

NATURE






NATURE

The District's population is rapidly growing. With an average increase in the District's population of 800 to 1,000 per month over the past five years,⁴¹ we must balance population growth and development with the conservation and management of natural resources. Washington, DC includes over 6,700 acres of National Park land and 900 additional acres of the District Government-owned parks.⁴² Since so much of DC's parkland is federally protected, the District Government works closely with the National Park Service and other federal landowners. The District is also home to two tidal rivers, the Potomac and the Anacostia. These waterways provide valuable habitat for wildlife, including nesting bald eagles and newly restored populations of American shad (DC's official state fish). Beyond the threats of urban development, extreme heat and weather events caused by climate change are also impacting the District's natural environment. Restoring, expanding, and protecting natural habitats in the District improves our air and water quality, helps manage stormwater, plays a critical role in safeguarding our biodiversity, and protects the city against the urban heat island effect, floods, and other impacts of climate change.

Despite being a highly urban area, the Trust for Public Land recognized the District as having the third highest-ranking park system in the country.⁴³ The District Government is committed to protecting our natural areas while also providing all residents convenient access to nature and green places. In 2016, Mayor Bowser signed important legislation, the "Fisheries and Wildlife Omnibus Amendment Act of 2016," to help protect critical wildlife habitats and better manage invasive species, as well as the "Tree Canopy Protection Amendment Act" that discourages the removal of healthy, mature trees. Within the District Government, DOEE is responsible for the conservation and management of all species of wildlife and their habitats. The District's State Wildlife Action Plan, last updated in 2015, is a comprehensive, ten-year roadmap for sustaining, conserving, and protecting Washington, DC's wildlife and habitats. In addition to this plan, the District's moveDC and Age Friendly DC plans also address access to green space.



Sustainable DC 2.0's actions on nature have real benefits for Washington, DC at all levels:

INDIVIDUAL

Sustainable DC 2.0 aims to protect and restore Washington, DC's natural environment and to create more opportunities for residents to have better access to high quality green spaces such as trails and parks. By enhancing access to nature, residents can enjoy the benefits of parks and natural areas, through reduced stress and improved health.

