

# Wisconsin Biomass Potential by County

Prepared by Brett Hulse, MNS  
Better Environmental Solutions  
October 15, 2008



# Overview

- Summary
- WI Has Great Grass Potential
- WI Biomass Potential
- Stover Biomass
- Grassy biomass
- Woody biomass
- Total biomass
- Conclusions





# WI Biomass Potential Summary

- Wisconsin has great biomass (BM) resources, up to 15 million tons by some US DOE estimates
- This study estimates the three most commonly available biomass sources: corn stover, grasses from CRP land, and forest slash.
- We used 2007 US Department of Agriculture and US Forest Service data.
- We converted biomass potential from these sources to Powder River Basin (PRB) coal equivalents.

# WI Biomass Results

- The results-- corn stover and wood slash supplies are large, and a lesser amount of grasses from Conservation Reserve Program Lands
- The total is 4.2 million tons of PRB coal equivalent, 16.5% of state's coal usage

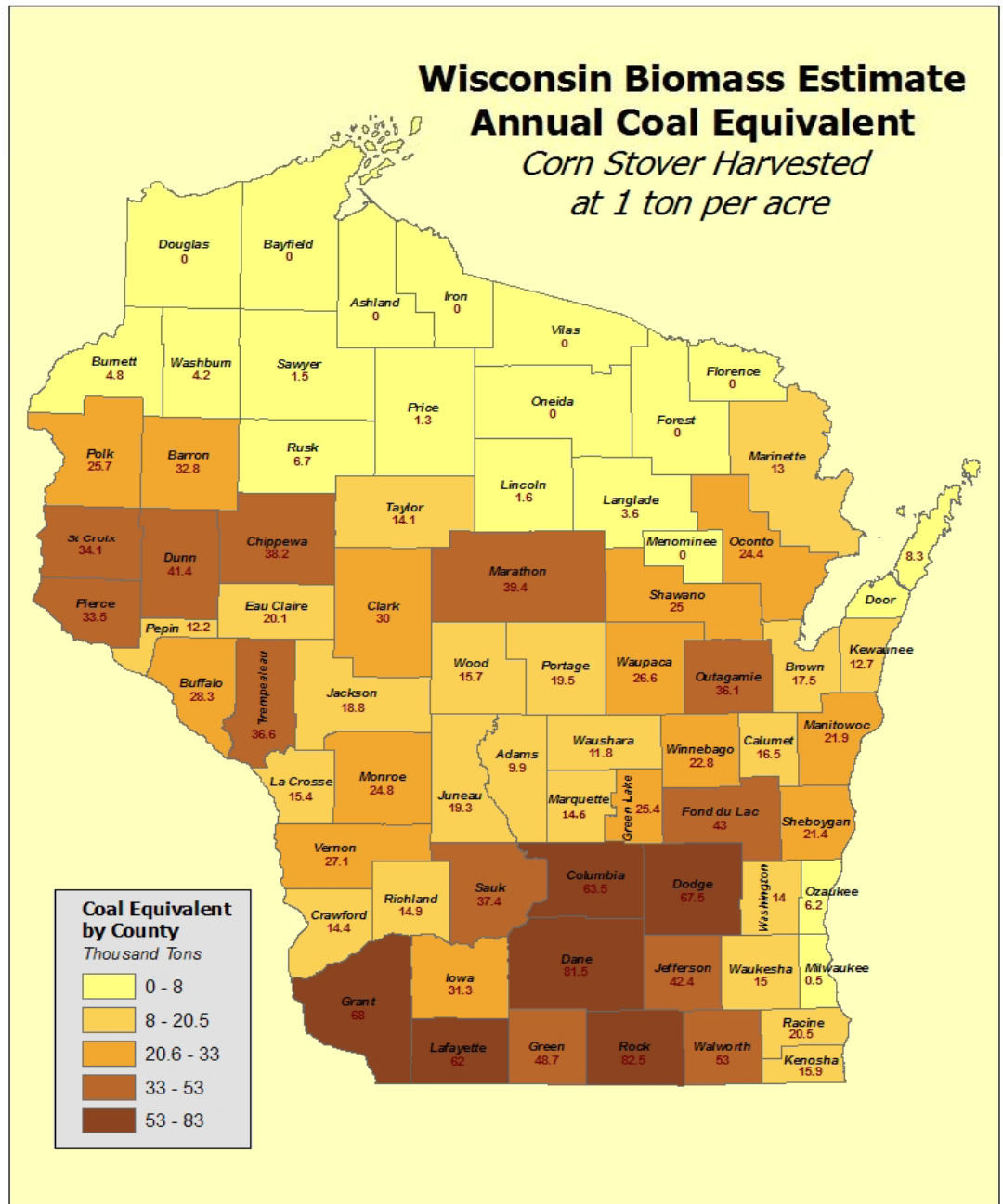
<b>Fuel Stock</b>	<b>Total Coal Equivalent (TH tons)</b>
<b>Corn stover</b>	<b>1,664</b>
<b>CRP Grass</b>	<b>470</b>
<b>Wood slash</b>	<b>1,608</b>
<b>Total</b>	<b>4,242</b>

