009, the District adopted an urban tree canopy goal of 40 percent by 2035. Currently, the city has 35 percent tree canopy. According to **Casey Trees**, the District will need to add 2,401 acres of tree canopy to achieve the 40 percent goal. "Based on a mortality rate of 6 percent and using the rate of 100 trees equals 1 acre, 216,300 total new trees, or 8,600 trees a year, will need to planted over the next two decades."

D.C.'s tree mortality rate is better than many cities, including New York. However, more could be done to ensure trees live long, healthier lives, thereby providing more environmental benefits. In a session at GreenBuild, Peter MacDonagh, the Kestrel Design Group, said the key to preserving larger older trees and keeping younger ones in place up to 50 years or more is to use large amounts of loam or bioretention soils that are 65 percent sand, 20 percent compost and 15 clay silt. These soils are not only the best growing mix for trees, but also filter out heavy metals, phosphorous, and nitrogen most efficiently. Nitrogen runoff can cause algae blooms and kill other life if it's allowed to get to the watershed in large amounts.

The rule needs to be two cubic feet of loam for one square feet of tree canopy. So, for a tree that provides a 700 square foot canopy a designer needs to use 1,400 cubic feet of high-quality soil. These soils can be combined with "silva cells" that prevent soil compaction to enable the growth of tall, healthy trees. To prove this, MacDonagh showed the work of Bartlett Tree Lab's Urban Plaza study, which demonstrated that loam soil grew trees that had 300 times more leaves and were 1.7 times taller than those grown in compacted soils. "This is important because the average street tree only lasts 13 years."

In addition, the use of larger tree boxes with structured soils and permeable pavements around the trees enable the tree to both grow and get enough water, capturing stormwater in the process.

The District should aim at further reducing the mortality rate of trees and extending their lifespan by enabling them to grow in larger tree pits. Use larger tree boxes with structured soils and add permeable pavements around the trees, which would enable the tree to both grow and get enough water, capturing stormwater in the process. As D.C. adds new trees, it should also ensure trees are distributed fairly between communities of different socio-economic levels.

Some cities grow trees elsewhere and then truck them in. In these instances, massive urban forestry campaigns may not be carbon neutral once all those transportation-related emissions are factored in. The city should ensure it uses only appropriate (native and adapted) plant species planted within 100 miles of the District. Other cities like Philadelphia and New York are exploring growing trees in nurseries within parks.

Use appropriate trees grown locally for urban forestry campaigns. Experiment with growing trees in park nurseries.

2. Sustainability Brief

Recommended Actions for a Sustainable DC

Submitted by **Casey Trees**

Introduction

Washington DC's 35% tree canopy contains approximately 2.5 million individual trees in good to excellent condition, and DC has a rich history of planting, preserving and showcasing trees that dates back to the 1700's. On a per-capita basis DC spends more than most major US cities on its trees, and it has informally adopted a goal to increase its canopy from 35% to 40% by 2035. Finally, DC has a rich array of engaged non-governmental partners such as Casey Trees, Trees for Capitol Hill, Trees for Georgetown, Groundwork Anacostia and others who contribute millions of dollars and hundreds of hours each year into planting, preserving and caring for DC's trees on both public and private lands.

Problem Statement

Although the city has many strengths in terms of its trees, it also has weaknesses, some of which have persisted for decades:

- **DC's tree canopy is on the decline.** In 1950 DC supported approximately 45% tree canopy and 800,000 residents. Today DC has 35% canopy but only 600,000 residents.
- **The Urban Forest Preservation Act of 2002 has failed** – data shows that large canopy trees that have been removed since the Act's passage have not been replaced.
- **A high level of distrust and dysfunction exists between DDOE and DDOT**,

the two primary agencies tasked with tree planting, preservation and enhancement in the District. In addition, general confusion exists about DDOE and DDOT's roles, responsibilities, goals and objectives as concerns DC's trees and tree canopy.

