

TreeLC
MillionTreesNYC Tree Adoption Program

HANDBOOK

MillionTreesNYC Tree Care Guide



milliontreesNYC
A PLANYC INITIATIVE WITH NYC PARKS AND NEW YORK RESTORATION PROJECT

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Welcome tree keepers! By joining the MillionTreesNYC Stewardship Corps, you are helping make New York a more beautiful and sustainable city for generations to come. The *TreeLC Handbook* is designed to be useful to New York City residents who are interested in adopting and caring for trees in their neighborhood. MillionTreesNYC is a public-private partnership among New York City Mayor Michael R. Bloomberg's PlaNYC sustainability initiative, the New York City Department of Parks & Recreation and New York Restoration Project that establishes the goal of planting and caring for one million new trees throughout the city's five boroughs by 2017.

In addition to tree planting and care, MillionTreesNYC focuses on adult and youth education, community outreach, public policy and advocacy, and urban forestry research. Visit www.milliontreesnyc.org to learn more about New York City's urban forest, ways to get involved and how to adopt a street tree.

The *TreeLC Handbook* includes content adapted from *Make Every Day an Arbor Day*, supported by the New York State Department of Environmental Conservation, a how-to workbook for elementary or junior high school teachers committed to incorporating the concepts of tree planting and care into their classrooms. Additional content was adapted from outreach and educational materials from Trees New York, Brooklyn Botanic Garden, The New York Botanical Garden and Partnerships for Parks.

The *TreeLC Handbook* was made possible by generous funding from the Mayor's Fund to Advance New York City.

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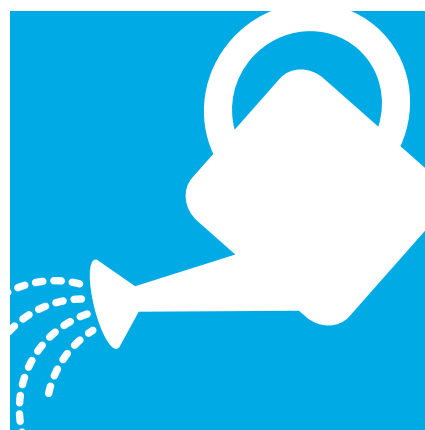




MillionTreesNYC Stewardship Corps

We need your help to keep newly planted trees healthy and green! City trees face threats from both city dwellers and the urban environment. People throw trash at them and slam car doors into their trunks. Pets use their beds as litter boxes. Concrete and asphalt prevent water from reaching their roots and air pollution damages their leaves. But change is in the air! With tree keepers like you protecting, nurturing, watering and beautifying, many more trees will grow and thrive.

Recognizing these needs, MillionTreesNYC launched a citizen-based tree-care program in June 2009, providing intensive workshops in urban tree care and connecting New York City residents with the tools they need to take care of trees in need of TreeLC.



