South Carolina Forestry Commission

South Carolina 2014 Forestry Report
SC Code 48-23-90

Protecting and Developing SC’s Forest Resource

Gene Kodama
SC State Forester
February 27, 2014
Forest Values

- Wood Products
- Jobs
- Water Treatment
- Scenic Beauty
- Quality of life
- Wildlife
- Oxygen
- Carbon Storage
13.1 million Timberland Acres

South Carolina Land Use Trends
1936 to 2011

- Urban & Other
- Agricultural Land
- Forestland
Private non-industrial landowners are the key to wood supply.

Area of South Carolina Timberland by Ownership Group, 2010

- Federal: 8%
- State and Local: 4%
- Forest Industry: 6%
- Nonindustrial Private: 82%
1. Actively managed for timber, wildlife, and recreation
2. 94,000 acres in 5 forests.
3. Generate about $3.5 million annually, $37/acre.
4. Self sufficient on 75% of revenue generated.
5. 25% of revenue given to school systems in counties of origin, $1 million in 2010.
SC’s forests contain more wood than ever recorded!

**Total Wood Volume on South Carolina Timberlands**

1936 - 2011

[Bar chart showing wood volume from 1936 to 2011, comparing softwood and hardwood volumes.]
More than double the wood on “same” acreage
SC’s forests are growing 1.9% per year.
1. Thank you for recent staffing and equipment funding.
2. 23 of 100 total vacancies filled and 19 more to be filled this year (42 total)
3. Within 10% of manned dozers goaled (160).
4. 21 of 160 open cab dozers replaced and 15 more will be replaced this year (36 total).
5. Additional capital funds needed to replace 124 open-cab dozers faster.
6. Protection for forest resource investments, homes, and the public is improving.
Forestry’s Economic Impact

#1 manufacturing industry in jobs & wages

$17.4 billion total economic impact

$1.4 billion in forest products export

#1 export from Charleston port

#1 rural commodity in SC

“There is no more well-defined cluster (than forest industry) that has a bigger impact on the state’s economy.”

Dr. Doug Woodward, USC Moore School of Business
Primary Mill Directory

http://www.state.sc.us/forest/prod.htm
Secondary Mill Directory

http://www.state.sc.us/forest/prod.htm
Grow forest industry from $17 to $20 billion in total economic impact by 2015.
1. Retain & strengthen forest industry
2. Assess the present and future forest resource.
3. Increase wood supply through applied Research & Development
4. Address infrastructure needs.
5. Promote SC forest products and business opportunities.
6. Better protect forest resource and business investments.
Hurricane Hugo, CRP, and recession created an uneven age structure.

**Pine Acreage by 5-Year Age Bracket, SC Forestland 2010**
More acres are being thinned than receiving final harvest.

Area of Timberland Harvested
Hardwoods and Softwoods

- Final Harvest
- Commercial Thinning

Tree planting is at a 40-year low and needs to increase.
Total wood inventory will continue to grow in the near future...
Supply of large diameter pines will continue to grow.
Supply of small-diameter trees will peak soon then decline.
The amount of pulpwood coming from large diameter trees is growing.

**Softwood Sawtimber-Sized Tree Use by Product in South Carolina**

<table>
<thead>
<tr>
<th>Year</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>100</td>
</tr>
<tr>
<td>1997</td>
<td>90</td>
</tr>
<tr>
<td>1999</td>
<td>80</td>
</tr>
<tr>
<td>2001</td>
<td>70</td>
</tr>
<tr>
<td>2003</td>
<td>60</td>
</tr>
<tr>
<td>2005</td>
<td>50</td>
</tr>
<tr>
<td>2007</td>
<td>40</td>
</tr>
<tr>
<td>2009</td>
<td>30</td>
</tr>
</tbody>
</table>

- **Other**
- **Composite Panels**
- **Poles**
- **Veneer**
- **Pulpwood**
- **Sawtimber**
South Carolina Production of Primary Timber Products (1936-2011) with Projections through 2020

Volume of Roundwood Processed (million cubic feet)

- Posts & pilings
- Composite panels
- Veneer logs
- Saw logs
- Pulpwood
Recent industry expansion.

