

A Look Back and Forward from the 2005 Washington State Biomass Study

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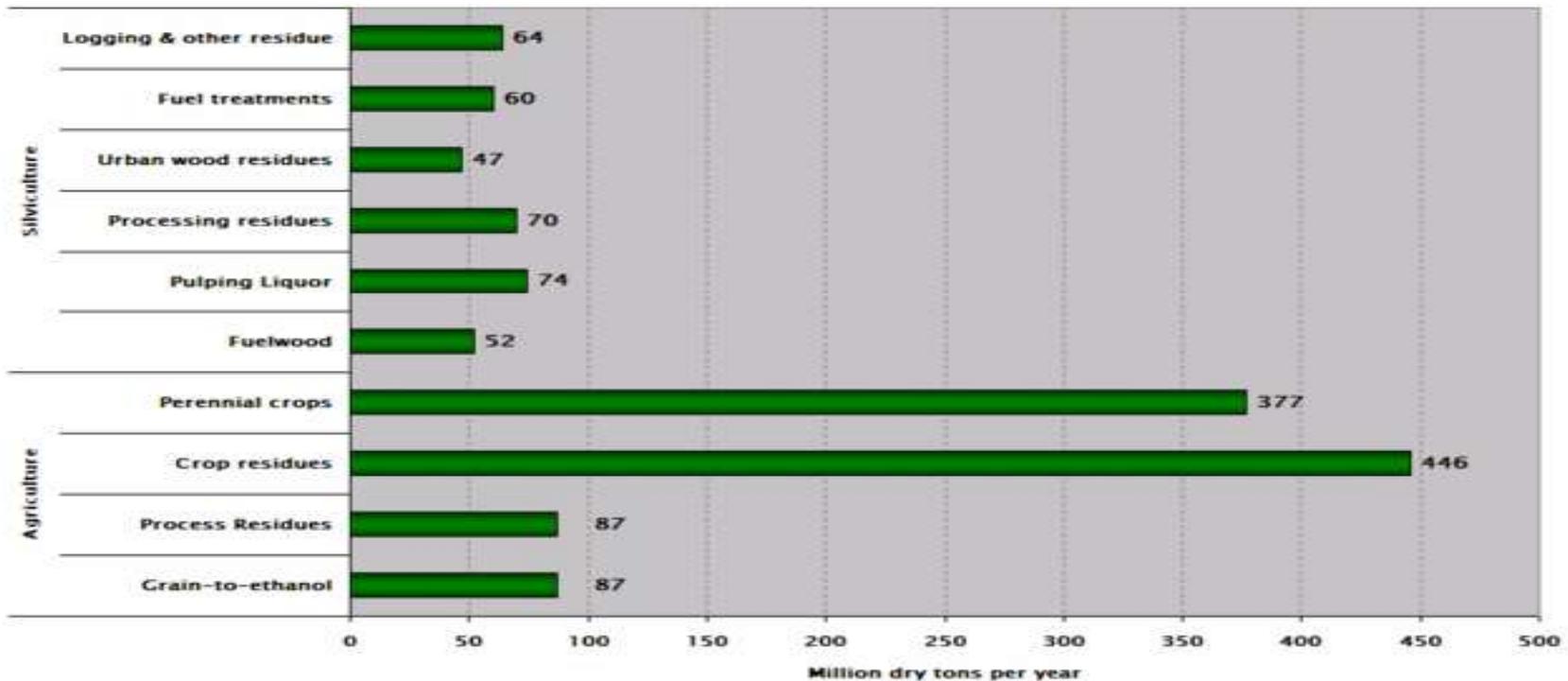
Washington Bioenergy Research Symposium

