

# **Montana Forest Biomass Supply: Challenges & Opportunities**

**Todd A. Morgan, CF**

**October 7, 2009  
Fort Collins, CO**

# Bottom Line Up Front

Woody biomass supply is NOT the issue!

# Montana's Timber Resource

## Non-reserved Timberlands

### 2003-2007

Growing stock volume	36,733 MMCF
Annual (gross) growth	862
Annual mortality	456
Annual harvest (2004)	198
(2007)	~132
(2008)	~116

# Montana's Timber Resource

## Non-reserved Timberlands

### 2003-2007

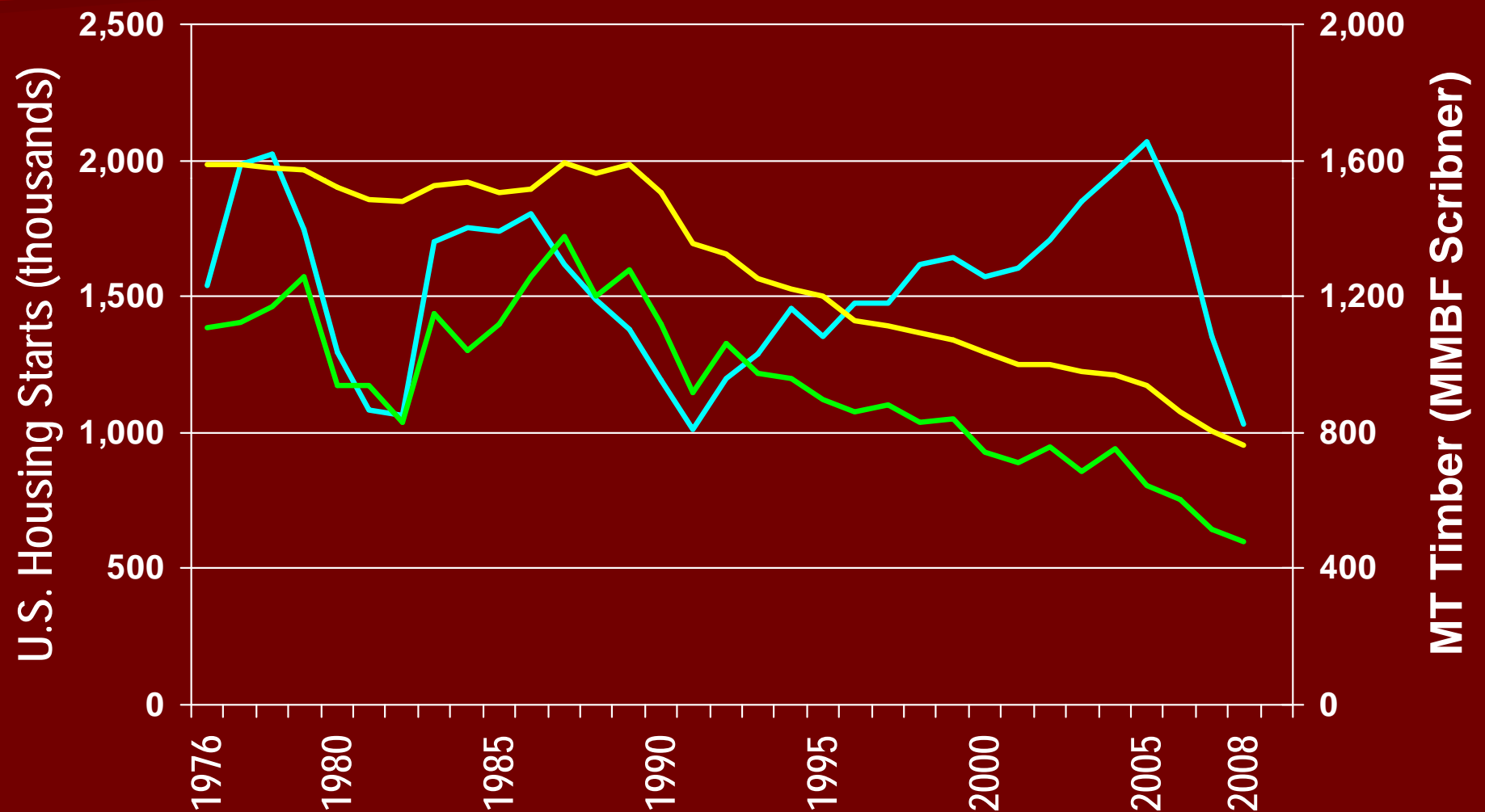
		<u>Public</u>	<u>Private</u>
2007	Net Growth (MMCF/yr)	268	137
	Removals (MMCF)	36	96
	Ratio	7.5 : 1	1.4 : 1

Sources: Miles & Hansen, Fri, Aug 1, 2008: Forest Inventory EVALIDator web-application version 1.0 <http://199.128.173.26/evlidator/tmattribute.jsp>

# US Housing & MT Wood, 1976-2008

Sources: U.S. Census Bureau; BBER

— US Housing Starts — MT Capacity — MT Timber Harvest



# Forest Biomass Terminology

- **Timberland**
  - **Live tree woody biomass**
  - **Standing dead tree woody biomass**
- **Logging residue**
- **Mill residue**

