

FOREST PATCH **FIRST AID**



baltimore
greenspace

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Introduction

WELCOME!

This is a citizen's guide to caring for a neighborhood forest patch. One-fifth of Baltimore's tree canopy is made up of forest patches outside parks. If you are totally new to the forest, this guide is for you.

If you're considering caring for one of Baltimore's forest patches, you are taking your first step into an adventure where you will learn more about trees, plants, birds and your neighborhood. Forests—even city forests—help clean the air and water, and make our summers a little cooler. If you care for the forest you are caring for your lungs, the air in your neighborhood, and the health and wellness of the Chesapeake Bay. You are also caring for many kinds of birds and other animals.

If you live near a forest patch, you may also be concerned about dumping, safety, and vines that may be smothering the trees.

Baltimore's forest patches need you! This guide can help you and your neighborhood take the first steps to improving the health of your forest patch and making it a place the whole neighborhood can treasure. You will be joining other neighborhoods that care for forests and trees right here in Baltimore. Forest Stewards, TreeKeepers and many other folks care for our natural world to make sure there are forests and clean water for the next generations.

This guide is published by Baltimore Green Space, a city-wide land trust for community-managed open space. If you want to learn more and meet other forest stewards, join our Forest Stewardship Network, which provides support and education. Visit us at baltimoregreenspace.org for more information, or call 443-996-3811.

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1. Basic Info

HOW TO USE THIS WORKBOOK

This workbook can help you and your neighbors get started with caring for a forest patch.

This **first section** is the key—it includes a place to record basic information about your patch, and also the basic tasks in Forest Patch First Aid.

Section 2 is all about getting more people involved in caring for the patch.

Section 3 has the nitty gritty about how to do Forest Patch First Aid.

Section 4 provides basic information about trees and forests.

The appendices have useful forms and a list of resources.

As you work in the forest patch, you may see a need for projects that go beyond what's discussed here. Examples include removal of invasive trees, planting additional trees, substantial removal of forest floor plants, and designing an attractive edge. For these, you need more help! That's because forests are wonderful and complex ecosystems, and it's quite possible to do harmful things. Please talk to experts before you proceed.

Have fun, and enjoy the woods!

WHAT'S IN YOUR FOREST PATCH?

The first step to any forest work is to figure out what's in the woods. This will help you decide what you want to keep the same and what might need to change in your forest patch.

1. Trees

The trees do a lot to define the forest. What are the trees like?

- Tree trunks covered by ivy
- Tree tops or close to the tops covered by vines or ivy
- Large trees
- Medium trees
- Small trees
- Trees that could be dangerous to people

Do most of the trees seem like one kind? Or do you notice differences?

What other things do you notice about your forest's trees?

2. What's special about this place?

If you love your forest patch you may have a long list of things that make it special. Perhaps it's a big magnolia tree on the edge, the song birds you hear every day, or the peace and quiet. Even the most neglected forest patch has something to offer, so take a closer look if it doesn't come to you right away. Below are some possibilities.

- Exceptionally big trees
- Birds
- Water (puddles, streams, mud holes)
- People love it
- Other
- Other wildlife
- Beautiful wildflowers
- Provides a community sanctuary
- Native plants

3. Potential Challenges to Stewardship

Every forest has elements that can make it hard for communities to work in the forest. Some of these can double as things that make the forest special. The important thing is to consider how to work with or around challenges. Here are some possible challenges:

- Water (puddles, streams, mud holes)
- Steep slopes
- Trash
- Poison ivy patches
- Homeless residents
- Other

SIZES OF TREES

You can measure tree trunks with your body:

A small tree is one you can put your hands around.

A large tree is one that's too large to circle with your arms.

A medium tree is everything in between.

In Baltimore City, a "specimen tree" is a tree with a diameter of 20 inches at about 4 feet off the ground. A tree that big has a circumference of 5 feet, 3 inches. That's about as big a tree as most people can hug all the way around.

FOREST PATCH FIRST AID

If a forest patch hasn't been tended, then it's likely that it has trash and invasive plants, and that few people visit it. It's not hard to address this, and it can actually be a lot of fun. Here are 5 typical areas for forest patch first aid. Part 3 provides instructions for each topic.

1. Trash

When a place looks like no one cares about it, people are reluctant to care for it and often trash it more. Get the trash out. If this is too big of a job, focus on improving an area that will have impact and encourage the community to spend time there. (See page 10 for tips and plans.)

2. Vines

Ivy and other vines can overwhelm trees, cause them to fall, and prevent small trees (seedlings) from growing up from the ground. Fortunately, it is not so hard to rescue trees from ivy and other vines. (See page 12 for full instructions on vine removal and other related resources.)

3. Paths

Make paths where you want to go in the forest or where you want other people to go. Paths can be focused on your work areas or on drawing the community to special features of your forest patch. (See page 16 for path ideas.)

4. Edges

People get their first impression of the forest from its edge. The edge is also where vines and other invaders get into the forest. While it's natural for a forest edge to be a bit scruffy, it can be worthwhile to neaten the edge and make it a special focus for removing trash and vines. A sign or other built element can also signal that this is a cared-for place. More ambitious edge projects, however, should wait until you've addressed the most urgent needs and you've had a chance to learn more about your forest patch. (See page 18 for edge ideas.)

5. Bird Walks, Tours, and Community Events

It's not uncommon for people to walk past a forest patch without ever noticing it or being aware of its full potential. Taking folks on a walk through the patch to show off special features, listen to birds, or simply be in the woods helps to draw attention to the patch and can increase community investment. Also, bird walks allow you to keep track of which birds live in your forest and which birds pass through during migration. (See page 19 for more on events.)

A Note on Wildlife & Native Plants

The animals and native plants are valuable parts of any forest patch, but we don't say much about them in this book. So we'll say it here—please respect them! We encourage you to learn more about both plants and animals and how they fit into the forest community. Please, avoid disturbing the homes of animals and learn about native plants. The resource section directs you to native plant resources.



2. Getting People Involved

WHO CARES ABOUT THE FOREST PATCH?

If you're interested in taking care of the woods in your neighborhood it's a good idea to find out who else cares about it. Caring doesn't have to mean the people like everything about the woods; some may just object to the trash accumulating in the woods. If you know what issues are most pressing to people, you can choose projects that neighbors will be excited about and that will do the most for the health of the woods.

The following questions can help you figure out who cares about the forest patch:

Who visits the woods or spends time in the woods?

This includes folks using it for recreation (dog walks, exercise, etc.), folks who cut through, and folks living in the woods. There are woods with homeless residents; if you develop a good relationship, this can become a real asset.

Who benefits from the woods without visiting it? Where are the closest backyards and front yards?