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STEWARDSHIP CORPS



A student beautifying her tree bed

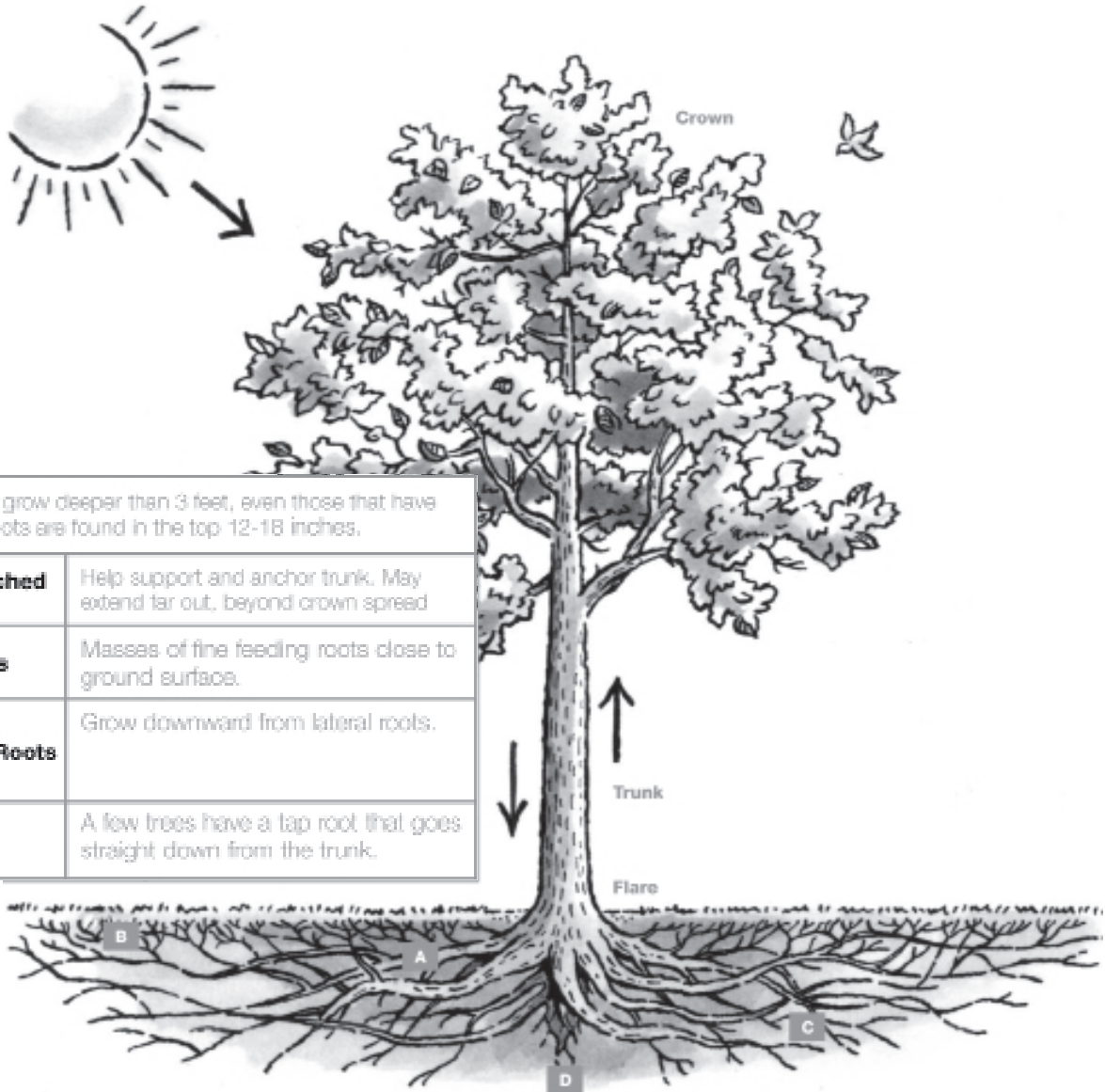
Under the banner of MillionTreesNYC, Brooklyn Botanic Garden, Greenbelt Conservancy, GreenThumb, The New York Botanical Garden, New York City Department of Parks & Recreation, New York Restoration Project, Partnerships for Parks, Queens Botanical Garden and TreesNY will build a collaborative, community-based network of tree keepers across the city's five boroughs.

MillionTreesNYC tree keepers engage everyday New Yorkers in urban tree care and maintenance with tree-care and community organizing workshops, tree-care toolkits and online coordination of tree adoption and tree care. Visit www.milliontreesnyc.org to find out about upcoming workshops and learn how you can adopt and care for newly planted trees.



Guide to Trees in New York City

Start here to learn about the parts of a tree and how to use leaf shape to identify trees in your neighborhood.



Tree Roots rarely grow deeper than 3 feet, even those that have a tap root. Most roots are found in the top 12-18 inches.

A	Lateral Branched Roots	Help support and anchor trunk. May extend far out, beyond crown spread
B	Fibrous Roots	Masses of fine feeding roots close to ground surface.
C	Deeply Descending Roots ("Sinkers")	Grow downward from lateral roots.
D	Tap Root	A few trees have a tap root that goes straight down from the trunk.

Cambium is the layer of cells where growth in diameter occurs. It builds **Xylem** on the inside and **Phloem** on the outside.

Phloem cells allow the food made in the leaves to travel down to the branches, trunk and roots.



Xylem cells allow the sap to flow up from roots to the leaves.

Heartwood is composed of old, inactive xylem cells that give strength to the tree.



