The WOODland Steward

Promoting the Wise Use of Indiana's Forest Resources

2014 Indiana Consulting Foresters Stumpage Timber Price Report

This stumpage report is provided annually and should be used in association with the *Indiana Forest Products Price Report and Trend Analysis* published in the Fall issue of the *Indiana Woodland Steward*.

Stumpage prices were obtained via a survey to all known professional consulting foresters operating in Indiana. Reported prices are for sealed bid timber sales only (not negotiated sales) between a motivated timber seller and a licensed Indiana timber buyer. The data represents approximately 10 to 15 percent of the total volume of stumpage purchased during the periods from April 16, 2013 through April 15, 2014. This report has been published annually since 2001.

The results of this stumpage price survey are not meant as a guarantee that amounts offered for your timber will reflect the range in prices reported in this survey. The results simply provide an additional source of information to gauge market conditions.

Information on the categories of timber and data reported in this article may is available in the online version at inwoodlands.org.

Sale Activity Continues to Increase: Eighteen consulting firms reported data in 2014, compared to 17 firms in 2013. Annual reporting during 2009-12 included 16 to 21 firms. Fourteen firms that have reported since 2011 showed an increase in the number of sales from 277 to 318 sales during the period. All consultants that reported had sales in this reporting period.

In 2014, 330 sales compared to 289 sales in 2013; sales from 2008-12 ranged from 206 to 290 (Figure 1). The approximately 15% increase in the number of sales is likely due to the strong timber markets and an increase in landowner awareness of forest health concerns, particularly emerald ash borers. These sales figures and the data presented below do not include negotiated sales. In 2014, firms reported 14 negotiated sales with 1,323,866 board feet selling for a combined \$400,885. This was a slight increase from 2013 (13 negotiated sales; 1,308,470 board feet; \$303,300).

There were 100 high quality sales during the 2014 period compared with 80 sales in 2013 and 101 sales in 2012. A total of 178 medium quality and 52 low quality sales were reported for 2014. Average quality sales numbered 167 and 157 in 2013 and 2012, respectively. Reported lower quality sales were 43 and 32 in 2013 and 2012, respectively. The steady increase in the lower and average quality sales over the past few years is a good indicator of the market strength. The number of high quality sales doesn't follow market conditions as closely.

Bidding Increases But Still Down From Historical Average: In 2014, a total of 1,523 bids were received on all 330 sales for an average



Keep your eyes open for marbled salamanders. Unlike most other salamanders, they breed in the fall and lay eggs on dry land.

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visit us online at www.inwoodlands.org

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Calendar of Events

September 6

Nature Daze

9 AM - 3 PM

Free, with lunch.

Camp Rancho Framasa, Brown

County

See www.bcnwp.org.

September 20

Forestry field day

9 AM – Noon EDT

Pierceton, Kosciusko County

Contact 219-843-4827 for info.

September 25

Forestry field day

10 AM - 2 PM

Rush County

Call 765-544-2051 ext 2 for info.

September 27

Forestry field day

1 PM CDT - 5 PM CDT

Free, includes dinner.

Lamar, Spencer County

September 27

IHLA Forestry Council (formerly

IFIC) annual meeting

Morgan-Monroe State Forest Call 317-875-3660 for info

September 27

2 PM - 6 PM

50th Anniversary of Wilderness

Act - Wonders of Wilderness

Charles C. Deam Wilderness, **Hoosier National Forest**

7 PM

Hardin Ridge Recreation Area, **Hoosier National Forest**

For more info see http://www. fs.usda.gov/detail/hoosier/newsevents/?cid=stelprd3797953

September 30

Sycamore Land Trust Workshop for Landowners

5:30 PM

Harrison County

Contact 812-336-5382 or info@

sycamorelandtrust.org.

October 4

Family Fun in the Forest field day Murray Park, Bedford, Lawrence

Call 812-863-7272 or email forester@custom.net for info.

October 4

Walnut Council forestry field day Thorntown, Boone County Call 765-583-3501 for info.

October 14-15

Indiana Urban Forestry Council Fall Conference

Indianapolis

See www.iufc.org for info.

October 27-31

Chainsaw and Logger Training Jackson-Washington State Forest

Brownstown

Call 317-875-3660 for info or see www.ihla.org.

November 7-8

Indiana Forestry & Woodland

Owners Association annual meeting Turkey Run State Park, Parke County See www.ifwoa.org or call 765-583-

3501 for info



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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.



Price Report (cont'd from page 1)

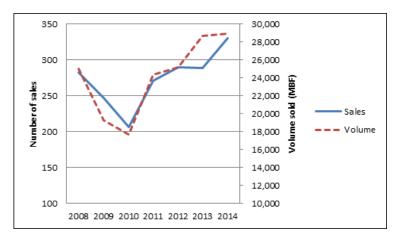


Figure 1 – Number of reported timber sales and volume sold reported by year (2008-14).

of 4.6 bids per sale, a significant increase from the 4.2 bids per sale in 2013 but still down from the average of 4.9 bids per sale and 5.1 bids per sale in 2012 and 2011, respectively (Figure 2). The number of bids is also significantly lower than averages from all sales since 2000 (5.1 bids per sale).

The 2014 average of 4.6 bids offered per sale includes 5.8 for high quality, 4.4 for average quality, and 2.9 for low quality. The 12-year averages are 6.2, 4.7, and 3.2 bids per sale for high, average and low quality groups, respectively.

The reduction in bids the last couple years is likely due to an increase in the volume on the market, and a higher number of lower and average quality sales which historically draw less interest (i.e., fewer bids). The decline over the 12-year average is due to a decline in the number of sawmills and producers that were unable to survive the recent recession.