Forest patches are a great sound and visual barrier for the homes at the edge. These houses will be cooler in summer and warmer in winter because of the woods.

Who is frustrated by the woods? Is there a neighbor who calls 311 about dumping?

These people can often be your greatest allies because they are most concerned that the area gets the necessary care.

Who else cares about the woods?

MOTIVATING PEOPLE

Once you know who's who, you can get people motivated to help care for the woods, in whatever way suits them. To increase motivation, you'll want to:

- Help people feel a connection. Bird walks, tree ID days, and walks through the woods are a great way to do this.
- Help people understand the value of the woods. Section 4 provides information about how the forest patch helps the surrounding neighborhood.
- Address concerns about the forest. In most neighborhoods, the first forest projects address concerns such as safety and dumping.

HOW TO PLAN A WORKDAY

Here's a brief guide on how to plan larger workdays (more than 4 people) that include new people from the neighborhood or volunteers from outside the neighborhood. You can make copies of the Event Planning Worksheet (Appendix A) to help you plan your events—it includes checklists and questions to help you plan a successful event.

What's the Goal?

First, choose a Forest Patch First Aid project from Section 3. You can only do so much in one day, so be sure you know what you are trying to accomplish. The Event Planning Worksheet includes specific questions to help you define your project.

Outreach

This is what gets people to the event.

- Pick a good day—What day do you think people could come?
- Create a short description of what you are going to do and include:
 - WHO you are or who is leading the event?
 - WHAT is the event about?
 - WHEN is the event taking place (day, date, and time)?
 - WHERE is it taking place and where should people meet?
- RSVP: a way for people to say they are coming. Include a phone number.
- Tell people about the event through phone calls, e-mail, community announcements, fliers and general conversation. Sometimes this just means walking around talking to your neighbors.
- If you need more volunteers than are likely to come from your neighborhood, see Appendix D for suggestions on how to find them.

Materials

Some materials, like rakes and refreshments, can usually be gathered from within your neighborhood. If you need specialized equipment, or a lot of equipment, see Appendix D. Remember that water and a small snack are helpful and in hot conditions essential.

Expertise

If it would help to have an expert, try to find one. Appendix D includes a list of people who you might reach out to for tree or forest expertise.

Prep the Patch

It's important to prepare the forest for visitors. Not everyone knows how to avoid stepping on baby trees or how to recognize poison ivy. Be sure to mark any area you want folks to avoid and/or plants you don't want pulled out.

Volunteer Orientation

Before you put people to work, take the time to make sure everyone feels oriented and welcome. Also, gather their contact information so you can be sure to invite them again and be sure to have folks sign a waiver. An example sign-in sheet and waiver are included in Appendix B and C.

Document the Event

If you can, have someone take pictures of the volunteers in action. You can watch your progress, and people love to see the photos.

Say Thank You

Say thank you to your volunteers during and after the event. A little gratitude goes a long way.

If you'd like to learn more about how to run an event you can attend a GROW workshop. The GROW Workshops provide capacity-building and networking experiences to Baltimore City's park stewards. Check the Baltimore Green Works website for the schedule. See Appendix D for more information.

Some events can be registered with the Department of Public Works and can provide credit towards resident stormwater bills. See Appendix D.

OUTLINE FOR A 10-15 MINUTE ORIENTATION FOR NEW VOLUNTEERS

1. Forest Patch Introduction— You may want to include the following:

- Name of the forest patch.
- How you got involved.
- What you are hoping it will be like in the future.

2. Volunteer Introduction— Give time for people to introduce themselves.

3. The Landscape— tell people a little bit about what the forest is like. If there are slopes, streams, or other landscape features they should know of, this is the time to tell them.

4. The Mission— review what your goal for the event is and how you want to accomplish it. Give them enough instruction so they are not confused. It's helpful to give people "do's and don'ts."

Include:

- Start and end time
- Any tool instructions
- What to pull out and what not to pull out
- Where to put trash
- Where to put tools when they're done
- Who to go to with questions.
- Any safety instructions

5. Review the Goal and give time for questions.

FOREST ACTIVITY CALENDAR

Different activities are better for different times of year. Below is a suggested timeline. This timeline can help you match your work to the seasons.

SPRING

Spring is one of the best times of year to have people out in the forest. It is also a good time for planting. Many invasive plants appear first in early Spring and then get strong and try to take over. Bring your bug spray. This is the season to host a Spring Clean up or Spring Welcoming event. Perhaps a woodlands Easter egg hunt? March 1 to May 15 is the best time in the spring to plant!

Early

- Remove vines
- Bird Walks
- Clean up trash
- Make trails
- Plant trees and shrubs

Mid

- Bird Walks
- Clean up trash
- Remove Spring invasives
- Make trails
- Plant trees and shrubs

Late

- Bird Walks
- Clean up trash
- Remove Spring invasives
- Tree Identification

SUMMER

It's cooler in the forest than you might expect. Still, this is not a time for planting, as plants and trees will have a hard time surviving. This is a good time of year for Bird Walks because the forest is cooler than the streets and the birds may be raising their young. This is the time of year to try to engage folks who have more time in the summer.

- Bird Walks
- Clean up trash
- Tree Identification
- Make trails
- Pull weeds and vines

FALL

During the fall some of the spring invaders die back, which leaves the vines more exposed and easier to remove. There are fewer bugs in the forest in the fall, too. This is the season to host a Halloween, Thanksgiving, or Harvest event. This is also a tree and shrub planting time and the best time to plant is October to December 15.

Early and Mid

- Remove vines
- Bird Walks
- Clean up trash
- Tree Identification
- Make trails
- Plant trees and shrubs

Late

- Bird Walks
- Clean up trash
- Tree Identification
- Make trails

WINTER

If it's not too cold out, this is a great time for vine removal. A bird walk will show you which birds spend the winter in your forest. It's also great time for inside jobs like making signs and planning the next season's work.

Early

- Remove vines
- Bird Walks
- Make signs

Mid and Late

- Spring Planning
- Make signs
- Research and construct appropriate birdhouses

Tree planting guidelines can be found here courtesy of Blue Water Baltimore: <http://treebaltimore.org/wp-content/uploads/2013/08/Planting-and-maintenance-guidelines.pdf>.

3. Project Tip Sheets

TRASH REMOVAL

Forest Patches that haven't been getting much attention often have lots of trash and larger dumped items. These make the woods unattractive, invite illegal activity, and can prevent desirable plants from growing. Here are a few tips on tackling the trash.

What You'll Need

- Volunteers—If the project requires a lot of heavy lifting, you may need to recruit strong people. This can be a great time to team with a local college or to request community service workers.
- Appropriate clothing—Good gloves, closed shoes, and long pants are usually essential. Sometimes long sleeved tops are desirable as well.
- Trash Bags/Dumpster
- Helpful tools—You will need to decide what these are. Sometimes you only need a broom and a rake but you may want shovels and wheelbarrows, depending on what you are moving.
- A plan for Disposal—See below.