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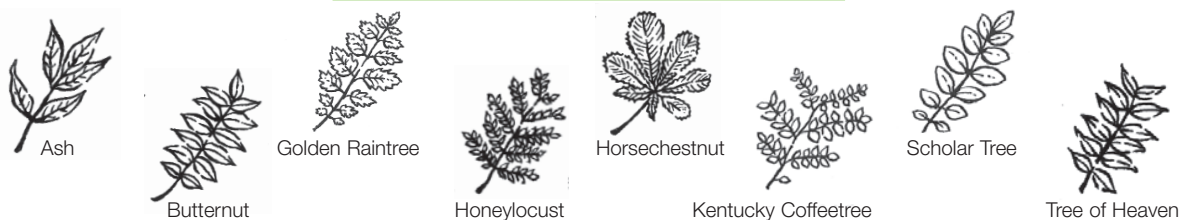
Guide to Trees in New York City

TREE IDENTIFICATION

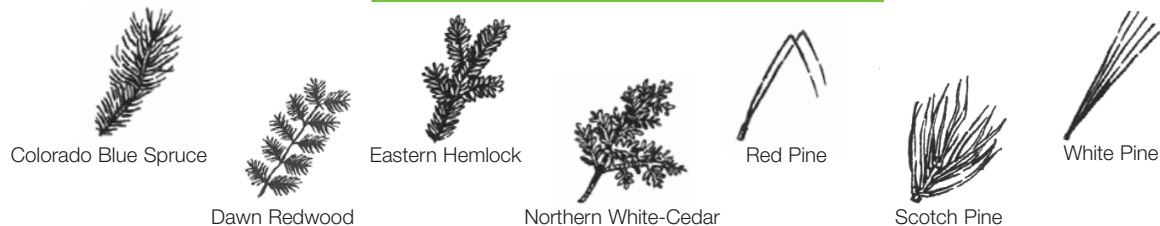
DECIDUOUS LEAVES – SIMPLE



DECIDUOUS LEAVES – COMPOUND



CONIFERS



Tree Benefits

Trees do more than you think! According to the U.S. Forest Service, New York City's street trees bring the city an annual benefit value of 122 million dollars!



Autumn in New York

Energy Savings:

- Trees reduce the need for air conditioning in the summer by shading buildings.
- Trees help cool down New York City, which is typically almost 10 degrees Fahrenheit hotter than surrounding areas.
- Trees, especially evergreens, reduce the need for heat in the winter by shielding buildings and windows from cold winds.

Environmental Benefits:

- Trees absorb carbon dioxide and release oxygen.
- Trees remove ozone, pollution and particulate matter from the air. Each year 272 tons—the equivalent of 40 adult elephants—of air pollution are intercepted or absorbed by trees in New York City.
- Trees help retain stormwater and prevent pollution from entering groundwater and rivers. The average New York City street tree intercepts 1,432 gallons of stormwater each year; in total, New York City's street trees capture 890 million gallons of stormwater per year.



Tree Benefits



A weeping willow in Queens

Human Health Benefits:

- The air-cleaning properties of trees help reduce pollutants in the air that trigger respiratory ailments such as asthma.
- Trees shade playgrounds, sidewalks and parks, encouraging physical activity and overall fitness.

Mental Health Benefits:

- Trees are aesthetically pleasing—beautifying our neighborhoods and streets.
- Trees may help to reduce crime.
- Trees can encourage drivers to slow down.
- Trees enhance our emotional and mental health.



Tree Adoption

TREE ADOPTION



A New York City Housing Authority resident and her adopted tree

The environmental benefits of trees are directly related to tree size. Trees neutralize pollutants as they absorb carbon dioxide and water from the environment. Because this process takes place in a tree's leaves and branches, the benefits increase as a tree grows in size. So it is in everyone's interest to help trees grow and thrive!

The first step to tree care is adoption. Look around your neighborhood. Are there new trees in the ground? Trees that have been in the ground for less than five years are most vulnerable. You will see new trees planted just about everywhere in New York City: sidewalks, schoolyards and playgrounds, public housing developments, parks and more. If you want to adopt a tree that is not located on a sidewalk, be sure to contact the appropriate authorities. To adopt street trees planted since 2007 and track your volunteer work, visit www.milliontreesnyc.org/stewards.

