



# Important Dates in Environmental History

Preserving our environment and caring for all living things that inhabit the Earth began early in our country's history and continues today. Check out some of these important dates that have helped make our world a better place.

1872 - Yellowstone became the nation's first national park.



1881 - President authorizes public lands be set aside as forest reserves.

1897 - The National Forest System was established, followed by the United States Forest Service in 1905.



1970 - The first Earth Day was celebrated.

1974 - The Safe Drinking Water Act was passed and required the Environmental Protection Agency to regulate the quality of public drinking water.



1990 - The National Environmental Education Act was passed. It was created to educate the public about environmental decisions.

2003 - The Clean School Bus USA program updated over 4,000 school buses to eliminate pollutants from being released into the air.

2005 - National NeighborWoods month was created to celebrate organizations that participate in local tree planting programs.



2006 - WaterSense is launched to raise awareness about the importance of water efficiency.

## Tree Talk

Trees come in all different shapes, sizes and colors, but most have the same basic parts.

### Do the Research!

Above are the dates when important environmental actions were taken. For each date, determine who the President was at the time. Which President do you think made the most difference for our environment?

**Crown:** the top of the tree that contains all the leaves and branches.



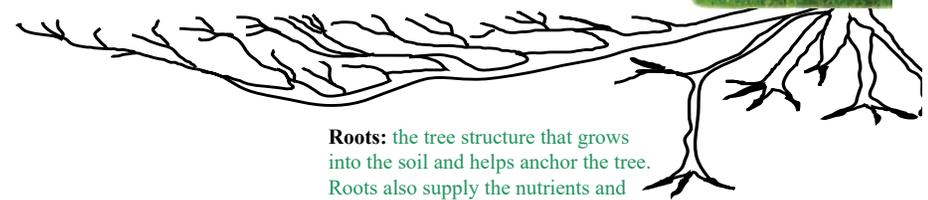
**Leaf:** the growth from the stems where photosynthesis takes place and where nutrients can be stored.

**Trunk:** the main stem of the tree.



**Bark:** the outside covering of a tree that protects the inside of the tree from weather and animals.

**Roots:** the tree structure that grows into the soil and helps anchor the tree. Roots also supply the nutrients and water to the tree.



# Tree Farms



You know that there are farmers that grow Christmas trees, but did you know that there are several types of trees that can be grown for other purposes? There are trees that are grown for furniture and there are trees that provide you with nutritious treats like pecans. Where do you find a tree farm? You may have seen one and not even known it! Most farmers are now practicing an agricultural technique called Agroforestry. Agroforestry is just the scientific name for combining growing trees with other agriculture commodities. For example, planting a hay crop between rows of walnut trees is an example of Agroforestry.



# Celebrate Arbor Day

Plant a tree and celebrate Arbor Day! The first official Arbor Day celebration took place in Nebraska around 1872. The idea came about when J. Sterling Morton felt the need to promote planting more trees in the vast prairie areas. Today, most states set their own Arbor Day celebrations in accordance to when it is the best time to plant trees in their state. What date will your state celebrate Arbor Day?

# Benefits of Shade Trees

- Reduces carbon dioxide.
- Increases the value of land.
- Helps lower energy costs in your home.
- Improves appearance of property.
- Improves air quality.



# What Do You Call Me?



Trees fall into two categories, deciduous and coniferous. How do you tell them apart? Simply remember this: deciduous trees, like the Oak tree, lose their leaves once a year. Coniferous trees have cones and needles instead of leaves.

