Autumn Splendor



USDA Forest Service Hoosier National Forest 2/2011

"Indian summer", when days are clear and sunny and nights are cool and crisp not only draw people out who love the outdoors, but is also the most favorable weather for spectacular displays of autumn colors. How the leaves go through their mysterious change to produce their array of yellows, reds, and golds is fascinating. Equally fascinating are the legends which have evolved over time to explain the how and why the leaves change.

Many children grow up being told Jack Frost paints the leaves every autumn. An industrious fellow, that Jack. A Native American legend tells of celestial hunters who slew a great bear each fall and the bear's blood drips on the forests changing the leaves to red. As the hunters cook the bear other trees turned yellow from the fat that spattered out of a great kettle in the sky.

Despite the legends, it is actually a chemical process tied to weather and the season which changes the color of the leaves. In spring and summer a green pigment in the leaves called chlorophyll absorbs energy from the sun. This energy is used to transform carbon dioxide and water into carbohydrates used by the plant.

Along with the green pigment, the leaves also contain yellow and orange pigments. Most of the year these pigments are masked by the greater amount of green chlorophyll. During the growing season the trees continually replenish the chlorophyll it uses to make food and the leaves remain green. In the fall, partly because of changes in the length of daylight and temperature, the trees use the green chlorophyll faster than they replace it. As the amount decreases, the green color fades; and the yellow and orange colors become visible.

At the same time, other chemical changes occur causing the formation of additional pigments that vary from yellow to red to blue. These pigments are responsible for the reddish and purplish fall colors of some leaves such as dogwoods and sumacs. Other pigments give sugar maple a brilliant orange or fiery red. The variation in colors by tree results from different amounts of the various pigments by species.

Fall weather conditions favoring the formation of brilliant autumn colors are those we refer to as Indian Summer - warm, sunny days with cool nights of temperatures below 45 degrees. Sugars are made in the leaves during the daytime, but cool nights prevent the sugars from moving from the leaves. The red pigment is formed from the trapped sugars.

The amount of sugars produced during the day results in different degrees of color within a species or even within leaves on the same tree. Leaves directly exposed to the sun may turn red, while those on the shady side of the same tree may be yellow. Depending on weather conditions the colors on the same tree can also vary significantly from year to year.

A separate chemical change causes the leaves to fall, completing the annual cycle. A special layer of cork cells form at the base of the leaf's stalk and cuts off the flow of nutrients from the leaf to the tree. It also severs the tissue that supports the leaf. Then, of its own weight or from an autumn breeze, it snaps from the branch and falls to the forest floor. There it decomposes to replenish the soil for the life process that begins anew in the spring.

For those who enjoying driving through the

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countryside in autumn to view the fall colors three driving routes are recommended on the Hoosier. We hope you enjoy the Forest in all its autumn splendor.

Recommended routes:

Route 1 loops through the northern part of the Forest southeast of Bloomington. Highlights include:

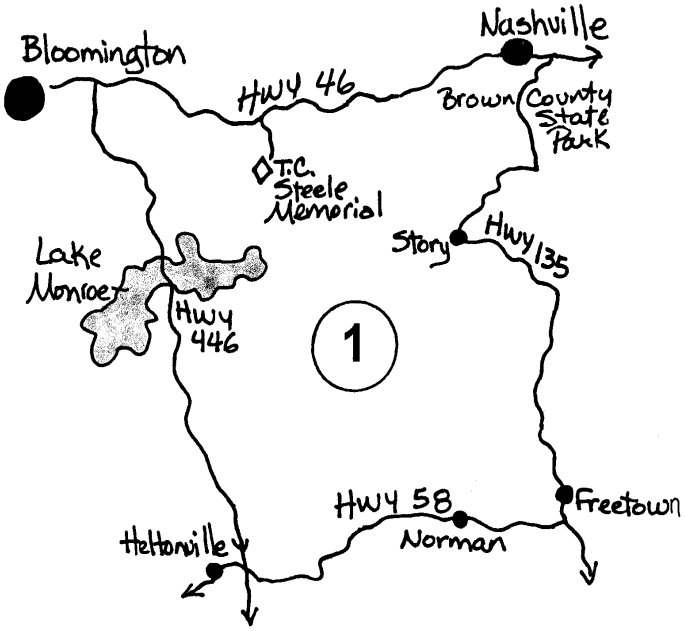
The T.C. Steele Historic Site; visit the gardens and home of this famous painter.

Nashville, a small historic town nestled in the hills is a retreat for artisans. Crafts and art are popular attractions for visitors.

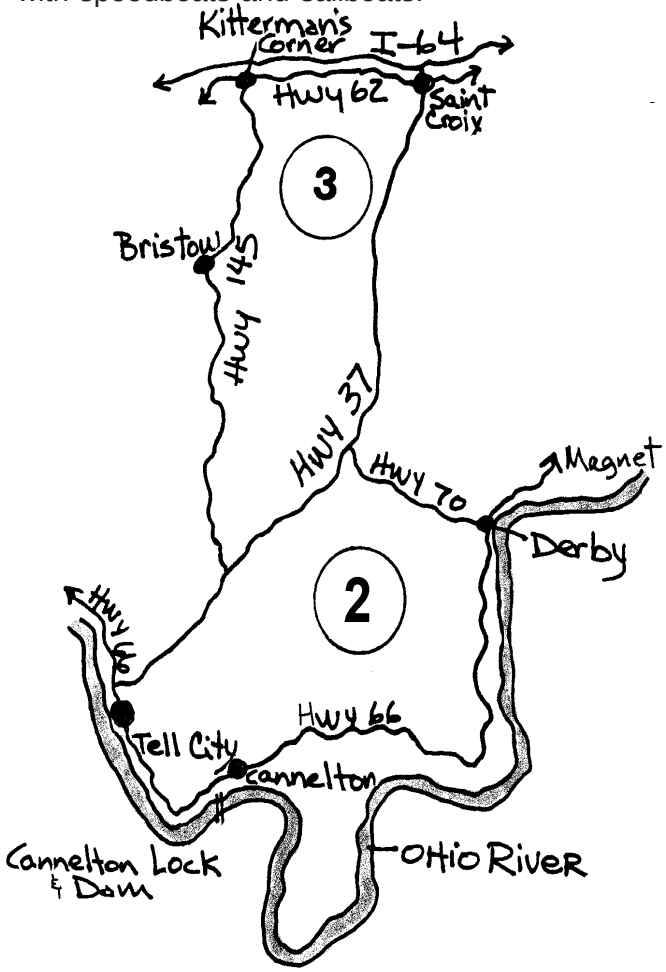
Brown County State Park, one of the state's most beautiful parks especially in fall.

The town of Story, visit the general store, reminiscent of stores at the turn of the century. Also at Story is a quaint bed and breakfast, an orienteering course, and a large intricate lime-stone tree carved by a local sculptor at the road junction.

Lake Monroe with breath-taking views of the hills around the lake and the sparkling lake itself with speedboats and sailboats.







Another alternative begins at Tell City. One suggestion is to take the new Ohio River Scenic Byway along Hwy 66 through Magnet. Visit the communities of Fredonia, Artist Point, Alton, and stop at the Buzzard Roost overlook. The route is relatively remote, with spectacular panoramic vistas, and your chances of seeing wildlife are good. **Route 2** follows the mapped route. Highlights of this route include the locks and dam on the Ohio River at Cannelton and the rural countryside. **Route 3** is an alternative or extended loop through small rural communities and farmland.

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