For the benefit of tree keepers adopting street trees, the New York City Department of Parks & Recreation created the MillionTreesNYC online stewardship program. Visit <http://www.milliontreesnyc.org/stewards> to:

Adopt specific street trees in your neighborhood. Using the online program, you can find the trees on your block available for adoption and commit to care for them.



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Add Activity | Add Trees | My Activities | My Trees | My Info | Library

Hi, Ellen! | [Log out](#) | [Instructions](#) | [Contact Us](#)

Add Activity

Select which trees of your trees the activity was performed on, and then please let us know the details of what was done and when you did it. **Please note:** if you performed different activities on different trees (for example watered one and weeded around another) please submit separate activity reports for each.

Which of your trees do you want to add activity for?

- ☒ The 1st Japanese Zelkova tree adjacent to 26-050 28 St

What date did the activity take place?

On

How long did the activity take?

Hours Minutes

Please describe the stewardship activity (e.g., watering, weeding, planting, etc.):

Is something wrong with your tree? To report a dead, sick, damaged or endangered tree, please call 311 immediately.

[Cancel](#) [Save This Activity](#)

Report watering, weeding and other tree-care activities.

You can write as little or as much as you want and you can always come back and change it later.

Learn how to care for trees and access helpful resources.

In addition to tree-care information, you can find tree-care organizations in your neighborhood and links to educational materials on the MillionTreesNYC website and elsewhere on the web.

Track your tree care. You can see the total number of hours you have invested or go back to find an activity that you need to delete or change. You can view all of your activities or search by date or tree.



Tree Care

Before you begin, collect the tools you'll need:

- Trowel (for planting)
- Cultivator (for weeding and soil improvement)
- Weeder (for weeding)
- Gloves
- Hose / Bucket
- Shredded bark mulch, wood chips or leaf mulch
- Trash bags
- Flowers or bulbs (optional)
- Compost (optional)

The four basic categories of tree care are: protect, nurture, water and beautify.

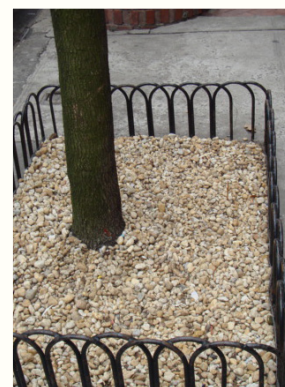
Protect:

This is a good place to begin tree care. Before you can nurture, beautify or water, your tree must be safe.

- Teach your community about the importance of picking up litter and leaving trees undisturbed.
- Consider installing a low fence (about 18 inches high) called a tree bed guard to protect your tree from animals, foot traffic and bicycles. If your tree bed guard is on the curb, leave the side closest to the street open to avoid blocking vehicle doors and passengers.



Students beautifying a tree bed in Queens



A tree bed guard in Brooklyn



TIP: For an easy, do-it-yourself tree bed guard, follow these instructions:

Drive four sturdy wooden stakes or lengths of pipe in the ground around your tree. For safety, make sure the tops of the stakes are rounded.

Drill holes through the stakes or pipes, then loop rope or chain through them.

Remember, your tree will grow, so be sure to put the tree bed guard around the perimeter of the tree bed, at least three to four feet from the tree. Also, make sure the bottom of the guard allows rainwater to flow into the tree bed from surrounding areas.



Tree Care

Protect (continued):

- The Asian Longhorned Beetle (ALB) is an invasive insect that feeds on many tree species in New York City, including maple, willow, birch, elm, poplar and sycamore.

How to spot ALB infestation:

- **Look** for beetles on trees or slowly flying from tree to tree. They are most active between June and November.
- **Examine** tree trunks carefully. If you see small, round holes about the size of a dime, this could be evidence that beetles have matured inside the trees and have eaten their way out.
- **Carefully observe** the soil at the bottom of the trees. There may be frass (wood particles mixed with ALB feces) that is left behind when adult beetles exit the trees.
- **Report** any tree that you think is infested with ALB to the ALB hotline (1-877-STOPALB).



ALB exit hole with frass



Tree Care

Nurture:

Once your tree is safe, it's time to think about its health and environment.