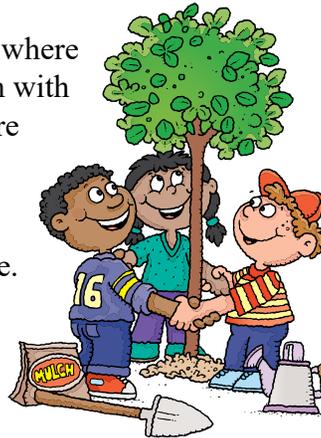


# How Do I Plant My New Tree?



One of the biggest mistakes made when planting a tree is that the tree is planted too deep. To avoid making mistakes when planting your next tree, follow these simple steps:

1. First, make sure you did your research and plant a tree that is native to your state. Why do you think this is important?
2. Select an area that is going to allow your new tree to have enough room to grow to its full size. Try to avoid being too close to buildings or power lines.
3. With the help of an adult, dig a hole that is as deep as your tree's roots are long. The hole should also be at least three times wider than the soil and material around the roots of your new tree.
4. Lightly water your tree hole to help the soil and air settle out of the way of your new tree's roots.
5. Place your tree into the new hole, placing the root collar (the place where the roots join the stem) at soil level. Now begin to fill the hole back in with the dirt you just removed. As you're filling the hole back in, make sure someone is holding the tree straight.
6. Now have an adult add stakes around your tree to help keep it straight as it grows. This will also protect your tree from wind damage.



## Protecting Our Trees

To help trees grow to ripe old ages, special care has to be given to ensure pests or diseases don't attack them. Two common pests that are a big concern to trees in North America are the Asian Longhorn Beetle and the Emerald Ash Borer. The Asian Longhorn Beetle is black with irregular white spots and grows to 1½ inches long at adulthood and feeds on any hardwood tree. The Emerald Ash Borer grows to be ½ inch long at adulthood and is metallic green and feeds on all varieties of Ash trees.

Circle the picture that you think is the Asian Longhorn Beetle and put an X through the picture that you think is the Emerald Ash Borer.





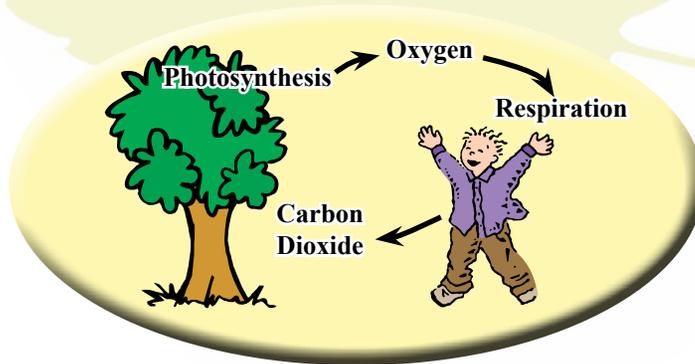
## How Old Am I?

Trees have rings and, as you can imagine, they are not the type that people wear. Tree rings are found in the heartwood of the tree, which is the center part of the tree under the bark. Scientists can tell a lot from tree rings such as the age of a tree or past weather patterns.

## Branching Out for Clean Air

Trees are natural clean air factories. The more scientific name for the function that trees serve is called the oxygen cycle. Plants, including trees, serve as the beginning of the oxygen cycle.

Plants interact with sunlight in a process called photosynthesis. During photosynthesis, plants take the energy from the sunlight and use it to change carbon dioxide and water into oxygen and carbohydrates. An easy way to understand the cycle is to think the trees breathe in the carbon dioxide and exhale oxygen. Humans and animals do the opposite. We breathe in oxygen and exhale carbon dioxide.



## Be Green and Recycle!

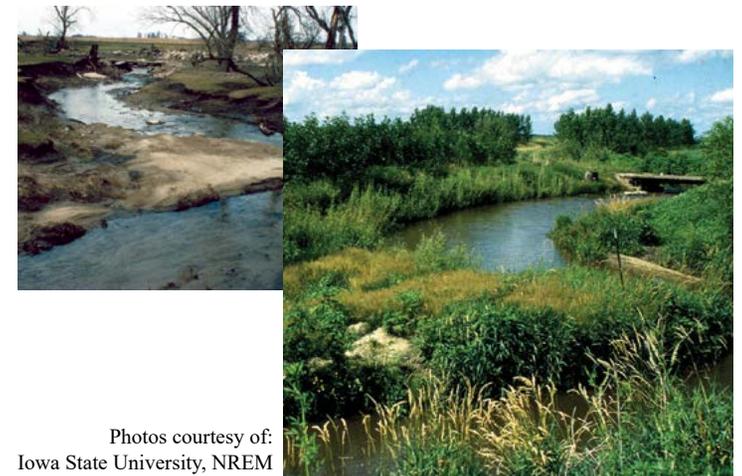
Does your family recycle? Did you know that you can recycle several products that are made from trees? Recycling can be as simple as having a paper recycling container in your classroom and putting your scrap paper in it. Christmas trees can also be recycled. Once the holiday season is over take your tree to a local recycling facility.