# WI Corn Stover Resources

- The corn stover resources are in the south and west.
- The lead counties are Rock, Dane, Grant, Dodge, Columbia, and Lafayette.

## Assumptions

- We conservatively take 1 ton of stover per acre
- This leaves 3-4 ton per acre for soil health and water quality protection
- Stover has 66% of the energy value of PRB coal, 6,000 BTUs/pound depending on moisture.

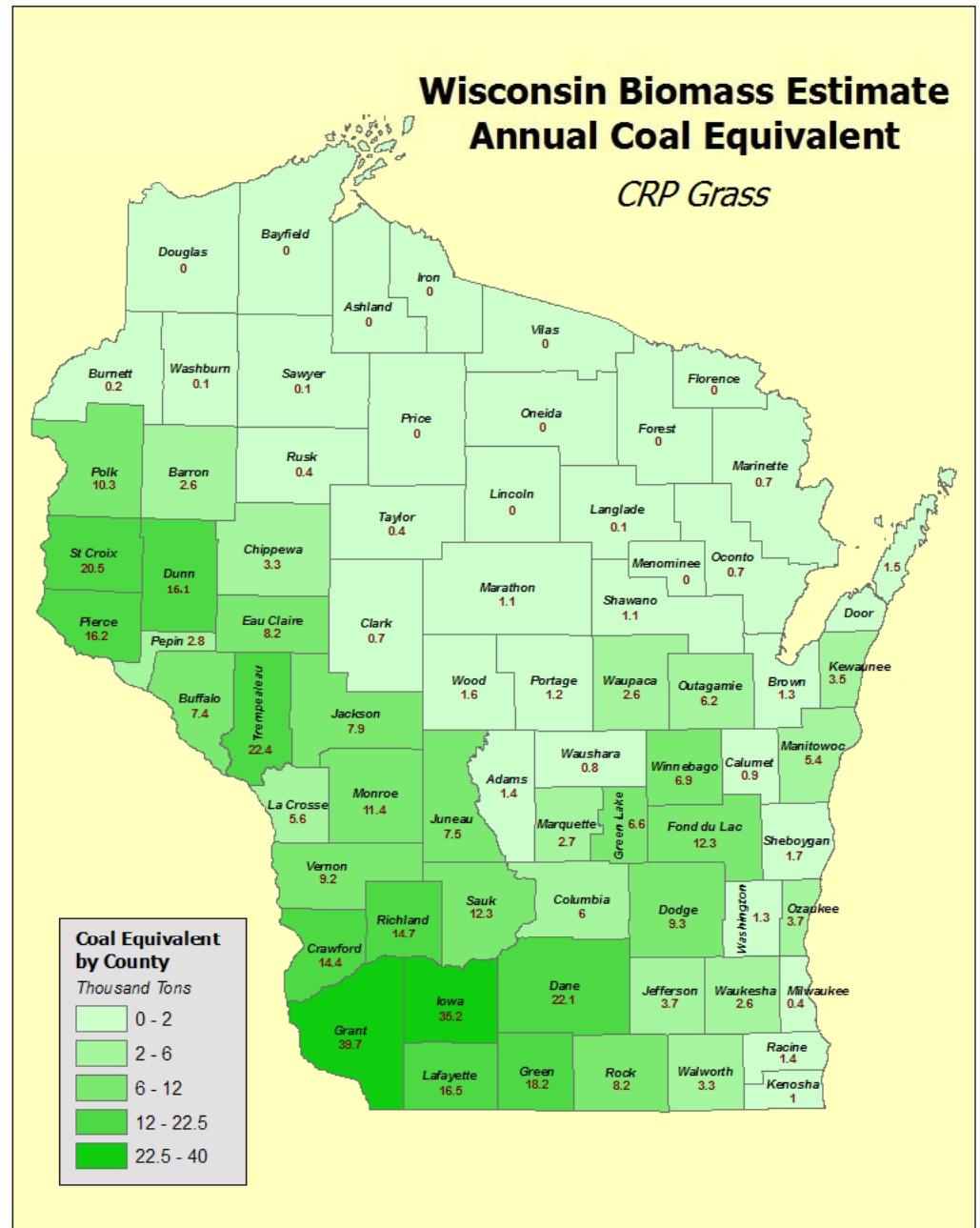


# CRP Grass Resources

- The CRP grass resources are in the west
- The lead counties are Grant, Iowa, Trempealeau, and Dane.

## Assumptions

- We conservatively take 2 tons of grass per acre. Some yields show up to 6 tons per acre.
- Grasses have 66% of the energy value of PRB coal, 6,000 BTUs/pound.
- 2007 data from the USDA Census on Agriculture

