

## **Additional Information:**

### **Mill Residues**

#### **Quantity**

County level estimates of all-live total biomass, as well as average annual growth, removals, and mortality were obtained from the Forest Inventory and Analysis Database (FIADB) version 3.0 (U.S. Department of Agriculture, Forest Service 2008). New FIA data, when available, will be updated in the model. All quantity data were presented on a dry ton basis.

County level estimates were allocated to “zip code tabulation areas” (ZCTAs) based on area proportionality, e.g., if a ZCTA accounts for ten percent of a county, ten percent of the county’s data are assigned to that ZCTA. If a ZCTA boundary crosses multiple counties, proportions for each county were summed.

ZCTAs are based on the 2000 census definition and were obtained from the U.S. Census Bureau (U.S. Census Bureau 2000). Area proportionality was performed using ArcGIS which produces a file containing ZCTAs, county Federal Information and Processing Standard (FIPS) codes, and the percentage each county has in the ZCTAs (<http://www.esri.com/software/arcgis/> Accessed January 5, 2009). An ORACLE™ database was created for this file of FIA and BT2 county level data. ZCTA level estimates were derived from the information in this database (<http://www.oracle.com/database/index.html> accessed January 5, 2009).

Confidence bounds of individual county level FIA data can be wide. Therefore, estimates of individual ZCTAs were not used in this study, but ZCTAs were aggregated together into larger groupings of “bio-basins” where confidence bounds may be comparable to aggregate county groupings.

#### **Cost**

Resources cost data (e.g., stumpage, mill residue prices, etc.) for the southeastern U.S. were obtained from Timber Mart South (TMS) and updated in the model quarterly; see <http://www.tmart-south.com/tmart/> (Accessed January 12, 2009). Categories in the BioSAT model for mill residues were “clean softwood,” “clean hardwood,” “unclean softwood,” “unclean hardwood,” and totals of any combination or all of these categories (e.g., “total residues,” “total softwood residues,” and “total hardwood residues”). Timber Mart South (TMS) mill residue price data (e.g., hardwood sawdust, pine sawdust, pine shavings, etc.) for a state were allocated equally to all ZCTAs. Timber Mart South does not report price data for Oklahoma, TMS price data for Arkansas and Texas are averaged and used for Oklahoma. TMS does not report for Kentucky. Kentucky’s price reporting system was used in the BioSAT model (Nevins, C.G. 2009). Mill residue resource costs for the 20 northeastern states were set a \$1.00.

#### **References**

Nevins, C.G. 2009. Kentucky’s growing gold. Kentucky Division of Forestry. Frankfort, KY. Vol. XLIX, No. 2.