Tree Timeline

Tree story cards begin on page 3.

Year: 1003, 1,000 years ago
During an unusually hot and dry summer, a forest fire swept through a watershed and killed most of the old growth forest on one side of a large stream. The fire was unable to cross the stream and so it was stopped. Seeds from the trees of the neighboring old growth Douglas-fir forest were blown into the burned area during an early winter storm.

Millions of seeds from the trees of a neighboring forest covered the ground in the area burned by the forest fire. Small animals ate most seeds, and many others did not land in favorable sites for growth. Some dried up in the hot sun, while others rotted in the sites that were too moist. A few survived.

One seed of a Douglas fir landed on an old, large decaying log on the forest floor. The rotting wood provided abundant organic material, water and nutrients necessary for the seed to germinate. The rotting "nurse log" also provided a platform elevated above the ground where seed predators were most active. These ideal conditions helped the seedling grow quickly in the sunlight from the cleared opening.

Year: 1005 998 years ago
In addition to our young tree, many other seedlings began to grow on the nurse log. Things became crowded and the trees began to compete for the water and nutrients available on the log. Was our tree hardier than its competitors? Or was its location slightly more fertile? Whatever the reason, our tree became established and thrived, while the rest did not.

Year: 1205 798 years ago
Over the following decades and centuries, the seedling grew into a beautiful, large mature Douglas fir over 200 feet tall and 10 feet in diameter. The tree weathered many winter storms and spring floods without damage. Its large crown and branches became homes for flying squirrels, chipmunks, mice, opossum and may species of songbirds.

Year: 1305 698 years ago
In the tree's 300th summer a big thunderstorm hit the forest and our tree was struck by lightning. The crown was dead and broken, but the tree survived. Over the next 50 years the damage was healed, and a new crown was grown from the old lateral branches.

Year: 1355 648 years ago
When the Douglas-fir tree was 350 years old, a severe windstorm blew over several neighboring trees, and one crashed into our tree on its way to the ground. The trunk was hit hard enough that the protective bark was removed near its base, but the wound was only 6 inches wide and 12 inches long.

Year: 1380 623 years ago
Although small compared to the enormous size of the tree, the wound attracted wood boring beetles that chewed their way into the wounded area, enlarging the hole in the tree's protective bark exterior.

The tree wound was colonized by the spores of a fungus that began to attack the tree's inner tissues. The fungus continued to grow and spread up and down through the trunk, decomposing the tissues and weakening the tree gradually over the next 150 years.

Year: 1405 598 years ago
By the time the tree was 450 years old, it had a large weakened area 10 feet above the ground. That year a carpenter ant colony took up residence in the area of the old wound. The ant colony grew, and new tunnels were continuously chewed in the sapwood by worker ants intent on expansion of the colony.

Year: 1415 588 years ago
A pileated woodpecker found the ant colony and pecked several large oblong holes in the center of the ant nest, where it returned periodically over the next several years to dine on the ants.

Year: 1425 578 years ago
Twenty years later, a dry year gave rise to numerous small fires in the forest and our tree, now 500 years old and vulnerable to fire damage through the large wound, was not able to survive the burn in its weakened state. Although no longer living, the big Douglas fir remained standing in the forest for a century as a large snag.

Year: 1455 548 years ago
The standing snag looses its bark and begins to decompose, creating habitat for many new species of wildlife. A pair of northern spotted owls took up residence in a large hollow cavity in the upper trunk and nested there for many years. A marten family constructed their den in the lower branches, and deer mice excavated homes amongst the roots.

Year: 1605 398 years ago
The decaying roots of the tree snag are colonized by a root rot fungus, which weakens the underground roots so much, that they can no longer support the heavy weight of the trunk. The nag crashes to the ground in the first windstorm of the year and breaks into several pieces.

Year: 1605-1905 398-98 years ago
The downed log gradually attracts many types of bacteria, fungi, insects and other organisms associated with decomposition. The slow decay of the old tree takes place over the next 300 years. The woody tissue acts as an important store of nutrients, organic material and water which is gradually recycled back into the living forest community.

