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Spring 2016

The *WOOD*land Steward

Promoting the Wise Use of Indiana's Forest Resources

Forest Management is the Right Thing to Do

The Woodland Steward has been reaching woodland owners in Indiana for 25 years. Throughout our history we have promoted good forest management to enhance forest composition and structure, develop timber resources, promote wildlife habitat, protect threatened and endangered species, improve water quality, provide for recreation, and control invasive species. The wide range of benefits from managing forests has been demonstrated over and over by history, time and scientific research. Indiana has gone through a major transformation from only 6% forest cover in the late 1800's and predictions of being treeless by 1935, to over 20% forested in 2016. This transformation is in large part due to the Indiana Board of Forestry created in 1901, the establishment of State Forests in 1903 and the adoption of the Forest Tax Classification Act of 1921. In Indiana, the Division of Forestry has been managing our State Forests for over a hundred years and assisting private woodland owners for almost 100 years. This is a testament to a forward looking vision to ensure forest conservation, continued production of hardwood resources, water quality, and wildlife habitat.

In each issue of the Woodland Steward we try to bring you, the woodland owner, up-to-date information on forests, wildlife, soil conservation, endangered species, insects and disease, and invasive species. The science of forest management evolves and changes just like the forest itself. As woodland owners we need to change our management strategies to keep up with our woodlands. Twenty years ago, we did not worry much about invasive plants or insects, but now their impact cannot be denied. We see the loss of forest regeneration, the death of ash trees, the degradation of wildlife habitat and the negative impact to water quality and recreation from invasive plants. In the mid-1900's, wildlife that liked young forests thrived in Indiana. But as our forests have matured and people's tolerance for forest openings and clear-cuts has waned, certain wildlife species suffer (see The Other Silent Spring article in this issue starting on page 7). The only way to address this change in forest structure is by good management, such as that demonstrated on our State Forests.

Forest management is the right thing to do. Indiana State Parks and IDNR Nature Preserves in Indiana no longer just let nature take its course. They practice forest management by doing invasive species control, conducting salvage harvests, hunting, and utilizing prescribed fire to manage their properties. They may not harvest timber commercially, but these other practices are essential in maintaining the natural resources they are trying to protect. Forest management is the right thing to do on State Parks and Nature Preserves, it is the

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Photo Credit: Becca MacDonald, Sault College, Bugwood.org, ruffed grouse, Bonasa umbellus

In This Issue

This publication is funded in part by the Renewable Resources Extension Act (RREA)

visit us online at

www.inwoodlands.org

Calendar of Events

June 11
Tippecanoe County Outdoor Explore
Tippecanoe County SWCD
Call 765-474-9992, Ext. 3 or see
www.tippecanoecountyswcd.org.

July 16
Starke-Pulaski Co Forestry Field Day
Call 574-772-9141 or
pwoolery@purdue.edu.

July 26
Hops Agroforestry Workshop
Tippecanoe County
Contact 765 496-1930 or
tamara17@purdue.edu.

July 31 - August 3
Walnut Council National Meeting
Lawrenceburg, Dearborn county
Single days available.
Call 765-583-3501 or
walnutcouncil@walnutcouncil.org.

August 20
IFWOA Summer Walk in the Woods
Montgomery County
Call 765-583-3501 or www.ifwoa.org.

September 10
Nature Daze
Camp Rancho Framasa, Brown County
See bcnwpinc@gmail.com for details.

September 17
Pecan Workshop
Scottsburg, Scott County
Call 812-752-4929 or
www.vaugnfamilypecanfarm.com.

September 30
IN Conservation Congress
Brown County State Park
See www.inconservation.org for details.

September 29
Ginseng Agroforestry Program
Tippecanoe County
Contact lfarlee@purdue.edu or
765-494-2153.

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Send inquires or donations to:
Woodland Steward Newsletter
P.O. Box 36
Butlerville, IN 47223
or www.inwoodlands.org

Postage paid
Butlerville, Indiana 47223

Woodland Steward President
Dan Shaver
dshaver@tnc.org

Woodland Steward
Editorial Board Chairperson
Brian MacGowan
macgowan@purdue.edu

The opinions expressed by the authors do not necessarily reflect those of the Woodland Steward Institute. The objectives of the newsletter are to provide general and technical natural resource information to woodland owners of Indiana, improve information distribution and build support for responsible forest resource management.

Invasive Vegetation Control Costs

By Ron Rathfon

Brush saws can be used to safely and efficiently clear infestations of large invasive brush species. Applying an appropriate herbicide to the cut stump shortly after cutting will prevent sprouting.

Oriental bittersweet taking over this forest understory and climbing into canopy trees. Note the large, mature ash tree that will soon be dead from emerald ash borer. No tree seedlings will be able to emerge from the bittersweet.

The three principles of invasive vegetation management listed in order of their priority are:

1. Prevention
2. Early Detection, Rapid Response (EDRR)
3. Strategic control of existing infestations (establishing priorities based on management objectives)

These priorities hold true regardless of the scale at which you are planning invasive species management – national, state, regional, county, or individual property. Incorporating prevention and EDRR best management practices into both long-term and day-to-day management planning and activities is the proverbial ounce that's worth 12½ pounds or more of cure.

There are many variables influencing the cost of managing invasive species on your land, including the cost incurred by doing nothing. Invasive species cost, whether we choose to manage them or not. First, there is reduced timber productivity caused by competition for water, nutrients, and light. Asian bush honeysuckle growing in a hardwood forest understory has been shown to reduce tree stem growth by 58%. Numerous studies of a variety of invasive plants document the reduction and loss of tree regeneration and other native forest plants through direct competition and through alteration of soil chemistry and microbiota (bacteria and fungi). On a larger scale, the cost in terms of habitat alteration and loss for many species of wildlife is difficult to calculate. Loss of outdoor recreation value deprives us and future generations as more and more of our forestland becomes choked with dense invasive, tangled, and often thorny brush.