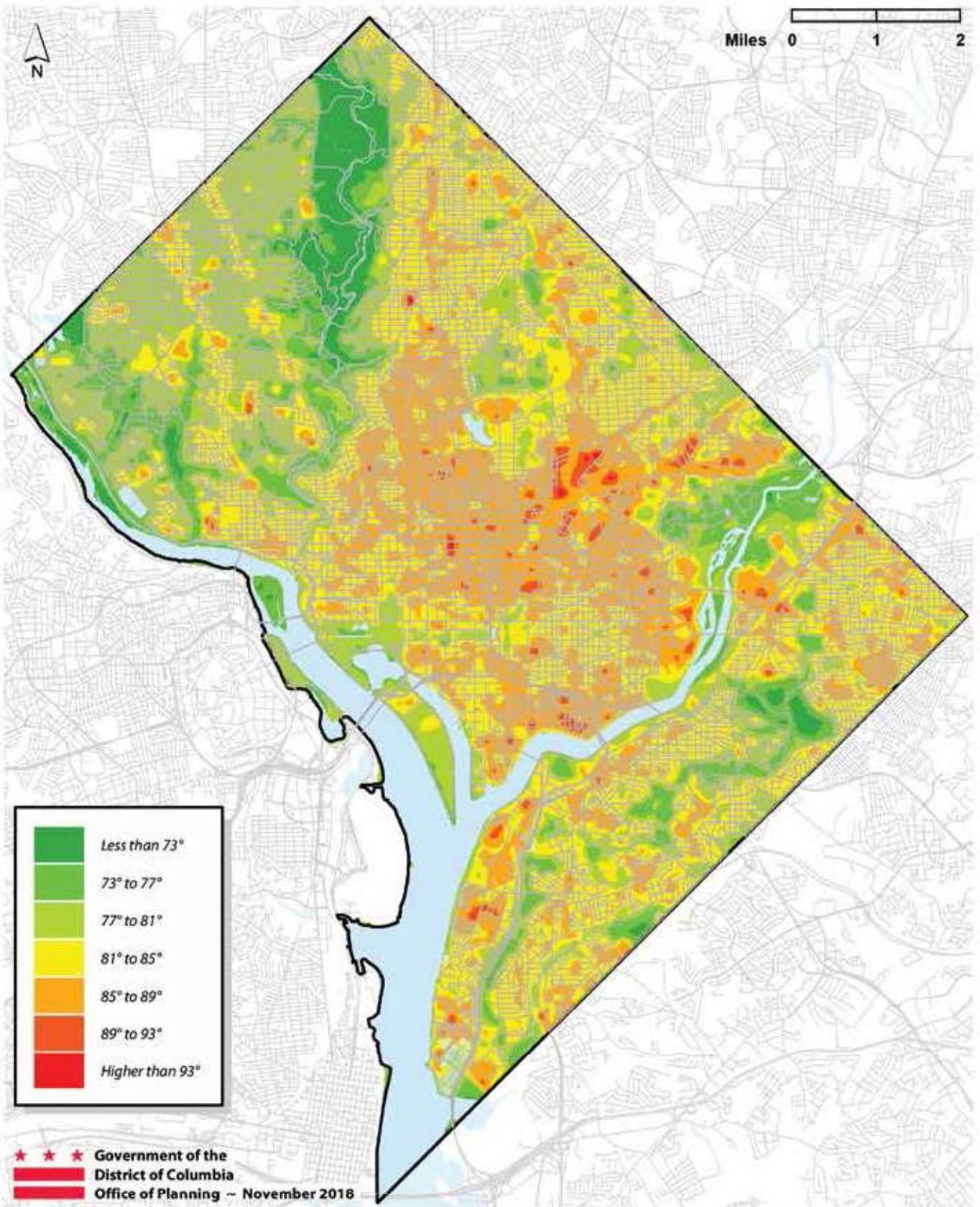
NEIGHBORHOOD

Sustainable DC 2.0 is focused on strengthening access to the natural environment for neighborhoods across Washington, DC, with a particular emphasis of improving access to small parks and natural spaces in underserved areas of the city with less access to these resources currently.

