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Abstract

A biological indicator is surrogate for directly measuring the environment or other harder to survey taxa. Bioindicators provide insights into the ecological ramifications of environmental conditions and complex synergistic interactions. Aquatic macro-invertebrates are well established as biological indicators in lotic systems, but little research has been done concerning suitable biological indicator taxa in lentic systems. Odonates (Order Odonata) satisfy most of the selection criteria for suitable bioindicators and have been implicated as being sensitive to environmental degradation in aquatic habitats. Vegetation in and around the littoral zone is critical habitat for odonates and is also targeted by cattle-grazing, making odonates excellent candidates for indicating the ecological impacts of grazing at prairie wetlands. This study investigates the suitability of odonates as biological indicators of the impact of cattle grazing on wetland water quality, vegetation structure, vegetation diversity, and the aquatic macro-invertebrate communities at prairie wetlands in south-eastern Alberta, Canada.