



Director's Message

John Calhoun, *Director*



Effective July 1, 2009, the College of Forest Resources became the School of Forest Resources within the new College of the Environment at the University of Washington. Dean Bruce Bare is now Emeritus and will assist the new College as it builds a broad and diverse program of teaching, research and outreach addressing contemporary environmental issues.

Professor Tom Hinckley, a long tenured member of the College of Forest Resources faculty, is serving as Interim Director of the School of Forest Resources and Professor Dennis Hartman is serving as Interim Dean of the new College of the Environment. As Director of ONRC, I now report to Tom Hinckley.

For ONRC, the transition into the College of the Environment is an exciting opportunity. We expect that a wider set of colleagues within the College of the Environment will open new opportunities for collabora-

tion. For example, we have just released a report commissioned by the Washington State Legislature, *Wood to Energy in Washington: Imperatives, Opportunities, and Obstacles to Progress* (see *Wood to Energy* in this newsletter). Among the recommendations in this report is a call for the establishment of an Interdisciplinary Science Support group to inform energy policy in Washington. The College of the Environment is well positioned to provide the broad, interdisciplinary expertise required. Silviculturists, pulp and paper engineers, atmospheric scientists, resource economists, geophysics scientists all have important contributions to make informing energy policy and climate change mitigation challenges.

We also expect to see an increase in the use of our conference facility as faculty and staff at the new College become aware of the outstanding services we can provide.

The College of Forest Resources at the University of Washington has a proud history of over 100 years of teaching, research and service. The important role that forests and forest scientists play in addressing contemporary social, economic and ecological issues may best be advanced within the broader context of the new College. For ONRC, the expanded opportunities for service far outweigh the transitory inconvenience of a new administrative construct. The new College offers new opportunities to carry out the mission of ONRC: foster and support research and education necessary to provide sound scientific information on which to base ecologically and economically sustainable forest and marine industries and the resource dependent communities that depend upon them.

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Wood to Energy in Washington: Imperatives, Opportunities, and Obstacles to Progress

John Calhoun, *ONRC Director*

At the request of the Washington State Legislature, a thorough investigation into the barriers to increasing utilization of woody biomass for energy production in Washington has been conducted. Larry Mason, Rick Gustafson and John Calhoun from the College of the Environment, School of Forest Resources led the effort with significant contributions from Bruce Lippke and Natalia Raffaeli.

Identifying barriers and recommending solutions required an assessment of how the broader energy policies of the state and nation impact biomass energy opportunities. Major findings include:

- Energy policy must be examined in the context of three over-arching imperatives that compel immediate attention: Climate Change Mitigation, Energy Independence, and Sustainability.
- Wood is second only to water as a source of renewable energy for Washington, and, conversions to liquid transportation fuels emerge as the highest priority for maximizing integrated achievement of the imperative objectives.
- Liquid fuels conversions from wood biomass will require

large biorefinery capacity designed to utilize dispersed biomass resources for maximized bioenergy outputs. Colocation with State pulp and paper mills represents the greatest opportunity for success.

While a paradigm shift from fossil fuels to renewable energy will be difficult and expensive, the environmental and economic costs of inaction outweigh needed investment for change.

Energy independence and climate change mitigation are linked as national policy objectives. Sixty percent of the petroleum consumed in the US is imported at high cost to the economy. Climate change mitigation efforts focus on reducing greenhouse gas emissions (primarily carbon dioxide) mainly released from combustion of fossil fuels for electricity and transportation. The Energy Independence and Security Act and subsequent EPA rulings require emission reduction targets to be met by replacing fossil fuels with renewable domestic energy alternatives. Woody biomass has been recognized as an attractive US energy source that is both carbon-neutral and renewable. Efforts to identify and remove barriers to increased utilization of woody biomass for energy

are critical especially in the West where forests dominate the landscape and thinning can reduce the risk of catastrophic fires.

Washington, with abundant forests, ranks at the top of US states in woody biomass availability. Washington State produces clean electricity from hydro and nuclear power sources and exports electricity surpluses but must import nearly 100% of the petroleum needed for transportation fuels. The transportation sector is the leading State cause of air pollution, contributing more than half of the total greenhouse gases released into the atmosphere in Washington State. Forest play a unique role in climate change mitigation by absorbing carbon dioxide through photosynthesis, storing carbon in tree biomass and building products, offsetting use of carbon emitting building product alternatives such as steel and concrete and by providing biomass for clean energy. Use of woody biomass for direct heat or electrical energy production may be appropriate in some local areas of the State, but development of renewable clean sources of transportation fuel should be the State's highest energy priority.

