Takoma Park City Council Meeting – June 15, 2022
Agenda Item 1

Work Session
Urban Forest Manager's Annual Report

Recommended Council Action
Receive the presentation.

Context with Key Issues
City Code section 12.12.140 specifies that the Urban Forest Manager will present an annual report on the condition of the urban forest and the status of the City's Urban Forest programs. This report will cover FY21 and FY22. Additionally, the Urban Forest Manager will provide information about the upcoming roll out of the City's new and expanded private property tree planting program. Final permit and planting numbers will be provided after the close of FY22.

Council Priority
A Livable Community for All
Environmentally Sustainable Community

Environmental Considerations
Trees and the City's tree canopy play an enormous role in providing benefits, including environmental, habitat and aesthetic. The Council Resolution formalized the City's desire to expand beyond the current focus on tree removal and protection permits to a broader approach recognizing shared community responsibility and public value of trees and incorporate new strategies to address today's challenges to our urban forest.

Fiscal Considerations
The annual budget for the Urban Forest Program for FY21 was $191,247 and is projected to be $317,665 for FY22. Funding for the expanded private property planting program was included in the FY23 budget.

Racial Equity Considerations
The tree canopy assessments of the past have identified that single family neighborhoods have a higher percentage of tree canopy than those neighborhoods with more multi-family and commercial buildings. Targeted outreach efforts for the City's private property tree planting programs will focus on these lower canopy property types.

Attachments and Links
- Urban Forest Annual Report
- Takoma Park Approved Species List
- Urban Forest Master Plan – DRAFT

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Approved by: Jamal T. Fox, City Manager

Public Works Department

Annual Urban Forest Report – 2022

City of Takoma Park Code section 12.12.140 requires the Urban Forest Manager to prepare and present a report on various aspects of the urban forest and the City's Urban Forestry Program. The following is an update on the status of the urban forest; numbers associated with permits, tree removals, and tree planting efforts; and a discussion of recent and upcoming programmatic developments.

1. The condition of the urban forest and tree planting numbers

The urban forest canopy of Takoma Park remains robust compared to other similar suburban communities. Sizable park areas and a strong community ethic and regulatory apparatus that prioritize tree preservation are key factors that support the commendable tree canopy in the City. Takoma Park has a significant number of mature trees, some of which are approaching the end of their life, and management of these trees will be an on-going task both for private property owners and for the City in public space. Residents and property owners appear as excited as ever to plant native canopy trees to replace those that have been lost.

The recent pattern of decline in the City's oak population is still a concern to its tree canopy. Experts describe the decline as being primarily caused by recent periods of extraordinarily high rainfall followed by drought. The excessively saturated soils lead to root dieback and reduced vigor, followed by insect and disease problems that result in tree decline and mortality. There is no single ideal proactive management solution to this problem and the best thing that can be done is to emphasize basic tree care practices, including maintaining a root-friendly soil environment and to water trees during times of drought. The notable reduction in number of Tree Removal Permit applications for trees that were determined to be dead or hazardous between FY21 and FY22 suggests that the rate of tree loss may be slowing.

The Urban Forest Manager is monitoring the situation in the region with the spotted lantern fly as well as the reported population levels of the spongy moth (recently renamed from 'gypsy moth'), both of which have not been a significant concern to trees in Takoma Park recently but could become one in the future.

The City prioritizes tree planting to grow the urban forest canopy of the future. This is done by planting trees in public space, offering incentive programs for private tree planting, and administering replacement tree planting requirements for Tree Removal Permits. The following are the relevant tree planting numbers:

Tree Planting Totals		
	FY21	FY22
Public Space Trees Planted	67	87
'Plant-a-Tree' Trees Planted	88	85
'Pilot Planting Program' Trees Planted	N/A	39
Removal Permit Replacement Trees	126	98

Plant-a-Tree and Pilot Planting Program Species		
	FY21	FY22
American Linden	7	10
Bald Cypress	7	6
Black Gum	22	41
London Plane	2	0
River Birch	9	17
Southern Magnolia	25	5
Swamp White Oak	10	25
Sycamore	4	10
Willow Oak	2	3
Red Maple	0	4
Yellowwood	0	3