Sales Volume Stays High: The total stumpage volume 28,931,192 board feet (BF) sold during this period is up from 2013 – 28,650,085 BF, 2012 – 25,164,871 BF, and 2011 – 24,367,251 BF. This is up considerably from the 17,687,648 BF reported during the 2010 reporting period and 19,256,439 BF reported in 2009. The volume of timber reported is also up from the volume of around 25 million board feet sold in 2008 and 2006 (pre-recession).

The volume of high quality sales totaled 8,583,450 board feet (plus 104,200 BF negotiated) is very similar to levels for the last few years (2011-13), but still below the 10 million board feet levels of 2008 and 2006. Average quality sales totaled 17,690,376 board feet (plus 633,890 BF negotiated) and were up slightly from 2011-13 (14,077,574 to 16,811,195 BF), but up considerably from the 11 to 12 million board feet from 2006-10. Part of the change in the volume of high and average quality sales since 2008 is due to shifting the ash from the high quality to the average

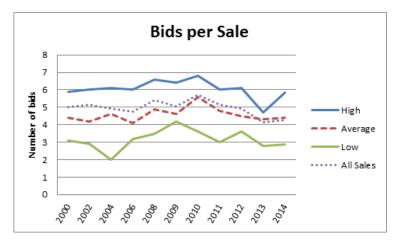


Figure 2 – Average number of bids per sale by sale quality and year.

quality category. Lower quality sales dropped slightly from 2,657,366 board feet (plus 585,776 BF negotiated) from 2013 (3,113,243 BF; especially with an increase in the volume of negotiated sales of over 220,000 BF), but still up considerably from 2011 (2,065,026 BF) and 2011 (1,690,740 BF), but very similar to the 3 million board feet reported in 2006, 2008-09 when negotiated sales were included.

Value: Total timber value sold in the 2014 reporting period was \$12,363,424 (plus \$400,885 negotiated sales), an increase from 2011-13 (\$10,494,377 to \$10,678,849) and up considerably from 2010 and 2009 (\$6,889,190 and \$7,278,302, respectively). Value of high quality sales in 2014 (\$5,155,836 plus \$80,000 negotiated) was up from 2013 (\$4,171,085) and 2012 (\$4,968,313), but down slightly from 2011 (\$5,257,530). For average quality sales, the value in 2014 was \$6,661,852 (plus \$214,836 negotiated sales). This figure was up from 2013 (\$5,689,825), 2012 (\$5,118,780), and 2011 (\$5,052,387). Value of low quality sales in 2014 (\$625,736 plus \$106,049 negotiated) was similar to 2013 (\$633,467) and up considerably from 2012 (\$472,184) and 2011 (\$368,932).

Stumpage Prices Return to Prerecession Levels: The average stumpage price for this period for the each category was very similar to the prerecession levels seen in 2008. High quality 2014 – \$591/MBF vs. 2008 – \$591/MBF, average quality 2014 – \$377/MBF vs. 2008 – \$382/MBF, and low quality 2014 – \$235/MBF vs. 2008 – \$213/MBF. The average for all sales was down slightly in 2014 (\$427/MBF) compared to 2008 (\$448/MBF), but were equal to 2006 (\$427/MBF).

Last year the data appeared to show a drop in the stumpage prices for timber sales which contradicted the comments from most consultants. That decline was in large part due

Price Report (cont'd from page 3)

to the reluctance of many consultants to sell certain timber during 2009 and 2010. This created a backlog of very high quality sales, particularly sales with black walnut or larger white oak and resulted in a larger number being sold in 2011-12. This year there were 13 sales (3.9%) that brought over \$1.00 per board foot, up from the 3 sales (1.0%) in 2013 but much lower than the 16 sales (5.5%) in 2012 and the 19 sales (7.0%) in 2011.

The number of low quality sales continued to increase with 52 sales reported in 2014. This number has steadily increased since the recession began with 25 sales in 2011, 32 in 2012, and 43 sales in 2013. The number of high quality sales also increased to 100 sales, up from 80 sales in 2013 and nearly identical to the 101 sales in 2011-12. The markets for the higher quality timber improved quicker than the average and lower quality timber sales.

One of the most important factors on when to sell a specific tree is the condition of the tree – Is the tree increasing in value or declining? Is its condition (health and vigor) going to improve, decline, or stay the same? What impact will that tree have on the future stand (is it competing with a better future crop tree or will it be a benefit or negatively impact natural regeneration)?

Stumpage Prices: The stumpage prices varied for all sales, high quality sales, average quality sales, and low quality sales held from April 16, 2013 thru April 15, 2014 (Figure 3). High quality sales generally have a wide range of stumpage prices due to higher quality timber or potential veneer which can greatly influence stumpage price. All sales, low, average and high quality can be affected by sales with a potential veneer component. It is important for landowners to realize their timber typically will fall within the range of stumpage prices, but probably will not fall into the outlying values. This makes it important to work with a professional forester when selling timber so that you know what you have. For example, a few walnut trees can greatly distort the value of a low quality improvement sale that is dominated by low-value pallet material.

The weighted average stumpage price by sale type (obtained from this survey in 2000, 2002, 2004, 2006, 2008, 2009, 2010, 2011, 2012, 2013, 2014) is reported in Figure 4. The weighted average of the stumpage price is the total value (\$) for each sales group (high, average, low) divided by the total volume by sales group. The median stumpage price by sale type per year is also reported in Figure 4. The median price is the amount where half of the sales are higher and half are lower. The price reported is per 1,000 board

feet (MBF) of standing timber. To obtain a price per board foot, divide the price by 1,000. An average price of \$377 per thousand (MBF) is the same as 37.7 cents per board foot stumpage. The average stumpage price for all sales was \$427/MBF in 2014. See Table 1 for a statistical summary of all three sale types.