How are trees recycled? Trees can be pushed through chipping machines that can make mulch to use in landscaping. Recycled trees can be placed along rivers and ponds to slow soil erosion. Recycled trees can also help serve as new habitat for many animals, especially fish. Fuel can even be made from recycled wood chips!

## Rooted in Clean Water

Trees, shrubs and prairie grasses help clean the water you drink. Farmers are concerned about water quality so they plant areas called riparian buffer strips. Riparian means along a stream or river. Buffers are used to separate things. For example, if a large factory is built next door to your house, you would want to put in a buffer of trees to separate your house from the factory. Not only does it block the view, it also provides a sound barrier, and attracts wildlife to your yard.

Riparian buffer strips use trees, shrubs (bushes), and prairie grasses to separate the land from the water. Farmers plant riparian buffers to reduce soil erosion, provide wildlife habitats and to improve water quality by filtering out chemicals and nutrients from the surface run-off water. Run-off occurs when it rains. Some of the water is absorbed into the ground to replenish the groundwater that we use for drinking, but oftentimes, water runs off the surface of the land, such as the buildings and pavement.



Photos courtesy of:  
Iowa State University, NREM

## Ralph Voss

Voss Pecans  
Carlyle, Illinois



### *Tell us about your farm and your business.*

We are grain farmers; we grow corn, beans and wheat. I farm with my brothers and their families. Each has their own farm and land, but we share some equipment and help each other out when the other needs help on their farm. Our farming involves three generations of the Voss family. I used to be a dairy farmer, but now I am really getting into the pecan business. I own 110 plus acres of pecan trees. I'm the only pecan grower business in the state of Illinois.

### *How do you harvest pecans?*

We have equipment especially for pecans. There is a tree shaker that grasps the tree by the trunk and shakes it. The pecans fall to the ground and the harvester picks up the nuts. The harvester is kind of like a combine, except it has rubber fingers that sweep the nuts into a hopper along with sticks, leaves, and anything on the ground. So we have a cleaning machine that runs at night in the shed and the whole family helps, picking out the good pecans on a moving conveyor table.

### *How do you prepare the pecans to be sold?*

We have four cracking machines, one for each size of pecans we grow. These are electric machines that crack each nut, one at a time. They get rid of most of the shell and then the pecans come out in perfect halves for eating. Then we truck our pecans, like grain, to a processing plant in a different state to have them boxed up to sell.

## Richard Schultz, Ph.D

Iowa State University  
Ames, Iowa



### *Tell us about your job.*

I am a university professor who teaches students about trees and about forest ecology. In class, we study how trees grow and how forests function. In addition to studying in the classroom, we spend three hours each week outside learning to identify different trees, measuring how large they are and how fast they grow, looking at the soil that they grow in, and finding birds and animals that depend on trees for their homes. I love helping students learn about nature.

### *How did you develop this interest in teaching students about forestry?*

My grandmother, who lived with us when I was a child, loved to garden and let me help her a lot. From her, I learned to love nature. I always enjoyed telling people about nature and thought it would be great to be able to teach students about the wonders and importance of nature and the environment.

### *What advice do you offer a student who is interested in a career in forestry?*

If you are interested in a career in the field of forestry, spend as much time outdoors as possible watching the plants and animals react to changes in the seasons. Talk with professionals in the field, watch programs on the National Geographic and Discovery channels, and read books about nature.

