

MOVEMENTS AND HABITAT USE BY DESERT MULE DEER AND JAVELINA
IN AN URBAN ENVIRONMENT

STATUS REPORT
MARCH 1989

Weekly visual observations continue to be made on 8 radio-collared desert mule deer and 5 herds of javelina in the Rincon Mountain District of Saguaro National Monument. In mid-January, 2 of these herds were radio-collared along the northwestern and southwestern boundaries of the monument, respectively. Radio collars have now been placed on javelina in 4 herds along the boundaries. These herds are located in the vicinity of Webb's Steak House, Saguaro Corners Restaurant, Twin Hills Trail, and Avenida Javelina (approx. 1/4 mi. west of the Cactus Forest Trailhead on Broadway).

Radio telemetry has provided interesting information regarding habitat use by urban javelina. Preliminary data suggests that although javelina herds along the monument's boundaries tend to use bedding sites within the park, their foraging activities are not restricted to areas within the monument. Several homeowners who provide artificial food sources for wildlife have been documenting the presence of radio-collared javelina on their property. In some instances javelina have been visiting their homes on an almost daily basis for years.

In early March, 2 javelina (one wearing a radio collar) were apprehended by AFGD officials at a warehouse on Prudence Road (west of Pantano Wash), approximately 1 block north of 22nd St.

The minimum distance travelled from the monument's boundaries was approximately 6 miles. It is unknown whether these animals followed a direct route through residential areas or a more circuitous route along Pantano Wash. In either case, such long distance movements by javelina are unprecedented. No comparable movements have been reported in the literature.

Telemetry data has also provided interesting information regarding movements of desert mule deer during the breeding season. Although collared females did not alter their movement patterns during this time of year, collared males were more apt to expand their home range, presumably in search of breeding females. In one such instance a collared male, who had spent the previous 8 months in the vicinity of the Javelina Picnic Area, travelled to the Pink Hill area where he has remained since December. Similar long distance movements, although not as dramatic, have been documented for other radio-collared males as well.

Desert mule deer continue to be observed outside the boundaries of the monument. One collared female has remained outside the monument in the vicinity of Broadway and Freeman Road since last fall. On the few occasions that she was observed within the monument in the past 5 months, these movements tended to occur following a heavy rain. In each instance this animal travelled to the drainage below stop #6, an area that provides free-standing water following a storm. Also of interest is a confirmed auto collision involving a collared male as it crossed Freeman Road late one evening in January. It is unknown which

animal was involved in the accident since a positive identification could not be made at the time of the collision and no animals showed subsequent signs of injury.

ARIZONA GAME AND FISH DEPARTMENT

INTER-OFFICE MEMO

TO: T.W. Spalding, Supervisor

FROM: Ron Olding, Game Specialist *RJO*

SUBJECT: Saguaro National Monument Helicopter Survey

DATE: February 6, 1989

Per your request Eddie Cocking and I flew a normal helicopter survey on the Saguaro National Monument East this morning. Copies of the survey forms are attached and a summary of the survey follows.

Unit: 33
Area: Saguaro National Monument
Date: February 6, 1989
Observers: Cocking, Olding
Weather: Cold, Calm, Partly Cloudy
Aircraft: Bell 206 Jet Ranger
Pilot: Gregg Deacon, SW Helicopters
Hours: 1.9 (+0.3 ferry) between 8:30 and 11:15 a:m:

OBSERVATIONS

Mule Deer

20 bucks, 48 does, 26 fawns = 94 total (19 groups)
41.7 bucks:100 does: 54 fawns
49.4 deer/hr. or 10 groups./hr.

Whitetail

19 bucks, 21 does, 8 fawns = 48 total (22 groups)
90.5 bucks:100 does:38.1 fawns
25.3 deer/hr. or 11.6 groups./hr.

Javelina

86 adults, 1 juvenile, 4 reds =91 total (8 herds)
Ave. herd size was 11.4; 4.2 herds/hr.; 47.9 javelina/hr.
Juveniles:100 adults ratio = 5.8 (incl. reds)
Herds observed were 7, 8, 7, 8, 8, 27, 7, 19 (The herds of 27 and 19 were found in the flats on the west side of the Rincons, all others were at least partway up the slopes).

These data provide some interesting comparisons coming from an essentially unhunted (for many years) area.