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Billion Ton Report

Potential Forest and Agricultural Resources for Biomass



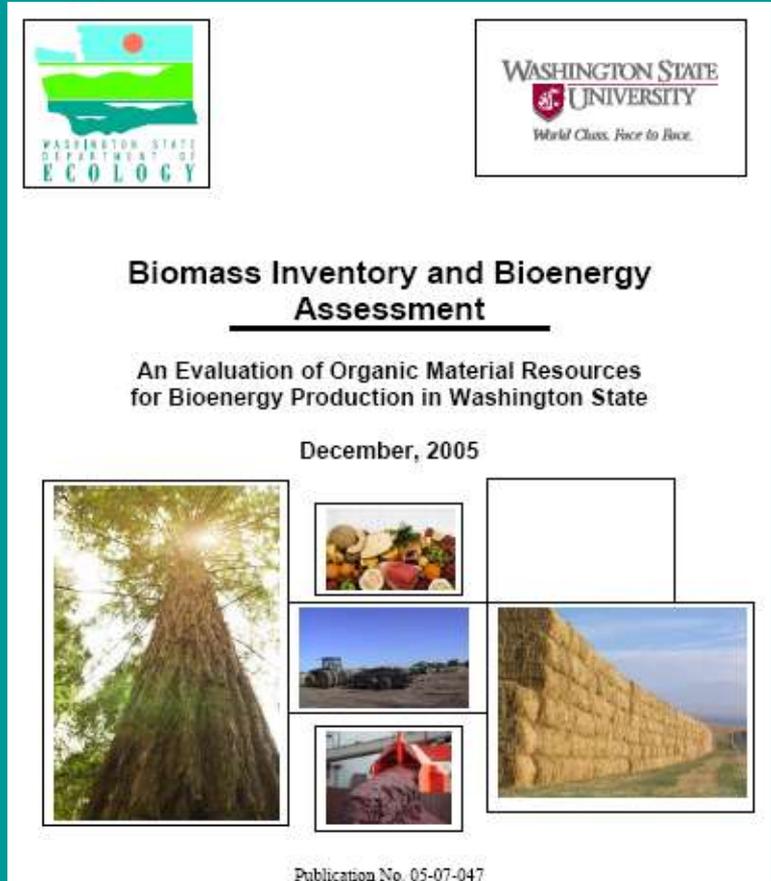
US DOE 2005

In the wake of the ORNL Report which relied so heavily on dedicated energy crops and Midwest data, a Washington State Inventory of Organic Residuals was initiated.

Washington State Inventory

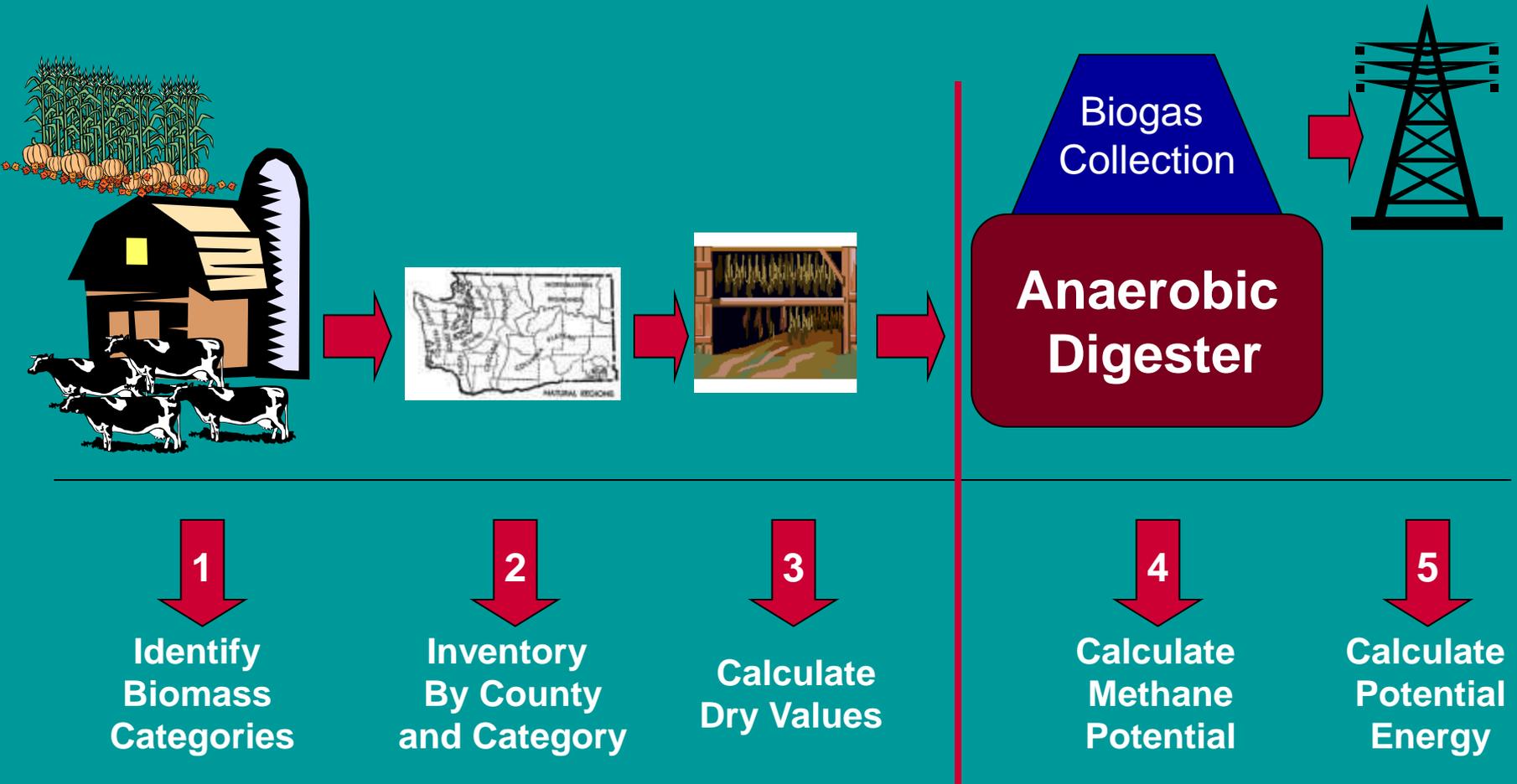
A county-level inventory and assessment of residual organic material resources in Washington State, comprising 45 separate inventoried items across:

