



Southeast Regional Biofuels Policy Forum

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Texas Forest Service

SGSF Services, Utilization & Marketing

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Biomass Harvesting Guidelines

- Advantages:
 - Be in front of the curve; influence outcome
 - Non-regulatory guidelines preferable
 - Establish relationships; education through open process possible when not mandated
 - Clarification of biomass harvesting issues



Biomass Harvesting Guidelines (con't)

- Disadvantages
 - Could lead to discussion of other agendas and objectives
 - Tie to legislation like WQ BMPs?
 - Why for biomass and not other products?
 - Guidelines just a start; training, education and monitoring require resources
 - Could lead to general forest practice guidelines



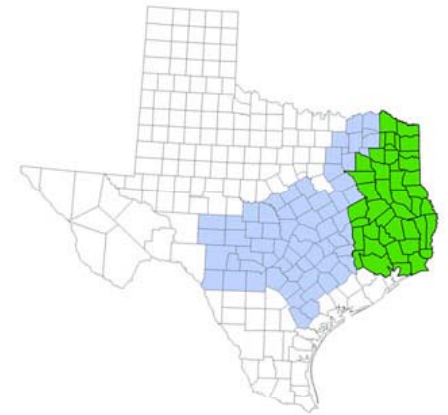
Review of Existing Guidelines

- ME, MN, MO, PA, and WI have drafted guidelines
- Generally recommend leaving 15% - 30% (BTS Study = 35%)
- Existing forestry BMPs = Water Quality
- Wildlife/Biodiversity concerns?
- Maintain OR Improve site productivity?
- Biomass removal simultaneous with traditional?



General Recommendations

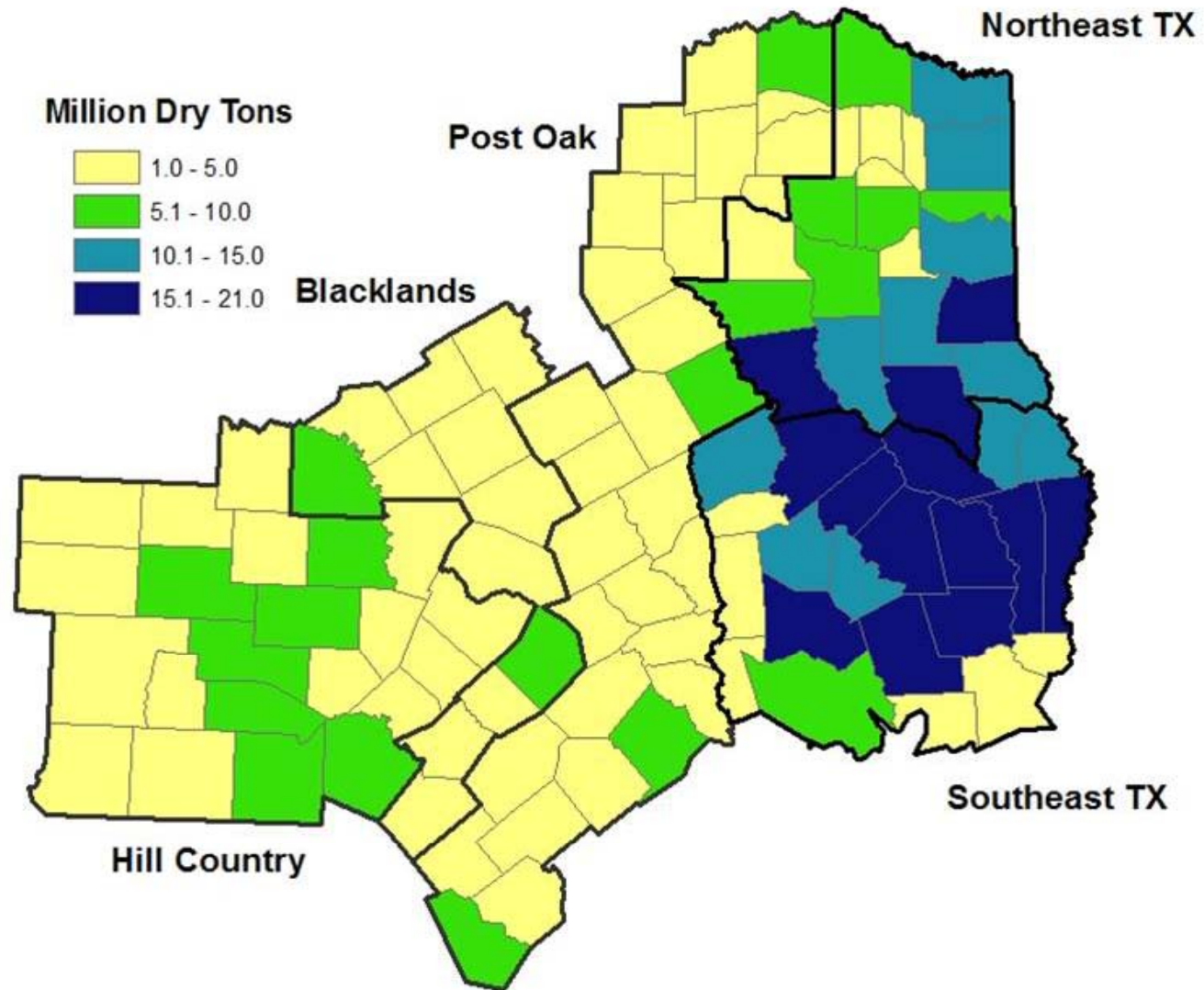
- State forestry agencies uniquely qualified to lead
- Woody biomass still by-product; not primary
- Should occur at State level
- Stakeholder involvement
- Clearly differentiate between WQ and non-WQ
- Science based (30%? 50-foot SMZ?)
- State forestry agencies best suited to monitor if monitoring becomes necessary