- **DDOE's Urban Forest Master Plan is two years overdue** as a result of agency in-fighting. The City's MS-4 permit requires the adoption of this plan, and DDOE has been put on notice of non-compliance.
- **The City's tree efforts and those of NGOs are poorly coordinated**, which has led to expenditure inefficiencies, duplication of efforts and in some cases damaged relations between the agencies and their non-profit partners.
- **DC's tree canopy goal is not memorialized in any codes, policies or regulations.**
- **DC Public School lands have an average tree cover of 24%,** more than 10% under the city average, and most schools have far less. More than half, or 120 schools, have 10% canopy cover or less. Of those, 70 schools have less than 5% canopy; 3 schools have no tree canopy at all.
- **DPR has no goals or even a budget for its trees.**

Opportunity

Mayor's Gray's new Sustainability Initiative could provide the momentum to address some of the issues noted above. The following list of recommended action items, while not exhaustive, could further elevate DC as a leader in trees and tree policy nationwide.

Recommended Action Items

1. **Codify the City's tree canopy goal**
   Memorialize the District's 40% Tree Canopy Goal in laws, policies and/or regulations.
2. **Establish tree canopy goals for each zoning district**
   With the DC Office of Planning, establish canopy goals for the various zoning districts throughout the city. These goals should support the overall 40% canopy goal and include policies and procedures within the zoning ordinance specifically geared toward meeting the individual zoning-district mandated goals.
3. **Clarify agency roles and responsibilities regarding trees**
   Clarify and codify roles and responsibilities regarding trees for DDOE and DDOT.
4. **Create an Urban Forest Master Plan**
   The Urban Forest Master Plan, required by DDOE's MS-4 storm water management permit and now two years overdue, must be passed and implemented.
5. **Coordinate agency efforts related to the Urban Forest Master Plan**
   Once complete, coordinate efforts between impacted agencies by holding a series of facilitated sessions with appropriate staffs (DDOE, DDOT, DCOP, DCRA, OPEFM) and their leaders to improve efficiencies, preserve and enhance the tree canopy and provide a structure for moving forward together in a way that helps all agencies achieve their goals.
6. **Establish an Urban Forest Advisory Committee to oversee efforts**
   Create an Urban Forest Advisory Committee within the District Department of the Environment to act in an advisory role to the lead agency(ies) engaged in tree planting, preservation, enhancement and care in the District of Columbia.

7. **Create a plan to decrease paving and increase canopy at DC public schools**
   Devise and implement a tree canopy plan to reverse the tree canopy deficit on DC public schools. Ensure OPEFM's school renovation efforts include setting and achieving tree canopy goals that at minimum mirror the City's own goal of 40%.
8. **Update the Tree Preservation Act to protect DC trees**
   Update the Tree Preservation Act of 2002 to ensure that existing trees, if removed, are replaced so canopy loss can be kept in check. (See Casey Trees brief of suggested updates to the Act)
9. **Transfer ownership of traffic islands to facilitate tree-planting**
   Transfer National Park Service-controlled traffic islands to the Urban Forestry Administration or Department of Parks & Recreation to allow for landscaping and tree planting.
10. **Implement the concepts of the Green Build-out Model**
    The Green Build-out Model demonstrates the stormwater reductions that could be achieved by planting trees, vegetating rooftops and creating more pervious surface throughout the District. The City could build on existing greening policies to expand the impact of these strategies.
11. **Provide incentives for developers to underground utilities**
    Encourage developers to underground utilities in new development projects to enhance aesthetics, promote livability and create canopy-friendly environments.
12. **Install rubber sidewalks**
    Replace concrete sidewalks with rubber sidewalks in areas where there are conflicts between the sidewalk and tree roots. Consider using rubber for all new sidewalks since they foster healthy tree root growth, are more durable and are made from recycled material.

3. Sustainable DC Recommendations and Resources
Submitted by **the Congress for the New Urbanism DC Chapter**

PART ONE: OPERATING PRINCIPLES FOR SUSTAINABLE DC
(Select comments applicable to nature working group)

31. Brownfields shall be redeveloped, utilizing cleanup methods that reduce or eliminate site contaminants and toxicity.

32. Wetlands, other bodies of water, and their natural watersheds shall be protected wherever possible and the natural systems which promote recharge of aquifers and prevent flooding should be restored wherever possible, consistent with the rural-to-urban Transect* and the desirability of urban waterfronts as public spaces of extraordinary impact and character.