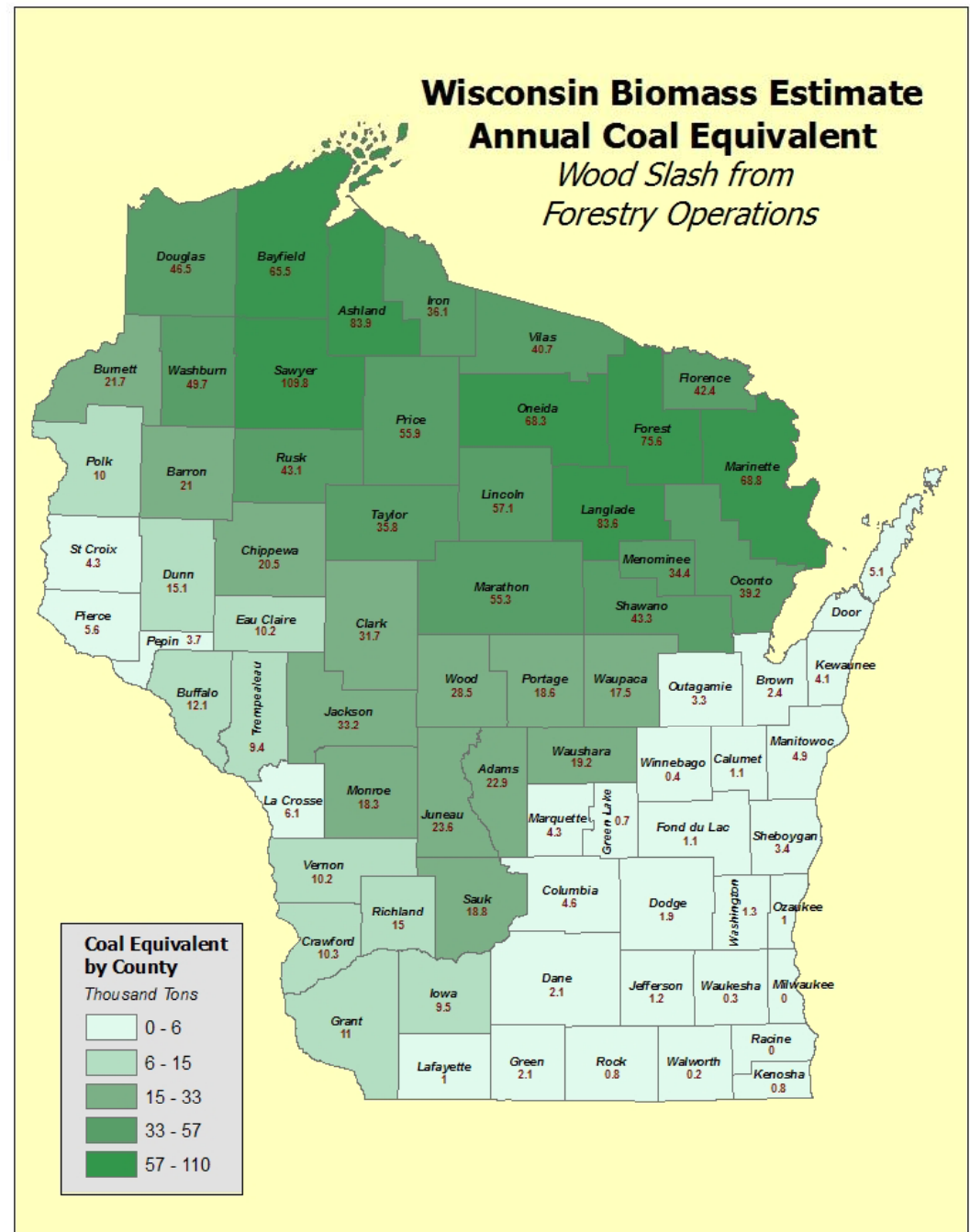


# Wood Slash Biomass Resources

- The wood slash resources are left by logging operations today.
- Top counties are Sawyer, Ashland, Langlade, and Forest.