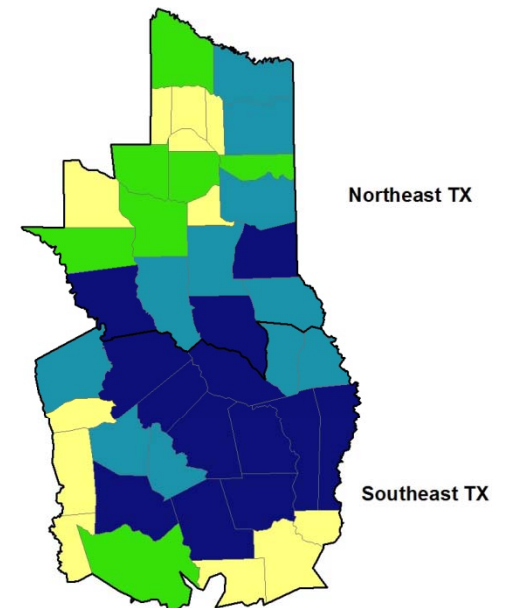
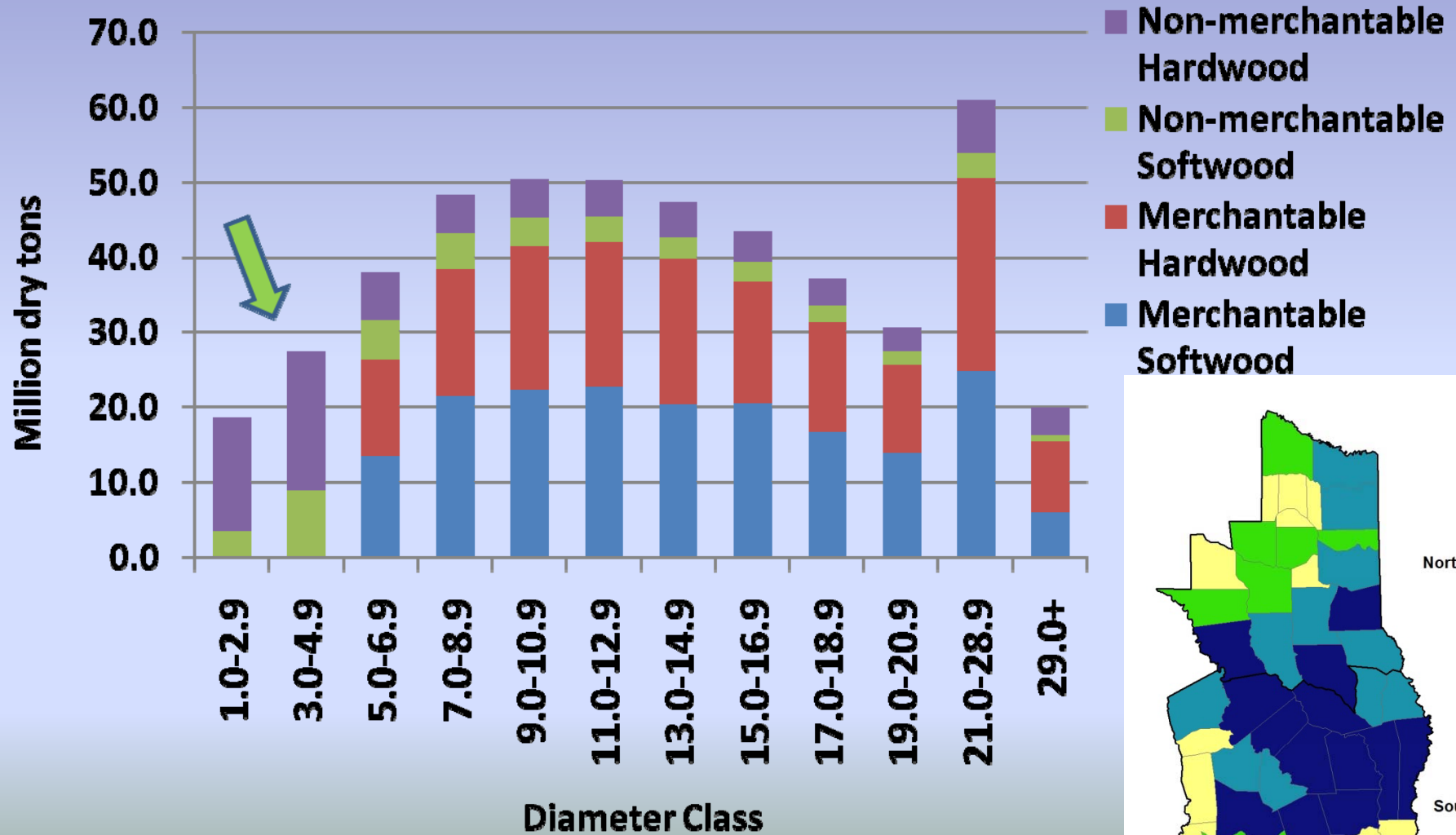
Estimation of Woody Biomass Available for Energy in Texas

