results (cont.)

From 1990-2006 we observed the timing of woody vegetation development during the growing season. For the first twelve years (1990-2001) we observed bud break (50% leaf emergence) and leaf development (75% final size) on two to five permanently tagged individuals of each species. These observations have documented substantial (up to three weeks difference) interannual variation in the timing of leaf emergence (50%) and leaf development (75%) in all species observed. We have also recorded fall phenology since 1991, the exception of 1992. Weekly observations of percent leaf coloration and percent leaf fall begin in September and continue through leaf fall. Although no trend has been evident in the timing of fall leaf coloration and leaf fall over the course of the study, these trees have shown a trend toward later leaf senescence and leaf fall of up to five days over the course of the study.

Although spring events remain more variable there is greater consistent separation among species in the timing of leaf fall. Although there is a slight trend toward later leaf fall of about five days. The relative timing of observed bud break, leaf development and leaf fall were fairly consistent among individuals within a species and among means for species. The timing of spring events among individuals within a species and among means for species exhibited about twice the range of variability observed in the timing of leaf fall.

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