Volume 21, Number 2
Summer 2012

The WOODland Steward

Promoting the Wise Use of Indiana's Forest Resources

2012 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 written by Dr. William Hoover in cooperation with Indiana's forest products companies. Dr. Hoover's report is published in the Fall issue of the Woodland Steward Newsletter.

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, 2011 through April 15, 2012. This report has been published 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.

WHAT ARE SEALED BID TIMBER SALES: The sealed bid timber sale process is for trees marked by a professional forester. The species, number of trees and volume in a sealed bid sale are determined prior to the notice of sale. A notice is sent to licensed timber buyers who then inspect the timber and offer a price for said trees at a predetermined time and place. Under conditions determined in the bid notice, the owner then accepts or rejects the bids.

Upon acceptance of the bids by the owner and the fee paid, the owner then conveys the right to cut the advertised trees to the purchaser. This is frequently referred to as a lump sum timber sale. More detailed information on this process is available in Purdue FNR publication 111 – "Marketing Timber" or FNR – 138 "How to get the Most from Your Timber Sale". These publication and others are available on line at: http://www.agcom.purdue.edu/agcom/Pubs/fnr.htm

This report reflects "spot market" prices, not the average price paid by timber buyers. The bidding process used by consultants "spots" the maximum amount any buyer is willing to pay for a particular lot of timber at a particular time and place, not the average price paid for timber. High bids frequently reflect an urgent need for timber because of special orders for lumber or veneer, low log inventories at the

cont'd on page 4

In This Issue

visit us online at
www.inwoodlands.org

Calendar of Events

July 25
Forestry Field Day
6 – 8 PM EDT
LaPorte County
Call 219-843-4827 or
email jpotthoff@dnr.in.gov.

August 15
Invasive Species in the Big Walnut Watershed
Brown Bag Luncheon series, Hoosier Heartland RC&D
Putnam county library, Greencastle
No fee but registration required.
Call 765-653-5716, x 3 for reservation.

August 18
Forestry Field Day
9 AM – Noon
Putnam County
Call 765-653-5716, x 135 or email sue.crafton@in.nacdnet.net.

September 6
Natural Resources Enterprises Advanced Workshop
8:30 AM – 2:30 PM
Indianapolis, Indiana Farm Bureau Building
Registration required
www.ag.purdue.edu/fnr/Pages/nre.aspx

September 7
Natural Resources Enterprises Workshop
8:30 AM – 2:30 PM
Blue River Valley Farm, Crawford County
Call 812-338-3224 or email rhonda.crecelius@in.nacdnet.net
www.ag.purdue.edu/fnr/Pages/nre.aspx

September 8
Nature Daze
9am – 3pm
Nashville, Brown County
Free lunch provided
See more at www.bcnwp.org or 812-988-2211.

September 14
Invasives Workshop
Greene County
Contact 812-384-4781, x 3 or
deborah.lynn@in.nacdnet.net

September 26-28
Woody Biomass in Indiana
Clifty Falls State Park
Contact dcassens@purdue.edu for information

September 21
Stump to Product Tour
Lawrence/Orange Counties
Sponsored by White River RC&D Forestry Committee
Contact jeger@dnr.IN.gov or 812-583-9383.

September 27
Ferdinand-Pike State Forest open house
3 – 7 PM
Ferdinand State Forest office
Call 812-367-1524 for more information.

October 5-6
Walnut Council fall field tour
Steuben County
Veneer factory tour 10/5, Field tour 10/6
Call 765-583-3501 or email djtibs@comcast.net.

October 19
Lost River Forestry Day
Orange County
Sponsored by Lost River Watershed Project & Div. of Forestry
Contact wer4lostriver@gmail.com or 812-723-3311, Ext. 3.

November 2-3
Annual Landowner Conference
Brown County State Park,
Abe Martin lodge
Friday field tours, Saturday indoor sessions
See www.ifwoa.org or
call 765-583-3501.

November 14
There's Bugs in them there Woods!
11 AM – Noon
Brown Bag Luncheon series, Hoosier Heartland RC&D
Putnam County library, Greencastle
No fee but registration required.
Call 765-653-5716, x 3 for reservation.

The **Woodland Steward Newsletter** is published by the Woodland Steward Institute, Inc.

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.

Member Organizations
Indiana Woodland Steward Institute

Ask the Steward

By Dan Ernst

Question:

What is best way to post no trespassing signs or Classified Forest signs at my property? Is nailing to trees OK?

Answer:

Putting nails into trees is generally discouraged for several reasons, including creating tree wounds and perhaps of greater concern is safety. More than once I've cut into a nail when felling a tree or cutting firewood – fortunately without injury, but it ruins a saw chain quickly. Worse yet are tree climbing steps, large nails, chains and other heavy metals placed in trees for any number of reasons. Those create extremely dangerous situations for tree cutters and sawmills.

However, there are times when there are no better options available to post signage, hang a bird box, or other attachments. In those cases, here are some important considerations.

1) Whenever possible, use a post instead of a tree.

2) Use aluminum nails. They're softer, don't corrode and are relatively safer than steel nails. Smaller nails are better.

3) Attach the sign to a board and nail the board to the tree. This prevents the nail from being pulled through the sign as the tree grows.

4) Attach to a junky tree that is unlikely to be used as firewood or timber.

5) Don't nail the sign tightly. This leaves some space for extra tree growth. However, it bears repeating that whenever possible, use a post instead of a tree.

Question:

I have over 20 small welts that appeared around my ankles and waist the day after a walk in my woods and they itch like crazy. Someone told me I got the Jiggers. What's a jigger, and how do I stop the itch?

