



DNR'S ROLE IN BIOMASS FROM FOREST RESOURCES



Borer), woody invasive species (such as Buckthorn), and biomass from timber stand improvements.

MN's Biomass Harvesting Guidelines

On July 1, 2007, Minnesota became the first state to develop voluntary Biomass Harvesting Guidelines (BHG) to mitigate the adverse environmental effects associated with woody biomass harvests. These guidelines identify recommended practices for the sustainable removal of woody biomass by offering a menu of site-level management practices.

Minnesota's BHGs are mandatory on all state lands and on most county, third-party certified and industrial lands. The BHGs require that 33% of harvested tree residues be left on site following harvest.

What is Woody Biomass?

Woody biomass, as a renewable energy source, refers to woody plant material that can be used as fuel or for the production of industrial chemicals. Traditionally, the use of woody biomass has been limited to logging residue (non-merchantable tops and limbs left over from a commercial timber harvest along with non-merchantable small-diameter trees and stems), sawdust and other mill residues, dedicated energy crops, wood from land clearing projects, and wood from fuels reduction projects. As part of these traditional uses, biomass available for harvest on DNR timber sales includes any wood above a 3 inch top, wood that is more than 50 percent rotten, or wood that is dead (subject to the Biomass Harvesting Guidelines).

With increasing demand for renewable energy resources, new potential sources of woody biomass may emerge to include biomass from brushlands managed for wildlife, wood infested by invasive species (such as the Emerald Ash

Who Uses Woody Biomass, and How Much Are they Using?

To date, there are more than 40 wood energy facilities in the state; these facilities use wood to produce heat, power, or both. Many of Minnesota's oldest and largest users of biomass are in the forest products industry; some paper mills have been using mill and logging residue as heat and power for over thirty years. Minnesota's electric utilities also consume a considerable amount of biomass; using biomass helps utilities to meet state renewable energy mandates.

Although only six wood energy facilities use over 200,000 green tons of woody biomass a year, there are many other smaller wood energy facilities, such as schools, churches and community centers that also use biomass for energy. Additionally, new woody biomass proposals are announced each week. To date, six large proposed facilities have made public



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announcements or have started the environmental permitting process.

While Minnesota's forest biomass resources are not currently utilized at full capacity, the current demand for biomass is substantial. Every year, the DNR surveys existing wood energy industries to learn more about the wood they are using. Current data suggest that roughly 950,000 green tons of biomass are being used by Minnesota's wood energy industry. It is important to note that this estimate accounts for biomass from roundwood, logging residue, urban wood waste and land clearings, however; mill residue is not included in this estimate.

Scope and Scale of Minnesota's Woody Biomass Supply

Assuming that MN maintains a competitive and thriving forest products industry, our best estimates indicate that about three million green tons of biomass would be sustainably available annually to support our energy needs. In other words, about three percent of Minnesota's fossil energy needs could be offset by our available woody biomass resources including logging residues, managed brushlands and timber stand improvement projects. This number may sound small, but it is actually a meaningful resource if incentives and policies are targeted toward strategic uses of our wood resource.

Although Minnesota has room for increased utilization of woody biomass resources, particularly logging residue, our forests are not as vast as they are sometimes thought to be and we must choose wisely how we sustainably utilize our available resources.

Potential Forest Management Opportunities

Biomass harvesting is not just an extractive exercise; there are many types of value-added activities for forest landowners that make biomass available in addition to accomplishing land management objectives. Examples of these types of value-added activities include: harvesting brushlands for open-land wildlife habitat, timber stand improvements, fuels reduction activities, and removal of invasive species. As the biomass supply chain continues to develop for these types of biomass resources, the possibility of offsetting the management costs of these types of activities increases. For private lands, the DNR offers a forest stewardship program to help landowners assess potential on their land and can integrate biomass harvesting as a part of land management activities.

In an effort to expand our utilization of renewable energy resources, these types of opportunities to utilize biomass harvesting are being increasingly explored.

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