Disposal

You will want to decide if you are going to recycle or if you are throwing everything in bags and just getting it out. If you plan to recycle you will need to ask people to separate recyclables from other trash. Next you have a few other decisions about how to get the debris out of your neighborhood.

This can be as simple as putting the bags or boxes in front of the houses of neighbors who have volunteered, or having a neighbor cart things to the dump/recycling center. You may be able to time your workday with the recycling or bulk trash pick-up, so that the trash doesn't sit out for long.

If you are part of a community association, the president may be able to order a dumpster a month or so in advance. Another good option is to hold these events on the Mayor's fall or spring clean-ups, when additional services are often available for registered events, including free trash bags. If you are working with an organization that is providing volunteers, see if they have funds to rent a dumpster for the event.

Four Things to Tell Volunteers:

1. Should it Stay or Go?

Be sure to be specific about what is trash and what is not. Leave the leaves and branches. The forest floor is supposed to have fallen branches and leaves. These slowly decompose and provide nutrients for a new generation of trees and other plants. Don't make the woods too tidy!

2. Spotlight On?

You want people to feel successful, and a goal may help. Maybe it is a focus on one area; maybe it the number of filled trash bags. You can also tell people where not to walk. If there are plants or seedlings that could be stepped on, be sure to mark them so people can avoid them. The same goes for poison ivy.

3. Parking the Trash

Establish where you want the trash gathered and who will get it there while people are filling up bags.

4. Beware of Dangerous Trash

Tell your volunteers how to handle or avoid dangerous trash such as glass, sharp objects, needles, and things that can be tripped over.

Clean-ups that are registered with the Department of Public Works can provide credit towards residents' stormwater bills. See Appendix D.



REMOVING ENGLISH IVY & OTHER VINES

By Janet Abramovitz

One of the most common—and destructive—invasive plants in our area is ENGLISH IVY! Ivy and other smothering vines kill trees, provide habitat for mosquitoes and rats, smother other plants, destroy native habitats, and damage structures.

Vines like English Ivy kill trees in several ways. As vines climb, their roots penetrate tree bark, allowing moisture and insects to invade and decay the tree. Tree bark can even grow around the vines, creating a rotting cavity. The vines climb trees and can shade the tree to the point of death. The vines can also add so much weight to a tree that branches break or the entire tree falls. Mature vines can get very thick—up to 1 foot around! As they thicken, they deform the growing tree. Don't let English Ivy take root in your garden or forest. Take these steps to remove it and protect your plant friends.

IVY REMOVAL ABCs

A

Free the Trees from Choking Vines

The first line of attack is to kill the vines that are in the tree.

- Using a lopper or a small pruning saw, carefully cut through all the vines on the tree at shoulder height.
- Then cut through all the vines at the base of the tree.
Do not cut into the tree bark!
- Pull away as many of the pieces as you can without damaging the tree bark.

B

Clear the Base: Temporary Tree Security

- Pull back and remove the vines from a 3 foot to 6 foot radius around the base of the tree so that the ivy won't grow back into the tree.
- Bag the ivy and dispose of with your trash.

C

Remove and Smother Ivy: The Long-term Solution

You can successfully eliminate ivy from large areas of ground using the following “smothering” method:

- Remove by hand as much ivy from the ground as you can easily.
You may be able to roll up the ivy in a relatively large area.
- Cover the remaining ivy completely with large overlapping sheets of cardboard.
- Then cover the cardboard with a thick (6 inch +) layer of mulch. Fall is a great time to do this because you can dump your raked leaves on top of the cardboard. After a year or two the mulch/leaves and the cardboard will break down and leave nice soil.

With a little effort you can protect your trees and home and prevent English ivy from destroying the local habitat. For more info on identifying and eliminating other invasive species see “Plant Invaders of Mid-Atlantic Natural Areas” available from the National Park Service website.

<http://www.nps.gov/plants/alien/pubs/midatlantic/index.htm>



POISON IVY REMOVAL GUIDE

Poison Ivy! What is it?



What you Need

- Patience
- Rubber gloves
- Long socks
- Long-sleeve shirt and pants
- Tecnu (this is a soap you can get at some pharmacies and hardware stores)
- Shoes or boots that can be washed or hosed off
- Sharp pruning shears or a hand pruner
- Rubbing alcohol
- Sharp-edged shovel
- Heavy black garbage bags
- Goggles & breathing mask (optional)

IDENTIFY IT

Poison ivy (*Toxicodendron radicans*) is a native North American plant. The leaves, which grow on alternate sides of each stem, come in sets of 3 glossy-green leaflets that can be pointed, smooth-sided, lobed or saw-toothed. Poison ivy can be found growing in any of the following three forms:

1. Trailing vine that is 4 to 10 inches high
2. Shrub up to 4 feet tall
3. A climbing vine that grows on trees or some other support. Older vines on substantial supports send out lateral branches that may at first be mistaken for tree limbs.

The vines can sometimes come in a hairy form. Poison ivy flowers from May to July. Early in spring the leaves are red, and in fall they turn a bright scarlet-orange. The 1/4-inch fruits are dull yellow.

HOW IT WORKS

Poison ivy is a perennial plant that grows back from the roots and often spreads by means of underground runners. **ALL PARTS OF THE PLANT can be toxic to some people! The oil can transfer from clothes and even long dead leaves can still retain some oil.**

Some people are immune to poison ivy (which is great for them). It's also great for you if they are willing to remove your poison ivy.

GETTING THE POISON IVY OUT

1. Dress to protect.

Always wear rubber gloves, a long-sleeved shirt, long pants tucked into socks, and boots or shoes that can be hosed off later.

2. Timing can help.

A dry day with no wind is the safest time to remove poison ivy.

3. Cut plants to just above ground level.

With shears or pruners, remove all the stems you can see and dispose of them in plastic garbage bags. *Don't tear or rip the vines* as this may disperse the oil into the air.

4. Dig out roots if you can.

If there are only a few plants to remove, use the shovel to remove the roots. Bag these also for removal.

5. Dispose of waste properly.

Do not compost, shred, or burn poison ivy. Inhaling the smoke can cause serious injury to your lungs. Put the plant parts in heavy plastic bags, tie the bags securely and put them in the trash. If you used rubber gloves, discard these as well but wait until after you clean your tools.

