

# Forest Industry in Virginia



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# Forest Resource Assessment

2000 POPULATION DENSITY  
AND FOREST LANDS

**Legend**

Water

Federal Lands

**Population Density Categories**

High

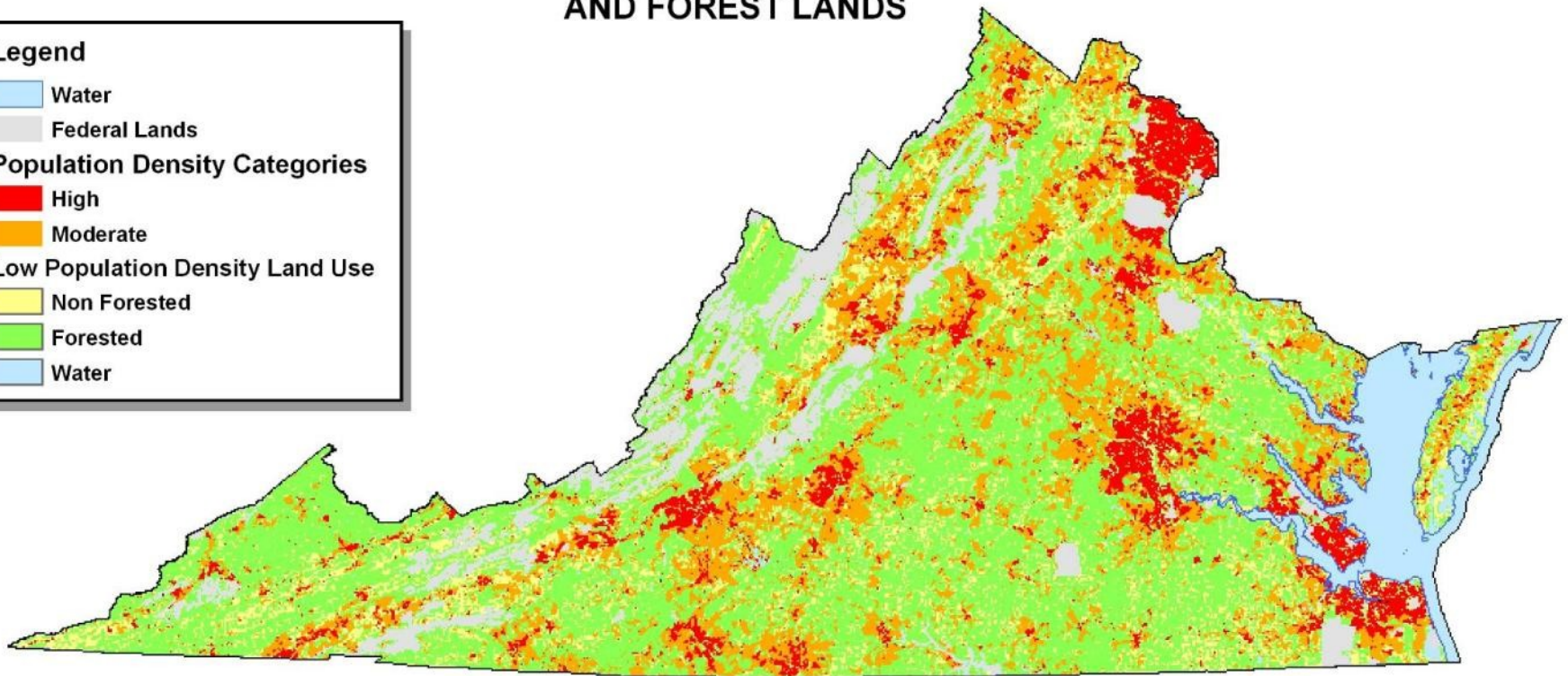
