

ECONOMIC IMPACTS OF PROJECTED WHITE OAK (*QUERCUS ALBA*) TIMBER SUPPLY IN KENTUCKY: A COMPUTABLE GENERAL EQUILIBRIUM MODEL ANALYSIS

Gaurav Dhungel and Thomas Ochuodho

Demand for high-quality white oak saw logs in Kentucky has been increasing for decades. Concurrently, Kentucky is witnessing ecological shifts in the historically white oak dominated forests mirroring the structural changes in oak forests in the Eastern United States. This demand-supply dissonance presents growing concern among stakeholders on sustainability of white oak (*Quercus alba*) and its associated economic implications. In this context, the objective of this study was to assess potential economic impacts of projected white oak timber supply following overall increased supply of white oak saw logs but reduced supply of high-quality white oak saw logs in Kentucky. Results generated from a dynamic computable general equilibrium model indicate a cumulative present value GDP reduction of \$3.66 billion, a decline in consumer welfare of \$0.71 billion, and other sectoral contractions over 40 years (2018 through 2058). These results can be used to advocate for more proactive forest management practices to stabilize a sustained supply of high-quality white oak timber in Kentucky and beyond.

Gaurav Dhungel, Department of Forestry and Environmental Resources, North Carolina State University, Raleigh, NC 27695, USA

Thomas Ochuodho, Department of Forestry and Natural Resources, University of Kentucky, Lexington, KY 40506, USA