

Ecolo-GIS – Ecological Consultation
Ecology, Environment, GIS & Remote Sensing

Feral Hogs Management At Merritt Island National Wildlife Refuge.

Analysis of current management program.

by

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Summery

This report summarizes a two-month project on feral hogs management in Merritt Island National Wildlife Refuge (MINWR).

In this project I marked and recaptured feral hogs, with the help of local trappers, to estimate population size and habitat preferences. Habitat covers were obtained from Dynamac Corp. at KSC. These covers included vegetation cover and LIDAR data for MINWR. In addition I analyzed hunting records compiled by the refuge, and hog – car accidents compiled by KSC security.

Feral hogs arrived at Merritt Island with the settlers of the 1800's. Until 1960's when NASA purchased Merritt Island and established KSC, hogs were raised in open pastures. When the farmers left the island some of the hogs remained and formed the basis for the hog population on Merritt Island.

Using capture recapture method I estimated the hog population in the KSC security zone in MINWR to be about 3000 hogs, with an average density of 13.36 ± 6.15 hogs per KM^2 (summer 2002). Sex and age ratios might suggest a declining population of hogs.

Habitat preference analysis showed that the two factors determining habitat selection are the availability of food, especially citrus, and the ability of the vegetation to provide shelter as represented by the density of the vegetation canopy. Hogs estimated density was higher in and around citrus groves. In areas where groves were scarce or not available hogs preferred dense vegetation of native hammocks. The LIDAR data enabled me to conduct a three-dimensional study of the vegetation in MINWR and showed that hogs preferred dense vegetation, while vegetation height was not an important factor in deciding on habitat.

The importance of citrus groves for the hogs was also mirrored in the accidents reports, which showed that most of the accidents occurred at night and early morning, along the main roads (S.R.3 and S.R.402), and near citrus groves.

Hunting records showed that more hogs were captured during winter then summer. Similar pattern was found in the accident reports. These differences between winter and summer where probably caused by hogs movement between different parts of the refuge. In fall and winter hogs moved to the oak hammocks to forage for mast and to the citrus groves to feed on citrus. In summer they moved to the marshes. The main roads in MINWR are near the oak hammocks and the citrus groves. Those areas are also more accessible to trappers and hunters. The combination of habitat and accessibility can explain the seasonal differences and the

similar patterns of hunting records and accident reports. Analysis of hunting records for the years 1998-2001 did not show significant differences between the years.

Analysis of accident reports showed a decline in number of accidents on the main roads after 1995 when a new management program for hogs hunting was implemented in the refuge.

Recommendations for future management plans include: improvement of accessibility for hunters to the remote parts of the refuge. Segregation of management activities – different management methods have different requirements from the environment in which they are activated. Therefore using several methods in the same area might degrade their performances. Increase the effort in removing young hogs. Young hogs are not hunted, today, relatively to their part in the population. Increasing the removal of young hogs will expedite the decline of the population. Another way to reduce hogs population in MINWR is to reduce the suitable habitat especially citrus groves, which are an important food source for the hogs. Assign a person to manage and administrate the program. Obtain funding for a long-term program. Improve data collection from trappers and hunters in order to have a better understanding of the changing population.

Further research is necessary to evaluate the role of the hogs in the ecosystem of MINWR, and to determine their impact on both vegetation and wildlife in the refuge.