Answer:

Got the Jiggers eh?

Probably no creature in Indiana can cause as much grief for its size than the tiny Jigger – also called Red Bug – but best known as the **Chigger**. This tiny creature (a mite) is found all over, but prefers heavy vegetation areas such as woodlands, berry patches, lake and stream edges and parks. Some feel moist areas are prime sites, but drier lawns and cemeteries (I can vouch for this one) are also common chigger haunts. The biting larval stage is most numerous from late spring to mid-summer when grass, weeds and other vegetation are heaviest. Chigger larvae are usually yellow to light red in color, hairy, and move quickly on their six legs. Adult chiggers are bright red, have eight legs and do not bite humans or animals.

As larvae, Chiggers are very small - only about 1/120 of an inch - and have tiny claws that allow them to attach tightly onto people and animals. Once attached, they are able to pierce the skin and inject their saliva, which contains powerful digestive juices that breakdown skin cells and cause surrounding tissue to harden and form a straw-like feeding tube. The chigger feeds for up to 4 days by sucking up the digested skin cells, and then they simply fall off. They do not suck blood or burrow under the skin. Welts and itching may show up as early as 3 hours after exposure and may continue for a week or more. Fortunately chiggers are not known to transmit any diseases in this country.

For temporary relief of itching, apply ointments of benzocaine, hydrocortisone, calamine lotion, or other itch or bite relievers recommended by your pharmacist or medical doctor. The sooner the treatment, the better the results. Some have had luck with Vaseline, cold creams, and even fingernail polish (this is not an endorsement).

To minimize chigger bites, apply insect repellants before entering chigger prone areas. Chiggers prefer areas of tight fitting clothing or soft, tender skin - such as waistlines, ankles, back of knees, armpits, groin. Follow label directions and apply to exposed skin and clothing, especially the around ankles, lower legs, waistlines, neck and sleeve openings. Keep moving! The chance of chigger bites increases dramatically when loafing around in sunny spots when temperatures are above 60 degrees. After visiting a chigger infested area, take a hot shower as soon as possible. Lather up good to help wash off critters before they get lodged. Wash your clothes in hot water too!

Don't feel too bad – chiggers also feed on a wide variety of snakes, turtles, birds, and small mammals. Which makes one wonder, "how does a snake scratch itself?"

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.

2012 Indiana Consulting Foresters Stumpage Timber Price Report *(cont'd from page 1)*

buyer's mill, poor logging conditions due to wet weather, or other special conditions. Consulting foresters also may advise the landowner to adjust the species and quality of a harvest at a specific time due to current demand.

Hardwood lumber is sold in a highly competitive commodity market. Competition comes from mills within the state, region, and hardwood lumber producers in the Lake States, Northeast, South and Southeastern production areas. This market competition means that the cost of stumpage in other producing regions determines in part the amount Indiana mill and loggers can pay for stumpage. If all timber were sold on a bid basis the spot market would no longer exist and the average of the highest bid price offered would be lower than now observed. This explanation isn't meant to deter you from seeking the best available price. It's meant to explain the apparent discrepancy between the two price reporting systems.

CATAGORIES OF TIMBER REPORTED: The prices reported are broken into three sale types; high quality, average quality, and low quality. A high quality sale is one where more than 50 percent of the volume is # 2 grade or better red oak, white oak, sugar maple, black cherry, or black walnut. The low quality sale has more than 70 percent of the volume in # 3 "pallet" grade or is cottonwood, beech, elm, sycamore, hackberry, pin oak, aspen, black gum, black locust, honey locust, catalpa, or sweet gum. The average sale is a sale that is not a low quality sale or a high quality sale as defined above.

In the 2008 report some minor adjustments were made in the categories from previous surveys. White ash was previously included as a component of the high quality timber sales and hickory was previously in the low quality group. No additional changes in the groups have been made since, so the 2012 data should compare well with data collected from 2008 thru 2011.

SALE ACTIVITY AT PRE-RECESSION LEVELS: In 2012, 290 sales (plus 13 negotiated sales) were reported compared to 271 sales (plus 13 negotiated sale) in 2011, 206 sales in 2010, 247 sales in 2009, and 283 in 2008. Eighteen consulting firms report data in 2012, compared with 17 in 2011, 21 firms in 2010, 16 firms in 2009 and 11 firms (representing 14 to 15 current firms) in 2008. Fourteen firms that reported in 2012 and 2011 showed a similar number of sales with an increase from 244 to 267 sales during the period. All consultants that reported had sales in this reporting period.