33. Natural places of all kinds shall be within easy walking distance or accessible by transit. Public parklands and reserves shall be protected and the creation of new ones promoted.

42. The siting of new development shall prefer already urbanized land. If undeveloped land is used, then the burden for exceptional design, demonstrable longevity and environmental sensitivity shall be more stringent and connections to the region shall be essential.

43. With priority to #42, sensitive or virgin forests, native habitats, and prime farmlands shall be conserved and protected. Imperiled species and ecological communities shall be protected. Projects to regenerate and recreate additional agricultural areas and natural habitat shall be promoted.

44. With priority to #42, wetlands, other bodies of water, and their natural watersheds and habitats shall be protected.

45. With priority to #42, development shall be avoided in locations that disrupt natural weather systems and exacerbate heat islands, flooding, fires, and hurricanes.

46. Everyone needs and has a right to access and experience wilderness and agricultural areas. Provide accessible and affordable transportation choices that allow those with the least resources to travel to and enjoy the bay, the rivers, the mountains, the woods, and farms. This will foster an understanding.

Part Two: Specific Ideas, Policy Suggestions, and Design Concepts

11. DC should organize urban agriculture, community garden, and residential and commercial vegetable and fruit garden workshops, and develop a support system to promote the development, maintenance, and distribution of local food production. The support system should include provision of composted materials, regular debris pickup, water provision, and materials for basic infrastructure such as fencing and raised beds as needed.

All over the country, cities, and neighborhoods are rediscovering and reinventing their public space in extraordinary ways. This has not occurred on any scale in DC, where the overwhelming majority of parkland is owned by the federal government and is not well designed or programmed to meet the needs of residents, businesses, and visitors. A series of workshops, an appropriate allocation of federal and local dollars, and an implementation schedule to retrofit these spaces into beautiful, dynamic, and functional space for the enjoyment of all are needed.

Everyone needs and has a right to access and experience wilderness and agricultural areas. Provide accessible and affordable transportation choices that allow those with the least resources to get to and enjoy the bay, the rivers, the mountains, the woods, and farms. This will foster an understanding of the ecosystem and the food sources that support and nourish our lives.

Develop the capacity of DC residents and public officials to effectively participate in community processes for sustainability initiatives. This would involve holding community workshops organized and taught by subject experts at regular intervals across the city. These workshops would include subjects such as basic drawing and map-reading techniques, fundamentals of planning, urban design and form-based codes, and the history of the city plan; and would have inclusive meeting processes and decision-making techniques. (Bothwell)

4. Sustainability Recommendations
Submitted by **DC Sierra Club**

ACTION ITEM	PURPOSE	RESPONSIBILITY
(1) Ecoliteracy program for youth and adults: make the environment "alive" to people.	Education.	DDOE, Chancellor
(2) Make DC's rivers safe for swimming, boating, and fishing.	Recreation; food; clean water; wildlife protection.	DC Water, DDOE
(3) Ensure that every DC resident can access a green space within a 5-minute walk.	Recreation; neighborhood improvement.	DC Parks and Recreation, citizens, community groups.
(4) Make DC school system the example, educator, and demonstrator of sustainability; make DC school system the incubator of new generations of environmental natives.	Increasing and passing on sustainable living practices.	Chancellor, City Council,
(5) Require no net loss of park land. (E.g., if new sports stadium is built in Anacostia Park, old stadium site must be converted to park land.)	Recreation.	City Council.
(6) Bring back Environmental Crimes Unit to Police Department.	Enhance environmental crime investigations, and solution.	Mayor
(7) Ensure that parks and riparian systems are havens for wildlife.	Encourage natural environment interactions with District Citizens	DPR, DDOE