During an unusually hot and dry summer, a forest fire swept through a watershed and killed most of the old growth forest on one side of a large stream. The fire was unable to cross the stream and so it was stopped. Seeds from the trees of the neighboring old growth Douglas-fir forest were blown into the burned area during an early winter storm.	A large forest fire burned most of the trees in an area. After the fire, millions of tree seeds blew in from a nearby unburned area.
Millions of seeds from the trees of a neighboring forest covered the ground in the area burned by the forest fire. Small animals ate most seeds, and many others did not land in favorable sites for growth. Some dried up in the hot sun, while others rotted in the sites that were too moist. A few survived.	Only a few of the new seeds survived and were able to grow in the burned area. Small mammals ate the other seeds or they became too dry or too wet to grow.
One seed of a Douglas fir landed on an old, large decaying log on the forest floor. The rotting wood provided abundant organic material, water and nutrients necessary for the seed to germinate. The rotting "nurse log" also provided a platform elevated above the ground where seed predators were most active. These ideal conditions helped the seedling grow quickly in the sunlight from the cleared opening.	One seed landed on an old rotten log and began to grow. This rotten log served as a nurse log.
In addition to our young tree, many other seedlings began to grow on the nurse log. Things became crowded and the trees began to compete for the water and nutrients available on the log. Was our tree hardier than its competitors? Or was its location slightly more fertile? Whatever the reason, our tree became established and thrived, while the rest did not.	One seedling outgrew all the other seedlings on the nurse log and became a sturdy little tree. Eventually, its roots grow down to anchor it to the forest floor.

Over the following decades and centuries, the seedling grew into a beautiful, large mature Douglas fir over 200 feet tall and 10 feet in diameter. The tree weathered many winter storms and spring floods without damage. Its large crown and branches became homes for flying squirrels, chipmunks, mice, and many species of songbirds.	Through the next few centuries, our Douglas fir tree grew healthy and tall. It became 200 feet tall and 10 feet around. Lots of animals lived in its branches. Thousands of insects live on its trunk and insects and small mammals live under the tree.
In the tree's 300th summer a big thunderstorm hit the forest and our tree was struck by lightning. The crown was dead and broken, but the tree survived. Over the next 50 years the damage was healed, and a new crown was grown from the old lateral branches.	Lightning hit our tree on its 300th birthday and killed the top of the tree. Over the next fifty years, a new top grew from a side branch.
When the Douglas-fir tree was 350 years old, a severe windstorm blew over several neighboring trees, and one crashed into our tree on its way to the ground. The trunk was hit hard enough that the protective bark was removed near its base, but the wound was only as big as a football.	When our tree was 350 years old, another tree fell near it. The falling tree scratched away a piece of the protective bark.
Although small compared to the enormous size of the tree, the wound attracted wood boring beetles that chewed their way into the wounded area, enlarging the hole in the tree's protective bark exterior.	Wood-boring beetles ate into the tree where the bark had been scratched off.
By the time the tree was 450 years old, it had a large weakened area 10 feet above the ground. That year, a carpenter ant colony took up residence in the area of the old wound. The ant colony grew, and new tunnels were continuously chewed in the sapwood by worker ants intent on expanding their colony.	By the time our tree was 450 years old, it had a weak spot in the trunk where fungus had eaten out the center of the tree. Carpenter ants moved into the weak spot.
A pileated woodpecker found the ant colony and pecked several large oblong holes in the center of the ant nest, where it returned periodically over the next several years to dine on the ants.	A woodpecker pecked holes in the tree to get to the carpenter ants. This increased the size of the wound.

Twenty years later, a dry year gave rise to numerous small fires in the forest and our tree, now 500 years old and vulnerable to fire damage through the large wound, was not able to survive the burn in its weakened state. Although no longer living, the big Douglas fir remained standing in the forest for a century as a large snag.	Another fire burned through the bark in the weak spot and killed the tree. It stayed standing as a “Snag”.
The standing snag of the old tree began to decompose, creating habitat for many new species of wildlife. A pair of northern spotted owls took up residence in a large hollow cavity in the upper trunk and nested there for many years. A marten family constructed their den in the lower branches, and deer mice excavated homes amongst the roots.	Lots of animals came to live in the holes of the snag such as martens, northern spotted owls, and deer mice.
The decaying roots of the tree snag are colonized by a root rot fungus, which weakens the underground roots so much, that they can no longer support the heavy weight of the trunk. The snag crashes to the ground in the first windstorm of the year and breaks into several pieces.	The roots of the snag where eaten by a root rot fungus, and the snag blew over in the wind. It broke into pieces when it fell.
The downed log gradually attracted many types of bacteria, fungi, insects and other organisms associated with decomposition. The slow decay of the old tree takes place over the next 300 years. The woody tissue acts as an important store of nutrients, organic material and water which is gradually recycled back into the living forest community.	The pieces of the fallen snag gradually turned into soil for new trees to grow in.