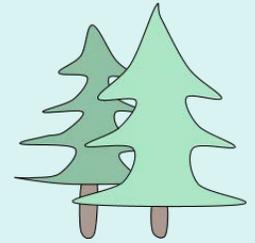


# OUR PLANET, OUR FUTURE



## AN ENVIRONMENTAL NEWSLETTER

*Issue No. 2- April 2020*

### Why Are Forests and Trees Important?

Trees are a big deal in Virginia! They provide jobs for people, produce wood for forest products, and help to promote a healthy environment.

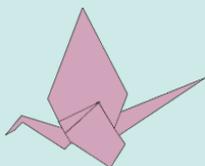
#### Jobs related to forests

Forests provide jobs in industries such as logging and **recreation**.



#### Forest products

Every day, trees are harvested to produce wood for furniture, paper, and building material. In Virginia in 2015, forest products made 17 billion dollars for our economy!



#### Environmental benefits of forests

When trees grow in an area, they help to clean the air, reduce **soil erosion**, and lessen pollution in nearby bodies of water. They also act as a **carbon sink** by soaking up carbon dioxide and preventing it from getting into the atmosphere. This helps reduce global warming!

Trees soak up carbon dioxide, a gas that causes global warming when it collects in the atmosphere.

Trees create oxygen through photosynthesis. Humans and animals then use this oxygen to breathe.

Tree leaves soak up pollutants, preventing them from going directly into nearby water sources.

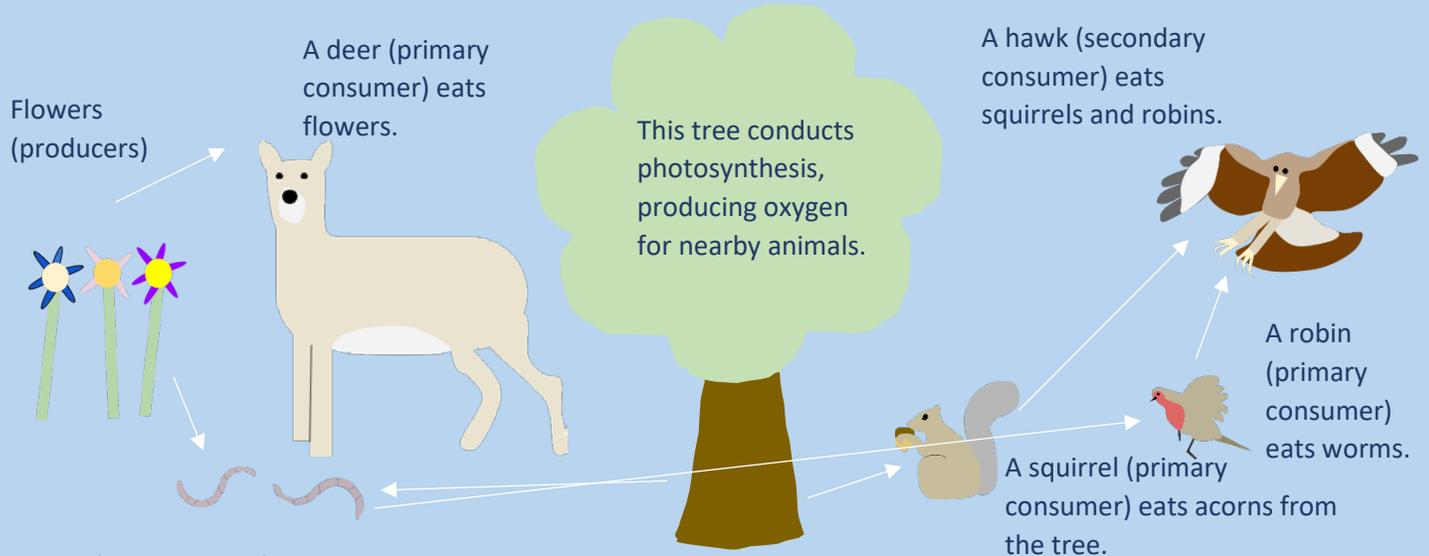


Strong roots hold the ground in place, stopping erosion!

