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CHANGE ON THE RANGE . . . MONGOLIAN STYLE

Michael R. Frisina and Raul Valdez

It was an atmosphere charged with change and optimism that we found upon arrival in Mongolia during the fall of 1993. We were invited to Mongolia to assist the government implement improved rangeland and wildlife resource management. Our main objective was to survey the wild Argali sheep and to assist the Mongolian people initiate management programs designed to maintain this economically important rangeland resource. This article documents our general observations related to rangeland resources in Mongolia during a historic time of change.

Possibly the most significant change to occur in Mongolia since Ghengis Kahn and his Mongol cavalry conquered China and eastern Europe during the twelfth century happened in 1990. The Mongolian Peoples Republic, a Soviet satellite since the 1920's, suddenly found itself free of Russian domination and faced with the challenges of self determination. Mongolia is a country in rapid transition, redefining itself and reclaiming its cultural heritage and sense of history.

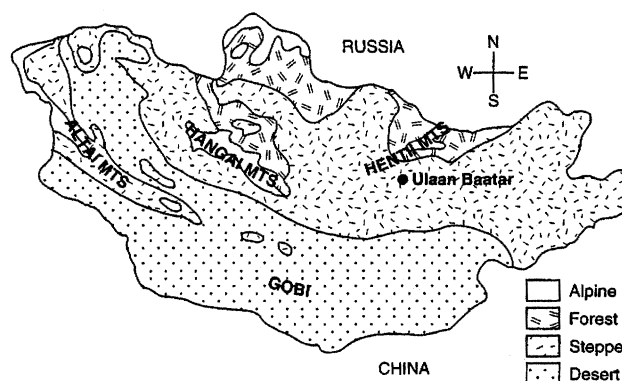
Mongolia: An Overview

Mongolia, a romantic and mysterious land, is a large isolated nation of 2.5 million people. Boxed between China and Russia, for over 60 years it was valued by the Soviet Union as a protective buffer with China.

The country's only large city and capital, Ulaanbaatar, is home to about one third of the nation's population. Mongolia's low population density is in itself an anomaly for Asia. Due to a lack of infrastructure, people live their lives isolated from most of the world with few modern conveniences. Some estimates indicate there are about 13 domestic livestock per person in the country. Horses and sheep provide both a basis for Mongolia's culture and means of sustenance from which most products of survival are produced in this agrarian society. The lifestyle and living conditions remind one of western pioneers who maintained an existence in the arid lands of the American West.

For thousands of years, Mongolians have survived by practicing animal husbandry as nomadic or seminomadic herders. People live scattered about the countryside,

tending herds of horses and flocks of sheep and goats, living in small round mobile tents called yurts by westerners and gers by Mongolians. Much of Mongolia's cultural heritage, including language, religion, and history, was almost lost under Communist rule. Mongolians are currently rediscovering their past with great enthusiasm. Ghengis Kahn has been reaffirmed as the greatest Mongolian national hero of all time. Societal upheaval is occurring with hardship. The Russians left taking with them the country's economy. Mongolia was dependent upon the Soviet Union for manufactured goods; the Soviets were their major trading partner. However, due to ethnic homogeneity, transition is occurring without the violence currently common in Eastern Europe.



Map of Mongolia illustrating the country's land form and vegetation.

Physical Description

Mongolia is a landlocked country approximately the size of Alaska or two and one half times the size of Texas, encompassing 604,103 square miles. The climate is continental with long cold winters and short humid summers. January is the coldest month with temperatures often -22 degrees F or colder in contrast to over 95 degrees F during July, the warmest month. Rainfall is highly variable averaging 18 inches in the mountains and 4 inches in the Gobi Desert. Sudden downpours causing extensive flash flooding are common. Mongolia is famous for its clear, sunny days, which create a visual openness across its landscape.

