Land Valuation from Recreation in Mississippi

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19.8 million acres in forests in Mississippi
12.5 million acres in private ownership
11.5 million acres in farmland in Mississippi
4.2 million acres in harvested cropland
4 million acres in wetlands & wetland forests in Mississippi
1 million acres enrolled in Conservation and Wetlands Reserve Programs in Mississippi
Outdoor Recreation in Mississippi

- **Hunting**
  - $1.2 billion impact
- **Fishing**
  - $690 million
- **Wildlife Watching**
  - $791 million spent
- **Total impact**
  - $2.7 billion
  - 71,435 jobs created
Study Objectives

- Limited information on influence of outdoor recreation on land sales and valuation
- Does outdoor recreation influence rural land sales and values
- What effects, if any, do land types, wildlife species, and wildlife-related recreation have on land sales in Mississippi
- What recreational factors influence land values
Methods

• Questionnaire developed
• Lenders and appraisers with Federal Land Bank, Mossy Oak Properties, & Rutledge Investment Company, Inc.
• Property sales inventory
  – Located in MS
  – Sales occurred between 2003-2008
  – Outdoor recreation noted by buyer as reason for purchase
Methods

• Land information obtained
  – Land uses and cover types
    • Agricultural, forests, other
  – Potential recreational uses and location
  – Game species presence
  – Cost-share participation
  – Property amenities
  – Purchase prices of properties and value gained from outdoor recreation

• Leasing activities
Results

- 807 properties collected in 81 MS counties
- Totaling 253,449 acres
- Distribution
  - Delta – 60%
  - North – 25%
  - South – 15%
- Forests represented 71% of land covers
  - 70% in Delta
# Results

Forest Covers on Tracts Sold in Mississippi

<table>
<thead>
<tr>
<th>Cover Type</th>
<th>Total Acres</th>
<th>Mean Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Pine (n=74)</td>
<td>8,525</td>
<td>115</td>
</tr>
<tr>
<td>Upland HW (n=95)</td>
<td>18,097</td>
<td>190</td>
</tr>
<tr>
<td>Btmland HW (n=131)</td>
<td>59,702</td>
<td>456</td>
</tr>
<tr>
<td>Pine/HW (n=124)</td>
<td>28,170</td>
<td>227</td>
</tr>
<tr>
<td>Planted Pine (n=154)</td>
<td>26,380</td>
<td>171</td>
</tr>
<tr>
<td>Forest Tracts (n=723)</td>
<td>179,453</td>
<td>248</td>
</tr>
</tbody>
</table>
Results

• Recreational Land Uses
  – Hunting – 99%
  – Horse trail riding – 24%
  – Wildlife watching – 5%

• Game species perceived to be on tracts
  – Deer (95% of parcels)
  – Turkey (85% of parcels)
  – Waterfowl (20% of parcels; 45% in Delta)

• Buyers residence
  – 62% MS; 33% LA & 5% GA
Results

• 14% of properties were leased for hunting
  – Earned $20.72/acre
  – Mean tract size of 183 acres

• Mature forests – NRE’s
  – Majority of stands > 30 years

• 51% increase in sales proceeds received due to outdoor recreation
  – Representing $631/acre
  – $160 million in sales proceeds
Results

- Regression modeling - Statewide
- \[ TSP = 227,479 + 1,930 \text{ (Plt Pine)} + 1,158 \text{ (Nat Pine)} + 2,170 \text{ (UP HW)} + 2,375 \text{ (BTM HW)} + 1,712 \text{ (Pine/HW)} \]
  - Adjusted \( R^2 = 0.78 \)
  - \( P \leq 0.001 \)
- Bottomland hardwood forests (PCC = 0.86) have stronger influence on land values
  - Followed by Pine/HW (0.34), Plt Pine (0.33), UPHW (0.25), and Nat Pine (0.11)
Results

• Regression modeling – Delta Region
• \[ TSP = 312,035 + 2,361 \text{ (BTM HW)} + 1,837 \text{ (Pine/HW)} + 2,381 \text{ (UP HW)} \]
  – Adjusted \( R^2 = 0.79 \)
  – \( P \leq 0.001 \)
• Bottomland hardwood forests (PCC = 0.88) have stronger influence on land values, followed by mixed pine hardwood (PCC = 0.34) and upland hardwood forests (PCC = 0.24)
Implications

• Forests increased rural land sales value
  – Important habitats for wildlife game species
  – Buyers seeking these attributes
• Forests diversify income and wildlife habitat potential
• Landowner’s objectives for land management are important