# Montana Forest-based Woody Biomass

- Current use: < 3 million dry tons (MDT) per year
  - More than 50 % used by one facility
  - Less than 50 % comes from in-state mill residue

# Montana Forest-based Woody Biomass

- Logging residue: < 0.6 MDT per year
  - Amount produced is declining
- Mill residue: < 1.5 MDT per year
  - More than 99 % already used
  - Amount produced is declining



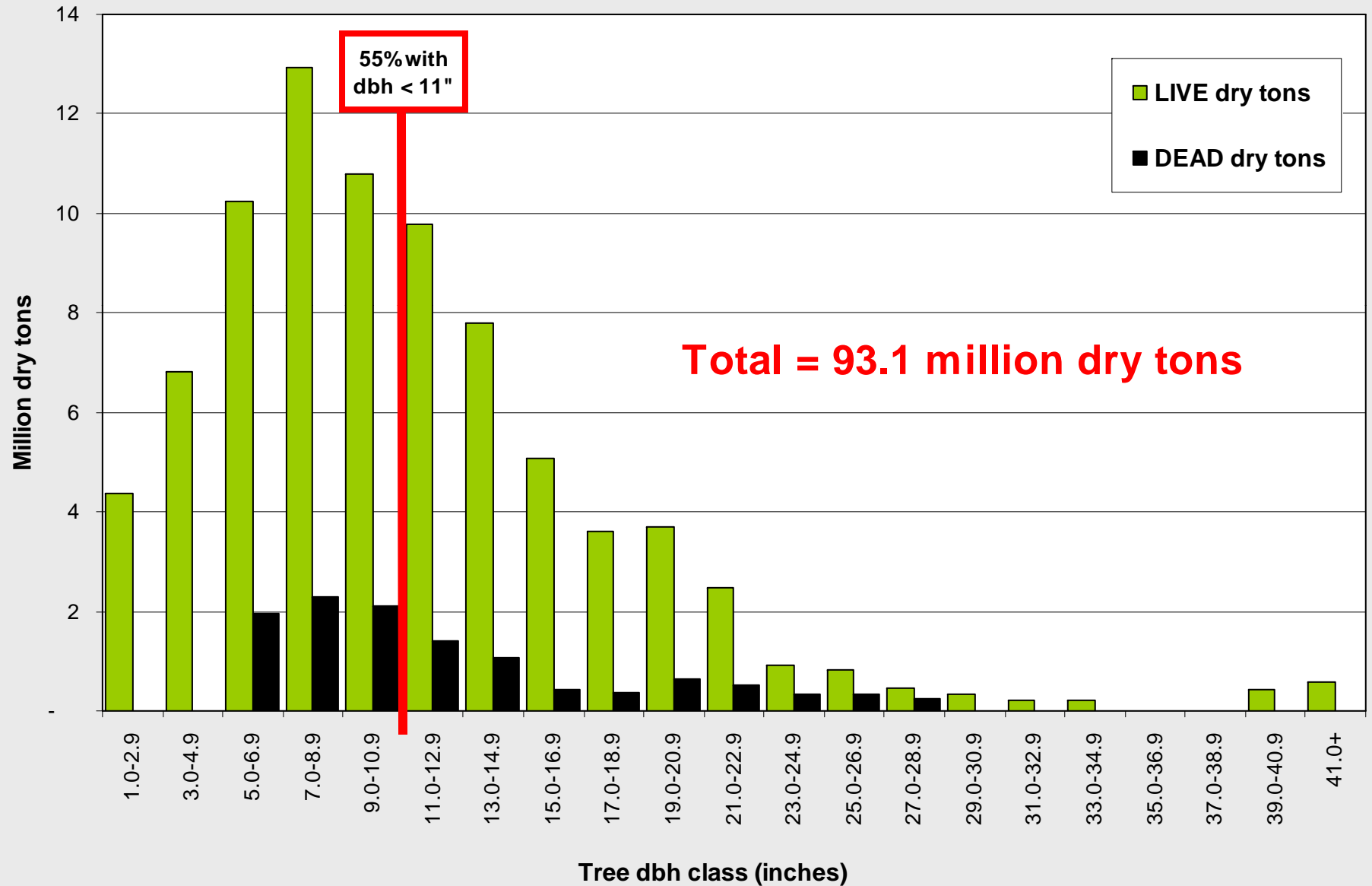
# Montana Forest-based Woody Biomass

- Timberland: 20 million acres
  - 61 % in national forests
  - Live trees: 725 MDT
    - 74 % in national forests
  - Dead trees: 136 MDT
    - 85 % in national forests

# **“Filtered” forest inventory**

- **Stands within ½ mile of a road**
- **Stand ages of 0 to 100 years**
- **Slope of 0 to 40 %**
- **Tree dbh of 5.0 to 10.9 inches**

**Figure 1: Live and standing dead tree above-ground woody biomass on Montana non-reserved timberland, 0.5 mile or less from a road, on slope less than 40%, in stand ages 0-100 years.**

