# Assessment Of Trail Camera-Based Population Estimators

We are assessing and developing methodologies to provide accurate small-scale deer population estimates using the Snapshot Wisconsin trail camera network, along with alternative camera configurations.

### TIMELINE
» Launch: July 2021
» Completion: June 2025

### FUNDING
» Pittman-Robertson

### DNR PARTNER BUREAU
» Wildlife Management

### COLLABORATORS & STAKEHOLDERS
» County Deer Advisory Councils
» Deer Hunters


Photo Credit: Snapshot Wisconsin

Recently, camera-based methods have been developed to estimate wildlife population size, but these methods require accurate estimates of movement rates and assume that animals move randomly relative to camera placement. Since animals typically do not move randomly and cameras are usually strategically deployed (e.g., on game trails), the latter assumption is problematic and limits the applicability of such methods. We are assessing alternate methods that could allow trail cameras to better estimate deer populations.

Our primary study area is the Sandhill Wildlife Area, a well-studied 37 km² fenced-in area. We will simultaneously use a trail camera grid along with GPS collared deer to study deer movement and encounter rates. GPS collars will also serve as unique identifiers that will allow us to compare population estimates from trail cameras with more conventional deer population estimation methods.

The study could also produce new camera-based methods for assessing deer demographic processes like hunting season survival.

### KEY POINTS

» We will assess and improve upon methods for estimating deer abundance at small scales using multiple sources of data, including trail camera photos.

» Methods will address drawbacks of existing camera-based approaches by testing alternative methods in a in a well-studied wildlife area.

### MANAGEMENT IMPLICATIONS

» The project will provide recommendations about the number and distribution of cameras, duration of sampling and the number of monitored deer required to obtain reasonable population estimates.

» Project results will provide information for deer management at finer scales than current Deer Management Units.

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