# Animal and Plant Life Supported by Forests

Forests play an important role in the environment by providing a habitat for plant and animal species!

## Food Web in an Eastern Virginian Forest Ecosystem



**What Happens During Photosynthesis?**

During photosynthesis, plants take in sunlight, water, and carbon dioxide and produce oxygen and glucose (a type of sugar).

### State and National Park Bucket List!

Check off the box of each park you've visited, and put a star next to the ones you want to visit!

**A. Shenandoah National Park**

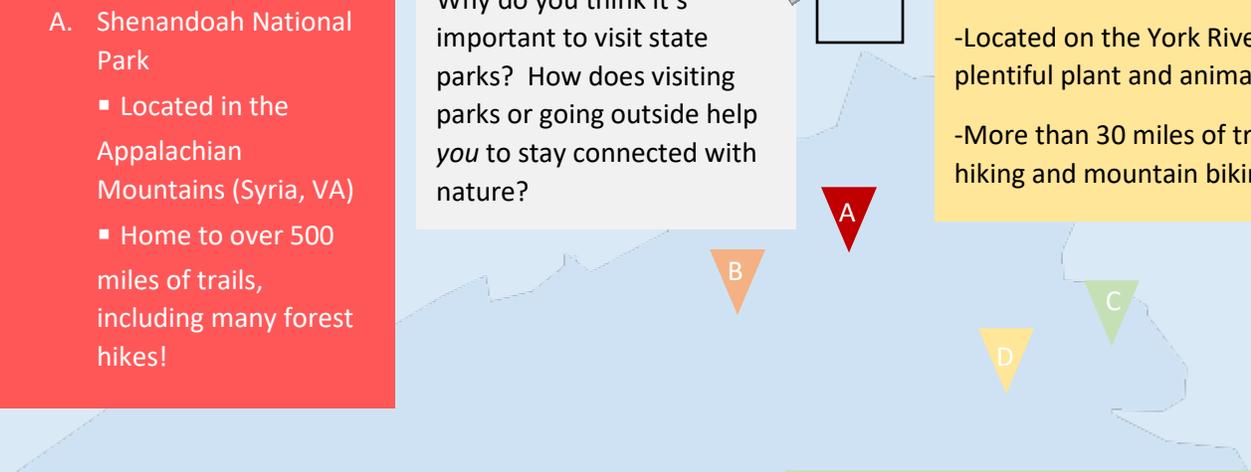
- Located in the Appalachian Mountains (Syria, VA)
- Home to over 500 miles of trails, including many forest hikes!

Why do you think it's important to visit state parks? How does visiting parks or going outside help *you* to stay connected with nature?




**C. York River State Park**

- Located on the York River: home to plentiful plant and animal life
- More than 30 miles of trails for hiking and mountain biking




**B. Crabtree Falls**

- Located in Nelson, VA
- 6 miles off the Blue Ridge Parkway
- 5 major waterfalls, beautiful forest hiking trails
- Picnic area and campground

**D. Pocahontas State Park**

- 20 miles away from Richmond
- 64 miles of trails
- Fishing, camping, boating, and nature and history programs

# If trees are so important, then why do we cut them down?

Sometimes, humans must clear out forests so that we can log, farm, or **develop** land. Although tree removal can sometimes damage **ecosystems**, it can also be a necessary step in clearing the way for healthy forest life.

**Sustainable** timber harvesting is practiced when the growth of trees in an area outweighs the number of trees cut down. For example, tree harvesting in Virginia in 2007 was sustainable because 1,030.4 million cubic feet of trees grew that year, while 827.5 million cubic feet were removed.

MATH: Billy has lots of pine trees in his yard. One year, he grows 10 trees and cuts down 9. Does this show that Billy managed his trees **sustainably**?