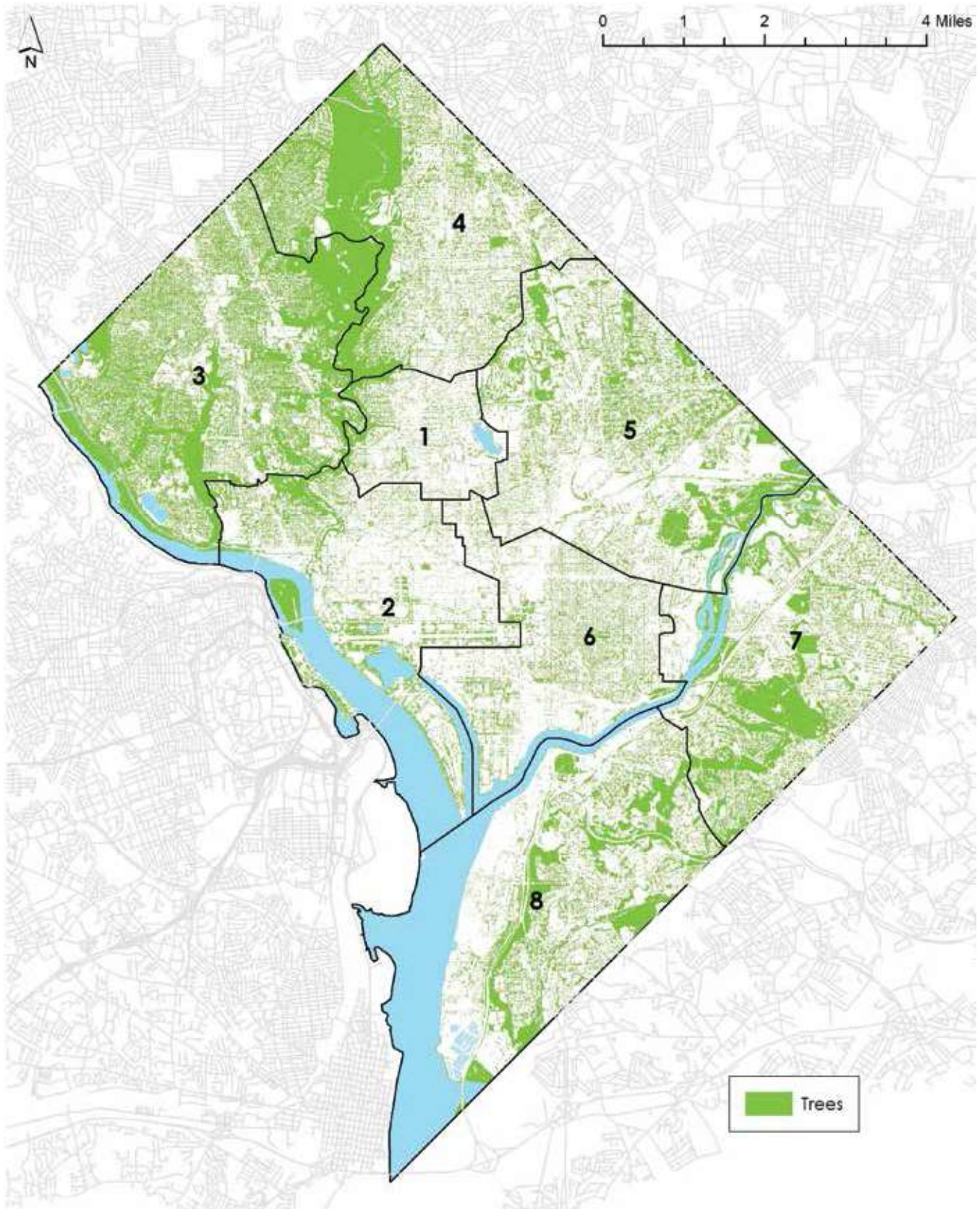
DISTRICT

Actions in the Nature section of Sustainable DC 2.0 focus not only on protecting and restoring the District's unique natural environment, including our rivers, streams, and meadows, but also on expanding our tree canopy and creating new wetlands. Sustainable DC 2.0 seeks to weave the natural environment throughout Washington DC's urban footprint by incorporating access to nature in the places where we live, work, and play.

URBAN HEAT ISLAND IN THE DISTRICT



TREE CANOPY

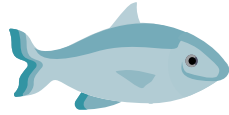


Diversity of Wildlife in DC^{li}



240

species of
birds



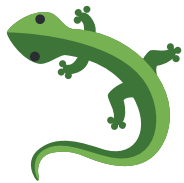
78

fish



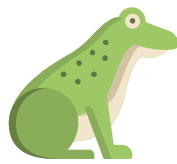
32

mammals



21

reptiles



19

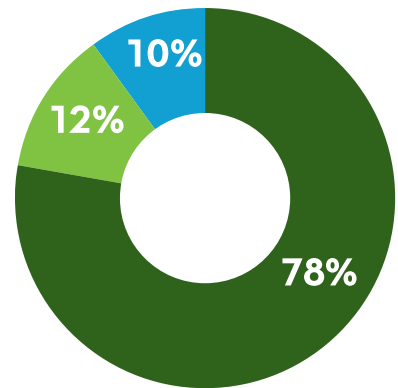
amphibians



1,000_s

of invertebrates

DC Surface Type^{lii}



- Developed land
- Undeveloped land
- Open waters (Potomac and Anacostia Rivers)



There are **289** acres of wetlands in the District.^{liii}

Planting shade trees around your house can reduce air conditioning costs up to

30%.^{lvi}

Annual Tree Plantings^{liv}

2012:	13,054
2013:	9,544
2014:	12,085
2015:	15,044
2016:	9,893
2017:	12,441

38% of DC is covered by a healthy tree canopy.^{lv}





GOAL 1

Protect, restore, and expand aquatic ecosystems.



TARGET 1

By 2032, protect, restore, and create 1,000 acres of critical aquatic habitat.



TARGET 1 BASELINE

36.25
acres

NA1.1

Develop a Wetland Registry to facilitate restoration or creation of wetland habitat.

