RADIO TELEMETRY AS AN AID IN THE STUDY OF WOLF DEN SITE BEHAVIOR

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Due to logistical difficulties, den site behavior of the timber wolf has seldom been studied in the field. This paper discusses the use of telemetry as an aid in the study of den site activities of an Alaska wolf pack.

The pack consisted of four animals; the alpha male and female and a yearling male and female. Six pups, of undetermined sex, were born on approximately the first of May.

All four adult pack members had been radio-collared prior to this study so they could be tracked and visually observed from fixed wing aircraft using methods similar to those described by Mech (1974). Activity activated transmitters (Telonics Co., Mesa, AR) were used on the adult male and adult female in an effort to determine daily activity patterns. Each activity transmitter was equipped with a tip switch that altered the pulse rate of the transmitter dependent on the position of the animal's head. When the animal's head was down, the pulse rate of the radio decreased. Conversely when the animal was standing, the pulse rate increased. A monopole antennae was erected one-quarter mile from the den site. Both amplitude and period of each radio transmitter was recorded using a portable digital data processor (Telonics Co., Mesa, AR) connected to a portable programmable scanning reciever and a rustrak recorder (Gulton Inc., Manchester, NH). All three instruments were powered by a 12 volt battery and were housed in a large plastic container for weather protection.

The recorder continuously plotted radio signal information on a paper spool at the rate of 8 inches/hour. A seperate bench mark transmitter was used as a control to calibrate the receiver and to provide a continuous comparisin between the known location of the bench mark transmitter with data collected from the wolf activity transmitters.

While activity patterns were monitored electronically, the den area was observed from a blind strategically located near the den. A behavioral code and check sheet were devised and behavioral data were collected on a continuous samples basis recording the time, actor, behavior and recipient as it occured. During these ground observations a two element, hand held antenna and a protable receiver (Telonics Co., Mesa, AR) (Ballard et al. 1979) were used within the blind to locate pack members and confirm the presence or absence of radio-collared animals at the den site. Scan samples were taken at 30 minute intervals and the location recorded. The subject animal was considered to be at the den site if a strong signal was received and the signal was within 45 degrees of the primary den opening. If the subject was determined not to be at the den site, the direction from which the signal was received was recorded.

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In addition to the ground observations aerial observations were also used to verify activity data that were plotted on the rustrak recorder. Aerial monotoring intensity varied depending on weather and availability of aircraft. After the animals were located by radio from the aircraft they were visually identified and the time, location and activity of each animal were noted.

Data collected using the above methods will be discussed.

References

Mech, L.D. Current techniques in the study of elusive wilderness carnivores. Proc. XI Internat. Congress of Game Biol. pp. 315-322, 1974.

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