

Mark Your Calendar

Attention Forestkeepers!

The next deadline for Tree Observation Forms and Activity Reports is October 1. Watch for your kit in the mail this summer or download the forms from the website at www.forestkeepers.org, where you can also see the selection of great new incentives for participating!



Welcome New Members!

We are pleased to welcome the many new individuals and groups who have become members of the Missouri Forestkeepers Network in recent months:

- | | |
|------------------------|------------------------|
| Paul Barrow | Paul Kirk and Family |
| Rich Beckett | Thelma Kurtz |
| Stan Bell | Marshfield High School |
| Debbie Brickley | Science Department |
| Adrienne Brumit | Bob Matthews |
| Jeff Burgess | Jesse McCullough |
| Ray Corbitt | Charles Simmons |
| Cub Scout Pack | Jeannette Sorey |
| 202-Waynesville | Talking Tree Acres |
| Joe Gleason | Marilyn Werner |
| Eva Marie Glor | Jimmy Whisenhunt |
| Roger and Sarah Grable | Joe and Cathy Wolven |

Membership is free and is just a phone call or a click away! Contact us at 1-888-9-Forest (1-888-936-7378) or visit the website.

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The Missouri Forestkeepers Network



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

The Monitor

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A newsletter for all participants in the Missouri Forestkeepers Network

The Monitor

Summer 03

The Emerald Ash Borer

By Justine Gartner, Forestry Field Programs Supervisor, Missouri Department of Conservation

A new pest threatens our flora. The emerald ash borer (*Agrilus planipennis*) has been discovered in southeast Michigan, northwestern Ohio, and southwestern Ontario, Canada. Native to Asia, this pest is already responsible for the destruction of millions of ash trees in the United States. It is unknown how the borer got into the country, but based on the age of affected trees, experts think it may have arrived as long as six years ago.

The emerald ash borer belongs to a group of insects known as metallic wood-boring beetles (family *Buprestidae*). Adults are dark metallic green in color, slender, bullet-shaped, and very small in size, measuring approximately 1/2-inch long and 1/6-inch wide. Adults begin emerging in late May, with peak emergence in mid-June. Egg laying occurs soon after emergence.



Photo by David Cappaert, Michigan State University

Larvae are a creamy white color and can be found under the bark of affected trees. The larvae make a small (1/6-inch diameter) D-shaped hole when exiting the tree. Trees may also exhibit 2- to 4-inch vertical splits in the bark in response to the larva feeding under the bark. The life cycle of this species spans one year.

So far, the emerald ash borer has been found to infest only ash trees (genus *Fraxinus*). However, they will infest healthy trees as well as those that are stressed or diseased. Trees in woodlots, as well as in landscaped areas, have been affected in Michigan and Ohio.

The tops of infested trees will die back, with 1/3 to 1/2 of the branches dying the first year, and the remaining dying the next year. This is often followed by a large amount of sprouting arising below the dead portions of the trunk.

Although the emerald ash borer is a good flier, human activities are the primary cause of long-distance spread. As a result, a quarantine of all ash trees and ash wood products in affected areas of Michigan and Ohio is in place. This quarantine makes it illegal to move any ash trees or ash wood products larger than 1-inch in diameter outside the affected areas in those states.



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Protecting Missouri's Water

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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 maintain
the health of 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)



Forestkeepers Awards Presented

Two Forestkeepers awards were presented in March at the 10th annual conference of the Missouri Community Forestry Council.

Janice Schnake Greene was named 2002 "Environmental Educator of the Year." Janice became a member of the Forestkeepers Network in 2000. She is an associate professor of biology at Southwest Missouri State University, director of the SMSU Bull Shoals Field Station, and state coordinator for the Leopold Education Project, an outdoor ethics-based program.

In 2002, Janice used Forestkeepers activities in the classroom, helped to secure funding to develop an outdoor classroom at a local elementary school, planted trees at several Springfield area schools on Arbor Day, and conducted ongoing tree observations. As a commissioner on the state's Clean Water Commission, Janice is an advocate for many conservation issues and she also contacted state and national legislators to voice her concerns.

The award for 2002 "Land Steward of the Year" went to Jim Drew. Jim is a resident of Liberty and became a charter member of the Missouri Forestkeepers Network in 1996. He owns a farm in Caldwell County, where he

spends as much time as possible with his three sons. He is also active in his sons' scouting activities and helps the Missouri Department of Conservation with a variety of Eagle Scout projects related to forestry and wildlife.

Last year in Caldwell County, Jim helped to plant 800 trees and prune an additional 150 trees. He also helped to plan a poster contest for local elementary students to teach them the value of trees. Back at the farm, he planted an additional 700 to 800 trees along a riparian corridor, installed and maintained food plots and water sources for wildlife, and treated unwanted vegetation.

Congratulations to Janice and Jim!



From left: Justine Gartner, Janice Schnake Greene, Jim Drew and Nancy von Brecht

The Emerald Ash Borer

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How You Can Help

While the emerald ash borer has **not** been found in Missouri, please monitor your ash trees closely and report any unusual borer holes. Remember to look for very *small* D-shaped exit holes on *ash trees*. Use your Forestkeepers pocket insect & disease identification cards to help distinguish between the various wood-boring pests that are common to Missouri.

