

Salem Sound Coastwatch ~ Nahant Garden Club ~ Nahant SWIM, Inc.

Trees In Nahant

April 28, 2016

Nahant Life Saving Station

A Nahant Preservation Trust Building

Barbara Warren

Salem Sound Coastwatch Executive Director

MassBays Lower North Shore Regional Coordinator

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How many of you love trees?



Copper Beech at Costin Residence | Photo Robert A. Wilson

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They frame our view – venture forward



Cary Street | Photo Robert A. Wilson

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To move through space—enjoy walks



Bailey's Hill Sunset | Photo Robert A. Wilson

Mark boundaries– create edges



Green Lawn Cemetery | Photo Robert A. Wilson

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They help us remember—cherish



Calantha's Tree at Lodge Park | Photo Robert A. Wilson

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Find peace and solitude



Calantha's Tree at Lodge Park | Photo Robert A. Wilson

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Line our streets— create shade & give pleasure



Nahant Road Looking Toward Forty Steps | Photo Robert A. Wilson

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In winter – enrich our experience



Trees at 211 Willow Road | Photo Robert A. Wilson

Trees Matter- shelter and food

- Great diversity of wildlife
- Opportunity for people to enjoy nature at our the doorstep

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We Value Trees! Habitat & Wildlife



Bumblebee in Apple Blossom | Photo Robert A. Wilson

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We Value Trees! Habitat & Wildlife



Cardinal near the Audubon Sanctuary | Photo Robert A. Wilson

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Poplar at Northeastern | Photo Robert A. Wilson

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Monarch Migration, October 9, 2007 | Photo Linda Pivacek

200 years ago– NO trees in Nahant

- First settlers deforested the peninsula in the 1600-1700s to pasture their cattle, making it almost devoid of vegetation.
- By 1819, not a single tree was left standing on Nahant.

Trees Matter

➤ Soil Stabilization

Tree roots help to bind and stabilize the soil,

lessening the rate of soil erosion and downstream sedimentation....in Nahant into the ocean.

Roots take up water and help create conditions in the soil that promote infiltration.

Tree Champion – Frederic Tudor

"...he kept a garden. Although it flourished and grew, his little Eden was in the midst of a barren, rocky waste.....

Frederic's success with his own garden convinced him that he could extend his Eden over the whole peninsula. The scoffers who claimed that the salt air and the winds would kill all vegetation, including trees, only spurred him on. "

Tree Champion– Frederic Tudor

"Tudor was famous for planting fruit trees and tobacco in his large gardens on Nahant.

Determined to reverse the barren appearance of treeless Nahant, he began in 1834 to give away trees to any Nahanters who would plant them on their property."

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Try to imagine- Nahant with no trees



Changes in the Land by William Cronon- landmark environmental history

Tree Champion– William Wood

“William Wood, described as an eccentric bachelor from Bunker Hill, offered the Town “ten hundred” books to begin a library on Nahant.

The town, accepting both his generous offer and his plan, called for each title to be borrowed at a cost of five cents, deposited in a bank in Boston, then withdrawn each year, in order to buy trees and shrubs to provide shade on the barren island.

The year of free public libraries arrived in 1872, when the Massachusetts legislature enacted a law to create them.

By then, Nahant had trees once more."



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Once



1880's Tilling the soil for orchids to be shipped around the world, Tom Costin | Photo Barbara Warren

Once, Now



1880's Tilling the soil for orchids to be shipped around the world, Tom Costin | Photo Barbara Warren

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Now- Future



Red Oak - 250 Years old, Tom and Cindy Costin's | Photo Barbara Warren

Future— takes vision, time, hardwork.....



Tom and Dianna with the 250 year old Red Oak | Photos Barbara Warren

Trees Matter

Bring lasting benefits to people in Nahant

- Moderate climate – winter and summer
- Healthier lives

Trees Matter

➤ Healthier lives

Cleaner Air – Trees absorb through their leaves gases such as carbon monoxide (CO), nitrogen dioxide (NO₂) and sulphur dioxide (SO₂) that are known to cause respiratory problems and can also increase sensitivity to allergens.

Cooling and shading effect of urban trees helps to reduce the rate of ozone production.

Noise Reduction – Trees muffles sounds from their surroundings.

Trees Matter

➤ Healthier lives

Cooling the Air – heat reflected upwards from their leaves, significantly reduces summer air temperature

Shade – dappled shade provides a useful barrier to harmful ultra-violet radiation, as well as reducing heat-induced stress amongst people and animals

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Trees Matter— dappled shade



Birch Leaves at Costin Residence | Photo Robert A. Wilson

Trees Matter

Carbon dioxide – major greenhouse gas

As trees grow they absorb and store the carbon in their timber, making forests important in the fight to reduce the rate of global climate change.

However, since it takes a woods about an acre in size to absorb the carbon emissions of an average person, this role for trees in towns will always be strictly limited.

Nevertheless, all extra trees are valuable and their role in absorbing carbon is certainly symbolically important.

Trees Matter

➤ Shelter urban open spaces
by slowing down wind speeds, substantially
reducing air turbulence, especially around buildings,
making towns and cities more comfortable for people.

The shelter from trees and woods in towns also
reduces the heating and air-conditioning costs of
buildings. This can save as much as 10% of
annual energy consumption, and cut down the
air pollution caused by burning fossil fuels.

Trees Matter

➤ Reducing stormwater & flooding-

Leaf canopies provide surface area where rain water lands and evaporates.