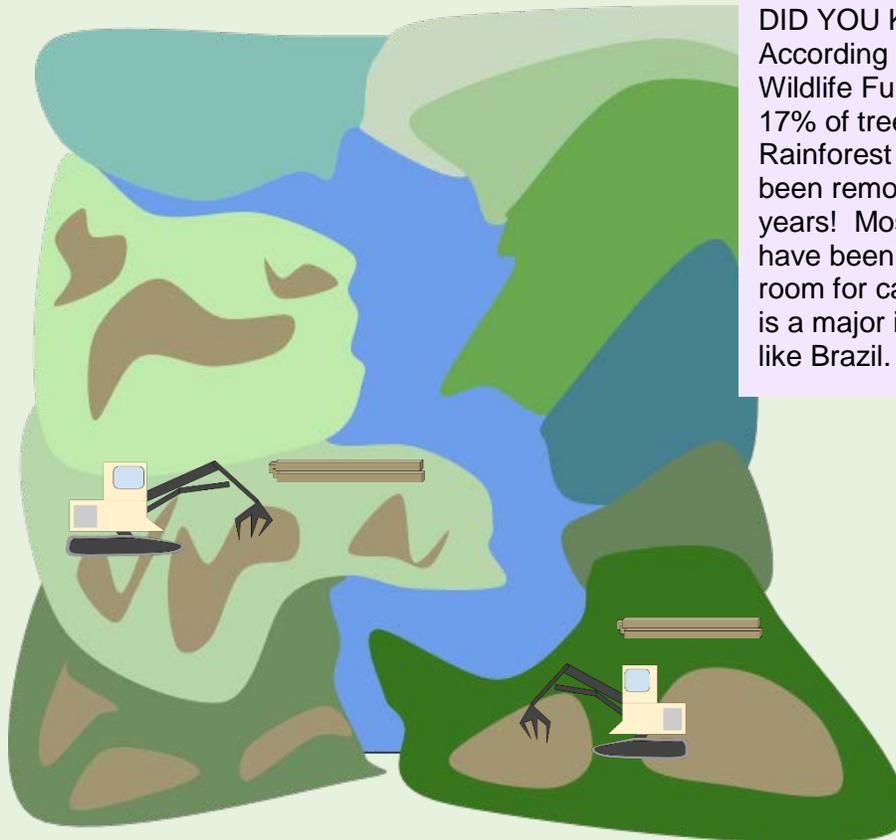


**DID YOU KNOW?** As trees grow older, they become more **vulnerable** to forest fires, insect attacks, and disease. To prevent entire forests from being “sick”, it is sometimes good to cut down old trees to make way for newer, healthier ones!

Overall, it's important that when we do cut down trees, we do it in a way so that forests are able to grow back.

## What is unsustainable deforestation?

**Unsustainable deforestation** happens when forests are removed too quickly for trees to naturally replace themselves. This can really hurt the environment, as we've seen in tropical areas such as the Amazon.



**DID YOU KNOW?** According to the World Wildlife Fund, approximately 17% of trees in the Amazon Rainforest have been removed in the past 50 years! Most of these trees have been cut down to make room for cattle farming, which is a major industry in countries like Brazil.

Deforested patches in the Amazon River Valley

# CURRENT NEWS:

## AMAZON FOREST FIRES

Last year, there was a sudden increase in fires in the Amazon

How bad were the fires?

There were **40,341 wildfires** in the Amazon in the first eight months of 2019. That's **35% higher than the average** wildfire count for the same time period in years since 2010.

What (or who) started the fires?

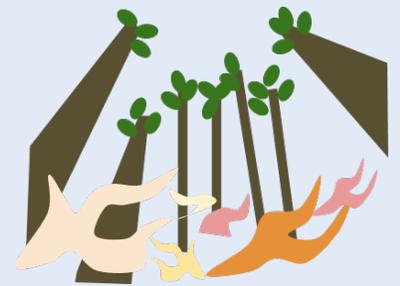
Fires in the Amazon do not usually start naturally. They need some sort of push (like an action taken by humans) to be set off.