RJO:rjo

cc: Region 5 WM's, 501, 502, 505
Tice Supplee, Game Branch Supervisor

APPENDIX A

MOVEMENTS AND HABITAT USE BY DESERT MULE DEER AND JAVELINA IN AN URBAN ENVIRONMENT

Progress Report
October 1988

Weekly observations continue to be made on radio-collared desert mule deer and javelina in the Rincon Mountain District of Saguaro National Monument. Generally, ground observations are made in the early morning and evening hours when animals are most active. Data recorded includes date, time, weather, location, vegetative association, slope class, slope position, aspect, elevation, water distribution, human disturbance (e.g., roads, housing, trails), and animal activity (e.g., foraging, traveling, bedding). Whenever possible, we also record information on the sex, age, and specific behavior of all group members. The same data are also being collected for additional groups observed but not containing radio-collared individuals. These data are providing information on the relative distributions of desert mule deer and javelina in the monument.

Radio telemetry has already provided some interesting information regarding the movements of desert mule deer and javelina. By radio-tracking marked individuals, we have able to document animal use in areas outside the monument. For deer, these movements tend to be associated with their need for water. As ephemeral water sources within the monument disappear in late spring, deer leave the monument more frequently in search of water. The majority of these water sources are located on

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residential property and are placed there intentionally for the benefit of wildlife.

Prior to the start of the rainy season in mid-July, free-standing water was not observed at the lower elevations of the monument since late April. Although a thorough survey of permanent water sources has not been conducted, it appears that 2 areas of the park may contain water on a year-round basis. One of the areas is located several hundred feet above pullout #6 on the east side of the park road. Large numbers of female deer have been frequently observed in this general area, including 4 of 5 radio-collared females. This appears to be the only dependable water source in this area of the park. In June, a second permanent water source was discovered at the southern end of the park road in the vicinity of Javelina Rocks. This small natural depression, located in a rocky outcrop, appears to also hold water throughout the year. This water source is located approximately 600 m east of the park road in an area which supports a large number of male deer. No other permanent water sources have been found in this area of the park.

To assist in determining the frequency and extent of mule deer movements to water sources outside the monument, homeowners residing within approximately 600 m of the monument were contacted and asked to report sightings of radio-collared deer in residential areas outside the western boundary of the monument. The majority of these observations, which were made between May and mid-July, occurred during the driest part of the summer. An additional 3 radio-collared animals, although never observed outside the park, were frequently observed within 600 m of the

boundary. Numerous sightings have been made of uncollared deer outside the park. It is assumed that these animals are also part of the Saguaro National Monument population and traveled outside the monument in search of water. No observations of radio-collared deer outside the park boundary have been made since the start of the rainy season.

Of the 4 deer known to have traveled outside the park, 2 were females which had previously been observed in the vicinity of stop #6. The other 2 animals were males that are known to range along the southern end of the park road. For at least one of these animals, time spent outside of the monument appeared to be minimal and tended to occur during the cooler parts of the day. For the other deer, however, time spent outside the monument tended to range from several days to several weeks, with movements occurring as much as 2-3 miles beyond the animal's normal range. One adult female remained on residential property just outside the monument almost continuously from April to mid-July. Landowners in the area frequently sighted this animal obtaining water from catchments in their yards. In mid-July, this deer was found dead just inside the monument's boundaries. Although evidence suggests that she was killed by coyotes, it is unknown whether she had been hit by an automobile which could have left her in a weak and vulnerable condition.

Radio telemetry has also provided interesting information regarding habitat use by female desert mule deer. Preliminary data suggests that several weeks prior to giving birth, pregnant females will begin spending more of their time at higher

elevations (e.g., 3,500 ft and above). Presumably, these animals are selecting fawning sites which offer a more secure haven from predators than would be afforded at lower elevations. Although to date, not all all radio-collared females have dropped their fawns, their movements suggest that the area above stop #6 on the park road is an important fawning site. One radio-collared female has dropped a fawn in this area in late July and another radio-collared female has been observed repeatedly in this general area. In addition, at least a half dozen sightings of either fawns or lactating females have been made in the area in the past month.

Since February, 3 javelina (1/herd) have also been captured and radio-collared. Two of these groups are known to range along the northern and western boundaries of the monument. These herds tend to frequent residential areas on a daily basis and appear to depend heavily upon food scraps provided by restaurants and homeowners. The third radio-collared herd tends to restrict its movements to the interior of the park road. It is our objective to eventually monitor the movements of 5 groups of javelina.

To minimize capture-related expenses and trap more selectively, an additional 2 javelina will be captured with box traps. Trapping animals from 2 other herds has proven difficult. In early July we trapped and radio-collared a javelina from a new herd along the western boundary of the monument. Unfortunately, this animal died within days of being captured. To avoid additional capture related mortalities, further trapping for javelina has been temporarily suspended pending cooler temperatures.