

# Forestry Report

A PUBLICATION OF F&W FORESTRY SERVICES, INC. // ALBANY, GEORGIA

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## Dry Weather, Slowing Economy Colluding To Prevent Price Increases In The South?



By Marshall Thomas, President of F&W Forestry Services, Inc.

La Niña weather conditions are forecast to continue into 2023, according to the National Oceanic & Atmospheric Administration (NOAA), bringing wetter conditions to the Northwestern U.S., where they are sorely needed, but unfortunately, this means drier conditions across the Southern U.S.

Last winter, with a booming economy and wet weather, we saw significant increases in stumpage prices in many regions of the South. As the ground dried out and the economy started slowing, prices dropped significantly, just as they used to do before we entered a period of timber oversupply in the South.

I was looking forward to seeing if the dry season downturn was due to weather or the economy, perhaps signaling if we could look for a continued upturn in stumpage prices. But with a cooling economy and a dry winter approaching, we may have to wait another year or two to see if recent Southern stumpage price increases will stick for the long term. In other words, if the forecasters are right, don't look for the run-up in prices this winter that we had last year. Mills across the South certainly don't seem to be worried because our managers report that they are not accumulating inventory for the winter.

However, in the Northeast, La Niña will probably result in a wet winter, so we could see timber markets follow a similar pattern to the one we saw last year.

Changing subjects, we are finding more uses for drones. The latest is highlighted in an article on page 7, in which one of our managers is using them to apply herbicides to small tracts.

The substance of the Inflation Reduction Act, in a very readable article, is shown on page 5. Lots of climate, tax, and healthcare initiatives. It even includes grant programs for forestry, primarily aimed at increasing climate-smart practices.

Good news for landowners is included on page 6. Ag land values continue to soar. While there isn't a direct link, forestland values tend to track with ag land values. It is certainly our local experience that forestland values are rising. This article puts some real numbers on what is happening to ag land values on a regional and state basis.

Additional climate-smart funding for forestry projects was allocated by the USDA in September. Take a look at what they are funding on page 4. These are programs already in place before the Inflation Reduction Act was enacted.

More good news for landowners—another old sawmill is being replaced with a more efficient mill. It's happening all over the South—this is just the most recent announcement. See page 4.

Back to the opening paragraph... Years ago, I wrote

*(continued on page 7)*

## Southern Timber Prices

### 2022 THIRD QUARTER PINE & HARDWOOD STUMPAGE PRICE RANGE\* (TONS)

|                       | PINE PULPWOOD | PINE SMALL SAWTIMBER | PINE LARGE SAWTIMBER | HARDWOOD PULPWOOD | HARDWOOD SAWTIMBER |
|-----------------------|---------------|----------------------|----------------------|-------------------|--------------------|
| <b>SOUTHEAST</b>      |               |                      |                      |                   |                    |
| LAFAYETTE, AL         | \$7-14        | \$15-25              | \$22-34              | \$6-16            | \$28-40            |
| GAINESVILLE, FL       | \$10-28       | \$22-42              | \$32-47              | \$5-12            | \$20-35            |
| MARIANNA, FL          | \$12-16       | \$30-33              | \$36-41              | \$7-14            | \$27-33            |
| ALBANY, GA            | \$8-14        | \$23-31              | \$39-48              | \$7-12            | \$28-38            |
| MACON, GA             | \$7-15        | \$19-23              | \$28-31              | \$8-12            | \$22-45            |
| STATESBORO, GA        | \$12-26       | \$21-30              | \$26-36              | \$6-16            | \$22-45            |
| FOUNTAIN INN, SC      | \$7-11        | \$16-22              | \$21-30              | \$7-10            | \$20-38            |
| <b>CENTRAL REGION</b> |               |                      |                      |                   |                    |
| CLINTON, TN           | \$3-5         | NA                   | NA                   | \$3-9             | \$30-80            |
| PARIS, TN             | \$7-7         | \$7-7                | NA                   | \$7-10            | \$45-75            |
| <b>WEST GULF</b>      |               |                      |                      |                   |                    |
| EL DORADO, AR         | \$1-3         | \$10-12              | \$17-28              | \$4-6             | \$28-60            |
| CORINTH, MS           | \$5-10        | \$16-22              | \$20-25              | \$20-25           | \$45-75            |
| HUNTSVILLE, TX        | \$3-5         | \$8-12               | \$18-26              | \$4-6             | \$30-30            |
| TEXARKANA, TX         | \$7-10        | \$12-14              | \$25-35              | \$10-12           | \$25-35            |
| <b>MID ATLANTIC</b>   |               |                      |                      |                   |                    |
| CHARLOTTESVILLE, VA   | \$7-12        | \$15-20              | \$17-25              | \$4-8             | \$15-40            |

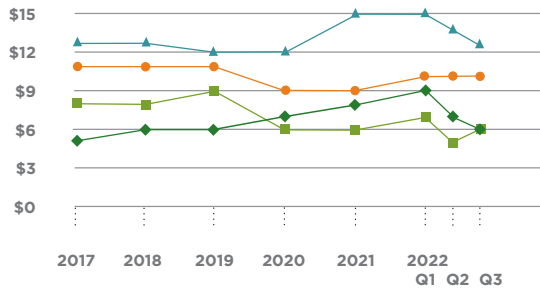
\*All prices based on sales handled by or reported to F&W offices. If no sales occurred, prior quarter's sales and other data are used to compile price range. Price ranges are due to different locations, timber quality, logging conditions, type of harvest, and local market conditions.