ACTION ITEM	PURPOSE	RESPONSIBILITY
(8) Complete construction of a hiker-biker trail in Klingle Valley	Recreation; water quality enhancement	**DDOT**
(9) Remove the illegal dump in Kenilworth Park known as "Mystery Mountain"	Recreation; water quality enhancement, environmental justice	DDOE, NPS
(10) Close and demolish the Benning Road Power Station	Recreation; water quality enhancement, aesthetics, environmental justice	
(11) Reinstate and honor the recommendations and agreements embodied in the Anacostia Waterfront Initiative Framework Plan	Recreation; water quality enhancement; wildlife conservation, environmental justice	OP, Mayor
(12) Require no net loss of park land. (E.g., if new sports stadium is built in Anacostia Park, the old stadium site must be converted to park land.)	Recreation; water quality enhancement; wildlife conservation, environmental justice	City Council.
(13) Close Beach Drive to commuter traffic.	Recreation; water quality enhancement; wildlife conservation	NPS, DDOT

5. Natural Systems and Climate Adaptation in DC's Sustainability Plan Submitted by **National Wildlife Federation**

1. General Wildlife components that could be considered in the DC Sustainability Plan

- DC Wildlife action plan
  - Update the current plan with a "climate smart" approach
  - Revision of State wildlife action plans will take place in 2015
- Identify where the habitat corridors lie in DC
  - Locate which of the open existing spaces must be reserved for corridors to provide species movement pathways for migration and for species to seek refugia, move to cooler locations, etc
- Identify opportunities for maintaining open spaces (and provide labels/designation , eg., "Park land")
- Quantify ecological values of trees and plants

- Quantify economic values of natural resources
- Describe the ability of different habitats to attract certain birds/butterflies
    - Designate/recommend areas for habitat development
    - Incorporate climate change data into the development of habitats- how can habitats be designed to accommodate the movement of species and to provide habitat for species that may inhabit DC in the future (due to climate change)?
- Vacant lots for composting or diverting waste
- Abandoned/Vacant lots could be converted and revitalized as Urban Agriculture and Wildlife Gardens

2. Leverage Existing DC Programs/Resources/Goals

In general, linking wildlife benefits to other goals in the plan is necessary. Included below are ideas for how existing activities could be enhanced to also provide wildlife benefits.

- Support the enhancement of the River Smart Homes program:

- Homeowners receive up to $1200 to adopt one or more of the following landscape enhancements – shade trees, rain barrels, pervious pavers, rain gardens, bayscaping (http://ddoe.dc.gov/ddoe/cwp/view,a,1209,q,499719.asp)
- Program was established as more through the lens of stormwater, but there it can also be seen as a natural systems approach to adaptation that benefits people ***and wildlife***

- Urban Forestry

- Existing goal for DC is to restore the tree canopy to 40%
- Chicago is planting trees but more specifically those trees that can adapt to heat – DC could do the same, based on climate projections for the region
- Strategies to prevent tree mortality needed, including general education about tree care
    - Currently there are limited education programs for public to understand the importance of street trees , and many trees that were endemic to neighborhoods have been replaced by different species with high mortality rates
- Casey Trees has a program that could support this effort
- November 4th : update to a tree bill (passed in 2001)
    - Will be held at the DC Council
    - Sustainability Plan could incorporate recommendations/strategies in the legislation

- Parks & Open Space

- Fort Dupont Park: part of the park is being petitioned off for creation of baseball diamond/field
- Environmental justice lens is needed when it comes to determining land uses- natural resources need to be protected and enhanced for all residents

- Stormwater Management

- Encourage and support gray water systems in buildings
    - Ensure existing building codes and regulations to not prohibit their use

- Seattle, WA: surveying different streets in downtown Seattle; reducing impervious surface area
    - 65 blocks expressed interest in this water retention program
- Can DC do something similar? (Note: DDOE launching 3 -4 pilot water programs)
- Water bills could be used as a means to education residents about green infrastructure options they can implement to reduce the amount of stormwater that must be treated
    - Could include info on the energy costs associated with stormwater treatment at Blue Plains,
    - Could provide tips for retaining water on site, thereby reducing the flow of water into the system to prevent CSOs
    - Rock creek conservancy has an existing stormwater management program

3. Education & Outreach to Residents

Many people at the meeting indicated that education and outreach to residents is critical, and one suggestion included the development of programs to help the public understand the ways in which protecting and enhancing the city's green infrastructure can not only support habitats, but can also reduce private property loss from flooding. Active education was emphasized (providing someone a website link is not very effective), including outreach and education to residents about street tree health and maintenance to reduce tree mortality. Thoughts from the group are included below.