It is believed that the fires were **started by humans** in an attempt to **prepare land for farming**.

Why were the fires such a big deal?

The Amazon plays an important role in **controlling global warming**, as it holds a large quantity of **carbon-storing trees**.

When rainforest trees are lost to wildfires, they will most likely struggle to grow back or never be restored at all. With less trees, we **lose** one of our biggest defenses against **global warming**.



## AUSTRALIAN BUSH FIRES

The Australian bushfire season was extremely bad this past year.

What is “the Bush?”

The Bush is another name for the Australian outback. In the Bush, one might find vegetation and a few trees or thin forests.

How did the fires affect animal habitats?

A lot of animals (including kangaroos and koalas) were hurt or killed in the fires. A place known as “Kangaroo Island” in Australia was hit especially bad. Many koalas on the Island died, but others survived and were saved by rescue squads!

How bad were the bushfires? (as of the beginning of 2020)

Over **10 million hectares** of Australian land were affected by fire between July 2019 and the end of January 2020.

The estimated number of human deaths caused by the fire was **33** (as of January 31<sup>st</sup>). Four of these deaths were firefighters.

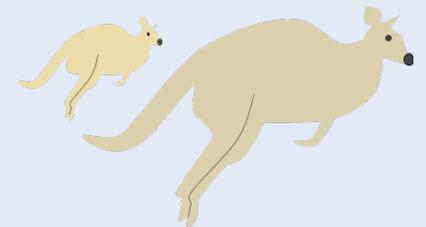
Also as of January 31<sup>st</sup>, 2,000 homes were destroyed in New South Wales, the region in Australia hardest hit by fire. Victoria (another Australian region) had the second most damage.

What caused the bushfires?

Australia is a high-risk area for wildfires, as it has a very hot and dry climate. Many people think that the fires were set off by lightning strikes and spread easily from there.



How do you think humans will try to fix the habitats of animals affected by fire?



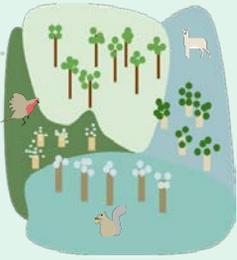
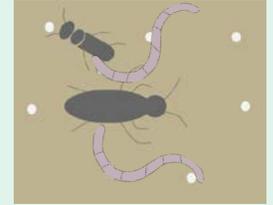
# Forest Restoration

The World Wildlife Fund has a four-step plan for “rebuilding” forests across the globe. It includes:



1. Planting trees  
In order for global forests to be restored, humans must replant native trees in deforested areas.

2. Improving soils  
Trees need soil with lots of nutrients (as well as helpful bugs such as beetles and worms) in order to grow back to a healthy state. We must find a way to add both of these things to the soil of forests that are struggling.

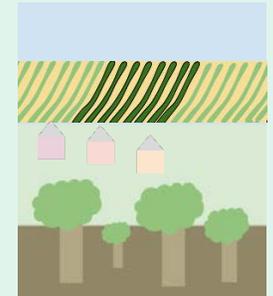


3. Protecting wildlife corridors

**Wildlife corridors** are areas that connect multiple habitats together. These areas are very important in maintaining healthy ecosystems, so we must protect them in areas where they already exist.

4. Managing land sustainably

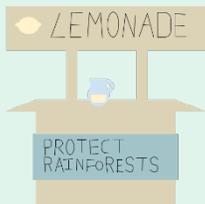
**Conservationists** must work with farmers and governments in order to preserve local resources and promote good farming techniques.



How much of an impact do you think roads have on maintaining wildlife corridors? Do they split them up?

## What Can I Do To Help Preserve Forests?

If you enjoy getting involved in your community, then you can:



Get together with friends and create a fundraiser for forest conservation!