# Southern Timber Prices

## TIMBER STUMPAGE PRICE AVERAGES ACROSS F&W'S SOUTHERN REGION

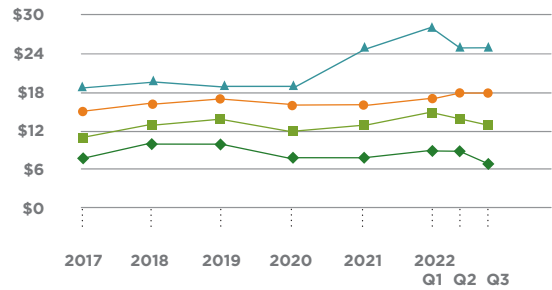
PINE PULPWOOD AVERAGE (TONS)

▲ SOUTHEAST / ◆ CENTRAL REGION / ■ WEST GULF / ● MID ATLANTIC



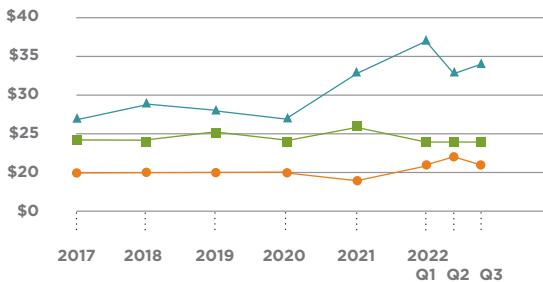
PINE SMALL SAWTIMBER AVERAGE (TONS)

▲ SOUTHEAST / ◆ CENTRAL REGION / ■ WEST GULF / ● MID ATLANTIC



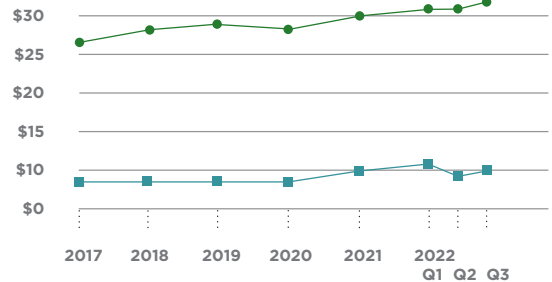
PINE LARGE SAWTIMBER AVERAGE (TONS)

▲ SOUTHEAST / ■ WEST GULF / ● MID ATLANTIC



SOUTHEAST HARDWOOD PRICES (TONS)

■ HARDWOOD PULPWOOD / ● HARDWOOD SAWTIMBER



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# Northern Timber Prices

## 2022 THIRD QUARTER STUMPAGE PRICE RANGE\*

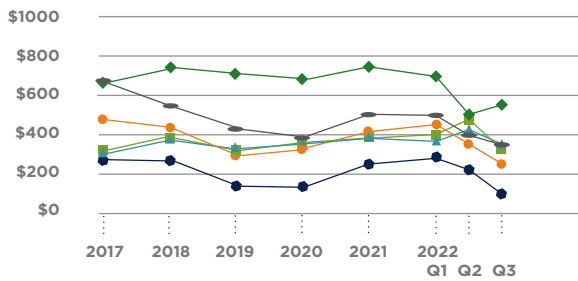
|                              | RED OAK<br>(MBF) | BLACK CHERRY<br>(MBF) | HARD MAPLE<br>(MBF) | SOFTWOOD<br>SAWTIMBER<br>(MBF) | HARDWOOD<br>PULPWOOD<br>(TONS) | SOFTWOOD<br>PULPWOOD<br>(TONS) |
|------------------------------|------------------|-----------------------|---------------------|--------------------------------|--------------------------------|--------------------------------|
| RUMFORD, ME <sup>I</sup>     | \$250-400        | NA                    | \$300-525           | \$130-200                      | \$3-7                          | \$1-4                          |
| MONTPELIER, VT <sup>I</sup>  | \$250-400        | NA                    | \$300-550           | \$120-200                      | \$3-7                          | \$1-4                          |
| GLENS FALLS, NY <sup>I</sup> | \$150-300        | \$200-400             | \$375-550           | \$75-300                       | \$3-7                          | \$3-9                          |
| HERKIMER, NY <sup>I</sup>    | \$200-400        | \$300-600             | \$450-700           | \$70-325                       | \$3-7                          | \$2-5                          |
| TUPPER LAKE, NY <sup>I</sup> | NA               | \$275-375             | \$375-550           | \$100-200                      | \$4-6                          | \$2-4                          |
| CLARION, PA <sup>D</sup>     | \$400-700        | \$400-800             | \$400-750           | NA                             | \$2-6                          | \$1-5                          |
| BLUEFIELD, WV <sup>D</sup>   | \$100-175        | \$100-200             | \$200-300           | NA                             | \$1-4                          | \$0-0                          |