“Sonoco unveils $75 million biomass boiler.” (1/17/14)
“Canfor Southern Pine to expand Darlington lumber facility.” (12/18/13)
“EDF Renewable Energy opens 2 biomass facilities in Harleyville and Allendale.” (12/17/13)
“Associated Hardwoods locating new facility in Cherokee County.” (9/13/13)
“Georgia-Pacific to begin operating Clarendon OSB mill.” (3/1/13)

Plus large increases in production at existing sawmills.
Expansion needed in sawmilling segment.

- Utilize available timber
- Create more value-added jobs
- Produce more wood chips to fill shortage of pulpwood
- Improve cash flow to landowners
- Increase economic impact
Secondary forest product manufacturing needs to grow.
Growing exports helps to meet 20/15 goals.

South Carolina Forest Products Export

Forest Products: A Growing Industry
- South Carolina exports about $3.3 billion in forest products annually.
- The forest industry's economic impact on the state's economy is over $1.7 billion annually.
- Forestry ranks among the state's manufacturing industries in jobs (30,682), and sales ($41.5 billion).
- Timber is South Carolina's 2nd most cash crop at $976 million annually.

Export Transportation Infrastructure
Overall, exports of forest products have doubled since 2001, from exports valued at $504 million in 2001 to more than $1.3 billion in 2005. However, due to the recession in 2009, there was a slight decrease in exports. But the figures have since improved (Figure 1).

Most of South Carolina's forest products are shipped via trucks, but getting products to market is costly and time-consuming in the recent years for forest products. Forest products are aggregated or bundled per most shippers.

Forest products (קראים, 목재, ไม้, 木, etc.) and wood pulp and paper are the most shipped products. Forest products vary in volume, depending on the type of forest product. Forest products are shipped by air, sea, and truck.

Global Demand on the Rise for S.C. Products
South Carolina forest products are in demand around the world (Figure 2). Our customers are well diversified across many countries. And the fact that the top five foreign destinations for forest products account for only 36% of the total forest products exported to foreign nations.

Total exports to Canada during the four-year period between 2007 and 2010 amounted to about $993 million. Exports to Germany (559M), Italy (152M), Netherlands (357M) and China (314M) complete the list of the top five export destinations.

<table>
<thead>
<tr>
<th>Export Destination</th>
<th>Value (Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>993</td>
</tr>
<tr>
<td>Germany</td>
<td>559</td>
</tr>
<tr>
<td>Italy</td>
<td>152</td>
</tr>
<tr>
<td>Netherlands</td>
<td>357</td>
</tr>
<tr>
<td>China</td>
<td>314</td>
</tr>
</tbody>
</table>

* Figures may not add up due to rounding and exchanges rates.
Forest products are being exported worldwide