- Keep the area around your tree free of trash and animal waste.
- Pull up weeds growing around your tree. Weeds compete with the tree for vital nutrients and water. Pull weeds throughout the season, but be especially careful to pull weeds in the early fall before they dry and their seeds spread.
- Loosen the top two to three inches of soil to help water and air reach the tree's roots. Be careful not to damage the roots.
- Add one inch of compost to the soil around your tree. Be sure to keep raised soil away from the trunk of the tree. You should be able to see the base of the tree where the trunk begins to spread into roots.
- Create a ring of mulch around the base of the trunk. Make sure that no mulch touches the trunk. Mulch should be shallow (three to four inches deep) but wide—the ring can be as wide as the branches of a newly planted tree. Mulch smothers weeds, helps retain moisture and makes good compost when it breaks down.
- Replenish mulch as it breaks down and replace it every spring if it has been contaminated by toxic salts from winter snow removal or dog waste.



Tree keepers creating a mulch ring



TIP: You can contact Trees New York to earn a pruning permit or find a pruner. If you care for a street tree, be aware that only permitted arborists or contractors are authorized to prune your tree. The New York City Department of Parks & Recreation prunes street trees on a regular cycle. For tree emergencies, call 311.



A tree in need of pruning



Tree Care

Water:

Many city trees are surrounded by paved surfaces that cannot absorb water. To survive, they need help from us.

- Look around to see if there is a spigot for water on the outside of your building. You can also carry a bucket of water from your home. Finding a water source is one of the biggest challenges facing tree stewards. Be creative! If there is a community garden near the newly planted trees, they may have access to a hydrant. Try asking your building superintendent or local businesses for access to an outdoor spigot.
- Water each tree with 15 to 20 gallons once a week between May and October. In times of drought or extreme heat, your tree may need more water. If there is one inch or more of rain, the tree may need less. Gently investigate the soil two to three inches below the surface to see if the soil is dry and needs water.
- Water slowly so the water soaks into the soil and does not run off the surface. If you made a ring of mulch or soil around the tree, this will hold the water for slow absorption.
- Aerating the soil around your tree will also help with absorption. When soil is broken up and soft, water can penetrate it more easily.



Children watering their tree



A tree irrigation bag



TIP: Watering with less than 15 to 20 gallons leads to unhealthy surface root growth. A slow, deep watering is best for the tree. A tree irrigation bag can hold 15 to 20 gallons for slow absorption.



Tree Care

Beautify:

Tree bed gardening is a great way to green your neighborhood. It also encourages neighbors to curb their dogs and avoid walking through tree beds. But remember, when planning a tree bed garden, put the health of your tree first!

- Plant small annuals or small bulbs around your tree. This shows the world that the tree is being cared for. Also, wilting plants are a good indicator that your tree needs to be watered.
- Small annuals and bulbs will have less impact on your tree. Large annuals, perennials or bulbs require larger planting holes that can damage tree roots. They also tend to have larger root systems and compete with the tree for water and nutrients.
- Choose plants with low water requirements. Look for phrases like “drought tolerant” and “good for xeriscaping” in plant descriptions.
- Most bulbs need at least a half-day of sun. Because many trees lack leaves in early spring when most bulbs are in bloom, tree beds are an ideal environment for many small bulbs.



Crocuses in a tree bed



Tree beds planted with flowers on a commercial street



TIP: Create a beautiful tree bed garden with any of the following species:

Annuals: Dusty Miller, Rock Rose, Marigold, Verbena, Zinnia, Nasturtium, Licorice Plant, Impatiens and Coleus.

Bulbs: Crocus, Bluebells (prefer more shade), Chinodoxia, Winter Aconite, Lily-of-the-Valley, Snow Drops and Grape Hyacinth.





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Tree Don'ts!

Take a stroll through your neighborhood and you'll see tree-care mistakes made by well-intentioned tree keepers. For the health of your tree, be sure to avoid the common mistakes pictured below.

DON'T
place a tree
guard or
any other
structure
against or
near your
tree.



DON'T
install a tree
bed guard
that prevents
rainwater
from running
off the
sidewalk and
into your
tree bed.



DON'T
build a tree
bed guard
that sig-
nificantly
reduces the
size of the
tree bed.



DON'T
build a mulch
volcano.



DON'T
raise the soil
level around
your tree.