High Quality Sales: The average stumpage price of high quality sales was \$591/MBF, up considerably from the stumpage price of \$478 MBF in 2013 but similar to the prices reported in 2012 (\$573/MBF) and 2011 (\$589/MBF) and equal to the price reported in 2008 (\$591/MBF), prior to the recession. The median stumpage price this year of \$583/MBF is also up significantly from the 2013 stumpage price of \$485/MB, but very similar to the prices in 2012 (\$568/MBF) and 2011 (\$592/MBF) (See Figure 4).

Average Quality Sales: The average stumpage price for average quality sales was \$377/MBF, up significantly from \$338/MBF in 2013 and nearly as high as the level in 2008 (\$383/MBF) prior to the recession. This is the third highest level reported since the survey began in 2000. The highest stumpage price reported was in 2004 at \$433/MBF. The median price was \$368/MBF up somewhat from \$354/MBF last year. This is the highest level since 2004 (See Figure 4).

Low Quality Sales: The average stumpage price for the low quality sales was \$235/MBF, up considerably from \$203/MBF last year and up slightly from in 2012 (\$229/MBF) and 2011 (\$218/MBF). The median price was \$234/MBF which also was up from 2013 (\$202/MBF), 2012 (\$229/MBF), and 2011 (\$217/MBF). The stumpage prices are the third highest reported since the price report began in 2000 with only 2010 and 2004 reporting higher prices. In 2010 the stumpage price (\$239/MBF) was slightly higher than this year but the volume of timber sold was considerably lower, thus driving up the price. The stumpage prices reported in 2004 for low quality sales were the highest (\$266/MBF) since the survey began. The 2004 prices reported were the also the highest for all categories (See Figure 4).

Summary:

Timber Markets: This year's data indicates that overall markets are very positive. Prices, for the most species, have returned to levels prior to the recession (although not quite to the housing boom levels) so more timber is going on the market. The larger trees and better quality timber has the most demand as usual. Demand for some species, such as black walnut, white oak, and hickory is strong. Red oak and sugar maple are in more demand and the prices continue to improve. Good "white" soft maple continues to do well. Emerald ash borers continue to spread across the state with

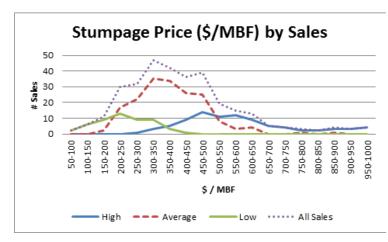


Figure 3 – Stumpage prices by number of sales for all sales and by sale quality and type, 2013.

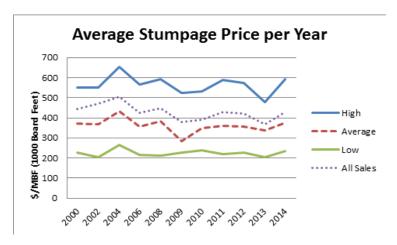
mortality visible in most areas, negatively affecting the ash prices. Black cherry markets continue to improve but they are still down from historical highs a few years ago.

World Market: Fortunately much of the timber from Indiana is high quality and in demand throughout the world and Indiana's forest industry has positioned itself well to compete in the global marketplace.

Lower Quality Sales: Demand for low quality timber has been very strong this year, particularly if the timber is near the mill or if good access is provided. However, the higher operating costs associated with fuel prices are still having an impact on the prices paid. It is important to remember that low quality sales are generally improvement cuts where trees are harvested that are impeding the growth of future higher value crop trees, therefore, the opportunity costs of leaving the trees may cost more in lost productivity of crop trees, so it is often not advantageous to delay selling lower quality if the price is reasonable.

Smaller Inventory: The industry still seems to be carrying a smaller inventory than they did prior to 2008 so they continue to cut sales quicker than in the past, creating more of a spot market for timber sold. Most, if not all, of the consultants are moving forward with sales that they delayed due to the recession although there is still some reluctance to market black cherry.

Forest Health Concerns: In today's global economy we continue to be impacted by new, often exotic pathogens that threaten the forests. Emerald ash borers, Asian long horned beetle, and thousand cankers disease are potential threats that could or are causing significant problems. It is important to be aware of these threats but also to understand that these threats may or may not be imminent. Forest health issues make professional advice even 'more important to get an



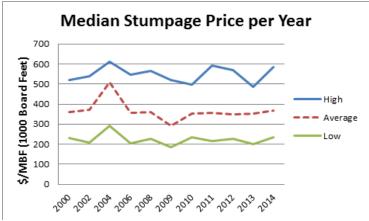


Figure 4 – Average (top) and mean (bottom) stumpage price by year.

unbiased update on the current status of each threat as it relates to your property.

The comment section below is offered to our readers by the consulting foresters who participated in this survey:

- Ash markets continue to be impacted by the spread of emerald ash borers throughout the state. The markets depend on how long trees have been infested and the size and the quality of the trees. The value tends to drop drastically when the bark sloughs from the tree.
- White oak demand is still strong, especially for quality or larger quarter sawn logs.
- Sugar / Hard Maple continues to improve, especially in areas that tend to produce white wood. Good market for sugar maple especially if it is clean.
- Soft maple is moving very well, especially if white.
- Black cherry markets are still improving but not where they were.
- Black walnut markets extremely good at present. Walnut was in high demand over the winter months and the spring of 2014.

