TAKING ROOT

A Community Guide For Protecting The Cincinnati Region's Urban Forest

Written by: Andrea Torrice and Daniel Kloepfer

The best time to plant a tree
was 20 years ago. The second best time
is now.
— CHINESE PROVERB

TAKING ROOT

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Margo Lindahl
Travis Miller
Tom Borgman
Jason Brownknight
Joe Chambers
Dave Gamstetter
The Media Working Group
Torrice Media

ADDITIONAL CONTRIBUTORS
Judy George
Tara Pettit

RESEARCH ASSISTANCE
Merry Hicks

GRAPHIC DESIGN
Garden Girl Creative

NOTE: This Guide is part of the Taking Root Reforestation Campaign's Community Action Toolkit which has updates, resources and videos. This guide can also be downloaded from the Taking Root Reforestation Campaign website: www.takingroot.info.

INTRODUCTION

The Cincinnati Region's Urban Forest: A Community Asset under Threat

More significant even than their sheer beauty, urban forests are an integral part of our local ecosystem. They clean our air, diminish soil erosion, reduce storm water runoff, lower energy use and thermal pollution through shade and evaporative cooling, mitigate climate change by fixing atmospheric carbon dioxide and help purify water. Trees improve property values and provide food and habitat for birds, animals and beneficial insects, directly connecting the city to the countryside.

The "green infrastructure" of our region – our parks, urban forests and wetlands – is as connected to our health and well-being as are our roads, bridges and waterworks.

But our urban forests now face serious threats from invasive species, climate change and unbalanced development practices. Research by the U.S. Forest Service shows that this region has a large population of ash trees and because of this, we will lose over 10% of our urban and community forests and up to 40% of our forests in some areas due to emerald ash borer (EAB) alone in the next few years.[1]

This guide provides an overview of the challenges facing our urban and community forests and what we can do to protect them.

PLEASE NOTE: Additional information on each of the sections of this guide along with video clips are available at the Taking Root Reforestation Campaign Website: www.takingroot.info.

1 Resource Bulletin NRS-36 2009. http://www.nrs.fs.fed.us/pubs/rb/rb_nrs36.pdf

Every nation, every country, every town, in every age, has its historic trees. They are not without influence on the destiny of individuals, societies and nations. They are objects of reverence, works of time, homes of generations and manifest wisdom of creation.

—DR. N.E. JONES, Journal of the Cincinnati Society of Natural History, 1890

THE CINCINNATI REGION: A Pioneer of Tree Reforestation

The Cincinnati region is privileged to have a robust urban forest. Our tree canopy of 43 percent in SW Ohio and upwards of 50 percent in Northern Kentucky makes the Tri-State region one of the greenest metropolitan areas in the country.[2]

It wasn't always that way. In the late 1800s, the Cincinnati region was one of the fastest-growing industrial cities. Its lush forests were quickly removed as the result of a rapid influx of people that relied on trees for fuel and timber and cleared land for farming.

Local preservationists decried the devastation. "When Ohio came into the Union with forty-one thousand square miles of territory, she presented the grandest unbroken forest ever beheld on this continent," wrote Dr. N.E. Jones in the Journal of Cincinnati Society of Natural History in 1890. By the end of the century, the hills of Cincinnati were bare. According to some historians, nearly 95 percent of the trees in the city had been cut down.

From that wreckage, a new appreciation of trees emerged. Cincinnati physician John Aston Warder was instrumental in starting the American Forestry Association, pioneering a national reforestation movement. In 1882, Cincinnati hosted the first national Forestry Congress to conserve and renew urban forests. That same year, Cincinnati's school children planted trees in an abandoned vineyard that became the city's treasured Eden Park.

Cincinnati formed its first Board of Park Commissioners in 1906. The next year, landscape architect George Kessler unveiled his extensive park plan for Cincinnati. Soon, Kessler's vision became a reality. The city began acquiring land several miles northwest of downtown to form Mount Airy Forest, the first municipal reforestation project in the United States. Reforestation efforts have continued over the decades.

Today, our region is fortunate to have thousands of acres of park land and thousands of street trees. Great Parks of Hamilton County preserves over 16,600 acres, Boone County manages over 2,000 acres and in the city of Cincinnati alone, there are 85,000 street trees and over 5,000 acres of parks. Many municipalities have established Tree Commissions. These are often comprised of groups of dedicated volunteers who ensure that city governments and citizens protect their trees for residents to enjoy now and in the future. A very small portion of most municipalities' tax money supports the planting, maintenance and care of our urban forests. For example, the City of Cincinnati collects $0.18 per foot of property frontage; the Village of Greenhills collects $0.50 per foot of property frontage; and some communities around the region do not have specific tax assessments for the care of their public trees.

