PRONGHORN HABITAT USE IN ALBERTA

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This information was collected on the side during the course of a masters thesis study conducted on the effect of burning on pronghorn range use in Alberta.[4] The Suffield Military Reserve, north of Medicine Hat, was chosen as the site for this study because it offered the combination of frequent large grass fires, a good pronghorn population and a large uncultivated area (2560 km^2). The data was collected from 11 July 1985 to 28 June 1986 on a total of 8,423 pronghorn sightings.

The habitat that a pronghorn was seen in was recorded for each individual censused. Habitat use was originally recorded for 16 habitat categories but these were later lumped into 7 broad categories as follows:

Burned Range — all range burned during the study and distinguishable from unburned range except in May and June when mapped pronghorn locations were used to determine the use of burns.

Roadside — roads, roadside ditches, small trails, tank tracks, etc., generally any mechanically disturbed site.

Grassland — upland areas with no strong shrub component.

Sage Grassland — grassland with a strong sage component.

Slough — areas containing water, at least in the spring and characterized by marsh vegetation.

Shrub Grassland — grassland dominated by other shrub species besides sage.

Wet Grassland — grassland on slightly moister sites such as small depressions and hillside ravines and characterized by thicker and taller vegetation than grassland.

These habitat types were qualitative and not based on any analytical methos. No mapping of habitat types was undertaken, so there is no analysis of whether habitats were used more or less than expected except for burned range. Range burned in July and August 1985 was used significantly more than expected, based on its area, in September, October, November, January and April.[4]

There was a noticeable seasonality of use of the various habitat types (Fig. 1). All habitat types, with the possible exception of shrub grassland, underwent large fluctuations in use.

July, and to a lesser extent August, were drought periods during the study. During that period sloughs and roadsides were heavily used by pronghorns. Other habitat types were less important. At that time of the year these were the only habitats with green vegetation. Even sage and other shrubs (which were also green) failed to attract pronghorns to the same extent during these months, perhaps due to higher levels of plant toxins. Similarly, McNaughton found that high grazing intensities occurred on green forage during the dry season when green forage was rare in the Serengeti.[9] Presumably this green vegetation in sloughs and roadsides was higher in nutritional quality than the dried vegetation on the other habitat types. For