Price Report (cont'd from page 5)

Table 1. Statistical Summary	for High. Average	. and Low Ouality Sealed Bid	Timber Sales, April 16.	2013 thru April 15, 2014
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High (100 sales)			Average (178 sales)				Low (52 sales)					
	BF	Price	Bids	\$ MBF	BF	Price	Bids	\$ MBF	BF	Price	Bids.	\$ MBF
Total	8,583,450	\$5,075,836	585	\$591	17,690,376	\$6,661,852	788	\$377	2,657,366	\$625,736	150	\$235
Low	6,132	\$5,700	2	\$290	10,159	\$3,876	1	\$155	10,803	\$1,500	1	\$74
High	375,876	\$251,205	13	\$8,387	607,430	\$267,858	11	\$876	199,998	\$45,678	6	\$413
Mean	85,835	\$50,758	5.85	\$591	99,384	\$37,426	4.43	\$377	51,103	\$12,033	2.89	\$235
Median	67,698	\$41,937	5	\$583	75,334	\$27,838	4	\$368	37,783	\$9,721	3	\$234

- Red oak has been moving well although the markets are still a little volatile. A lot of talk about red oak pricing increases. Demand for red oak is improving, especially for larger quality timber.
- Tulip (poplar) affected by past drought is causing dieback and mortality showing up this spring in southwest Indiana IN. I am not happy about how hard I must thin the tulip stands, but the injury is so severe that they must go. Loggers will have to cut sales heavy to poplar/tulip asap. Demand remains strong despite high production, but some mills are asking for less.
- Hickory markets are very good, especially if large clean trees.

General Market Comments:

- The timber market is very strong at the present time.
 Landowners who have been holding off on selling trees should give serious thought to getting some professional advice during this high price market.
- Timber markets have improved over the last year.
 Good quality red oak, white oak, and walnut sold very well.
- Smaller trees are harder to sell with buyers more interested in larger trees.
- Larger diameter trees in high demand due to lower production costs.
- Higher quality sales with larger timber continue to draw more interest as usual
- Better access and contract terms continue to result in higher stumpage prices
- Good access draws more interest due to the rough winter and a reluctance of farmers to give up access through crop ground.
- Demand strong for low grade timber especially when it's close to the mill.
- Sales are heavy for Ash and Poplar/Tulip for obvious reasons (see above).

General Management Comments:

- Woodland clearing (converting to cropland) is even more widespread due to high corn and soybean prices.
- Invasive plants (bush honeysuckle, tree-of-heaven) continue to spread at disastrous levels overrunning unmanaged woodlots. Too many stands are being cut with no thought of control and the stand is overrun within a year or two of the harvest, negatively impacting the long term health and productivity of the woods.
- Seeing a lot more high-graded woods where young walnuts are cut prematurely.
- Seeing more cut over stands with diameter limit cuts common.
- Seeing more equipment upgrades in the field with existing logging crews adding more machines and personnel.
- Seeing a shortage of producers (loggers) to meet demand. Mills says they could handle more input but there seems to be inadequate number of crews.

Consulting Foresters that have contributed to this report in alphabetically order include: Arbor Terra Consulting (Mike Warner), Crowe Forest Management LLC (Tom Crowe), Christopher Egolf, Gandy Timber Management (Brian Gandy), Glen Summers, Gregg Forestry Services (Mike Gregg), Habitat Solutions LLC (Dan McGuckin), Haubry Forestry Consultant, Inc. (Rob Haubry), Multi-Resource Management, Inc. (Thom Kinney and Doug Brown), Meisberger Woodland Management (Dan Meisberger), Pyle Timber Sales and Management (David Pyle), Quality Forest Management, Inc (Justin Herbaugh), Ratts Forestry (Chuck Ratts), Schuerman Forestry (Joe Schuerman), Stambaugh Forestry (John Stambaugh), Steinkraus Forest Management, LLC (Jeff Steinkraus), Turner Forestry, Inc. (Stewart Turner), and Wakeland Forestry Consultants, Inc. (Bruce Wakeland).

Regeneration Cutting on Private Woodlands – Is It For You?

By John Stambaugh

Historically, surveys of those who own woodlands show they do so for a host of reasons. As a forester and woodland owner I am always curious about what these trends are telling us. Today the surveys show that we place very high emphasis on matters relating to wildlife and biodiversity. In fact, protecting wildlife habitat, viewing wildlife, and offering biodiversity rank among the top reasons people own woodlands.

Most woodland owners realize how vital habitat diversity is to our native wildlife, but we have also come to understand how important it is to our own health, contentment, and prosperity (clean air, water, and recreation). This was not the case during the settlement period in Indiana's history. Up until the beginning of the past century, the habitat we cherish now – wetlands, bogs, swamps, prairies, and forests comprised of massive trees - were considered obstructions to progress. The flood of settlers needed fields and pasture to survive – not habitat. So they cleared the great forests, drained the wetlands (4.79 million acres in Indiana alone), and extirpated much of the wildlife from the landscape. In time, however, during the Great Depression descendants of the settlers were driven from vast regions of those lands due to infertile soils from years of abuse.

Today we know better. We have a much greater understanding of conservation and our dependence on healthy, diverse landscapes. Great strides have been made during the ensuing decades by foresters, other natural resource professionals, and impassioned citizens to mitigate these mistakes through valuable conservation efforts. During this time of recovery our forests reclaimed large segments of their former domain, but in the process have developed to the point where we now have an abundance of mid-mature to mature forest types and a shortage of very young forests. Why is this important?

Young, early successional habitat is vital for a host of native wildlife species including ruffed grouse, woodcock, many migratory songbirds (for example, Eastern Towhee, Yellow-breasted Chat, American Redstart, Bell's Vireo, and Blue-winged Warbler), cottontail rabbit, bats, Lepidoptera (moths and butterflies), a host of small mammals, and reptiles. Research suggests that young forests benefit mature forest birds by providing food sources for fledglings those important for building up fat reserves prior to migration.

Where You Come In

So what can private woodland owners do to create this vital habitat on their land?

There are many factors that are specific to your property to consider when answering this question. Therefore, the first step is to seek the assistance of a professional forester to help guide you in the planning process.

In those landowner surveys, managing woodlands to sustain the health and vigor of the timber resource is also a priority to landowners. When conducting forestry practices, including planned sales and timber harvests, using the advice of your professional forester is crucial to maintaining your woodland's health and productive capacity. For example, professional foresters have helped many landowners oversee harvests on woods impacted by Emerald Ash Borer or injury from the 2012 drought.