Our current green canopy is a testament to the foresight and commitment of past generations. Let's be sure that this valuable asset will be as vibrant for the next 100 years.

1 out of every 10 trees in Ohio is an ash

THE THREATS WE FACE TODAY

Trees in the Cincinnati region face imminent danger again. Because of the high population of ash trees in the region, we risk losing 10-40% of our tree canopy in some areas and are faced with the functional extinction of several native species due primarily to four factors:

- Invasive foreign pests, especially the emerald ash borer and the Asian long-horned beetle
- Invasive plant species
- Climate change
- Unbalanced development practices

INVASIVE INSECTS

Globalization has changed the planet more harshly than the Industrial Revolution did. Frequent shipments from Asia and other parts of the world now enter the U.S. every day. With them, invasive pests like EAB and the Asian longhorned beetle (ALB) migrate, too.

These invasive insects and their eggs can survive in wooden packing crates and pallets that travel along U.S. highway routes. They infest local trees, and they are further spread when infested trees are cut and transported as firewood. Transport of firewood beyond its place of origin is a common practice that gives these destructive insects a way to establish themselves in new territory.

The most destructive insects in the Cincinnati region are EAB, which are killing virtually all of the native ash trees, and the ALB, which attacks many different tree species. Native trees do not have the defense mechanisms to fight exotic threats effectively. "We lost the chestnut around 1900 and most of our elms in the 1950s," says Dave Gamstetter, Natural Resources Manager for Cincinnati Parks. "Our native tree species are vanishing quickly."

2 http://www.arcgis.com/home/webmap/viewer.html?url=http://services.arcgis.com/VgmyyKiMPvUPgldo/ArcGIS/rest/services/NKUCFC_TreeCanopy_Draft/FeatureServer/0&source=sd

EAB INFO

To speak with someone about EAB:

- In Ohio, call (888) OHIO-EAB.
- In Kentucky, call (859) 257-5838.
- In Indiana, call (866) NO-EXOTIC.

Consult a certified arborist to learn more about EAB treatment options. Several effective insecticides are now available that can help some ash trees.

Emerald Ash Borer

EAB adults are very small, metallic green beetles. They are about the size of a cooked grain of rice: only 3/8 - 1/2 inch long and 1/16 inch wide.

Adult EABs emerge from beneath the bark of ash trees from late May through mid-July.

First spotted near Detroit in 2002, this insect traveled from China and has moved quickly through the Eastern and Midwestern United States. EAB has killed millions of trees in Michigan, Illinois, and Ohio and as of 2013, has been found in another 19 states and 2 Canadian Provinces. The bright green beetle burrows under ash bark, depositing eggs whose larvae chew at the tree's vascular system, severing its water and nutrient supply. Once the trees die, they become brittle quickly, posing a safety hazard in residential areas and along roadways.

One in every 10 trees in the State of Ohio is ash, which could become functionally extinct. Losing native ash trees also means losing companion species: about 50 other species depend on ash trees for coexistence. The loss of the Ash species may also have other impacts that are yet to be discovered. For instance, a recent study showed a correlation between ash tree mortality due to EAB and an increase of deaths from lower respiratory disease and cardiovascular disease. While the exact mechanism for the correlation is not understood, it shows that trees may impact human health in more ways than we realize. More research is currently being done.[3]

Ash trees thrive in urban environments and have been abundantly planted in many communities across the U.S. In Cincinnati alone, there are about 12,000 ash trees in our parks, along our streets, and in public spaces.

Losing the Ash will have significant economic impacts to our communities. An early effort to estimate economic costs of EAB projected that communities in Ohio would likely incur costs of $1–$4.2 billion if all amenity ash trees on public land were removed and replaced.[4] Specifically, Great Parks of Hamilton County puts the cost of removing one tree between $500 and $1200.

3 Donovan GH, Butry DR, Michael YL, Prestemon JP, Liebhold AM, et al. 2013. The relation between trees and human health: evidence from the spread of the emerald ash borer. Am. J. Prev. Med. 44:139–45.

