



HABITAT:

## Figuring Out Forests and Streams

In this [video](http://cbf.org/news-media/multimedia/video/cbf-education-videos/how-forests-help-save-the-bay.html), join our four-legged friend and fellow Bay Saver Avett while he investigates forests. [cbf.org/news-media/multimedia/video/cbf-education-videos/how-forests-help-save-the-bay.html](http://cbf.org/news-media/multimedia/video/cbf-education-videos/how-forests-help-save-the-bay.html)

### Avett's Adventure

Hello, fellow Bay Saver! I, Avett the Dog, am exploring forests today with my owner! Before I tell you everything I have learned about forests, please answer these two questions below.

1. With the help of an adult or a mapping app, look up the distance between the closest forest near you and the Chesapeake Bay. How far away is it in miles?
2. How do you think that forest can help the Chesapeake Bay and the watershed? Give two examples.

### Avett's Journal Entry: Forests



*Today has been crazy busy! Let me start from the beginning. After getting up and having breakfast, I decided to head outside with my owner to check out what was going on. As we walked around our yard, I found the perfect stick. It was not too long and not too short. It was not too thick or too thin. It was firm, and it didn't break too easily. It was perfect!*

*I chewed on the stick. I chased the stick. I carried it around a while. I LOVE STICKS! While I was lying down relaxing with the stick, I got to wondering where sticks come from. Sometimes I find them in the yard, but not every day. Just as I was contemplating the source of sticks, the wind blew, and a large branch landed on the ground right in front of me. I looked up, and there were sticks everywhere! They were connected to the tree near me! Now I understand that sticks come from trees, and this got me wondering more about trees. Why are they here? What do they do? And how do healthy forest ecosystems play a role in saving the Bay? My owner and I checked out my local forest, and we turned to our trusty computer for some answers.*

*To start with, forests are a great place for all types of animals to thrive. I know about this firsthand because I see birds, rabbits, squirrels, and many other critters when I go for walks through the woods. Forests provide food and shelter for many creatures from insects to birds. The bigger the variety of species of trees in patch of woods, the greater the variety of animals that can*

live there. This variety of species is called "biodiversity." Biodiversity is very important to our watershed. If we don't have diverse plants and animals, our ecosystems are more susceptible to disease and extreme weather. This means my animal friends may not be able to survive if the forest is not diverse.

Another cool thing about forests you may already know is that they produce oxygen for us to breathe. Trees produce oxygen through the process of photosynthesis. What you may know is that photosynthesis requires trees to absorb carbon dioxide, a greenhouse gas. This means that trees remove carbon from the atmosphere, making them what are called "carbon sinks." Absorbing carbon dioxide helps to reduce the greenhouse effect, or the warming of the planet. Due to lots of human activities like the burning of fossil fuels for energy, the average global temperature has started to rise. One way to mitigate increasing temperatures is by planting more trees to absorb more carbon dioxide. That's pretty crazy that trees can help save the planet!

As we continued exploring outside, enjoying all the free oxygen the trees were providing, we started getting hot. The sun was beating down on me, so we laid down in the shade. As we were hanging out in the shade, I realized that the shade was created by the trees! Besides keeping me cool in the hot weather, trees also help to keep streams and rivers cool with the shade they create. This is important because cold water can hold more oxygen than warm water. This means that fish and other underwater critters can breathe easier in the cool, oxygenated water. That is something I never would have thought of before!

The last thing I learned about forests today has to do with their roots. You may already know that tree roots absorb water and nutrients from the soil. But that's not all they do. Roots also help hold soil in place and keep it from eroding. Eroding soil can create murky water by increasing amounts of sediment in our streams and rivers. Roots also help to filter out excess nutrients and toxic pollutants, keeping harmful substances out of our waterways. Because trees are so great at filtering water and holding soil, they make good buffers between streams and potentially harmful human activities. A buffer of trees, known as a riparian buffer, can absorb polluted runoff from urban areas, farms, golf courses, and even neighborhoods before it ends up in the water. They are amazing!