Like us, woodlands have a past, but each is unique. In their case, this depends on who owned them, past uses and abuses, and the frequency and intensity of historical natural disturbances. Consequently, the management needs of each stand can vary widely. Once your forester has the opportunity to visit your land to view the current state of affairs, he or she may recommend some level of regeneration cutting in a specific area.

Regeneration Cutting as a Management Tool

Regeneration cutting is a tool, just like selective cutting, used to attain desired results. There are three types of regeneration cutting methods typically used in this region: Clearcutting, Shelterwood, and Seedtree. Depending on the method recommended by your forester, the process involves removing some or all the trees in certain regions for desired purposes.

Some of the conditions that could be present leading your forester to suggest regeneration cutting include:

- 1. Poor sites populated by trees struggling to develop
- 2. Over-mature or declining Oak/Hickory stands preferably with advanced regeneration (seedlings of desired species already present)
- 3. Stands with a history of being high-graded or abused
- 4. Regions where you want improved hunting and wildlife viewing

cont'd on page 8

Regeneration Cutting (cont'd from page 7)

- 5. Softwood (pine) stands you wish to convert to native hardwoods
- 6. Sites that join older openings or field edges (improved biodiversity)

Following a regeneration harvest, by the end of that first growing season there is a remarkable flush of new growth in the form of annual, perennial weeds, tree and shrub seedlings, berries, and other flora due to the abundance of full sun. Larger openings expose more soil to the sun, and thus, create a large, diverse young forest. This process replicates historical disturbances that we now keep in check,



Property A (Monroe Co.)

Pre-harvest condition

- a. 4,900 bf/ac
- b. South facing, poor, eroded clay site, Oak-Hickory, mixed with Red and Sugar maple, Ash, Tulip
- c. Few trees over 20" dbh
- d. Several selective cuts in the previous 30 years had left a stand of primarily lower grade, defective trees.

Landowner objectives.

- a. Owner seeks productive, high quality stands
- b. has an avid interest in creating more grouse habitat (early-successional habitat) on a property that presently has a dwindling grouse population

Harvest details

- a. Cut in the fall of 2005
- b. Grapple skidder used.
- c. 7 ac opening created
- d. TSI was performed following the harvest
- e. Purposely left behind some large snags for wildlife

Post-harvest condition today

- Heavily stocked with large sapling and post sized trees. High component of Oak and Hickory, plus Tulip, Cherry, and Ash.
- b. Rapid growth continues

and ultimately, is also beneficial for creating even-aged stands of high quality hardwood timber later.

Here are just some of the potential benefits of using regeneration cutting as a management tool in portions of your forest:

- 1. Create young, early-successional habitat
- 2. Increase biodiversity
- 3. Establish diverse stand ages and development classes
- 4. Improved recreation: hunting and wildlife viewing
- 5. Converts low quality, or under-producing stands to vigorous stands of higher productivity and health
- 6. Reduces harvest impacts and volume demand on remaining forest land



Property B (Greene Co.)

Pre-harvest condition

- a. 10.800 bf/ac
- b. Dominated by over-mature, deteriorating Black oak and Hickory growing on a slightly SE facing, severely eroded clay site.
- c. Thin soils with rock outcroppings
- d. Growth had slowed markedly
- e. Heavy green briar understory. History of grazing
- High component of advanced regeneration of oakhickory

Landowner objectives

- a. Reestablishing a productive, healthy stand.
- b. Create diverse wildlife habitat
- Improve hunting opportunity for hunters who pay for a lease

Harvest details

- a. 4.3 ac opening
- b. Cut in the Fall of 2010
- c. TSI followed harvest

Post-harvest condition today

- a. Strong oak-hickory regeneration
- b. Joins mature forest for greater biodiversity

Regeneration Cutting (cont'd from page 8)



Property C (Greene Co.)

Pre-harvest condition

- a. 9.700 bf/ac
- a. Mature to over-mature White. Black Red oak and hickory. Included White oak veneer trees
- c. West facing slope

Landowner objectives

- a. Minimize amount of harvesting on remaining woodlands.
- b. Receive timber income
- c. Make the opening large enough to develop a viable replacement stand
- d. Create early successional habitat

Harvest details

- a. Cut in the fall of 2005
- b. 3.5 acre opening
- c. TSI followed the harvest
- d. Some snags were left behind

Post-harvest condition today

- a. Heavy Tulip, Cherry, Ash regeneration with an Oakhickory component spread throughout
- b. Mature forest surrounds opening, large creek 300' away, tremendous biodiversity

- 7. Isolates potential entry of invasive plants (limits disturbance to the openings)
- 8. Creates conditions for a superior stand of timber later
- 9. Improved logging efficiency

I am finding over time that more landowners are quite receptive to performing this practice on their land. Here are three examples of landowners using a regeneration harvest within their woodlands to achieve desired results.

Conclusion

Of course there are instances where a particular woodland has no need for regeneration cutting. The practice should only be used where it has a need on the landscape and also meets the objectives of the woodland owner.

When following the recommendations of your forester to use regeneration cutting as part of your woodland management program, you can greatly enhance the diversity of the habitat on your property to benefit wildlife, while at the same time improve the growing stock of your timber resource.

Note: Examples taken from Hefner Timber LLC and D & C Dodrill

John Stambaugh is a consultant forester with 25 years' experience in Indiana. He is a board member of the Woodland Steward Institute, representing the Indiana Society of American Foresters.

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MyLandPlan.org - map, plan and track your Indiana land

By Jon Marshall

To help make it easier and more fun for woodland owners to develop management plans, the American Forest Foundation and Mishawaka, Indiana-based DJ Case & Associates developed MyLandPlan.org. More than 6,000 woodland owners have taken advantage of the tool so far.