\*All prices based on sales handled by or reported to F&W offices. If no sales occurred, prior quarter's sales and other data are used to compile price range. Price ranges are due to different locations, timber quality, logging conditions, type of harvest, and local market conditions. (D) = Doyle (I) = International (S) = Scribner

## TIMBER STUMPAGE PRICE AVERAGES ACROSS F&W'S NORTHEAST REGION

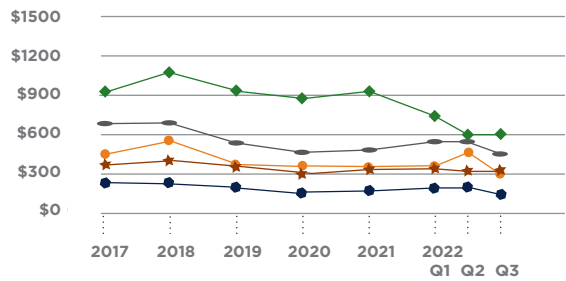
RED OAK AVERAGE (MBF)

▲ RUMFORD, ME / ● GLENS FALLS, NY / ● HERKIMER, NY / ◆ CLARION, PA  
■ MONTPELIER, VT / ● BLUEFIELD, WV



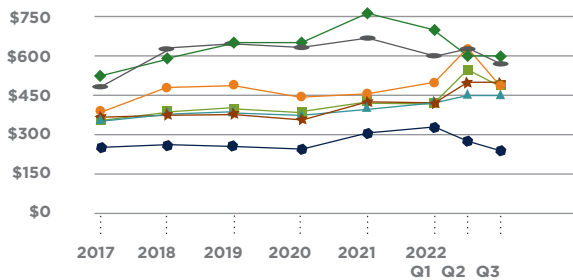
BLACK CHERRY AVERAGE (MBF)

● GLENS FALLS, NY / ● HERKIMER, NY / ★ TUPPER LAKE, NY / ◆ CLARION, PA  
● BLUEFIELD, WV



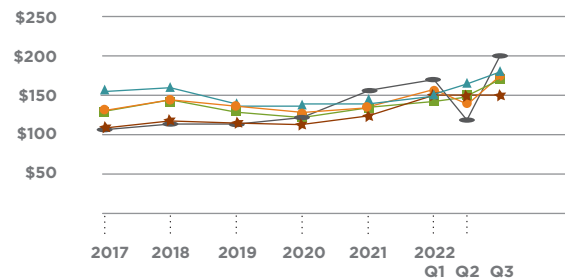
HARD MAPLE AVERAGE (MBF)

▲ RUMFORD, ME / ● GLENS FALLS, NY / ● HERKIMER, NY / ◆ CLARION, PA  
■ MONTPELIER, VT / ● BLUEFIELD, WV / ★ TUPPER LAKE, NY



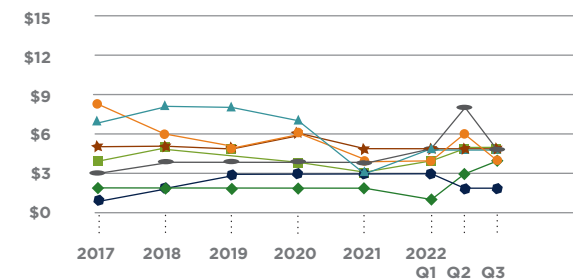
SOFTWOOD SAWTIMBER AVERAGE (MBF)

▲ RUMFORD, ME / ● GLENS FALLS, NY / ● HERKIMER, NY  
■ MONTPELIER, VT / ★ TUPPER LAKE, NY



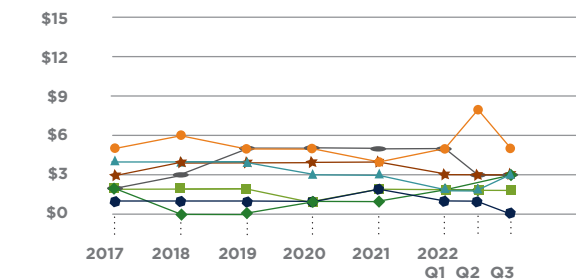
HARDWOOD PULPWOOD AVERAGE (TONS)

▲ RUMFORD, ME / ● GLENS FALLS, NY / ● HERKIMER, NY / ◆ CLARION, PA  
■ MONTPELIER, VT / ● BLUEFIELD, WV / ★ TUPPER LAKE, NY



SOFTWOOD PULPWOOD AVERAGE (TONS)

▲ RUMFORD, ME / ● GLENS FALLS, NY / ● HERKIMER, NY / ◆ CLARION, PA  
■ MONTPELIER, VT / ● BLUEFIELD, WV / ★ TUPPER LAKE, NY



## Forests Are Beneficiary Of Climate-Smart Commodities Funding

The U.S. Department of Agriculture (USDA) announced \$2.8 billion in funding for 70 projects in the first round of grants under its new Partnerships for Climate-Smart Commodities initiative, a funding level that is almost triple what the agency originally proposed spending.

