

# Welcome New Members

A warm welcome is extended to the following new members to the Missouri Forestkeepers Network:

- |                        |                         |
|------------------------|-------------------------|
| Emma Anderson          | Julie Frost             |
| Arnold Stream Team 211 | Mark Hatfield           |
| BAC Learning           | Heller Family           |
| Academy Homeschool     | Brian Kollmeyer         |
| Brad Bembry            | Kristy Lawson           |
| Eric Bischoff          | My Angels Academy       |
| Buerkle Middle School  | Mike & Nancy Poindexter |
| Cub Scout Pack 8 Den 2 | Daniel Porter           |
| Ed Davis               | Ran-Cha-Ra Resort, Inc. |
| M.R. de la Secoya      | Josie Roetto            |
| Hal Delp               | Alice Shaw              |
| Justin Fitzgerald      | Ann-Marie Shy           |
| Justin Frieze          | Jennifer Williams       |

Membership is free and just a phone call or a click away! Call 1-888-9-FOREST (1-888-936-7378) or visit the website at [www.forestkeepers.org](http://www.forestkeepers.org).

# Scout Patches Available

Is your group interested in earning a Forestkeepers patch? Through the Missouri Forestkeepers Network, enrolled groups and individual members may now request the new patch when submitting tree data. The patch is a great incentive for groups like the Boy Scouts or Girl Scouts. Simply work with your group or on your own to record tree observations on a selected plot. Return the data to us by the spring or fall reporting deadline and request your patch(es). Visit [www.forestkeepers.org](http://www.forestkeepers.org) to view all our great incentives. ☐



The Missouri Forestkeepers Network



Return Service Requested

Forest Relat of Missouri  
4207 Lindell Blvd, Suite 120  
St. Louis, MO 63108

The Monitor

A newsletter for all participants in the Missouri Forestkeepers Network

# The Monitor

Winter 05

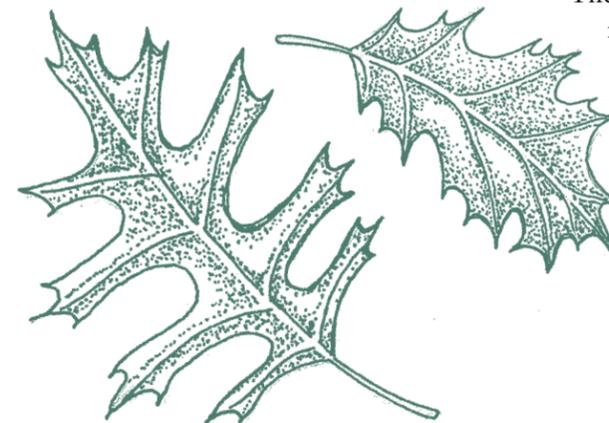
## Sudden Oak Death

By Bruce Moltzan, Forest Pathologist, Missouri Department of Conservation

Sudden Oak Death was first reported in 1995 in central coastal California. Since then, tens of thousands of tanoaks, coast live oaks, and California black oaks have been killed by the fungus, *Phytophthora ramorum*.

On these trees, the fungus causes a deadly canker on the trunks. Laboratory tests on northern red oak and pin oak indicate that native Missouri oaks are susceptible to this disease. Infected trees may survive for one to several years, but once crown dieback begins, leaves turn from green, to pale yellow, and then to brown and are dead within weeks. Black or reddish ooze often bleeds from the cankers, staining the surface of the bark.

In Missouri, common ailments like cankers, slime flux, leaf scorch, root diseases, freeze damage, and herbicide injury can cause symptoms similar to those caused by *P. ramorum*.



Oak wilt, oak decline, and red oak borer damage are potentially the most confusing. Missouri's oak resource is thought to be at moderate risk for Sudden Oak Death based on models developed by the U.S. Forest Service.

In March 2004, USDA-APHIS reported that two California nurseries, which had tested positive for the Sudden Oak Death fungus, had each shipped nursery stock to locations in Missouri. Plants of concern included widely traded ornamentals like camellia, rhododendron, and viburnum.