MyLandPlan.org is an easy-to-use online application that can help you explore what you want to do with your land and track progress toward your goals.

Mapping

The most popular feature on MyLandPlan.org is interactive mapping. After you have plotted your property boundaries using an intuitive drawing interface, you can map the various features of your property from a palette of drawing tools. Plot out stands of trees, crops, trails, food plots – any current feature or future condition you want to plan for.

Identify Goals and Plan Activities

MyLandPlan.org is structured around a very basic premise:

What do you want to do with your land?

- Enjoy it
- Protect it
- Make it healthy
- Profit from it
- · Pass it on

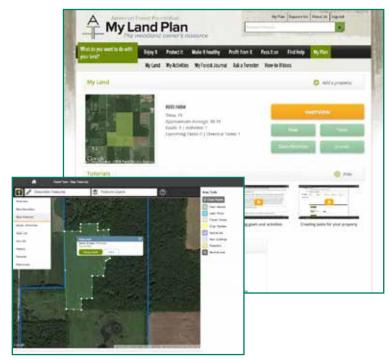
Based on how you answer this question, the application helps you identify goals and plan activities tailored to your land and your individual interests.

If you primarily want to enjoy your land, the application presents goals, activities and information for recreational pursuits like deer hunting, hiking and wildlife watching.

If are driven by creating a healthy landscape, MyLandPlan.org guides you toward information about things like preventing invasive species and restoration of native plants. And if you want to profit from your land, the application offers ideas for improving your long term investment.

Plan and Track Tasks

Create a record of the work you do on your land and/ or set up reminders so that you don't forget to accomplish tasks you want to complete. If you need to remember to order seedlings in the fall, set a reminder and MyLandPlan. org will notify you when the time is right. Keep an ongoing record of the tasks you complete for you and the rest of your family.



MyLandPlan is a resource for woodland owners, by woodland owners to help you protect and enjoy your woods.

Among other features, landowners can draw and save property boundaries and important habitat features (inset).

Record Experiences

Since managing your land is not just about work, MyLandPlan.org provides a journal to record your personal experiences and photos. Use it to record wildlife sightings, bloom times, weather events or memorable outings with family and friends.

Tell Your Land's Story

Record the history of your land for yourself and for your heirs. MyLandPlan.org features a section for writing down the unique story of how your land came into your family and how it has changed over time. Upload photos past and present.

Locate and Consult with Pros

Use MyLandPlan.org to locate a professional forester or wildlife biologist in your area. If you find a professional you want to work with, you can submit your plan (your selected goals and activities) directly to the pro to jumpstart the consultation process.

(If you are a forester or wildlife biologist, you may submit your profile information to MyLandPlan.org so that woodland owners can find you. Contact Caroline Kuebler at CKuebler@forestfoundation.org to find out how).

Water Bar for Continuous Use Road

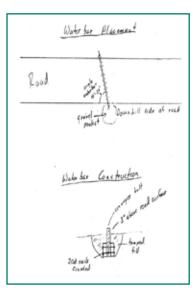
By Robert Woodling

Best Management Practices often times call for the construction of water bars for skid trails, access roads and haul roads. The industry standard in Indiana is to construct these water diversions using the blade of a cable skidder to create a dip and mound to slow the momentum of water flowing down the skid trail. When constructed properly these mounded water bars do a decent job of preventing erosion of the closed out skid trail. But what if you intend to convert the skid trail to a permanent access road into your woods? Mounded water bars only work when machinery does not traverse the mound. When vehicles travel across the mound, tires and tracks compress the mounded soil and the mound is soon compromised.

After the last commercial harvest of my woodlot I went searching for a way to construct a water diversion that would stand up to daily travel with my crawler and tractor. I found the perfect solution while reading the book 'Positive Impact Forestry' by Thom J. McEvoy. My description of how I built the water bars follows. For more in-depth instructions and discussion of this type of water bar and other water diversion techniques go to: http://www.fs.fed.us/eng/pubs/pdf/w-r/98771804.pdf

The Conveyor Belt Water Bar (or how to install and upside down squeegee)

The construction of the water bar utilizing recycled rubber belting is very straight forward. The most difficult aspect of the project is locating the rubber conveyor belt. I found my supply at Ashmuth Belting Co. in Kenosha, WI. Fortunately for me, my wife's family live in the area and I was able to combine a family visit with picking up a roll of used belting. If you do not want to travel to Wisconsin you might be able to pick up some belting from a local rock quarry, crusher, mulch company or any other outfit using a solid rubber conveyor. In addition to the 11-12" wide belting you will need 2x6 lumber, either pressure treated, white oak



Sketched drawing of the water bar placement (top) and construction (bottom).

or black locust, and a supply of 20d nails.

The length of the water bar will be dependent on the width of your access road and the angle of the placement. The water bar should be installed at a 10° to 20° angle across the road. The steeper the angle the higher the velocity of the water moving off the road. The steeper angle does stay somewhat cleaner.

cont'd on page 12

MyLandPlan.org (cont'd from page 10)

Find Local Resources

Based on where your property is located, MyLandPlan. org offers up specific local resources that are helpful to woodland owners.

Get Helpful Advice

Tapping into a large network of forestry and natural resource professionals, MyLandPlan.org features a vast library of information on topics such as:

- Recreational use: Hunting, Wildlife Watching
- Establishing your family's connection with the land
- Pests and Weeds
- Trespassers
- Insurance
- Soil and Water Conservation
- Snags, Logs, and Brushpiles
- Hunting Leases

- Financial Assistance Programs
- Managing a Timber Harvest
- Certifying Your Sustainable Timber
- Conservation Agreements

An "Ask a Forester" forum allows woodland owners to submit questions and consulting foresters to offer advice.