Emerald Ash Borer Internet Resources

www.michigan.gov/mda
Department of Agriculture

www.na.fs.fed.us/spfo/eab
USDA Forest Service

www.msue.msu.edu/reg_se/roberts/ash
Michigan State University Extension

What Do You Think?

How important is the Forestkeepers program to you? Do you find it useful? Please let us know what you think by taking a few minutes to complete this survey. Then mail it by **August 30** to: Missouri Forestkeepers Network, c/o Forest ReLeaf of Missouri, 4207 Lindell Blvd., Suite 120, St. Louis, MO 63108, or fax it to 314-533-0016.

Overall Program:

Does the Forestkeepers program meet your needs and expectations? Yes No

What do you value most about the program?

How would you improve the program?

Participation:

Have you returned a Tree Observation form or an Activity Report in the last two years?
 Yes No

If *not*, could you please tell us why?

In what other natural resource organizations do you participate? *Check all that apply:*

- Stream Team
- University Extension Master Gardeners
- TreeKeepers
- Retired & Senior Volunteer Program (RSVP)
- American Tree Farm System®
- Other (please list) _____

Networking:

We would like to increase networking opportunities for Forestkeepers. Would you attend:

- One annual Forestkeepers meeting held at a central location
- Regional Forestkeepers meetings
- Other _____

Forestkeepers Website:

Have you accessed the Forestkeepers website at www.forestkeepers.org in the last six months? Yes No

If so, please rate the website by circling the most appropriate response:

	Excellent			Poor	
Easy to Use	5	4	3	2	1
Helpful Information	5	4	3	2	1
Overall Content	5	4	3	2	1
Overall Rating	5	4	3	2	1

What do you like best about the site? _____

What other features would you like to see on the site?

Training:

Please rate these topics according to your level of interest:

(3) Very Interested (2) Somewhat Interested (1) Not Interested

- ___ How to Use the Forestkeepers Kit
- ___ Tree Identification
- ___ Tree Biology
- ___ General Tree Care
- ___ Timber Management
- ___ Wildlife Management
- ___ Riparian Restoration
- ___ Classroom Applications
- ___ Tree Pest Identification & Management
- ___ Other _____

Please also rate these training formats according to your level of interest:

- ___ Written Publication
- ___ Classroom/Field Training
- ___ Newsletter Articles
- ___ Website Links

Volunteering:

Would you be interested in participating in volunteer projects with other Forestkeepers? Yes No (If yes, please include your name below.)

Optional:

Member's Name: _____

Day Phone #: _____

E-mail address: _____

Thank you for taking time to respond to this survey. We value your input.

Are You Protecting Missouri's Water?

Forestkeepers Bulletin #23

By Jason Jensen,
Resource Forester,
Missouri Department
of Conservation

Missouri's forests are vitally important to its citizens. Forest products contribute nearly \$3 billion to Missouri's economy annually, and the industry employs approximately 33,000 people throughout the state.

Timber harvesting is important to the health of our forests by helping to ensure a healthy, vigorous forest. If left unmanaged, forests can become overcrowded. This results in poor growth and stressed trees from excessive competition. Harvesting can also help maintain a diverse forest with a variety of sizes, ages, and species of trees and plants. In addition, it can create habitat for a variety of wildlife. Although harvesting is necessary to promote the productivity and health of our forests, it must be carefully and thoughtfully conducted.

"Best Management Practices" (BMPs) are guidelines to follow when harvesting timber. These guidelines are intended to help prevent non-point source pollutants from entering our streams. A BMP can be defined as "the most appropriate or applicable forest practices or activities to attain a silvicultural goal while protecting the chemical, physical, and biological integrity of the state's waters."

There are several types of non-point source pollutants that can be generated from a typical timber sale. They include: sediment, increase in stream temperature, organic debris and nutrients, altered stream flow, and chemicals and fluids. Preventing or reducing sediment is the primary goal when applying BMPs in a timber sale. If you can control sediment

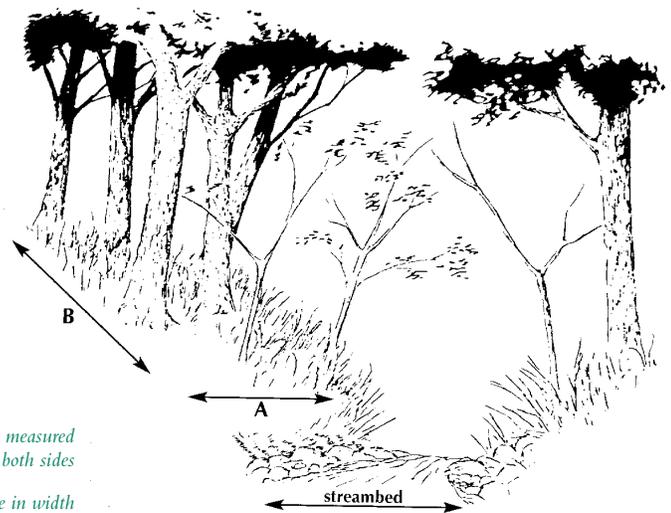
production with BMPs, chances are very good that you will also be preventing most other types of non-point source pollution.