Prevention

Invasive plant species prevention activities include cleaning shoes/boots and clothing and equipment to keep from transporting seeds to new non-infested sites. This costs you about five minutes plus the cost of an inexpensive, stiff-bristled scrub brush or a boot brush stand. Cleaning an ATV or a truck may take 10 – 15 minutes. The hard part of these simple measures is ingraining it into your psyche so you remember to do it when needed.

Cleaning logging equipment, on the other hand, is an expensive proposition. If you don't already have species like Japanese stilt grass, Japanese chaff flower, or garlic mustard invading your property and you are planning to harvest timber, requiring the logger to clean their equipment prior to their arrival is the best way to insure no new infestations will get started. Since this is a relatively new idea and is not a part of current logging best management practices, you should include this stipulation in the timber sale notice and in the timber sale contract. Cleaning logging equipment may take the better part of a day for larger companies with more equipment. With travel time, lost production time, and actual cleaning time, the cost can run into thousands of dollars. The landowner can expect to pay for this in a lower price paid for their timber to reflect these costs. Is it worth this cost? I would argue yes, especially if an infestation gets started and is ignored for years until it has overrun large areas of your property. It could cost several hundred dollars per acre over five to seven years to eradicate these species, not to mention the costs associated with ecological damage.

One other common-sense prevention best practice is to choose native plant species for conservation plantings and landscaping rather than invasive species. In many cases,

native alternative plants cost little to nothing more than their popular invasive counterparts. On the other hand, popular invasive trees, shrubs, and ornamental grasses such as the ornamental Callery pears (Bradford, Cleveland and other cultivars), burning bush, winter creeper, and Chinese silver grass (Miscanthus), are quickly becoming an ecological storm across Indiana's landscape. When purchasing landscaping plants, check the list of invasive plants maintained by Indiana Invasive Species Council website to be sure what you are thinking of buying isn't on that list *(www.entm.purdue.edu/iisc/invasiveplants.php)*.

EDRR

Early detection, rapid response involves inspecting or monitoring your property on a regular basis to look for invasive plants trying to get established. Where newly establishing invasive plants are found, quickly destroy them before they begin to spread.

Healthy, undisturbed forests and native plant communities are quite resistant to invasive plant encroachment. Disturbance of those communities creates the opportunity for invasive plants to get established. Road construction, logging, fire, storm damage, insect and disease mortality are examples of disturbance in the forest that can allow invasive plants to get a toehold. Edge habitat such as at the interface of field and forest or roadsides are areas vulnerable to invasive plant establishment. Monitoring should therefore focus on these areas where probability for invasion are much higher.

As an example, for several years following logging, you should focus your EDRR activities on log yards, skid trails, and haul roads. Depending on the invasive species found and its seed dormancy in the soil seed bank, monitoring and control efforts should last four to eight years (assuming you did not follow the prevention recommendations described above). The initial cost of monitoring is the time it takes you to walk or ride those disturbed areas of your woods. Even if you do not find any invasive plants in the initial year following the disturbance, it is a good idea to check it again later that year or the following year, in case you missed something the first time. The two most likely species to be carried on logging equipment or by human foot or ATV traffic are garlic mustard and Japanese stilt grass. Both species' seeds are very long-lived in the soil seed bank, continuing to germinate up to seven or more years after being deposited. Unfortunately, these two have very different growth habits from each other. Garlic mustard is a biennial and is not very noticeable until the second year following disturbance when a 2 – 4 ft. flower stalk emerges in late April through May. By early to mid-June seed pods are maturing, and by late June seed pods are opening and dispersing thousands of tiny seeds. The stalks quickly die and turn brown, becoming unnoticeable again as other vegetation emerges. Japanese stiltgrass does not emerge from surrounding vegetation and become noticeable until July. Seed develops in September and matures and disperses in late-September through October. Thus, following logging, monitoring needs to occur in both spring and mid- to late summer, over multiple years, to detect these two likely invaders.

Incorporating early detection – rapid response (EDRR) in to your routine management would allow you to discover this single burning bush found along the edge of your woods and control it before it has a chance to spread.

Another place to monitor for invasive plant establishment several years following logging or other disturbance is where gaps in the forest canopy have been made, particularly if Asian bush honeysuckle, Japanese honeysuckle, or autumn olive are growing nearby. Many birds feed on their berries then perch on tree limbs at the edge of canopy gaps within the interior of the forest, as well as along forest edges, where seed is dispersed through their droppings. Thus, these relatively shade-tolerant invaders get a foot-hold in the interior, and over the course of a decade or two, will spread throughout the forest.

So what does all this EDRR monitoring cost? If there are few invasive plants, your cost is your time to walk or ride over the priority areas of your property plus a minimal amount of time and herbicide needed to dispatch the invaders. More intensive monitoring will be needed in the first three to four years following disturbance, with diminishing monitoring needed as time goes on. A low intensity inspection focusing on disturbed areas may cost 5 -

15 minutes per acre, on average, conducted once per year. If significant numbers of individuals or patches of invasive plants are found, inspection becomes more intensive, takes more time, and control costs increase proportionally.

Examples of EDRR costs are found in two forest tracts located on the Southern Indiana Purdue Agricultural Center (SIPAC) in Dubois County, Indiana. Six years after logging and trail maintenance occurred in a 34 acre tract called Woods F, Japanese stilt grass was found in 2008 along skid trails in scattered patches ranging from a few plants to 600 ft 2 in size. Beginning in 2009 and continuing annually through 2015, trails were inspected and spot-sprayed annually for stilt grass. It took an average of 3¼ hours per year to ride and walk the 1.1 miles of trail and spray stilt grass using a small tractor with mounted sprayer with both spray boom and handgun, plus a backpack sprayer. An annual average of 9.5 gallons of mixed herbicide were applied. Although the annual amount of time required to inspect and treat small patches remained fairly consistent from year-to-year, the amount of herbicide needed has diminished with time as the size of stilt grass patches have shrunk and disappeared entirely. Assuming that I value my labor at $20/hour, labor cost me $65/year. Herbicide cost was roughly $6.20/year. Over the seven years, this EDRR effort on a very persistent invasive weed on 34 acres cost $497. We will continue to monitor for stilt grass in Woods F in 2016, expecting to find very little.