Burl Carraway, Department Head
Sustainable Forestry
and Economic Development

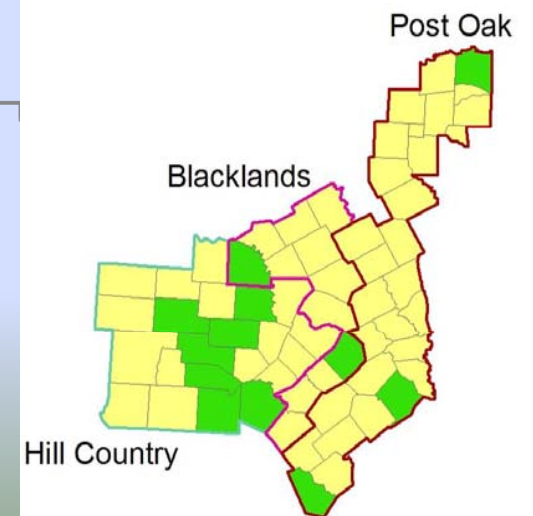
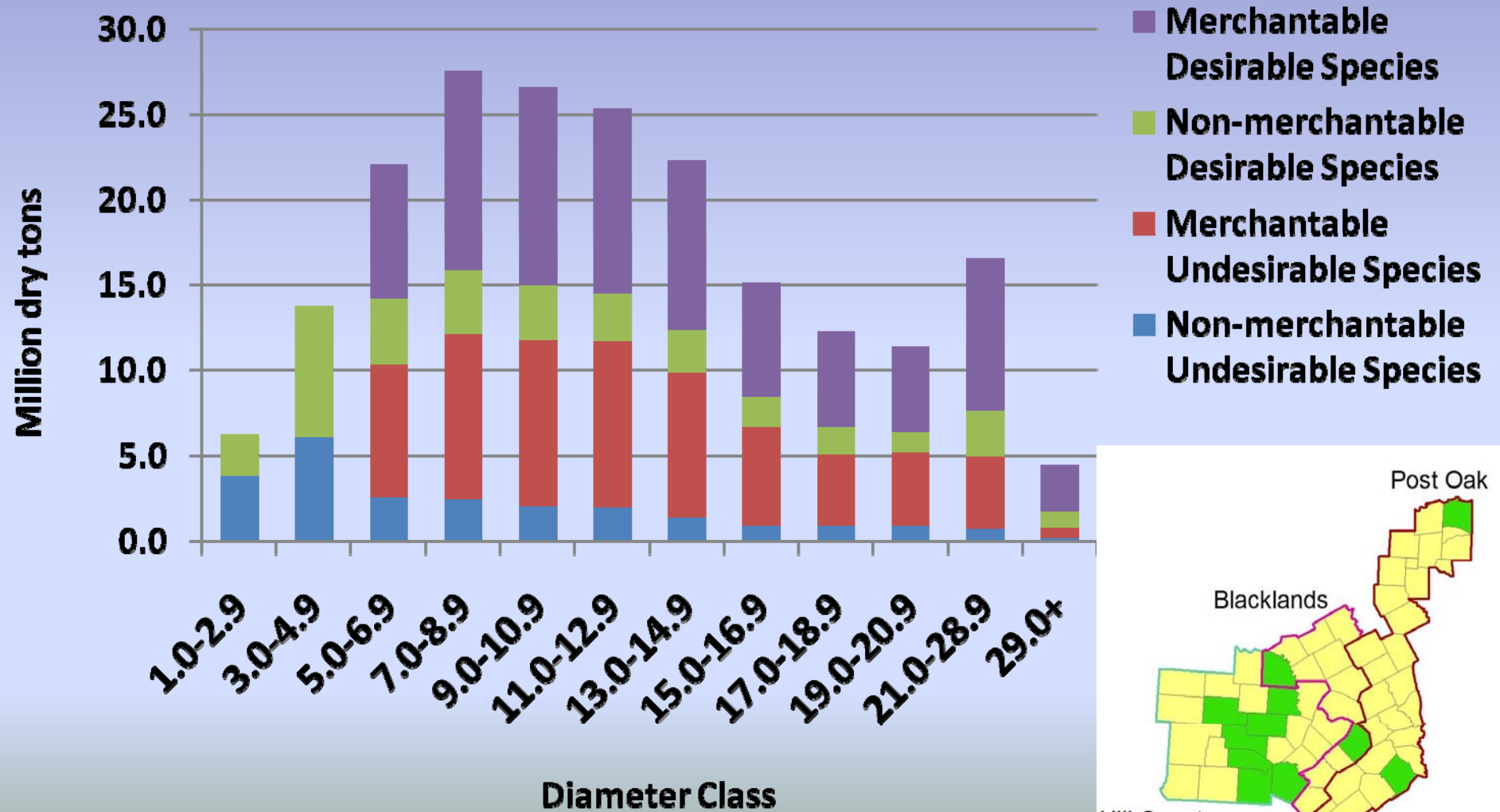
Total Biomass of All Live Trees by County



