

2006. Huber, A.*, A. Gaskell*, C. Worrell* and M. Cipollini. Estimation of carbon storage in a Mountain Longleaf ecosystem in northwestern Georgia. Proceedings of the 2nd Mountain Longleaf Conference, Mount Berry, GA. November 18-19, 2005. Longleaf Alliance Report 9:44-48.

Abstract: The mountain longleaf pine (*Pinus palustris*) has a high density, long life span, and is thus able to sequester large amounts of carbon dioxide from the atmosphere. Much interest had gathered recently in estimative carbon storage of forests as a means of addressing the global rise in carbon dioxide. The goal of this research was to provide an estimate of total carbon reserves in five mountain longleaf stands at Berry College. Because current methods of estimating biomass are not intended for mountain longleaf forests, it was necessary to correct the methods to reflect local conditions. Estimates for carbon storage were made using the Brown method for all biomass except downed woody material and trees larger than 10 ft. For trees larger than 10 ft. allometric equations for an individual species were used to estimate biomass. To estimate downed woody material biomass, a correction factor for downed woody material was established by comparing the Brown method estimations to fixed area masses. These results were combined to estimate the total biomass for the study areas based upon data collected in 2004. Total biomass, which was dominated by trees > 10 feet tall, litter, and duff categories ranged from 72 tons/acre (in a recently burned stand) to 176 tons/acre in a relict stand with no record of recent fire.