Public Space Species		
Species	FY21	FY22
Alternate Leaf Dogwood	0	1
American Hornbeam	11	9
American Linden	6	11
American Sycamore	0	9
Bald Cypress	6	4
Blackgum	1	7
Eastern Redbud	1	10
Flowering Cherry	1	8
Hop Hornbeam	5	0
Serviceberry	1	4
Swamp White Oak	22	25
Sweetbay Magnolia	13	0

2. Tree Permits, Appeals, Pruning, and Removals;

Tree Removal Permits	FY21	FY22 (through 6/6/22)
Dead/Hazardous Permitted	538	355
Permit Issued	95	98
Eligible for Permit / In Progress	29	51
Denied	15	3
No Permit Required	28	21
Withdrawn	35	21
Total	740	549

TIA and TPP	**FY21**	**FY22** (through 6/6/22)
Tree Impact Assessments	152	136
Tree Protection Plan Permit Applications	58	37

City tree removals and pruning:

City Tree Work	FY21	FY22 (through 6/6/22)
City Trees Removed	47	66
City Trees Pruned	21	28

Tree Commission Permit Appeal Hearings:

1. 434 Ethan Allen Ave – The City's preliminary approvals for the Tree Protection Plan Permit and Tree Removal Permits were appealed by multiple neighboring properties. The Tree Commission upheld the City's decision to grant both permits with the conditions that the Applicant secure their City Stormwater Management Permit and that they secure bond for the value of the trees to be planted as per their Tree Removal Permit replacement planting agreement.

2. 7205 Flower Ave – The City's denial of a Tree Removal Permit was appealed by the applicant. The Tree Commission upheld the City's decision to deny the permit.

3. City efforts to achieve its canopy goal;

The City's percent canopy cover goal set forth by the City Council is currently to achieve no net loss, which means maintaining 58% cover as per 2018 LiDAR data. The University of Vermont Spatial Analysis Lab is currently under contract to conduct analysis and produce a report with the 2020 LiDAR data. The following is a summary of experiences with the recent Pilot Planting Program and an expanded private property program that is currently being implemented:

Pilot Planting Program:

As per City Council Resolution 2020-15, the City developed and implemented a Pilot Tree Planting Program to experiment with targeted outreach, increased financial support, and providing professional guidance with tree planting on private property. The following summarizes how the program went:

a. Design of program – The goal of this program was to provide low-barrier tree planting opportunities to low canopy areas of the City. The City ultimately decided to focus on a selection of large property types in the City for targeted outreach and planting, which included multi-family residential, commercial, and institutional properties. These properties types are

noted for having lower tree canopy in the City and narrowing the scope of the eligible properties facilitated the outreach process.

b. Numbers – Thirty-one properties determined to have substantial space for tree planting were selected for outreach. We established communication with fourteen properties, conducted site visits with seven properties, drafted planting plans for six properties, and ultimately planted thirty-nine trees at four properties. Plantings at two of the properties were ultimately rejected by upper management late in the planning process.

c. What we learned –

   i. Direct outreach was effective at establishing relationships with property owners for tree planting. Working with the selected categories of large properties allowed for a greater number of trees to be planted per property while reaching low-canopy areas of the City.

   ii. Relying exclusively on a targeted-outreach model takes significant staff time to generate participation. A program made available to all private property types supplemented by targeted outreach to low-canopy properties is expected to generate significantly more participation and would be simpler to brand and market to the public.

   iii. The personal touch of offering a tree planting consultation seemed very valuable to the property representatives and yielded high-quality tree planting plans. The City does not have the in-house staff capacity to offer these consultations at the larger scale at which we need to be planting trees. Identifying a contractor who can offer this consultation service would be instrumental in providing a similar program at a larger scale.

<u>New private property tree planting program:</u>

To fulfill the City's goal of growing its tree canopy, increasing the rate of tree planting on private property is essential. Following on the experience gained with the Pilot Program, the City plans to implement an expanded private property tree planting program.

1. Key goals of the program –

   a. Reduce/eliminate financial barriers to tree planting on private property.

   b. Maximize property owner and resident interest in and familiarity with canopy tree planting.

c. Plant a large number of high-quality native canopy trees in good locations where they will thrive.

d. Build a strong brand for a tree planting program that all residents are familiar with and feel drawn to participate in.

e. Make tree planting easily available to all private properties, while especially encouraging and facilitating participation from lower-canopy property type categories, including multi-family residential, commercial, and institutional properties.