Moderate

**Low Population Density Land Use**

Non Forested

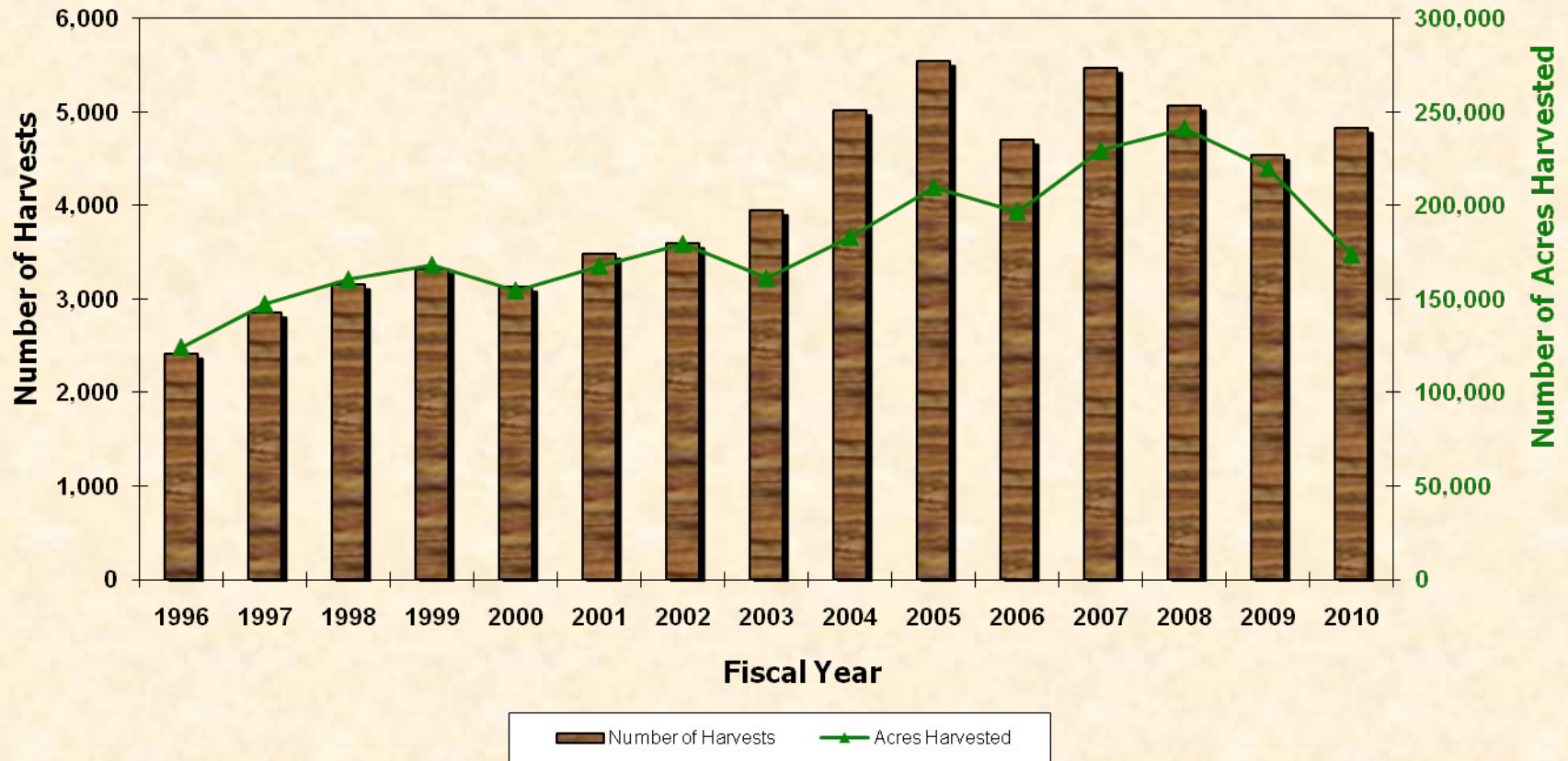
Forested

Water



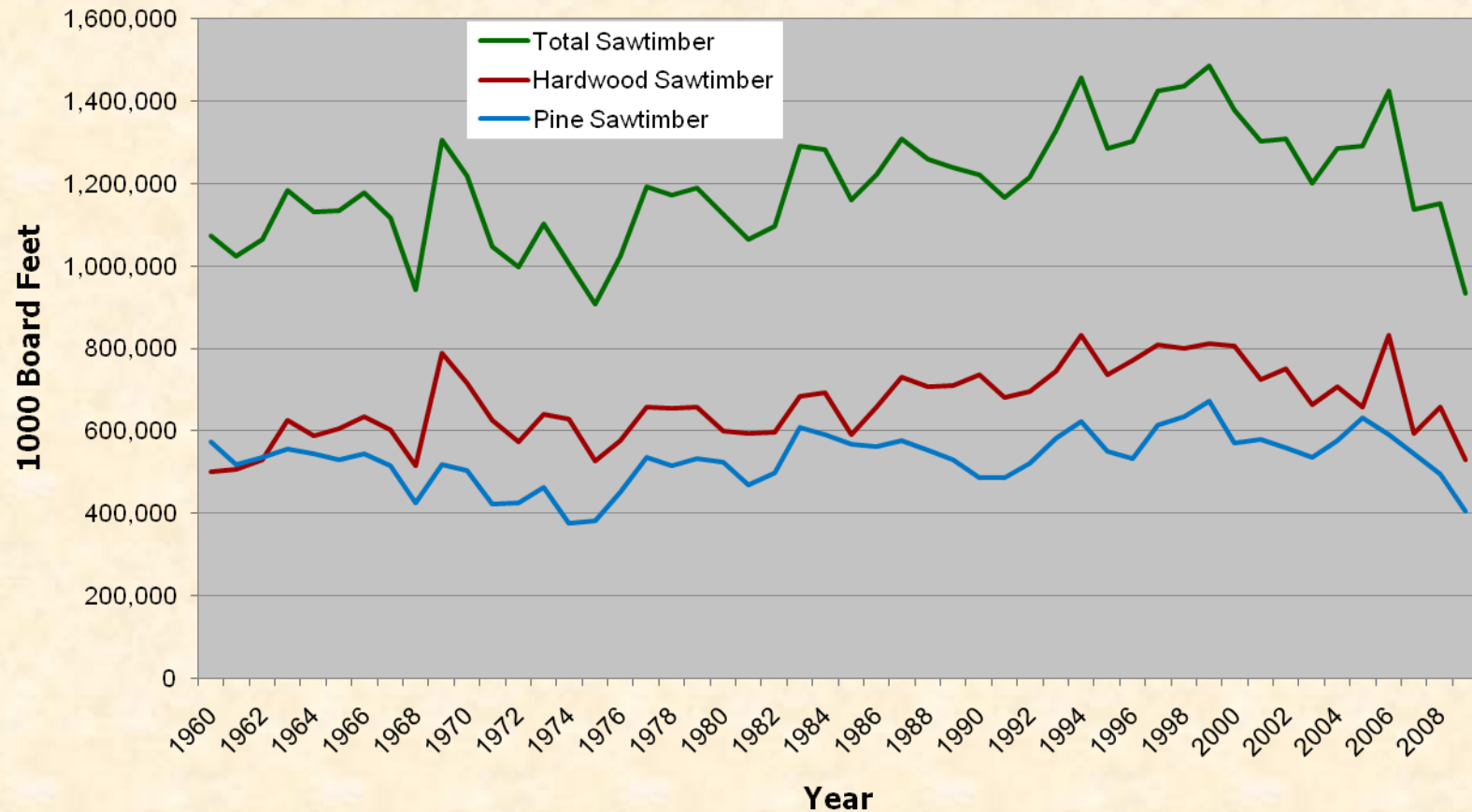