In the second tract, Woods P, stilt grass was found along its 0.7 mile of trail following trail construction and maintenance. The number and size of stilt grass patches were significantly smaller than in Woods F, ranging from a few plants to 300 ft2 in size. Annual time required to inspect and treat was 37 minutes with an average annual herbicide application of 1.2 gallons of mixed spray. Spray volumes ranged from 4 gallons in the first year to 1 quart in 2015. Using the same assumptions as for Woods F, labor cost $12.30/year and herbicide $1.00/year. Total cost over the seven years was $93.

Strategic Control of Existing Infestations

Because the cost of treating dense stands of invasive brush can be very high, in some cases exceeding $1,000/acre, landowners with limited resources need to think strategically about their management. This means working with a forester and other natural resource professionals to determine their goals and priorities first. Then they can develop a common-sense management plan that incorporates the management of invasive species that fits their budget. These professionals can also help landowners access government assistance available for invasive species management. Costs for managing well-established infestations of invasive vegetation are highly variable and are influenced by:

- species needing controlled (single or mixed)
- vegetation structure (size distribution and density)
- terrain
- access
- equipment available
- treatment methods and type of herbicide(s)
- skill/experience of labor
- labor cost (DIY, hire own labor, contract)

In a well-stocked hardwood forest in west-central Indiana, Asian bush honeysuckle dominated the forest understory. Bush honeysuckle stocking ranged from relatively light (230 shrubs under 4.5 ft. in height, no shrubs over 4.5 ft.) to very heavy stocking (2,500 shrubs under 4.5 ft., 2200 over 4.5 ft.). Using a backpack sprayer, labor ranged from 2.4 hours/acre in the lightly stocked stand to 10 hours/acre in the heavily stocked stand. Mixed herbicide application rates ranged from 9 gal/acre to 45 gal/acre in the respective stands. Cost for the lightly stocked stand was $48/acre for labor (assuming $20/hr.) and $10/acre for herbicide (glyphosate at $20/gal), or a total of $58/acre. For the heavily stocked stand, labor cost $200/acre and herbicide $41/acre, for a total of $241/acre.

You can plug in your own labor rates and herbicide cost. Keep in mind that if you hire a contractor, the per acre rates may be substantially higher. You will be paying for much more than actual labor, herbicide, and saw gas. You will be buying their expertise, acquired through training and over years of experience. They also have transportation costs, travel, equipment depreciation and maintenance, and overhead costs to include insurance, licensing, maintaining an office, book keeping, and meeting the requirements of government regulations, to name a few.

These are examples of first year costs. Since even the best efforts at control will never achieve 100 percent eradication in the first treatment, follow-up treatment will likely be needed. This is what I call the mop-up phase where only scattered surviving individuals and patches need to be treated at a much lower cost than the initial treatment. Without doing this follow-up treatment, the surviving invasive plants will, over time, reoccupy the area you worked so hard to reclaim.

Additional Resources

Invasive Species Council, BMP Top "Ten" List, *www.entm.purdue.edu/iisc/bmps.php*

Indiana Invasive Plant List, *www.entm.purdue.edu/iisc/invasiveplants.php*

Invasive Plants in Indiana, Pretty. . .Awful! (brochure) *www.nature.org/cs/groups/webcontent/@web/@indiana/documents/document/prd_256311.pdf*

Landscape Alternatives for Invasive Plants of the Midwest *www.nippersink.org/pdfs/MIPN%20LandscapeAlternatives2013.pdf*

Ron Rathfon is an Extension Forester with Purdue University's Department of Forestry and Natural Resources. He is stationed at the Southern Indiana Purdue Agricultural Center (SIPAC) in Dubois County.

2015 Indiana Logger of the Year

Scott Pingleton Logging is the 2015 Indiana Logger of the Year. Specifically Scott Pingleton was selected for his leadership and professionalism in carrying out logging operations, dedication to protect forest resources and water quality in particular, outstanding relationships with landowners and foresters, and attention to safety. Pingleton was recognized at the Tree Farm Breakfast at the Indiana Hardwood Lumberman's Association convention in Indianapolis on February 3, 2016.

His professionalism in carrying out logging operations was demonstrated by proper use of a track skidder, directional felling of trees, creating efficient skid trails that minimize damage to residual trees, correct installation of water bars, back blading skid trails and log landings, utilizing logging slash and trees tops to create wildlife habitat, and promoting a safe work environment.

Pingleton has taken all phases of logger training from Soren Erikson. He personally trains his staff in proper use of a skidder, directional felling of trees, chain saw safety, and proper skid trail layout. He is an advocate for Best Management Practices. This training reinforces his philosophy of operating "light on the land."

He conducts his logging operation to protect the residual stand and protect soil and water resources. The skid trails are laid out prior to logging to minimize the area in skid trails, minimize soil erosion, and to be efficient. Pingleton uses a track skidder which minimizes soil compaction and provides additional mobility. The blade is effective to close out skid trails and install water bars.

Pingleton maintains outstanding relationships with landowners and foresters. As a testimony to this statement letters of appreciation were attached to his nomination from 11 landowners, four foresters, and timber industry.

Pingleton does contract logging for Cook Lumber Company and Scott Pingleton Logging. Their average annual production is between 750,000 and 1,000,000 board feet.