The rain is intercepted by the leaves and then evaporates or drips more gradually to the ground.

This lessens the likelihood of flash flooding and helps to conserve ground water.

Using trees in towns as part of sustainable urban drainage systems is a self-sustaining and cost-effective stormwater management strategy which should be used to complement much more expensive hard-engineering options.

Trees consume water



Willow Trees at the Golf Course | Photo Barbara Warren

Trees consume water - LOTS

100

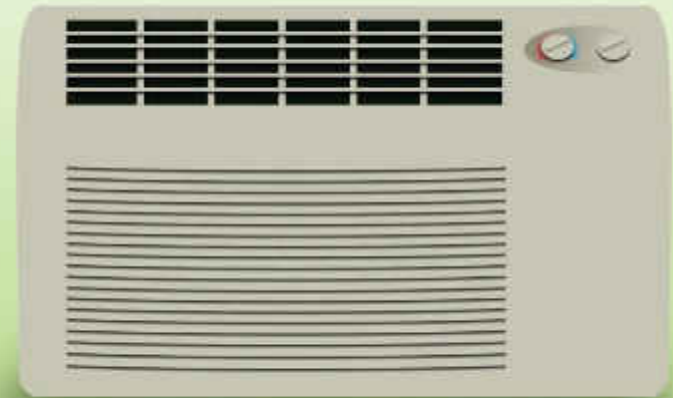
mature trees
catch

200,000

gallons of
rainwater/year

In the process, Cool Us!

100 = 1,000



We Value Trees— increase property values



Homeowner's Tree, Cliff Street | Photo Robert A. Wilson

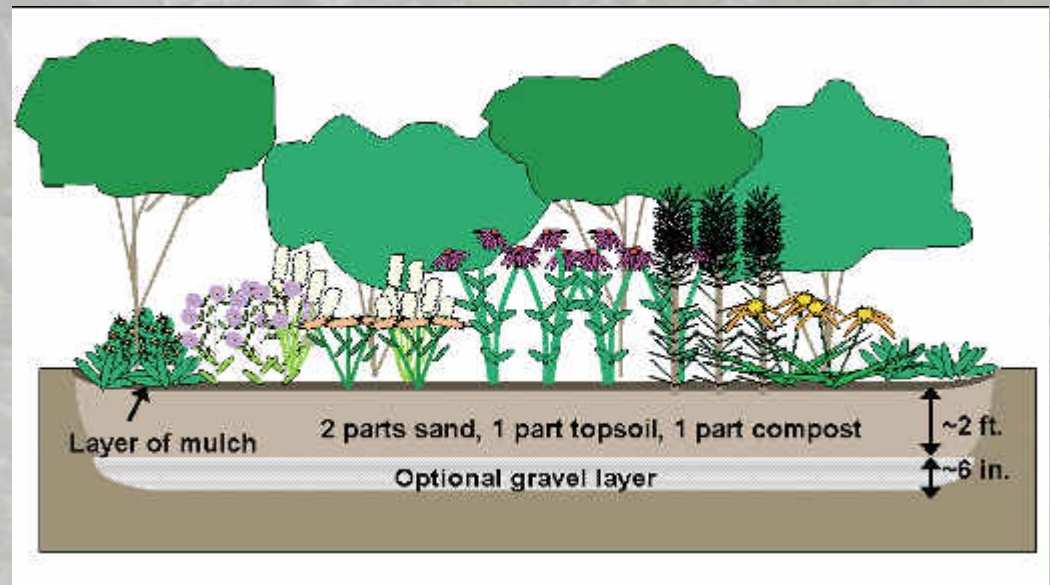
1 large tree can add 10% to the market value of residential real estate.