Wetlands—land consisting of marshes, bogs, vernal pools, swamps, and other similar areas—are among the most productive ecosystems and they are vital to the ecology of a healthy watershed. Wetlands provide a wealth of benefits to humans, reduce flooding, and support diverse animal and plant life. Beginning in the early 1900s, the Army Corps of Engineers began dredging the Anacostia River and filled in wetlands during the process. Due to continued urbanization, an estimated 450 acres of marshes were filled for dumpsites and approximately 90% of tidal marshes along the Anacostia were lost.⁴⁴ Approximately 289 acres of wetlands remain in the District. To better protect and restore the District's wetlands, the District Government will create a Wetland Registry, a publicly available map of each wetland location and baseline data to facilitate avoidance of disturbance and to identify wetlands that would benefit from restoration or enhancement. The registry will also identify potential locations for wetland creation that could be targeted for detailed site-specific suitability studies for mitigation.

TIMEFRAME

Long term

LEAD

DOEE

PARTNERS

DGS, DPR, OCTO

NA1.2

Plant and maintain an additional 150 acres of wetlands in targeted Conservation Opportunity Areas.

To offset the negative environmental impacts of development, the District Government will plant and maintain wetlands (land consisting of marshes or swamps) to help with overall water quality. These wetlands will be intentionally planned in Conservation Opportunity Areas—areas of the city which offer the best opportunity and potential for conservation in the District—as identified in the District's 2015 Wildlife Action Plan. By planting and maintaining an additional 150 acres of wetlands in these discrete areas, the District Government will maximize the environmental impact of its work to protect, restore, and expand our waterways.

TIMEFRAME

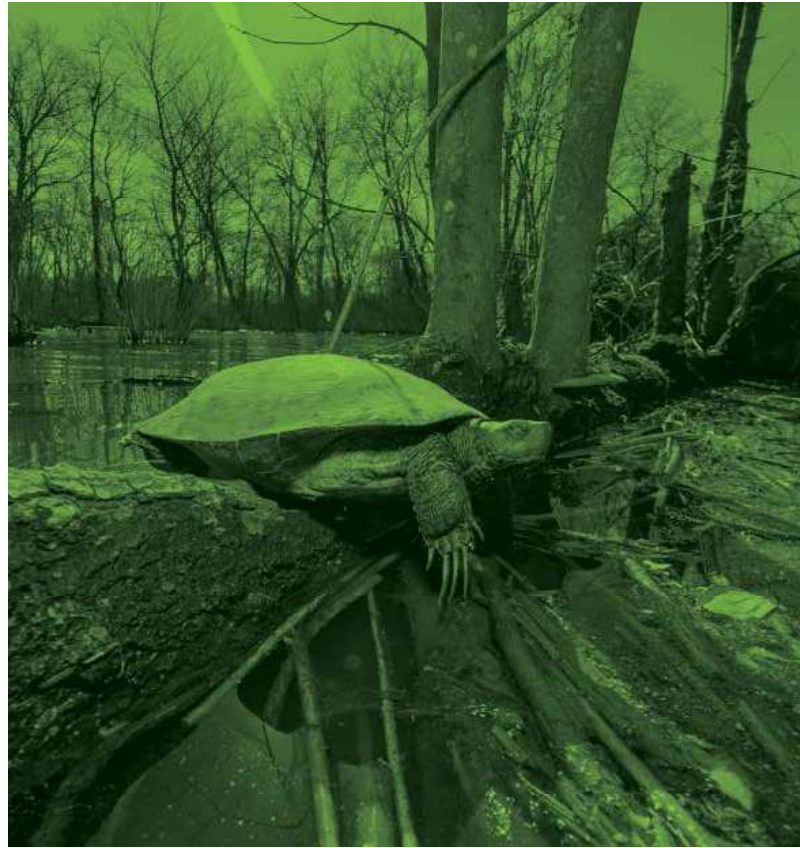
Long term

LEAD

DOEE

PARTNERS

DGS, DPR



NA1.3

Partner with developers to incorporate living shorelines in waterfront developments.

Developing land adjacent to waterways can increase flooding, erosion, sea level rise, and hurt aquatic habitats. One way to minimize these negative impacts is to construct living shorelines as part of waterfront developments. Living shorelines use native plants, trees, grasses, and other natural elements to stabilize a shoreline and help to minimize erosion along shorelines, reduce flooding, and help Washington, DC become more resilient to sea level rise. By partnering with developers early in the planning process, more living shorelines can be incorporated into waterfront developments.