If you could create your own “Protect the Forests” fundraiser, what would it look like? How would you use your talents to draw attention to the cause?

If you like food or shopping, then you can:

Try buying more sustainably grown foods! Browse sustainable brands here:

<https://www.rainforest-alliance.org/find-certified>

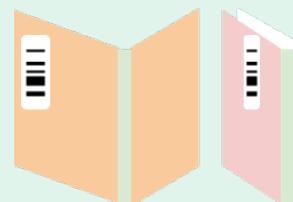
Use reusable containers and bags.



If you write or read a lot, then you can:

Conserve paper by

- Printing double-sided
- Reading digital books or going to the library



# Glossary

## Recreation

An activity that people do in their free time, such as fishing, biking, hiking, or boating.

## Soil erosion

When soil shifts from one place to another, causing the objects around it (such as houses) to shift as well.

## Carbon sink

An area in nature that traps carbon from the atmosphere, reducing global warming.

## (To) develop

To build man-made structures (such as houses) on an area.

## Deforestation

To remove trees from an area.

## Ecosystem

The natural environment of an area, combined with the organisms (plants, animals, ect.) that live in it.

## Unsustainable deforestation

When trees in an area are harvested too quickly, making it hard or impossible for them to grow back.

## Wildlife corridors

Areas that connect multiple habitats together.

## Conservationists

People who fight to conserve natural resources

## Sustainable

Describing a method of using natural resources (like trees, plants, ect.) in which the supply of resources remains at a healthy level or is able to maintain itself over time.

## Vulnerable

Easily damaged or defeated.

R F O R E S T S O O C P W D R  
P E J A O P K I D B O R E W E  
H F C I S T R E M L E F X I S  
O F L U U E T O E B O W I L O  
T N U V D U C V T R E C C D P  
O O O A T O E O E E N R X F M  
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Y S L D T S T P Y Y K T C R C  
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H E P I O F A R M I N G E G P  
E A O D S Q L J C U K P T M A  
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ATMOSPHERE  
CONSUMER  
DECOMPOSER  
DEFORESTATION  
DEVELOP  
ECOSYSTEM  
EROSION  
FARMING  
FOOD  
FORESTS  
LOGGING  
PARKS  
PHOTOSYNTHESIS  
PRODUCER  
PROTECT  
RECREATION  
SOIL  
SUSTAINABLE  
TIMBER  
WEB  
WILDFIRE

## QUESTIONS FOR DISCUSSION...

1. Do you think it's more important to protect local forests or the Amazon? Why?
2. What are some more ways in which you can reduce paper use in your home?
3. In your opinion, under what circumstances is it okay for humans to cut down trees? If they have to cut down trees, what rules do you think they should follow to make sure they do it **sustainably**? Do you think the government should control some of these rules?

## Answer Key:

For the question on page 3 with BILLY'S PINE TREES, the answer is yes. Billy managed his pine trees sustainably because he grew more pine trees than he cut down.

Hey families! Here are some more resources about forests that you might want to look into:

### For Kids

- More information on why trees are important  
[http://www.dof.virginia.gov/infopubs/forest-facts/FF-Why-We-Need-Trees\\_pub.pdf](http://www.dof.virginia.gov/infopubs/forest-facts/FF-Why-We-Need-Trees_pub.pdf)
- A coloring book that teaches you about trees (for younger kids)  
[http://www.dof.virginia.gov/infopubs/Lets-learn-about-trees-coloring-book\\_pub.pdf](http://www.dof.virginia.gov/infopubs/Lets-learn-about-trees-coloring-book_pub.pdf)
- Find out what kind of planet protector you are!  
<https://kids.nationalgeographic.com/explore/nature/save-the-earth-hub/planet-protector-personality-quiz/>

### For Families

- A backyard activity guide for families looking to spend more time in nature  
<http://www.dof.virginia.gov/edu/EE-Ideas-VDOF-PLT.pdf>