West Virginia’s forests:  

a growing resource

West Virginia is the third most heavily forested state in the nation behind Maine and New Hampshire. Forests cover 78 percent (12 million acres) of the state’s 15.4 million acres. Almost all of the forested land (11.8 million acres or 98.3 percent) is classified as commercial forestland, which is available for timber production.

Timberland accounts for a significant percentage of total land for all West Virginia counties, ranging from 43.7 percent in Berkeley and Jefferson counties to 93.5 percent in Webster County. In 2000, more than 88 percent of timberland in West Virginia was privately owned by individuals, corporate businesses, farmers and the forest products industry.

West Virginia is the second leading hardwood state in the nation with 22.3 billion cubic feet of hardwood growing stock, trailing only Pennsylvania. Oak/hickory is by far the dominant forest type in West Virginia at 71 percent of total timberland. Northern hardwoods, including beech, maple, yellow poplar and black cherry, account for 20 percent of total timberland.

Through proper management of the forest resource, West Virginia’s forests continue to mature. Sawtimber-size trees accounted for 70 percent of the state’s timberland in 2000, up from 44 percent in 1975. Stocking of the state’s timberland is also increasing. In 2000, 44 percent of the state’s timberland was considered fully stocked, up from 30 percent in 1989. Average volumes per acre on timberland have also steadily increased over the last half century.

While the most recent Forest Inventory and Analysis clearly shows improvement in West Virginia’s forests, health risks to the resource continue to demand proper management. While hardwoods dominate and continue to increase in the state, mortality is still a concern. An average of 138.5 million cubic feet of West Virginia hardwoods are lost due to mortality each year. Risks to the state’s forests come from a number of sources, including pests (beetles, gypsy moth, etc.), severe weather (ice storms, wind damage) and wildfires (most caused by human activities). Proper forest management to address these risks is critical to the prosperity of West Virginia’s forest-based industries.
West Virginia’s forests:

**economic impact**

West Virginia’s wood products industry contributes more than $4 billion annually to the West Virginia economy, trailing only the coal industry in economic contributions. West Virginia’s wood products industry accounts for nearly 30,000 jobs across the state and pays in excess of $703 million of employee compensation. All of this activity generates significant tax revenues for the state, including $45.4 million in timber severance taxes, consumer sales taxes, personal income taxes, corporate net income taxes and business franchise taxes.

Contrary to the trends in mining and non-wood manufacturing industries, employment in wood products and furniture industries rose from 6,500 in 1980 to 11,800 in 2004.

During the same period, the contribution of wood products and furniture industries to the state’s GSP (gross state product) in private sectors also rose from 0.8 percent in 1980 to 1.1 percent in 1990 and went up further to 1.7 percent in 2001, according to data from the U.S. Bureau of Economic Analysis.

### Economic Impact of Wood Products

<table>
<thead>
<tr>
<th>Type of Impact</th>
<th>Direct Impact</th>
<th>Indirect and Induced Impact</th>
<th>Total Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Volume (Sales)</td>
<td>$2,032,861,000</td>
<td>$1,982,027,000</td>
<td>$4,014,888,000</td>
</tr>
<tr>
<td>Employment per Year (Jobs)</td>
<td>15,600</td>
<td>14,200</td>
<td>29,800</td>
</tr>
<tr>
<td>Employee Compensation</td>
<td>$382,619,000</td>
<td>$320,842,000</td>
<td>$703,461,000</td>
</tr>
<tr>
<td>Assorted State Taxes</td>
<td>$22,718,000</td>
<td>$19,695,000</td>
<td>$42,413,000</td>
</tr>
</tbody>
</table>
West Virginia’s forests:

The two brightest spots in the wood products industries are assorted wood products manufacturing and furniture manufacturing. Assorted wood products include Oriented Strand Board (OSB), plywood, and flooring. Employment in assorted wood products has exhibited strong growth since 1990, despite job losses in the U.S. since 1999.