In response to these shipments, the Missouri Department of Agriculture and APHIS began tracing the origin and destination of potentially infected stock to target detection surveys and eradication measures throughout the summer of 2004. The U.S. Forest Service conducted a similar survey to search for possible spread into the native oak forest. Surveys were completed in late September 2004.

The good news is **no** *P. ramorum* was found in Missouri. Authorities surveyed all 25 targeted nurseries around the state, including the ten known locations that received potentially infected stock. Approximately 640 samples were tested from Missouri. In addition, the U.S. Forest Service survey sampled 1,000 other sites,

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Non-Profit Organization  
U.S. Postage PAID  
St. Louis, MO  
Permit No. 3900

#### Writers:

Justine Gartner  
Mike Hubbard  
Michelle Johnson  
Bruce Moltzan

#### Editor:

Nancy von Brecht

#### Assistant Editor:

Michelle Johnson

#### Design:

501creative, inc.

#### Forestkeepers Illustrations:

Brian Jensen

#### Additional Illustrations:

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Forestkeepers Network  
is a project coordinated  
by Forest ReLeaf of  
Missouri and the  
Missouri Department of  
Conservation. Its goal is  
to help people conserve,  
sustain and enhance our  
state's trees and forests.

#### For questions on forest health:

Contact your nearest  
forest district office  
or Forest ReLeaf  
of Missouri:  
4207 Lindell Blvd.  
Suite 120, St. Louis,  
Missouri 63108  
toll-free:  
1-888-9-FOREST  
(1-888-936-7378)



# Which Tree is That?

Have you tried to identify trees in the field and become a bit confused? Are you unsure what trees are in your backyard? Here are some resources to help you identify various species:

#### Free Resources from the Missouri Department of Conservation

✦ “Missouri Oaks and Hickories” (pamphlet)

✦ *Missouri Urban Trees* (booklet)

✦ “Show Me Trees” (poster)

Find the first two online at [www.mdc.gov/forest](http://www.mdc.gov/forest)  
or call the Conservation Department at  
1-573-751-4115.

#### Web-Based Help

✦ LEAF – Learning, Experiences, and  
Activities in Forestry; Wisconsin K-12  
Forestry Education Curriculum; [www.uwsp.edu/cnr/leaf/Treekey/tkframe.htm](http://www.uwsp.edu/cnr/leaf/Treekey/tkframe.htm)

✦ Identification of Common Trees of Iowa  
– An Interactive Key; Iowa State University  
Extension; [www.extension.iastate.edu/  
pages/tree/](http://www.extension.iastate.edu/pages/tree/)

✦ Basics of Tree ID – Virginia Tech College of  
Natural Resources; [www.fw.vt.edu/dendro/  
forsite/Idtree.htm](http://www.fw.vt.edu/dendro/forsite/Idtree.htm)

## Sudden Oak Death

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over 600 of which were near nursery environ-  
ments. **No specimens tested positive for  
*P. ramorum* in the eastern U.S. during  
this investigation.**

As our world seems to get smaller, the intro-  
duction of exotic and potentially invasive pests  
is becoming more common. Early detection is  
the best defense for successful eradication. If  
you have questions concerning bleeding and  
oozing symptoms occurring on oaks, these

#### Publications for Sale

*(State-specific references are preferable as they  
already have narrowed the range of possibilities.)*

✦ *Trees of Missouri* by Don Kurz

✦ *Shrubs & Woody Vines of Missouri* by Don Kurz

✦ *National Audubon Society Field Guide to Trees:  
Eastern Region*

*Kurz's books may be ordered online at  
[www.natureshop.com/mdc.cgi](http://www.natureshop.com/mdc.cgi) or by calling  
1-877-521-8632 toll-free. These publications  
may also be available at local Nature Centers  
and bookstores. ☐*



should be directed to your local forester or  
the Missouri Department of Agriculture.  
Detection can be determined by sending  
samples to an accredited lab for identification.

To find the forester nearest you, you can search  
online at [www.forestkeepers.org](http://www.forestkeepers.org) or call the  
Conservation Department at 1-573-751-4115. ☐

# Snapshot!

## Highlights of Forestkeepers activities around the state in 2004, taken from activity reports

#### Central Region

✦ Charles Laun worked with his community stormwater  
committee to plant trees, constructed tree planting bars  
for use by volunteers, and prepared a booklet on the  
importance of redcedar.

