Habitat Use and Behavioral Acclimation By Bighorn Sheep Introduced In North Unit Of The Theodore Roosevelt National Park [TWS]

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Nineteen radio-collared California bighorn sheep (*Ovis canadensis californiana*) (14 ewes/5 rams) were introduced in the North Unit (Mckenzie County, North Dakota) on January 26, 1996 and monitored at 2-3 day intervals with the use of telemetry equipment for one year. Since their introduction, sheep have slowly increased their range inside and outside the park boundaries. The predictions of the North Unit bighorn sheep Geographical Information System (GIS) habitat model were generally validated by field observations. Sheep activities were focused in *Stipa comata/Carex filifolia* and *Artemesia tridentata/Agropyron smithii* habitat types. Vegetation analysis suggests percent utilization for areas used by sheep averaged 62% before the study animals moved to other foraging territories. Plant species composition in sites identified as used was highly variable. The physiographic type most frequently used

by the sheep was the Badlands type. Feeding was heaviest during the mid-morning and late evening hours for the entire year. Bighorn sheep interaction with other ungulate species (*Bison bison* and *Odocoileus hemionus*) and predators was frequent and rare, respectively. Sheep generally habituated to the presence of humans. Fourteen adult ewes produced eight lambs in 1996, three of which died of undetermined causes.