- Field Residues
- Field Processing
- Animal Manures
- Food Packing
- Food Processing
- Municipal Solids

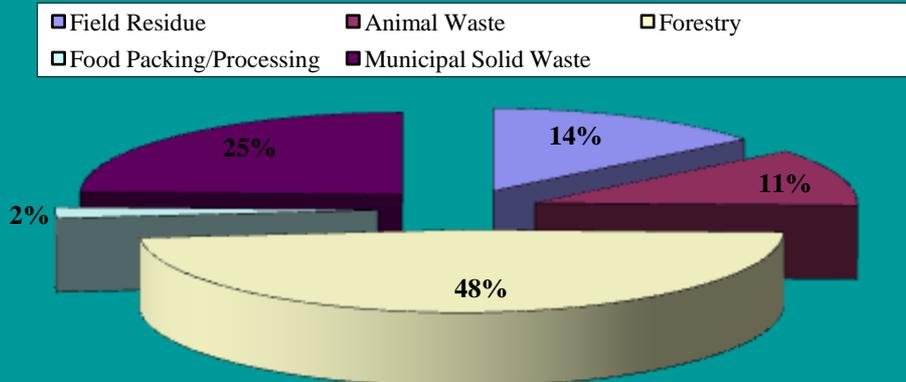
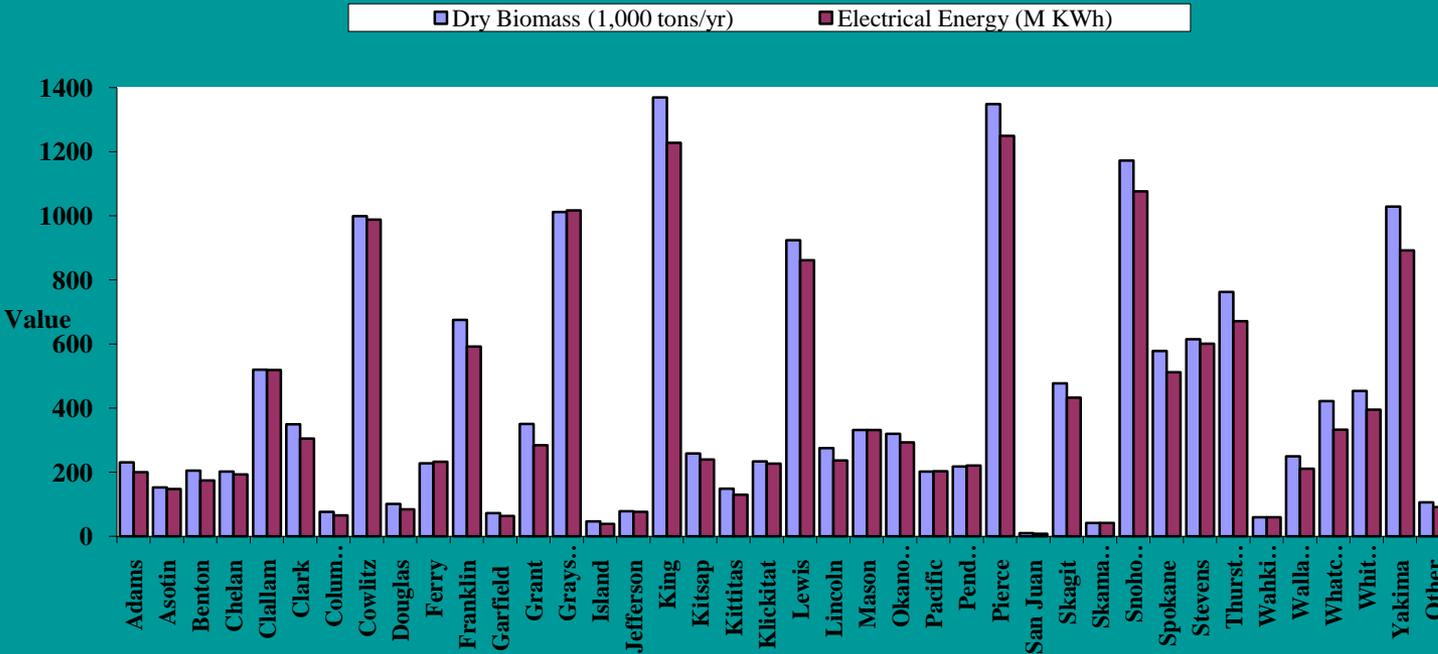