The Indiana Logger of the Year award is sponsored by Indiana Tree Farm. Recognition of outstanding professionalism in sustainable forestry practices is one of their objectives. Education is the other objective. Awardees are selected by the Indiana Tree Farm Committee which is composed of 29 members representing a cross section of forestry professionals in the state.

The Other Silent Spring – Disappearing Birds of Young Forests

by Steven Backs

Rachel Carson's classic book Silent Spring sounded the alarm over the long-term effects of the misuse of pesticides, especially those that persist for decades in the environment. Carson described how the misuse of pesticides, in particular DDT, unintentionally led to raptor eggshell thinning and negatively impacted populations of non-target songbirds either by direct poisoning or indirectly through their food sources. The premise of her historic book was if corrective actions were not taken soon, eventually the sounds of spring would disappear. Carson was dismissed by some as an alarmist and her credibility was attacked by the chemical industry. Over time the truth of her warnings became quite evident in field studies and led to a new awareness in the use of pesticides.

Although not as insidious as pesticides, a similar decline is occurring with populations of birds and other wildlife that utilize grasslands, prairies, and young dense forest habitats. The vitality of these habitats is measured not only by their existence, but also by the time since the last major vegetative disturbance. Historically, these habitats followed natural, catastrophic destructive events such as firestorms, tornadoes, and massive insect infestations. Young, regenerating forests lay scattered across the predominantly forested landscape where patches of old forests eventually died and had fallen in on themselves. The process of constant, destructive change and death in the natural environment is the youthful renovation of habitats which result in a rich diversity of wildlife. Every species' existence is in a constant flow of temporarily disappearing and recolonizing in a diverse, ever-changing environment.

Forest environments are amazingly resilient. As long as there are connective forested corridors or pathways, wildlife can generally find those habitats that suit their specific life needs. Unfortunately, in many areas, man has chopped up the landscape to the point where these regenerative natural forces no longer function to the same extent as they did historically. Broken forested corridors are often not suitable pathways for wildlife recolonization and a fractured landscape cannot be easily repaired without displacing human development.

Beginning in the 1930's, Indiana was entering a period of reforestation following an initial burst of human settlement when many forests were cleared to build and heat homes, communities, and provide space for agricultural crops and grazing. While there were a few public agency programs for planting trees, most of today's forests returned in the same resilient way they had historically, regenerating on their own following natural destructive events. Along with the resurgence of young forests came the wildlife species whose life and vitality depends on the dense thickets and brushy fields.

Grouse drumming log

Some of the easily identifiable avian icons of young forest habitats are ruffed grouse, American woodcock, and whip-poor-wills. These birds are more often heard than seen, because their brown, mottle cryptic appearance helps camouflage them against predators, especially the females who are ground nesters. Naturalists have frequently described the distinctive courtship displays of these birds as harbingers of spring.

In late March through April a male ruffed grouse proclaims his breeding territory by engaging in a "drumming display" upon a downed log, a tree root wad, or a small mound of earth in a protective woody thicket. The male grouse beats his wings rapidly creating a vacuum of air, producing a low hollow, drumming sound similar to the sound of an antique tractor motor starting or the distant pounding of rubber automobile tires on a rough country road. When you are relatively close to a drumming grouse, you can feel the sound as much as hear it, probably because the sound waves created by the air vacuum resonate off a person's head and chest. Besides proclaiming the male's territory, the drumming sound attracts female ruffed grouse that come to the male to breed. The best time to hear a grouse drumming is at dawn the first week of April, although this year-round resident may drum occasionally at other times of the year.

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Project to Help Restore Indiana Forests, Habitat gets $1M Grant

By Carol Kugler

Just more than $1 million in federal funds has been awarded for a program to help restore forests, reduce wildfire threats, protect water supplies and improve wildlife habitats in 18 southern Indiana counties.

The Hoosier National Forest and the Indiana Natural Resources Conservation Service were awarded funds through the Joint Chiefs' Landscape Restoration Partnership. The Indiana project, known as the Hoosier Hills and Highlands Oak Community Restoration Partnership, received the third-highest dollar amount in the country for 2016 projects.

In all, about $7 million will be given to 11 new projects, and $33 million will continue to fund 28 existing projects. All the money is given through the U.S. Department of Agriculture.

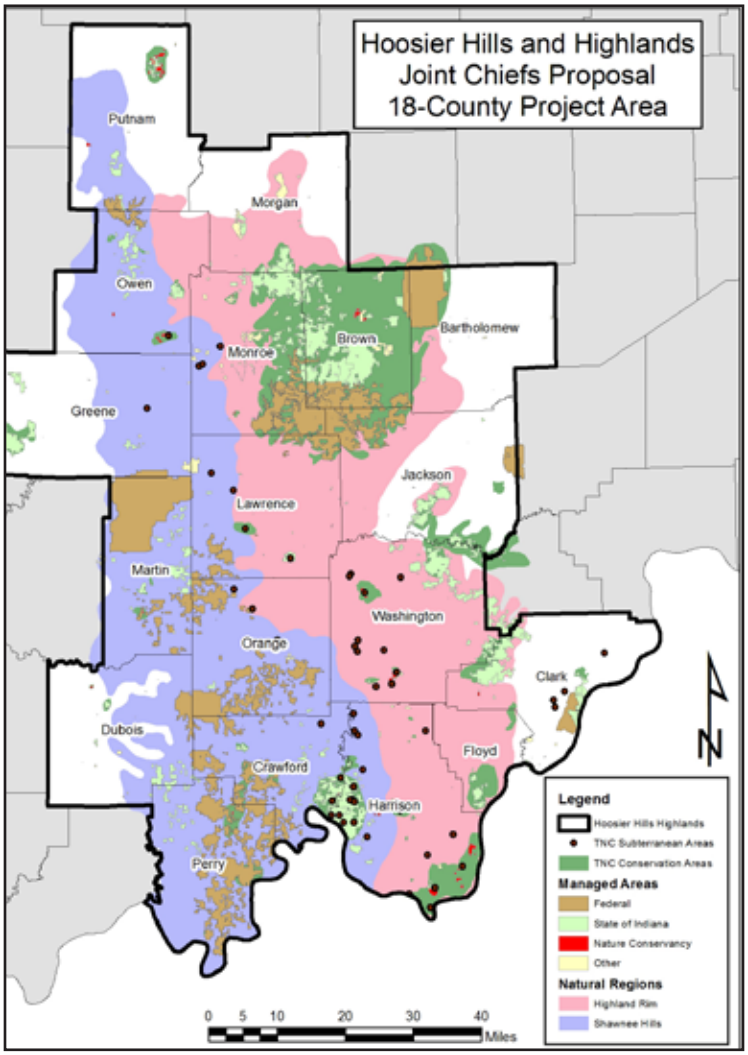
"We were the only one in the Northeast and Midwest that was selected," said Mike Chaveas, forest supervisor for the Hoosier National Forest. "It's one of the larger (projects) in terms of dollar amounts. That's a pretty big deal for Indiana."