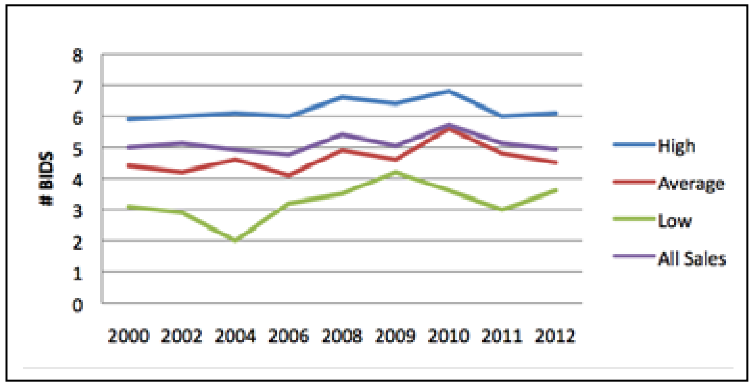

Figure 1. Bids per Sale by Quality and Year

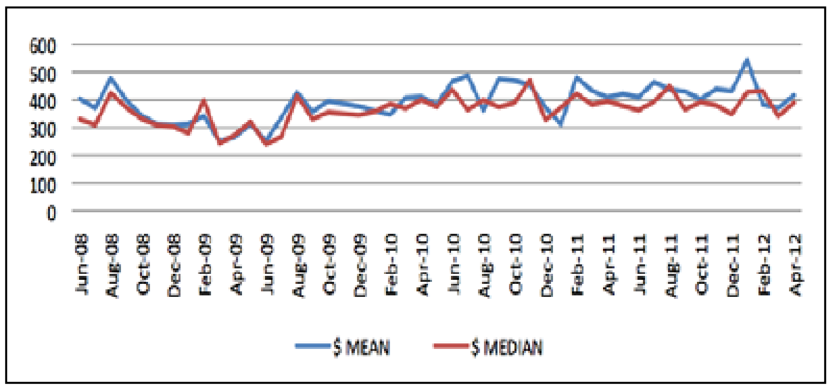

Figure 2. Average Stumpage Price ($/MBF) by Month

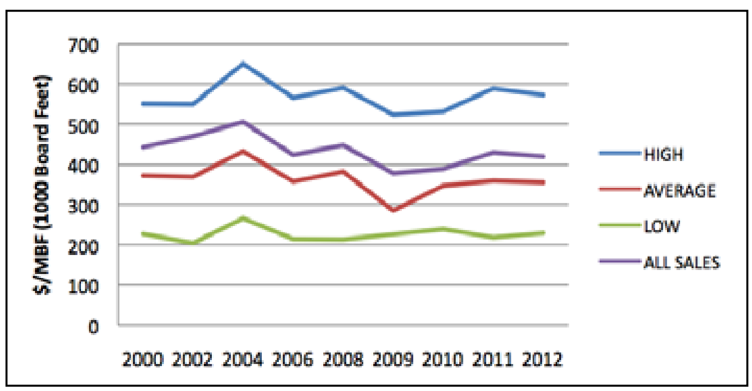

Figure 3. Average Stumpage Price by Year

Sales by quality type for the 2012 period were 101 high quality sales (the same as in 2011), 157 medium quality (145 in 2011), and 32 low quality sales (25 in 2011).

BIDDING REMAINS STRONG: In 2012 a total of 1,432 bids were received for an average of 4.94 bids per sale. The overall total is down slightly from 2011 when a total of 1391 bids were submitted for the 271 bid sales or 5.13 bids per sale. These totals are down from 2010 (5.7 bids per sale – the highest since the stumpage report began in 2000) but are very similar to the averages from all sales since 2000 (5.14 bids per sale). The 2012 average of 4.94 of bids offered per sale includes 6.1 for high quality (6.0 in 2011), 4.5 for medium quality (4.8 in 2011), and 3.6 for low quality (3.3 in 2011) (Figure 1). The 11-year averages are 6.2, 4.7, and 3.2 bids per sale for the respective quality groups. As stated in the 2010 report, the higher number of bids in 2010 may be in part due to a decreased volume of timber on the market. The volume of timber reported on the market this year and in the 2011 report has returned to levels submitted prior to the beginning of the recession in 2008.

VOLUME RETURNS TO PRE-RESCESSION LEVEL: A total stumpage volume of 25,164,871 board feet were sold during the current period which is very similar to last year's 24,367,251 board feet. Both years are up considerably from the 17,687,648 board reported during the 2010 reporting period and 19,256,439 board feet reported in 2009. The volume of timber sold in the last two years is very similar to the volume of around 25 million board feet sold in 2008 and 2006.

High quality sales totaled 8,671,566 board feet (8,598,937 in 2011) board feet and approaching the 10 million board feet levels of 2008 and 2006. Medium quality sales totaled 14,428,279 board feet (14,077,574 in 2011) up from the 11 to 12 million board feet from 2010 thru 2006. Low quality sales increased to 2,065,026 board feet (1,690,740 in 2011) but they are still down from nearly 3 million board feet in 2009, 2008, and 2006. The adjustment in the reporting categories that occurred in 2008 likely impacted the volume sold in each grouping with a decrease in the volume of high quality sales

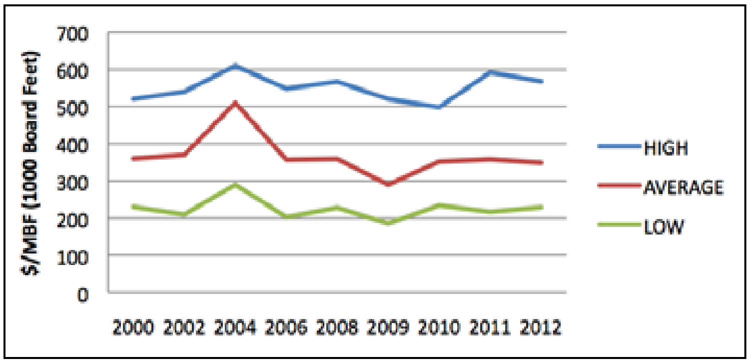

Figure 4. Median Stumpage Price by Year

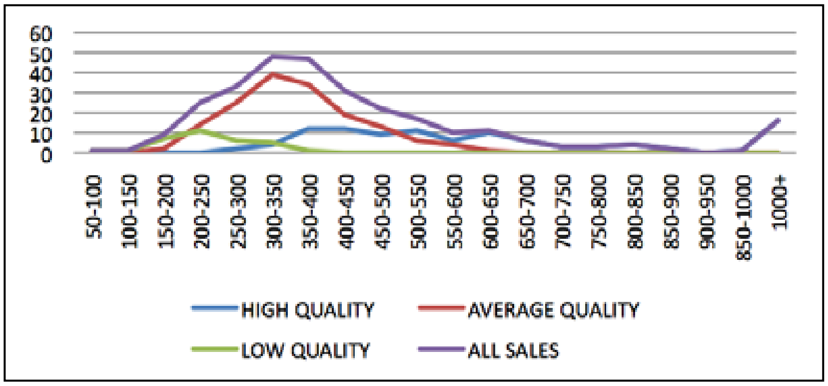

Figure 5. Stumpage Price ($/MBF) by Sales

due to a drop in ash prices and decrease in low quality sales due to an increase in the price of hickory.