## Debbie Fluegel

Trees Forever Field Coordinator  
Tremont, Illinois



### *What does the day in the life of a Trees Forever Field Coordinator look like?*

As the Illinois Field Coordinator for Trees Forever, I work with landowners throughout Illinois, primarily farmers, who are interested in installing conservation practices, such as riparian buffers, wetlands, stream bank stabilization, windbreaks, field contours, and grass strips on their property. The spring and fall are the busiest times of the year. I may be assisting a landowner with a tree planting project or giving educational presentations to 400 students.

### *What classes in school were important for your job?*

The science classes were really important to me, especially the Ecology classes. I learned how everything is interrelated. The public speaking and speech classes were also important because I learned to have confidence while giving a presentation. The most important classes were the ones I took in elementary and high school that taught me how to ask questions and how to learn.

### *What advice would you give young people that want to take care of their environment?*

Get involved. One person can make a difference. There are many opportunities for young people to get involved in the environment. Start a recycling program for your community, plant a tree, volunteer to pick up roadside trash or organize and participate in a stream clean-up. Check your local library for books on other ideas on how to get involved. You can also contact the University of Illinois Extension office or the Soil & Water Conservation office in your local county for other ideas.

## Barrie McVey

Illinois DNR District Forester  
Vermont, Illinois



### *Explain how your job impacts our environment.*

I am a District Forester for the Illinois Department of Natural Resources. I cover seven counties in West-Central Illinois. Most of my time is spent with rural landowners who want to either manage their existing woodland or plant trees to start a new forest on open land or marginal crop ground. I strive to improve the quality of the woods I work in. A healthy forest produces higher quality trees and improved habitat for game and non-game species. Forests are an important part of the Illinois landscape.

### *How did you develop this interest in forestry?*

As a child I enjoyed playing in the woods and being outside. Most of our family vacations were outdoor-oriented. We camped, fished and canoed in different parts of the country. My parents instilled a love of nature and the need to try to make our environment a better place at a very young age. I chose forestry as a career hoping that I could make a difference in our environment.

### *What type of subjects from school help you most at your job?*

I had to take a lot of science classes. I think my high school Ecology class was a huge influence. English/Communication classes are very important so that a natural resource manager can communicate well with individuals and groups. Since everything is connected, it really helps to take classes in wildlife management, fire ecology, geology, etc.

# Products that Come from Trees

Maple syrup	Rubber gloves
Walnuts	Paper
Hairspray	Soap
Dye	Chewing gum
Medicine	Golf tees
Animal bedding	Toothpicks
Nail polish	Newspapers
Lacquer	Stain remover
Furniture	Piano keys
Shatterproof glass	Camera film
Baseball bats	Buttons
Mulch	Fishing bobbers
Pecans	Cosmetics
Egg cartons	Ping pong balls



The New Vinton school project, designed by Trees Forever, at the Vinton-Shellsburg School in Vinton, Iowa is a multi-year program, that will involve all classes in the high school in creating a learning lab that surrounds the entire school. Each planting has a purpose and will aid students in learning in subject areas such as agricultural science, horticulture, geospatial math and careers.

## Holding a Tree in Your Hands!

The printed *Ag Mag* is made from ordinary paper, right? Oops! Think again. This *Ag Mag* is certified by the Sustainable Forestry Initiative (SFI). That means after trees were cut down to make this paper, new trees were planted in the forest. The companies who participate in the program around the world plant 650 million trees every year. Not only does that mean there will be more trees for the future, but it also means that the animals, plants, soil, and water in the forest will continue to be protected by these new trees.

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**Illinois State Learning Standards: 1B.2a; 1B.2c; 1.C.2a; 1.C.2d; 11.A.2a; 11.A.2d; 12.A.2a; 12.B.2b; 12.E.2a; 12.E.2b; 12.E.2c; 14.A.2; 14.D.2; 16.E.2a(US)**

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