### Top Markets for Wood Products in 2010 - Country/Commodity Matrix

<table>
<thead>
<tr>
<th>Rank</th>
<th>Paper/Paperboard</th>
<th>Wood Pulp</th>
<th>Wood and Articles of Wood</th>
<th>Wood Furniture</th>
<th>Prefabricated Buildings</th>
<th>Wood-Based Chemical Products</th>
<th>Pulp/Paper Processing Machinery</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Canada</td>
<td>Italy</td>
<td>Canada</td>
<td>Czech Republic</td>
<td>Canada</td>
<td>China</td>
<td>Canada</td>
</tr>
<tr>
<td>2</td>
<td>Netherlands</td>
<td>Germany</td>
<td>Japan</td>
<td>Panama</td>
<td>Russia</td>
<td>Switzerland</td>
<td>Pakistan</td>
</tr>
<tr>
<td>3</td>
<td>Germany</td>
<td>S. Korea</td>
<td>China</td>
<td>Germany</td>
<td>Trinidad and Tobago</td>
<td>Finland</td>
<td>Colombia</td>
</tr>
<tr>
<td>4</td>
<td>UK</td>
<td>India</td>
<td>Australia</td>
<td>Canada</td>
<td>Thailand</td>
<td>S. Korea</td>
<td>Malaysia</td>
</tr>
<tr>
<td>5</td>
<td>Mexico</td>
<td>Belgium</td>
<td>Taiwan</td>
<td>India</td>
<td>Bahamas</td>
<td>UK</td>
<td>Mexico</td>
</tr>
<tr>
<td>6</td>
<td>Turkey</td>
<td>China</td>
<td>South Korea</td>
<td>Russia</td>
<td>Germany</td>
<td>South Africa</td>
<td>Poland</td>
</tr>
<tr>
<td>7</td>
<td>China</td>
<td>Japan</td>
<td>Vietnam</td>
<td>Ecuador</td>
<td>Antigua and Barbuda</td>
<td>Nigeria</td>
<td>Germany</td>
</tr>
<tr>
<td>8</td>
<td>France</td>
<td>Mexico</td>
<td>Germany</td>
<td>Jordan</td>
<td>Chile</td>
<td>Canada</td>
<td>Taiwan</td>
</tr>
<tr>
<td>9</td>
<td>Ecuador</td>
<td>Poland</td>
<td>New Zealand</td>
<td>Saudi Arabia</td>
<td>Australia</td>
<td>India</td>
<td>Turkey</td>
</tr>
<tr>
<td>10</td>
<td>Taiwan</td>
<td>Netherlands</td>
<td>UK</td>
<td>Dominican Republic</td>
<td>N/A</td>
<td>Indonesia</td>
<td>Indonesia</td>
</tr>
</tbody>
</table>

*North America  Asia  European Union  South America  Middle East  Other*

* Top Markets represent countries which account for the most commodity sales in 2010 (in $ Sales)

(+/−): amount moved up or down in ranking from 2009 to 2010, (n/a): no exports in 2009
Panama Canal expansion and Charleston Port deepening will increase exports
Manufacturing and jobs are positioned to expand with timber growth and new markets.
SC Forest Manufacturing's Economic Impact

- #1 in jobs (90,000)
- #1 in wages paid ($4.1B)
- #1 commodity ($759mm)
- #1 Charleston port export
- $1.4 billion export total
- $17.4 billion in total economic impact

...while providing clean water and air, wildlife habitat, recreation, and desirable quality of life.

“An Ideal Industry”
SC Forest Manufacturing's Economic Impact Multipliers

- $17.4 billion in economic impact
- From 23.4 MM tons
- $744/ton economic impact
- One job per 260 tons
- One job per 10.4 log truck loads
- 2009 production: 20.4 MM tons
- 2011 production: 23.4 MM tons (A 15% increase)

...while providing clean water and air, wildlife habitat, recreation, and desirable quality of life.

“An Ideal Industry”
$17.4 B economic impact

23.4 M tons of wood

90,000 jobs
Economic Impact Relationships

- $17.4 B and 90k jobs from 23.4 M tons of wood
- One ton = $744 impact
- 260 tons = one job
- 10.4 log trucks = one job
20/15 Project

- $20 B economic impact by 2015
- Increase production to 26.9 M tons
- And/or increase value to $855/ton
- Adds 14,000 jobs, 104,000 total
Protect the forest resource and the public.
Encourage and incent private landowners to produce more timber.
Plant trees on idle agricultural land.
Utilize improved tree genetics and known silvicultural techniques.
Increase secondary manufacturing.
South Carolina has a wonderful forest resource and a bright forestry future!
SC Forestry Commission

2014 Ice Storm Impact to Forest Resource
Forest Industry Mills

Primary Mills

Secondary Mills (Charleston area)
Total wood inventory grows, but not across all age classes.

Sawtimber supply grows. Pulpwood peaks soon, then declines.
SC Has Lowest % Planted Acreage in 0-15 Age Class of any Southeastern State
2014 Ice Storm
2014 Ice Storm Damage Corridor

Total Area Impacted by Ice Damage:

24 Counties

7,465,000 Total Land Acres
3,893,500 Forestland Acres
Pine Plantation Damage
Pine Plantation Damage
Pine Plantation Damage
South Carolina Forestry Commission

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www.trees.sc.gov