When compared with agricultural practices, soil erosion from timber harvesting is very minimal. However, erosion occurs from roads, skid trails, and log landings associated with the harvest. Soil is the foundation upon which our forests grow, and should therefore be protected.

Streamside Management Zones

One of the most basic components of BMPs are what are known as "Streamside Management Zones" or SMZs. A streamside management zone is an area adjacent to the banks of a stream or body of water where extra precaution is necessary to protect water quality. SMZs help trap sediment and filter nutrients. They also help to stabilize stream banks, slow flood waters, and shade streams. The width of the zone is based on variables such as soil type, percent slope, vegetative cover, and stream classification. These variables

continued on back



(A) Primary Streamside Zone – 25-foot width measured from the top of the streambank on both sides

(B) Secondary Streamside Zone – Variable in width depending on slope of surrounding land

Are You Protecting Missouri's Water?

continued from front

are unique to each site. SMZs are defined by a primary zone and a secondary zone.

Guidelines that should be followed within the SMZ include: (1) Locating roads, skid trails, and landings outside the SMZ; (2) Harvesting mature timber in the SMZ on a selective basis; (3) Maintaining tree stocking at about 60 square feet of basal area per acre; (4) Cabling out logs; (5) Re-establishing vegetation as soon as possible in disturbed areas. The overall objective is to leave the leaf layer intact with minimal disturbance or soil exposure.

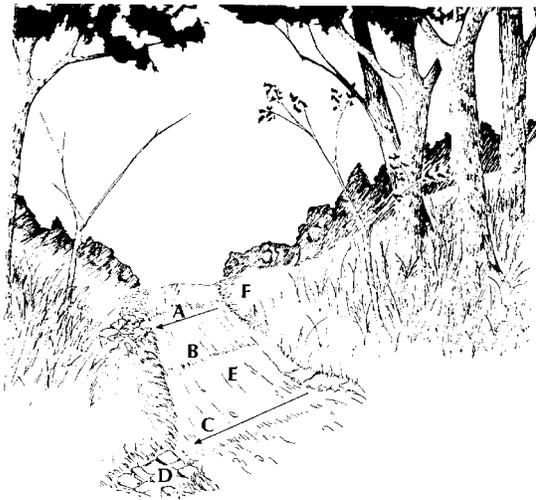
Forest Roads

There are several BMPs that can be applied to forest roads and their construction. Roads should be shaped to facilitate drainage of water from the road surface. Wing ditches can also be established to help divert water away from the road surface. Roads should be kept on ridge tops and out of streamside management zones. Planning should also be done to help minimize the number of times streams are crossed.

While stream crossings may be inevitable, you can minimize disturbance by crossing at a right angle to the flow of the stream. Streams can be further protected at crossings by "armoring" them, or placing large diameter gravel (3- to 4-inch) on adjacent banks. The gravel will help to reduce the soil disturbance and any potential rutting that might occur.

Waterbars are another BMP often used on both roads and skid trails. A waterbar can be built from soil, poles or logs cut on site, or from a used conveyor belt sandwiched between treated lumber. Waterbars are placed at a 30- to 45-degree angle to the road surface. They are designed to divert water from the surface, not stop it. Waterbars can also be modified to prevent access to roads, or to close them after use. Controlling access during periods of wet weather is essential for maintaining good forest trails.

After harvesting is completed, seeding exposed areas can further stabilize roads, skid trails, and log landings. Seeding helps to establish a quick cover to prevent soil movement. Landings can be converted into food plots on suitable sites. Cover crops will vary depending on soil type and the location within Missouri. Good examples of temporary cover crops include wheat, oats, and rye.



(A) Water bar at top of the grade
(B) Water bars spaced properly at the recommended distances
(C) Water bars located at a 30 degree angle down slope
(D) Stone riprap at diversion outlets
(E) Road is out-sloped and follows the contour
(F) Cut banks are seeded as necessary

While timber harvesting is necessary for maintaining healthy, diverse forests, the harvest needs to be planned and carefully conducted. Best management practices are designed to be a proactive approach to preventing degradation of our state's waters. Planning is necessary to insure effectiveness. It is recommended that you utilize a professional forester to help plan and supervise harvesting activities. The results of improper harvesting can go beyond the boundaries of an individual's property. Consequently, all landowners have a responsibility to practice the best stewardship possible on your property. 

Internet Resources

www.usabmp.net
Water Quality and
BMPs for Loggers

[www.epa.gov/
watertrain/forestry](http://www.epa.gov/watertrain/forestry)
U.S. Environmental
Protection Agency

www.forestry.about.com
What You Need to
Know About Forestry

Publications

*Missouri Watershed
Protection Practice*

Provides specific rec-
ommendations for a
variety of situations.

For a free copy
write to: Missouri
Department of
Conservation
Forestry Division
P.O. Box 180
Jefferson City,
Missouri 65102