Similarly, employment in furniture manufacturing has been an engine of growth for the state. Jobs in furniture manufacturing remained stable throughout the early to mid-1990s. The state has experienced strong growth since 1997 while the U.S. has suffered job losses in furniture manufacturing since 2000.
Beyond timbering

West Virginia's forests contribute to the West Virginia economy in many other ways besides the harvesting and processing of timber. Some of these contributions are easily quantifiable, while others are not.

Wildlife-associated recreation

Wildlife-associated recreation includes fishing, hunting and wildlife-watching activities. In 2001, 843,000 participants in wildlife-related recreation in West Virginia spent about $497 million and generated $803 million in economic impacts for the state.

Wildlife enthusiasts spent about $333 million; participants in wildlife-watching activities spent about $164 million. There were 444,000 sportspersons and 605,000 wildlife-watching participants. These do not add to the total number of participants because individuals can be sportspersons and wildlife-watching participants at the same time. Economic impact data are derived from American Sportfishing Association, "Sportfishing in America: Values of Our Traditional Pastime," 2001; International Association of Fish and Wildlife Agencies, "Economic Importance of Hunting in America," 2001; and Southwick and Associates, "The 2001 Economic Benefits of Watchable Wildlife Recreation in West Virginia."

Forest-related recreation

The forest-related recreation and tourism sector is more difficult to define than the other forest-related sectors. The attribution of recreation and tourism activities to use of the forest is not straightforward, and data that might directly link recreation and tourism to forest-based activities are not available.

According to 2001 West Virginia Economic Impact of Tourists and Travelers, a study by the West Virginia Division of Tourism, in 2001 the total economic impact of tourism in West Virginia amounted to $4.86 billion. This figure includes direct spending by tourists in West Virginia of $3.1 billion and tax revenues of $187.1 million. The study shows that direct impact of tourists' and travelers' spending created 78,702 jobs, while indirect and induced impacts created 13,341 and 13,535 jobs, respectively. The annual report doesn't discriminate economic impact by activity; but among the 22 million visitors, the most popular activities are sightseeing (20 percent), parks (17.8 percent), hiking/biking (15.5 percent), historic sites (10.1 percent) and hunting/fishing (8.6 percent). Most of these impacts directly or indirectly rely on West Virginia's forests.
Specialty forest products:

**Medicinal plants (including ginseng)**

Numerous medicinal plants are gathered and traded in West Virginia, including ginseng, goldenseal, star grub, Virginia snake root, bloodroot, mayapple and sassafras. Ginseng, a native plant of West Virginia, grows in all 55 counties of the state and is the most popular of all medicinal plants gathered, due to the high price that can be obtained for the root. State law regulates its collection. Each year ginseng roots are dug between September 1 and November 30.

In West Virginia, people have harvested ginseng as a cash crop for more than 100 years. It contributes an average of approximately $2 million to $3 million to the state’s economy annually (diggers and dealers combined). Recent data from the West Virginia Division of Forestry indicates that in 2005, ginseng harvest totaled 5,900 pounds of wild root and 600 pounds of woods grown, wild simulated and cultivated root.

The Division of Forestry operates the state’s only forest tree nursery at West Columbia, north of Point Pleasant on the Ohio River. The nursery produces and offers for sale more than 30 tree species, including hardwoods such as oak, locust, yellow poplar, sycamore, ash, black cherry, walnut, butternut, hickory and chestnut. The softwoods or conifers include several varieties of pines, spruce, larch and fir.

On average, nursery tree sales total more than 1.4 million seedlings annually. These trees are planted for cover, reforestation, erosion control, Christmas trees, wildlife plantings and windbreaks. Much of the seed grown at the nursery comes from within the state. The nursery routinely purchases oak, chestnut, poplar, walnut, butternut and hickory seed from West Virginia landowners.