The grant program was announced earlier this year with an objective of helping landowners implement climate-friendly conservation practices on working farms and forests and to measure, monitor, and verify the carbon and greenhouse gas benefits associated with these practices. The end goal is to develop new markets and promote the agriculture and forest products grown using these practices.

Funding recipients and partners include a range of corporations, universities, NGOs, trade associations, tribal organizations, and state agencies. Of the 70 projects funded, only eight list timber and/or forest products as a major commodity focus of the project and only five awardees are exclusively focused on forestry.

USDA defines a “climate-smart commodity” as an agricultural commodity that is produced using farming, ranching, or forestry practices that reduce greenhouse gas emissions or sequester carbon. Commodities broadly include traditional agriculture crops as well as timber and other forestry products. Depending on the project, landowners may receive incentives, including technical and financial assistance.

When the Partnerships for Climate-

Smart Agriculture initiative was announced in February, the USDA said grants would be available in two funding pools. The first pool is for large-scale pilot projects between \$5 million and \$100 million. The second pool is limited to particularly innovative pilot projects with an emphasis on enrollment of small and/or underserved producers and monitoring, reporting, and verification activities developed at minority-serving institutions.

More than 450 project proposals were submitted for the first funding pool. The USDA said the strength of the projects submitted led the agency to increase its investment in the program to \$3 billion, considerably more than the original \$1 billion allocated for the initiative. An announcement of awards for the second pool of funding is expected later this year.

A sample of forestry-centered partnerships that received grant funding includes:

### **Engaging Family Forests to Improve Climate-Smart Commodities (EFFICACI): \$35 million**

Led by the American Forest Foundation, this project seeks to address the relationship between family forest owners, the forest products industry, and broader climate goals across the Eastern U.S. The goal is to build a region-wide climate-smart commodity (CSC) forest program that leverages the Family Forest Carbon Program, a landowner network, and advanced digital forestry tools to engage traditional and underserved

partners and advance the production and marketing of CSC forest products.

### **New England Climate-Smart Forest Partnership Project: \$30 million**

The New England Forestry Foundation will lead the implementation of forest management practices in the Northeastern U.S. with large commercial producers and smaller woodlot owners to store more carbon in the forest, quantify the resulting carbon gains, and build markets for climate-smart forest products to store carbon in wood products and substitute wood products for fossil fuel-based materials.

### **Expanding Agroforestry Production and Markets: \$60 million**

The Nature Conservancy will lead this project across the Eastern half of the U.S. to build climate-smart markets and boost capital investments in tree planting that will increase the supply of agroforestry commodities utilizing a network of leaders in forestry. This will work directly with manufacturers and retailers to connect potential buyers with producers (including underserved producers).

### **NYS Connects—Climate-Smart Farms and Forests: \$60 million**

The New York State Department of Environmental Conservation will lead this project in New York to fund ag producers and forest landowners to implement multiple climate-smart agriculture practices, utilize modern tools to quantify results of climate-smart agriculture, and build connections between landowners and companies with a demand for climate-smart commodities. 🌲

## Canfor Replacing Sawmill In Alabama

Southwest Alabama is the latest recipient of a new state-of-the-art sawmill.

Canadian lumber giant Canfor Corporation announced it will build a new mill near Mobile, Ala., which will have an annual production capacity of 250 million board feet (MMBF), with startup

anticipated in the third quarter of 2024.

The company said it is investing \$210 million to build the new state-of-the-art facility to replace its existing sawmill located in the heart of Mobile, which will close following completion of the new mill.

Canfor acquired the Mobile mill

and two other facilities in Southwest Alabama from Scotch Gulf Lumber in 2013. At the time of the acquisition, the three facilities had a combined production capacity of 440 MMBF.

Sources say the new mill is expected to be located about 20 miles north of the current mill, much closer to the wood

## After A Year Of Wrangling, Democrats Narrowly Pass Climate Legislation

After passing the House on a party-line vote last November, President Biden's massive \$2 trillion spending proposal known as "Build Back Better," which covered everything from climate change, taxes, healthcare, childcare, education, and more, died a slow lingering death in the Senate when Democrats failed to line up the 50 votes needed to pass the wide-ranging bill.

But in late July, Democratic leaders were finally able to strike a deal with moderate Senate holdouts Joe Manchin (D-WV) and Kyrsten Sinema (D-AZ) on a scaled-down version of the measure. From the BBB ashes rose the Inflation Reduction Act of 2022, a climate, tax, and healthcare bill that offers tax incentives for reducing carbon emissions, allows Medicare to negotiate prescription drug prices, allots \$80 million to the Internal Revenue Service to increase its size and enforcement abilities, and extends health insurance subsidies under the Affordable Care Act.

After the agreement was struck, the Senate and House moved quickly to give final approval to the measure on party-line votes and President Biden signed it into law on Aug. 16.

The measure is expected to raise \$739 billion in new revenue, spend a total of \$433 billion, and reduce the budget deficit by roughly \$300 billion over a decade, according to information released by Senate Democrats. Climate change initiatives and clean energy investments are slated to receive \$370 billion under the legislation, the single largest spending component of the bill.