4 Sydnor TD, Bumgardner M, Todd A. 2007. The potential economic impacts of emerald ash borer (Agrilus planipennis) on Ohio, U.S., communities. Arbor. Urban For. 33:48–54.

ASH TREE CONSERVATION: A TREATMENT OPTION FOR SOME COMMUNITIES.

Certain insecticides have been found to be effective in protecting ash trees from the emerald ash borer. Treatments are applied to the base of ash trees once every 1-2 years and destroy EAB larvae before they cause damage. While the cost to treat trees is prohibitive for many residents and communities, others, like the city of Wyoming, Ohio, have opted to treat some of their street trees and have found that the benefits of treatment outweighs the costs of removal. You can learn more about insecticide treatments and costs at the Emerald Ash Borer University, a cooperative university program at: www.emeraldashborer.info/eab_university_ondemand.cfm#sthash.xoy9CXA9.dpbs.

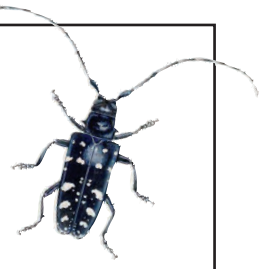
Asian LongHorned Beetle

ALB is a large beetle, between 1- 1 ½ inches in length, and is black with white spots and long antennae. It can fly but generally only short distances.

So far, it has been discovered in five states: Illinois, New York, Massachusetts, New Jersey, and Ohio (and Toronto, Canada). It was identified in an area in western Clermont County in 2011. All ALB infested areas are under federal quarantine due to the severity of potential damage that ALB infestations pose to native tree species and the tree canopy. To learn more about the federal quarantine, go to www.asianlonghornedbeetle.com.

Unlike EAB, ALB infests and attacks trees of 13 genera (with maple most preferred) and is placing native species of buckeye, willow, poplar, birch, sycamore and others at risk. According to the Ohio Department of Natural Resources, 12,359 infested trees and 42,189 high-risk host trees have been removed in Clermont County as of 9/4/2014 directly as a result of ALB infestation.[5]

ALB INFO



If you suspect ALB on your property, contact your State's Cooperative ALB Eradication Program directly at:

- (513) 381-7180
- 1-866-702-9938
- Or online at http://asianlonghornedbeetle.com/report-your-findings/

Support local groups that invest in trees. The Taking Root Campaign is a coalition working to conserve and enhance our region's tree canopy. One of its goals is to reforest the region by planting 2 million trees -- one for every man woman and child -- by the year 2020. To join this local movement or to learn more about its efforts to replant trees, visit www.takingroot.info.

5 http://www.agri.ohio.gov/Public_Docs/TopNews/ALB/Ohio%20Media%20Update_09042014.pdf

Alarmingly, ALB establishment in the United States could result in the loss of as much as 60 percent of the tree population in some areas.[6]

ALB has the potential to dramatically affect Ohio's hardwood industry (which has a value of $2.5 billion in standing Maple timber) and a $5 billion nursery industry.[7] What's more, many host tree species, like maple, would not be expected to significantly recover and regenerate (USDA–APHIS, 2009).

The beetle larvae damage tissues and cause structural weakness by tunneling into a tree's vascular structure, eventually killing the tree from the inside out. None of the trees targeted by ALB have defense mechanisms to combat the infestations, and there is no known natural enemy native to North America to help stop the spread. Currently, the only known method of containment is to remove infested trees and destroy them.

All is not lost concerning ALB and its potentially devastating damage to our tree canopy. **ALB IS AN ERADICABLE BUG**. ALB has been documented as being eradicated in Chicago, New Jersey, and portions of New York. **Check the websites listed at the end of this guide for more information about alb in our region.**

Asian Longhorn Beetle, if unchecked, could mean the loss of up to 60 percent of tree canopy in some areas

Other Insect Threats

EAB and ALB are the two most prominent invasive insect threats to our urban forests but there are other insects that are also of note. Some of these threats include the Gypsy Moth, the Walnut Twig Beetle, and the Hemlock Woolly Adelgid. **For more information about these threats check the websites listed at the end of this guide.**

INVASIVE PLANTS

According to the Ohio Department of Natural Resources, plants that are capable of causing economic and environmental damage, and/or harm to human health are often termed invasive. Invasive plants are characterized by fast growth rates, excessive fruit production, and efficient seed dispersal and germination. Because of this, they pose great danger to native trees by outcompeting native seedlings for optimal growing space and sunlight in urban forests and beyond.