6. Disinfect your clothes and your tools.

Tools used for removing poison ivy must be disinfected. Rinse your pruners and shovel, including the handles, with rubbing alcohol or Tecnu. Let them dry and then oil the parts to prevent rust. Likewise, the clothes you have on while removing poison ivy must be cleaned. Wash your clothing separately with some Tecnu poured into your washer and clean your boots or shoes with cold water and Tecnu soap.

7. Wash yourself in Tecnu.

To be safe, after dealing with poison ivy wash exposed parts of your body with Tecnu. If you don't have Tecnu, use dishwashing soap. Put some on your dry hands, rub for 3 minutes and then rinse with cold water.

Sources:

Tips for Removing Poison Ivy by Mia Amato

http://landscaping.about.com/od/poisonivyplants/ht/removing_poison.htm

Poison Ivy—*Toxicodendron radicans*

http://www.traderscreek.com/Survival_Guide/Poison_Ivy_Toxicodendron_radicans.asp

PATHS WITH PURPOSE

Forest paths can be helpful for people—whether to show people where to go, or to make it easy to care for the woods. This section describes four reasons for paths, asks some questions to help you think about what paths your forest patch needs, and provides basic instructions on making your paths.

Traveling Paths—neighbors can use these paths to get through the forest or to other parts of the neighborhood.

- They are wide enough for people to walk on without getting touched by poison ivy or other plants.
- They lead from an entry point to an exit point or connect to another path that leads from entry to exit.
- They may have a clear marking such as directional signs, trail blazes, or simply being obviously well used.
- They often direct people to take an easier way through the forest rather than just making their own way, which may be unsafe. For example, if there is a path in your forest that is easier to travel because it avoids slopes, stream crossing, climbing over logs, etc., mark it for neighbors.

Destination or Focus Point Paths lead to something special in your forest patch that you'd like people to see.

- They end at a particular thing, such as a large tree, fire ring, picnic area, or stream.
- They may have a clear marking such as directional signs, trail blazes, or simply being obviously well used.

Secret or Maintenance Paths. Sometimes you don't want everyone using a pathway—it may lead to a field of poison ivy or a pile of dumped trash. These pathways are for work only.

- Tend to be smaller so they are less obvious to the eye.
- Could have their entrance blocked to discourage public use.
- Often lead to an area that a forest steward is trying to improve or a part of the forest that needs attention and care.

Educational Paths. Any path can be an educational path if you add informational signs. What kind of information you provide depends on what your community cares about. Some communities educate about the nature in the forest, others about the history of the community. What's of interest to you and your neighbors?

What Paths Does Your Forest Patch Need?

1. Do you want paths to make the forest accessible to neighbors?
2. Where do you want paths to lead?
3. Do you want paths to lead to important parts of your forest or to special trees?
4. Do you want paths to an educational element?
5. Are there ways paths could help you care for the forest?
6. Are there places you want to make sure paths don't lead to?

Don't expect to have a whole plan right away—your needs and desires may change over time.

How to Make a Path

1. Decide where you want your path and how wide you want it.

2. Look for seedlings and saplings you want to protect and watch out for them as you begin to cut.

3. Cut plants across at the width you'd like your path to be. Cut back to no lower than just above your ankle or a bit less than a foot high.

4. Pull plants out, roots and all. Sometimes this involves digging down and/or cutting roots with loppers or hand shears. Be careful while pulling ivy—it can sometimes hide dangerous trash.

5. Rake the area to see if any plants are hiding from you.

6. Place invasives in trash bags and remove them from the forest. If you can't remove them, pile them so their roots can't get in your soil.

7. Repeat.

FOREST EDGES

The edge of a forest patch is often scruffy, but it's also where people get their first impression of the woods. You may want to give the edge some attention, but be careful not to remove too many plants; that could move beyond "first aid" and could even damage the forest.

"Starter" projects:

Remove Trash. Sometimes people dump trash and sometimes the wind brings litter. Either way, it's important to keep the edge free of trash to discourage further trash so people feel safe and like the forest patch.

Care for the trees. Make sure that the trees along the more public sides of the forest patch are free of vines. This is good for the trees, and it also lets people see the trees.

Install a sign or gateway. There's nothing like a handmade sign or gateway to show that an area is receiving care. This also tends to discourage dumping (especially if paired with quick removal of all trash that does appear).

But don't get carried away!

- The forest edge is different from the interior because it gets more light and it may be exposed to more kinds of seeds. This means that different plants grow at the edge—and can possibly invade the interior.
- Nature abhors a vacuum. If you remove plants, other plants will take their place or the soil may get washed away by heavy rain. So don't move too quickly to strip the ground at the edge of all plants. Once you've done the "first aid" projects in this book, you may want to think about a more comprehensive plan for the edge. Please contact Baltimore Green Space's Forest Stewardship Network, or the resources in Appendix D.



FUN WORKSHOPS

BIRD WALKS

Invite a local bird expert, get the neighbors in, get the word out—and you've got a bird walk!

Listening—Birding is about listening as much as seeing. The birder can identify birds by sight and sound, and can help participants see the birds and learn their calls.

Seeing—You may want to borrow binoculars or bring some from home but they aren't necessary. You'll see different kinds of birds at different times of the year.

Recording—Bring a pen and something to write on. You want to make sure you record what you see and hear. If you want to get really fancy you can download a bird list from the internet and check off the birds you find.

Learning—Birders can tell you what birds visit or live in your forest and knowing this can help you talk about the ecological value of your forest. Peak times for migratory species are May, September, and October. But you can have a successful bird walk at any time of year. Going out at different times of year will tell you what birds are traveling and how the forest's bird population changes.

TREE IDENTIFICATION

Most city-dwellers can only identify a few kinds of trees, but chances are that your forest patch includes many kinds of trees.

Identify—You can find an expert in the neighborhood or from an organization to just tell you what the trees are, and how they know. Or find an expert who can teach people to use a "key" to learn to identify the trees themselves. This is fun to do in pairs because it helps to have a second opinion.

Mark—You want to label the trees as you go. Fluorescent ribbon and flags work well and can be purchased at hardware stores. You will also need Sharpies and something to lean on. Use clipboards to help write on ribbon. You should remove these tree tags after a time before they become forest trash.

Check it!—Have a trained expert check your temporary tree identification markers and correct any errors.

Record—Make a list of the trees you find. You can take pictures of the trees and make a hand drawn map if you are ambitious.

Make it Permanent—You can use your temporary labels to inform a permanent sign that you design with your community. Then your patch can become a mini-arboretum. Don't let too much time pass before you make the signs unless you want to do a second ID day. Your temporary markers could fade or disappear.

PLANTING A TREE

As you remove trash and invasive plants, you may feel that parts of the forest need more trees. There are lots of online sites that can tell you exactly how to plant a tree. We recommend you go to TreeBaltimore's website because they are the experts in this field (treebaltimore.org). But what trees should you plant? Here are some things to think about.