VALUE STABLE: Total timber value sold during the 2012 reporting period was $10,559,277 ($10,678,849 in 2011) up from 2010 and 2009 ($6,889,190 and $7,278,302, respectively) and similar to the values reported in 2008 and 2006 (the volume of timber sold was also similar during these periods). Total value by type was $4,968,313 for high quality ($5,257,530 in 2011), $5,118,780 for average quality ($5,052,387 in 2011), and $472,184 for low quality ($368,932 in 2011).

Prior to 2011, several consultants reported a reluctance to sell high quality timber, last year that activity increased considerably, and although there has been a slight decline this year, activity remains very strong (note that the number of high quality sales that brought over $1,000 per MBF (thousand board feet) on Figure 4). Strong demand for white oak and black walnut fueled much of this activity. Demand for hardwoods commonly used in home construction such as black cherry is still weak while red oak, sugar maple, and

2012 Indiana Consulting Foresters Stumpage Timber Price Report *(cont'd from page 5)*

tulip seems to be improving slowly, although markets seem to be very volatile for these species.

EFFECTS OF THE ECONOMIC DOWNTURN: Due to the drastic change in the economy in 2008, it was decided in 2009 to collect information on the date of the timber sale in order to track month by month activity.

Previous observations showed that prices appear to have begun to drop thru the fall of 2008 until bottoming out in June 2009. Prices since are mostly trending upward although fluctuating (Figure 2). The fluctuations are likely caused by multiple factors including logging conditions that influence log supply at the sawmills, seasonal demands or restrictions, and concerns over the general economy. The median price seems to be a better indicator due to less influence of higher quality sales that can distort the average price.

Most stumpage prices are nearing levels prior to the recession (Figures 3 and 4). Prices for high quality sales appear to have dropped slightly this year, however, that reduction may be in part due to the composition of the high quality sales for each year. After excluding one sale from late 2010 (also excluded last year) the average price for all sales only dropped from $430 to $420 per MBF.

STUMPAGE PRICE RECOVERING WELL: Stumpage prices for all sales, high quality sales, average quality sales, and low quality sales held from April 16, 2011 thru April 15, 2012 have a normal distribution (Figure 5). High quality sales generally have a wide range of stumpage prices due to higher quality timber or veneer potential. All sales, regardless of 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 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 dominated by pallet material.

The average stumpage price of high quality sales was $573 per thousand board feet (MBF) down slightly from $589/MBF (2011) but up from $532/MBF (2010) and similar to $572/MBF in 2009 (median price was $568 in 2012 down from $592/MBF in 2011 but up from $498/MBF in 2010 and $549/MBF in 2009) (See Figures 3 and 4).

The average stumpage price for average quality sales was $355/MBF which is similar to $359/MBF in 2011 and $347/MBF in 2010, and up $320/MBF in 2009 (median price was $349/MBF which is similar to $358/

MBF for 2011 and $352/MBF in 2010 and up from $314/MBF in 2009). The median price for average quality was similar to the median stumpage price in 2008 ($359/MBF) and 2006 ($357/MBF) (See Figures 3 and 4).

The average stumpage price for the low quality sales was $229/MBF up slightly from $218/MBF with a median price of $229/MBF up slightly from $217/MBF in 2011 and similar to $239/MBF in 2010 and $225/MBF in 2009 (median price $234/MBF vs. $228/MBF in 2010 and 2009, respectively). Some of the fluctuation in the price offered for the low quality sales is likely due to the fluctuation in the operating costs associated with the cost of fuel. Manufacturing activity and the supply of timber on the market have the most impact, however, lower valued timber are impacted more by operating costs since the margins are tighter (See Figures 3 and 4).

The weighted average stumpage price by sale type (obtained from this survey in 2000, 2002, 2004, 2006, 2008, 2009, 2010, 2011, and 2012) is reported in Figure 3. 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 reported in Figure 4. The median price, reported per thousand board feet (MBF) of standing timber, is the amount where half of the sales are higher and half are lower. To obtain a price per board foot, divide the price by 1000. An average price of $378 per thousand (MBF) is the same as 37.8 cents per board foot stumpage. The average stumpage price for all sales was $420/MBF, $573/MBF for high quality sales, $355/MBF for average quality, and $229/MBF for low quality. A statistical summary for all three sale types is given in Table 1.

SUMMARY: While the last few years have been very volatile, things are looking up. Prices, for the most part, have returned to levels prior to the recession (although not to housing boom levels) so more timber is going on the market. The larger trees and better quality timber as usual has the most demand. Demand for some species, such as black walnut and white oak is strong and is largely responsible for the variability in stumpage prices for high quality sales. Markets for larger, straight ash and good "white" soft maple are good. Red oak, sugar maple, and tulip prices are volatile but showing promise. The price paid is likely influenced by tree size, quality, location, and immediate demand (spot markets). Black cherry markets are still weak. It is likely some species may not return to the high levels seen during the "high demand years" associated with the housing boom over the last decade or so. 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.