He explained that the joint chiefs of the U.S. Forest Service and the Natural Resources Conservation Service work together to fund and administer the partnership project.

"We just learned we got the funding," Chaveas said. "Now, we will prioritize the funding and what we will do."

The Indiana project will deal mainly with restoring oak forests and protecting the state's waters on both public and private lands. The project will be funded for the next three years. "There's a need for oak restorations across southern Indiana," Chaveas said.

The Hoosier National Forest will mainly work on public lands, while the Natural Resources Conservation Service will focus on privately owned land. "A lot of their funds will go to help with invasive species management, help get more sunlight to the ground for oak species and oak regeneration," he said.



The national forest work will include efforts to eradicate non-native invasive plant species and work on adding more oak trees to the forest. It will also include removing small dams or barriers that inhibit the movement of fish and other aquatic species. Some of the funds could be transferred to help with erosion control on state forest lands, Chaveas said.

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Ask the Steward

By Dan Ernst

Credit USDA Forest Service, SRS

Question: When I was younger I rarely saw gray squirrels. Now, when I am back in my woods a see quite a few of them. Are gray squirrels becoming more abundant?

Answer: What you have noticed corresponds quite well to the aging of Indiana's forests. At the time Indiana was settled gray squirrels were the dominant squirrel species. They thrived in the heavy forest of early Indiana. However, as the state was cleared for crop and other non forest uses the populations of gray squirrels declined significantly, while the population of fox squirrels (who like a mixed forest and open landscape) grew.

Times have changed. Based on 2014 state wide forest inventories, Indiana has more forestland today than any time since the early 1900's. And these forests are becoming quite mature. This combination has been good for the gray squirrel. It is this recovery and maturing of Indiana's forests that has lead to increasing numbers of gray squirrels. I also expect overall declines in squirrel hunting has also had an effect.

Today gray squirrels are relatively uncommon in northern Indiana- but then so too are large expanses of forest. However, in the woodlands of southern and central Indiana, gray squirrel numbers are about equal to fox squirrel. Thanks for the great observation!

How weed free do I need to keep my new (2 year old) tree plantation? When is the best time to mow and still protect wildlife?

Answer: There are mixed opinions on this one. However, in most plantings it is crucial to provide a relatively weed free area three to four feet around your young trees for 2-4 years. Sometimes longer in extreme conditions. But, the trees do not need to be weed free all year long. If you have a relatively weed free zone around the trees for 3 months (May-June-July) the planting should do well- provided the right trees were planted, on the right site, in the right way. After July the trees cease most top growth and start storing energy in their roots for next year.

Concerning mowing- if you have good weed control strips or spots around your trees you may not need to mow at all. However, mowing may be helpful and desirable if you are concerned about the appearance of the plantation, have an abundance of rodents (including rabbits, mice or voles). Mowing is recommended in many plantations 1-2 times per year (e.g. July 15 and Sept 15) so you can easily find the tree rows again next year. Do not worry about late season weed growth close to the new trees. Mowing a foot or two away from the trees may help hide them from the deer who just love those tasty buds in late winter and early spring.

Wildlife biologists recommend to avoid mowing between March 1st and July 15th. This is the primary nesting season for wildlife. If you must mow during this period consider raising the mower deck to leave at least 8" of growth.

Dan Ernst is an Assistant State Forester with the Indiana Division of Forestry. He oversees the state forests in Indiana and has authored the "Ask the Steward" column for years. Have a question for the column? Email Dan at dernst@dnr.in.gov.

Thousand Cankers Disease – Update & Should I Sell Walnut?

By Phil Marshall

Recently, questions and concerns have come to the Division of Forestry from forest landowners and Consultant Foresters regarding the sale of black walnut trees now, because of Thousand Cankers Disease (TCD).

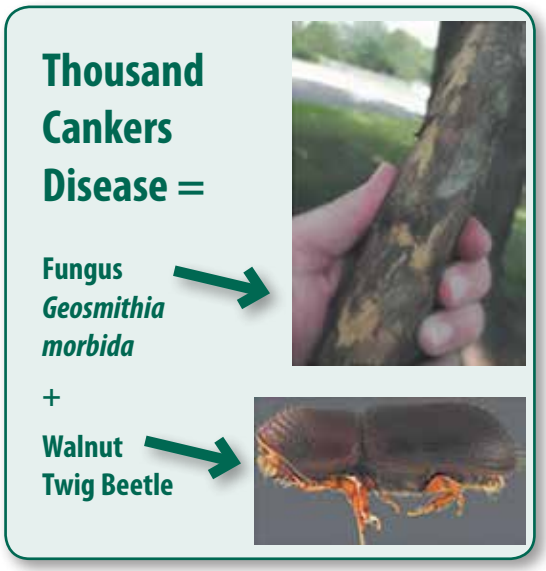
First, an update on the status of TCD in Indiana.