Greenscapes North Shore

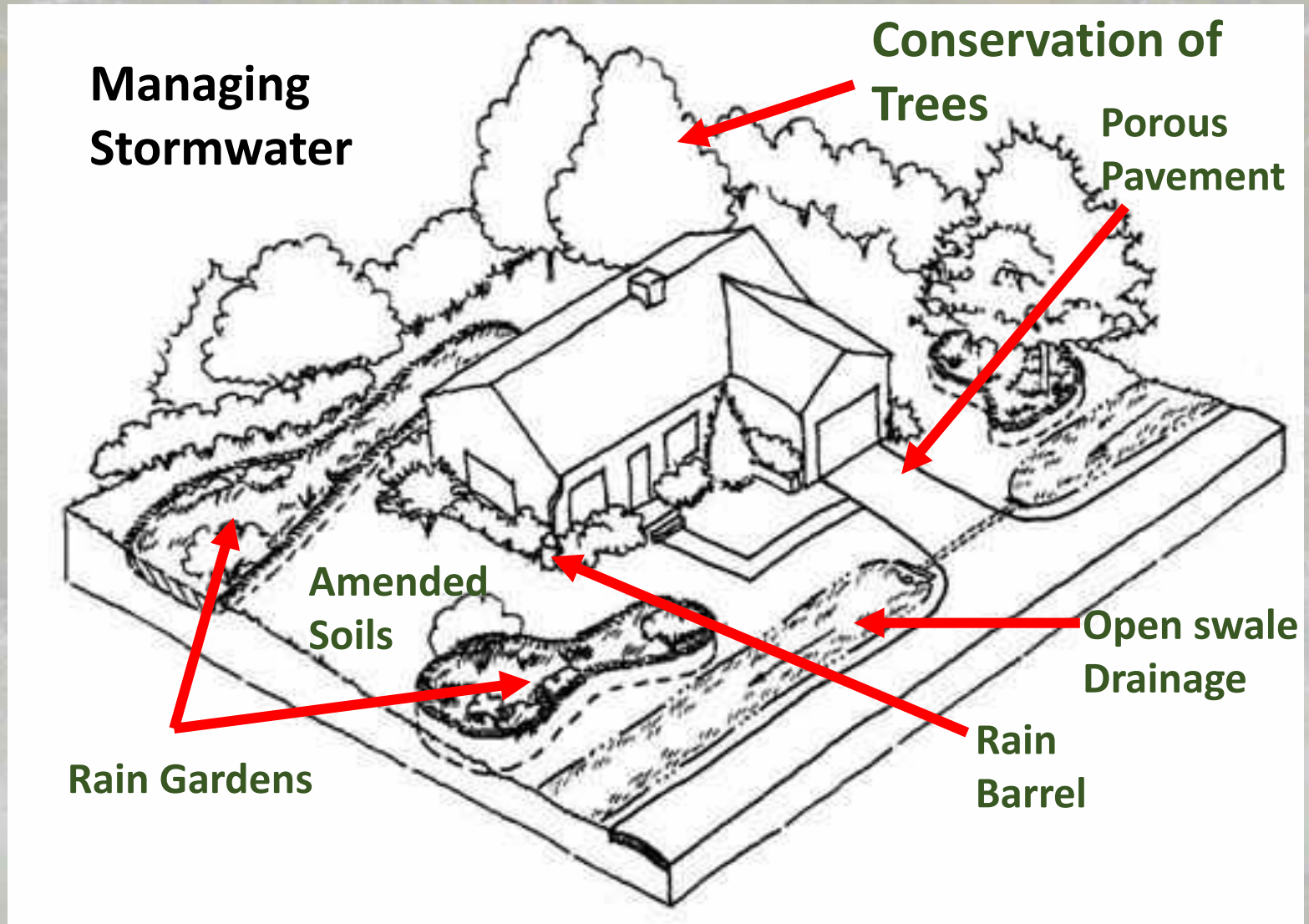


Environmentally friendly landscaping

Easy ways to reduce water usage and chemicals in your yard or park - - - - *and reduce RUNOFF.*