The landscape is complex with great diversity both in land form and vegetation. Mongolia's land base is composed of high mountains, plateaus and uplands varying in elevation

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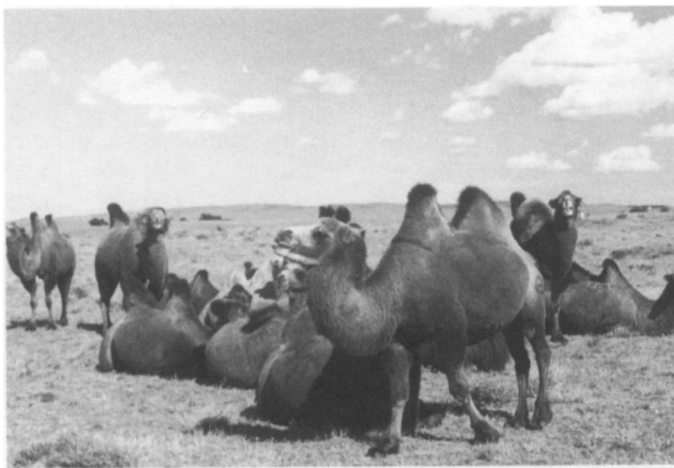
from about 1,640 feet in the Gobi Desert to 14,331 feet on Mount Monch Chajrchan in the Altai Region. Bernal (1964) classified Mongolia's land form and vegetation into four major plant communities as they are generally located from north to south.

Alpine and High Mountain Tundra: Due to poorly developed soil cover, vegetation is concentrated mainly in small turfy patches. Fescues, meadow-grasses, and reed grasses are common. Sedges and rushes also occur. Thickets of willow, dwarf birch and occasional cedar add to the landscape's diversity.

Forest: Forests are very limited in a distribution of discontinuous patches, localized chiefly along northern slopes. The patchiness of forests is likely due to the dry climate. Pine is common with some larch and cedar also present. Spruce occurs along some river courses. Aspen and birch occur only at lower elevations. A variety of berry bushes grow within Mongolian forests.

Steppe: The Mongolian steppe plant communities occur on either gently rolling plains or as grasslands at the edge of forests or sometimes within forest clearings. Grass covers 60 to 80 percent of the soil surface. Stipa, fescues, wheatgrasses, brome grasses and meadow grasses commonly occur. A variety of forbs, shrubs and sedges also contribute to the broad vegetative diversity.

Desert: The desert type comprises most of the Gobi Region and is characterized by extreme sparseness and low growth of herbage particularly in southern portions. Large portions of the Gobi are also often referred to as semi-desert or desert steppe. Although many plants are hard and coarse, a characteristic of the Gobi is a more frequent occurrence of vegetative succulence than other deserts. Wild onion, shrubs of the pea family, sages, feather grasses and stipas are key components of the Gobi's plant communities.



Camels are an important source of dairy products in the Gobi region.



The horse is important culturally and agriculturally in Mongolia.

Rangelands

Approximately 79% of Mongolia's land area is rangeland, 10% is forest, and 1% is arable. Mongolia's rangelands have been the country's source of sustenance since time immemorial and therefore its most valuable natural resource. Nomadic and seminomadic livestock herders are as much a component of Mongolia's landform as the vegetation. Human activity related to livestock grazing exerts a major influence on Mongolia's landscape. Mongolia's 12 million domestic sheep constitute 59% of its 22.5 million livestock and provide 60% of the nation's meat and 73% of its wool. In addition, 4.3 million goats, 2.4 million cattle, 2 million horses and .5 million camels utilize Mongolia's grazing lands (Academy of Sciences MPR, 1990). Most of Mongolia's population is scattered throughout the countryside tending their flocks. Their culture and life-style is simi-



Gobi Argali utilize upland desert habitats.



Assessing wild sheep habitats was an important aspect of our work in Mongolia.

lar to Mongol herders in China's Inner Mongolia described by Frisina (1992).

Wildlife

Although Mongolian wildlife is an economically important rangeland resource, only general surveys have been conducted. The principal studies of Mongolian mammals are those of Allen (1938 and 1940) and Bannikov (1954) which is written in Russian. Allen's work was part of a multivolume series

based on the American Museum of Natural History's Central Asiatic Expedition led by Roy Chapman Andrews (1939). After 1930, Mongolia was accessible only to Soviet and Eastern European biologists. Oddly enough, western hunters have been allowed access since 1967 due to the high prices they are willing to pay.