The Divisions of Entomology & Plant Pathology and Forestry have conducted TCD surveys since 2011 following the first confirmed detection of TCD in the eastern United States – Knoxville, TN August 2010.

The annual surveys include two visual surveys for symptomatic trees and a trapping survey for the Walnut Twig Beetle (WTB), the confirmed vector of the TCD fungus, *Geosmithia morbida.*

One visual survey occurs in 10 urban areas/cities each year. The other visual survey is gypsy moth trap tenders reporting walnut trees (healthy or with dieback) near each trap location.

In 2015, the urban areas/cities survey examined 1,431 walnut trees and the trap tenders reported 842 walnut trees. Of these only 26 had dieback and none were confirmed with TCD. Since 2011 over 40 urban areas/cities totaling over 3,700 walnut trees and over 5,200 walnut trees reported by trap tenders have been surveyed and less than 2% reported dieback and none had TCD.



The WTB survey involves setting traps baited with the WTB lure. A detection survey sets traps at high risk sites (sawmills, veneer mills, log consolidation yards, green waste sites and along the Ohio border to Butler County Ohio). A delimit survey is conducted at the sawmill in Franklin County and the walnut plantation at Yellowwood State Forest in Brown County due to the detection of WTB and Geosmithia morbida, respectively, at these locations.

In 2015, 249 traps were placed in the detection and delimit surveys. 2,592 samples were examined from the traps. The only detection of WTB was from traps at the sawmill in Franklin County.

Results of the survey efforts are:

- TCD has NOT been detected and confirmed from a black walnut tree in the state of Indiana.
- There are NO dead or dying black walnut trees in Indiana from TCD.
- There is NO widespread TCD mortality in Indiana and none is expected in the near future.
- The components of TCD – WTB and *Geosmithia morbida* – have been detected in Indiana.
- WTB has been detected in traps NOT in standing trees.
- Geosmithia morbida has been detected from a weevil, Stenomimus pallidus, which was collected from a study tree in the Yellowwood State Forest plantation.
- There is NO TCD infected walnut trees in the Yellowwood State Forest Plantation.

Also, there are NO reports of widespread walnut mortality from TCD in the infested states of Tennessee, Virginia, North Carolina, Maryland, Pennsylvania and Ohio.

Therefore, if you are approached to sell your black walnut trees now because the "Walnut Disease" (TCD) is coming and you should sell before it gets to your woods, the response and recommendation is to contact your consulting forester or district forester for advice, follow your current management plan and do not sell the walnut just because of TCD.

I do not anticipate rapid and widespread mortality of walnut once TCD is confirmed from an Indiana black walnut tree.

For more information, visit www.in.gov/dnr/entomolo/6249.htm or also contact

Phil Marshall, Forest Health Specialist/State Entomologist, pmarshall@dnr.in.gov

Division of Entomology & Plant Pathology, 402 W. Washington St. Rm 290W, Indianapolis, IN 46204

Division of Forestry, Vallonia State Nursery, 2782 W. Co. Rd. 540S, Vallonia, IN 47281

317-232-4189 Indianapolis office, 812-358-3621 Vallonia office, 812-595-2740 mobile

$1 Million Grant (cont'd from page 8)

Chaveas said having the Forest Service and NRCS work together makes sense since both are sister agencies within the Department of Agriculture. Both agencies also will be working with a number of other groups and agencies, including the Indiana Department of Natural Resources, the Department of Defense, soil and water conservation districts, the Nature Conservancy, the State Department of Agriculture, Sycamore Land Trust, the National Wild Turkey Federation and the National Audubon Society.

"A lot of those groups are working more on the private forest lands," said Shannon Zezula, state resource conservationist with the Indiana Natural Resources Conservation Service. Zezula said educating landowners about how to help young oak trees thrive and establish proper conditions for oak seedlings to grow will be a large part of what his agency does.

"There's a whole host of reasons that oaks are on the decline," he said, adding that his agency plans to work with its partners to spread the message about oak restoration in Hoosier woodlands. "We're kind of seeing small oak trees declining across the landscape," Zezula said. There have to be areas of open canopy to allow sunlight to make its way to the forest floor for oak seedlings to survive.

"To complicate that, we have a whole host of invasive species out there," Zezula said. Those invasive plants compete with oaks and other trees for sunlight and space.

Zezula said some people want to take a hands-off approach to forested land in Indiana.

"The public often wants a park, not scrub and shrub," he said, adding that a parklike setting is not a healthy forest. What is needed is selective cutting of trees, he said. "It is OK to cut some trees down, because that's what's needed to get those oaks regenerated. We're talking three or four trees together to let sunlight into the forest."

Zezula said his agency also will work with landowners on controlling soil erosion and water quality. Erosion can then affect wooded areas as well as wildlife, including cave fish and other endangered creatures that live in habitats that are threatened.

Since the project funding was only recently announced, Zezula echoed Chaveas, saying that the logistics of the project are still being worked out. Even so, any landowner who is interested in learning more can contact the Natural Resources Conservation Service office in his or her county. Information on the local centers is at *www.nrcs.usda.gov/wps/portal/nrcs/main/in/contact/local.*

In addition to still having to determine what this year's efforts will actually be, Chaveas said it will be difficult to determine what will be done in the next two years because the level of funding has yet to be set. "We don't know and won't know what funding we will get for the next two years until Congress approves the budget," he said.

Carol Kugler is a writer for the Bloomington Herald-Times, (812) 331-4359, ckugler@heraldt.com. This story was originally published on February 28, 2016 by the Bloomington Herald-Times and was reprinted with permission.