Create a Hydrologically Functional Lot

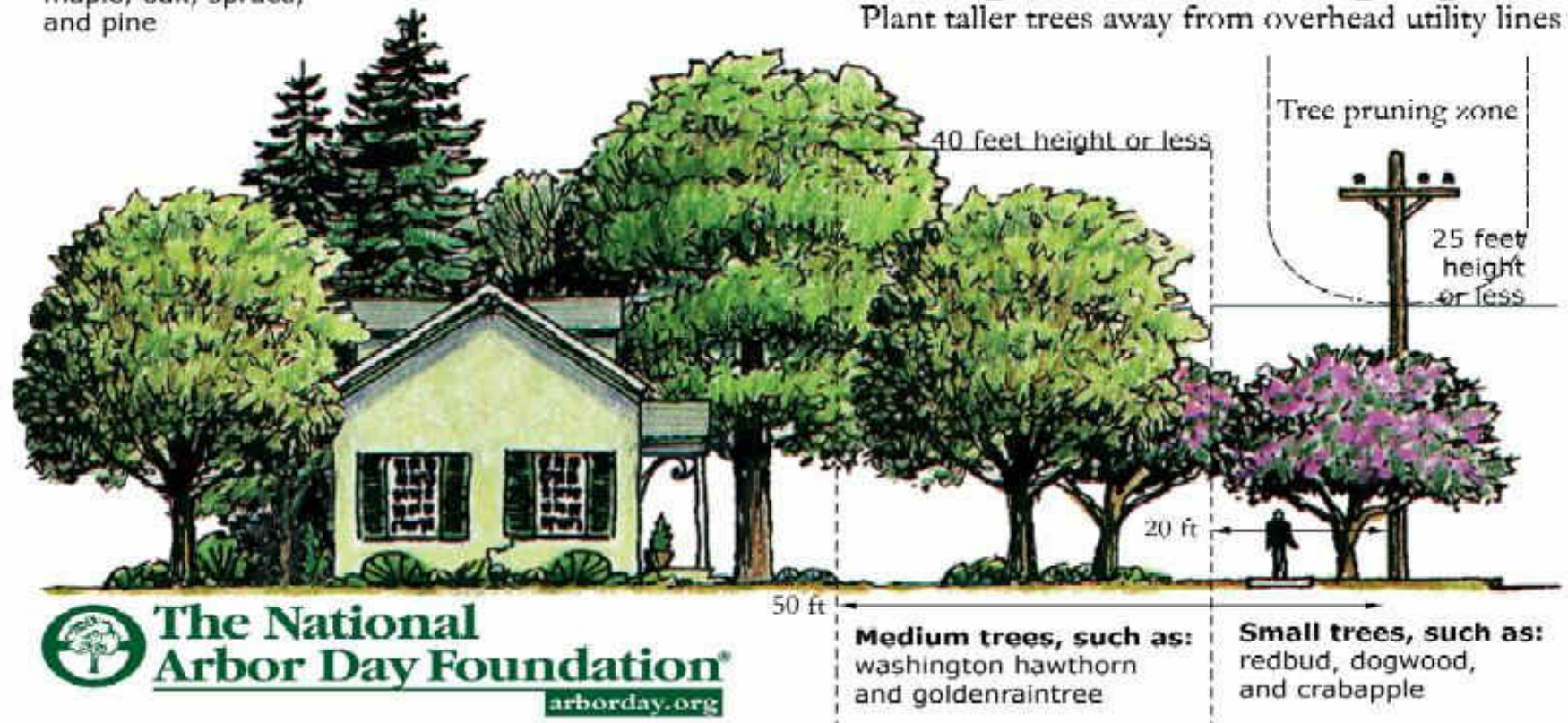


Planting trees

Tall trees, such as:
maple, oak, spruce,
and pine

Plant the right tree in the right place

Plant taller trees away from overhead utility lines



Planting native trees



Red Maple



Smooth Shadbush



River Birch



Witch Hazel



White Pine



American Holly

Serviceberry (*Amelanchier arborea*)

- Large shrub or small tree
- Medium to dark green leaves in summer
- Known for its fantastic fall color range: bright yellow, peach, apricot to orange and deep red
- Very appropriate in a natural setting with an evergreen backdrop



Pin Oak (*Quercus palustris*)

- Large (50'- 70') fast growing tree
- Strongly pyramidal with central leader
- Good shade tree
- Fall color is red-to burgundy



Eastern Red Cedar (*Juniperus virginiana*)

- Handsome native evergreen
- Light blue berries that attract wildlife
- Excellent as a specimen
- Useful in masses for windbreaks and screening
- Also salt tolerant



Armstrong Columar Red Maple (*Acer rubrum* 'Armstrong') - cultivars



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Shademaster Honey Locust

(Gleditsia Tricanthos) – not native



Ginkgo Tree (*Ginkgo Biloba*)– not native



Japanese Tree Lilac

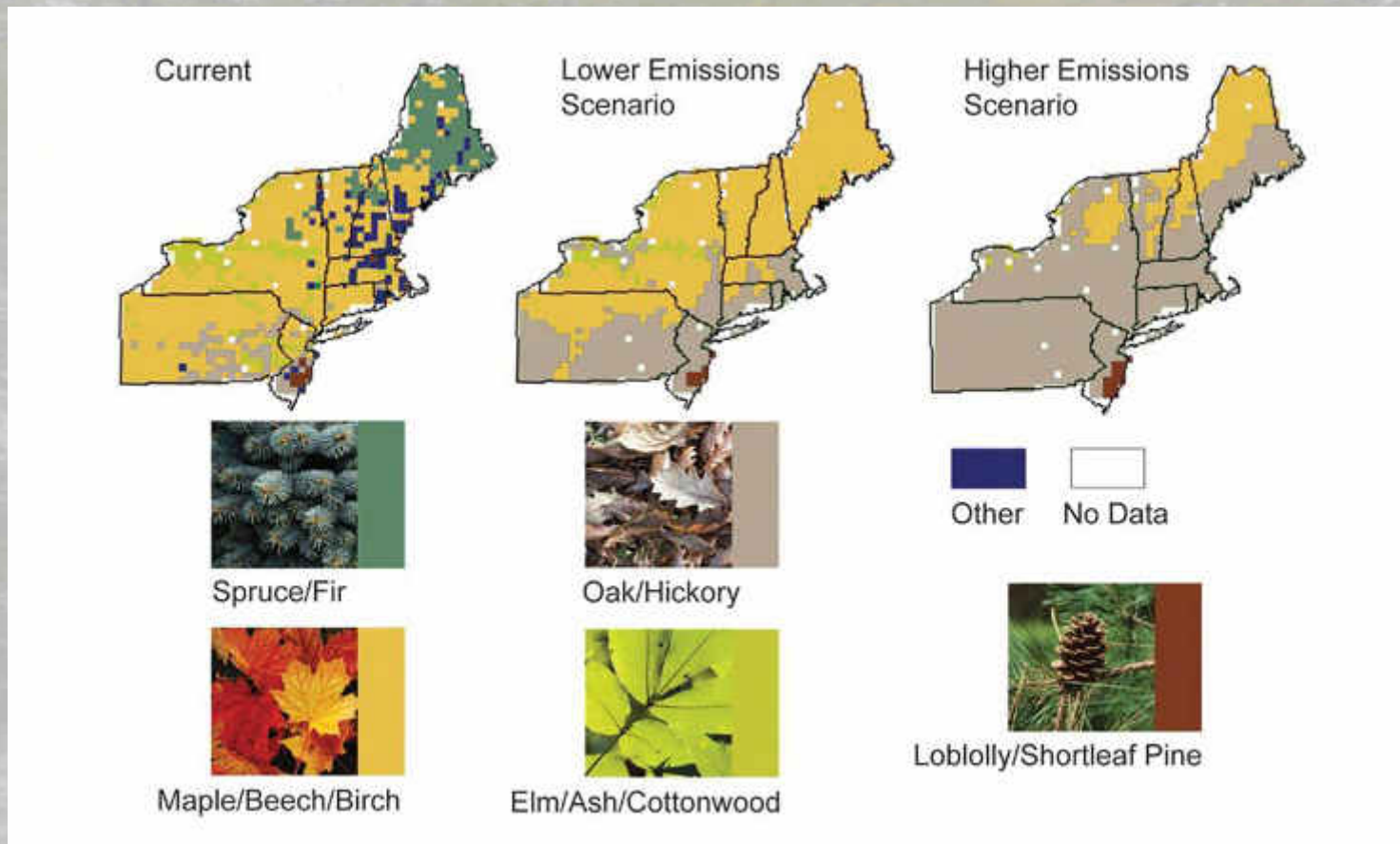
(Syringa Reticulata) – not native



Sugar Maple (*Acer saccharum*)



Planting trees- for the future



Tree species in the Northeast are shifting northward. The range of spruce/fir, maple, and elm/ash/cottonwood forests are shrinking and being replaced by oak/hickory forest in most of the region, and by loblolly/shortleaf pine forest in the southernmost areas. Source: USGCRP (2009)

<https://www3.epa.gov/climatechange/impacts/northeast.html>

Planting trees- Think about the future....