- 1. Native Trees**—We hope you will plant something native to the area because these trees are better at supporting the local wildlife and growing in our city. Parks and People, TreeBaltimore, TreeKeepers, and Blue Water Baltimore all can provide you with native trees.
- 2. Sunlight**—Make sure you know what kind of sunlight your tree needs and if the sun available suits the tree you want to plant. There are trees that grow in shade, some that must have sun, and others that can do either.
- 3. Size**—Think about how big your tree will get and if it can get as big as it needs to where you want to plant it.
- 4. What do you like?**—Some trees have berries, flower, cones or they draw certain wildlife to them. They also have a distinct crown shape. You can plant with these visual and physical elements in mind.
- 5. Soil**—Some trees prefer wet soil, sandy soil or have other soil requirements. It's important to know a bit about the tree's nature and preferences.
- 6. Water**—New trees need water so think about how you will water it in its first season.
- 7. A Few Trees vs. Many Trees**—If you plan to plant many trees rather than just a few, we highly recommend that you consult with a forester or naturalist who can recommend what types of trees may enhance the forest community where you live. Please give us a call and we will connect you with someone.

4. About Trees and Forests

FOREST FACTS 101

Not sure why you should care about the woods? Or you want to tell others about the benefits of forests? This section is for you.

Baltimore's Tree Canopy

Baltimore's current tree canopy covers 27% of the city. That is not enough to keep our city cool or keep the air as clean as we'd like it. The city's goal is to increase the cover to 40%.¹ Of our current tree canopy, 20% is in forest patches outside of parks.² Care for a patch, care for the air!

Keeping it Cool

- Neighborhoods with well-shaded streets can be up to 10°F cooler than neighborhoods without street trees. If you live along a forest patch, you enjoy its cool nature.³
- The net cooling effect of a young, healthy tree is equivalent to 10 room-size air conditioners operating 20 hours a day.⁴

Warm in the Winter

- Trees properly placed around buildings as windbreaks can save up to 25% on winter heating costs. If you live along a forest patch, you will have less wind, too.⁵

Cleaning the Water

- Forests capture rainfall and replenish and cleanse our water supply. They are better at filtering stormwater than anything people have invented.
- For every 10% increase in forest cover in a watershed, costs to clean drinking water decrease by approximately 20%.
- 100 mature trees intercept about 100,000 gallons of rainfall per year, reducing runoff and providing clean water.⁶

¹ <http://actrees.org/files/Events/mbrosius.pdf>

² Forest Patch Paper

^{3 4 5} <http://mdc.mo.gov/discover-nature/trees-work/how-trees-and-forests-benefit-you>

⁶ USDA Forest Service. 2003. Benefits of Urban Trees. Urban and Community Forestry: Improving Our Quality of Life. Forestry Report R8-FR 71. [Atlanta, GA:] Southern Region.

Cleaning the Air

- For each pound of new wood that grows, the tree removes about 1.8 pounds of carbon dioxide from the air and produces 1.3 pounds of oxygen.
- Forest patches, like all trees, play a role in reducing asthma and other diseases caused by exposure to air pollutants.¹
- Researchers at the University of Maryland examined reasons for Baltimore children's Emergency Department visits from 1997 to 2000. While the researchers found that poverty accounted for the high usage of the emergency room, they also concluded that different environmental factors predicted visits for asthma more than for other respiratory issues.² The zip codes with the highest admissions for asthma are notably deficient in tree canopy, including forest patches.³

Forests are Homes

- Birds, insects and other creatures live there.
- There are many creatures that require a forest habitat to survive.

Food for Family & Friends

- Forest provide food for us and other creatures that live in the forest including birds, essential insects and other animals.
- Fruit and nut trees can be found in the forest.
- Berry bushes like blackberry, and raspberry can grow in the forest.
- In addition there are other edible plants in the forest.

¹ See, for example, <http://www.treebenefits.com/calculator/>.

² Carol J. Blaisdell et al., "Risk Areas for Pediatric Acute Care: Asthma Differs from Upper and Lower Respiratory Illness," *Health & Place*, 13:2 (2007), pp 404-16.

³ The zip codes that appear to have highest rates of childhood asthma are 416. 21202 and 21231, with zipcodes 21201, 21217, 21213, 21205, and 21224 next highest.



HOW TO RESPECT A TREE

- 1. Every part of the tree** is part of a living body. Significant damage to any part of the tree could compromise the whole tree.
- 2. Try not to tear bark or wound the trunk.** The bark on the trunk is like your skin – it's very important! Weed whackers, lawn mowers and similar equipment should be kept away from the trunk. Bark injuries are permanent and, if extensive, can be fatal.
- 3. Roots need room to drink and breathe.** Don't add a lot of soil around the roots. Changes in soil depth around trees can smother roots and make it harder for water to get to them.
- 4. The roots are close to the surface.** They provide nutrients to the tree as well as holding it up. The roots of a tree are found mostly in the upper 6 to 12 inches of the soil. In a mature tree, roots typically grow to a distance of one to three times the height of the tree. Severing one major root can cause the loss of 5 to 20 percent of the root system. Additionally, too much mulch or soil added to the top layer of the root system can smother the roots. If many roots are damaged the whole tree could die or fall over.
- 5. Access to light can change everything.** Leaves need light. Trees with more access to light often grow bigger, although not always. Help keep the trees and leaves free of vines so they can enjoy the light.
- 6. Young trees need a lot of water.** If you end up planting trees in the forest you should water them. A tree that is transplanted from one place to another needs a bit of extra attention.

Check the TreeBaltimore website for good information about watering trees here: <http://treebaltimore.org/how-to-plant/just-add-water/>

MORE ABOUT TREES

- 1. Bigger does not equal older.** A tree that gets more sunlight and nutrients can outgrow a tree that gets less.
- 2. Trees grow faster when they are younger.** During the growth phase, the tree's length, and the thickness of the trunk, branches, and roots increase very rapidly.
- 3. A tree is considered mature when it can reproduce.**
- 4. Snags (standing dead trees) are important to the forest ecosystem.** A snag slowly breaks down and returns nutrients as limbs, bark, and branches fall. It provides habitat and food for wildlife and insects. Animals, insects, and fungi help break down the tree. Eventually, the snag will fall and return nutrients to the soil, where they are taken up by other trees.

FOREST LAYERS

Like a cake, your forest has layers. If you're lucky and your forest is healthy it has several layers.