According to the Ohio Invasive Plant Council, nearly 50,000 non-native plant and animal species have been introduced into the United States with approximately half of that being plant species. Non-native invasive plants have the potential to cause more than $34 billion a year in damage to the environment, forestry, agriculture, industry, recreation, and human health. Approximately 60 species of invasive plants have been identified in Ohio. The two most concerning in this region are bush honeysuckle and (flowering) pear. Both of these plants choke out native seedling habitat.

Combine these outcompeting invasive species with EAB and ALB and we are faced with a devastating crisis severely affecting our urban tree canopy. **Check the websites listed at the end of this guide for more information about invasive plants in the region.**

CLIMATE CHANGE AND UNBALANCED DEVELOPMENT PRACTICES

The Cincinnati region's fragile tree canopy is further weakened by rising global temperature and extreme weather events, which stress the reproductive cycles of trees and the animal and insect populations that depend on them.

Additional threats come from unbalanced development practices that fail to consider the value of trees and forests and the environmental impacts of cutting down healthy trees for new development as well as not sufficiently replanting cleared areas. Maintenance is another issue -- Urban trees suffer when they don't have regular pruning, are not watered regularly, are placed in the wrong setting, or are victims of unnecessary soil compaction near their root systems. These are merely a few of the multitude of maintenance issues that trees face in the urban and community setting.

6 http://www.aphis.usda.gov/plant_health/ea/downloads/2012/ALB-OHClermontCountyRevisedEA.pdf

7 http://www.aphis.usda.gov/plant_health/ea/downloads/2012/ALB-OHClermontCountyRevisedEA.pdf

TREES MATTER-The Benefits of Trees to Our Community

Trees and urban forests offer a wide variety of economic, environmental, health, and social benefits. Some of these benefits include:

- Trees provide oxygen and help reduce greenhouse gases
- One large tree can supply a day's supply of oxygen for two people[8]
- Trees reduce storm water runoff which aids in the mitigation of sewer overflows
- Trees absorb pollutants and harmful particulates
- Studies have shown that trees can prevent over 850 deaths a year from respiratory complications[9]
- Trees properly placed around buildings can reduce air conditioning needs by 30 percent and can save 20–50 percent in energy used for heating[10]
- A well placed tree can reduce noise by as much as 40 percent[11]
- Neighborhoods with trees and higher vegetation have been shown to have reduced crime rates [12]
- The net cooling effect of a young, healthy tree is equivalent to ten room-size air conditioners operating 20 hours a day[13]
- Trees increase property value, and homes with street trees sell on average for $7,130 more[14]
- In business areas with trees, shoppers are willing to spend 9-12% more on the same goods and services than those without trees[15]
- Trees help create a sense of community and bring people together

SAVING OUR COMMUNITY FORESTS-What You Can Do

While the threats to our green canopy may seem daunting, there is hope. Taking action to protect and reforest our region is the key. You can help the Cincinnati Tri-State region once again lead a movement to make healthy, diverse, plentiful trees part of our future. Here are some suggestions:

- Let local leaders know you value trees in your community.
- *Realize that local government cannot solve the problem alone. In Cincinnati, the EAB crisis has led to a mandate that all infested ash trees on public property and parks must be removed. This has created a funding shortfall for replanting. As a result, the city can plant only one tree for every three that die, resulting in a reduction in canopy.*

The health of the human species is crucially dependent upon a healthy relationship with the land and all living things. We are part of the ecosystem.

— BILL HOPPLE,

EXECUTIVE DIRECTOR OF THE CINCINNATI NATURE CENTER.

8 McAliney, Mike. Arguments for Land Conservation: Documentation and Information Sources for Land Resources Protection, Trust for Public Land, Sacramento, CA. December, 1993.

