

Public Abstract

First Name:Remington

Middle Name:James

Last Name:Moll

Adviser's First Name:Joshua

Adviser's Last Name:Millspaugh

Co-Adviser's First Name:

Co-Adviser's Last Name:

Graduation Term:SP 2008

Department:Fisheries & Wildlife

Degree:MS

Title:Development and evaluation of a terrestrial animal-borne video system for ecological research.

Animal-borne video and environmental data collection systems (AVEDs) are integrated sensor systems that combine video from the animal's perspective with data from other sensors (such as audio and animal location). Using AVEDs, we can see what the animal sees in the field, generating a unique perspective not offered by other research methods. AVEDs have been used to study animal behavior, feeding tactics, physiology, wildlife damage issues, and interactions between animals. From 2006 to 2008, I helped develop the first store-onboard AVED designed for ecological research for terrestrial animals. To provide ecologists with a better understanding of AVED research, I reviewed the historical development, ecological research potential, and future challenges associated with AVEDs. I tested the hypothesis that AVED attachment increases the stress levels of captive white-tailed deer. I found no difference in stress levels between control and treatment deer during the 6 week experiment. Understanding how animals interact and how often they come into physical contact with each other is important for managing wildlife diseases, such as Chronic Wasting Disease. I used video and other sensor data collected by our AVEDs to describe encounters between white-tailed deer at the Baskett Wildlife Research and Education Area near Ashland, Missouri. My research shows that our AVEDs are powerful new tools for ecological research that do not elevate stress levels of captive white-tailed deer and enable ecological research opportunities that previous research methods have not provided.