The legislation represents the largest federal investment to date to address climate change, with an overall goal of redirecting business investment away from fossil fuels to green energy by making the latter more profitable and the former more costly. The bill provides an array of tax credits for carbon capture, wind, solar, hydrogen, critical minerals, sustainable aviation fuel, green-energy manufacturing, and battery storage, among other things. Also included in the bill is funding for climate-smart forestry activities that promote forest health and resilience and increase carbon sequestration. Key provisions for managing natural resources on private forest and agricultural land include:

- \$50 million for grants to private forest landowners for implementation of forestry practices that provide measurable increases in carbon sequestration and storage beyond customary practices on comparable land.
- \$400 million for competitive grants and cost sharing to support the participation of forest landowners who are underserved or who own less than 2,500 acres in climate mitigation or forest resilience practices and participation in emerging private markets.
- \$100 million for the wood innovation grant program to support solutions that utilize forest residue for innovative end uses.
- \$700 million to provide competitive grants to states through the Forest Legacy Program, which encourages the

protection of privately-owned forests through conservation easements or land purchases, with priority given to significant natural carbon sequestration benefits or to provide benefits to underserved populations.

- \$18 million for agricultural conservation programs administered by the Natural Resources Conservation Service for climate-smart agriculture that often includes tree planting and forest practices.

The bill also provides \$1.8 billion directly to the U.S. Forest Service to support wildfire risk-reducing activities and vegetation management projects in federal forests.

To pay for the new spending, the bill raises \$739 billion in revenue from tax changes and prescription drug pricing reforms. However, unlike earlier versions of Build Back Better, the act does not make any changes to capital gains rates, inheritance/estate taxes, or individual and corporate tax rates. The bill does include a new 15 percent corporate minimum tax aimed at large companies that report significant profits but pay little or nothing in income taxes, which is expected to raise \$313 billion over a decade from about 150 companies. The measure also includes a 1 percent excise tax on stock buybacks.

The Rhodium Group, a nonpartisan research group, estimates that the new law will drive U.S. net greenhouse gas emissions down 32 to 42 percent below 2005 levels by 2030, compared to a business-as-usual scenario of 24 to 35 percent without it. 🌲

basket and more accessible to log trucks. T.R. Clark, the F&W regional manager covering Alabama, said the mill opens a new market for forest landowners and wood dealers in the region.

"The new mill will be a modern facility that will focus on younger plantation timber and more of 'chip-n-

saw' grade rather than the large nearly over-mature timber favored by the old mill," Clark said. "This certainly means it will be more efficient and take more volume to keep it running—which is good news for the immediate market region."

This latest project comes on the

heels of Canfor's announcement in April that it will invest \$130 million to significantly upgrade and expand its sawmill and planer facility in Urbana, Ark., increasing annual production there by 115 MMBF to 260 MMBF. 🌲

## Ag Land Values Soar As The U.S. Economy Falters

Despite weakness in the overall U.S. economy, agricultural land values reached record highs in 2022, the second straight year that farmers saw substantial increases in the value of their land.

The latest survey of the nation's rural real estate by the U.S. Department of Agriculture (USDA) reported that the average value of all land and buildings on farms in the 48 contiguous states hit a record high of \$3,800 per acre, up 12.4 percent from the prior year and the largest percentage increase since 2006.

Factors contributing to the rise in values include higher commodity prices, competing land-use interests such as urban sprawl, and people seeking to invest in land as a safer alternative to the stock market during turbulent economic times.

The survey does not include bare forestland values. But general trends in the agriculture sector are likely to apply, to some degree, to land devoted to growing trees. The survey breaks out values for cropland and pastures, both of which show similarities to the bare land value of forestland and can easily be converted to forests. These two categories of agricultural land also posted strong showings in 2022, with cropland jumping more than 14.3 percent to an average value of \$5,050/acre, and pasture land rising 11.5 percent to \$1,650/acre.

Rural land values vary significantly throughout the country, with the highest real estate values concentrated in areas with larger volumes of high-value crops, such as grapes and tree nuts in California, where land values were \$12,000/acre, and the row-crop heavy Corn Belt states, where the average value was \$7,560/acre.

In the Northeast, which has a high concentration of urban areas and less developable land, agricultural land values were up 8.2 percent to an average of \$6,490/acre, with rural land values in Rhode Island, Massachusetts, and New Jersey more than \$15,000/acre.

For the South, the survey breaks farmland values out into three subregions.

In the four states comprising the Southeast—Alabama, Florida, Georgia, and South Carolina—the average farm real estate value was \$4,580/acre, up 8.3 percent from the prior year. Rural land values in the Delta region of Arkansas, Louisiana, and Mississippi averaged \$3,340/acre, up 5 percent from 2021. In the Southern Plains states of Oklahoma and Texas, the average value of farm real estate was \$2,560/acre, up 11.3 percent from last year.

In the Appalachian region, agricultural land values averaged \$4,620/acre, up 9

percent year-over-year.

