



AMERICAN FORESTS

# **Tree Protection Toolkit**

## **April 2013**



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## Introduction

American Forests values trees: big, small, old, young, ordinary and extraordinary. Sometimes, though, prized trees in yards, neighborhoods, communities or even national forests find themselves in danger from diseases, pests, storms and — too often — the consequences of living alongside humans. Unlike most things, which depreciate with age, trees appreciate in value over time and provide more benefits as they get older, which is why it's important to protect treasured trees from destruction.

When a tree is threatened due to human activity, such as street expansion, construction or negligence, it is imperative to know the reasons for removal and who to contact. The process of protecting or saving a tree is a worthwhile investment of time, and American Forests has developed steps to help you during this endeavor. This toolkit contains detailed action items, in chronological order, that you can and should take to protect a threatened tree, as well as templates and other tools. With a little dedication, you can save prized trees that provide us with so many critical benefits.



Credit: Tony Alter

## I: Understand why your tree is important.

Most likely, you love your tree for its beauty and aesthetics, but your tree is actually part of a larger ecosystem: the urban forest. American Forests defines urban forests as “ecosystems of trees and other vegetation in and around communities that may consist of street and yard trees, vegetation within parks and along public rights of way and water systems.” Urban forests are critical to the health and quality of life for people, but they also require humans’ help to stay healthy, which means that every tree counts.

Beyond a tree’s contribution to the urban forest, it also has specific values of its own, including environmental, social and economic benefits that pay big dividends to improve our quality of life.

### Environmental Benefits

Trees maintain the environment in which we live by moderating the climate, improving air quality, conserving and cleaning water and supporting wildlife.

- Trees clean the air by absorbing noxious gases and pollutants, improving air quality. One of the key gases they absorb is carbon dioxide, which is a main contributor to climate change. The trees then release oxygen that nearly all the Earth’s inhabitants need to breathe. One mature tree absorbs carbon dioxide at the rate of 48 pounds per year.
- Trees provide shade and cool urban areas. Shade from trees helps lower temperatures, particularly in urban areas known as “heat islands” — areas that are measurably warmer than surrounding areas — and prevents water from evaporating from the ground too quickly.
- Trees prevent soil erosion and preserve the integrity of topsoil.
- Trees slow water runoff through their leaves and absorb polluted water through their roots, allowing pollution to be filtered naturally and improving water quality in rivers and streams.
- Trees serve as homes for wildlife. They provide ideal places for birds to nest and crevices where small animals — and the tiny insects and micro-organisms that are their food — live.



Credit: Linda Tanner

### Social Benefits



The social benefits of trees include improved health, crime reduction, and educational and recreational opportunities.

- Trees protect people from harmful ultraviolet radiation from the sun. If trees are planted on playgrounds, along walkways and in neighborhoods, they help decrease sun and dangerous ultraviolet exposure, which, in turn, decreases health risks associated with both.
- Trees can have a calming effect on humans, and studies have shown that neighborhoods with more trees have fewer incidences of violence than communities with fewer trees.
- Trees reduce noise pollution, muffling noise from roads and highways.
- Trees help humans heal faster. People recovering from illnesses or injuries have been shown to recover more quickly when they have a view of trees and nature from their windows.
- Trees along hiking trails, waterways and parks enhance the beauty and enjoyment of outdoor recreational areas.



Credit: Ulf Liljankoski

## Economic Benefits

The economic benefits of trees can be both direct and indirect.

- Trees can lower air-conditioning and heating costs of a household or business by decreasing energy use. If planted near a building, trees can reduce energy bills by up to 40 percent.
- Homes that are landscaped with trees are worth four to 15 percent more and sell faster than homes without trees. Trees can also increase the property values of a whole neighborhood or business district.
- Trees enhance the beauty of communities, and help to attract tourists and businesses. Studies have shown that people walking or driving down a street lined with trees are more inclined to slow down and linger at store windows and are willing to pay up to 12 percent more for goods and services, and the presence of trees encourages patrons to spend a longer time shopping.
- Communities can save money and even increase revenue by planting trees. Since trees help to control stormwater, towns and cities can save money by investing in green infrastructure, such as trees, over gray infrastructure, for solving common problems like flooding.