Start Your Land Plan

Plan to be among the best woodland stewards in Indiana. Create a secure account at MyLandPlan.org/signup. If you have questions about My Land Plan, please contact the American Forest Foundation at info@mylandplan.org.

John Marshall is the Media Arts and Sciences Director for DJ Case & Associates. Earlier in his career, Jon supervised public relations and education functions for the Indiana Department of Natural Resources.

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Water Bar (cont'd from page 11)

Once the materials have been gathered cut the belting to the desired length. I found using a jig saw with a leather cutting blade to be the best for cutting the belting. Place two boards on either side of the belting and affix using the 20d nails. Clinch the nails over to prevent any backing out. If using white oak or black locust the holes will need to be pre-drilled.

Installation of the constructed water bar is also



Rubber belting (11-12 inches wide) fastened between two, 2 x 6 lumber with 20d nails.

very straight forward. Dig a trench at the desired angle across the road to a depth that will allow the base of the 'squeegee' to rest on the bottom of the trench with 3" of blade protruding above the road surface grade. Back fill and tamp on both sides of the water bar. On the downslope side (water exit) it is a good practice to dig a pocket and fill with gravel to absorb some of the energy of the diverted water.

The rubber belting will give as vehicles pass over and spring back into position continuing to divert water run-off. Maintenance consists of periodically clearing any sediment that may build up on the upslope side of the bar. Marking the ends of the water bars with flagging is helpful if the roadway will be graded or plowed. The grader blade or plow will need to be raised before striking the water bar and a bit of hand work will be necessary to clear the road surface next to the water bar.

One final note: If using a tracked vehicle with grouser bars avoid turning on the water bar!

Happy stewarding!

Robert Woodland is a woodland owner from Monroe County. He has served as president of the Indiana Forestry and Woodland Owners Association and was the 2009 Regional Tree Farmer of the Year for Indiana and the North Central Region.

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Forestry Best Management Practices

By Brian MacGowan and Duane McCoy

Did you know it can take up to 500 years or even longer to form one inch of topsoil? Rich, fertile soils form the basis for our forests. Their loss can affect forest growth, but also lower water quality from surface runoff. Forest Best Management Practices, or BMPs, are a set of practices designed to control soil erosion caused by human disturbance.

There are many forestry BMPs that are utilized in Indiana. Describing the technical details of them all is beyond the scope of this article. The Indiana DNR Division of Forestry has a more comprehensive guide online at http://www.in.gov/dnr/forestry/2871.htm. However, we describe below some of the more commonly used practices. To the surprise of most people, the cutting of trees in a logging operation has little impact on soil erosion. In fact, logging pales in comparison to other forms of soil disturbance, such as high-tillage agriculture or urbanization. The majority of BMPs for logging operations deal with forest roads and skid trails. Their design, construction, use and maintenance have by far the most impact on what soil erosion could potentially occur due to logging.

Road Design – Roads and trails provide access for logging but also facilitate regular access for many other land uses. For example, access is important for monitoring and controlling invasive species and wildlife viewing. However, landowners should minimize the amount of roads and their width as much as possible. Where you do have roads, keep grades between 2 and 10 percent if possible and avoid environmentally sensitive areas including seeps and waterways. Federal, state and local regulations may limit use and crossings in and around wetlands and some streams.

Steep Slopes – Depending on equipment available and future road use, landowners should install dips, culverts, turnouts, or water bars on sloped roads. The spacing of drainage structures depends on the steepness of the slope. For example, water bars should be placed every 250 feet for a 2 percent grade but every 60 feet for a 15 percent grade.

Stream Crossings – If a road must cross a stream, cross at right angles at a point where the streambed is straight and uniform and limit activities to periods of low to normal flows. A temporary bridge, culvert or ford may be necessary for crossing some streams depending on site characteristics and planned road use. Temporary structures should be removed as soon as their

use is completed.

Use of Roads – Avoid using roads during wet periods. This may cause excessive rutting or erosion and/or may damage other features.

Fuels and Lubricants – Improper handling of fuels, lubricants and other chemicals can contaminate soil and water. Restrict fueling and maintenance activities to a designated area, such as part of a log landing which are typically located away from water and not prone to runoff.

BMPs are recommended

Even Though they were developed in accordance with the US Clean Water Act and in cooperation with the Indiana Flood Control Act, Forestry Best Management Practices are not required by law in Indiana for logging done on private lands. It is up to each landowner to specify their use in the timber sale contract. Clearly, their use helps protect our soil and water resources that we all depend upon. Requiring the use of BMPs on a timber sale could reduce your timber sale income. But in many cases, timber companies are set up and trained to install BMPs and the benefits to soil health and water quality are worth having the BMPs done by the logger at the time of harvest. Some timber companies may not want to bid on your timber if you require them to install BMPs, but if the logging company does not do the BMPs then you may need to do them at your own expense or risk degradation of your roads and trails due to soil erosion.

Installing BMPs on a timber sale is the right thing to do to be a good steward of the land. Many states require the use of BMPs, and the Indiana Classified Forest and Wildlands program and the Forest Stewardship Council requires landowners to control soil erosion. As always, the advice of a professional forester can be invaluable to landowners. See *How to Choose a Forester* in the previous issue for more information.

Brian MacGowan is an Extension Wildlife Specialist with Purdue University's Department of Natural Resources. He also has served as secretary and editor for the Woodland Steward since 2008. Duane McCoy is a Timber Buyer Licensing Forester with the IDNR Division of Forestry and Dan Shaver is a Certified Forester and the Operations Manager for the Forest Bank, a working woodlands program offered by The Nature Conservancy.