✦ Lee and Alice Forker planted 150 trees and cared for  
7,000 trees in Callaway County.

✦ Jenna and Joyce Monnig conducted tree observations at  
Kuemmel Park in Glasgow and also planted and cared  
for trees in their backyard.

#### Kansas City Region

✦ Ethan Hirsh made progress in removing and burning  
dead elms, managing over 300 acres of forestland, and  
cleaning up debris from wind damage.

✦ Matthew Courtney worked to open up the tree cover  
and remove poor quality trees in order to have better  
quality saw logs on his property in the Gerster area.

✦ Jim Drew conducted a wild turkey survey, and planted  
additional trees and used TSI at his tree farm.

✦ Robert Jackson planted new pine trees by the pond on his  
property and promoted Tree City USA in his community.

#### Northeast Region

✦ Theresa Casey observed trees at Mark Twain Senior  
High School with her students. She also helped students  
plant trees to enhance the school's outdoor classroom.

#### Northwest Region

✦ Charles and Ellen Lebold used their skills to spot witch's  
broom, webworm, and deer damage on trees on their  
walnut plantation.

✦ Dennis Steigerwalt put together his Stream Team and  
Forestkeepers skills to help students analyze a forest stand  
near the Grand River and conduct water quality tests.

#### Southeast Region

✦ John Stanard participated in a forestry training seminar  
in Jefferson City and made use of the Arsenal “hack and  
squirt” method to free up the crowns of smaller-acorn  
oak trees for waterfowl management.

#### Ozark Region

✦ John Williams continues to plant 25 pine and cedar trees  
each year, as well as maintain the pine and walnut trees  
already growing on his land in Phelps County.

✦ Robert Danburg planted a number of pin oak, spruce,  
peach, and plum trees on his property in Wright County.

✦ Owen and Sharon Weeks spent time making their 287  
acres in Ozark County hospitable to wildlife and trying  
to repair previous damage on 150 acres. They also con-  
tinue to reestablish the shortleaf pine population and  
eliminate the blackjack oaks.

✦ Bob and Pat Perry started a habitat improvement  
project on their 80 acres in Phelps County and did  
some clearing, burning, dozing, and stump treatment  
on the property. Bob also served as volunteer coordina-  
tor at the Audubon Nature Reserve in Rolla, helping  
to clear redcedar trees and spray exotics. In addition, Pat  
directed a native planting in the reserve's parking area.

#### St. Louis Region

✦ Ralph Heck attended conservation training at Wurdach  
Farm and he chemically treated unwanted grapevine.

✦ Stephen Gyore used accepted harvesting practices to clear  
fire trails of fallen trees resulting from storm damage.

✦ Elsie Meyers spent time trimming, watering, and mulch-  
ing new trees planted in her subdivision.

✦ Dr. G.O. Akura enlisted the Wyman Center's  
Conservation Ambassadors Corps members at Ritenour  
Middle School, Northwest Valley School, Carr Lane  
VPA School, and Jennings Junior High School to work  
together to conduct tree observations at their schools.

#### Southwest Region

✦ Tim Warden pruned and sprayed his fruit trees, as well as  
maintaining a deer feeder at his home.

✦ Dwight Ittner received tree farm certification in the  
summer for his 129-acre farm in McDonald County.  
He was also elected vice president of the Missouri Nut  
Growers Association.

✦ Thelma Kurtz made walking trails through her woods  
and began making concrete tree identification blocks for  
the trail. She also planted additional trees on her 14 acres,  
including fruit trees, dogwood, mountain ash, buckeye,  
and oak.

✦ Joe and Cathy Wolven used their land as an outdoor  
classroom for botany students. The students cared for the  
trees, plants and grounds and also participated in plant-  
ing and tree identification exercises. ☐

# Turkeys and Woodlands

Forestkeepers Bulletin #29

By Jeff Beringer, Resource Scientist, Missouri Department of Conservation

**T**urkeys have demonstrated a remarkable ability to live in a variety of habitat conditions in Missouri and are found throughout the state. Turkeys need woods to flourish, and properly managed woodlands will offer them more food and increase their ability to nest successfully.