## II: Determine why your tree is threatened.

Is your tree at risk of being removed for aesthetic purposes? Is it healthy? Does it pose a danger to life, health or property? The answers to these questions will inform your next step.

If your tree is at risk for aesthetic purposes, such as blocking a view or leaves in the yard, talk to your neighbor and try to find a compromise to keep the tree. They may not be aware of the many benefits trees provide. If the health of the tree is failing or poses an immediate danger, there may be just cause to remove it, but whoever is doing the removing must inform you of the reasons why the tree needs to go. At this point, it's also important to contact an arborist to take a risk assessment of the tree.

## III: Consult an arborist.

An arborist is a specialist trained in the art and science of arboriculture, which is the cultivation, management and study of individual trees and other woody plants. Arborists focus on the health and safety of individual plants and trees and are equipped to provide proper care. It is important to consult with an arborist about the condition of your tree so they can provide a risk assessment.

Tree risk assessments rely on identifying and assessing the structural condition of the tree to determine failure potential. Assessment and management of tree risk is based on the science of biomechanics — the way trees grow for structural support and biological function — which will determine whether or not the tree is a danger to human life or property.



Credit: Baltimore City Recreation & Parks

To find a certified arborist in your area, visit the International Society of Arboriculture at <http://www.isa-arbor.com/membership/localChapters/index.aspx>.

## IV: Find your local tree ordinance.

Tree ordinances are public laws developed by communities to protect trees, preserve greenspaces and manage urban forests. There might already be a law in place in your community to protect your tree, as communities use tree ordinances to regulate the preservation, removal and planting of trees and other landscape features on public, and sometimes private, land to attain a healthy, well-managed urban environment.

By themselves, however, tree ordinances cannot assure that the trees in and around our communities will be improved or even maintained. Tree ordinances simply provide the authorization and standards for management activities. If these activities are not integrated into an overall management strategy, problems are likely to arise. Without an overall strategy, management will be haphazard, inefficient and ineffective, and the urban forest will suffer.

Many tree ordinances identify trees by size or species — with certain size trees or species garnering extra regulation under the ordinance. If your ordinance outlines regulations for specific tree sizes, use American Forests' measuring guidelines (<http://www.americanforests.org/bigtrees/big-tree-measuring-guidelines/>) to measure your tree to see if it qualifies for protection under the ordinance. Also, check to see if specific tree species are protected by an ordinance. If so, a permit is needed to cut the tree down.

If you find that your town does not have a tree ordinance, see page 12 of this toolkit, which details how to develop a tree ordinance.



Credit: Friends of the Urban Forest



## V: Make contacts.

Different departments and agencies within a municipality are responsible for handling tree and land-use issues. National and local tree planting organizations may also have information on how to protect or recognize your tree locally. Try to find a professional who knows the tree ordinances in your area that will be able to provide details on tree preservation measures.

Below is a list of the types of individuals or organizations that should be able to help you with your tree concerns.

- City forester, arborist or horticulturalist
- City Forestry Department
- City or county Parks and Recreation Department
- City or county Department of Public Works
- City or county Department of Transportation
- Local community forestry nonprofit organizations
- Heritage tree protection groups
- Business improvement districts
- Neighborhood planning and/or improvement groups
- Local tree commission or board
- Urban Forest Council
- City officials
- [Alliance for Community Trees](#)
- [American Society of Consulting Arborists](#)
- [International Society of Arboriculture \(ISA\)](#) and regional ISA offices



Credit: Friends of the Urban Forest



## VI: Calculate the value of your tree.

Money doesn't grow on trees, but they can save you some. According to the U.S. Forest Service, for every \$1 you invest annually in trees, you get a return of about \$2.70 in benefits.

The four major factors involved in properly assessing the value of a plant are size, species, condition and location. A thorough understanding of each is imperative.

