

USE OF PRESCRIBED FIRE TO SUPPLEMENT CONTROL OF AN INVASIVE PLANT, *PHRAGMITES AUSTRALIS*, IN MARSHES OF SOUTHEAST VIRGINIA

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ABSTRACT

Common reed (*Phragmites australis*) is an invasive grass in many of the wetlands of Virginia that is aggressively displacing native marsh plants, including some rare species. A combination treatment of herbicide application and prescribed burning is widely used to control this pest, but little quantitative data have been published regarding efficacy of this technique. The objective was to determine if common reed stands subjected to herbicide applications and prescribed burning show a biologically significant difference in change of common reed abundance than those stands subjected to herbicide application alone. Six reed-infested, oligohaline, wind-tide marshes in southeastern Virginia were subjected to one of three types of treatments: no spray and no burn (control), spray and no burn, and spray and burn. Herbicide application was conducted late in the growing season during two consecutive years and burning was conducted during the dormant season between herbicide applications. Density and frequency data were gathered for common reed and a predetermined set of "desirable" native marsh species before and after treatments. Spray-burn treatments showed a significant decrease in both density and frequency of common reed from the pretreatment to posttreatment samples, whereas the control and spray-only units did not show a significant decrease in common reed abundance. These results indicate that augmentation of chemical control of common reed with prescribed burning is more effective than herbicide alone. Additional research on other variations of the use of prescribed burning in the control of common reed is recommended.

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