



Patuxent Science Meeting 2004 Poster Abstract

Ecology and Management of *Ranunculus ficaria* in Rock Creek Park

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The invasive non-native plant, *Ranunculus ficaria* (lesser celandine), is a locally abundant, perennial spring ephemeral species found along the forested floodplains of the upper reaches of Rock Creek in Rock Creek Park (ROCR) in Washington, D.C. (Photo 2). The plant grows in dense patches (Photo 1) displacing other vegetation, most importantly native spring vernal species. Part of its aggressiveness and spread-vigor is attributable to the formation of tubers from the roots as well as vegetative bulbils (Photo 4) which can be transported locally or travel extensive distances downstream in floodwaters. Overwintering tubers and bulbils begin sprouting from fall into early spring often forming mats or colonies in mid- to late winter before other species emerge. This early emergence presents a window of opportunity for selective herbicide treatment. There are few literature reports concerning the ecology and control of lesser celandine. This study endeavors to probe further such things as: the conditions that promote its invasiveness, rate and mode of spread, displacement of native species, sensitivity to and timing of herbicide treatments, as well as ability of treated sites to recover with native species. Measures of cover, species displacement, response to herbicide treatments and site recovery post-treatment were accomplished thru the establishment of a statistically valid system of test plots.

The study hypothesis stated that the herbicide Rodeo formulation of glyphosate could be used to selectively control the invasive non-native species, *Ranunculus ficaria*, when applied at an optimal concentration and time of year; and that treated areas would recover with native spring vernal wildflowers. The results of the study, which were achieved with shared assistance from Rock Creek Park staff should help them successfully manage *R. ficaria* on their parklands.