

Mule deer habitat use and response to habitat changes and management on the Kaibab Plateau

The Kaibab Plateau supports one of the premier deer herds in the western United States and has been the focus of intensive management and research for decades. In recent years, winter range on the western portion of the Plateau (Unit 12A-W) has been impacted by several large wildfires and widespread establishment of invasive exotic weeds, (e.g. cheatgrass [*Bromus tectorum*]). Over the past 5-10 years, the Arizona Game and Fish Department (AZGFD), U.S. Forest Service, and sportsman's groups have undertaken extensive efforts to improve deer habitat via herbicidal control of cheatgrass, removal of encroaching woodland vegetation, seeding of forage plants, and installation of new water developments. The effects of these habitat developments on deer movements and habitat use remain unknown.



A large management concern is maintaining the deer herd at levels commensurate with the available forage base, particularly on the winter range, which has previously suffered from excessive deer population numbers. Location and movement data obtained from this study of GPS-collared mule deer will allow the AZGFD and U.S. Forest Service to assess efficacy of habitat improvement efforts and identify additional priority areas for future treatments. Movement data will address ongoing questions concerning deer use of transitional, winter, and critical ranges in response to winter conditions.

Objectives

1. Identify seasonal movement patterns of mule deer does between summer, transitional, and winter ranges.
2. Assess habitat use, particularly with respect to recently burned areas, habitat treatments (juniper removal, reseeding), and newly-installed water developments.
3. Obtain estimates of adult female mule deer survivorship.
4. Test and calibrate existing models of deer diet quality.

Approach

This project is being conducted in Game Management Unit 12A. GPS collars were deployed on 36 mule deer does from March 2012 to June 2014. The collars have been retrieved and we are in the process of compiling a geospatial database detailing movement patterns, habitat use, and survivorship. The project is scheduled for completion in 2015.

Project Contacts

Rich Lucas, Wildlife Specialist III, 623-236-7671, rwlucas@azgfd.gov

Tom McCall, Wildlife Specialist II (in Region 2), 928-214-1248, tmccall@azgfd.gov