That's my story of our walk in the woods. I learned that sticks come from trees, and trees make me and the entire Chesapeake Bay watershed happy. I think I am going to rest now and chew on a stick. -Avett the Dog



## Investigate

### FOREST DIVERSITY

3. Create a list of the different types of trees in a forest near you and draw your favorite one.

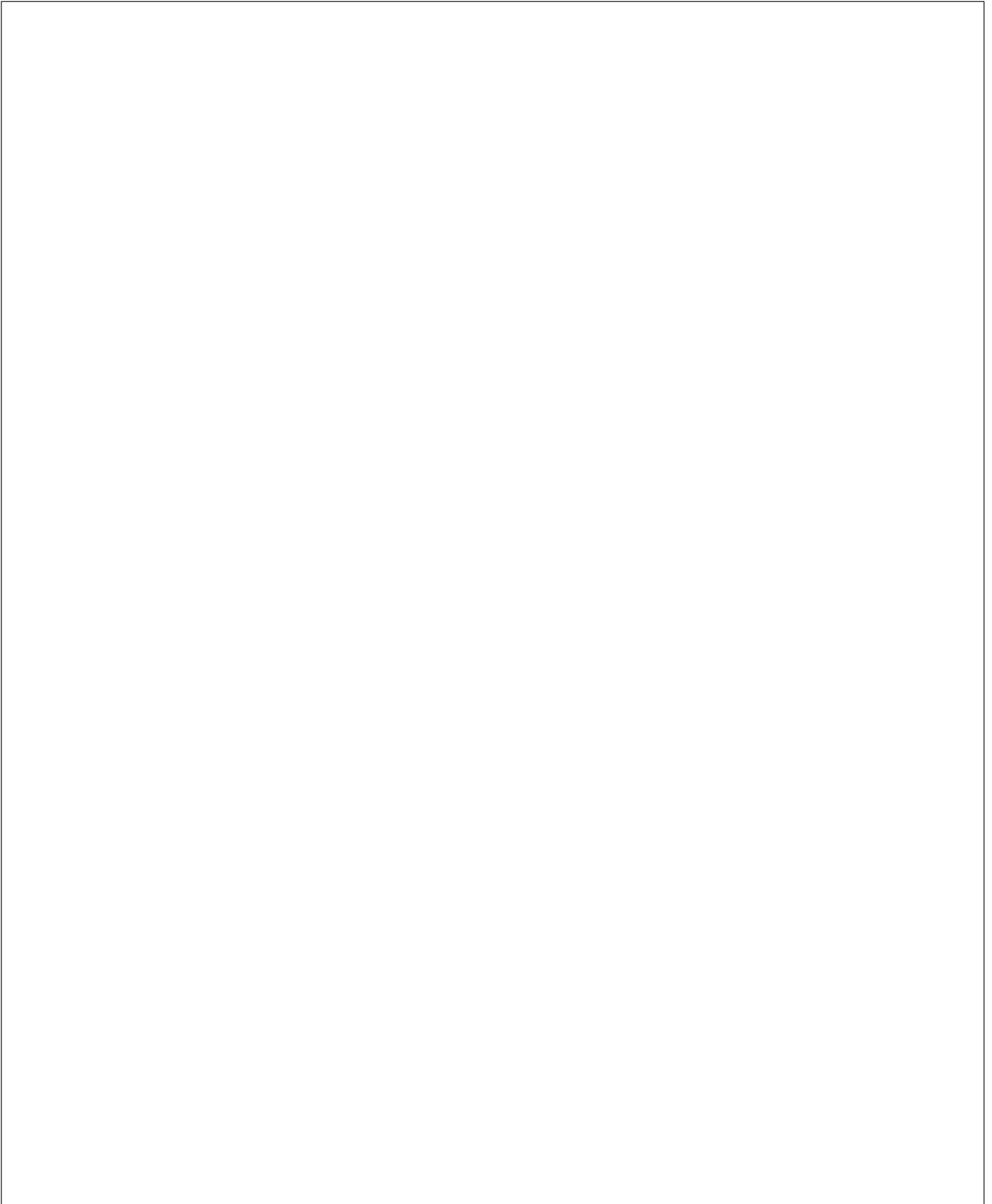
List of Trees

Favorite Tree

4. Is your forest biodiverse? Explain why or why not.

## FILTRATION IMAGINATION

5. Use your imagination and draw a root system that's superpower is filtration! Describe or demonstrate how your root system can protect our waterways.

A large, empty rectangular box with a thin black border, intended for a student to draw and describe a root system with filtration superpowers.

