



## Study quantifies sustainable volume of biomass supplied by Washington State's forests

COMPREHENSIVE STUDY IS FIRST OF ITS KIND IN NATION

### Background and Purpose

Launched by Commissioner of Public Lands Peter Goldmark in 2009, the forest biomass initiative seeks sustainable uses of the abundant, renewable supply of woody biomass from the forests of Washington State. Using some of this material for liquid transportation fuel, heating, and electrical power generation can play an important role in Washington's emerging green economy and help address climate change. Removing biomass from forests in ecologically sustainable ways can provide income for forest landowners while improving forest health, creating rural jobs, and reducing wildfire risk.

In November 2010, DNR launched a comprehensive forest biomass supply study. Now complete, the first-in-the-nation supply study determined the amount of forest biomass that can be sustainably harvested throughout Washington.

### ***Market use of biomass could more than double without any impacts to forest sustainability***



**The study determined** the total volume of forest biomass produced by logging operations in the state. This amount was then reduced by:

- The volume that would not be brought to the roadside due to operational factors and would remain on the site, contributing to ecological functions.
- The volume that, due to unfavorable site and road conditions, would not be collected.
- The volume that would remain in slash piles and landings due to lack of demand for the product currently.

### What the Report Says

- The study created a comprehensive database of forest biomass production measured in bone dry tons (BDT) for Washington State with projections of future biomass production as a result of forest operations for 2010, 2020, 2030.
- The database can be summarized by forest type, ownership and forest management across different landscapes in Washington using the database calculator tool (to be released later in 2012).

- Forest biomass was studied under four distinct stages of processing:
  - Felling of trees in the woods, producing 4.4 million BDT of biomass statewide,
  - Bringing tops and branches to slash piles and roadsides, 3 million BDT,
  - Processing piles by biomass operators, 1.4 million BDT (1.6 million BDT were left behind in piles due to cost and infrastructure constraints),
  - Delivery of forest biomass to markets. (Approximately 439,000-558,000 BDT were actually utilized in 2010.)
- The volume of biomass was directly related to forest operations that produced commercial timber volumes. There was about 0.44 BDT of biomass accessible to processors for each 1,000 board feet (mbf) of commercial timber volume.
- The lack of biomass facilities influenced the volume of biomass that reached markets. The study suggests that demand can double—going from 0.6 million BDT to 1.2 million BDT—with only a small increase in price of about \$10 per BDT.
- The study describes geographic supply regions for existing and potential facilities across the state. It provides biomass supply estimates, at different price points, for those locations.
- Pre-existing biomass (not produced by timber harvest operations) is important for wildlife habitat, slope stability and forest regeneration. It is typically unsuitable as processed biomass for energy production. This volume of biomass is on site prior to the timber harvest and will remain on site after the timber harvest. The study team estimated a minimum of 8.6 million BDT and a maximum of 11 million BDT of biomass (pre-existing and harvest generated) is left on harvested sites statewide.

## Background

The “Washington Forest Biomass Supply Assessment” was encouraged through the passage of HB 2481, in the 2010 Legislature. In 2010, DNR received a \$1 million grant from the U.S. Forest Service to perform a statewide forest biomass supply study. The University of Washington School of Environmental and Forest Sciences, with TSS Consultants, won the competitive award to perform the study. The grant is, in addition to the supply study, enabling DNR and partners to test methods for making forest biomass material available from broad, multi-landowner areas. The aim is to improve the economic feasibility of protecting forests from wildfire and restoring forest health. The project is also resulting in the development of a biomass calculator tool that allows for customized biomass availability estimates based on user-defined inputs. The calculator will be released later in the spring of 2012.

## Web links

What is forest biomass?

[http://www.dnr.wa.gov/ResearchScience/Topics/OtherConservationInformation/Pages/em\\_biomass.aspx](http://www.dnr.wa.gov/ResearchScience/Topics/OtherConservationInformation/Pages/em_biomass.aspx)

Forest Biomass Supply Assessment

[http://www.dnr.wa.gov/ResearchScience/Topics/OtherConservationInformation/Pages/cc\\_forest\\_biomass\\_assessment.aspx](http://www.dnr.wa.gov/ResearchScience/Topics/OtherConservationInformation/Pages/cc_forest_biomass_assessment.aspx)