Total Biomass by Merchantability and Diameter Class in East Texas



Total Biomass by Merchantability and Diameter Class in Central Texas





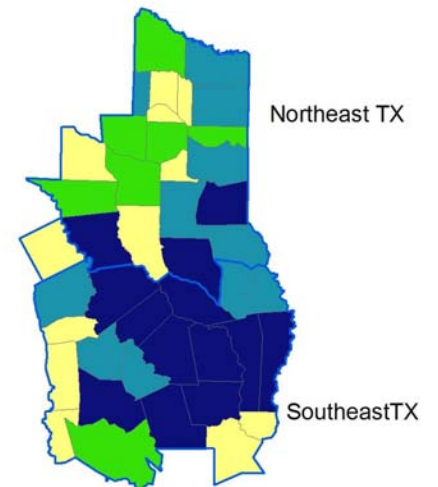
Logging Residue

- Annual Mill Survey by TFS (2006)

Volume of timber harvest by product and county

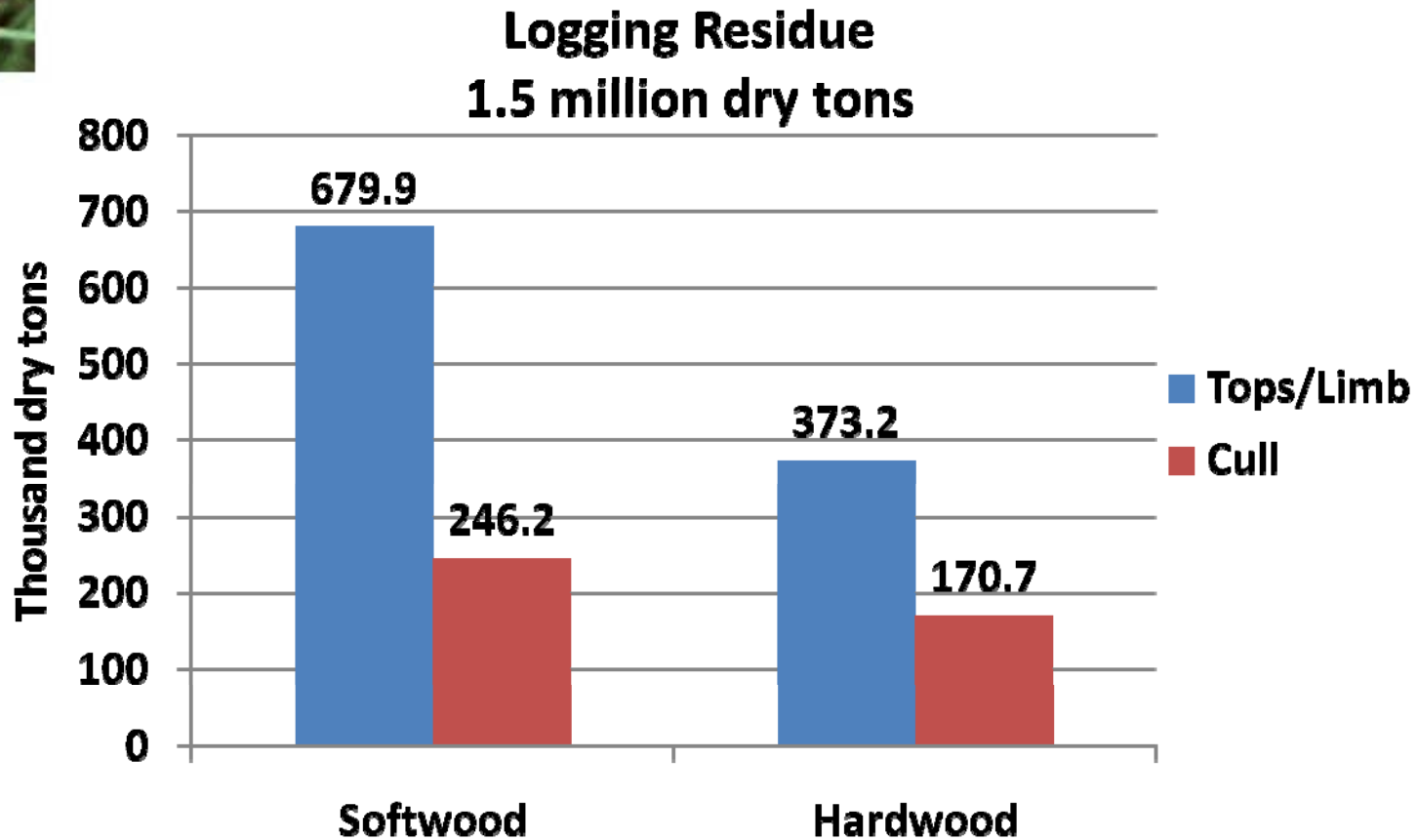