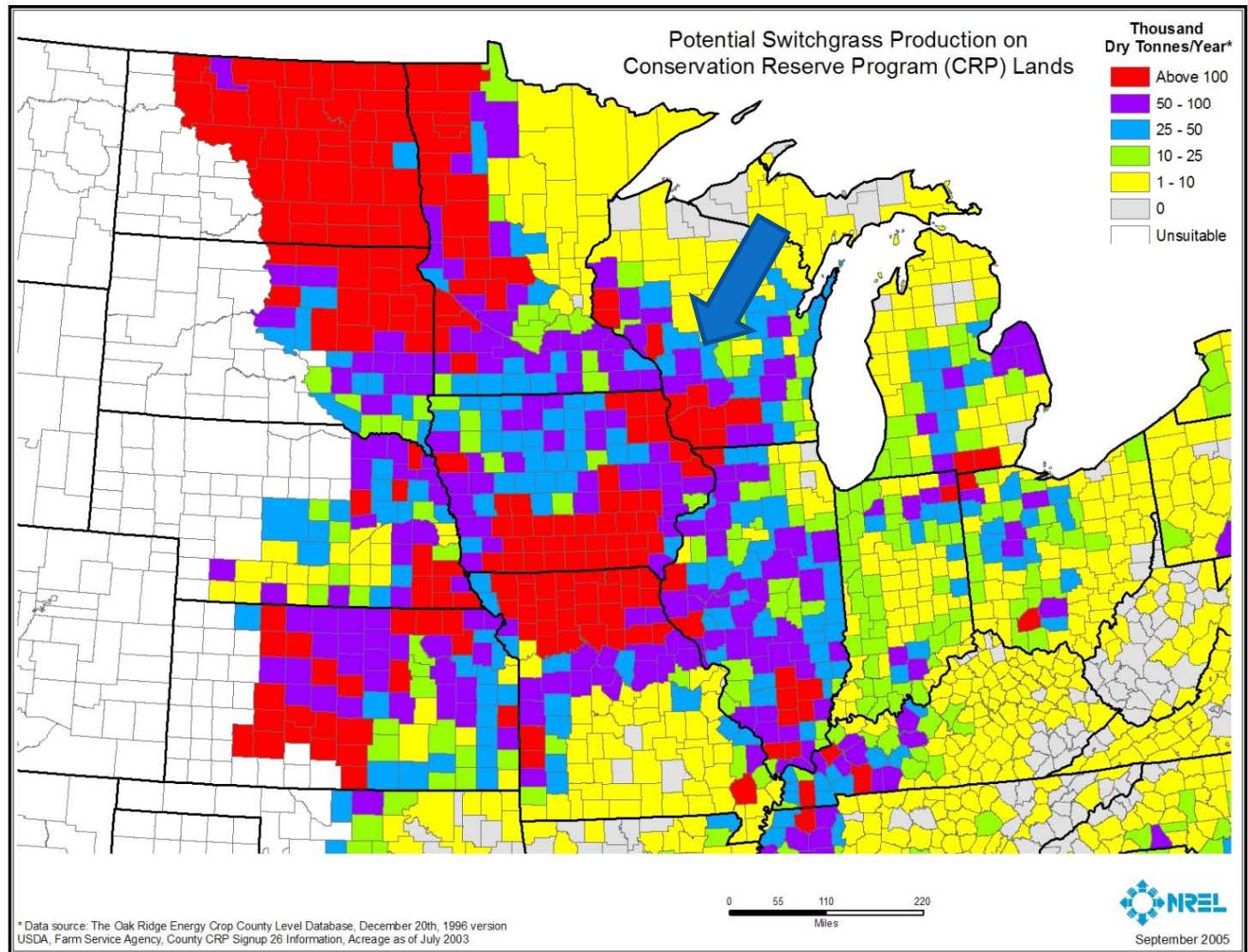
## Assumptions

- We take wood slash to promote forest regeneration and reduce fire risk
- Slash has 66% of the energy value of PRB coal, about 6,000 BTUs/pound depending on moisture.
- Data from the USDA Forest Service Inventory and Analysis National Program, Timber Products Output





