



JOBS IN THE FOREST: FIRE ECOLOGIST

Fire Ecology – the study of fire in the ecosystem and how it interacts with the different parts of the environment. A **fire ecologist** needs to understand how fire behaves in different conditions and how the surrounding plants will respond to fire.

Fire Ecology 101

Brown's Transect

The survey method used by fire ecologist to inventory downed woody debris aka fuel, to help determine fire behavior through models.

Count each fuel type – based on how many hours it takes for the **fuel moisture** to change.

- 1 hour: 0-0.25 inches – twigs
- 10 hour: 0.25-1 inches – small branches
- 100 hour: 1-3 inches – large branches
- 1000 hour: over 3 inches – logs

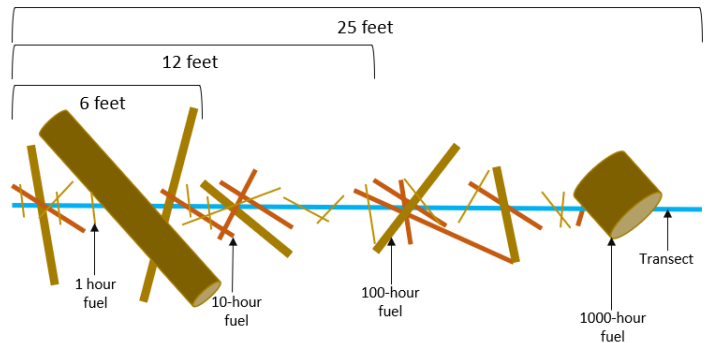
Count only the fuel that crosses the transect (see example to the left).

- 0-6 feet: count 1- and 10-hour fuels
- 0-12 feet: count 100- and 1000-hour fuels
- 0-25 feet: count 1000-hour fuels only

Fuel Moisture – the amount of water in a piece of fuel (vegetation).

Fire Adaptations in plants

- Serotinous Cones – cones that are glued shut with resin until a fire opens them to release the seeds.
- Thick bark – bark will protect the inside of the tree.
- Basal (stump) Sprouts – even if the top part of the plant is burnt, the roots survive and create new growth.
- Oily leaves – to encourage fire to burn it and its neighbors so it can be the first plant to sprout after the fire.



Fire Ecologist Activity

1. Perform a Browns Transect. Be sure to write down the number of each fuel type. It is best to do a couple different transects.
2. Look at the forest vegetation. What type of fire adaptations do you see? Keep a list and see if some plants have more than 1 adaptation.



Tag us in your photo on social media to show us your brown's transects

#stemlearning #stemforkids #fireecology