TIMEFRAME	LEAD	PARTNER
Short term	DOEE	OP

NA1.4

Reduce threats to 75 aquatic species of greatest conservation need.

In a highly urban area such as Washington, DC, the largest threats for aquatic habitats are urban wastewater, invasive species, nitrification and sedimentation of waterbodies, and ecosystem modifications. In support of the 2015 Wildlife Action Plan, the District Government is strengthening its existing actions, such as restoring streams and invasive plant removal, to reduce these large threats to 75 aquatic species of greatest conservation need, including the American shad and the Hay’s Spring amphipod (a tiny shrimp-like crustacean that is only found in DC).

TIMEFRAME	LEAD
Long term	DOEE



GOAL 2

Protect, restore, and expand land ecosystems.



TARGET 2

By 2032, restore, protect, create, or improve 2,000 acres of critical land habitat.



TARGET 2 BASELINE

350
acres

NA2.1

Plant and maintain 10,500 new trees per year in priority areas to achieve 40% tree canopy cover by 2032.

Trees play a critical role in urban areas, including reducing flooding, improving air quality, and reducing temperatures. While the act of planting trees is important, without proper maintenance, the trees won't flourish. The District Government will plant and maintain 10,500 trees annually, and in addition will work with communities to shape tree plantings in their neighborhoods so that residents have a voice in the process. Innovation and best practices in urban tree plantings, such as using suspended pavement systems and ensuring there is sufficient tree box space, will be considered in the planning process. In order to prioritize tree plantings, the District Government will identify areas that experience vulnerabilities to climate change such as areas prone to flooding, the heat island effect, and areas lacking sufficient coverage and shade.

TIMEFRAME
Ongoing

LEAD
DDOT

PARTNERS
DGS, DOEE, DPR, OCTO

NA2.2

Remove invasive plants on 500 acres of critical habitat based on a strategic management plan.

Invasive plants are plants that are not native to an area that colonize habitats, create habitat loss, exclude native plants from surviving, and reduce plant biodiversity. In support of the 2015 Wildlife Action Plan, the District Government will develop a strategic management plan that addresses not introducing invasive species and prioritizes the removal of invasive plants from 500 acres of critical habitat.

TIMEFRAME
Medium term

LEAD
DOEE

PARTNER
DGS

NA2.3

Create or restore a minimum of 200 acres of meadow habitat.

Due to urbanization, meadow habit is destroyed and often replaced with buildings and manicured grass. Meadows are field habitats vegetated by grass and other non-woody plants (grasslands). Meadows are of ecological importance because they support a diversity of wildlife, including small mammals, birds, and reptiles. Healthy, productive meadows are composed of highly diverse herbaceous plants native to the region. Creating and restoring 200 acres of meadow habitat is one of the most important conservation actions detailed in the 2015 Wildlife Action Plan.

TIMEFRAME

Long term

LEAD

DOEE

PARTNERS

DCHA, DDOT, DGS, DHCD, DPR, OP

NA2.4

Incorporate biodiversity and the use of native plants in green infrastructure on District Government land.

Green infrastructure is an approach to water management that protects, restores, or mimics the natural water cycle. Green infrastructure includes practices such as rain gardens, trees, and permeable pavements. Green infrastructure captures rainfall, cools buildings and pavement, and creates natural pathways for wildlife. When designing green infrastructure projects that include plants or landscaping, the District Government will include a variety of biodiverse plant types and species and prioritize native plants that benefit pollinators. The District Government will also exclude non-native invasive plant species to maximize the benefits of these projects on the overall ecosystem.

TIMEFRAME

Short term

LEAD

DOEE, DDOT

PARTNERS

DGS, DPR, OP

NA2.5

Create a habitat connectivity plan to guide restoration of viable, native habitats throughout Washington, DC and in coordination with surrounding jurisdictions.

The survival of wildlife depends in large part on habitat connectivity—the ability to move safely throughout the environment to find food, reproduce, and migrate. Much of this connectivity has been lost in the District. The District Government and partners, therefore, will develop a habitat connectivity plan to guide habitat restoration projects in support of wildlife. The plan will be used to inform policy for integrating habitats and green space into future development projects throughout Washington, DC.