# WI has Great Grass Potential



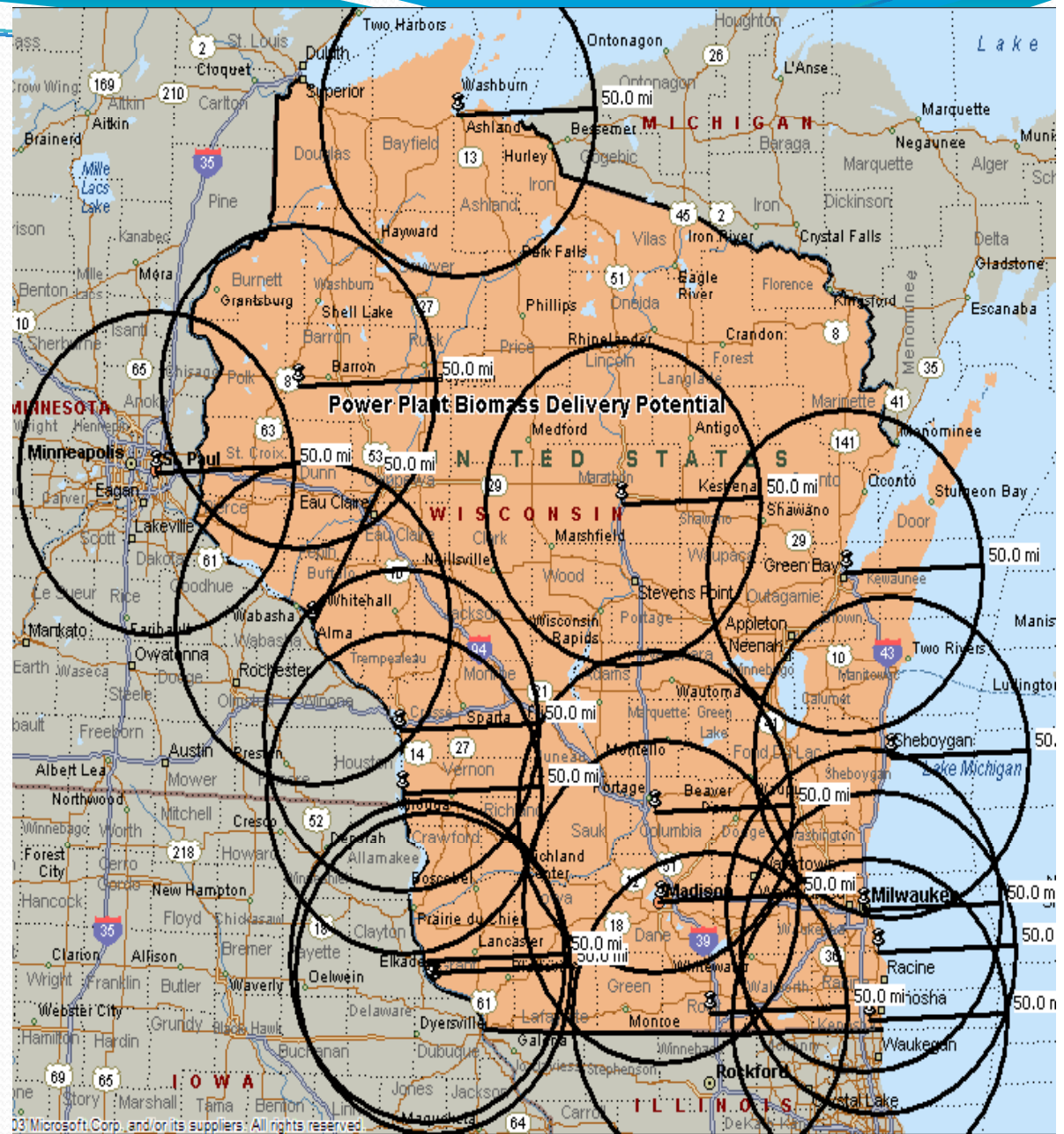
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# Potential Biomass Supply in Grant and Surrounding Counties

Fuel Type	Grant County (Thousand Dry Tons)	Surrounding Counties within 50 miles
Wood Thinning, potential	223	1,747
Wood Slash, current	16.2	168.4
CRP Grasses, potential	66	508.5
Hay Harvest, current	234	2,363.0
Corn Stover, potential	136	2,014.2
Total	675	6,801

## Potential for Biomass Burning

- Many current and proposed power plants that could burn biomass
- These circles represent a 50 mile hauling radius from existing and new plants
- Existing plants with the most biomass potential are the Ecel's Bayfront, French Island and Barron County Incinerator
- For new plants, Nelson Dewey 3 and Stoneman have great potential





# Conclusions

- Wisconsin biomass has great potential to replace coal, the largest source of greenhouse gases, for electricity and heat
- That biomass is near existing and/or planned future energy projects
- Biomass also produces lower emissions of other pollutants
- There are several biomass projects poised to take advantage of this resource
- Policymakers should support those proposals to burn biomass instead of or with coal to reduce air emissions

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[BetterEnviro.Com](http://BetterEnviro.Com)

Phone: 608-238-6070

[Brett@BetterEnviro.Com](mailto:Brett@BetterEnviro.Com)

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