2. Program design elements to achieve these goals –

a. Work with a contractor who can provide an on-site consultation with a professional arborist or landscape designer to educate the property owner/resident about the tree options, help in selecting the best trees for the right locations, and educate about tree care best practices.

b. Work with a contractor who has a strong reputation for quality tree planting and customer service.

c. Provide native canopy trees and on-site professional consultations at no cost to the property.

d. Plant up to 10 trees per property and budget for up to 150 trees per year total.

e. Work with our Communications team to build a strong brand and conduct an effective outreach campaign for the program.

f. Work with Planning, Housing, and Community Development team and other stakeholders to identify avenues for targeted outreach to multi-family residential, commercial, and institutional properties.

4. Urban Forest Manager Recommendations

The Urban Forest Manager recommends investment in a geospatial asset and work-order management platform to track existing City trees, upcoming and recent tree plantings, available planting locations, tree maintenance work assigned to in-house crew and contractors, and more. A platform like this would streamline workflows, improve data quality, and expand our capacity to analyze and plan for the urban forest. This sort of platform could be used to track all aspects of City

work in public space in addition to tree-related work and the cost could be spread across multiple divisions within the Public Works department. The current GovQA platform, and other public-facing resident request systems, are acceptable for permit processing and responding to resident inquiries, but are not appropriate for geospatial public space asset and work management. A desirable platform was identified and proposed in the Department FY23 budget request, but was not included in the final budget. The cost was expected to be approximately $30,000 per year.

5. ***Education and Outreach;***

The City implements a variety of strategies to educate the public on tree care best practices, awareness of City regulations, and promotion of tree planting, including the maintenance of useful resources on the Urban Forestry page of the City's website, responding to resident inquiries, hosting an annual Arbor day event, and publishing newsletter articles and digital content. Developments and activities of note from FY21 and FY22 include the following:

i. In January 2021 the City published its Approved Tree Species list. This list serves to define the tree options that fulfill a replacement planting required for a Tree Removal Permit. It also provides useful information for selecting a tree, including sunlight preferences, moisture needs, expected size at maturity, and other useful notes. This list is compromised entirely of native species.

ii. A major overhaul of the Urban Forestry website has begun in late FY22. It is expected that the new content will go live in the first quarter of FY23. Content will include more robust resources to learn about caring for trees, building healthy soil, managing tree risk, managing vines on trees, and limiting tree impacts during construction. It will also provide a more thorough resource explaining tree permitting requirements and other relevant regulations. And, it will provide a more useful landing page for residents to learn about City tree planting programs and other City urban forestry activities.

iii. The Urban Forest Manager hosted a successful and fun Arbor Day tree walk and community celebration. Representatives from three community groups shared their experiences advocating and conducting service work for the urban forest. The UFM then led a tree walk discussing tree species found along the way.

6. ***Funds the City has received from fees-in-lieu, fines, and forfeited security bonds; and update on the Tree Fund***

Citation, Fee-in-Lieu, and Forfeited Bond Numbers:

	FY21	**FY22** (through 6/6/22)
Citation Payments	$1500	$2184
Tree Removal Permit Fee-in-Lieu Payments	$34,872	$87,672
Forfeited Security Bonds	0	0

Forecast of the Tree Fund.

The Tree Fund currently holds a balance of $200,350. Based on analysis of the previous five fiscal years, we expect the fund to increase at a rate of approximately $40,000 per year. In past years, the City has appropriated $25,000 per year for public space planting. The FY23 budget expands the use of the Tree Fund to $45,000 for public space and private property planting. For FY24 and beyond, the Tree Fund should be able to sustain a draw down of up to $70,000 per year for a sustained seven-year tree planting push, at which point funding sources and target tree planting volume could be reassessed. The upcoming expanded private property tree planting program was conceived of as a way of deploying more of the Tree Fund towards replacing trees lost on private property.