DON'T
plant woody
shrubs in
your tree
bed.





Tree Care Calendar

Check in with this calendar each month to see what you can do for your trees.

JANUARY

- Inspect trees for disease, insects or vandalism*
- Pick up free mulch at MulchFest**

FEBRUARY

- Inspect trees for disease, insects or vandalism
- Call 311 for dead street tree or park tree removal

MARCH

- Remove winter mulch soaked with salt or dog waste
- Apply three to four inches of mulch around base of the tree to form a ring

APRIL

- If planted near the street or sidewalk, wash salt off trees while the ground is still frozen
- Celebrate MillionTreesNYC Month, Arbor Day and Earth Day

MAY

- Water weekly if the soil around the trees is dry***
- Using a hand trowel, loosen the top two to three inches of soil around tree roots
- Plant small flowers or bulbs around the base of your trees

JUNE

- Inspect depth of mulch, mulch should be three to four inches thick
- Water weekly
- Inspect trees for disease, insects or vandalism
- Pull weeds

JULY

- Water weekly
- Pull weeds
- Inspect for insects and diseases

AUGUST

- Water weekly
- Pull weeds
- Inspect for insects and diseases

SEPTEMBER

- Water weekly
- Remove stakes and ties from trees that have been in the ground for more than two years

OCTOBER

- Water young evergreen trees before the ground freezes
- Plant bulbs around the base of your trees
- Refresh mulch ring around the base of your trees

NOVEMBER

- Water young evergreen trees before the ground freezes
- Inspect trees for disease, insects or vandalism

DECEMBER

- Place Christmas tree branches around trees to absorb salt and dog waste

* Report street or park tree vandalism to 311.
 ** For more information, visit <http://www.nycgovparks.org/services/mulchfest/mulchfest.html> or call 311.
 *** Water each tree with 15 to 20 gallons.





Resources

Need a pruner? Need to find mulch?
Want to learn how to make New York City
a more sustainable city?
This resource list will get you started.

EDUCATIONAL RESOURCES:

Schedule a free tree-care workshop:

MillionTreesNYC—email stewards@milliontreesnyc.org or visit the community calendar at www.milliontreesnyc.org

Learn how to compost:

Visit www.nyccompost.org or contact a program near you:

Bronx: The New York Botanical Garden, call 718-817-8543, email bronxgreenup@nybg.org or visit www.nybg.org/compost

Brooklyn: Brooklyn Botanic Garden, call 718-623-7290, email compost@bbg.org or visit www.bbg.org

Manhattan: Lower East Side Ecology Center, call 212-477-3155, email info@leseecologycenter.org or visit www.lesecologycenter.org

Queens: Queens Botanical Garden, call 718-539-5296, email compost@queensbotanical.org or visit www.queensbotanical.org

Staten Island: Snug Harbor Cultural Center and Botanical Garden, call 718-425-3558, email compost@snug-harbor.org or visit www.snug-harbor.org

Participate in a free fellowship program that supports community-based parks groups and individual volunteers in developing street tree-care projects and learn more about the Capacity Fund grant program:

Partnerships for Parks—Call 212-360-1310 or visit www.partnershipsforparks.org

Attend a free workshop on community organizing:

Citizen's Committee for New York City's Neighborhood Leadership Institute—Call 212-989-0909, email info@citizensnyc.org or visit www.citizensnyc.org

Find educational activities and materials for your children or students:

MillionTreesNYC—Visit the resources page on www.milliontreesnyc.org

Learn about rainwater harvesting:

Water Resources Group—

Visit www.waterresourcesgroup.org

Coordinate a recycling workshop for your building:

Council on the Environment for New York City Office of Recycling Outreach and Education—Call 212-676-2081

MATERIAL RESOURCES:

Get free mulch:

New York City Department of Parks & Recreation—Call your Parks borough office to find mulch in parks near you:

Bronx: 718-430-1800

Brooklyn: 718-965-8900

Manhattan: 212-408-0100

Queens: 718-520-5900

Staten Island: 718-390-8000

Get free seeds:

America the Beautiful Fund—Call 202-638-1649, email info@america-the-beautiful.org or visit www.america-the-beautiful.org

The World Seed Fund—Call 360-385-7192, email info@seedalliance.org or visit www.seedalliance.org

ASSISTANCE:

Find a pruner or sign up for a pruning class:

Trees New York—Call 212-227-1887, email info@treesny.org or visit www.treesny.org

Report a dead, injured or vandalized street tree:

Call 311 with as much information as possible

Report a suspected ALB Infestation:

Call 1-877-STOPALB

Request a street tree:

MillionTreesNYC—Call 311 or visit www.milliontreesnyc.org

GET INVOLVED:

Adopt a tree in your neighborhood:

MillionTreesNYC—Call 212-333-2552 or visit www.milliontreesnyc.org/stewards

General Information

Visit www.nyc.gov or call 311.