Maintaining species, structural, and age class diversity is important in the face of climate change:

- Create mosaics of habitats for existing wildlife species and new species that may move into the area
- Less vulnerable to environmental stresses and disturbance events
- Reduce risk of damage and financial loss, and create economic opportunities by managing for species that are suited to the changing climatic conditions.



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Natural disaster- may strike



“Big tree after September 1938 Hurricane”

www.legacystories.org/public-archives/stories/entry/nahant-ma

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Trees do not live forever- stewards



Bailey's Hill Trees at the Kelly Greens Golf Course | Photos Barbara Warren and Vi Patek

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How would you feel— if Bailey's Hill had no trees?



Bailey's Hill | Photo Barbara Warren

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How would you feel— when trees are gone?



Bailey's Hill Trees | Photos Barbara Warren

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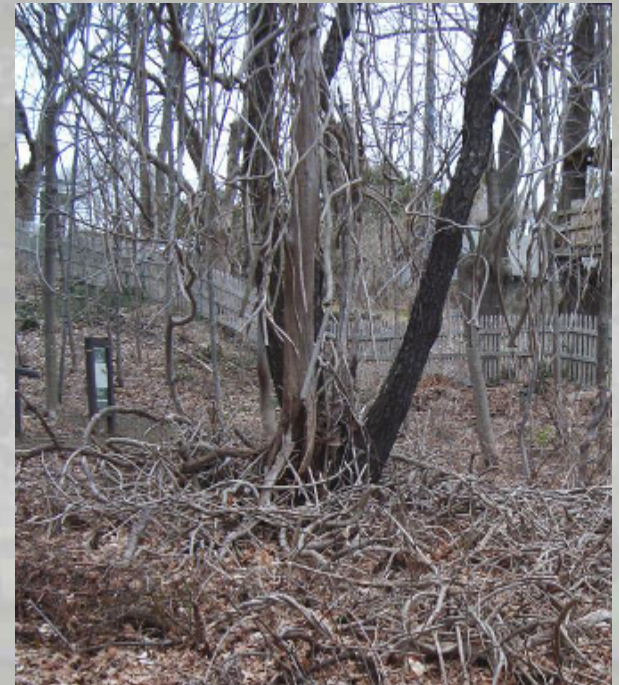
Wicked Oriental Bittersweet



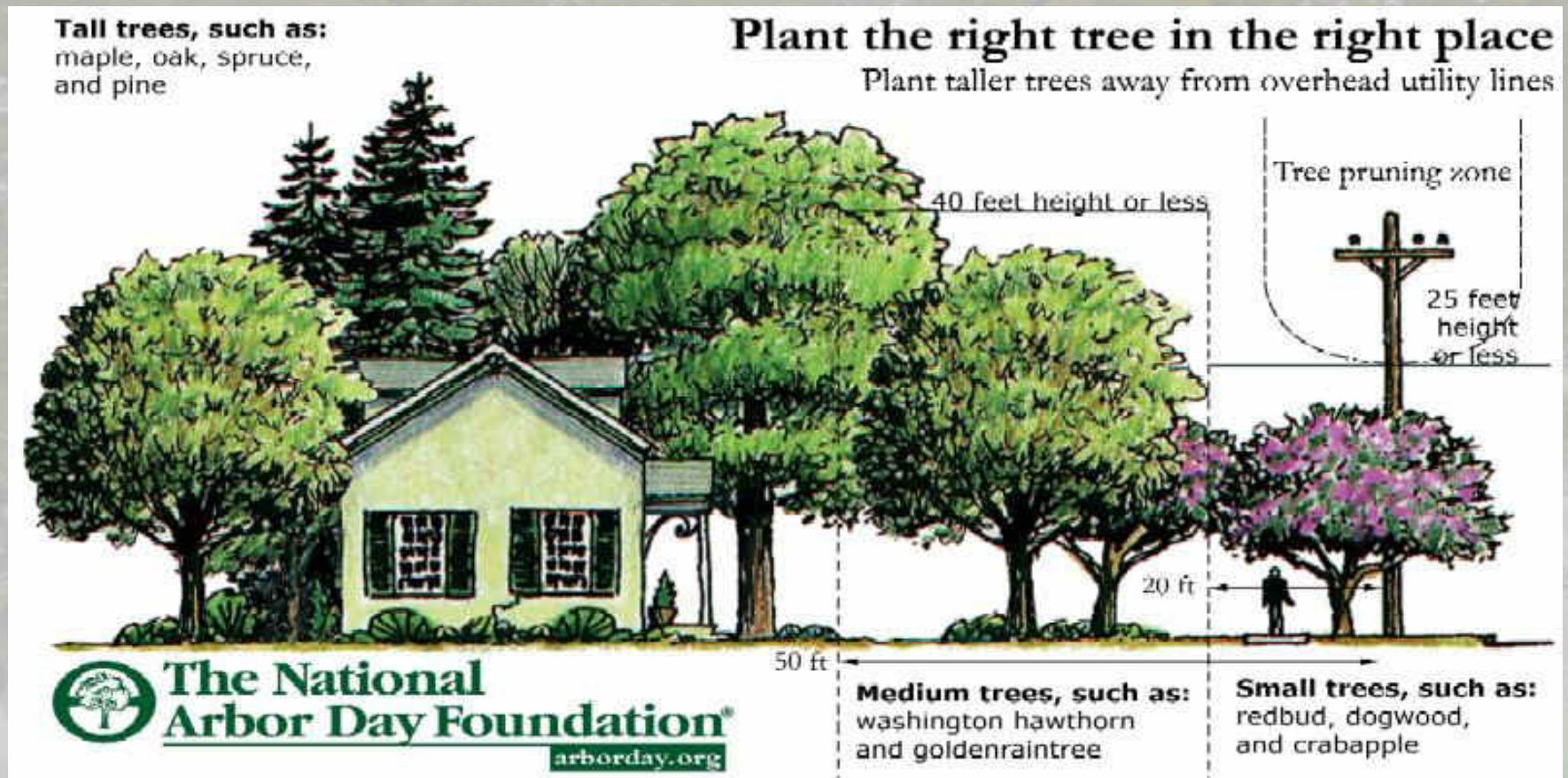
Early Spring at Northeastern | Photo Robert A. Wilson