# Timber Harvests in Virginia (1996-2010)

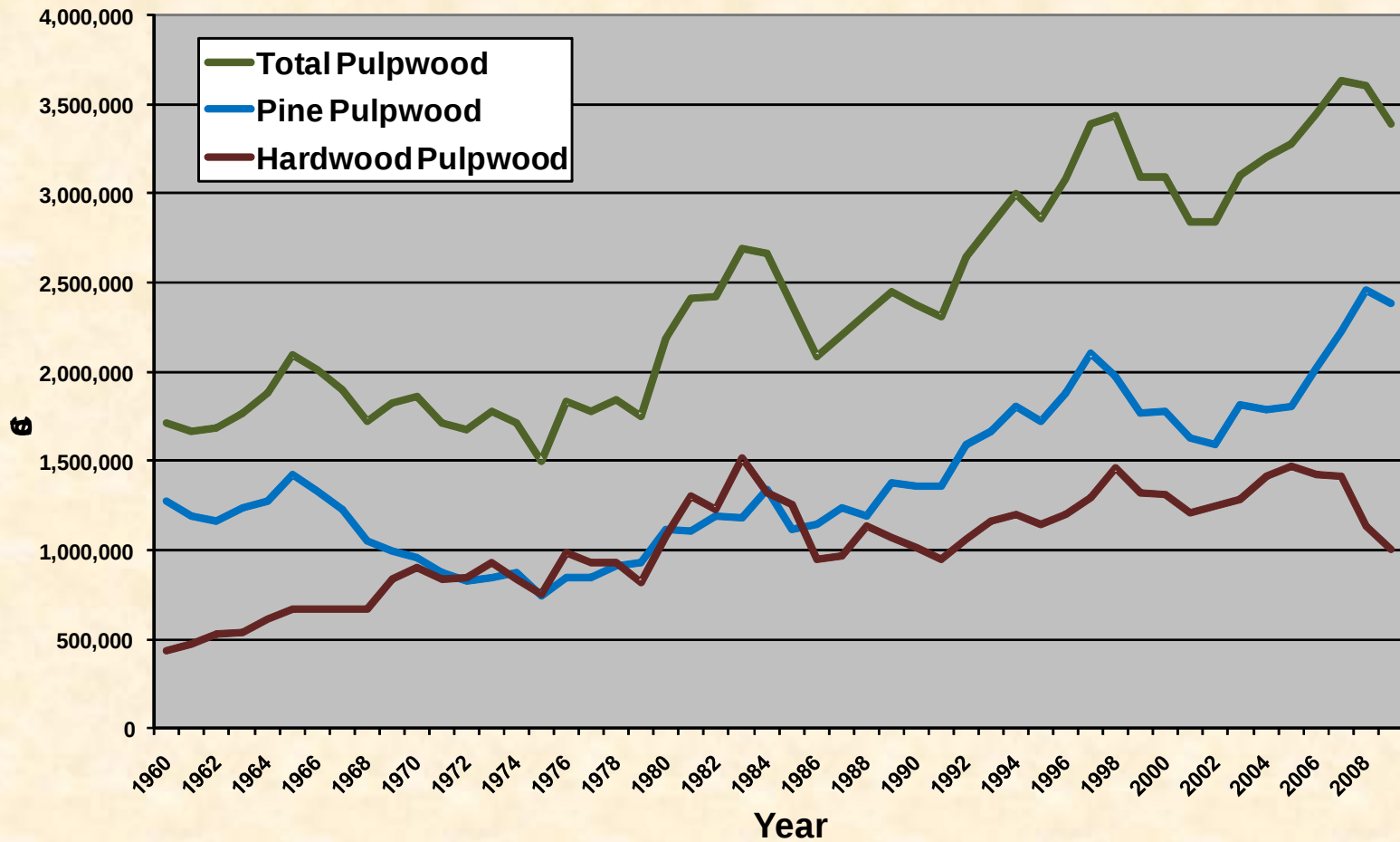


**DOF inspects over 5,000 harvests