Frear et al, 2005 (<http://www.ecy.wa.gov/biblio0507047>
and <http://www.pacificbiomass.org>)

Schematic for Project Methodology

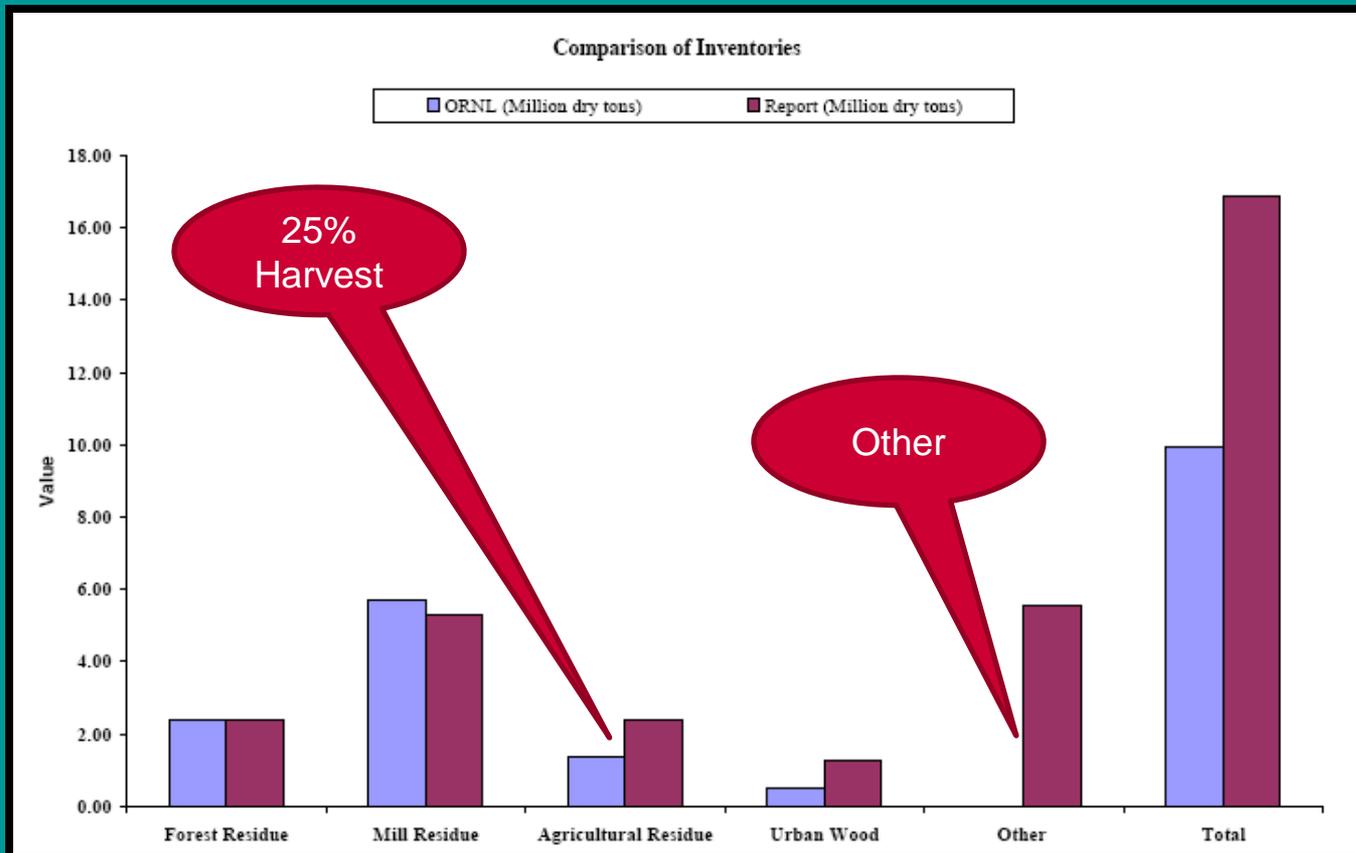


Totals (16.4 million dry tons annually)



