Silvopasture with Walnuts

Silvopasture, the combination of timber production and grazing, can be seen on this section of the trail. Naturally occurring walnuts, old and young, are scattered in this pasture. Unlike most trees, walnut can tolerate soil compaction and root injuries from grazing without decay. Some grasses, especially bluegrass, can tolerate the toxic compound that leaches from walnut roots and foliage. Cattle can use the grass and shade, while the pasture also produces some valuable timber.

Hardwood Tree Seedling Planting

Along this stretch of trail, walnut and red oak seedlings were hand planted in 2011 among the dead branches of harvested trees to protect them from deer browsing. Some large or defective trees have recently been harvested to reallocate sunlight and soil space to the seedlings.

Sustainable Harvesting

Sustainable harvesting has taken place along this section of trail. These harvests utilize mature trees and also select some low quality trees to cut with the intention of leaving other high quality or younger trees to grow in the future.

Tree Protection—Tree Tubes and Bud Capping

Young trees are always at risk of winter browsing by deer, rabbits and mice. Tree tubes protect the entire seedling until the tree grows above the tube, but they can only be used on deciduous trees. Bud caps, pieces of paper stapled to the central leading twig, protect the part of the tree that is responsible for next year's vertical growth. Bud caps are normally applied in autumn and allowed to weather away the following spring, and can be used on both coniferous and deciduous trees.

Swing-Away Bridge

This bridge is permanently secured on only one of the banks. Usually, the other end rests securely on the opposite bank, but when the water rises, and large debris is being carried downstream, the bridge can float out of the way to allow the water to continue flowing normally. If both ends of the bridge were permanently attached, logs and other storm debris would build up around the bridge and restrict the flow of water.

Cottonwood and Willow Pole Planting

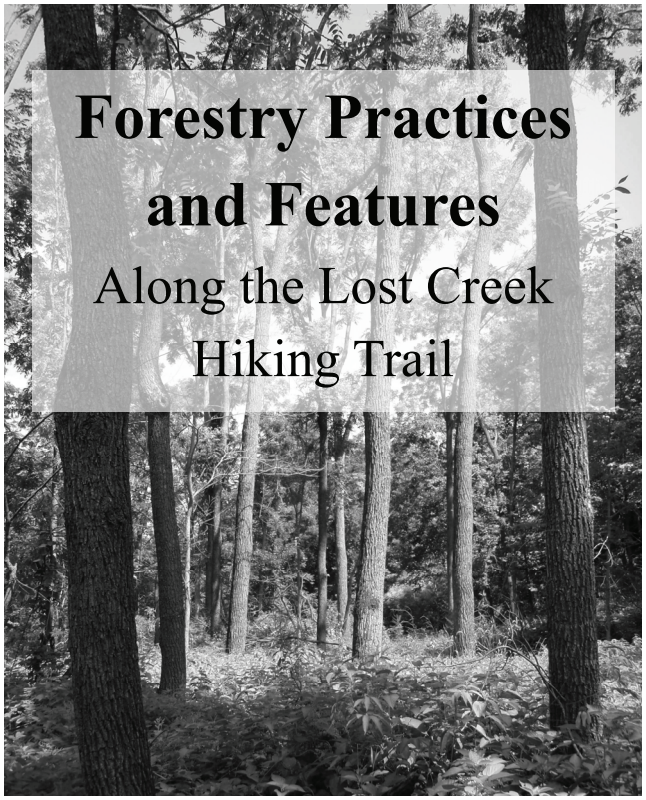
Looking across the creek, you should see cottonwood and willow trees with 3-to-6-inch trunks. These trees started as fence-post sized cuttings from cottonwood and willow branches, and are able to sprout roots and leaves. These cuttings, called poles, can quickly turn into trees. The large cuttings grow their first year's foliage above competing plants and deer browsing and grow roots below the roots of competing plants.

Experimental Treatment to Control Reed Canary Grass

Along this section of trail, there are multiple reforestation techniques currently being tried to overcome the reed canary grass which can crowd out tree seedlings but cannot tolerate shade. These techniques include pole planting and an experimental herbicide treatment of canary grass, followed by burning, shallow tillage and direct seeding of hardwoods. Through these multiple techniques, reed canary grass is slowly being replaced with hardwood trees.

Direct Tree Seeding

This area is in the process of being reforested. These young trees were not planted as seedlings, but as seeds, as part of a direct tree seeding project. Many different varieties of tree seeds were broadcast on tilled soil and have now grown into young tree seedlings.



Forestry Practices and Features

Along the Lost Creek Hiking Trail

There are many forestry practices and natural features along the Lost Creek Hiking Trail. There are signs along the trail pointing out these features, and this brochure will give you information about each one. Green signs indicate practices and yellow signs indicate features.

