

Monitoring Forest Health

A How-To For Young Naturalists

Forests are an
important part
of our world.

Forests
provide
oxygen to
breath.

Forests help
keep water
safe.

Forests
provide
habitats for
many animals.



Giving a forest a checkup is one way park rangers take care of forests.

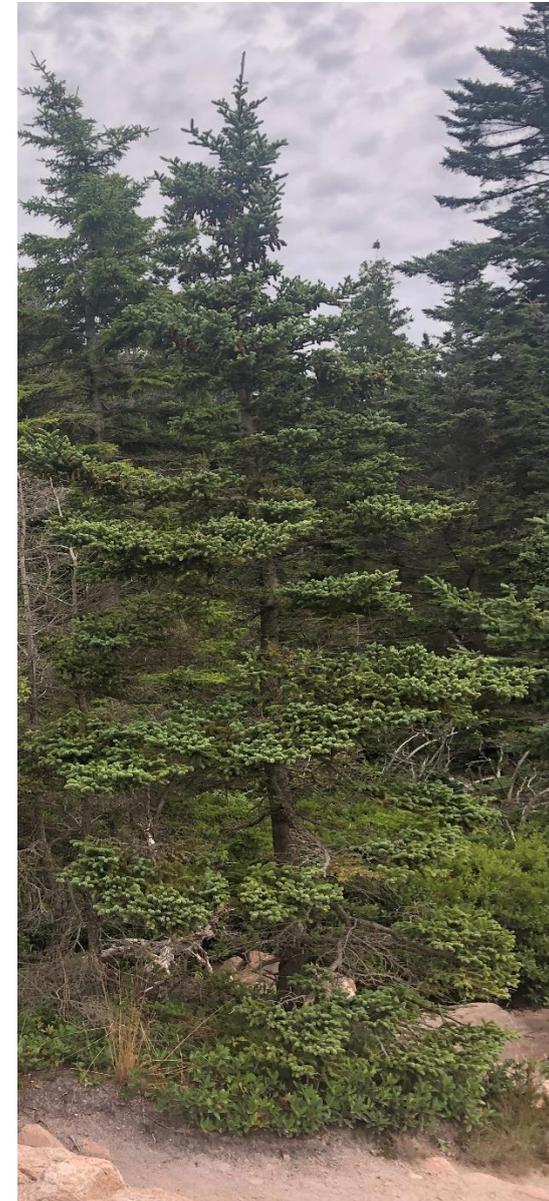
You can give a forest a checkup too!

First, look for trees that are alive. Here are some ways to tell if a tree is alive.

The tree has
leaves or green
needles

The tree still has
bark

The tree is still
standing



Do you think
this tree is
alive?



Do you think
this tree is
alive?



YES!

Second, look for trees that are dead and still standing.

A dead tree that is still standing is called a **snag**.



Snags do not
have leaves.

Snags do not
have green
needles.

Snags can be
broken at the top.



Do you think
this tree is a
snag?



Do you think
this tree is a
snag?



YES!

It can be hard to tell which trees are alive and which ones are
are snags.

Do you think this tree is alive or is it a snag?
Why do you think that?



Next, look for **woody debris**.

Woody debris is wood found touching the ground.



Sometimes it is not attached to a standing tree.



Sometimes it is still attached to a living tree, but only by a little bit!

Some woody debris is large.

Large pieces are called **coarse woody debris**.



The distance around a piece of coarse woody debris is 31.5 centimeters or more.

That is bigger around than a softball!

Some woody debris is small.

Small pieces are called **fine woody debris**.



The distance around a piece of fine woody debris is 31 centimeters or less.

That is smaller than a softball!

One way to measure woody debris is to use a string or tape measure.

How to Measure Woody Debris.

1. Lay a string in a straight line on a table.
2. Use a ruler to find 31.5cm.
3. Cut the string at the 31.5cm mark.
4. Wrap the string around the piece of woody debris.
5. If the string is too big for the wood, it is fine woody debris.
6. If the string is too small or just right for the wood, it is coarse woody debris.

Woody debris is important!

It provides a home for birds, insects, and fungus.

Woody debris is also a good eating place for forest creatures that like to eat the insects that live inside.

When woody debris **decomposes**, it becomes food for the forest too!

The last step to monitoring forest health is to **analyze** woody debris.



Analyze means to look at something closely and think about the parts.

There are 5 special questions to ask when analyzing woody debris.

1. How big is it? Is it coarse or fine woody debris?)
2. Is the bark attached?
3. Is it round or flattened?
4. Does it spring back when it is squeezed?
5. Does moisture come out when it is squeezed?



Now that you know how to give a forest a checkup, it's time to try it!

1. Find a walkway near your learning area where there is a forest you can see.
2. Measure a 10-foot area and mark it with surveyor's flags or ribbon.
3. Count how many trees you see in that area that are alive.
4. Count how many snags you see in that area.
5. Collect a piece of woody debris and analyze it.
6. Put all the information together and share it with a park ranger!

Facts About Forests

1. Healthy forests have one snag for every 9 living trees.
2. Climate can affect the types of trees that grow in a forest.
3. Dead trees provide homes for fungus, insects, and animals. When trees decompose, they turn into energy and nutrients for the forest. They help keep the soil and water in the right places.
4. Scientists say, “A messy forest is a healthy forest!”

Glossary

Alive: Something that can grow, create offspring and adapt to it's environment.

Analyze: Look at something closely and think about the parts.

Coarse Woody Debris: Woody debris that measures 31.5cm or more in circumference.

Decompose: When something rots and breaks down into smaller parts.

Fine Woody Debris: Woody debris that measures 31cm or less in circumference.

Snag: A dead tree that is still standing.

Woody Debris: Wood found touching the ground that is not attached to a standing tree or is only attached by a small amount.