TIMEFRAME

Short term

LEAD

DOEE

PARTNERS

DDOT, DGS, DPR, OCTO, OP

NA2.6

Require the District Government to use native plants and trees in all landscaping and green infrastructure outside the roadway right-of-way.

The District Government will lead by example in only using native, pollinators, and hardy trees in its landscaping projects, green infrastructure, and restoration projects and will incorporate biodiverse plants and trees. Native plants are hardier and less likely to succumb to pests and diseases than non-native plants. They also tend to need less water than non-native plants. The District will develop and maintain a public facing directory of native plants to aid in the process of selecting appropriate plants in projects. As the number of species of trees that can survive adjacent to roadways is more limited, the right-of-way is exempted from this policy.

TIMEFRAME

Short term

LEAD

DOEE

PARTNERS

DDOT, DGS, OP



GOAL 3

Improve human access to and stewardship of nature.



TARGET 3

By 2032, provide access to the natural environment or quality green space within a 10-minute walk of all residents.

NA3.1

Improve the formal trail network for hiking and biking—prioritizing areas east of the Anacostia River—while balancing protection of habitat.

Access to green space in an urban setting is vital to mental health. Expanding the network of trails, while protecting wildlife habitat, will aid in better connecting residents with green space and nature in the District. A priority should be given to connecting the trail network in areas east of the Anacostia River where trail connections are not as well developed, as well as regionally integrating networks beyond the District’s borders.

TIMEFRAME

Medium term

LEAD

DDOT

PARTNERS

DPR, OP

NA3.2

Increase the number of “nature play spaces” at District playgrounds.

Nature play spaces incorporate the surrounding landscape such as logs, rocks, and water, to bring nature to children’s daily outdoor play areas. These nature play spaces are made from natural elements like wood and stone, and often include child-friendly educational signage. One example of a nature play space is at UDC’s East Capitol Urban Farm which has log benches, stumps for scrambling, and a vine labyrinth. Through these play spaces, children can benefit from connecting, playing, and learning in nature.

TIMEFRAME

Medium term

LEAD

DPR

PARTNERS

DCPS, DGS

NA3.3

Create or improve small parks and natural spaces in underserved areas.

Not all neighborhoods in Washington, DC have convenient access to green space including small parks and natural spaces such as woods or meadows. Small parks and natural spaces need to be connected to the communities they serve. The District should prioritize creating or improving parks and natural spaces in underserved areas of the city without sufficient green space and ensuring that these natural spaces are connected to the neighborhoods and communities which they serve. Schools grounds with natural spaces, for example, could be utilized for this purpose.

TIMEFRAME

Short term

LEAD

DPR

PARTNERS

DCPS, DDOT,
DGS, DOEE, OP

NA3.4

Provide informational resources on backyard wildlife habitats, native plant gardening, container and vertical gardening, and creating pollinator habitats.

The District Government should make it easy for residents to beautify their yards and create valuable habitat for butterflies, bees, and other pollinators by providing accessible and informative guidance on how to start and maintain gardens. Pollinators are important because they transfer pollen between plants, which helps the plants, including trees and agricultural crops, reproduce and thrive. By equipping residents with the knowledge and skills for how to start a backyard garden or balcony with native plants, the District will be supporting more pollinators that are necessary for a healthy and diverse ecosystem.

TIMEFRAME

Short term

LEAD

DOEE

PARTNERS

DC Health, DPR

NA3.5

The District Government will incorporate nature into the places we live, play, and work, to reduce stress and improve health—known as biophilic design.

Biophilic design is simply incorporating nature—plants, water, light, etc.—into our manmade spaces such as our homes and offices. For example, having indoor plants, fountains, and large, bird-safe windows in office buildings help connect employees to the natural environment while working indoors. By incorporating more traditionally natural elements into the built environment, the District Government will lead by example in its own projects and promote overall wellbeing and productivity and improve the mental health of residents. Washington, DC will also provide resources and guidance to other entities seeking to incorporate biophilic design into their current or future projects.

TIMEFRAME

Medium term

LEAD

DOEE

PARTNERS

DCPS, DGS