Demand for low quality timber, especially if near low grade mills is strong, although higher operating costs associated with fuel prices are 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 future lost productivity, so it generally is not advantageous to delay selling lower quality if the price is reasonable.

The industry still seems to be carrying a smaller inventory and cutting sales quicker than in the past,

Table 1. Statistical Summary for High, Average, and Low Quality Sealed Bid Timber Sales – April 16, 2011 thru April 15, 2012.

Timber Sales, 4/16/2011 – 4/15/2012												
	High (101 sales)				Average (157 sales)				Low (32 sales)			
	Bd. Ft.	Price	Bids	$MBF	Bd. Ft.	Price	Bids	$MBF	Bd. Ft.	Price	Bids	$MBF
Total	8,671,566	$4,968,313	613	$573	14,428,279	$5,118,780	703	$355	2,065,026	$472,184	116	$229
Low	6,987	$5,743	1	$271	7,421	$2,601	1	$164	11,238	$2,720	1	$91
High	411,992	$203,501	13	$4,476	322,716	$125,585	11	$623	291,443	$79,820	7	$355
Mean	85,857	$49,191	6.1	$573	91,900	$32,604	4.5	$355	64,532	$14,756	3.6	$229
Median	53,144	$35,000	5	$568	69,252	$26,272	4	$349	50,933	$10,243	3	$229

***2012 Indiana Consulting Foresters Stumpage Timber Price Report** (cont'd from page 7)*

creating more of a spot market for timber sold. There still is some reluctance from some consultants to market some species.

The comment section below is offered to our readers by the consulting foresters who participated in this survey: Some of the volatility in the markets is evident based on the comments received.

- The higher costs of operating for loggers and sawmills is impacting timber prices.
- Fuel prices are a big concern and have increased the work bill therefore lowering the bid prices and / or lowering the competition by reducing travel distances.
- Most mills are keeping lower inventories of standing timber than in the past, especially with high quality timber.
- Better terms still matter in this economic climate.
- Demand for standing timber strong last summer and fall. Appears to be continuing into 2012.
- Sales this spring have shown less interest with bidders concerned about the economy.
- Demand strong for low grade timber especially when in close proximity to the mill.
- Larger diameter trees in high demand, I attribute this mostly to productivity issues (higher costs) of processing smaller trees.
- Coming out of the recession demand and prices paid for standing timber are still low. But I think they will improve over the next two years, therefore I am recommending to my clients to wait to sell timber if they can. I am proceeding with sales that are primarily improvement cuts, storm damage, and ash salvage.
- White oak demand strong, especially for higher grades and larger diameters
- Walnut demand still strong, although there are some seasonal variations.
- Walnut demand has slipped slightly, but larger high grade trees still draw a lot of interest.
- Ash is moving well, especially larger, better quality trees that are still alive.
- Soft maple, if white, is moving very well.
- Tulip is in high demand, especially if the trees are clear and larger diameters.
- Black cherry markets still soft, so delaying marking when healthy.
- Red oak, sugar maple and tulip prices volatile and hard to predict.
- Tougher grading of delivered logs, particularly red oak, sugar maple, and cherry.
- Appears to be a large volume of timber moving, I suspect some owners need money and are selling directly to buyers with no professional advice.
  - Seeing more high graded stands than ever while working on adjacent landowners.
  - Landowners are still inquiring about diameter limit cuts…had hoped these ill conceived method would have disappeared by now.
- Have noticed an inordinate amount of invasive plants taking over recent harvest sites if not controlled prior to harvest. Better harvest planning is needed.

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), Gregg Forestry Services (Mike Gregg), Habitat Solutions LLC (Dan McGuckin), Haney Forestry, LLC (Stuart Haney), Haubry Forestry Consulting, Inc. (Rob Haubry), Multi-Resource Management, Inc. (Fred Hadley, Thom Kinney, Justin Herbaugh), Meisberger Woodland Management (Dan Meisberger), Nelson's Consultant Forestry (Jack Nelson), North Slope Forestry (Don Duncan), Pyle Timber Sales and Management (David Pyle), 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).

SO YOU WANT TO HAVE YOUR PROPERTY SURVEYED? (Part 1)

By Jess Gwinn

Maybe you are planning a timber harvest? Maybe your neighbor has timber marked near where you think the boundary is located? Maybe you are just curious? There are myriad reasons for wanting to have a survey of your property. But what comes next?

Most real estate transfers occur without the benefit of a boundary survey. However, it is still possible that your property could have been previously surveyed. While unlikely, a call to the prior owner may yield a pleasant surprise. Even if there was no prior survey, talking to the prior owner(s) and neighbors could yield important information concerning the boundaries of your property.

Accessing this information is much more time consuming (and thus expensive) for a land surveyor than it is for you. For these reasons, investigating this history by the landowner is sometimes very valuable to the surveyor. Even if you don't live on the property, getting to know your neighbors is generally a good idea anyway. Having someone local to keep an eye on your property can be invaluable.

How do you pick a land surveyor? The obvious answer would be the yellow pages as any firm listed would in theory have registered land surveyors on staff. As with many services, asking friends and neighbors for their recommendations is always a good start. Did the surveyor perform the services for the contracted price? If the experience with the surveyor was negative, ask why. Disagreement with the surveyor over the location of the boundary does not necessarily reflect poorly upon his ability. Sometimes the surveyor locates a boundary line that is contrary to the landowner's preconceived notion of the boundary location, perturbing the landowner. Surveyors are advocates for the boundary and public at large. You may be the person paying them but they answer to the rules, regulations, and laws dictating the practice of surveying. Remember, we are surveying your neighbor's boundary as well as yours.

