

Quaking Aspen Clones and Fall Colors

By Larry Hyslop



An aspen organism with trees displaying orange fall foliage, below the beaver dams in Thomas Canyon

Lamoille Canyon's quaking aspens now carry their fall colors and entire hillsides glow yellow, gold and orange. This display offers a chance to observe a unique characteristic of aspens.

Seeing mountain slopes covered with individual aspens is not accurate. These mountain slopes are covered with aspen organisms made up of large root systems giving rise to several trees that are identical clones of the other trees in that group.

Aspens do flower and produce seeds each spring but rarely do their seeds germinate and produce new trees. Aspen seed germination requires ideal conditions and these conditions may not have existed for 10,000 years. These aspen organisms consist of root systems that have survived on these slopes for 10,000 years. As old trees die, new ones sprout from the root system.

The world's most massive living organism is a Utah aspen clone, with 47,000 stems rising from a single root system. It covers 106 acres and weighs thirteen million pounds. In comparison, one giant sequoia weighs 4.7 million pounds.

Cloning is an advantage for aspens because it allows them to recover quickly after a disaster. When wildfire destroys the trees in an aspen grove, the root system usually survives and quickly sends up a mass of new shoots.

A grove of mature aspens provides necessary shade and wind protection to other tree species, allowing them to invade and crowd out the aspens. Wildfire is needed to clean out these other trees and provide room for aspen clones to regenerate. Since the early 1900s, we have disrupted the wildfire cycle and aspens are suffering. Only 40% of the aspen groves survive today that existed 150 years ago.

This concept of aspen clones may sound obscure but during fall, the aspen clones on a mountain slope can be identified. Since all trees making up an aspen clone carry the same DNA, they show the same characteristics. In spring, this can be seen since all trees in a clone flower and leaf out at the same time. In fall, all trees in a clone change color at the same time and all trees turn the same shade of yellow, gold or orange. Visitors to Lamoille Canyon can pick out individual aspen organisms as the group of trees all carrying the same fall colors.

The trees in the above photo are part of a root system that displays this beautiful aspen orange. The surrounding, yellow aspens are members of a different root systems.

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