Remove Oriental Bittersweet

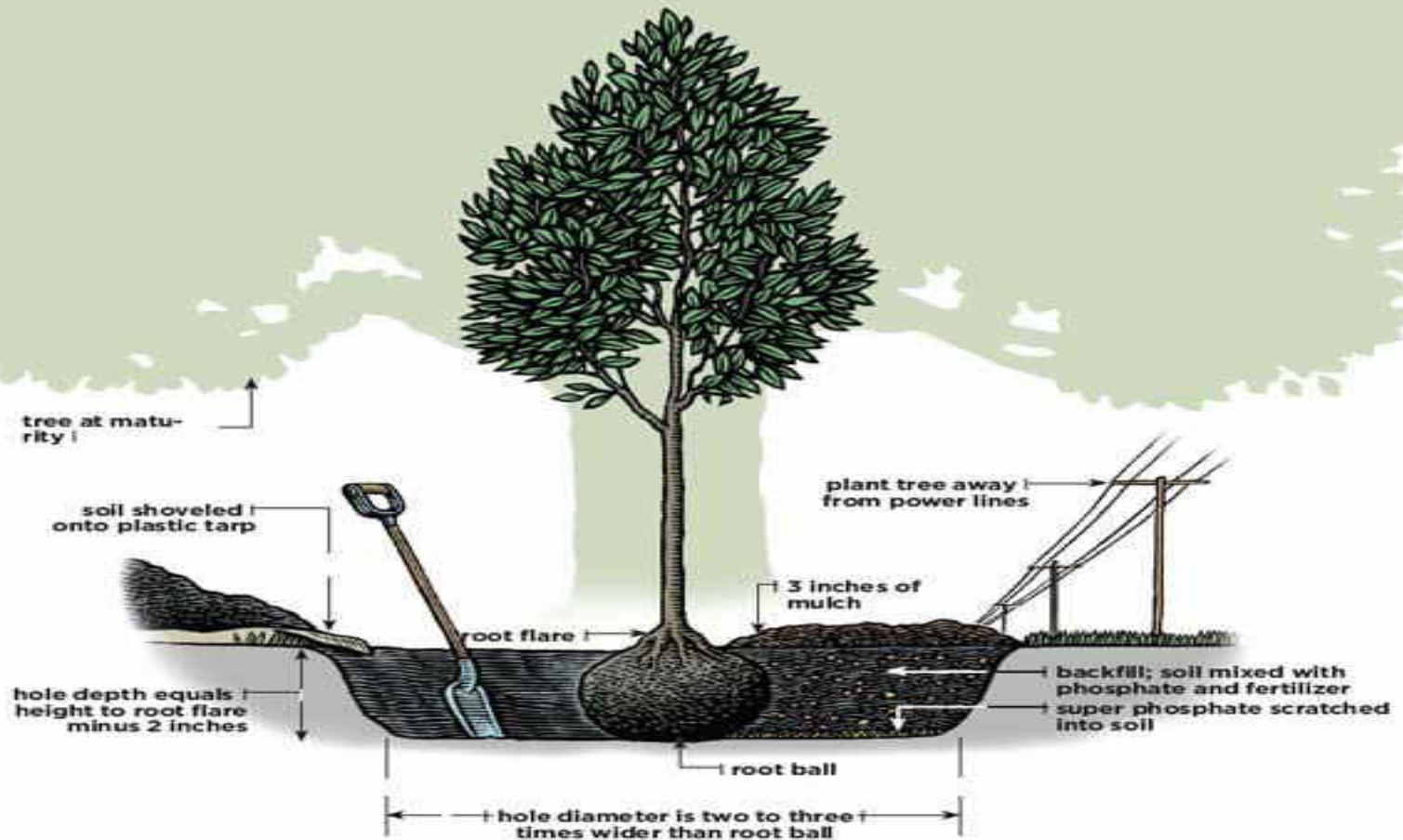
- Remove from your yards
- Volunteer to remove from public spaces
- Cut the vines to prevent the trees from strangulation