The Other Silent Spring *(cont'd from page 7)*

The courtship display of a male American woodcock is a combination of a nasal "peenting" sound made on the ground in a small forest opening or brushy field followed by a short 30-40 second circular aerial flight that ends with the flute-like twittering of air passing through the male's wings as he quickly spirals down to the same spot to peent again. Like the ruffed grouse, the male woodcock conducts these repetitive displays not only to proclaim a breeding territory but to attract females for breeding. Migratory woodcock generally arrive in early March and begin their dawn and dusk courtship displays in late March through to early May.

Whip-poor-wills begin arriving in late March and the males will begin distinctive, repetitive "whip-poor-will" calls in mid-April from dark to the early dawn hours. The calling of a whip-poor-will continues through the summer with the intensity influenced by moon phases and the breeding cycle. Depending on a person's perspective the calling, which can vary from a few dozen calls to several hundred repetitions, can either be entertaining or an incessant disturbance, especially if you are trying to hear something else or sleep.

Unfortunately, populations of ruffed grouse, woodcock, whip-poor-wills along with many other young forest birds like yellow-breasted chats, towhees and golden winged warblers have dramatically declined as the majority of our forests reach maturity. In the public's zeal to protect natural areas, there is a public misconception of not "seeing the forest for the trees." Vegetative disturbance is a means of revitalizing habitat diversity within a very dynamic forest ecosystem that needs young trees just as much as old trees. Ruffed grouse populations in Indiana are a small fraction of what they were just 25 years ago. They were recently listed as a Species of Special Concern in Indiana and the hunting season suspended.

Ruffed grouse have essentially disappeared from neighboring Illinois and have already done so in a number of areas in Indiana where they existed just two or three decades ago. Breeding ground surveys for woodcock conducted in Indiana are showing a similar decline. Not too many years ago, on our way to conduct grouse drumming surveys we frequently saw the reddish-pink eyes of whip-poor-wills sitting along the forest roads. The incessant

Tornado damage in Clark State Forest, March 2012.

calling of whip-poor-wills was an annoyance as we tried to count the number of drumming grouse. Now we no longer see the whip-poor-will eyes in the headlights and frequently hear neither grouse, nor whip-poor-wills, nor woodcock.

These three birds and distinctive calls are "coal mine canaries" telling us by their absence that young forest habitats are quickly disappearing. Are we listening? Do we hear the emptiness? Will we listen? It's happening not only here, but across the eastern United States. In his book, "Restoring North America's Birds – Lessons from Landscape Ecology" (2000) noted ornithologist, Dr. Robert Askins, titled one chapter, "Another Quiet Decline: Birds of the Eastern Thickets" that recorded the plight of birds of young forests. Public perceptions are often a hard nut to crack, even when there are biological facts to the contrary. We tend to mix our emotions with our perceptions as to how the world should be, even if we are only seeing a snap-shot of history frozen on one beautiful sunrise or sunset. We tend to see forests as only large, mature trees while mentally discriminating against young, small trees that have an equal value in providing viable habitat for wildlife. We fail to recognize that some wildlife use old forests, some use young, and some use both.

We, as humans, have permanently modified the earth and there is no going back to a completely natural world without dismissing ourselves from this earth. It's now our

incumbent responsibility as good land stewards to assure a diversity of habitats exists in what remains of our forests. We have to get past our biased perspectives and recognize that dramatic vegetative disturbances are temporary and are always an important revitalization of dynamic forest ecosystems.

While man-made disturbances like harvesting timber or prescribed fires may not be natural, nor pretty at the outset, they are manageable tools that can be directed to specific forest stands to replicate or mimic the effects of natural disturbances in creating and maintaining a diversity of habitats. Logging is not just about removing renewable, woody commodities from a forest; timber harvesting is a very useful tool in managing vegetation to assure a variety of habitat types for a diversity of wildlife.

To hear the drums of a grouse, the peents of a woodcock, and the calls of the whip-poor-wills are as refreshing as the cool crisp forest air we breathe. The increasing empty silence of our woodlands is a sign that our world is less healthy, and is a testament to our failure to act.

Our failure to maintain a diversity of habitat types in our forests is benign neglect for those wildlife species needing young forests to survive. A managed forest is still a forest, if left to be a forest after a natural or manmade disturbance. The key is to keep our forests as forests and not let them disappear under a growing sea of asphalt or be converted to some other nonforest land use. An active timber management program under the guidance of professionally trained natural resource managers perpetuates a renewable resource while maintaining a diversity of habitats for wildlife.

Steve Backs is a Wildlife Research Biologist and Statewide Ruffed Grouse Project Leader with the Indiana Division of Fish and Wildlife.

Editor's note: this story was reprinted with permission, originally published in the Ruffed Grouse Society magazine. www.ruffedgrousesociety.org/

***Forest Management** (cont'd from page 1)*

right thing to do on private land, and it is the right thing to do on our State Forests. As the only division in the DNR with a mission that allows for timber management, the State Forests in Indiana have the unique opportunity to manage for early successional forest on a scale that state parks and nature preserves cannot, and in a landscape context and scale that private forestlands do not provide. Timber management allows the Division of Forestry to alter the composition and structure of the forest to benefit declining wildlife species, declining forest community types and threatened and endangered species. The added benefit is that commercial timber harvesting pays for the habitat management and forest restoration that so many wildlife species in Indiana desperately need to survive and thrive.

The Woodland Steward Newsletter is celebrating 25 years of producing accurate, creditable and timely information for woodland owners in Indiana. Over the past 25 years, we have strived to maintain the Woodland Steward Newsletter as a free publication for woodland owners. This is only possible through the financial support of our member organizations, direct support from Soil and Water Conservation Districts, business card ads and donations from you, the woodland owner. Over the next year, we will further explore the reasons why forest management is the right thing to do on public and private land in Indiana.