High level—the trees that touch the sky

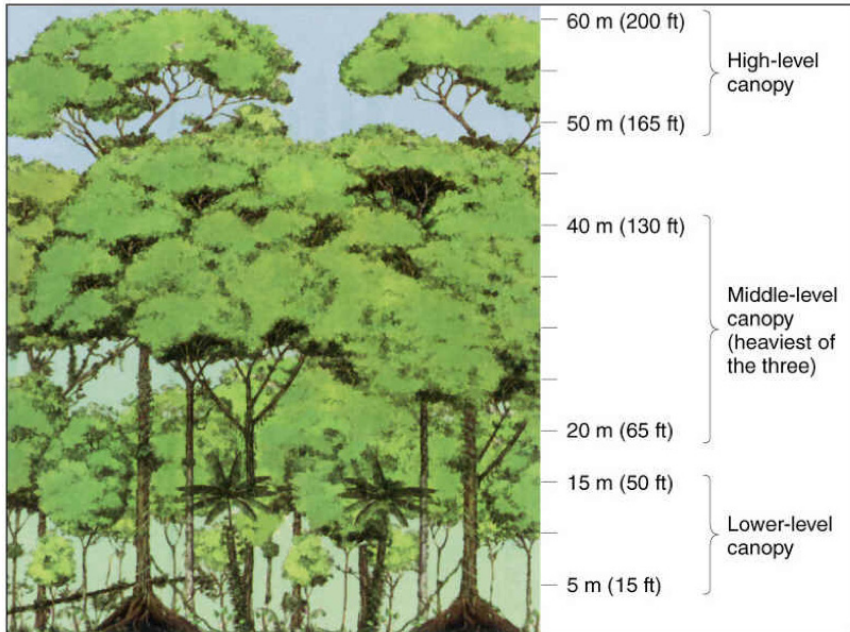
Mid level—grown-up trees but not the tallest

Low level—teenage trees

Shrub layer—this is where all the shrubs grow and it's also where seedlings and saplings should be found.

Ground cover—plants smaller than baby trees and shrubs

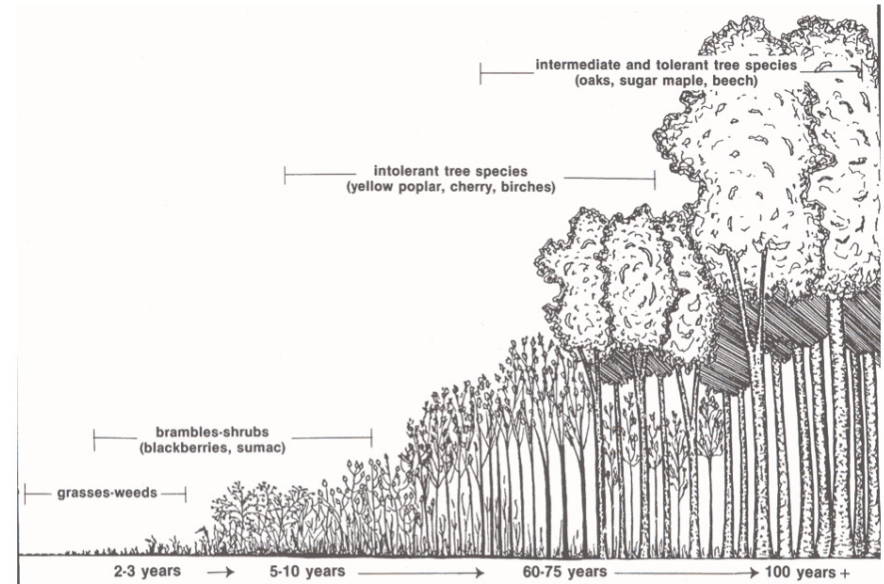
Soil—the ground level that supports the trees and holds everything up. Ideally it has leaf litter and soft soil.



This image does not include the shrub layer, ground cover, or the forest floor.

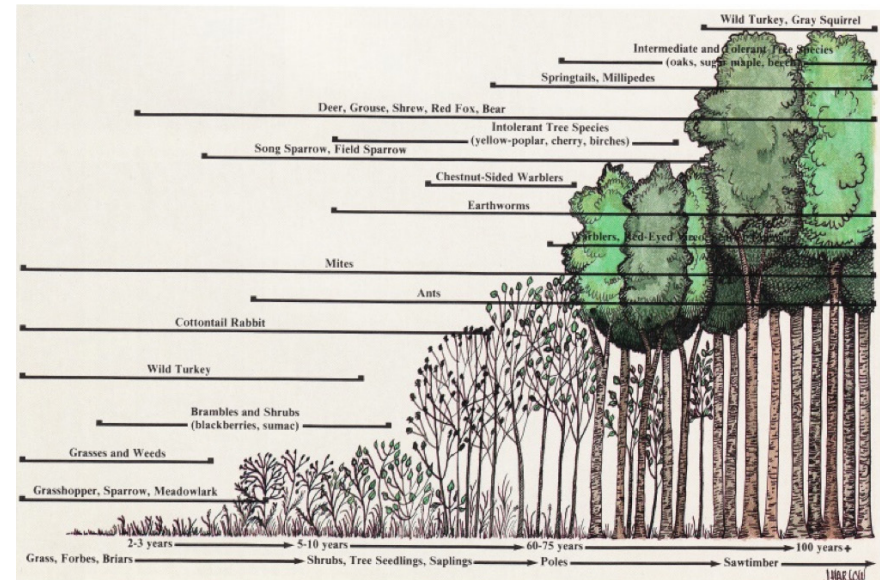
Forests have different types of plants at different stages of their growth.

Most of Maryland's forest patches are on land that was once open. Different plants thrive during different stages of the development of a forest. The first trees to grow cannot tolerate shade. The later trees, which spent their youth in the understory, are more shade-tolerant.



Animals that Live in Forests of Different Ages

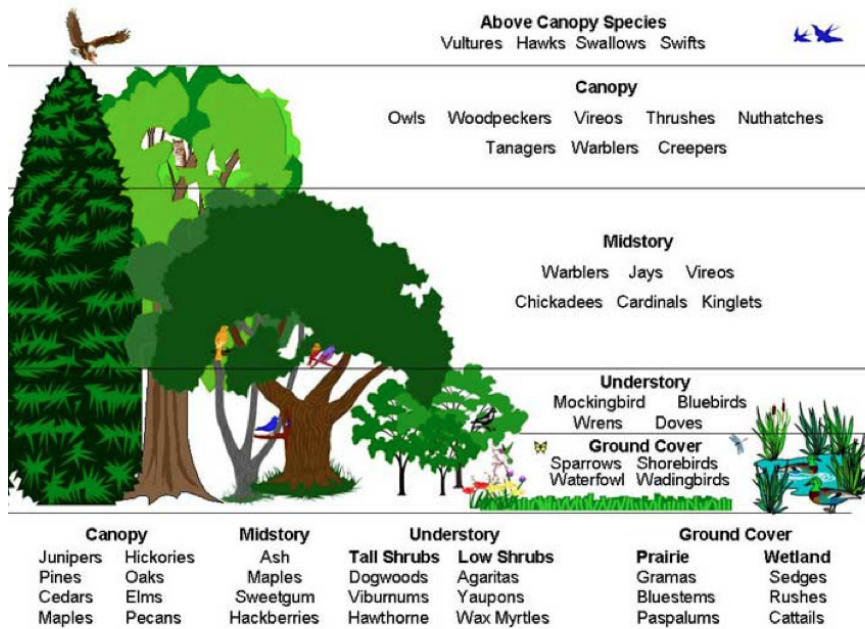
Every animal likes a different environment, so it's a good thing that Baltimore's forest patches are in different stages of development!