- Create an Education Working group
    - The DC government should form an education working group to address which wildlife we are focusing on in DC, educate residents about why natural resources and wildlife are important, etc.

- Environmental literacy plan is already under development (drafted by June 2012) and will address the environmental education component
    - Can this plan be included in the sustainability plan?

- Develop website for home owners and others to better understand costs/benefits of green infrastructure
    - Calculator (Green Up) is currently in the works
    - More outreach and education to support the growth and maturation of street trees is needed

- City Wildlife (local organization) is starting a rehab center (to help people understand how to coexist with wildlife)
    - Strong opinions from public (DC residents) that wildlife inhabiting urban systems must be eradicated
    - Education needed about urban wildlife

4. UDC Ward 3 Input
Submitted by the **University of the District of Columbia**

(Only items relevant for review by the nature working group are listed)

On 28 September, UDC held a meeting as part of 'Start in September' under Mayor Gray's Sustainable DC initiative. Office of Planning staff, UDC staff, and concerned citizens gathered to discuss ideas about the attributes of a sustainable city in an effort to break down high-level concepts and bring them into our local context.

This open discussion at UDC allowed participants to share their own visions and aspirations for the city and gave them an opportunity to listen to other residents with different perspectives. In small tables of 4-5 people, we discussed three guiding questions:

1) What are the attributes of a sustainable city?
2) How does DC measure up to that vision of a sustainable city?
3) How can we engage and energize the whole city around this sustainability plan?

Question 1: What are the attributes of a sustainable city?

The city is in sync with natural systems and all resources are valued.

- Design is informed by nature/works with nature
- Holistic thinking is present in all planning
- Climate, energy, and water are protected
- People are connected to nature

Question 2: How does DC measure up to that vision of a sustainable city?

Strengths

- Grassroots action - more and more NGOs and businesses are involved in sustainability

Weaknesses

- City systems are not in sync with natural systems

From the conversation came the following suggestions for building on our strengths and addressing our weaknesses:

Local Goals –

- Efficient use of resources
- Respect for natural cycles
- Healthy tree canopy in all areas

Potential Action –

- Minimize distance to parks/green space for all residents
- Support community gardens/p-patches

Question 3: How can we engage and energize the whole city around this sustainability plan?

Social Media Strategy

- Twitter meetings – Q&A between city officials and Tweeps
- Tweet ups
- Sustainable DC Foursquare Badge

Collect ideas outside of meetings

- Collect ideas on napkins, used envelopes, things with blank surface areas like toilet paper
- Suggestion boxes for sustainable DC at local businesses – maybe through Think Local First
- Collect ideas via text

Mobile meetings

- Bike rides
- Experimental circulator bus routes

Paid/incentivized participation

- Give rebate for bottle recycling (5-10 cents)
- Make it FUN
- iPod giveaway at planning meetings
- Take the money we would have used to hire a consultant and instead pay businesses directly to participate.

Go to existing meetings and groups

- Churches/Religious networks/GWIPL/Creation Care
- ANC meetings – Mobilize the ANCs
- Boy Scouts/Girl Scouts
- Unions

- Rotary Club
- Lions Club
- Business orgs like AOBA
- Parents at playgrounds on Saturday mornings

Go to existing events

- Local sports venues
- Music/concerts
- Comedy shows

Get schools engaged

- Universities
- Clubs (UDC Sustainability Club, UDC Garden Club)
- Put in school curriculum /better education on environmental issues

Showcase and encourage good examples

- Create competitions between schools
- Incentivize local business participation by holding competitions, giving awards for green practices
- Competitions between employees of small/large firms
- Action is motivating – bring the results of your own actions to the next meeting to share back with the group
- Shame bad behavior
- Lead by example, especially for city leadership

Reach all community members

- Have meetings whenever it makes sense in your community. Don't rush it based on this planning process.
- Switch target demographic and recognize that kids are change agents
- Reach pockets, but also have a central place to bring ideas back together/find out about new events
- Everybody must bring 2 new people to next meeting – if we keep doing this, we'll eventually reach a critical mass