annually with an average size of 40 acres**

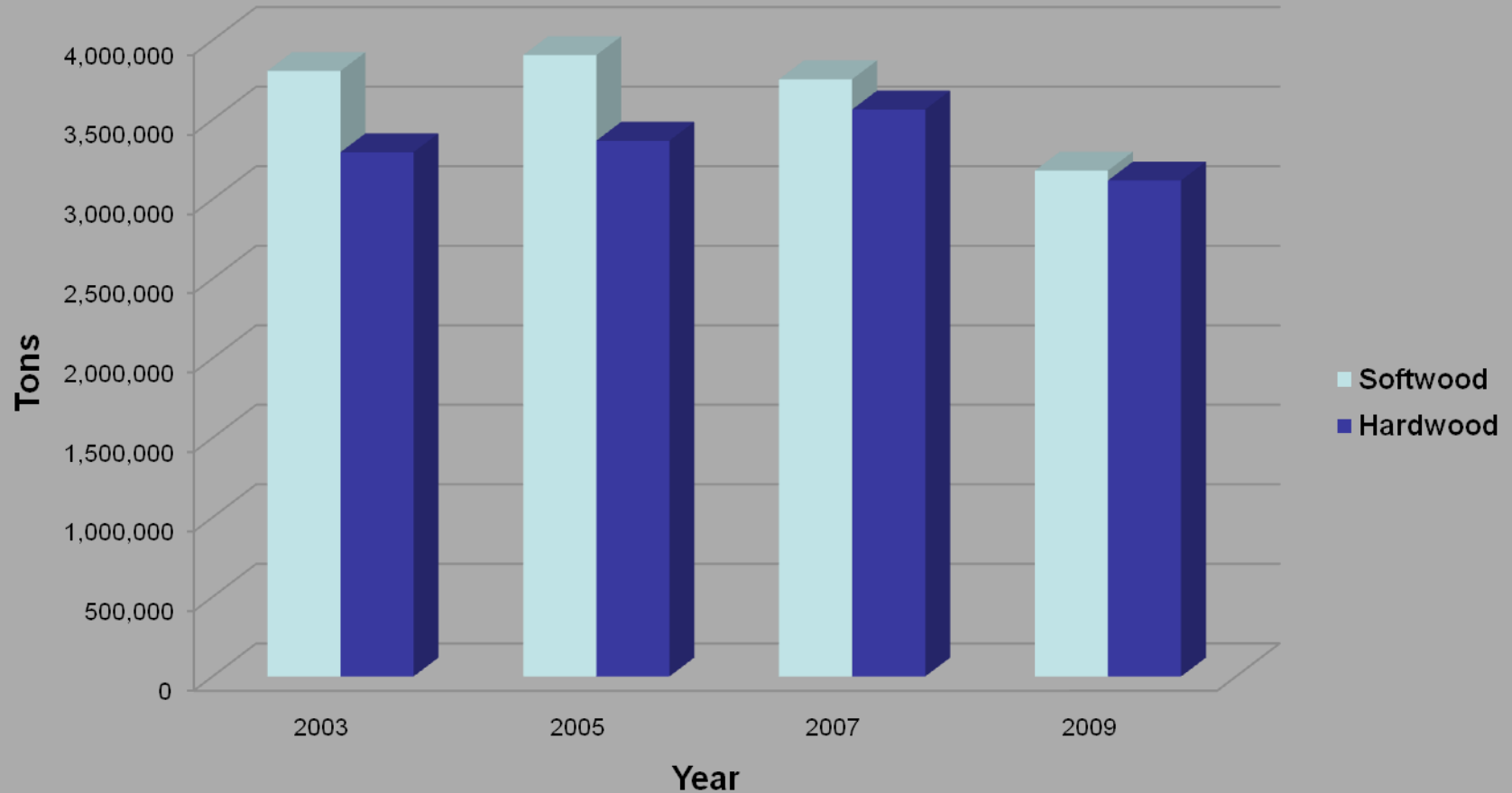
# Virginia Sawtimber Harvest



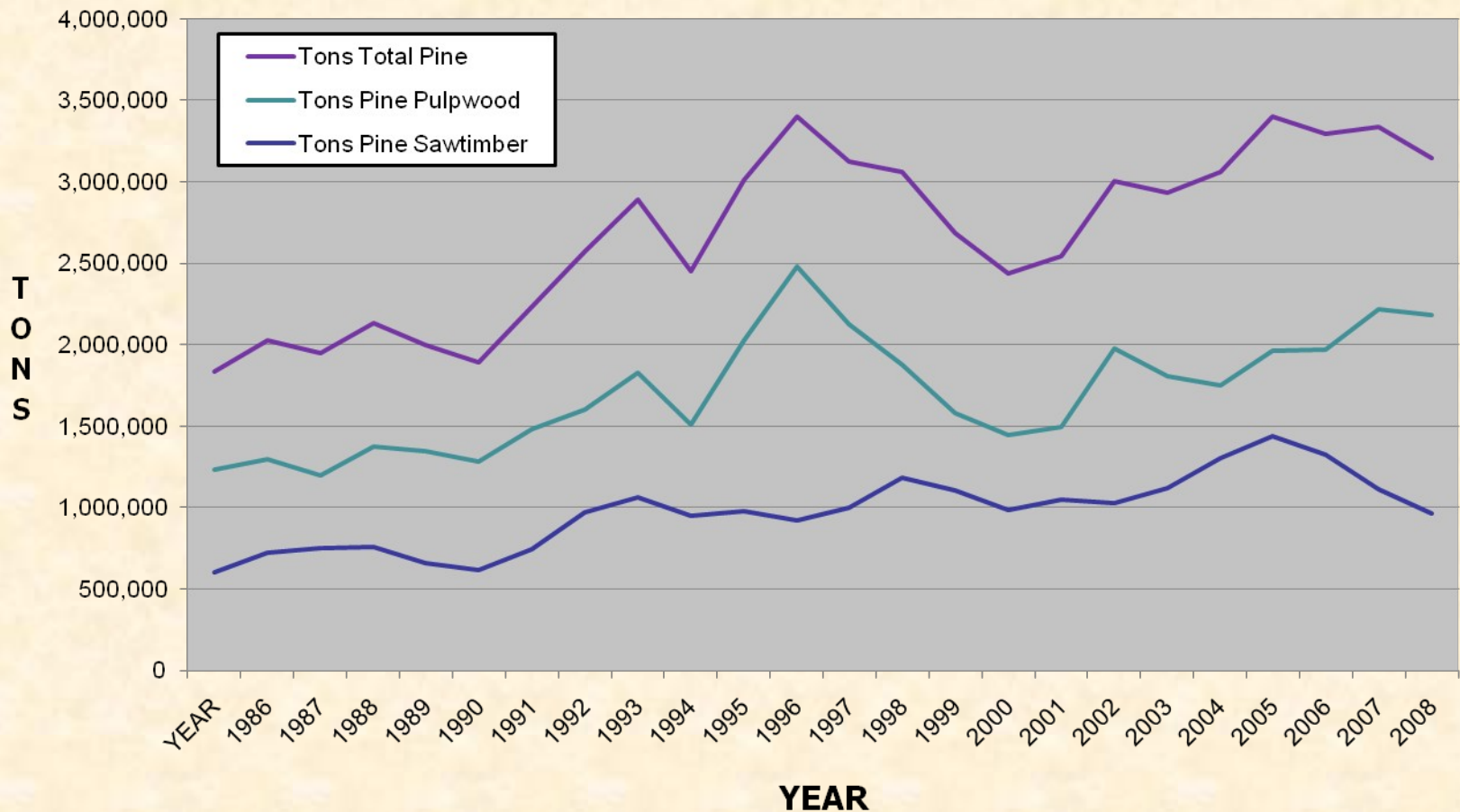