Agricultural land values in the Pacific states of California, Oregon, and Washington were up 9.7 percent over 2021 to \$7,040/acre, but the average was pushed higher due to the value of land in California, with farmland values in the other two states averaging around \$3,000/acre.

The state with the highest farm real estate value in the USDA's 2022 survey was Rhode Island at \$17,500/acre and the lowest value was New Mexico at \$610/acre. 🌾

### 2022 USDA AGRICULTURAL LAND VALUES

|                             | FARM REAL ESTATE |                  | CROPLAND     |                  | PASTURE LAND |                  |
|-----------------------------|------------------|------------------|--------------|------------------|--------------|------------------|
|                             | 2022 \$/acre     | 2021-22 % change | 2022 \$/acre | 2021-22 % change | 2022 \$/acre | 2021-22 % change |
| <b>SOUTHEAST</b>            |                  |                  |              |                  |              |                  |
| ALABAMA                     | 3,204            | 6.3%             | 3,900        | 9.9%             | 2,900        | 9.4%             |
| FLORIDA                     | 6,600            | 9.6%             | 7,960        | 9.0%             | 5,900        | 6.7%             |
| GEORGIA                     | 3,960            | 7.9%             | 3,820        | 9.8%             | 4,400        | 8.4%             |
| SOUTH CAROLINA              | 3,800            | 5.6%             | 3,150        | 8.6%             | 3,550        | 6.0%             |
| <b>AVERAGE</b>              | <b>4,580</b>     | <b>8.3%</b>      | <b>4,690</b> | <b>9.3%</b>      | <b>4,680</b> | <b>7.3%</b>      |
| <b>DELTA</b>                |                  |                  |              |                  |              |                  |
| ARKANSAS                    | 3,550            | 4.7%             | 3,110        | 6.1%             | 2,850        | 5.6%             |
| LOUISIANA                   | 3,410            | 5.9%             | 3,180        | 6.7%             | 3,100        | 5.1%             |
| MISSISSIPPI                 | 3,000            | 4.9%             | 3,340        | 6.0%             | 2,700        | 8.9%             |
| <b>AVERAGE</b>              | <b>3,340</b>     | <b>5.0%</b>      | <b>3,190</b> | <b>6.0%</b>      | <b>2,870</b> | <b>6.3%</b>      |
| <b>SOUTHERN PLAINS</b>      |                  |                  |              |                  |              |                  |
| OKLAHOMA                    | 2,250            | 11.4%            | 2,030        | 12.2%            | 1,800        | 12.5%            |
| TEXAS                       | 2,650            | 11.3%            | 2,420        | 12.6%            | 2,050        | 13.9%            |
| <b>AVERAGE</b>              | <b>2,560</b>     | <b>11.3%</b>     | <b>2,310</b> | <b>12.7%</b>     | <b>2,000</b> | <b>13.6%</b>     |
| <b>APPALACHIAN</b>          |                  |                  |              |                  |              |                  |
| KENTUCKY                    | 4,350            | 8.8%             | 5,000        | 10.9%            | 3,250        | 5.5%             |
| NORTH CAROLINA              | 5,150            | 8.4%             | 4,700        | 9.6%             | 5,200        | 7.2%             |
| TENNESSEE                   | 4,700            | 10.3%            | 4,550        | 10.2%            | 4,450        | 11.3%            |
| VIRGINIA                    | 5,100            | 8.5%             | 5,250        | 9.6%             | 4,250        | 4.7%             |
| WEST VIRGINIA               | 3,000            | 8.3%             | 3,600        | 8.1%             | 2,300        | 4.5%             |
| <b>AVERAGE</b>              | <b>4,620</b>     | <b>9.0%</b>      | <b>4,790</b> | <b>10.1%</b>     | <b>3,870</b> | <b>6.9%</b>      |
| <b>NORTHEAST</b>            |                  |                  |              |                  |              |                  |
| CONNECTICUT                 | 13,700           | 9.6%             | —            | —                | —            | —                |
| DELAWARE                    | 9,800            | 5.4%             | 9,200        | 7.0%             | —            | —                |
| MAINE                       | 2,860            | 10.0%            | —            | —                | —            | —                |
| MARYLAND                    | 9,700            | 11.9%            | 8,750        | 9.9%             | (D)          | (X)              |
| MASSACHUSETTS               | 15,200           | 10.9%            | —            | —                | —            | —                |
| NEW HAMPSHIRE               | 5,350            | 5.9%             | —            | —                | —            | —                |
| NEW JERSEY                  | 15,400           | 6.9%             | 15,900       | 7.4%             | 14,400       | 7.5%             |
| NEW YORK                    | 3,450            | 5.5%             | 3,150        | 8.2%             | 1,620        | 2.5%             |
| PENNSYLVANIA                | 7,350            | 8.1%             | 8,300        | 9.2%             | 3,800        | 10.5%            |
| RHODE ISLAND                | 17,500           | 6.7%             | —            | —                | —            | —                |
| VERMONT                     | 4,200            | 7.7%             | —            | —                | —            | —                |
| OTHER STATES <sup>1,2</sup> | —                | —                | 9,530        | 8.7%             | 7,140        | 3.9%             |
| <b>AVERAGE</b>              | <b>6,490</b>     | <b>8.2%</b>      | <b>7,060</b> | <b>8.8%</b>      | <b>4,280</b> | <b>6.2%</b>      |
| <b>PACIFIC</b>              |                  |                  |              |                  |              |                  |
| CALIFORNIA                  | 12,000           | 10.1%            | 15,410       | 11.2%            | 3,550        | 14.5%            |
| OREGON                      | 3,040            | 9.0%             | 3,650        | 10.3%            | 900          | 8.4%             |
| WASHINGTON                  | 3,100            | 6.9%             | 2,940        | 8.9%             | 820          | 9.3%             |
| <b>AVERAGE</b>              | <b>7,040</b>     | <b>9.7%</b>      | <b>8,580</b> | <b>10.9%</b>     | <b>2,060</b> | <b>13.2%</b>     |
| <b>NATIONAL AVERAGE</b>     | <b>3,800</b>     | <b>12.4%</b>     | <b>5,050</b> | <b>14.3%</b>     | <b>1,650</b> | <b>11.5%</b>     |