Landowners interested in making their property more attractive to turkeys should first take an inventory of habitat conditions on their land and on adjacent property. Many landowners will not have all the habitats a turkey needs for an entire year. Turkeys may range over a square mile (640 acres) annually, so look at the land on a broad scale, just as they might look at it.



Illustration by David Besenger

## Cover

As a rule of thumb, turkeys need areas that are 50 percent mature forest during the late fall and winter months. They use grown-up hay fields, grass stands, and brushy areas for nesting from March to May, and green hay fields, open woods, and forest openings to raise poults and feed on insects from May to September. Ideally, about 30 percent of a turkey's home range will be in areas such as forest openings, hay fields, and glades. Use these general parameters as guidelines when deciding what turkeys need in your area. If you and your neighbors have mostly woods, you might focus on forest openings and nesting habitat, or vice versa if you are in an area with mostly agriculture.

Some people know that turkeys roost in trees at night, but many don't realize that turkeys will use the same trees repeatedly, especially in areas with limited forests. Turkeys prefer to roost in mature trees with wide-arching branches, especially near or over water. Oak trees, sycamores and hackberries are good candidates. Roost trees can often be identified by looking for droppings and feathers. If you want turkeys on your land, avoid cutting roost trees.

If you have mature pastures, hay fields, or brushy areas, these may be used by turkeys for nesting. Avoid mowing your hay fields until late June, when most turkeys have completed nesting. Maintain old fields and brushy areas, and keep grass and small trees, by mowing every couple of

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# Turkeys and Woodlands

*continued from front*

years in July. It is important to have dense vegetation near the ground to help hide turkey nests from predators.

## Acorns as a Food Source

Not all woodlands are of equal value to turkeys, as they rely heavily on acorns as a food source. Landowners can improve acorn production by favoring oak trees over other competing trees. Consider girdling or cutting down trees that are competing with oaks for sunlight and moisture. This will allow the oaks to increase their canopies and acorn production. This practice is called timber stand improvement or TSI.

Landowners should try to keep a mixture of red and white oak trees. White oak trees flower and make acorns annually. Red oak trees flower one year and produce acorns the next. During some years, white oaks will experience a nut failure, but red oaks will produce.

If you have a preponderance of white oaks on your property, consider favoring red oak species (northern red, black, shingle, blackjack, and pin oak are most common). If you have mostly red oak trees, favor white, swamp white, bur, chinquapin, and post oaks. Also consider growing flowering dogwood, serviceberry, sassafras, and hackberry, as these species produce soft nuts that are readily used by turkeys.

## Green Browse as a Food Source

You can enhance your forest openings by planting them with green browse species. Ladino clover is especially attractive as a green browse and it harbors insects that are important to young turkeys. Poults are dependent on protein rich insects for the first week or two after hatching, and a woodland ladino clover patch is a good spot for a brood to catch them.

Consider planting clover in openings that are one to two acres in size. To establish a clover patch, disc the area in September and broadcast wheat at about one bushel to the acre,

fertilize with 100 pounds of 13-13-13 per acre, and lightly cover the seed with a disc or harrow. You can even drag a cut cedar tree behind an ATV to accomplish this. Turkeys and deer will use the wheat through fall and early winter. In March, broadcast ladino at five pounds per acre, preferably when there is snow on the ground so you can see where you have spread the seed. Seeding over snow also will allow the seed to work into the ground when the snow melts.

Ladino patches should be mowed in late June and whenever weeds are encroaching. Fertilize them during the fall with a mixture that does not contain nitrogen, such as 0-24-24. This will favor the clover over competing grasses. A maintained ladino patch will last for up to five years.

## Water

Turkeys require open water. Small ponds are an important habitat component. Ponds should be dispersed at a density of one per 160 acres to maximize turkey use. They are most valuable if deep enough to hold water throughout the year. In most settings, an eight-foot deep pond that is 30 to 40 feet across will hold water and be used by turkeys year-round.

Managing your woodlands to improve the habitat for turkeys and other animals is fun and rewarding, whether your goal is to harvest or watch wildlife. In most instances, the practices described above will provide an added bonus – increasing the financial value of your property. ■