# Virginia Pulpwood Harvest



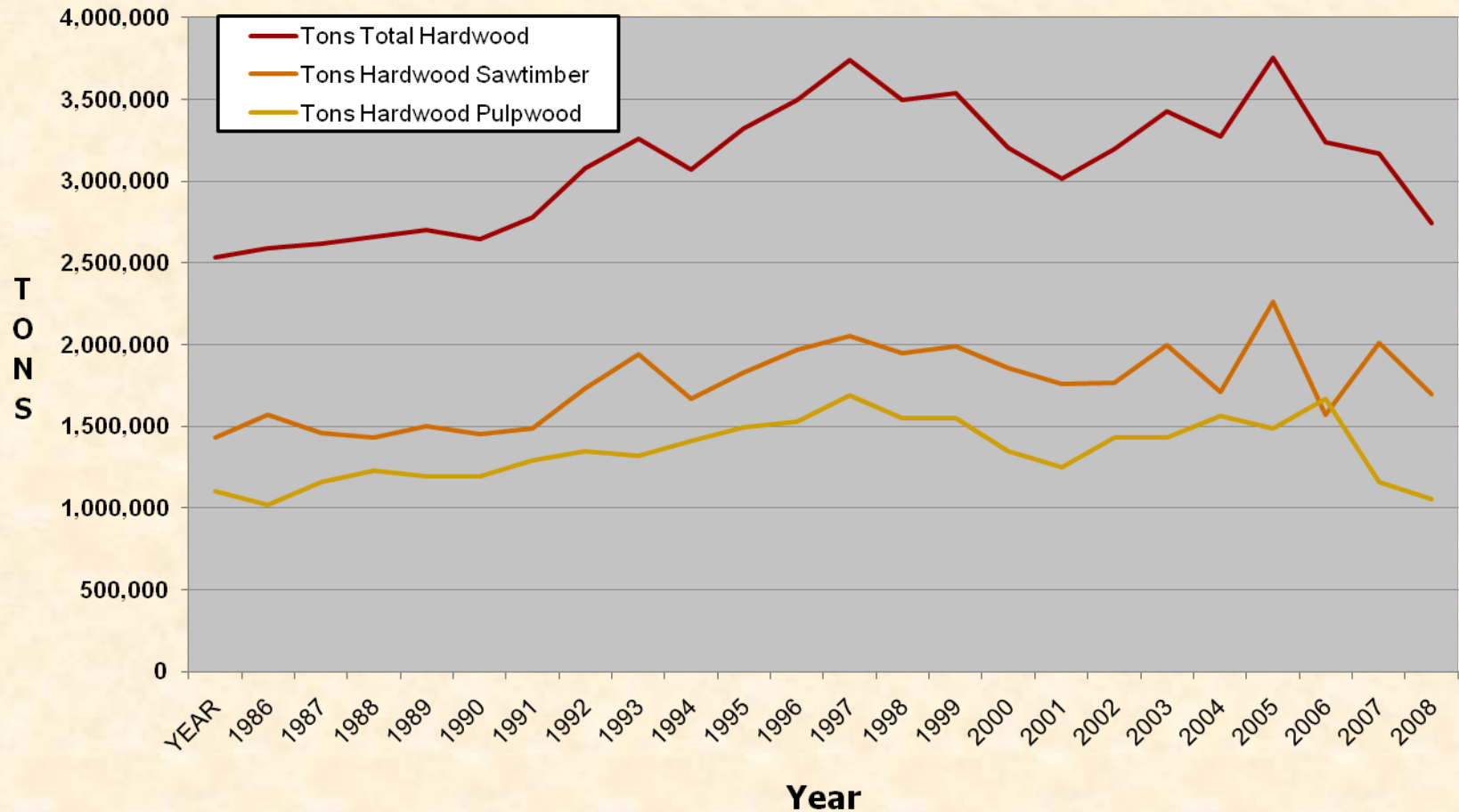
# Virginia Southern Piedmont Timber Products Output



