

THE EXPANSION OF EASTERN REDCEDAR (JUNIPERUS
VIRGINIANA L.) IN WEST-CENTRAL ILLINOIS:
CAUSES AND PROSPECTS

An Abstract of a Thesis

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by

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ABSTRACT

Within the last 20 years, the expansion of eastern redcedar has been documented throughout west-central Illinois. The reasons for its recent expansion are now known. The purpose of this study was to determine the reasons for redcedar's expansion. It was hoped that this would provide clues concerning the provenance of the prairie peninsula.

An analysis of data revealed that 1) fire, redcedar's greatest enemy, is no longer used as an agricultural management practice, 2) 1,292 acres of farmland were abandoned throughout the study area, 3) erosion precipitated the establishment of redcedar by exposing niches to invasion, and 4) proper pasture management is necessary to prohibit redcedar migration in pastures which are subject to encroachment.

It was concluded that eastern redcedar had expanded in west-central Illinois because of the following reasons: 1) its population had increased as a result of fire protection and land abandonment, 2) its distribution centers were dispersed over a wider range in response to sporadically spaced land abandonment, 3) erosive forces exposed more habitats to its expansion, and 4) all these factors inflated redcedars expansion power which created a need for proper management of a greater number of pastures if invasion was to be checked.

The conclusions of this study reinforced the importance of fire as a vegetative control in the prairie peninsula. Further, they proposed that erosion was an important factor in the distribution

pattern of the vegetation of the prairie peninsula. Erosion facilitated the establishment of trees on hillier terrain because it exposed niches for their invasion.