7. ***The number and percentage of native trees and climate adapted trees relative to the total number of trees purchased with City funds.***

All trees planted through the Plant-a-Tree program and in public space were native, with the exception of nine Japanese flowering cherry trees planted as replacements for City installed trees that died out of warranty, which were selected to honor the initial species selection of the adjacent property. The native percentage for FY21 was 99% and for FY22 was 96%.

Takoma Park Approved Tree Species List

Scientific Name	Common Name	Nearest Historically Native State	Size Category	Mature Canopy Height (feet)	Mature Canopy Spread (feet)	Soil Moisture Preference			Sun Preference			Notes
						Dry	Moist	Wet	Full-Sun	Part-Sun	Shade	
Acer rubrum	Red Maple	Maryland	Large	40-75	35-60		x	x	x	x		Surface roots can inhibit other plant growth. Not recommended near pavement. Tolerant of a variety of soil and light conditions
Acer saccharinum	Silver Maple	Maryland	Large	50-85	55-80		x	x	x	x		Surface roots can inhibit other plant growth. Not recommended near pavement.
Acer saccharum	Sugar Maple	Maryland	Large	55-85	45-70		x		x	x	x	Less tolerant of urban conditions than other maples
Aesculus flava	Yellow Buckeye	West Virginia	Large	55-75	45-65		x		x	x		Showy flower, large husked seed
Carya cordiformis	Bitternut Hickory	Maryland	Large	55-85	45-75		x	x	x	x		Large husked nut
Carya glabra	Pignut Hickory	Maryland	Large	55-80	35-50	x	x	x	x	x		Large husked nut
Carya illinoensis	Pecan	Kentucky	Large	75-100	40-75		x		x			Large husked nut, edible
Carya ovata	Shagbark Hickory	Maryland	Large	65-90	50-65		x		x	x		Large husked nut
Carya tomentosa	Mockernut Hickory	Maryland	Large	55-70	45-60		x		x	x		Large husked nut
Celtis laevigata	Sugarberry	Virginia	Large	60-80	60-80		x	x	x	x		Small edible fruit. More tolerant of urban conditions
Celtis occidentalis	Hackberry	Maryland	Large	40-75	40-75		x	x	x	x		More tolerant of urban conditions
Fagus grandifolia	American Beech	Maryland	Large	50-85	45-75		x		x	x		Small husked nut
Gleditsia triacanthos	Honey Locust	Maryland	Large	45-75	45-75	x	x	x	x			More tolerant of urban conditions. Recommend planting cultivated varieties without the large thorns
Gymnocladus dioicus	Kentucky Coffee Tree	Pennsylvania	Large	60-80	40-55		x		x			Showy flower, large pod. More tolerant of urban conditions.
Juglans nigra	Black Walnut	Maryland	Large	65-90	65-90		x		x			Large husked nut. Releases a chemical 'juglone' that can inhibit the growth of other plants
Liquidambar styraciflua	Sweet Gum	Maryland	Large	60-85	50-70		x	x	x	x		Spikey seed capsule, low-fruiting cultivated varieties available. More tolerant of urban conditions