Decide what and where – then the HOW



HOW to plant



HOW to plant

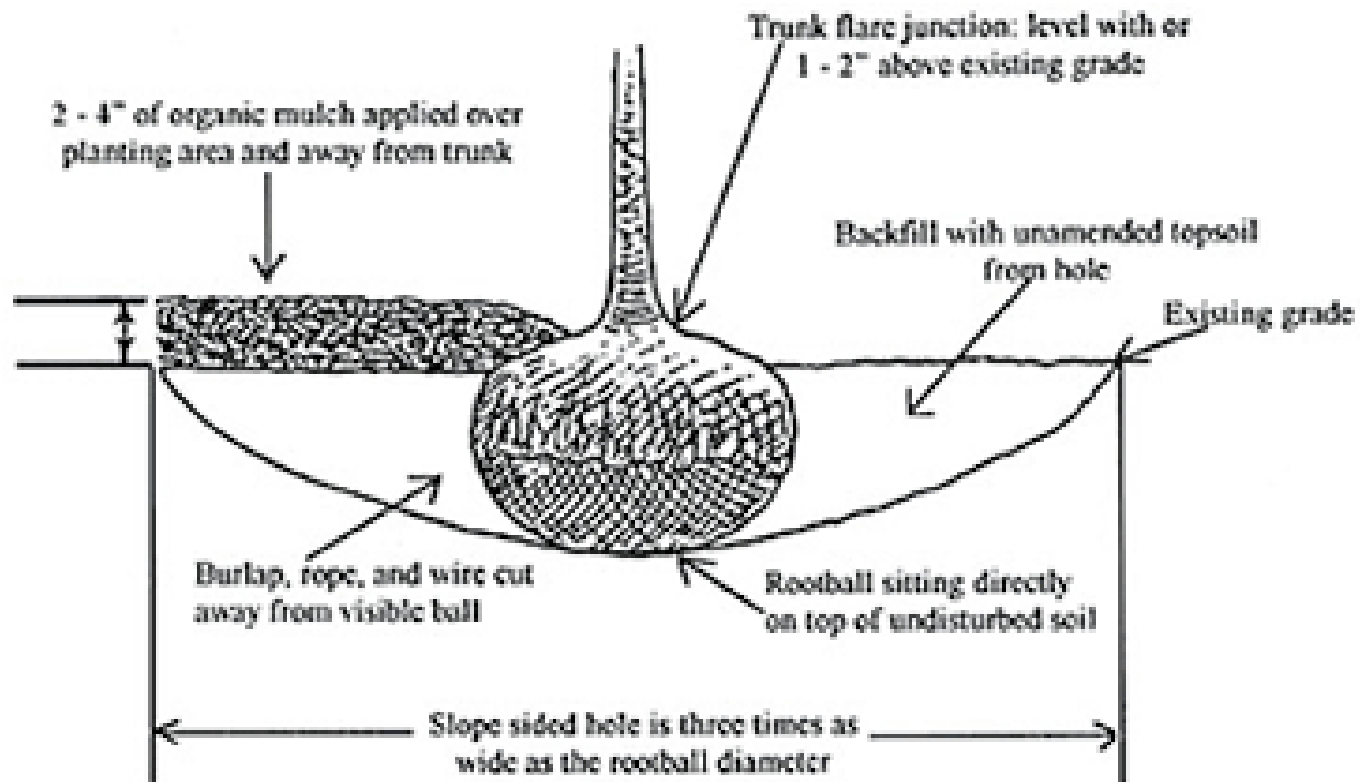


Diagram illustrating proper planting procedure for a tree or shrub.

Soil preparation- includes compost & tea



- Trees need attention for the first couple of years
- Water, compost, protection
- Get a 2-year warranty if possible
- Plant in early spring before June



Trunk- five different layers

A. Outer bark - tree's protection from the outside world

- Continually renewed from within
- Keeps out moisture
- Prevents tree from losing moisture when the air is dry
- Insulates against cold and heat
- Wards off insect enemies

B. Inner bark or “phloem” - the pipeline for food to pass to the rest of the tree

- Lives for only a short time
- Turns to cork to become part of the protective outer bark when dies

C. Cambium cell layer - growing part of the trunk

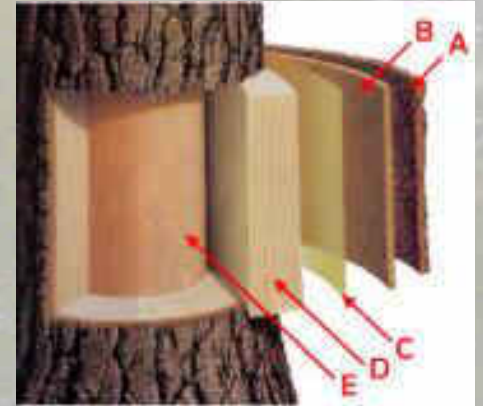
- Produces new bark annually in response to hormones
- Pass down through the phloem with food from the leaves.
These hormones, called “auxins,” stimulate growth in cells.