# Virginia Southern Piedmont Pine Harvest



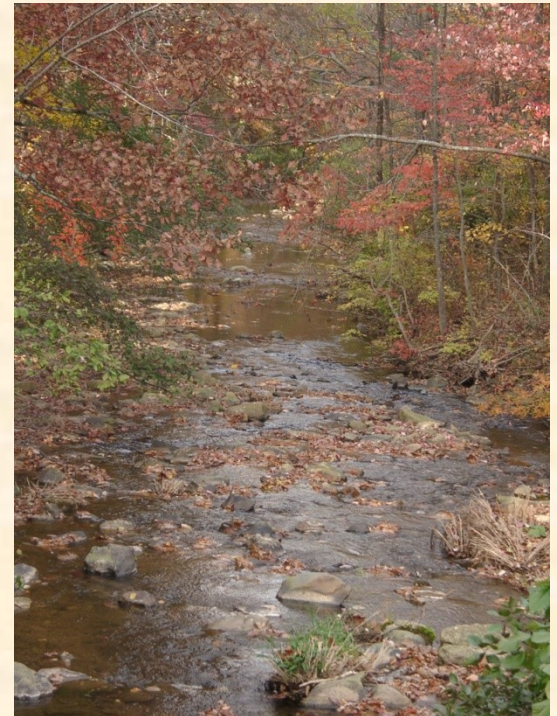
# Virginia Southern Piedmont Hardwood Harvest





# General Trends & Issues

- Changes in Private Forestland Ownership, Size and Uses
- Increase Environmental Awareness and Concerns
- Energy Cost Increases
- International Trade and Currency Value
- Forest Pest/Phytosanitation Concerns



# General Trends & Issues

- **Forest Industries – Harvesting**
  - Landowners, harvesting and equipment needs, along with markets, are changing
  - Timber harvest acres/volumes down significantly over the last few years
  - Aging work force
  - Loss of loggers
  - Fuel and equipment costs



# General Trends & Issues

- **Forest Industries - Primary**

- Increase in technology
- More diversification or custom products
- Residues from waste to valuable product
- Low grade in more demand than high grade
- Expansion of bioenergy, shavings, fluff pulp
- More focus on exporting
- Raw resource concerns
- Mill closings and consolidations





# General Trends & Issues

- **Forest Industries - Secondary**

- Loss of some tradition sectors – furniture,
- Expansion of cabinets, flooring & log homes, until housing collapse
- Expansion of bioenergy
- Recent closing of pulp and panel manufacturing
- More diversification or custom products
- Increase in lean manufacturing and technology
- Residues from waste to valuable product
- Increase us of non-local (Virginia) wood





# Supply of Forest Resources

- **Factors Affecting Supply**
  - Costs (influenced by technology, production scale and system, etc.)
  - Accessibility (location, willingness to sell, technology/infrastructure)
  - Market Prices
  - Competing uses of forest resources (e.g., wood products markets, energy use, ecological services, environmental and social needs, etc.)
  - Government Policies
  - Others (e.g., weather, social acceptance, environmental consideration, etc.)