9 Nowak, David J., Hirabayashi, Satoshi, Bodine, Allison, Greenfield, Eric. 2014. Tree and forest effects on air quality and human health in the United States. Environmental Pollution. 193: 119-129. http://www.fs.fed.us/nrs/pubs/jrnl/2014/nrs_2014_nowak_001.pdf

10 USDA Forest Service

11 NC State University, http://www.ncsu.edu/project/treesofstrength/benefits.htm

12 Kuo, F.E., & Sullivan, W.C. (2001). "Environment and crime in the inner city: Does vegetation reduce crime?" Environment and Behavior, 33(3), University of Illinois, 343-367. http://lhhl.illinois.edu/crime.htm

13 USDA Forest Service

14 USDA Forest Service. http://actrees.org/files/Research/scifi126.pdf

15 http://depts.washington.edu/hhwb/Thm_SafeStreets.html

- Recognize that our region's urban forest is an asset that requires ongoing investment. Your public trees and parks are cared for with local tax dollars. **Let local leaders know you support funding for the care and maintenance of our urban forests.**
- If you have trees on your property, take good care of them. Find a qualified arborist to help create a regular maintenance plan for your trees.
- Plant a diversity of native tree types to boost the long-term resilience of the urban forest in our ecosystem. Young trees are available for **free from local reforestation groups and for a nominal cost at the Arbor Day Foundation, www.arborday.org.**
- Remove bush honeysuckle on your property
- Do not plant flowering Pear Trees
- Learn to identify the emerald ash borer and other invasive insects. For photographs and more information about these pests, visit www.emeraldashborer.info or www.asianlonghornedbeetle.com.
- Do not purchase firewood not certified as infestation-free by the USDA.
- Do not transport firewood. Many invasive insects spread when firewood is moved.

One generation plants a tree.
The next sits in its shade.

— CHINESE PROVERB

ADDITIONAL RESOURCES

For more information about trees and the threats they face, go to:

EAB

- Emerald Ash Borer, www.emeraldashborer.info
- Emerald Ash Borer University, www.emeraldashborer.info/eab_university_ondemand.cfm#sthash.xoy9CXA9.dpbs
- Ohio Department of Agriculture, www.ohioagriculture.gov/eab
- Ohio State University, www.ashalert.osu.edu
- USDA, http://stopthebeetle.info/
- US Forest Service, www.na.fs.fed.us/fhp/eab
- Quarantined EAB territory, http://emeraldashborer.info/files/MultiState_EABpos.pdf

Additional Resources on Ash tree research from the US Forest Service Research centers:

- http://www.treesearch.fs.fed.us/pubs/46371 Overview of USFS research on Ash Trees
- http://www.treesearch.fs.fed.us/pubs/44924 Breeding EAB-resistant ash
- http://www.treesearch.fs.fed.us/pubs/44120 Survivor ash trees
- http://www.nrs.fs.fed.us/pubs/37263 Ash seed collection video
- http://www.treesearch.fs.fed.us/pubs/34471 Ash seed collection publication
- http://www.fs.fed.us/nrs/tools/ash/ Website for public to submit survivor ash trees (has additional information and links)

ALB

- Ohio Department of Agriculture, www.agri.ohio.gov/topnews/asianbeetle
- USDA, www.asianlonghornedbeetle.com
- US Forest Service, www.fs.fed.us/foresthealth/management/fhm-invasives-alb.shtml
- Quarantined ALB territory in Clermont County, http://www.aphis.usda.gov/plant_health/plant_pest_info/asian_lhb/downloads/albmaps/oh-clermontcounty.pdf

OTHER INSECT THREATS

Ohio Department of Natural Resources, http://ohiodnr.gov/invasive-species/insects-diseases/list-of-ohios-invasive-insects-diseases

INVASIVE PLANTS

- Ohio Department of Natural Resources, http://forestry.ohiodnr.gov/portals/forestry/pdfs/invasives/InvasivePlantsofConcern.pdf
- Ohio Invasive Plants Council, http://www.oipc.info/

OTHER RESOURCES

- Cincinnati Parks Urban Forestry, www.cincinnatiparks.com/urban-forestry
- Take Root film site, www.treesintrouble.com
- The Arbor Day Foundation, www.arborday.org
- Tree City USA, www.arborday.org/programs/treeCityUSA
- Student Resources www.takingroot.info/students

FOR MORE INFORMATION

- www.takingroot.info

Trees in Trouble

Community Action Toolkit

SHEET 1 - FACTSHEET

TREES MATTER- The Benefits of Trees to Our Community

Trees and urban forests offer a wide variety of economic, environmental, health, and social benefits. Some of these benefits include:

- Trees provide oxygen and help reduce greenhouse gases
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- Trees properly placed around buildings can reduce air conditioning needs by 30 percent and can save 20–50 percent in energy used for heating
- A well placed tree can reduce noise by as much as 40 percent
- Neighborhoods with trees and higher vegetation have been shown to have reduced crime rates
- The net cooling effect of a young, healthy tree is equivalent to ten room-size air conditioners operating 20 hours a day

- Trees increase property value, and homes with street trees sell on average for $7,130 more
- In business areas with trees, shoppers are willing to spend 9-12% more on the same goods and services than those without trees
- Trees help create a sense of community and bring people together

The best time to plant a tree
was 20 years ago. The second best time
is now.
-CHINESE PROVERB

This toolkit was made possible through the support of the TREE Fund.