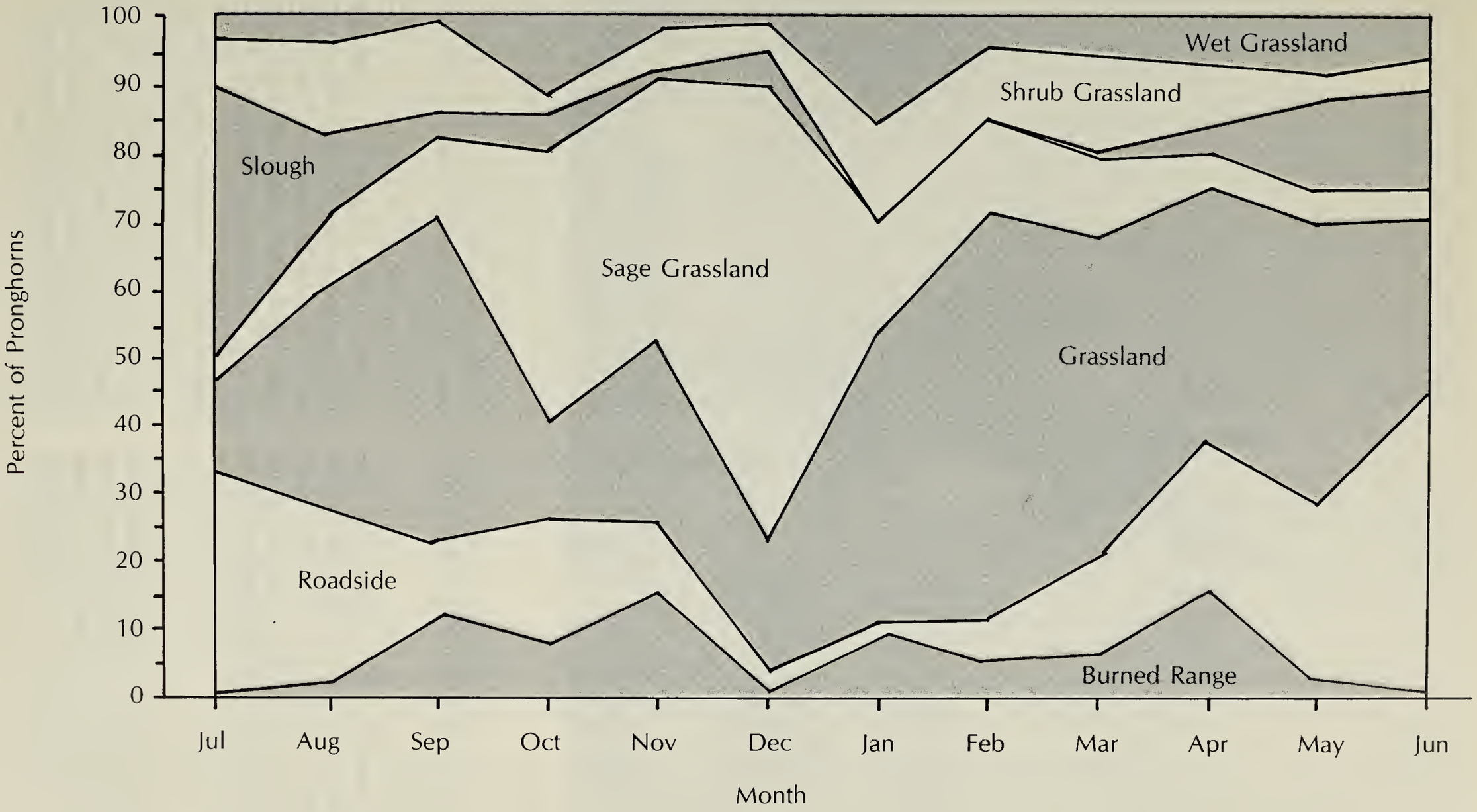

Figure 1. *The percent of pronghorns on various habitat types by month.*

Pronghorn *Chris Adam*

management purposes these areas seem to be important summer drought habitat for pronghorn.

By September the drought had broken and there was a cool, wet fall through to November. Generally all habitat types greened-up during this time. Burns and sage grassland were used more and the drought habitats of July were used less.

December was the only month with a continuous snow cover. During this month sage grassland was by far the most important habitat and the use of all other habitats decreased or remained at low levels. This is consistent with what other workers have found for northern pronghorn populations in normal winters.[1 3 6 8]

January through March were very mild winter months with no snow that stayed for more than a few days. Pronghorn tended to move back out onto the open prairie (grassland) and away from their winter range. This is also consistent with the findings of others.[2 7]

April was the beginning of spring green-up and trends that began in April continued into May and June. The sloughs again became important, but not as during the 1985 drought. Roadsides became even more important, perhaps due to in-

creased quantities of forbs from the higher 1986 rainfall. The use of other habitats remained relatively constant.

For pronghorn management purposes, the habitats used under stressful environmental conditions such as drought in summer, and extreme cold and heavy snow cover in winter are the important ones. Sloughs and roadsides are important during droughts. Sage is important in fall, when pronghorns, especially the males after the late September rut, are accumulating fat for the winter. Sage is also important during the winter, probably due to its high nutritional quality and availability at that time of year.

More information is needed on habitat use in relation to habitat availability. For example, is the use of the shrub grassland greater than expected based on its area? To date, most pronghorn management emphasis has been placed on sage, to the detriment of other winter habitat types. Sage was far more common than any other shrub and its use may simply be related to its availability.[5]

Pronghorn used a variety of habitat types in varying proportions throughout the year. range should be managed to maintain this diversity. The diversity of habitat types will benefit other wildlife as well. Diversity is an important consideration when planning the reclamation of strip-mined rangelands or the designation of natural areas for wildlife conservation.

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[8] MARTINKA, C.J. 1967. Mortality of northern Montana pronghorns in a severe winter. *J. Wildl. Manage.* 31:159-164.

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