One of the reasons to ask your neighbors is that if they have had their property surveyed recently, that surveyor may have a jump start on your survey. Some of the work they did for your neighbor could overlap with the work required for your property survey and reduce the cost. The older the survey though, the less it will help. At a certain age, a survey is hardly more valuable to the firm that originally performed the work than to any other surveyor.

I sometimes get asked to survey a single line of a property. This is often not feasible. All of the lines of a property are connected. Surveying one line usually means surveying all of the lines as they are interdependent. Occasionally it can be done but that is the exception.

Jess A. Gwinn is a Registered Land Surveyor in Indiana.

The 3 Ps of Oak Regeneration: Planning, Persistance, and Patience

By Dale R. Weigel, Daniel C. Dey, and John Kabrick

Oak regeneration research in the United States has been ongoing in earnest since the late 1950s. Most research has focused on specific silvicultural practices, regeneration processes, site characteristics, and local limiting factors such as deer browsing or interfering species. Research has evaluated the effects of thinning on regeneration development, methods for oak planting, post-harvest treatments to control competing vegetation, and many other aspects of oak silviculture. All of these have provided solutions to individual problems in oak regeneration for local to regional areas.

However, with all this research we still have difficulty regenerating oak forests. One question remains "How do we insure that oaks are present at desired levels in the next stand following harvest?" We believe the answer is more a managerial problem than biological. The long-term and more universal solution is based on the 3Ps of oak regeneration: **planning, persistence, and patience**. Because these three steps are not consistently followed nor their importance recognized, oak regeneration often fails.

Research and operational silviculture have been focused on the application of one or several treatments over a short period of years. Oak regeneration is **a long-term ecological process requiring long-term planning**. Two important questions that must be answered in the planning process are: when do you want to regenerate, and where or which stands do you want to regenerate to oak? It is necessary for oak advanced regeneration (OAR) to be present before harvest for oaks to have a chance of developing in the next stand (Sander and others 1976). OAR is increased through acorn germination. Unfortunately acorn crops are sporadic and unpredictable (Beck 1977). Planting can supplement OAR in order to decrease the time necessary to develop sufficient regeneration. Planting research has been completed across the entire eastern hardwood region (Weigel and Johnson 2000).

Persistence in treatments is required both pre-harvest to enable oak regeneration to develop and post-harvest to keep oak regeneration competitive. Repeated treatments may be required to maintain increased light levels in the lower canopy and shrub layer. These increased light levels will allow acorns to germinate and develop when an acorn crop does occur. The treatments can include the use of herbicide to control competition, mechanically controlling competition, and prescribed fire. Fire has been present on the landscape dating back to at least the 1600s (Guyette and others 2006). The use of prescribed fire has been shown to benefit oak regeneration (Brose and others 2006). Repeated post-harvest thinning and crop tree release are necessary to keep oak competitive (Perky and Wilkins 1993).

Because oak is a species physiologically **adapted to repeated disturbances over**

Planning, Persistence and Patience are required to create Oak Advanced Regeneration (OAR) that is large enough to survive once the canopy is removed.

decades, patience in the regeneration process is necessary. Oak's growth habit of favoring early root growth over shoot growth helps oaks persist through repeated disturbances better than competitors (Johnson and others 2009, fig. 10.1). But the limited shoot elongation puts it at a competitive disadvantage with other species in the absence of disturbances such as fire and drought.

By completing these three steps; **planning, persistence, and patience**, oak regeneration can be accomplished.

Literature Cited

Beck, D.E. 1977. Twelve-year acorn yield in southern Appalachian oaks. Res. Note SE-244. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southeastern Forest Experiment Station. 8 p.

Brose, P.H., Schuler, T.M., and Ward, J.S. 2006. Responses of oak and other hardwood regeneration to prescribed fire: what we know as of 2005. In: Dickinson, M.B., ed. Fire in Eastern oak forests: delivering science to land managers. Gen. Tech. Rep. NRS-P-1. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station: 123-135.

Guyette, R.P., Dey, D.C., Stambaugh, M.C., and Muzika, R.M. 2006. Fire scars reveal variability of Eastern fire regimes. In: Dickinson, M.B., ed. Fire in Eastern oak forests: delivering science to land managers. Gen. Tech. Rep. NRS-P-1. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station: 20-39.

Johnson, P.S., Shifley, S.R., and Rogers, R. 2009. The ecology and silviculture of oaks 2nd ed. Cambridge, MA: CABI. 580 p.

Perkey, A.W. and Wilkins, B.L. 1993. Crop tree management in eastern hardwoods. Tech. Pap. NA-TP. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northeastern Area State and Private Forestry. 19-23.

Sander, I.L., Johnson, P.S., and Watt, R.F. 1976. A guide for evaluating the adequacy of oak advance reproduction. Gen. Tech. Rep. NC-23. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station. 7 p.

Weigel, D.R. and Johnson, P.S. 2000. Planting red oak under oak/yellow-poplar shelterwoods: a provisional prescription. Gen. Tech. Rep. NC-210. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Research Station. 16 p.

Dale Weigel is the forest monitoring coordinator for the Hoosier National Forest in Indiana. Daniel Dey and John Kabrick are research foresters with the USDA Forest Service, Northern Research Station in Columbia, Missouri.