American and European hunters were lured to Mongolia because of the widespread big game populations which were then largely unexploited. Wild sheep have always been particularly alluring to American hunters. Mongolia supports populations of two subspecies of argalis or giant sheep of Central Asia, namely, Altai and Gobi argalis. Altai argalis attain horn lengths of 71 inches and basal circumferences of 23 inches. Argalis are widespread in the Gobi Desert and occupy portions of the Altai Mountains. European hunters prefer Ibex which occur throughout southern and western Mongolia. However, the most important big game species in terms of numbers harvested by foreign hunters, is the Mongolian wapiti. Wapiti occur throughout the forested regions, portions of the steppe, and sporadically in extreme western Mongolia. Other forest game include wild pigs, roedeer, moose, and brown bears. Caribou occur only in the extreme northwestern border of Havsgol Province. Plains game include goitered or black-tailed gazelles in desert and steppe regions and white-tailed gazelle or zeren in eastern grasslands. Wild equids include wild onagers or asses in southern Mongolia and a recently re-established population of Przewalski horses, the original steppe horse, which were extirpated during the

early twentieth century. Economically important furbearers include red foxes, Corsac foxes, wolves, weasels, and long-tailed susliks (a rodent) and marmots.

Similarities between mammalian components of North America and Mongolia come as a surprise to many American biologists. Indeed, it is difficult to differentiate Mongolian and American elk or wapiti. Faunal similarities are due to the fact that most North American big game mammals including elk, moose, caribou, and brown bears or grizzlies originated in Asia and migrated to North America within the last 15,000 years via the Bering land bridge.

Resource Management in Transition

Mongolia has initiated the difficult process of developing an open society based on private enterprise and a democratic government. Mongolians are beginning to realize the need to efficiently manage natural resources for economic and social benefits. The country's economic collapse since the Russian exodus has added further impetus to find solutions. Its increasing human population is once again almost totally dependent upon livestock production. It is imperative that Mongolia develop effective long-range management strategies to maximize use of its rangelands without degradation. Its rangelands are being overutilized and mismanaged in many areas. Much of Mongolia's rangelands occur in fragile desert and semidesert environments. Unfortunately, there exists practically no modern rangeland management expertise within the country. Mongolia is aware of its lack of expertise and has initiated rangelands studies with foreign technical assistance.

Until recently, a desire to emphasize wise management of important wildlife species such as argali wild sheep also was lacking. Wildlife, although important economically and culturally, was all but taken for granted by the former Communist government. The effects of unregulated land use and habitat degradation received little consideration.



Mongolian wapiti is the most important big game species in terms of numbers harvested by foreign hunters.

Mongolia's ecotourism and hunting industry is dependent upon clients from western countries who have a concern for wise utilization of rangeland resources and a strong wildlife conservation ethic. These factors, in combination with intensified use of natural resources, has created an urgent need for technical assistance in order to develop long-term solutions rapidly.

A concern for the status of argali wild sheep populations, one of the most desired big game trophies of American hunters, resulted in our involvement in a field survey in 1993. We conducted preliminary field surveys in the Gobi Desert and Altai Mountains where we collected essential baseline information needed to integrate management of wild sheep populations with livestock grazing, the dominant land use. Mongolian private enterprises and governmental agencies, in cooperation with western hunter conservation organizations, initiated the survey to determine abundance and distribution of Mongolian populations and habitat preferences. Like American hunters, Mongolian hunters organizations are actively participating in creating an awareness of the value of wildlife and demanding governmental conservation programs.

As in western North America, wildlife will continue to be a secondary land use. Livestock grazing by Mongolia's nomadic herdsman will continue to be the foundation from which the country's cultural and economic needs are based. However, as we have demonstrated in the United States, by implementing resource management programs giving consideration to multiple values, both the products of society and thriving wildlife populations can be maintained. Successful wildlife management in Mongolia will depend upon implementing strategies for managed livestock grazing that maintain the health of soils and vegetation while providing for the habitat needs of wild animals and the human society. A successful approach will also require integrating western techniques with the knowledge Mongolian herdsman have gathered over several thousand years of interdependency upon the grassland.

Conclusions

Mongolia's sudden leap into a capitalistic economic system will require efficient management of natural resources in order to compete in the free market place. Presently, livestock and rangeland management programs are in need of modernization. It will require much effort in cooperation with livestock producers to implement management strategies to protect Mongolia's rangeland resource. However, the process to implement management that combines maintenance of wildlife habitat while producing livestock related products has begun.

In the final analysis, it is truly a small world. Even though Mongolia is a remote land, far removed from our culture, the country's natural resource management issues are only a 14-hour airplane ride from our own.

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