AN INVENTORY OF PRAIRIE LEPIDOPTERA IN SOUTHEAST MINNESOTA STATE PARKS: IMPLICATIONS FOR RESOURCE MANAGEMENT

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Abstract: Insects are an integral component of a prairie system, but are often undersurveyed and overlooked when making land management decisions. We surveyed 6 State Parks in Southeast Minnesota with an emphasis on prairie-dependent Lepidoptera and other insects. Survey methods included ultraviolet light traps for moths, meander surveys for rare butterflies and skippers, and limited sweep net sampling for other insect taxa. Over 515 insect taxa (approximately 400 moths, 65 leaf hoppers, and 50 butterflies/skippers) were identified during the survey. Over 33% (144 species) of all insects identified are considered prairie-dependent species and many of these are considered fire-sensitive species. However, prescribed fire is the primary management tool used at these parks to manage prairie and woodland communities leading us to re-examine our fire management strategies. Commonly accepted insect conservation management practices such as using seasonal timing of burns and leaving refugia within burn units combined with other resource considerations (rare reptiles, birds, plants, etc.) and site specific objectives provided a basic framework for refining our burn strategies. Resource managers need to balance the negative impacts to fire sensitive species with the net benefits to the natural community when considering prescribed burning as a management tool. Knowing the presence or absence of fire-sensitive species and understanding their life history allows resource managers to make more informed resource management decisions. The Lepidoptera survey provided valuable information for evaluating and refining our management practices where fire-sensitive species are at risk.