Conclusions

The ONRL Study **under-reported significantly** the available biomass (non-energy crops) in Washington State—even when certain harvest reductions were considered in light of soil health;



Conclusions

- The annual residual biomass total is primarily of cellulosic origin (~2/3rds)
- Totals pale in comparison to starch-based and dedicated energy crop totals from Midwest and Billion Ton report, **severely limiting** the production capacity in the region;
 - Most is dispersed in form within fields and forests, thus transportation locations and distances **severely hamper viability of economics** in the region



Conclusions

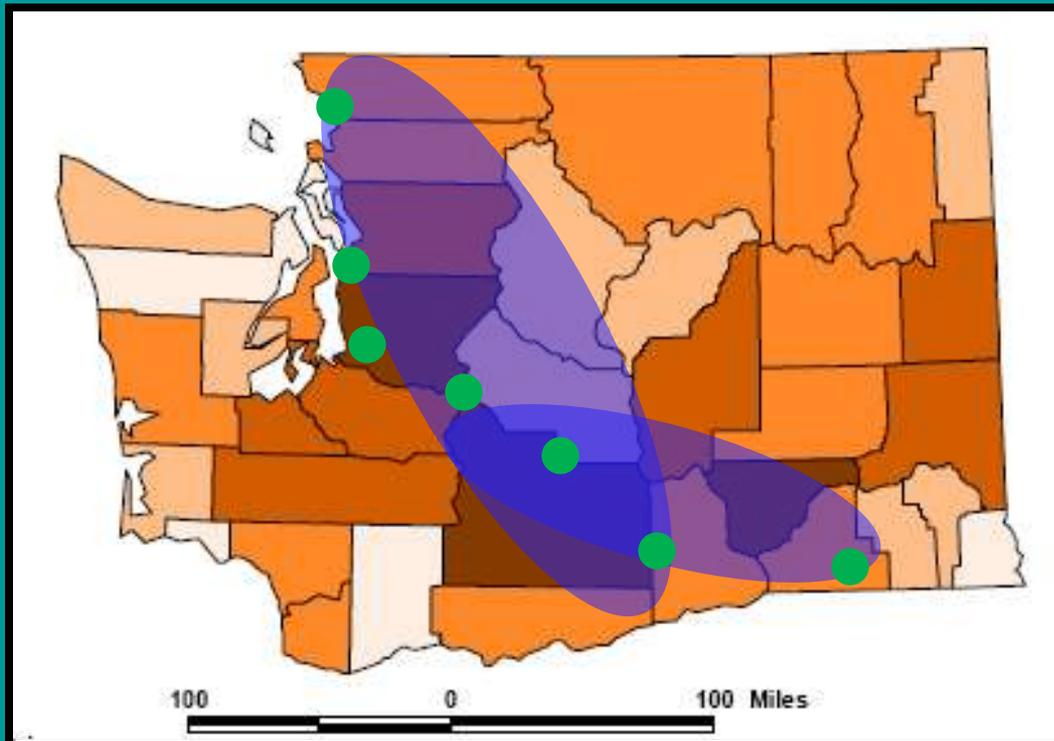
From a **waste management and 'low hanging fruit'** philosophy, 'waste' organics, not emphasized in national studies, can be an important biomass feedstock for a future bio-economy;



Conclusions

Washington State's **"Agri-Municipal" intersections** of residual biomass should be exploited using a unique combination of technologies, system approaches and policies;

- Combination of agriculture, forest, municipal wastes with limited transportation distances in concert with powerful infrastructure capabilities exists;



Conclusions

With limited biomass to make a dent in national biofuel needs, it is important to focus on development of **bio-materials, bio-plastics, nutraceuticals, jet fuel, and other fine chemical or co-products.**

- Washington State's already strong international markets as well as entrepreneur and industry capabilities within these sectors can compliment these efforts;



Check-List and Contact

Has Washington State emphasized utilization of 'waste' organics, particularly concentrated forms available within municipal and animal farm sectors?

Has Washington State, focused funding, research, policy, and entrepreneurship on unique agri-municipal sector, utilizing diverse biomass feedstocks?

Has there been a similar focus on bio-products as sole products or in combination with fuel?

Has Washington State correctly campaigned and marketed unique biomass strengths/weaknesses to national audience, i.e. federal agencies and venture capital?

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