First, check out the measuring guidelines on our website (<http://www.americanforests.org/bigtrees/big-tree-measuring-guidelines/>) for assistance in learning how to accurately measure the circumference at diameter breast height (the tree's circumference at a height of 4.5 feet above ground level that is used for standard calculations). Then, you can make a simple estimation of benefits street trees provide by using an appraisal calculator. These calculators use the species, circumference or diameter, health and location to determine the current environmental and economic benefits your tree is providing, as well as the projected benefits your tree will provide over a set number of years.



Figure 1 Credit: Wayne National Forest

### Appraisal Calculators

- i-Tree Design  
<http://itreetools.org/design.php>
- i-Tree Tools  
<http://itreetools.org/>
- Davey National Tree Benefit Calculator  
<http://www.davey.com/arborist-advice/education/national-tree-benefit-calculator.aspx>
- ISA tree appraisal  
[http://www.treesaregood.com/treecare/tree\\_values.aspx](http://www.treesaregood.com/treecare/tree_values.aspx)

- Calculating a tree's worth after a storm  
<http://www.ag-econ.ncsu.edu/faculty/vanderhoeven/TREELOSS.PDF>
- Purdue University Dept. of Horticulture Landscape Tree Appraisal  
[http://www.hort.purdue.edu/ext/HO\\_201.pdf](http://www.hort.purdue.edu/ext/HO_201.pdf)

You should also document your “investment” to help establish its worth. Taking pictures of trees and plants while they are healthy will make insurance processing simpler by having “before and after” documentation. If your trees have been damaged, contact a tree care professional and landscaping appraiser to assess the damage and determine the financial loss. Also, request a cost estimate to replace a tree of the same size, repair the tree or have the stump and roots removed.

## VII: Nominate your tree.

Having the biggest tree in your community is a rallying tool to help save the tree. [American Forests' National Register of Big Trees](#) is a bi-annual publication listing the biggest tree of more than 780 species in the country. It is possible that your tree may be a contender for the *National Register* or your state and local champion tree programs. Several communities also protect heritage trees with unique historical or cultural value, so learn about your local tree ordinances to see if your tree is automatically protected.

Visit [www.americanforests.org/bigtrees](http://www.americanforests.org/bigtrees) for more on our national program.



Credit: American Forests

## Step VIII: Write a letter.

Start a letter writing campaign to get support from your city council for your tree. Feel free to incorporate talking points from the tree benefits listed in “Step One: Understand why your tree is important” in your letter. Spread the word and encourage others to write letters as well.

Here are some tips to get your letter started:

- To be most effective, keep the letter concise and to the point. The length of the letter should not exceed one page.
- Always use and provide your real contact information [name, address, phone, email etc.] when contacting legislators.
- City officials are often juggling many priorities and budgets, so make sure that your letter conveys not only the historic or cultural significance of your tree, but the economic value it provides as well. Dollars and cents are often a priority with government officials.
- Remember to share personal and family experiences about your tree and the numerous benefits it provides to your community to get your point across.
- Remember to spell check your letter before sending it. Have a trusted friend review and give suggestions.
- Share your letter with others in your community to inspire them to write their own letters, or sign onto yours. Sharing your letter on your social media pages, such as Facebook, is one effective way to get the word out.



Credit: SPUR

For an example of a complete letter, see Appendix A on page 15.



## Step IX: Get community support.

One of the best ways to rally support to save a tree is to get the community involved. Through letter writing campaigns, petitions and media coverage, you have a greater chance of being heard. Oftentimes, city officials are not aware of a tree's special status, but with the help of volunteers, a solution can be found to protect the tree or stop urban expansion.

## Step X: Tell us your story.

We want to hear about your tree-saving triumphs and frustrations. These stories will help us make these resources better for tree advocates like yourself, but will also serve as inspiration for other tree lovers out there, as we share them on our website, blog and social media. Please send your stories to [bigtrees@americanforests.org](mailto:bigtrees@americanforests.org).



Credit: VA State Parks



## Long-Term Tree Protection Tasks

It's also important to help protect and maintain your community forest for the long term. Here are some actions you can take to ensure the longevity of our trees and urban forests.

### Develop a tree ordinance.

As we've mentioned, a tree ordinance establishes standards for addressing a wide range of issues regarding a municipality's trees, but if your town does not have a tree ordinance, you can develop one.