Trees in Trouble
Community Action Toolkit
SHEET 2 - GUIDE FOR SCHOOLS

TREES IN TROUBLE - BEAT THE BUGS!

For more information, go to TreesinTrouble.com

Learn to Identify: **Emerald Ash Borer**

Emerald Ash Borer (EAB) adults are very small, metallic green beetles. They are about the size of a cooked grain of rice.

The bright green beetle burrows under ash bark, depositing eggs whose larvae chew at the tree's vascular system, severing it's water and nutirent supply.

Adult EABs emerge from beneath the bark of ash trees from late May through mid-July.

Learn to Identify: **Asian Longhorned Beetle**

Asian Longhorned Beetle (ALB) is a large beetle, between 1 and 1 1/2 inches in length, and is black with white spots and long antenna.

ALB infests trees of 13 genera, with maple most preferred.

The beetle larvae damage tissues and cause structural weakness by tunneling into a tree's vascular system.

If you suspect ALB in a tree, report it!
Go to: www.asianlonghornedbeetle.com

Take Action: Plant Trees

For information on how to start a Taking Root Reforestation Campaign at your school, and for a detailed guide on how to plant a tree, visit:

www. takingroot.info

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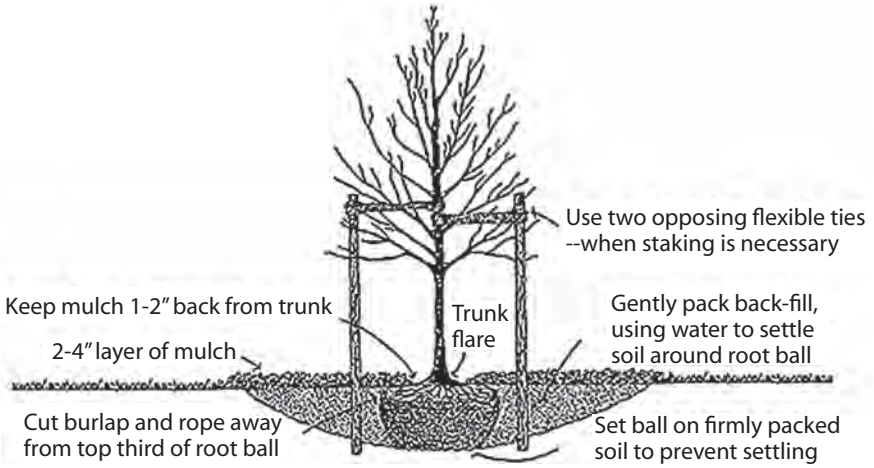
Trees in Trouble
Community Action Toolkit
SHEET 3 - GUIDE FOR SCHOOLS

HOW TO PLANT A TREE

These planting techniques will help your tree to live a long and happy life



Planting Balled and Burlapped Trees

1. If not readily apparent, locate trunk flare by removing twine, burlap, and excess soil.
2. Dig tree hole at least two times wider than the root ball, with sides sloped to an unexcavated or firm base. Dig hole to a depth so the located trunk flare, at the first order lateral root, will be at finished grade.
3. Lifting only from the bottom of the root ball, position tree on firm pad so that it is straight and top of trunk flare is level with the surrounding soil.
4. Remove all twine from the root ball. If present, remove and discard at least the top one half of the wire basket. Burlap shall be removed from the top to a point halfway down the root ball and discarded. Ideally, all burlap and wire basket should be removed from the root ball.
5. With clean, sharp pruning tools, prune off any secondary/adventitious, girdling, and potential girdling roots.
6. Backfill planting hole with existing unamended soil, and thoroughly water.
7. Mulch the entire planting surface with composted bark applied no less than two inches (2") deep and no more than three inches (3") deep, leaving three inches (3") adjacent to the tree trunk free of mulch.