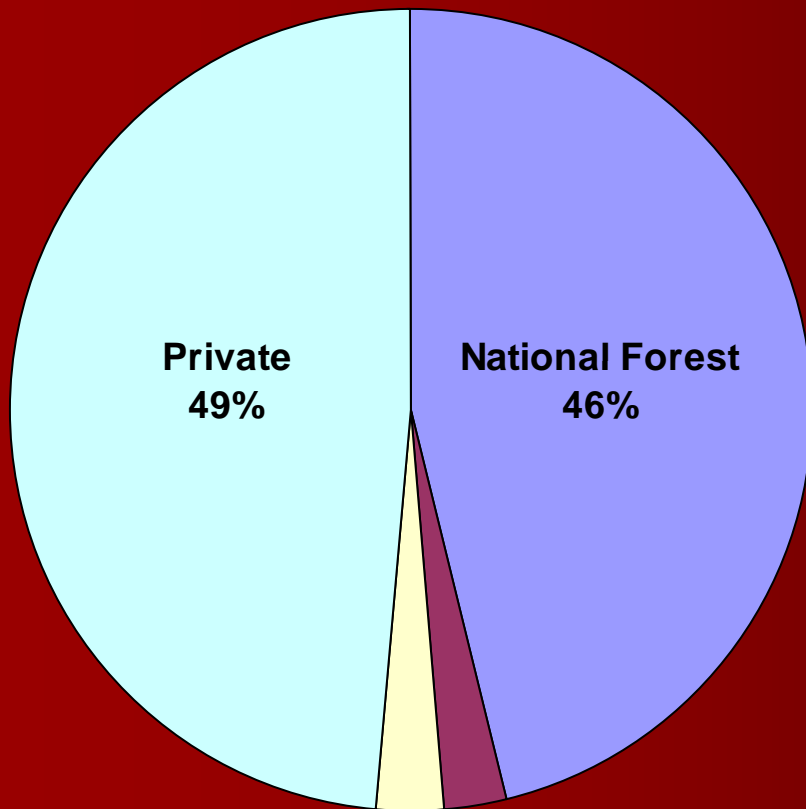


# Woody Biomass Opportunity

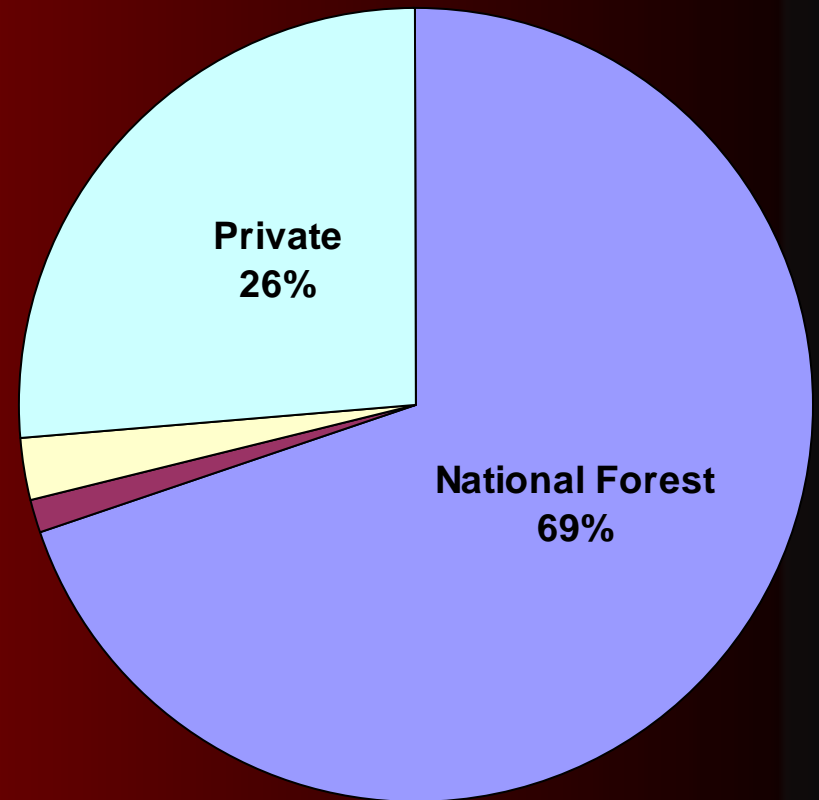
## “Potentially available”

- 3.6 million acres
  - 18 % of timberland
- 40.3 MDT in live & dead trees
  - 70 % in national forests
  - 5 % of biomass on timberland

# **“Potentially Available” Land and Live & Standing Dead Tree Woody Biomass in Montana**



**3.6 million acres**



**40.3 million dry tons**

# Biomass supply is NOT the issue.

- Multi-decade supply potentially available
- Availability is the issue!
  - Land ownership & accessibility
  - National forests are vitally important

## Contact Info

**Phone: (406) 243-5113**

**Email:**

**[todd.morgan@business.umt.edu](mailto:todd.morgan@business.umt.edu)**

**Internet:**

**[www.BBER.umt.edu](http://www.BBER.umt.edu)**