Plan Now, Benefit Later: Invasive Species Best Management Practices – Part 1

Alexandra Wardwell

Invasive species cost the U.S. over \$138 billion per year and that approximately 9% of forest products, worth a total of \$7 billion per year, are lost as the direct result of nonnative plant pathogens. If we look at the environmental impacts it is estimated that 42% of threatened or endangered species are classified "at risk" due directly to nonnative invasive species. The detriment of invasive plant species doesn't stop at economics or the environment. Plants like wild parsnip (*Pastinaca sativa*) and giant hogweed (*Heracleum m2antegazzianum*) can both cause burning and blistering of the skin if the oils or sap of the plants get on skin that is exposed to UV light.

Due to these issues, natural resource professionals have developed four tenets of management for invasive species: prevention, early detection, eradication, and lastly, control. The first step to addressing invasive species is taking steps to prevent the introduction of new invasive species if at all possible. Unfortunately, by the time we are aware of the problem, it is often too late for overall eradication and our only course of action is selective control and management on a smaller scale. Once widespread eradication of the invasive species is not feasible we can turn to best management practices or BMPs for guidance as to how to reduce the spread and manage the problem species.

The Indiana Invasive Species Council has a working group called the Invasive Plant Advisory Committee (www.entm. purdue.edu/iisc/plantcommittee.php) that has put together a Top Ten List of Invasive Species Best Management Practices. This list can help woodland owners and land managers make good decisions limiting the introduction and spread of problem species. It is unlikely all ten will be able to be implemented at once but it is a goal to work towards. Choose the easiest of these to implement first and work from there.

- 1. Develop an invasive species strategy that is site specific. Determine what your goals, priorities, and the tactics that are at your disposal or can be used are.
- 2. Give yourself an invasive species knowledge base.

Firstly, it is important to know and understand the lifecycle of invasive plant species present on your land.

- Is it a perennial, biennial, or annual?
- How does it reproduce or spread?
- When does it go to seed?
- When is the best time to control it and how should I do it?

Know where your infestations of different species are. Map them and encourage family, staff, or other users to report them. Document your control projects: include what you did, dates, locations, what you used (if herbicide, list the concentration), weather and soil conditions, asses your results both after treatment and then later after additional growing seasons.

3. Think ahead, pre-plan before making major changes to the land or to maintenance.

Always try to avoid disturbing heavily infested areas when possible. Pre-treat these areas well before the disturbance is set to take place. If possible, conduct activities (mowing, timber harvests, etc.) when the invasive plant seeds are not present and can be spread. An example would be mowing Japanese stilt grass when it is setting seed. The seeds get lodged in the tire treads and other parts of the mower and are subsequently spread to new areas. Whenever possible, use already existing roads, trails, landings, and staging areas to reduce site disturbance.

4. Use plants and plant seeds native to Indiana, make sure they are from "weed free" sources

Use plant species that will do well on the site and conditions. Check to be sure species received are what was requested and ask for guarantees and or make good provisions in sourcing contracts. Use "trusted sources" whenever possible for re-vegetation projects on landings or other disturbed areas.

5. Use uncontaminated construction construction/ landscaping material (gravel, fill, straw, mulch etc,)

Find certified or guaranteed sources where possible and ask for guarantees or make-good provisions in sourcing contracts. One option is creating an on-site source. It is always a good idea to monitor stock piles regularly.

Alexandra Wardwell is the Project Director of Southern Indiana Cooperative Invasives Management or SICIM. SICIM is a non-profit cooperative weed management area that covers 35 counties in southern Indiana. For more information about SICIM please visit our website www.sicim.info.



Ask the Steward

By Dan Ernst



Question: How many Indiana towns are named after trees?

Answer: There are approximately 567 cities, towns and villages in Indiana and I've found 40+ (State Highway map) that have some connection to woodlands or specific trees. With the vast majority of Indiana being forested at time of settlement I expected a good representation. However, given our State's early history where forest land was cleared at a dizzying pace I was not sure what I would find. Among the woodland references are Greenwood, Forest, and Woodburn. There are 30 communities mentioning a specific tree genus or species. They are:

Ash Grove Ashland Beech Grove Beechwood Bur Oak (actually 2 named Bur Oak) Cedar Grove Cedar Lake Cherry Grove Dogwood Fair Oaks Ironwood Linden Oakford Oakland City Oak Park Oak Forest Oaklandon Oakville Oaktown Pine Village Poplar Grove Ouercus Grove Plum Village Sassafras Town of Pines Walnut Grove Walnut Willow Branch Willow Valley

Closing note and an interesting tidbit: By 1900, less than 2 million acres of Indiana's original 23 million

acres or woodlands remained. Through hard times and good conservation efforts, Indiana's forests have rebounded to approximately 4.5 million acres today. On a percentage of land basis, Indiana is about 20% forested, the same as Colorado!

Question: I saw my first set of fawn triplets recently. How common are triplets?

Answer: While not as common as single or twin births, mature whitetail deer in the Midwest will occasionally produce triplets and they are a real treat to behold. First year moms (bred as fawns) typically have single births, although most fawns do not breed. Twins are common for does over 1.5 years old. Most does in Indiana will give birth in May and June, with fawns weighing in at 6-8 pounds. Triplets generally being on the lighter side as you would expect. The fawns can stand and nurse within 30 minutes and walk within a few hours. By about 3 weeks of age they will be able to outrun most dangers. The 1st week of life is toughest and those that succeed have a good chance at longer survival. The characteristic spotting averages about 300 spots/ fawn are unique to each and generally disappear within 3-4 months of birth. By November this year's fawns will have grown to 75-85 pounds, with

males being 5-10 pounds heavier than females. For the keen observer, bucks can be distinguished from does even as fawns. Look for two rounded spots between the ears and eyes. Enjoy the show!

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.

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Days Gone By





A large "virgin" black gum (left) and black gum logs hauled (right) from Willard Woods in Orange County, Indiana (undated). (Photos by Roy C. Brundage)

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