

2006. Huber, Amy, Amy Gaskell, Christopher Worrell, Larry Rogers, and Martin Cipollini. "Estimation of Total Biomass in a Mountain Longleaf Pine Ecosystem in Northwestern Georgia." *Southeastern Biology* 53(2): 169-170. (Abstract)

Abstract: The goal of this research was to estimate total biomass in five Mountain Longleaf Pine (*Pinus palustris*) stands at Berry College in northwestern Georgia. In comparison with other southern pines, Longleaf Pine has a higher density and longer life span, and is thus better able to sequester large amounts of carbon from the atmosphere over the long term. Much interest has gathered recently in evaluating the role of carbon storage in Longleaf Pine forests as means of moderating the global rise in atmospheric carbon dioxide, and in the restoration of fire-suppressed Longleaf Pine communities in general. Because there are no standard methods of evaluating total biomass that are specific to the Mountain Longleaf Pine ecosystem, it was necessary to correct commonly used methods to reflect local conditions. Estimates for carbon storage were made using the standard U.S. Forest Service fuel load methods for all biomass components except trees taller than 10 ft. Correction factors were developed for downed wood biomass components based upon actual biomass values generated from fixed plots. For trees taller than 10 ft., point-centered quarter methods coupled with published allometric equations were used to estimate biomass. Total biomass, which was dominated by trees taller than 10 ft., 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).