

EVALUATING THE IMPACT OF SPRING GRAZING ON *PHALARIS ARUNDINACEAE* INVADED WETLANDS

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Abstract: Invasive species are a problem in many areas, but wetlands tend to be especially vulnerable to invasive species because they have higher water and soil nutrient levels than surrounding areas. In the Rainwater Basin area of Nebraska, reed canarygrass (*Phalaris arundinaceae*) is a common and widespread invasive species. Managers in the area frequently use cattle grazing as a control mechanism, but there is disagreement on if grazing can reduce reed canarygrass abundance. This study evaluated two aspects of grazing on reed canarygrass invasion in four heavily invaded Rainwater Basin wetlands. First, we evaluated the impact of spring grazing on reed canarygrass abundance to determine if grazing was an effective way to reduce reed canarygrass abundance. Second, we evaluated the impact of spring grazing on basal cover, species richness, and species abundances in invaded areas to determine if grazing had beneficial impacts on the plant community. We found that grazing in these areas did not decrease reed canarygrass abundance or increase species richness during the duration of this study. However, because grazing decreased litter and increased bare soil, grazing did create conditions conducive to future improvements in native species germination and growth. We concluded that grazing, as done in this study, is not an effective way to reduce reed canarygrass, but that grazing can be used to mitigate some of the negative impacts of reed canarygrass invasion.

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