

Title: Axis Deer Management on Maui
Organizations: Maui Deer Working Group
Award: \$62,000

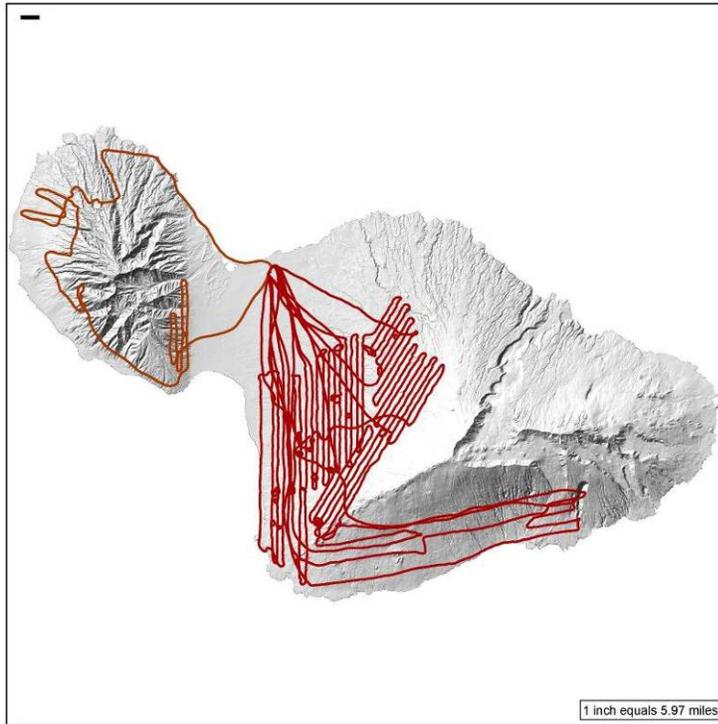
Introduction: Maui has reached a critical threshold with the growing population of axis deer. The multi-stakeholder Maui Deer Working Group hired a Coordinator to implement a comprehensive Management Plan. The project completed the first phase of a meaningful population estimate for axis deer on Maui; began collating information on harvest levels from multiple sources, including the DLNR-DoFAW damage control permits; launched a public survey to develop Management Focus Areas; encouraged private landowners to increase control efforts; and conducted outreach about axis deer.

Achievements in FY14

HISC support provided funding to hire the Maui Axis Deer Coordinator. Specific accomplishments included:

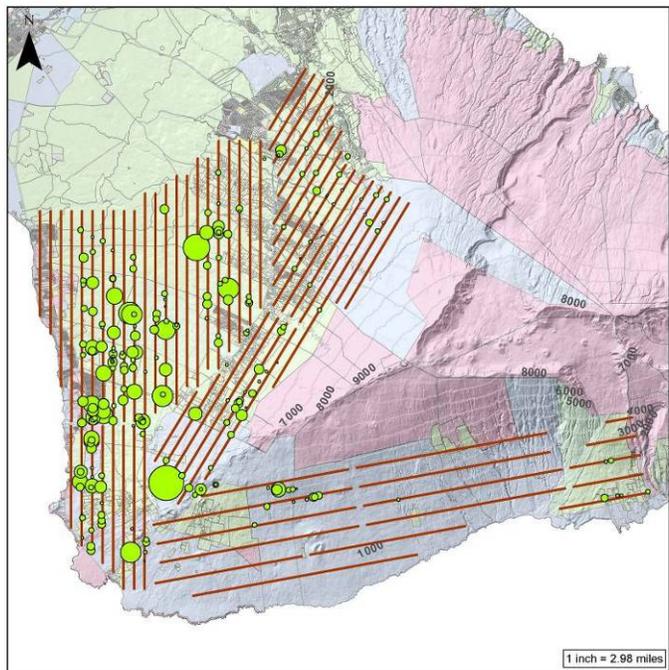
- **Initiate population estimate** for axis deer on Maui
 - An aerial survey using distance sampling was developed to estimate deer populations. In September 2013, a total of 17 survey hours were conducted across portions of Upcountry, South and West Maui (Figure 1). Transect lines were predetermined using ArcGIS. Staff from the Pu'u Kukui Watershed assisted with surveys. Three counters recorded all deer observed using voice recorders, estimated distance from the helicopter using range finders, and recorded geospatial data for transect lines flown. Approximately 125,000 acres were surveyed; a total of 237 deer groups were spotted, with 3,429 individual deer counted (Figure 2). Program DISTANCE was used to estimate densities of 0.06 deer/acre, resulting in an abundance estimation of 7,500 deer (range = 5,000 – 11,000).
 - To better model population numbers and dynamics a monitoring program has been developed. Radio-telemetry collars have been purchased for 20 female deer. This program will provide survival and recruitment rates, population growth rates, and distribution.
- **Identify Management Focus Areas (MFAs)** based on landscape, human population density, land use, conservation value, legal control options, and deer control / harvest history.
 - A public survey was created and was mailed to a group of randomly selected Maui residents. This survey will be used to assess public knowledge and attitudes toward axis deer management.
- **Reduce deer damage** to Maui's agricultural and ranch lands.
 - Local ranches are responding to increased deer populations by increasing their harvest rates and damage control operations. They have been reporting the numbers of deer removed. Cooperators reported that approximately 2000 deer were dispatched through hunting and damage control initiatives.
- **Increase public understanding** of deer biology and impacts of an unmanaged population on human health, agriculture, tourism, and forest health.
 - Print media has included articles in *Maui No Ka Oi* magazine, the *Maui News* and the Associated Press. Anticipated coverage includes an article in *Hana Hou!* magazine in June 2014.

Axis Deer Aerial Survey Flight Tracks



— All Flights

Axis Deer Aerial Survey Observations



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8 Flights