Planting Containerized or Grow Bag Trees

1. If not readily apparent, locate trunk flare by removing excess soil.
2. Dig tree hole at least two times wider than the root ball with sloping sides. Dig hole to a depth so the located trunk flare, at the first order lateral root, will be at finished grade.
3. Create a firm soil mound at the bottom of the planting hole.
4. Remove tree from container or grow bag and select from option a or b:
   a. Completely tease apart root system, repositioning any girdling roots (roots that circle the root ball) or potentially girdling roots. Spread roots over soil mound so that trunk flare is at finished grade and the tree is straight.
   b. With a sharp saw, shave off the entire outer 1 inch (1") of the root ball. Place in planting hole so that trunk flare is at finished grade and the tree is straight.
5. Follow steps 5, 6, and 7 above.

Source: Ohio Department of Natural Resources Division of Forestry
http://forestry.ohiodnr.gov/urban/education/post/sample-tree-planting-specifications

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Trees in Trouble

Community Action Toolkit

SHEET 4 - DON'T MOVE FIREWOOD

MOVING FIREWOOD CAN TRANSPORT INVASIVE INSECTS

Tree-killing pests can hitchhike on infested firewood - accidentally creating new infestations that destroy our street trees, forests, and natural areas.

Protect your favorite places from this threat:

- Buy locally harvested firewood
- Tell your friends not to move firewood
- When you travel, ask a park ranger or campground host about where to get local firewood
- Use firewood from nearby sources to heat your house or cabin

Don't Move Firewood!

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Trees in Trouble
Community Action Toolkit
SHEET 5 - EAB SCENARIOS GAME

Trees in Our Community : EAB Scenarios Game

Different communities respond in different ways to the discovery of Emerald Ash Borer (EAB) in their ash trees. A community's decision is based on local needs and concerns, whether they be economic, safety, environmental or other local values. Whatever a community's choice, it is important that decisions are made through the convergence of citizenship and public policy. Every citizen has the power to get educated, get involved, and to help determine the future of their community's tree canopy. The following scenarios illustrate some of the decisions communities have made.

Scenario 1 - Treatment

Town A has decided to treat all of its healthy ash trees in its public spaces. This town's public space is comprised of 30% ash, totalling 15,000 ash trees. Each tree must be treated once a year for the lifetime of the tree, so the town government must set aside money each year in the municipal budget for treatment. So far, the town has been treating its ash trees for two years and has only lost 3% of the trees it has treated.

Scenario 2 - Removal

Town B has decided to remove all of their ash trees in their public spaces before the trees become a public safety hazard. This town's public space is comprised of 10% ash, totalling 100 ash trees. The town hopes to gradually replace the trees it has removed with new trees.

Scenario 3 - Combination of Treatment and Removal

Town C has decided to treat some of its ash trees and to remove others in order to reduce future, ongoing treatment costs in the municipal budget. This town's public space is comprised of 20% ash, totaling 5,000 ash trees. An ISA (International Society of Arboriculture) certified city forester evaluated the ash inventory and chose which trees to treat based on the tree's placement in the town and how healthy the tree is.

Scenario 4 - Do Nothing

Town D has decided not to do anything about its ash trees, whether healthy or infested. They assert that they do not have money in their municipal budget to address the EAB threat. They plan only to take action if they receive a complaint about a fallen tree.

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SHEET 5 - EAB SCENARIOS GAME

Discussion

- What are the environmental, economic, or social benefits of each decision?
- What are some of the environmental, economic, or social problems each community may face as a result of its decision?
- What will each community need to do to implement its decision, now or in the future?

- Does your community already have an EAB management plan? Which scenario is closest to your community's management plan, and for what reasons was this plan chosen? If your community does not have a plan, why not?
- What unique needs or resources does your community have that would affect how it manages its ash population?
- Which scenario is closest to what you would choose for your community, and why?

Activity

Choose one of your favorite ash trees in your community. You can identify an ash tree by its unique leaf structure, pictured here:

Measure the diameter of the tree with a tape measure.

Using the i-tree calculator at www.treebenefits.com, approximate the value of your ash tree. (Note: for a more scientific estimate, use the software provided by www.itreetools.org).

What is the total estimated value of the tree for the next 10 years? For the next 20?

What is the estimated cost in your area of treating the tree compared to the estimated value you have calculated?

The best time to plant a tree
was 20 years ago. The second best time
is now.
-CHINESE PROVERB

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