Data Source: USDA Land Values and Cash Rent Summary, Aug. 5, 2022 [https://www.nass.usda.gov/Publications/Todays\\_Reports/reports/land0821.pdf](https://www.nass.usda.gov/Publications/Todays_Reports/reports/land0821.pdf)

## Forest Management Case Study: Vegetative Management Using Drone Technology

F&W is committed to providing timberland owners with customized forest management solutions tailored to their individual needs and objectives. Innovation is one of F&W's core values, which the company implements by applying science, technology, and imagination to assist landowners in the management of their lands and to address unique forestry challenges.

When T.R. Clark, F&W regional manager covering Alabama and portions of Georgia, had a kudzu infestation problem in a client's young pine plantation stand, he turned to unmanned aerial vehicles (UAVs), better known as drones, to get the site treated.

Clark explains that not only was kudzu taking over the two-year-old loblolly pine plantation, but it also had a thick development of blackberry briars. The acreage needing to be treated was not necessarily big enough to attract a helicopter crew and many of the areas where the infestation was the worst were along streamside management zones (SMZs), where a helicopter would not be able to reach. The use of a skidder was ruled out as an option because of potential harm to the young pine trees during the treatment. And the existence of the briars would make it difficult for a backpack crew to execute uniform coverage of the area.

Clark worked with vegetation management company IVM Solutions to get the site treated with herbicide using a UAV.

"I became aware of the company and their capabilities about two years ago. They were covering a niche that has often been a real challenge in the past: tracts too small to attract aerial

applications but that also possess hurdles to ground treatments," Clark said.

"The UAV could reach the crevasses, fly over the briars and provide uniform coverage, all while being unintrusive to the planted pine," Clark added.

Clark said helicopter application is still the most economical method of treatment for tracts more than 30 to 40 acres, although he believes even larger tracts could benefit from this type of application if they have numerous "nooks and crannies" that make it challenging for helicopters to provide adequate coverage.

Because of the spray width and speed at which helicopters apply chemicals, they often have to shut off their nozzles to avoid over-spraying as they approach bends and turns in the treatment area. As Clark points out, "This can leave untreated corners, crevasses, and edges along the tract. The application rate, speed, and height of the UAV can be controlled more precisely, thus leaving no corner untreated."

Lands with numerous snags or trees left standing are not good candidates for UAV herbicide treatments because they could hinder the flight plan. While the UAV is still an aerial application, it flies much lower than a helicopter and the site needs to be clean and low-cut.

Clark said he has found the UAV application costs to be very similar and competitive with backpack or skidder treatment methods, although again on larger tracts, helicopters will still be the most economical option.

"I think we are just beginning to scratch the surface on the discoveries of how this technology will benefit forest



landowners. Forest inventories, logging progress and supervision, timber health monitoring, plantation survival surveys, and fertilization applications are just a few of the items at which we are looking," Clark concluded.

F&W offices have been operating UAVs since 2016, utilizing the technology to provide clients with a comprehensive range of services such as creating aerial maps, property inspections, calculating harvest acres, harvest status checks, reforestation survival checks, weather/insect damage, and herbicide efficacy.

IVM Solutions is an industry leader in providing chemical and mechanical vegetation management services to landowners, creating groundbreaking technologies that provide transparent reporting and giving vegetation management businesses more control over their processes. The company provides services across the Southeast through offices in Alabama, Arkansas, and Texas. The UAV operated by the company is larger and specialized to be capable of carrying solution, the spraying apparatus, and the onboard electronics to control flight and spray rate. Visit [www.ivmsolutions.com](http://www.ivmsolutions.com) to learn more. 🌲

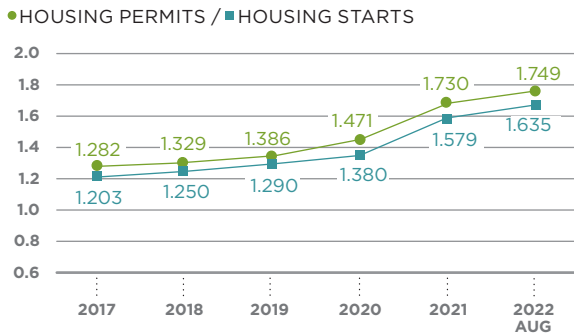
## Marshall Thomas (continued)

that it just seemed like every time we had some good things happen to our sector, something would offset it and prices would drop back to their previous levels. This time it's