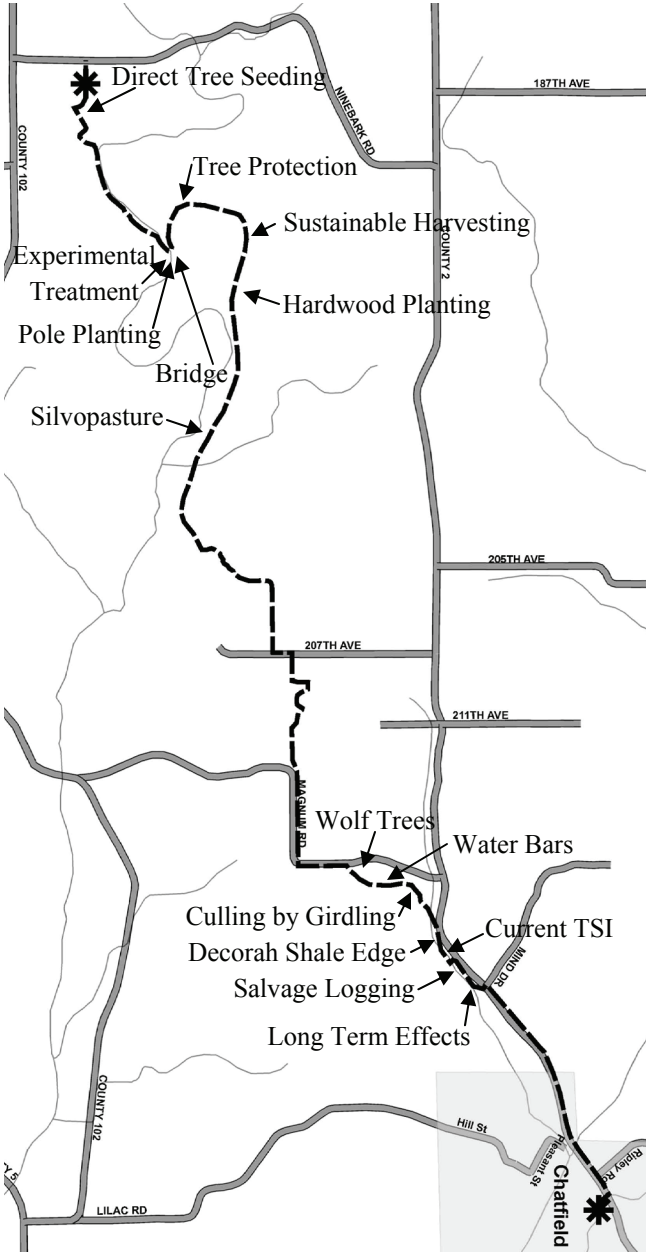
For further information on the practices and features highlighted in this brochure, visit fillmoreswcd.org

This forestry interpretative information is provided by the Fillmore Soil and Water Conservation District and the Bluff Country Hiking Club

SWCD

BLUFF COUNTRY HIKING CLUB

Lost Creek Hiking Trail



Lost Creek Hiking Trail

Bluff Country Hiking Club

Trailhead Markers

Lost Creek Trail - 6.0 Miles

Long Term Effects of Timber Stand Improvement

The natural walnut stand here originated on open pasture land around 1945. In 1979, a Timber Stand Improvement project removed low value elms and box elders, leaving two acres of nearly pure walnuts. Following wind damage in 2010, some damaged trees were harvested for lumber and veneer. The residual stand has been thinned, allowing the best quality walnuts to grow freely for the next few decades.

Salvage Logging

This one acre opening was the site of concentrated wind damage. Trees that could be salvaged for lumber were harvested. The other trees were too damaged to grow reliably, and were cut to allow new trees to grow. Instead of cleaning up what may look like a mess, the damaged trees were left to create habitat and protect tree seedlings. Tree-tops and shattered stems have been cut low enough to become covered by broadleaf ground cover, permitting faster decay and recycling nutrients.

Current Timber Stand Improvement

Desirable walnut trees have been newly "released" on this half-acre site. Undesirable species and poorly formed walnuts were cut down to allow the best trees to grow freely. Though the walnut trees in this area are the same age as walnut trees on better bottomland to the east, they are distinctly shorter due to poorer soils that are visible at the creek crossing.

Decorah Shale Edge

The Decorah shale, a thin, rather impermeable layer, appears along this watercourse. Groundwater percolating downward through the soil and rock moves laterally when it reaches this layer. Numerous springs in the adjacent valley appear at the same elevation. Just below the Decorah outcrops, the same streams often lose water to percolation back into the soil. This section of trail is usually wet because it is in the area between where Decorah shale is exposed and where the water filters back into the ground.

Culling by Girdling

The trees you see with double cut marks are girdled. The girdling cuts on the stems of these damaged trees prevents downward transport of carbohydrates to the roots, starving the tree below ground. Crowns then die in one or two growing seasons. The standing dead tree is typically available for wildlife feeding and nesting for years to come. Limbs tend to decay first, and fall independently of the stem with minimal damage to nearby trees. Girdling is preferable to cutting the tree down because it gives the understory species time to adapt to the increased amount of light.

Water Bars & Cross Sloped Trail

After skidding logs on this route, the trail was re-graded to shed water along the entire length, rather than let water run in tracks. The trail is cross sloped with water bars on the steepest parts of the trail to minimize erosion and keep the trail as dry as possible. Water bars with a smooth trench and berm crossing the trail help divert water in heavy runoff events, but permit easy passage on foot or by machine.

Wolf Trees Left for Habitat

Wolf tree is a term for large trees that use a lot of sunlight and soil space with no prospect of economic use in the future. These half dozen large sugar maples are typical "open grown" trees with broad crowns and large, low limbs that are now dead stubs and knot holes. Compare to nearby "forest grown" 3 and 4 inch trees with upright narrow crowns. Many types of wildlife use wolf trees, from mice and squirrels to raccoons, chickadees and woodpeckers to wood ducks and barred owls. While these trees have extensive decay, the crowns appear vigorous and may produce heavy seed crops for wildlife.