Implementing the 3Ps of Oak Regeneration

By Dan Shaver

Planning, Persistence and Patience sounds more like the catch phrase for a self-help seminar than forest management, but if you want to grow oak trees in the Central Hardwoods Region commit the 3P's to memory and then put them into practice. Oak trees are the backbone and bread and butter of the region. There are 18 native species of oak trees found in Indiana. Oak is a phenomenal tree if you love wildlife with over 96 animal species using if for food, well over 250 species of insects feeding, foraging or living on oak trees and many more animal species using oaks for cover or shelter. Our oak resources have been a mainstay in the timber industry for as long as there has been forestry in Indiana.

Unfortunately we are experiencing what ecologists refer to as the "oak bottleneck." We have a lot of mature oak trees in Indiana. We also have a lot of young oak seedlings in Indiana. However, forest inventory and research shows that we don't have a lot of oak saplings or pole sized oak trees. The bottleneck, or missing saplings and pole size oak is a result of 8 decades of fire suppression, too many deer, and forest management that favors shade tolerant species. If we want to ensure oak trees for future generations, we need to begin implementing the 3Ps of oak regeneration on private and public lands in Indiana.

The Nature Conservancy in Indiana has been working to implement the 3Ps on Nature Preserves and our private Forest Bank land across southern Indiana. Success is not easy or guaranteed, but we are making progress.

For example, in 2005 we purchased 80 acres of land from a neighbor in Brown County. The 80 acres had just been harvested. It was a marked sale that targeted mature oak, cherry and maple, but still left 20-22 inch DBH mature oak in the stand. It was a good harvest, but was not aimed at regenerating the understory. Once TNC purchased the property, we made the decision that, like most oak stands in Indiana, there was not enough oak in the understory or mid-story to replace this stand in the event the canopy was removed from natural disturbances like an ice storm or tornado, or a man-made disturbance like a harvest. We developed a **PLAN** to create Oak Advanced Regeneration (OAR). Based on research and a forest inventory we began thinning the mid-story and understory on what we felt were the best oak sites on the property. We deadened all trees less than 12" DBH in the mid-story that were not oak or hickory. We did leave some native small trees and shrubs like dogwood, service berry, and leatherwood. Fortunately we had some good acorn crops in 2005-2007. **PATIENCE**, two years after the understory thinning we had a really good crop of oak seedlings, but no Oak Advanced Regeneration (OAR). By this time we were getting some competition from muscle wood and ironwood in the understory. We made the decision to conduct a prescribed burn, **PERSISTANCE**. The disturbance favored the oaks. The next year we had less competition from other trees and the oak seedlings re-sprouted just like they are supposed to according to the research (big sigh of relief). **PATIENCE**, we waited again. The oaks were doing well, but not advancing like we had hoped – too many deer. We have hunters on the property and they are encouraged to harvest female deer, but we still felt the browse pressure was too high. We then built concrete reinforcing wire cages, 6 feet in diameter, and placed them over oak seedlings in the center of canopy gaps, **PERSISTANCE**. We could not protect all the oak seedlings, but we wanted to ensure that where canopy gaps existed, an oak was going to eventually take its place in the canopy. The oaks have been growing for a couple of years, **PATIENCE**. Inside and outside of the cages we were starting to get

Chad Bladow, Southern Indiana Stewardship Director for The Nature Conservancy in Indiana stands alongside an Oak Advanced Regeneration (OAR) seedling in concrete reinforcing wire cage. Planning, Persistence and Patience have produced a healthy and viable cohort of young oak seedling on one if his preserves.

a significant number of Oak Advanced Regeneration (OAR). In the spring of 2012, we **PLANNED** and conducted another burn on part of the property where the oak was being out competed. The burn reduced competition from woody species and we hope the oaks will re-sprout and move quickly into an advanced position, **PERSISTANCE**. If things go as **PLANNED**, in two years, **PATIENCE**, we should be able to remove the overstory with a harvest and have a very good chance of having this wonderful oak woodland replaced with a young oak woodland. Nine years in the making, but to regenerate the 5 species of oak found on this property, wildlife food and habitat for migratory songbirds and many other animals and potentially hundreds of insects, the **PLANNING**, **PERSISTNCE**, and **PATIENCE** have been worth it. An added benefit is that the grasses, sedges and wildflowers in the understory are making an impressive show and the dead snags from the midstory thinning are a boon for woodpeckers, bats, insects and cavity nesting birds.

PLANNING/PATIENCE, this example is from a Nature Preserve. By our own choice, we will not be removing the overstory through a timber harvest, but we will maintain the oak in the understory, with periodic fire and thinning, until such time as the overstory naturally collapses or is suddenly removed from wind or ice. Regardless of the final outcome of the mature timber, the goal is to ensure the presence of oak woodlands in Indiana forests for generations to come.

Dan Shaver is a Forester and the Acting Operations Manager for The Nature Conservancy's Forest Bank Program and the Brown County Hills Project Director for The Nature Conservancy in south-central Indiana.

"Indiana Expeditions: Forests at Work" DVDs Available

This hour-long documentary follows one of Indiana's greatest natural resources, our trees, from the beautiful hardwood forests to the showrooms of finished forest products. Whether you are an educator, forestry professional, or someone who just enjoys trees, you'll find this show to be educational and very entertaining.

Send name and address along with a check for $10 per DVD made out to "IFEF-PLT" to: Indiana Division of Forestry, "Forests At Work", 402 W. Washington--Rm. W296, Indianapolis, IN 46204.