Washington State does not have a lead Energy Agency or effective organizational framework for scientific participation in policy consid-

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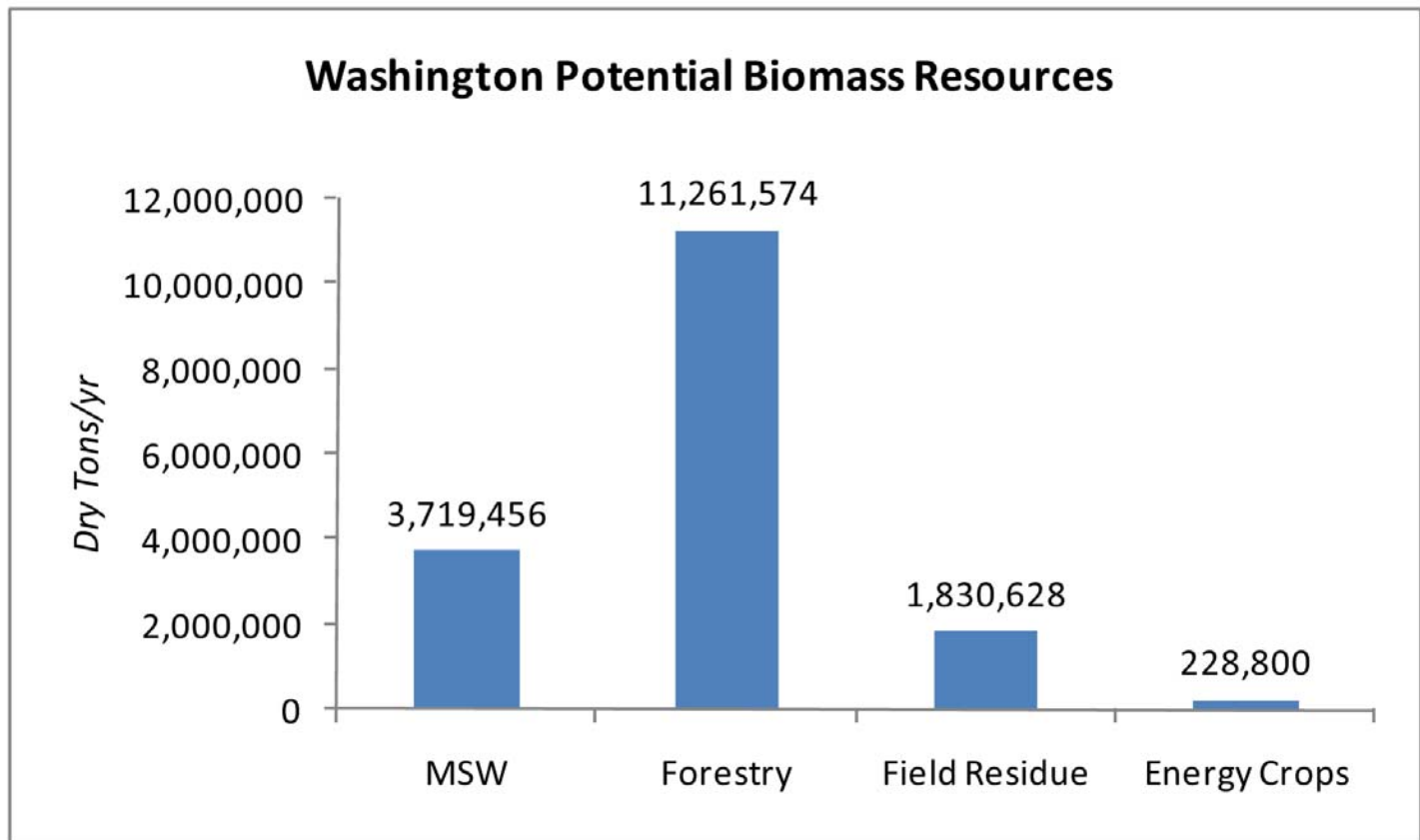


Figure 3.1.2. Washington’s Potential Biomass Resources (Frear 2008).

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erations such as the interrelated topics of energy, climate and sustainable forest resources. A

lead state agency should be given authority to coordinate policy development for state energy resources. An interdisciplinary team of State scientists

should be assembled to recommend energy priorities and strategic opportunities for progress based on the three imperatives.

**Wood to Energy in Washington:
Imperatives, Opportunities, and
Obstacles to Progress**

The entire 200 + page report, Wood to Energy in Washington: Imperatives, Opportunities and Obstacles to Progress, commissioned by the State Legislature, is available for download.

<http://www.ruraltech.org/pubs/reports/2009/woodtoenergy/index.asp>