Charts from W.E. Kidd, Jr., and H.C. Smith, 1993: *Woodlot Management: How it Grows* (WV University, Extension Service, Morgantown, WV). Illustrator: J. Harlow.

Different Birds Like Different Levels

You'll find different birds at different levels of a forest patch.



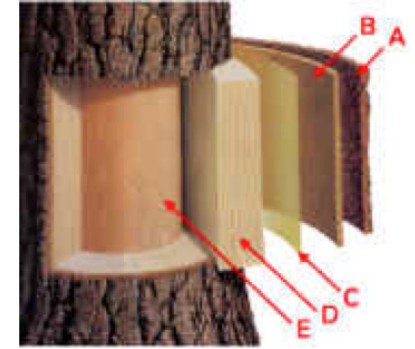
<http://blogs.centre.edu/environment/the-human-tree-relationship/>



PARTS OF A TRUNK

A

The outer bark is the tree's protection from the outside world. Continually renewed from within, it helps keep out moisture in the rain, and prevents the tree from losing moisture when the air is dry. It insulates against cold and heat and wards off insect enemies.



B

The inner bark, or "phloem," is pipeline through which food is passed to the rest of the tree. It lives for only a short time, then dies and turns to cork to become part of the protective outer bark.

C

The cambium cell layer is the growing part of the trunk. It annually produces new bark and new wood in response to hormones that pass down through the phloem with food from the leaves. These hormones, called "auxins," stimulate growth in cells. Auxins are produced by leaf buds at the ends of branches as soon as they start growing in spring.

D

Sapwood is the tree's pipeline for water moving up to the leaves. Sapwood is new wood. As newer rings of sapwood are laid down, inner cells lose their vitality and turn to heartwood.

E

Heartwood is the central, supporting pillar of the tree. Although dead, it will not decay or lose strength while the outer layers are intact. A composite of hollow, needlelike cellulose fibers bound together by a chemical glue called lignin, it is in many ways as strong as steel. A piece 12" long and 1" by 2" in cross section set vertically can support a weight of twenty tons!

Source:

<http://www.arboday.org/treeGuide/anatomy.cfm>

Appendix A

FOREST PATCH FIRST AID: EVENT PLANNING WORKSHEET

Date, Time, Place of Event _____

The Goal

- What Kind of Forest Patch First Aid is this? _____

- What do you want to achieve? _____

- What do you want people to do? _____

Outreach Plan

- Who do you want to come to the event? _____

- How will you let them know about the event? _____

- When do any outreach materials need to be ready? _____

Materials

- Tools: Gloves, trash bags, loppers, rakes, etc. How many? _____

- Refreshments: If people will be outside for a while you might want to offer some. How much? _____
- Sign in sheet (see Appendix B): This is to keep track of who comes. If you get the names and contact info of the people who love your forest you can re connect with them later.
- A waiver: A sample waiver is included (see Appendix C).

Expertise

- What kind of expert help do you need? _____

- (see Appendix D for ideas on finding experts.)

Prep the Patch

Where do you need to do the following tasks?

- Forest Treasures—Mark seedlings or other plants you don't want people to step on. Use flags or ribbon or create your own marking system.
- Forest Dangers. For example, mark hidden holes or areas full of glass.
- DO NOT ENTER Areas— Mark areas that people should avoid. Poison Ivy Patches are a good thing to mark. (See page 14 for tips about Poison Ivy)

Volunteer Orientation

- Who will give the orientation? _____
- Who will be responsible for getting volunteers signed in and waivers signed? _____

Document the Event

- Who will take pictures? _____

Cleaning Up (see the Tip Sheets for information about specific kinds of events)

- How much waste will be produced? _____
- How will it be disposed of? _____

EXAMPLE E-MAIL

Hi, Forest Folks,

We hope you will come along for our next bird walk! Join us & Expert Name here to learn what birds nest and forage in the Name of your forest Patch here!

When: Date & Time

Where: Address of where you will meet

For more information call Contact Number here

We are looking forward to seeing you there! This place is beautiful!
A flier is attached. Please spread the word.

Best, Your Name

Appendix B

SIGN IN SHEET

EVENT NAME HERE
DATE

Name _____

Email Address _____

Phone Number _____

Mailing Address _____

Name of Group or Organization _____

Name _____

Email Address _____

Phone Number _____

Mailing Address _____

Name of Group or Organization _____

Name _____

Email Address _____

Phone Number _____

Mailing Address _____

Name of Group or Organization _____

Name _____

Email Address _____

Phone Number _____

Mailing Address _____

Name of Group or Organization _____

Appendix C

SAMPLE LIABILITY WAIVER AND PHOTO RELEASE

I HEREBY ASSUME ALL OF THE RISKS OF PARTICIPATING AND/OR VOLUNTEERING IN the (insert name of workshop) Workshop including by way of example and not limitation, any risks that may arise from negligence or carelessness on the part of the persons or entities being released, from dangerous or defective equipment or property owned, maintained, or controlled by them, or because of their possible liability without fault.

I acknowledge that this Accident Waiver and Release of Liability Form will be used by the event holders, sponsors, and organizers of the activity or event in which I may participate, and that it will govern my actions and responsibilities at said activity or event.

(A) GENERAL: I WAIVE, RELEASE, AND DISCHARGE from any and all liability, including but not limited to, liability arising from the negligence or fault of the entities or persons released, for my death, disability, personal injury, property damage, property theft, or actions of any kind which may hereafter occur to me including my traveling to and from this event, THE FOLLOWING ENTITIES OR PERSONS: (Insert your name or organization name) and/or their directors, officers, employees, volunteers, representatives, and agents.

(B) PHOTO RELEASE: I understand that at this event or related activities, I may be photographed. I agree to allow my photo, video, or film likeness to be used for any legitimate purpose by the event holders, producers, sponsors, organizers, and assigns.