- Wood Utilization Rates by Bentley & Johnson (2004)

Ratio of logging residue to timber harvest





Logging Residue Potentially Available for Energy in East Texas, 2006



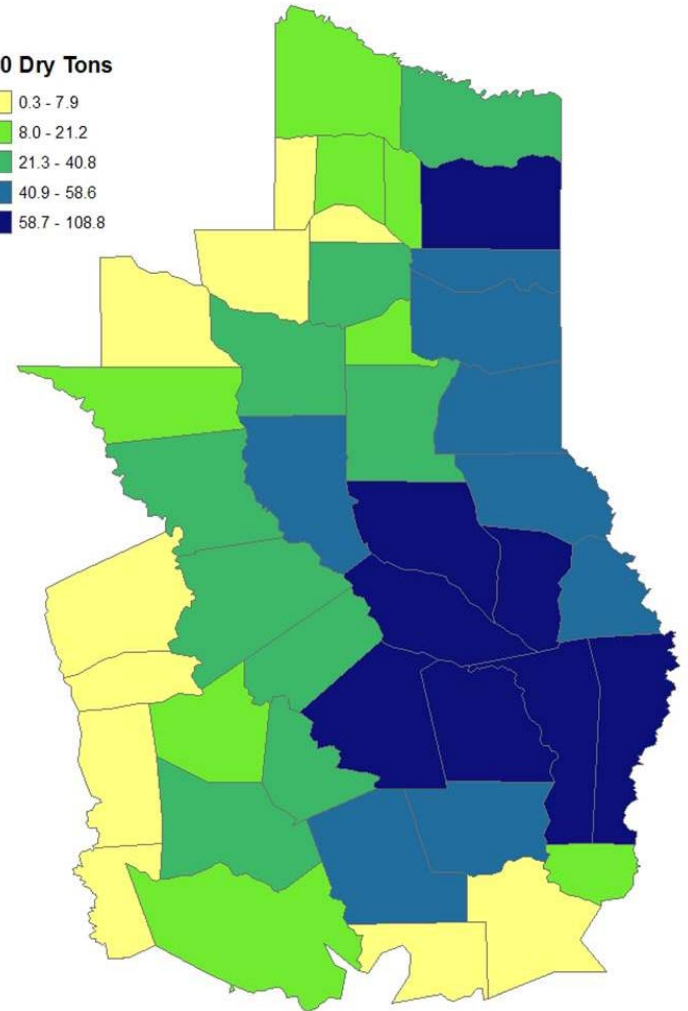
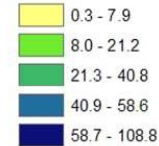


Logging Residue in East Texas, 2006

Tops 5 Counties:

1. Polk (108.8)
2. Tyler
3. Newton
4. Cass
5. Nacogdoches

1,000 Dry Tons



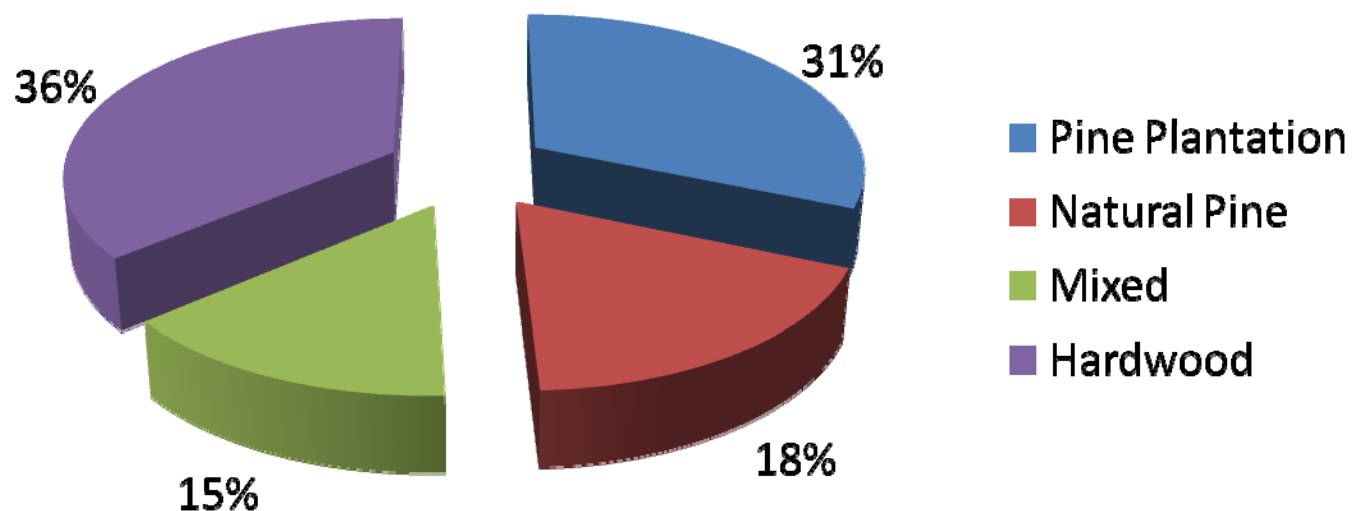


Woody Biomass from Biomass Thinning

- Forest Inventory and Analysis (FIA) Data (2006)
Filtered by accessibility (ownership, BMP)
- Biomass Thinning Survey by TFS (2008)
Thinning practice in East Texas
- Stand Growth and Management Simulation
Forest Vegetation Simulator (FVS) by USFS, 10-year
projection, various scenarios

Annual Woody Biomass Potentially Available for Energy from Biomass Thinnings in East Texas