D. Sapwood - tree's pipeline for water moving up to the leaves

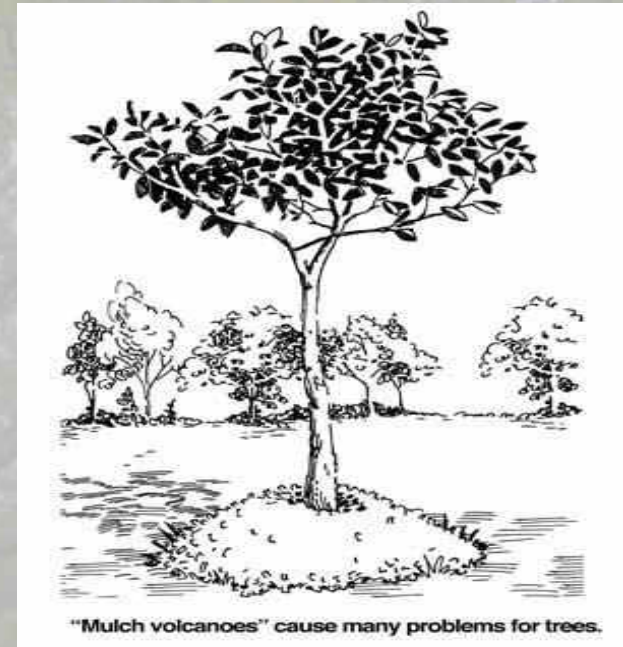
- New wood
- As newer rings laid down, inner cells lose their vitality and turn to heartwood

E. Heartwood - central, supporting pillar of the tree

- Although dead, does not decay or lose strength while the outer layers are intact
- Composite of hollow, needlelike cellulose fibers bound together by a chemical glue called lignin



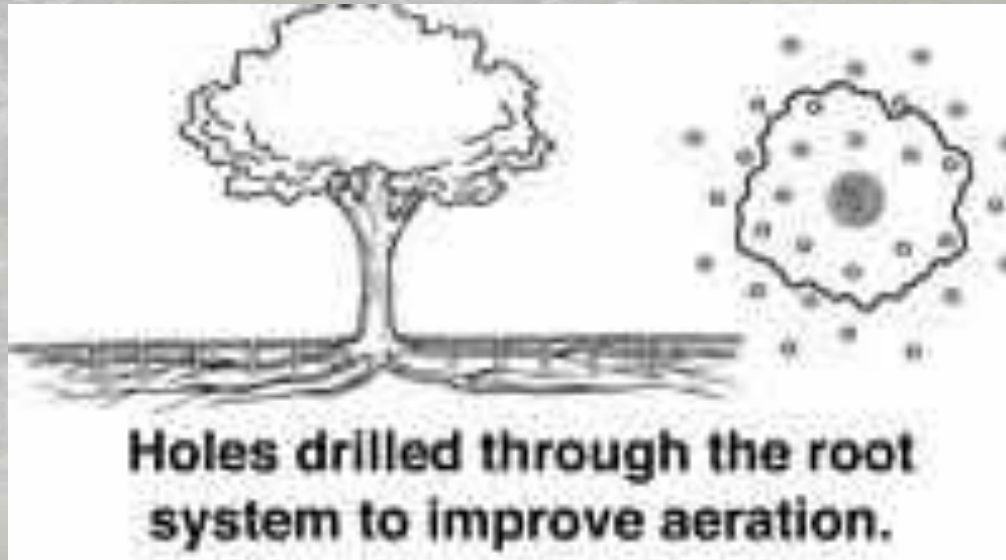
Preventing damage- from weed whacking



- Mulch Correctly!
- DO NOT USE A WEED WHACKER or MOW next to tree
- Protect the BARK!!

Preventing damage- aeration

- Both soil compaction and increases in grade deplete the oxygen supply to tree roots.
- If soil aeration can be improved, root growth and water uptake can be enhanced.



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You can make a difference?



Tree Along Tudor Beach | Photo Robert A. Wilson

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What are the consequences if we don't?



Poplar at Northeastern | Photo Robert A. Wilson

Tree City USA- Provides Community Forestry Program

- Direction
- Technical assistance
- Public attention
- National recognition



PROGRAM



Framework for Action

- Provides direction
- Systematic management of tree resources
- Tree master plan - inventory

BENEFITS



Steps to becoming a Tree City USA

- Meet the Four Standards
- Complete and upload application documents each year by December 31 - *No Fee!*
- Apply at www.arborday.org/TreeCityUSA

Standards



Requirements to be a Tree City USA

1. Tree Board
2. Tree Care Ordinance
3. Community Forestry Program
With Annual Budget of at Least \$2 Per Capita
4. Arbor Day Observance and Proclamation

Standards



1. Tree Board

- May be a professional forester/arborist
- Group of volunteer citizens charged by ordinance with developing and administering a tree management program
- Legally responsible for the management of the community's trees

Standards



2. Tree Care Ordinance

- Establishes a tree board and gives it responsibilities
- Guidance for planting, maintaining and removing trees on public property
- Provides an opportunity to set good policy that is legally enforceable

Standards



3. Community Forestry Program With Annual Budget of at Least \$2 Per Capita

- Percentage of city workers' salaries spent on tree care
- Tree planting/watering/fertilizing
- Equipment rental/purchase/maintenance
- Arbor Day expenses
- Tree care conferences, workshops, memberships
- Value of volunteer labor

Standards



100 Trees Over 40 Years-

Benefits = \$161,000

Energy
Air Quality
Runoff
Real Estate

Costs = \$89,000

Planting/Pruning
Removal/Disposal
Irrigation
Sidewalk Repair
Litter
Legal/Administration

Pay Off: \$72,000

VALUE

Nahanters can make it happen

Together with Trees...
Worth Our Time. Worth Our Resources.



Salem Sound
COASTWATCH