There is a donation envelope included with this newsletter. The Woodland Steward Institute would appreciate your donation to ensure that this newsletter continues to be mailed to woodland owners three times in 2016. Relying on the Woodland Steward Newsletter as a source of timely, accurate and science based information is a good way to ensure you do the right thing when managing your woodland. Thank you for your support in 2015 and please consider supporting us with a donation in 2016. If you want to find us or donate online go to *www.inwoodlands.org*.

Dan Shaver, WSI President

Property Tax Assessment of Indiana's Woodlands

By Brenda Huter

Land in Indiana is assessed for property taxes according to how the land is used. Woodlands are no different. Woodlands are typically assessed as either residential or agricultural. The size of the parcel does not determine how the woodland is categorized. Enrollment in the Classified Forest and Wildlands Program can reduce property assessment below residential or agricultural assessment.

Residential: When a woodland is used primarily for residential purposes (home sites, recreation, privacy buffers, wildlife viewing), the woodlot should be assessed as residential or residential excess acreage. There does not have to be a house on the property in order to be assessed as residential. Residential land is assessed by the true market value. True market value is determined by using recent local sales of similar property.

For example, a 20-acre woodland is used as a hunting retreat. Based on recent sales in the vicinity, the market value is $3,000/acre. The assessed value of the residential woodland is 20 acres x $3,000 =$60,000 assessed value.

Agricultural: Woodlands grown to produce timber or other forest products should be assessed as agricultural lands. If the forest is part of a larger farm, it should be assessed as agricultural woodland. If the woods is not part of farm, county assessors may ask for documentation to show that land is being used for an agricultural purpose – records of previous timber sales, a forest management plan listing timber production as a primary goal, contracts with a forester or other forestry professional, and receipts for forest management related products (i.e. herbicide, stone).

The assessed value of an agricultural woodland is determined by multiplying the year's agricultural base rate by a soil productivity factor (ranges from 0.5 for poorest

Assessment Type	Assessed/Acre	Tax Due/Acre** 1% Tax Rate	Tax Due/Acre 1.5% Tax Rate	Tax Due/Acre 2% Tax Rate
Residential	$1,000 - $10,000	$10 - $100	$15 - $150	$20 - $200
Agricultural Woodland*	$410	$4.10	$6.15	$8.20
Classified Forest & Wildlands (current $1/acre assessment)	$1	$0.01	$0.02	$0.02
Classified Forest & Wildlands (2017 $13.29/acre assessment)	$13.29	$0.13	$0.20	$0.27

* Based on 2015 Agricultural Base Rate of $2,050 and a Soil Productivity Factor of 1.
** Tax Due/Acre is rounded to the nearest cent.

soils to 1.28 for the best soils) and then reducing the value by an influence factor. Agricultural woodlands receive an 80% influence factor deduction.

For example, a 20 acre woodland is managed for timber according to a forest management plan. The soil has a productivity factor of 0.9. The assessed value of the woodland is calculated below:

20 acres x $2,050a agricultural base/acre x 0.9 soil productivity factor = $36,900

$36,900 - ($36,900 x 0.8 woodland influence factor) = $7,380 assessed value a

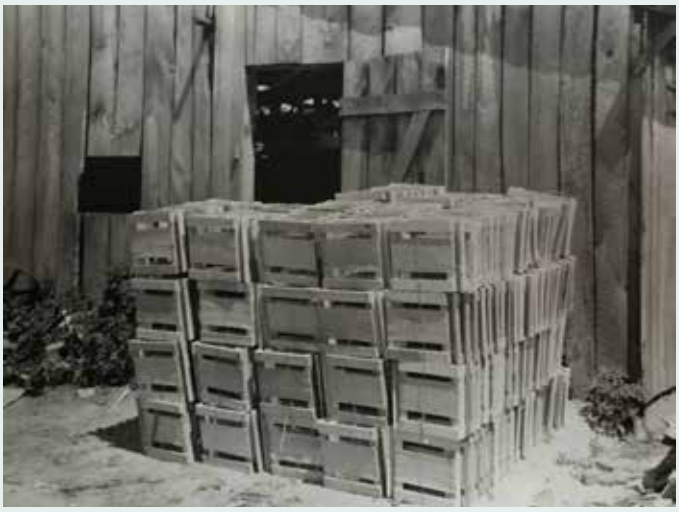
This is the agricultural base for 2015.

Classified Forest & Wildlands Program: Landowners can reduce their property taxes by enrolling in the Classified Forest & Wildlands Program. The program, administered by the Indiana Division of Forestry, gives landowners a property tax incentive in return for managing their land according to a professionally written management plan focusing on timber, watershed protection, wildlife habitat, and the owner's objectives. It currently reduces the assessed value for the enrolled acres to $1/acre. In 2017, the assessed value for classified land will increase to $13.29 and then adjust each year for inflation. To be eligible for the program the property must contain at least 10 contiguous acres of forest, grassland, shrubland and/or wetland. Enrolled land cannot have any buildings, cannot be grazed or used to grow crops. Once classified the status stays with the land until an owner takes it out. There are penalties to remove land from the program: an amount not to exceed the last ten years taxes(taxes that would have been paid if not in the program) plus 10% interest and $50 per acre plus $100 administration fee per withdraw. More information about the Classified Forest & Wildlands Program visit *www.in.gov/dnr/forestry/4801.htm.*

Taxes: Some landowners mistakenly think that the assessed value is the amount of taxes they pay. The amount of tax due is calculated by taking the assessed value by the tax rate. The table below provides examples of tax due for residential, agricultural, and classified land.

Brenda Huter is a Forest Stewardship Coordinator with the Indiana Division of Forestry.

Days Gone By



Soft maples and beech were used for basket stock. Loggers cutting out the crotch in a maple tree to increase the quality of logs sent to Redmonds mill (left). Melon crates made from gum or soft maple stacked at Farrell's Sawmill in Decker, Indiana. (Both pictures by Roy C. Brundage, undated).

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