**Christmas tree industry**

Data on sales or statistics about this industry is difficult to access. In an interview with the Associated Press in February 2002, Bob Whipkey, a Christmas tree grower, affirmed that the Christmas tree industry in West Virginia is a $3 million-a-year industry. Results from the 2002 Census of Agriculture show that 60,098 Christmas trees were cut in West Virginia with a total sales value of $1,182,000. These numbers do not include to-be-cut Christmas trees.

**Other specialty forest products**

Many other specialty forest products contribute to the West Virginia economy. Fruits, tree nuts and berries directly contribute $11.4 million annually to the West Virginia economy. Apple orchards dominate with nearly $7.2 million in sales annually. Nursery and tree production also provides significant revenues each year, contributing $8.6 million in 2002.
Other benefits:

**Water quality and erosion control**

West Virginia’s forests play a crucial role in water quality and erosion control. West Virginia’s forests reduce stream sedimentation and stabilize stream banks. The forests act as natural filters and reduce the need for treating water. The forests also improve the air that we breathe. While these impacts are difficult to measure, they provide significant benefits throughout the entire state.

**Air pollution and carbon dioxide reduction**

“Trees are the cheapest and most efficient way to sequester and store carbon from the atmosphere, which reduces the impact from burning fossil fuels,” according to Virginia’s Forests: Our Common Wealth, 2001, Virginia Department of Forestry. West Virginia’s trees store 376.6 million metric tons of carbon and this continues to rise. This is equivalent to removing more than 1.3 billion metric tons of carbon dioxide from the air. As the volume of wood increases, so does carbon dioxide removal with a value worth millions of dollars to the state.

West Virginia’s forests also help reduce other pollutants, including carbon monoxide, sulfur dioxide, nitrogen dioxide, ozone and particulate matter.

While the value of these benefits is difficult to estimate, other studies indicate that the value to the state of West Virginia is in the millions, if not billions, of dollars.

**Improved quality of life**

West Virginia’s forests also contribute to the overall quality of life in the region. West Virginia’s forests contribute to the state’s scenic beauty and have made West Virginia one of the nation’s fastest growing states for second homes.

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### Economic Impact of Tourists and Travelers: 2001

**West Virginia Economy**

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For more information visit www.wvforestry.com or contact one of the Division of Forestry offices listed below.

**State Headquarters**
1900 Kanawha Boulevard, East
Charleston, West Virginia 25305-0180
Office (304) 558-2788 • (304) 558-0143 fax

**Fairmont Office**
Route 2, Box 1100
Fairmont, WV 26554
(304) 367-2793 • (304) 367-2795 fax

**Romney Office**
1 Depot Street
Romney, WV 26757
(304) 822-4512 • (304) 822-8067 fax

**Beckley Office**
330 Harper Park Drive, Suite J
Beckley, WV 25801
(304) 256-6775 • (304) 256-6770 fax

**Milton Office**
P.O. Box 189
878 East Main Street Rear
Milton, WV 25541
(304) 743-6186 • (304) 743-0218 fax

**Parkersburg Office**
2309 Gihon Road
Parkersburg, WV 26101
(304) 420-4515 • (304) 420-4517 fax

**Clements State Tree Nursery**
624 Forestry Drive
West Columbia, WV 25287
(304) 675-1820 • (304) 675-6626 fax

The information in this brochure was distilled from “West Virginia’s Forests: Growing West Virginia’s Future,” by Randall A. Childs of the Bureau of Business and Economic Research, College of Business and Economics, at West Virginia University, published in June 2005 and from the United States Department of Agriculture publication “The Mountain State’s Forests – Trends in the Resource” (NE-INF-152-04). Mr. Child’s research was funded by the Division of Forestry through a USDA Forest Service Economic Action Program Grant.

Photography by Robert L. Bell, David Fattaleh, Leslie Fitzwater, Roy Mann, Steve Shaluta, Ron Snow and Alex Wilson