

NATIVE AND EXOTIC SPECIES EXHIBIT SIMILAR POPULATION DYNAMICS IN SECONDARY SUCCESSION. Scott J. Meiners, Jeremy R. Klass and Timothy A. Rye, Department of Biological Sciences, Eastern Illinois University, Charleston, IL 61920-3099.

Exotic species are often thought to have traits that confer an advantage over native taxa. However, it has rarely been tested whether native and exotic species exhibit different population dynamics, which would be predicted if exotic invaders were on average superior to native residents. We described the population dynamics of 84 native and exotic plant species during succession using data from the Buell-Small Succession Study. For each species we quantified 12 population parameters that described the rate of spread and decline, time and magnitude of population peak, and period of dominance. Overall, exotic species peaked earlier and were dominant for shorter periods than natives. However, this was largely driven by the abundance of annual and biennial exotics within the community. A PCA of the population characteristics revealed no distinct separation between native and exotic taxa, but found clear differences among life forms (trees, shrubs, perennials etc.). One potential exception is the exotic shrub multiflora rose (*Rosa multiflora*). This was the only exotic shrub with sufficient abundance to analyze and it exhibited much greater growth rates and cover than any native shrub. Similarly, cover and frequency of the native eastern redcedar (*Juniperus virginiana*) increased faster than any other tree species. These analyses suggest that although there may be individual species with unique characteristics and population dynamics, native and exotic taxa as a whole do not behave differently within communities. The similarity of population dynamics within most life forms argues that native and exotic taxa utilize similar strategies that constrain them to similar ecological roles.