For more information go to **www.in.gov/dnr/forestry/3603.htm** or call 317-232-4119.

New Programs and Changes to Deer Season Geared Toward Helping Landowners Manage Deer

By Chad Stewart

There are some changes to Indiana's deer hunting season that should provide landowners with added flexibility in helping manage deer and deer hunters on their property. They provide hunters more time, equipment choices, and opportunities to harvest additional deer throughout the season. You could even make the argument that one program is even geared toward helping get non-hunters a deer too!

The archery seasons will now be joined into one continuous season, eliminating the traditional 5-day break between the early and late archery season that previously existed. Crossbows will also be allowed throughout the archery season for the first time without restrictions, which should increase the number of hunters hunting during the early portion of the season. Both changes give landowners and woodland managers greater opportunities to recruit hunters and hunting efforts, which could result in an increased deer harvest in October and early November, a critical period for controlling the browsing of tree seedlings in the agricultural Midwest.

Increased herbivory on tree seedlings has proven to coincide with crop harvest, which is typically done in early October. During the growing season, agricultural crops provide a nearly unlimited food source for deer, and growing corn and soybeans provide dense cover for fawning, allowing deer to disperse throughout much of the landscape. However, from a deer's standpoint, cover disappears dramatically within a 2- to 3-week period due to the fall agricultural harvest. The seasonal influx of deer into forested cover following crop harvest concentrates deer, making tree seedlings more susceptible to herbivory.

Herbivory can remove valuable nutrients such as Nitrogen and Phosphorous from the tree prior to leaf senescence, preventing reabsorption of nutrients and negatively impacting plant fitness. Prolonged exposure to herbivory under high deer densities may ultimately limit recruitment by preventing some seedlings from growing to reproductive status. Putting more hunters in the woods during the archery season and emphasizing earlier deer hunting may benefit landowners experiencing intense seedling damage.

In urban deer zones, hunters will now be required to take an antlerless deer prior to taking an urban zone buck, which is commonly referred to as an Earn-A-Buck restriction. The urban deer zone season will also be extended from September 15 through January 31 instead of ending on the first Sunday in January as in the past. This is one of the most intensive methods for reducing deer herds, and is strictly geared toward lowering deer densities. Though this is not a restriction that applies to all hunters (only those who hunt in an urban deer zone with an urban deer zone license), it focuses hunting pressure on removing more does and limits the number of hunters taking a second buck, which does not contribute to population control. If you are a landowner experiencing deer problems, you may want to consider implementing this restriction on your property regardless of whether you reside in an urban deer zone or not.

If you don't feel enough deer have been removed off your property during the traditional archery, firearms, or muzzleloader seasons this year, landowners will now have an additional chance to have hunters take even more antlerless deer before the end of the hunting season. A special antlerless firearms season, beginning after Christmas (December 26) and continuing through the first Sunday in January, allows hunters an opportunity to go out and try one more time to get an antlerless deer. This season will be available in most, but not all, counties. Only counties with a bonus antlerless designation of 4 or more will be allowed to participate in the special antlerless firearms season.

We are anticipating significant participation with our new bundle license. Indiana deer hunters will have the opportunity to purchase a deer bundle license which allows them to take up to three deer throughout any season under this new bundle license. The bundle license will allow hunters to take up to 2 antlerless deer and 1 antlered deer in any deer season. This is a tremendous advantage to hunters who hunt in multiple seasons, and gives them an easy way to purchase one license that is good for all seasons. We are hoping it provides an impetus for hunters to harvest deer early, as they will now have 3 licenses in their hand from day one, rather than systematically buying licenses throughout the season. If hunters don't have a need for 3 deer, they can always donate one of their deer using our new game matching program.

GiveIN Game (http://www.in.gov/dnr/fishwild/7240.htm), the DNR's game matching program, has been set up to help non-hunters, or even unsuccessful deer hunters, an opportunity to get a deer from successful hunters.   Previously, most venison donation programs are designed to provide venison to food shelters. Though this is a notable and charitable cause, the act of donation can be inconvenient to many hunters since participating deer processors are scattered throughout the landscape, and in some cases, hunters are required to pay for some or all of the processing costs. In reality, there are people throughout the state who are interested in obtaining and consuming venison, but are otherwise unable to obtain it. GiveIN Game attempts to match up successful deer hunters with people who want a deer by providing individuals a forum to contact each other and meet up in exchange of venison. Hunters and recipients can search each other by county and can make contact by phone or email. Donated deer can be in any form, from a field dressed animal, to processed and packaged meat. This program allows hunters to get back to the meaning of hunting, providing food for fellow members in the community who are interested or dependent upon getting free, nutritious protein.

These changes, if employed on your property, should increase the deer harvest during the early season and relieve the browsing pressure experienced by tree seedlings during the autumn months. Hunters will have the opportunity to participate earlier in the hunting season, have their hunting season extended, and have the opportunity to share the benefits of their successful hunt with a broader audience in Indiana. Promoting hunting on your property and having hunters take advantage of these new rules can directly benefit all woodland owners and their neighbors.

Chad Stewart is a deer research biologist with the Indiana DNR, Division of Fish and Wildlife.

Days Gone By

Purdue forestry students measuring trees during a class exercise (undated).

Mailing courtesy of:
Woodland Steward Institute
PO Box 36
Butlerville, IN 47223

Postmaster: Change Service Requested

If you are no longer interested in the Woodland Steward, please notify the editor at the address on Page 2.

This newsletter provided with support from your local Soil and Water Conservation District.

NonProfit Org
U.S. Postage
PAID
MAIL, Inc.