Before you start drafting an ordinance, build a working relationship with organizations and civic groups, such as garden clubs, heritage groups and neighborhood associations, to foster community support. Also, try to include people from local government, tree care and utility companies who represent various interests. A community that is involved with developing and implementing an ordinance is critical to achieving the desired outcome.



Credit: SPUR

You don't need to start writing an ordinance from scratch: Find an existing tree ordinance to get you started. The process to develop policies to maintain and protect trees is a lot easier if you start with a sample ordinance.

There are four main types of tree protection ordinances:

- **Street tree ordinances** – These contain provisions regarding the planting, maintenance and removal of trees within public rights of way which may pose a public hazard or impact public interest.
- **Tree protection ordinances** – These protect native trees, tree canopy or trees with unique attributes based on species, historical significance, aesthetic, size or age. They usually institute a permit requirement for a protected tree to be removed, pruned or encroached upon.

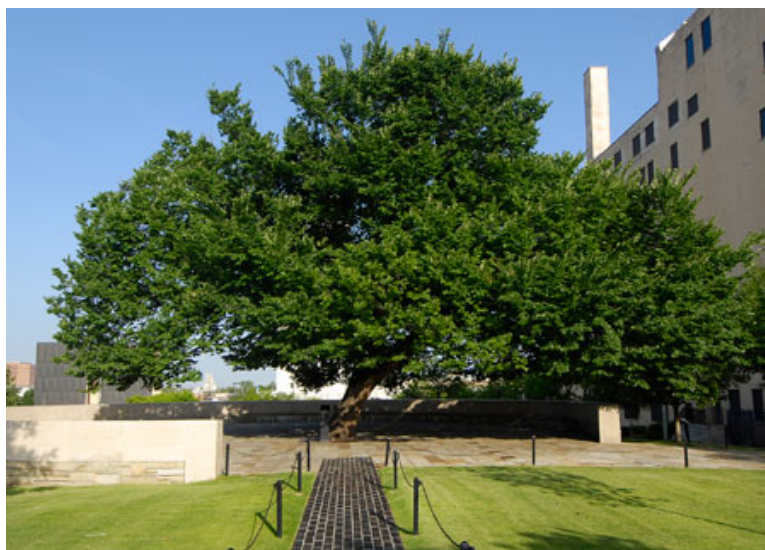
- **Buffer or view ordinances** – These ordinances protect the views of adjacent property owners in commercial and residential developments and establish specifications for noise, visual and riparian buffers.
- **Landscape Ordinance** – These establish required landscaping provisions, such as the placement and number of trees planted, types of suitable plants or trees and more.

Here are a few resources that go into more depth on developing tree ordinances, which may prove helpful while you think about the types of elements your ordinance should include:

- <http://www.isa-arbor.com/education/onlineResources/treeOrdinanceGuidelines.aspx>
- <http://www.ces.ncsu.edu/forestry/pdf/ag/ag693.pdf>
- <http://www.greenlaws.lsu.edu/>
- <http://vtod.frec.vt.edu/>
- <http://conservationtools.org/guides/show/37>

## Establish a heritage tree or champion big tree program.

Trees have cultural and historical significance, serve as landmarks, are champions for their size and have sometimes lived for hundreds of years. They are an important part of every community and should be preserved. Several communities recognize trees for their unique characteristics through heritage tree programs or champion big tree programs. Heritage and champion tree programs can be good long-term solutions for protecting remarkable trees in your community.



Oklahoma City Survivor Tree. Credit: American Forests

### Heritage Tree Programs

Heritage trees encompass an array of unique values that are based on specimen, age, size, aesthetic, historical or horticultural value. Every community has different guidelines when it comes to recognizing heritage trees, but the common purpose of these programs is to encourage proper tree maintenance, increase public awareness, educate property owners and limit the removal of these trees.