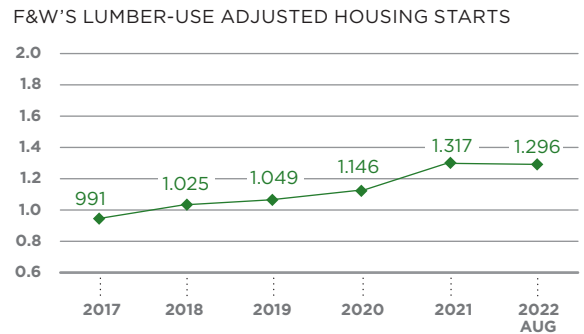
different. Yes, the weather and economy aren't working for us, and prices have dropped from last winter. But this time, they are holding at significantly higher levels than they

were one or two years ago. If we can just hold these higher levels, and wait for the economy to recover, maybe, just maybe, this will be the beginning of the next big rising price cycle. 🌲

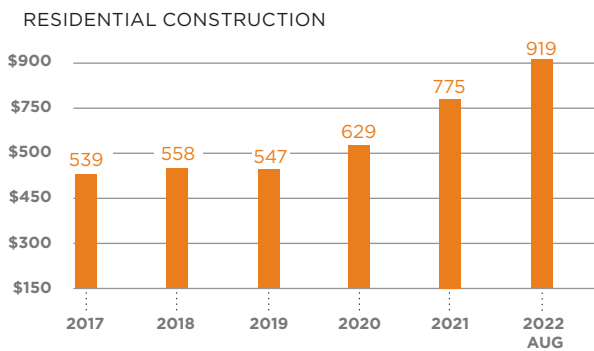
## TIMBER MARKET INDICATORS



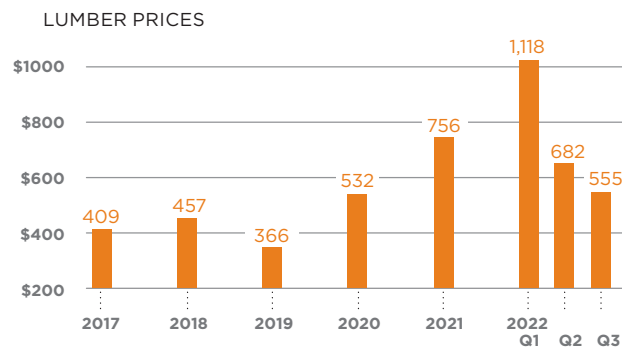
IN MILLIONS OF UNITS (2022 AVERAGE THROUGH AUGUST)  
Source: US Department of Commerce



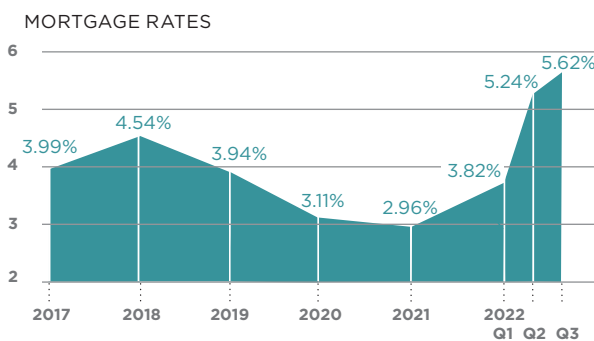
IN MILLIONS OF UNITS; TOTAL HOUSING STARTS WITH MULTI-FAMILY STARTS REDUCED TO 40 PERCENT TO BETTER REFLECT LUMBER USAGE  
Source: US Census and F&W Forestry Services



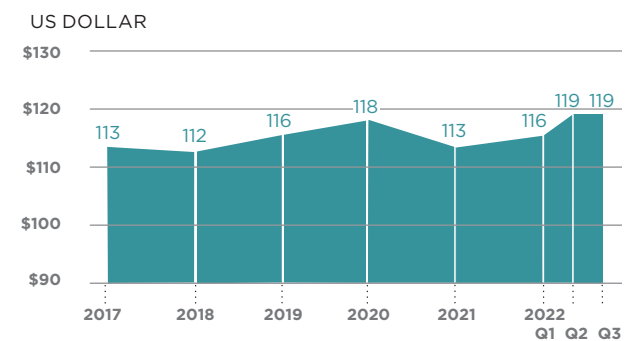
IN BILLIONS OF DOLLARS (2022 AVERAGE THROUGH AUGUST)  
Source: US Department of Commerce



SOUTHERN PINE—\$/MBF  
Source: Random Lengths Southern Pine Composite Index



30-YEAR FIXED RATE  
Source: Freddie Mac



US DOLLAR VALUE AGAINST 26 MAJOR TRADING PARTNERS  
Source: Federal Reserve