2.8 million dry tons

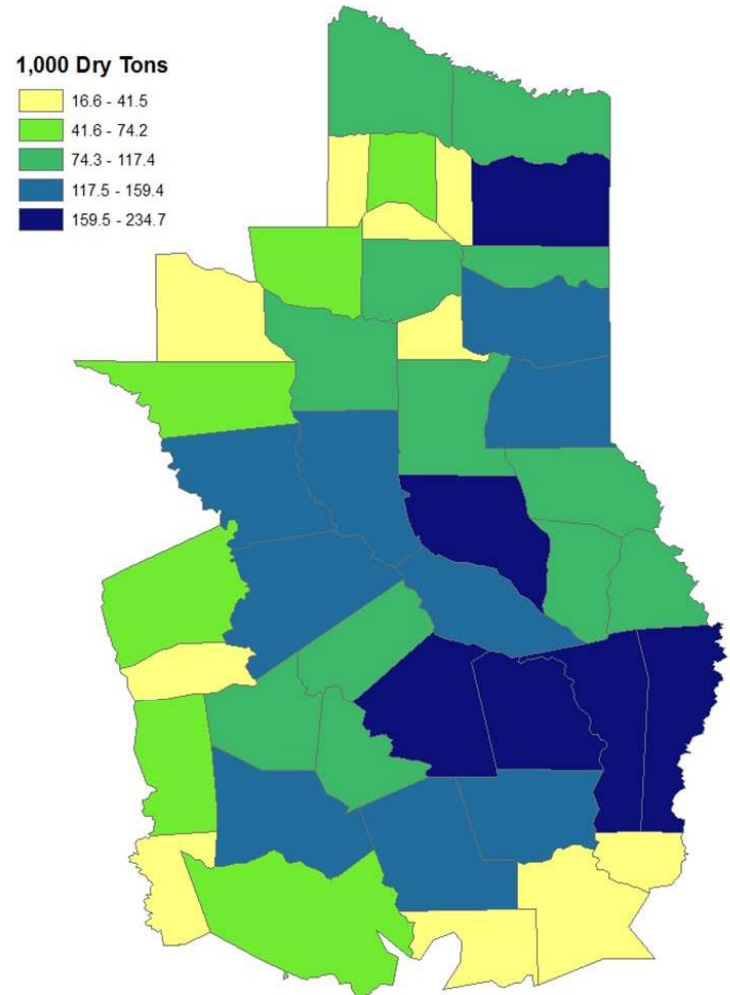




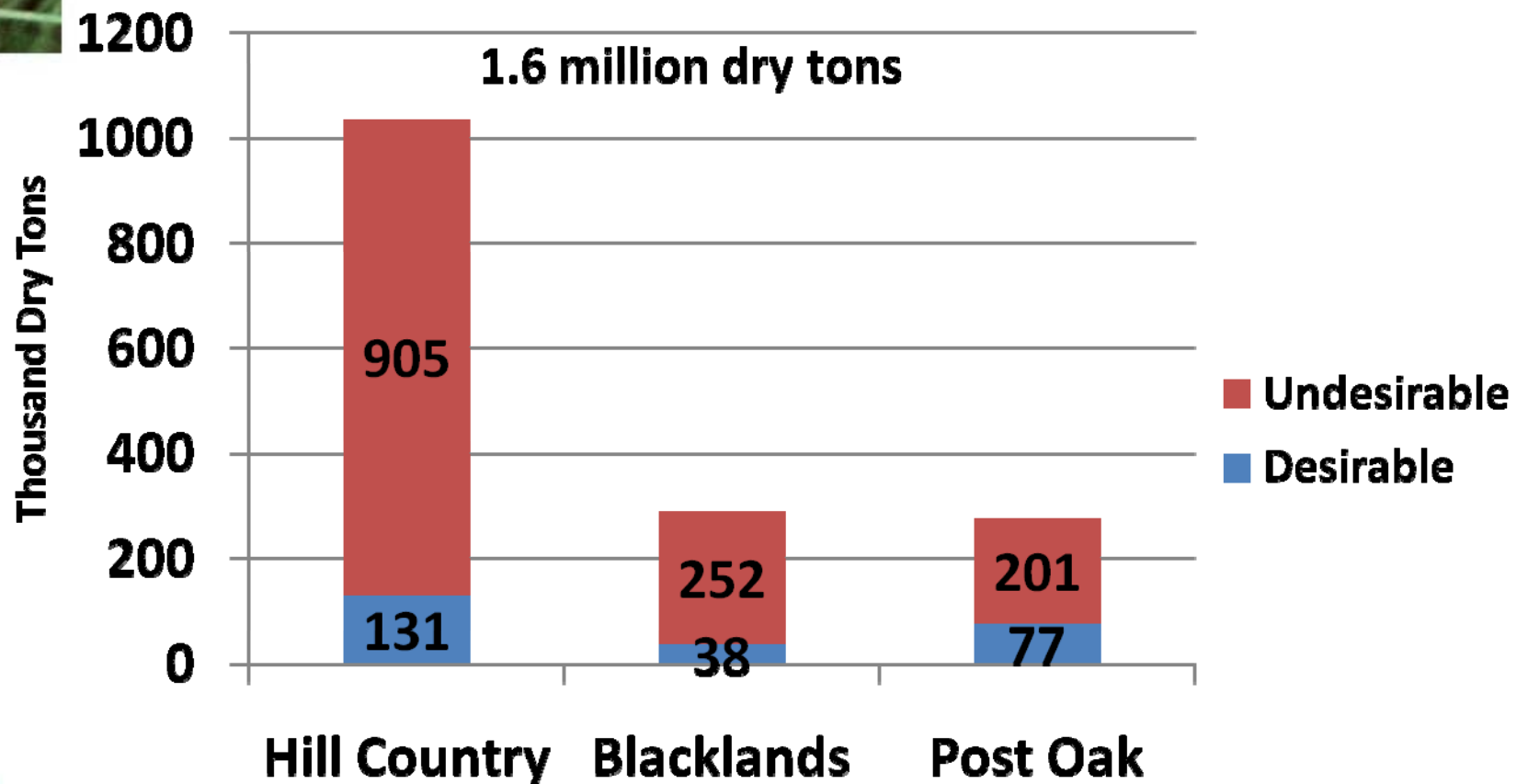
Annual Woody Biomass for Energy in East Texas

Tops 5 Counties:

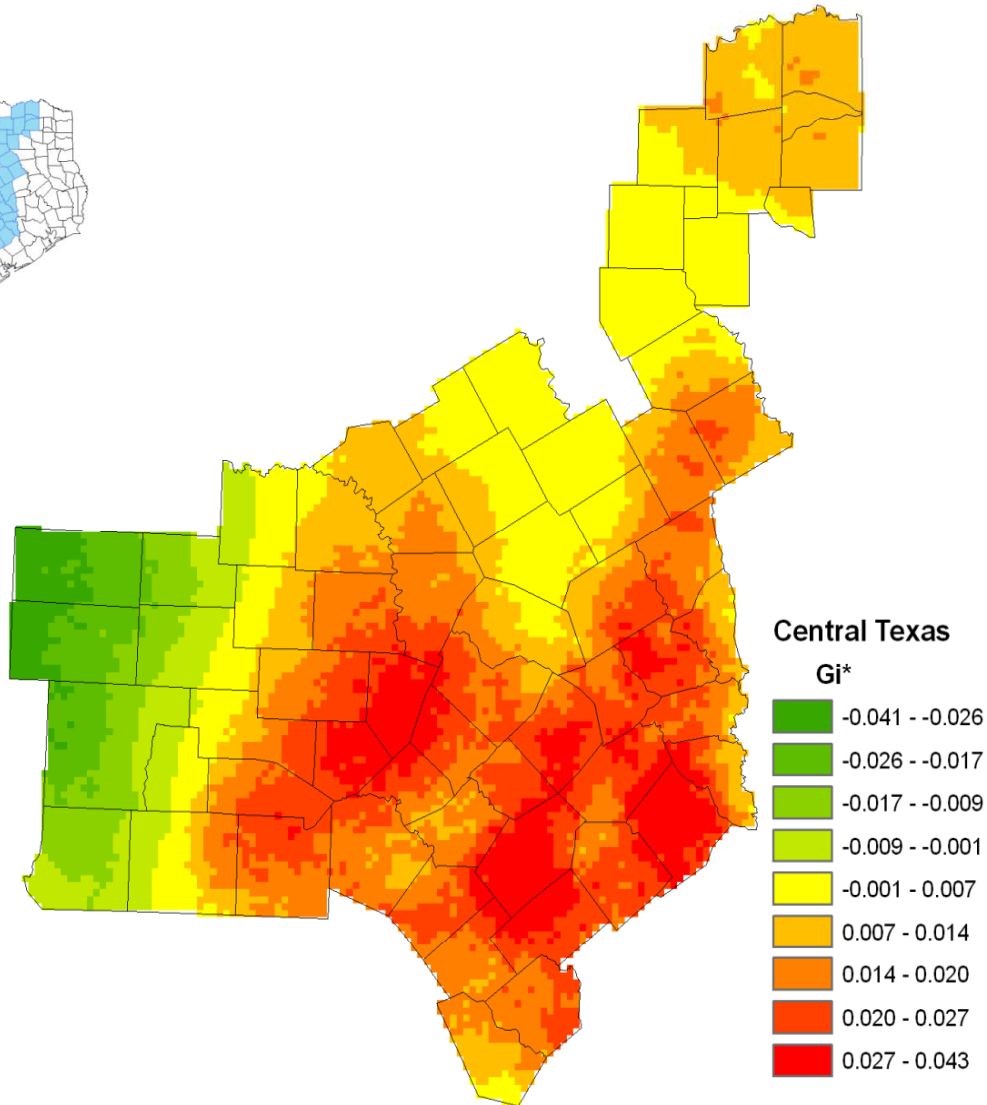
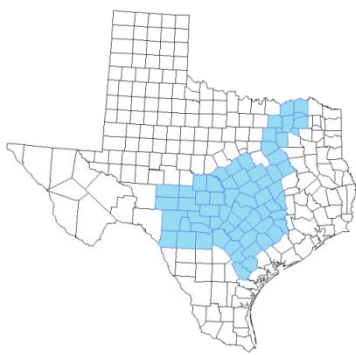
1. Polk (234.7)
2. Tyler
3. Newton
4. Jasper
5. Cass



Annual Woody Biomass Supply Potential in Central Texas



Woody Biomass Hot Spots in Central Texas





Conclusions and Discussion

- **East Texas:**

Overall, 4.3 million dry tons of wood waste is potentially available annually for energy generation, 35% from logging residue and 65% from biomass thinning

- **Central Texas:**

On average, 1.6 million dry tons of wood waste from brush control is potentially available annually



Conclusions and Discussion

- Not all 5.9 million dry tons will be available for new power generation
- In 2007, 233,000 dry tons of wood materials was acquired and utilized by major wood-using companies
- Subject to economic, transportation, policy challenges, and demand outside the energy sector
- FIA data is key!