I CERTIFY THAT I HAVE READ THIS DOCUMENT, AND I FULLY UNDERSTAND ITS CONTENT. I AM AWARE THAT THIS IS A RELEASE OF LIABILITY AND A CONTRACT AND I SIGN IT OF MY OWN FREE WILL.

Participant Name	Participant Signature (Parent/Guardian if under 18)	Date

Appendix D

EXPERT ASSISTANCE

Baltimore Green Space

Baltimore Green Space can help you find expert assistance, lead workshops and get you connected with other folks caring for forest through their Forest Stewardship Network.

Phone: 443-996-3811

Email: Katherine@baltimoregreenspace

website: baltimoregreenspace.org

Baltimore Green Works (BGW)

Baltimore Green Works (BGW) is a nonprofit organization whose mission is to support environmental efforts that better the quality of life in Baltimore. They also keep a listing of the green events in Baltimore including GROW workshops.

Website: <http://baltimoregreenworks.com/events/>

Baltimore Tree Trust

Baltimore Tree Trust works collaboratively with others to restore Baltimore's urban forest, which has been in steady decline for several decades. They coordinate the TreeKeeper's Program and help people around the city learn about and plant trees.

Contact: Amanda Cunningham

E-mail: amanda@baltimoretreetrust.org

Website: <http://baltimoretreetrust.org>

Blue Water Baltimore

Blue Water Baltimore is on a mission to make water cleaner in Baltimore and because they love water they love trees. They help to plant trees all around Baltimore and they also run a native plant nursery. They can help you get trees, and find native plants for your forest. They are also part of the CGRN tool library and can loan tools to communities.

Contact: Debra Lenik

Phone: 856-275-7478

Email: dlenik@bluewaterbaltimore.org

Website: <http://www.bluewaterbaltimore.org>

Community Greening Resource Network (CGRN)

Community Greening Resource Network (CGRN) is an annual membership program assisting individuals, community gardens, schools and green spaces throughout the City of Baltimore. CGRN is a program of Parks and People and provides educational sessions, free plants, access to tools, and other resources for a yearly fee of \$20.

Contact: Anna E. Evans-Goldstein

Phone: 410-448-5663 ext 128

E-mail: anna.evans-goldstein@parksandpeople.org

Website: www.parksandpeople.org/greening/resource-network

Herring Run Nursery

Herring Run Nursery is a very special place. Not only does it provide plants native to Maryland for area residents, but the people working in the nursery really know about the plants and see native plants as a priority for restoration of our local environment and native wildlife. This is a program of Blue Water Baltimore.

Address: 6131 Hillen Road, Baltimore, MD, 21234

Contact: Vincent Vizachero

Phone: 443-682-1331

E-mail: vvizachero@bluewaterbaltimore.org

Website: <http://www.bluewaterbaltimore.org/herring-run-nursery/>

Maryland Woodland Stewards Program

Maryland Woodland Stewards Program is a training program of the University of Maryland Extension. The program teaches a lot of different forest care basics and some higher-level skills. You will learn how to judge how old your forest is, how to draw wildlife to your patch, and how to address serious invasive plants. In addition, you will visit tree farms and other special forests. The course is designed to teach enthusiastic individuals how to be good stewards of natural land, and good advocates for forest and wildlife stewardship in their community. It's a weekend retreat of back-to-back classes and well worth the time spent.

Contact: Jonathan Kays

Email: jkays@umd.edu

Phone: 301-432-2767 ext. 323

Website: <https://extension.umd.edu/woodland/maryland-woodland-stewards>

Parks and People Foundation

Parks and People Foundation provides a variety of resources so it's always good to check in with them. Through various greening programs and projects Parks and People provides grant funds, trees, technical resources, and educational opportunities to "greeners" who are transforming their communities from within.

Contact: Ashley Smith
Phone: 410-448-5663, ext. 103
Email: Ashley.smith@parksandpeople.org
Website: <http://www.parksandpeople.org/greening/>

TreeBaltimore

TreeBaltimore can help you get trees. They strive to increase the urban tree canopy through the establishment, management and preservation of trees. To reach the goal of 40% tree canopy cover by 2030, they partner with individual homeowners as well as communities, schools, and businesses.

Contact: Charles Murphy
Phone: 410-458-7888
Website: <http://treebaltimore.org>

TreeKeepers

TreeKeepers is a city-wide tree stewardship program open to anyone interested in Baltimore's trees. TreeKeepers promotes healthy trees by educating residents and increasing their role in the care of the City's trees. TreeKeepers includes several levels and types of classes, ranging from purely educational to hands-on training that teaches citizens to care for their trees and environment. Some of the hands-on training allows citizens to perform work on public trees that requires a permit; these classes will have a "test of competency" to certify citizens in best urban tree care practices. Certified tree planters and pruners will be encouraged to assist TreeBaltimore partners at spring and fall tree planting events.

Contact: Amanda Cunningham
E-mail: amanda@baltimoretreetrust.org
Website: <http://baltimoretreetrust.org/treekeepers>

Weed Warriors

Weed Warriors, a program of TreeBaltimore, provides classes on invasives and certifies people to remove invasives in parkland without supervision. Topics include identification of invasive plants, their environmental effects, and removal methods.

Contact: Stephanie Helms
E-mail: Stephanie.Helms@baltimorecity.gov
Phone: 410-458-7888
Website: treebaltimore.org/programs/weedwarriors

VOLUNTEER RESOURCES

Colleges and high schools are a great place to recruit volunteers. There are several colleges in or around Baltimore City that have service days every year. Fraternities and Sororities also may have volunteer days.

Johns Hopkins Center for Social Concern

Johns Hopkins Center for Social Concern is the student life office dedicated to community service and civic engagement. They coordinate the President's Day of Service, a large annual volunteer day.

Email: presidentsdayofsvc@gmail.com or volunteer@jhu.edu
Phone: 410-516-4777

Goucher College

Goucher College has an annual day of service and a Community Based Learning program. You never know when they'll be looking for a project to help with. Give the Community Based Program Director a call.

Contact: Cass Freedland
Email: cass.freedland@goucher.edu
Phone: 410-337-6518

Community Service Workers

Community Service Workers is a resource that two of our community organizations have had great results with. Sometimes when folks are convicted of petty or non-violent crimes they are assigned community service. If you're not comfortable with the idea it's not for you. If you are interested you could be providing folks with a nice opportunity to be outdoors and learn something about forests. If you're on the fence about the idea, give Dexter a call. He's happy to answer questions.

Contact: Dexter Walker
Email: dexter.walker@baltimorecity.gov
Phone number: 410-396-1191

Department of Public Works

Residents can earn a credit on their stormwater fees by participating in 8 hours of events that are registered with DPW. To learn more, visit:

www.cleanerwaterbaltimore.org/residential_stormwater_fee_and_credits
or call 311

NOTES