Here is a list of heritage tree programs that can be used as models while developing your own:

- Minneapolis Heritage Tree Program  
<http://www.minneapolisparcs.org/default.asp?PageID=1252>
- Portland Heritage Tree Program  
<http://www.portlandoregon.gov/parks/40280>
- Seattle Heritage Tree Program  
<http://www.seattle.gov/transportation/heritagetree.htm>
- West Hollywood Heritage Tree Program  
<http://www.weho.org/index.aspx?page=427>
- Williamsburg Heritage Tree Program  
<http://www.williamsburgva.gov/index.aspx?page=927>

### **Champion Tree Programs**

Champion tree programs recognize the biggest trees of different species. Individual champions vary by size, age and growth habitat, so a standard system of measurement and scoring is used. Most programs follow the system used by the [American Forests National Big Tree Program](#). Champion tree programs are active in all 50 states and the District of Columbia and have been used as models for many local big tree programs and several international ones, in places such as Australia, Mexico, New Zealand and South Korea.



The beloved Seven Sisters Oak, a national champion big tree. Credit: American Forests

To learn more about developing a big tree program in your community, contact American Forests at [bigtrees@americanforests.org](mailto:bigtrees@americanforests.org). You can also contact the [coordinator of your state program](#) (listed on American Forests' Big Tree website: [www.americanforests.org/bigtrees](http://www.americanforests.org/bigtrees)) to see if there are groups in your area that have similar programs.

### **Learn new tree care tips.**

If you're wondering about tree care, concerned about the health of your trees or just have a tree-related question, American Forests and The Davey Tree Expert Company have the answer. Check out our list of tree care tips or ask the Tree Doctor your tree care question at [www.americanforests.org/treedoctor](http://www.americanforests.org/treedoctor).

## Appendix A: Sample “Save a Tree” Letter

[Sender’s Name]  
Address  
City, State, Zip]

[Date]

[Recipient’s Name]  
Address  
City, State, Zip]

Dear [Community Leader]:

I am writing to express my concern over the potential removal of a [tree species] due to [reason of removal, name of construction project or urban expansion]. As a resident of [name of community], I am distressed that our community may lose this valuable environmental and economic asset.

This [tree species] offers several benefits to [name of community]. From cooling the neighborhood and to filtering air pollutants and offsetting carbon emissions, this tree plays a critical role in sustaining a healthy environment. In addition to the ecological services this tree provides, it also has a significant economic value. A single front-yard tree can intercept 760 gallons of rainwater in its crown, reducing runoff and flooding. Properties with trees usually have a higher monetary value — up to 20 percent higher — than properties without trees, and trees also cut down on energy costs. Business districts see an increase in goods and services sold in well-landscaped areas. For every dollar invested in caring for a tree, you receive more than twice the dollar amount in benefits.

The citizens of [name of community] understand the positive long-term impacts of trees. Because trees appreciate in value as they get older, the natural benefits they provide over the course of their lifetimes are incredibly important and only increase as each tree matures. Birds and small mammals rely on trees to provide suitable habitats, and mature trees enhance the overall beauty of our community. Trees are vital to our urban forests and play a major role in the green infrastructure that makes up a city’s ecosystem.

I strongly urge you to reconsider removing this [tree species]. Let’s work together to find an alternative solution to save this beautiful specimen. With the expansion of urban redevelopment projects and lack of awareness of the importance of our trees and forests, it has become all too easy to cut down street trees without assessing their ecological, social and economic values. The value of this tree and all trees should be taken into consideration when making decisions for this [project or reason for removal] because they are true champions of the environment.

Thank you for your attention to this important issue.

Sincerely,  
[Your Name]



## **About American Forests**

The Tree Protection Toolkit was developed as part of the American Forests National Big Tree Program. Since 1940, this program has annually enlisted hundreds of volunteers from all over the country in locating, protecting and registering America's biggest trees, while educating the public about the myriad benefits of mature trees and forests.

The National Big Tree Program is part of American Forests' mission to restore and protect urban and rural forests. Since 1990, American Forests has planted more than 44 million trees in forests throughout the U.S. and beyond, resulting in cleaner air and drinking water, restored habitat for wildlife and fish, and the removal of millions of tons of carbon from the atmosphere. Learn more at [www.americanforests.org](http://www.americanforests.org).