Donate

Visit www.milliontreesnyc.org and click “support MillionTreesNYC.”

Share your tree adoption success stories:

MillionTreesNYC—Visit www.milliontreesnyc.org and look for the My Tree section of Get Involved





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Brooklyn Botanic Garden is a 52-acre living museum where beauty, romance and fun blossom among world-class plant collections and specialty gardens. Brooklyn Botanic Garden is also deeply committed to education, community outreach and scientific research. They provide technical assistance and resources for community gardens and institutions, as well as information on composting in your own backyard. Contact: www.bbg.org or 718-623-7200.



The Greenbelt consists of more than 2,800 acres of public and private land in central Staten Island and includes natural areas and traditional parks. The Greenbelt Conservancy is a not-for-profit organization founded in 1989 that works in partnership with the New York City Department of Parks & Recreation to oversee the operation, administration and public use of the parkland of the Greenbelt, the largest of New York City's five flagship parks. Contact: www.sigreenbelt.org or 718-667-2165.



GreenThumb is the largest community gardening program in the country. Since 1978, GreenThumb has worked to strengthen gardens, gardeners' skills and communities by providing materials and technical assistance. Contact: www.greenthumbnyc.org or 212-788-8070.



The New York Botanical Garden is a museum of plants, an educational institution and a scientific research organization. Founded in 1891 and now a National Historic Landmark, it is one of the greatest botanical gardens in the world and the largest in any city in the United States, distinguished by the beauty of its diverse landscape and extensive collections and gardens, as well as by the scope and excellence of its programs in horticulture, education and science. Contact: www.nybg.org or 718-817-8700.



The New York City Department of Parks & Recreation is the steward of about 29,000 acres of land—14 percent of New York City—including more than 5,000 individual properties ranging from Coney Island Beach and Central Park to community gardens and Greenstreets. They operate more than 800 athletic fields and nearly 1,000 playgrounds, 550 tennis courts, 66 public pools, 48 recreational facilities, 17 nature centers, 13 golf courses and 14 miles of beaches. They care for 1,200 monuments and 22 historic house museums. They look after 600,000 street trees, and two million more in parks. They are New York City's principal providers of recreational and athletic facilities and programs. Contact: www.nycgovparks.org or 311.



New York Restoration Project is a non-profit organization dedicated to reclaiming and restoring New York City parks, community gardens and open space. In partnership with the City of New York, NYRP is also leading MillionTreesNYC—an initiative to plant and care for one million new trees throughout New York City's five boroughs by 2017. Contact: www.nyrp.org or 212-333-2552.



Partnerships for Parks is an innovative joint program of City Parks Foundation and the New York City Department of Parks & Recreation. Founded in 1995, Partnerships for Parks helps New Yorkers work together to make neighborhood parks thrive, ultimately supporting a culture of collaboration among people and government that recognizes that parks are vital centers of community life. They specialize in providing in-depth support to community-based parks groups in project development. Contact: www.partnershipsforparks.org or 212-360-1310.



The Queens Botanical Garden—a living museum serving the most ethnically diverse county in the United States—is committed to presenting collections, education and research initiatives and programs that demonstrate environmental stewardship, promote sustainability and celebrate the rich cultural connections between people and plants. Contact: www.queensbotanical.org or 718-886-3800.



Trees New York is an environmental and urban forestry non-profit organization. Founded in 1976, their mission is to plant, preserve and protect New York City's neighborhood trees through education, active citizen participation and advocacy through a variety of programs such as Citizen Pruner, Arborist Training and Youth Environmental Literacy. Contact: www.treesny.org or 212-227-1887.





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Notes





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