

## **Overview of characterizing approaches to collecting forest biomass**

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Commercial timber harvest or fuel reduction thinning operations often generate forest residuals such as limbs, tops, and non-commercial sizes of trees. These residuals can be processed into biomass feedstocks for production of bioenergy and bio-based products. There is a wide range of biomass harvesting methods used to cost-effectively collect, process, and haul forest residuals to markets. These methods are grouped into three major categories: slash recovery, whole tree chipping, and integrated harvesting. Each method employs unique strategies to maximize operational efficiency, including equipment design and selection, operational logistics, and hauling methods. The production of quality feedstocks (e.g. low moisture content and size control) from forest residuals has been increasingly important to support various biomass conversion technologies that are currently being developed. This presentation provides an overview of forest biomass feedstock operations that are commonly used as well as recent efforts and strategies being tested to produce quality feedstocks. Integration of mobile biomass conversion technologies with in-forest biomass operations can provide an alternative to the expensive long distance transport of high moisture, low energy density forest residues. A conceptual model of this integration will be presented.