Liriodendron tulipifera	Tulip Poplar	Maryland	Large	65-95	35-50		x		x	x		Showy flower
Magnolia acuminata	Cucumber Magnolia	Maryland	Large	55-85	35-55		x		x	x		Showy flower
Magnolia grandiflora	Southern Magnolia	North Carolina	Large	60-80	30-50		x		x	x		Evergreen, showy flower, showy fruit
Pinus echinata	Shortleaf Pine	Maryland	Large	50-75	35-50	x	x		x			Evergreen
Pinus rigida	Pitch Pine	Maryland	Large	45-70	40-65	x			x			Evergreen
Pinus strobus	Eastern White Pine	Maryland	Large	60-85	30-50	x	x		x	x		Evergreen
Pinus taeda	Loblolly Pine	Maryland	Large	55-90	30-50	x	x	x	x			Evergreen
Platanus occidentalis	American Sycamore	Maryland	Large	75-100	75-100	x	x		x	x	x	Anthracnose can cause deformities and early leaf drop, but most trees can tolerate this without much issue
Populus deltoides	Eastern Cottonwood	Maryland	Large	65-95	45-80		x	x	x			"Cotton"-covered seeds
Populus grandidentata	Bigtooth Aspen	Maryland	Large	50-70	20-40							"Cotton"-covered seeds
Prunus serotina	Black Cherry	Maryland	Large	45-70	25-50	x	x		x	x		Small showy flower, small fruit
Quercus alba	White Oak	Maryland	Large	55-85	50-80		x	x	x	x		Acorns
Quercus bicolor	Swamp White Oak	Maryland	Large	55-75	50-65		x	x	x	x		Acorns. Better suited for urban conditions than other oaks
Quercus coccinea	Scarlet Oak	Maryland	Large	55-75	40-60	x	x		x			Acorns
Quercus falcata	Southern Red Oak	Maryland	Large	65-80	55-65	x	x		x			Acorns
Quercus imbricaria	Shingle Oak	Maryland	Large	45-60	45-60		x		x			Acorns
Quercus lyrata	Overcup Oak	Maryland	Large	40-60	40-60		x	x	x			Acorns
Quercus macrocarpa	Burr Oak	Maryland	Large	65-80	65-80	x	x		x			Acorns
Quercus michauxii	Swamp Chestnut Oak	Maryland	Large	50-70	55-75		x	x	x			Acorns
Quercus montana (prinus)	Chestnut Oak	Maryland	Large	50-75	55-70	x	x		x	x		Acorns
Quercus muehlenbergii	Chinquapin Oak	Maryland	Large	50-65	50-65	x	x		x			Acorns
Quercus nigra	Water Oak	Maryland	Large	50-80	45-70		x	x	x	x	x	Acorns
Quercus palustris	Pin Oak	Maryland	Large	55-75	40-60		x	x	x			Acorns
Quercus phellos	Willow Oak	Maryland	Large	55-80	35-55		x	x	x	x		Acorns. Better suited for urban conditions than other oaks
Quercus rubra	Northern Red Oak	Maryland	Large	55-80	55-75	x	x		x	x		Acorns
Quercus stellata	Post Oak	Maryland	Large	45-55	45-55	x	x		x			Acorns
Quercus velutina	Black Oak	Maryland	Large	60-75	60-75	x	x		x			Acorns
Tilia americana	American Linden	Maryland	Large	60-85	40-60		x		x	x	x	Notable nectary for bees and honey production
Tsuga canadensis	Eastern Hemlock	Maryland	Large	50-80	30-40		x			x	x	Evergreen, Wooly adelgid can lead to premature decline
Ulmus americana	American Elm	Maryland	Large	65-85	50-75		x	x	x	x		Dutch elm disease can lead to premature decline, disease resistant varieties available

