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Samantha H Erwin (samantha.erwin@murraystate.edu), 823 Eastland Dr., Villa Hills, KY 41017, and **Aron J Huckaba*** (aron.huckaba@murraystate.edu), 307 Lankford Rd., Paris, TN 38242. *Using matrix analysis to model the spread of an invasive plant, Alternanthera philoxeroides*. Preliminary report.

Alternanthera philoxeroides, more commonly known as alligator weed is an invasive specie indigenous to South America. With its alarming invasion of south east United States water ways, action to control this weed is both important and imperative. Utilizing experimental growth data obtained over the summer of 2010 matrix models can be used to precisely model the growth of alligator weed. These matrices are population projection models which represent the growth rate of alligator weed in its many stages. An on going attempt to use Monte Carlo simulations to predict patterns of future growth using the population projection matrices will be discussed. (Received September 21, 2010)