
**TWO-YEAR STUDY
OF FIRE EFFECTS ON
RHAMNUS FRANGULA L.**

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Glossy buckthorn (*Rhamnus frangula*) is a serious management problem in Illinois and Indiana. Disseminated by birds, this introduced shrub is capable of quickly establishing itself and dominating the native vegetation of our preserves. For further information, refer to the stewardship abstract of this species prepared by The Nature Conservancy.

In September 1986, a 4-m² plot subdivided into 1-m² plots was established in dry sand prairie at the Clark and Pine Nature Preserve in northwest Indiana. All stems of *Rhamnus* were recorded in four height classes: less than 5.08 cm, 5.08 to 15.24 cm, 15.24 to 30.48 cm, and greater than 30.48 cm. This study plot was burned in October 1986. As a result, all stems of *Rhamnus* were top killed.

The study plot was sampled again in October 1987. Previous results have been corrected and showed an overall increase of 48 percent in total stems in the plot. All size classes showed an increase in stems from 1986 to 1987. Specifically, there was a 129 percent increase in the less than 5.08-cm class, a 9 percent increase in the 5.08- to 15.24-cm class, a 65 percent increase in the 15.24- to 30.48-cm class, and a 71 percent increase in the greater than 30.48-cm class.

In April 1988 the study plot was burned again, and the plot was sampled in September 1988. Results were compared to

1986 values, and overall stem counts increased 59 percent. Similar increases were seen in all size classes when comparing 1986 to 1988 values. Specifically, there was a 223 percent increase in the less than 5.08-cm size class, a 15 percent increase in the 5.08- to 15.24-cm size class, a 28 percent increase in the 15.24- to 30.48-cm class, and a 143 percent increase in the greater than 30.48-cm class.

Results show that two burns done at different times of the year (October 1986 and April 1988) and within eighteen months of each other do not offer a reasonable method for controlling this plant. Stem counts were higher in 1987 than 1986, and higher in 1988 than 1987. Controlled burning appears to keep this plant from flowering and setting seed, but its ability to resprout after being top-killed is not diminished.