

Saguaro National Park East

Helicopter Survey Summary

January 4, 2003

Below average precipitation and warm temperatures continue to be the norm. Tucson saw 111 consecutive days with no rain in the spring of 2002, time period where rainfall is important to deer survival. For all practical purposes no rain fell through the months of January through June. Monsoon rains finally arrived July 9th, the eighth latest start on record. 2002 was the fourteenth driest year on record, 2001 was the 13th, and 2000 proved to be the driest winter on record. 2002 was the 10th warmest year on record in Tucson, in fact, 13 of the top 15 warmest years in Tucson have occurred since 1985.

The warm dry year took its toll on wildlife. In June, a 3-5 year old whitetail buck was found dying on a front porch of a dense residential area in Tucson. Necropsy reports indicate the deer was starving and dehydrated. Two other whitetail deer were observed dead stuck in muck at the bottom of a dirt tank in Happy Valley that has never failed to hold standing water in the past. Steps were taken to prevent further occurrence, but it is unknown how many more deer had submerged below the surface before being noticed. Livestock waters were maintained by local ranchers throughout most of the district, but competition with livestock for the little forage production that did occur continued throughout the year on much of Game Management Unit 33.

Because of the absence of livestock grazing, considerably more ground cover and available forage is consistently observed on the Saguaro National Park than in Unit 33 as a whole. Ground cover is expected to reduce mortality rates for deer fawns and juvenile javelina by effectively hiding them from predators. Winter precipitation has been positively correlated with deer fawn crops, but cold wet winters have been negatively correlated with javelina reproduction. Because of the near absence of 2001-2002 winter precipitation, forage production was likely substantially below average on both the Park and the hunted areas of Unit 33, and well below average fawn crops are to be expected.

Mule Deer

All surveys since 2000 have resulted in small sample sizes for mule deer and do not allow for reliable inferences concerning the population as a whole. The 2003 survey yielded 6 does and no bucks or fawns. Throughout Unit 33, 110 mule deer were observed during all surveys, but of these only 12 were observed during the helicopter flight. A fawn crop of 44 fawns:100 does was observed in Unit 33, and 11 bucks were observed for every 100 does.

White-tailed Deer

As with mule deer, small sample sizes prevail. Thirty-two white-tailed deer were observed consisting of 17 bucks, 13 does, and 2 fawns resulting in a buck:doe:fawn ratios of 131:100:15. Wide variations in buck:doe ratios have been observed over the 4

surveys, ranging from 35 bucks:100 does in 2002 to 167 bucks:100 does in 2000. This great deal of variation is expected in a small sample size. Also as expected, buck:doe ratios in the unhunted population of the Saguaro National Park are consistently higher than the ratios found in the hunted portions of Unit 33. Fawn:doe ratios have varied widely, with the park having higher ratios than the hunted portions of Unit 33 in half of the surveys.

Javelina

Two hours of helicopter surveys yielded a whopping 212 total javelina on Saguaro National Park in comparison to the 91 total javelina located in Unit 33 as a whole throughout some 67 total hours of surveys by various methods. Average herd sizes have been consistently higher on the Park than in the hunted portions of Unit 33. Juvenile ratios have been consistently lower than the 20-30% considered necessary to maintain a stable population. More javelina were surveyed in 2003 than in previous years, but may be a result of javelina moving onto the Park from areas of poor forage growth and competition with livestock outside of the Park.

Mountain Lion

Two mountain lions, an adult and a $\frac{3}{4}$ grown juvenile, were observed on the Park near the northeast corner of the X9 Ranch.