Scientific Name	Common Name	Nearest Historically Native State	Size Category	Mature Canopy Height (feet)	Mature Canopy Spread (feet)	Soil Moisture Preference			Sun Preference			Notes
						Dry	Moist	Wet	Full-Sun	Part-Sun	Shade	
Acer negundo	Box elder	Maryland	Medium	30-55	30-55		x	x	x	x		Fast growing. Somewhat weedy habit
Aesculus glabra	Ohio Buckeye	Pennsylvania	Medium	20-40	20-40		x		x	x		Showy flower, large husked seed
Betula lenta	Sweet Birch	Maryland	Medium	45-65	35-50	x	x		x	x		
Betula nigra	River Birch	Maryland	Medium	45-70	40-55	x	x	x	x	x		More tolerant of urban conditions than other birches. Attractive bark
Catalpa Speciosa	Northern Catalpa	Kentucky	Medium	40-65	20-45		x	x	x	x		Showy flower, long 'bean pods'.
Chamaecyparis thyoides	Atlantic White Cedar	Maryland	Medium	35-60	20-30		x	x	x	x	x	Evergreen
Cladrastis kentukea	American Yellowwood	Virginia	Medium	30-50	40-55		x		x			Showy flower
Diospyros virginiana	Common Persimmon	Maryland	Medium	40-65	25-40	x	x		x	x		Edible fruit
Halesia carolina	Carolina Silverbell	West Virginia	Medium	30-40	20-35		x		x	x		Showy flower. Somewhat tender when young, though reported to tolerate urban conditions when established
Ilex opaca	American Holly	Maryland	Medium	25-45	15-35		x		x	x	x	Evergreen
Juniperus virginiana	Eastern Red Cedar	Maryland	Medium	40-65	15-30	x	x		x			Evergreen
Maclura pomifera	Osage Orange	Arkansas	Medium	30-50	30-50	x	x		x	x		Large spherical fruit and small thorns, fruitless and thornless varieties available
Magnolia macrophylla	Bigleaf Magnolia	North Carolina	Medium	30-40	30-40		x		x	x		Showy flower, showy fruit
Morus rubra	Red Mulberry	Maryland	Medium	35-60	35-50		x		x	x		Edible fruit. Not to be confused with the invasive white mulberry.
Nyssa sylvatica	Black Gum	Maryland	Medium	30-60	20-35	x	x	x	x	x		Small fruit
Ostrya virginiana	Hop Hornbeam	Maryland	Medium	25-45	20-35		x		x	x	x	More tolerant of urban conditions.
Pinus serotina	Pond Pine	Maryland	Medium	40-55	30-50		x	x	x			Evergreen
Pinus virginiana	Virginia Pine	Maryland	Medium	35-60	10-30	x	x		x			Evergreen
Quercus marilandica	Blackjack Oak	Maryland	Medium	30-45	30-45	x	x		x	x		Acorns
Quercus shumardii	Shumard Oak	Maryland	Medium	40-60	35-50	x	x		x			Acorns
Robinia pseudoacacia	Black Locust	Maryland	Medium	30-50	20-35	x	x		x			Showy flower. small thorns. Cracked-cap polypore and locust borer can be problems
Salix nigra	Black Willow	Maryland	Medium	35-55	25-50		x	x	x	x		Very fast growing, aggressive water-seeking roots can be problematic
Sassafras albidum	Sassafras	Maryland	Medium	30-55	30-45	x	x		x	x		Root suckers/thicket-forming
Taxodium distichum	Bald Cypress	Maryland	Medium	50-80	20-35		x	x	x	x		Deciduous conifer. More tolerant of urban conditions
Ulmus rubra	Slippery Elm	Maryland	Medium	40-65	30-50	x	x		x	x	x	Dutch elm disease can lead to premature decline, less susceptible than American Elm
Amelanchier arborea	Downy Serviceberry	Maryland	Small	15-25	15-25	x	x		x	x	x	Showy flower, edible fruit
Amelanchier canadensis	Serviceberry	Maryland	Small	20-35	20-30		x	x	x	x	x	Showy flower, edible fruit
Amelanchier laevis	Allegheney Serviceberry	Maryland	Small	15-35	15-35		x		x	x		Showy flower, edible fruit
Asimina triloba	Paw Paw	Maryland	Small	15-30	15-30		x	x	x	x	x	Edible fruit.
Carpinus caroliniana	American Hornbeam	Maryland	Small	20-35	25-40		x			x	x	
Cercis canadensis	Eastern Redbud	Maryland	Small	20-30	25-35	x	x		x	x	x	Showy flower
Chionanthus virginicus	White Fringetree	Maryland	Small	15-30	15-30	x	x		x	x	x	Showy flower
Cornus alternifolia	Alternate-Leaf Dogwood	Maryland	Small	15-25	20-35		x		x	x	x	Showy flower
Cornus florida	Flowering Dogwood	Maryland	Small	20-40	20-40	x	x		x	x		Showy flower. Dogwood anrthacnose fungus can lead to premature decline
Crataegus crusgalli	Cockspur Hawthorn	Maryland	Small	20-35	20-35	x	x		x	x		Showy flower, showy fruit, thorns
Crataegus viridis	Green Hawthorn	Maryland	Small	20-35	20-35	x	x	x	x	x	x	Showy flower, showy fruit, thorns
Crategus phaenopyrum	Washington Hawthorn	Maryland	Small	25-30	25-30		x		x			Showy flower, showy fruit, thorns
Hamamelis virginiana	Witch Hazel	Maryland	Small	20-25	20-25		x		x	x		Showy flower. Often multi-stemmed, grows as a very large shrub or small tree
Magnolia virginiana	Sweetbay Magnolia	Maryland	Small	15-35	10-30		x	x	x	x	x	Semi-evergreen, showy flower, showy fruit
Malus coronaria	American Crabapple	Maryland	Small	15-30	20-30		x		x			Showy flower, showy fruit
Oxydendrum arboreum	Sourwood	Maryland	Small	25-40	15-25		x		x	x		Showy flower, showy fruit, not tolerant of poor soil
Prunus americana	American Wild Plum	Maryland	Small	15-30	15-30	x	x		x	x		Showy flower, edible fruit
Prunus pensylvanica	Pin Cherry	Maryland	Small	25-40	20-30	x			x	x		Showy flower, small fruit
Prunus virginiana	Chokecherry	Maryland	Small	20-35	20-25		x		x	x		Showy flower, small fruit
Rhus typhina	Staghorn Sumac	Maryland	Small	15-25	20-30	x	x		x	x		Showy seed head, thicket-forming

