

Adaptive Management Approach to Emergency Supplemental Deer Feeding

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Abstract: Using an adaptive management approach, an 'optimum' mule deer (*Odocoileus hemionus*) population size was calculated for the Deseret Land & Livestock ranch, Utah. Population trend estimates in 1996 suggested the herd was near the target population. However, early, deep snowfall forced deer off normal winter range and onto lower elevation, largely agricultural areas. By early January, deer condition was obviously declining. Adult deer appeared lethargic and smaller fawns began dying. Increasing agricultural depredation forced Utah DWR biologists to begin shooting deer.

In response, a supplemental deer feeding program was initiated, funded by Utah DWR, the Mule Deer Foundation and private citizens. Trails were plowed and feeding sites established on wintering areas in an effort to enhance deer survival and reduce depredation. 1,125 mule deer were supplemented with several mixtures of energy and protein. On average, deer received about 0.5 lbs. of supplement/day, for 45 days, at a cost of \$4.60/deer fed. Within a few days, deer moved to feeding sites, depredation ceased, and deer appeared more energetic. Once receiving their supplement in the morning, deer moved off-site to browse for the remainder of the day. Supplemental feeding was discontinued when south slopes became snow-free.

Subsequent mortality surveys, spring classifications and radio-telemetry data suggested the program was successful. Spring fawn:adult ratios at feeding areas were double those in non-supplemental areas (31Fawns:100Adults vs. 18F:100A). We justified this program using the following criteria: 1) the deer herd was at or below the target population size 2) drought and abnormally deep, early snowfall made normal winter range unavailable and 3) we were able to begin feeding before deer condition declined excessively. We do not recommend supplemental winter feeding as a long-term method of maintaining deer herds above winter range capacity, but may have application during periodic deep snow if applied properly.