# Other Sources of Wood Fiber in Virginia

- Forest products manufacturing: 2006 - Over 8 million tons, most from sawmills
- Landfills: 2003 - 1,251,960 tons solid wood waste – 665,033 woody brush tons
- Forest management operations
- Right-of-way clearing & maintenance
- Climatic events/Natural disasters
- Urban trees/forest health/invasive species
- Expansion of woody and other types of biomass plantations and crops.



# Recoverable Logging Residues

<b>Average Acres Treat per Year</b>	<b>230,000</b>
<b>Average Tons/Acre at 60% Recovery</b>	<b>9.964</b>
<b>Average available logging residues</b>	<b>2,291,000 tons</b>



# Forest Resource Use

- Has been declining in past few years
- Variable throughout the state
- Need to be aware of cross state flows of wood
- Demand from established businesses should increase as economy recovers
- Most announcements and industry expansions have been energy related
- Policy/Incentives are influencing where businesses want to locate



# Woody Biomass Use in Virginia

- Forest Products Industries are the major producer and user of biomass energy.
- Energy costs, new technologies, environmental concerns and government incentives are leading to increasing demand for woody and other types of biomass.
- MeadWestvaco recently announced a major biomass project that will make their Covington plant energy independent.

# Woody Biomass Use in Virginia

- Dominion Power's 80 MW Pittsylvania station uses approximately 700,000 tons annually.
- Longwood University heats campus with sawdust. Other institutions and facilities also are or planning to use bio-energy.
- Eight wood pellet plants in operation with more expected. In total, over 2 million tons of annual wood use is projected.



# Woody Biomass Use in Virginia

- Enviva has constructed a wood pellet loading facility in Chesapeake for export.
- Dominion Power, Novi Energy and others have announced or are exploring biomass power with each plant using 100,000's of tons wood annually.
- Several other businesses, like Piedmont Bio-Products, are producing or exploring liquid bio-fuels.

# Forest-Related Opportunities

- Improved forest health by developing markets for low grade wood, diseased and damaged trees, invasive species, fuel reduction materials, etc.
- Reduced site prep cost by including biomass harvest.
- Improved urban forests and utilization of urban wood waste.



# Forest-Related Opportunities

- Additional markets for forest landowners that should improve economic viability of forest management activities.
- Reduced need for open burning and land filling of woody materials, especially during land clearing and weather-related disasters
- Potential markets for right-of-way maintenance materials

# Forest-Related Concerns

- Sustainability issues
- Site impacts of residual biomass removal
  - Fertility
  - Organic Matter
  - Erosion/Water Quality
  - Ecology
  - Etc.



# Forestry Concerns

- Technology
- Infrastructure needs
- Domestic market development
- Off site impacts
  - Air quality
  - Water quality/quantity
  - Transportation
  - Etc.



# Policy Decisions Will Impact Forest Resource Use

- Forest Resource Management (RT, Farm Bill)
- Energy and other forest product use or production taxes or incentives (LEED, RPS)
- Pollution and environmental
- Land use and zoning
- Transportation
- International Trade - tariffs, currency rates, product bans





# What is Virginia's Forest Industry Future?

- Part of the wood basket of the world
- Well developed, but changing forest industry
- Changing demographics and land ownerships
- Greater interest in renewable energy
- Great interest in utilizing and reducing waste
- New and expanding bioenergy use in Virginia
- Available resources, new technologies and products still uncertain.

# Influences on the Future

- Ability to efficiently and economically supply wood to the user in the form needed
- Development patterns
- Energy costs
- Global and domestic markets
- Certification and sustainability issues
- Carbon markets and greenhouse gases



# For More Information

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