Updated: January 2021

Using the Approved Tree Species List

Introduction

This species list is intended to serve as a guide for species selection in Takoma Park. The City has established a policy of using only native species when possible for tree planting. Trees provide many ecological benefits to our community but it is important that the right tree be selected for a given place. Not every tree will thrive in every location so it is important to consider the site soil and light condition.

One of the best indicators of a tree's ecological contribution is its canopy size. A larger canopy will provide more cooling shade to the city and your property, intercept and transpire more stormwater, provide more habitat for wildlife, and sequester more carbon dioxide. And larger trees tend to be of species that live longer lives. You can maximize the benefits your tree will provide by selecting a species that will eventually grow to have a healthy-sized canopy.

There are other factors than those that have been included in this list that you may want to consider when selecting a tree. When in doubt, work with local extension agents, landscape designers or arborists to select the best tree for your site.

In addition to being a helpful resource for residents, this list provides the approved species for fulfilling a replanting required as a condition for receiving a Tree Removal Permit. It is also the list from which all trees planted by the city will be selected from.

The following notes give context to some of the details provided in the species list. Happy tree planting.

Tree Size at Maturity

Multiple resources were consulted in determining the likely mature sizes of each tree species. The numbers given should be assumed to refer to the likely average mature size for a specimen grown in full sun or in its typical natural growing conditions. Many factors influence size including proximity to other trees and structures that limit access to light or space, access to nutrients and water, and quality of soil. The occasional exceptional specimen is likely to exceed the maximum height and canopy spread values provided. Also, of course, consider that many of these species will take up to a century or longer to achieve the noted dimensions. In the wise words of Wendell Berry:

> Invest in the millennium. Plant sequoias.
> Say that your main crop is the forest
> that you did not plant,
> that you will not live to harvest.

Tree Size Category

Trees have been given a size category designation of 'Small', 'Medium', or 'Large'. This is intended to reflect the extent to which a tree of this species might contribute to the urban forest canopy of Takoma Park. Size categories were determined primarily based on an average of the height and spread ranges listed by reputable sources. In some cases, professional experience was referred to in applying a size category most reflective of a species' typical mature size in our area and in cases where canopy spread was significantly less than height.

Preferred Growing Conditions

The light and moisture information provided should be assumed to be the conditions in which the species will be able to grow well and thrive. Some species are better able to tolerate conditions outside of their preferred range. If your soil conditions are especially dry or wet or your soil is particularly

compacted or exceptionally sandy, it is advisable to conduct additional research and/or consult with a landscape professional to determine the most appropriate species for your site. Note that soils in urban areas are often far more compacted than is ideal for tree growth. Soil remediation and soil building can greatly improve the ability of a tree to thrive, fend off insects and disease, and live a long and happy life. Consider conversion away from lawn cover and towards a woody mulched cover to improve your soil over time and to best serve trees. In extreme cases of compaction more intensive soil remediation may be warranted.

Moisture Preference Key	***Sun Preference Key***
Dry: Soil never remains saturated	Full-Sun: 6+ hours of sun per day
Moist: Soil occasionally remains saturated	Part-Sun: 3-6 hours of sun per day
Wet: Soil frequently saturated	Shade: <3 hours of sun per day

Biodiversity, Emerging Pest and Disease Pressures, and Climate Resilience

With the introduction of exotic pests and diseases that can devastate tree populations and with the changing climate leading to shifts and uncertainty in what species are best able to thrive in a given region, diversity of species is more important than ever to maintaining a durable and resilient urban forest. The goal is to spread our eggs between as many baskets as possible so as to limit the losses due to any one insect or disease outbreak in the urban forest and to hedge our bets against the uncertainty of which species will do best in future climate conditions. The user is encouraged to assess the species of trees already present in their neighborhood and to consider different species that will increase the diversity, while also being well suited for the growing conditions on the site.

