

Deer Research Program:

Population Estimate Summary Report

Staten Island, New York, February 2018 (Project Year 2)

Deer Research Program: 2018 Population Estimate Summary

Findings

- The current mean estimate of the deer population on Staten Island is approximately **1,884**, with a range of 1,793 – 1,975 deer.
- An approximate **8% reduction** in population was documented from Project Year 1, in which the population was estimated to be approximately 2,053 deer.
- Study results showed a **> 50% reduction** in fawn births from 2016, reducing the ratio of adult female deer to fawn from 1:1 to 1:1.47.
- This is significant considering only ~50% of the yearling and adult males were captured by the start of the 2016 breeding season.
- White Buffalo predicts the female deer to fawn ratio to further decline in the 2019 population count, as 87% of yearling and adult males were sterilized in advance of the 2017 breeding season.
- The average deer density is 84.26 deer/mile², down from 100 deer/mile² in 2017.
- An average annual mortality rate of 21% for adult deer was determined from collar data.
- A total of 1,011 bucks were tagged and sterilized prior to the Project Year 2 population survey. At the time of the survey (Jan. 20-Feb. 8, 2018), 687 tagged and sterilized bucks were alive and present in the study area for resight.

Methodology

- To determine herd size in Staten Island, White Buffalo Inc. used three methods of analysis, taking an average of the three to assess the population. The same methodology was applied in the 2017 population estimate.
- A two mile core population area was defined in each of the four treatment zones identified by White Buffalo Inc. This area was gridded into eight equally sized 150 acre sections. An infrared camera was placed in each of the eight sections for Zones 2, 3, and 4. Six cameras were placed in Zone 1 as two of the 150 acre plots contained limited deer habitat.
- Cameras were set to run continuously for 24 hours from Jan. 20-Feb. 8 with a preset delay of 5 minutes between pictures.
- Camera sites were pre-baited prior to camera deployment to encourage deer activity, baiting continued after camera deployment until study completion.
- After data collection and photo analysis, three peer reviewed methods were utilized to estimate abundance of white-tailed deer. They include: the Jacobson Buck to Doe Ratio (BDR) method, the Lincoln-Petersen estimator for population size, and the population reconstruction method. The mean of the three methods was used to determine the deer population on Staten Island.