**Nectar Resources in Oak Savanna Pollinator Habitats

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 **Abstract:**Nectar quality is an important resource to consider for restoring habitats for butterfly conservation. Literature shows that butterflies with diets rich in sugars or amino acids often have improved fecundity, longevity, and increased lifetime fitness, but most habitat assessments only consider host plants and flowering stem counts when evaluating habitats for pollinators. The Karner blue is a bivoltine butterfly listed as federally endangered since 1992 with varying reintroduction success. The aim of this study was to examine nectar quality characteristics of oak savanna forbs in Karner blue butterfly habitats and quantify the variation in nectar sugar resource availability during each flight period. Using existing data on flowering plant density, we measured floral availability, nectar volume, and sugar concentration to estimate nectar resources across 16 sites in Ohio and Michigan. We found that nectar resources per flower were influenced by relative humidity and species present. Nectar sugar availability on the landscape varied with site, season, and species present. Analyses revealed a difference in sugar available per quadrat between seasons among sites with a history of occupation and former release sites no longer occupied. These data on the species-specific characteristics and temporal variation in nectar resources will aid habitat restoration planning and benefit conservation efforts for nectar feeding pollinators of this critically imperiled habitat. Co-author: Ryan Walsh, The Toledo Zoo, Toledo, OH