Wildlife Value

Trees can serve wildlife in many ways. Evergreen trees can provide winter shelter to birds. Trees with fruits and nuts can provide nutrition for birds and other animals. Flowers can provide nectar for pollinators. Some trees have leaves that are preferred by native insects, which in turn feed animals higher up the food chain.

Due to the complexity inherent in assessing wildlife value, this list does not attempt to determine which trees are better than others at providing that value. The user is encouraged to consider value to native wildlife in their decision-making process and to consult the latest scientific research and professional guidance to select an appropriate tree species for these goals.

Native Species

There are many lenses through which to assess what species should be considered native to a given place. There are also many reasons to value native species. Typically, nativeness of a species is defined by a selected geographic boundary (East of the Mississippi, Mid-Atlantic Region, Maryland, Montgomery County, Takoma Park, your back yard…) and temporal boundaries or historical milestones (Pre-European settlement, post-glacial retreat). Native plants are valuable to the extent that they are coevolved with the other wildlife of the area and to the extent that they support a diverse and resilient ecology. Native plants can also be considered valuable as part of our ecological heritage and to be intrinsically worth preserving. It is worth keeping in mind that just because a plant is native to somewhere in Maryland, say at the top of a mountain near Cumberland, it does not necessarily mean that it will thrive in or serve the local ecology of Takoma Park.

Plant communities, climate conditions, and landscape conditions are not static over the course of time. Changing climates lead to migration of plant species and communities. The most recent glacial period

was only about 12,000 years ago and the plant communities present in a given site have been changing by the century ever since. These migrations happen slowly and usually with species moving from adjacent regions, not jumping half way around the world.

With all of this in mind, a flexible regional definition of what is native has been applied to this list. The vast majority of species selected are documented to have been historically present in Maryland prior to European settlement. Some species that were historically present a few hundred miles to the south or west of Maryland where similar growing conditions and ecological communities occur and that are well-adapted to the climate and growing conditions in Takoma Park have also been included. A few species historically found as far as the Mississippi river but that are noted as species especially tolerant of urban conditions and suited for local ecological conditions have been included as well. This approach serves to maximize the biodiversity of our urban forest and to account for how species may have naturally shifted ranges over time and changing conditions while avoiding concerns of introducing exotic species that carry a heightened risk of becoming invasive and/or damaging local ecological balance.

Data on species native ranges were drawn from maps published by the U.S. Forest Service.

Criteria for Inclusion on this Species List

- Species with a maximum canopy height at maturity of twenty-five feet or more.
- Species native to Maryland and expected to thrive in Takoma Park. Note that some species that may be native to more mountainous parts of Maryland and would not be expected to thrive in Takoma Park have been omitted.
- Selected species native to the broader Eastern United States that are ecologically suited to conditions in Takoma Park and are good candidates for use in the urban landscape.
- Species without crippling insect or disease problems. All species of ash (*Fraxinus spp.)* and American chestnut (*Castanea dentata*) have been left off for this reason.
- Note that for the sake of brevity some discretion has been used in omitting certain less common native species unlikely to be found in the nursery trade. Other trees native to Maryland may be considered for planting in Takoma Park. Contact the Urban Forest Manager if there are any questions.

Resources Referenced

The following resources were referenced in the creation of this list:

Dirr, M. A. (2010). *Manual of woody landscape plants: Their identification, ornamental characteristics, culture, propagation and uses*. Champaign, IL: Stipes.

Missouri Botanical Gardens. (2020). Plant Finder. Retrieved December, 2020, from http://www.missouribotanicalgarden.org/plantfinder/plantfindersearch.aspx

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Fryer, Janet L., comp. 2018. *Tree species distribution maps from Little's "Atlas of United States trees" series. In: Fire Effects Information System*, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: https://www.fs.fed.us/database/feis/pdfs/Little/aa_SupportingFiles/LittleMaps.html [92602]