son’s COWHAND, Santee’s LOST PONY TRACKS and Campbell’s (Vestal) DODGE CITY. Pennant Books issued Dobie’s A VAQUERO OF THE BRUSH COUNTRY in wraps in 1954 to sell for two bits—this is a somewhat abridged edition of the 1929 First that is one of my favorites among all of Frank’s fine books. Watch the racks of paperbacks in the book stores, newstands and drug stores. More and more good range books are showing up on them. Also watch the remainder tables (sometimes labeled “Publisher’s Overstocks”) in the bookstores—occasionally a publisher overestimates the number of copies of a good range book the public will take at the original price and has to sell them cheaper.

Two other reprints in 1959, both by the Antiquarian Press of New York, rank in importance with the issuing of THE RAMPAGING HERD as news in the field of range books. They are cheap only in comparison with the prices commanded by the originals when one or the other does infrequently appear on the market. James Cox’s HISTORICAL AND BIOGRAPHICAL RECORD OF THE CATTLE INDUSTRY AND THE CATTLEMEN OF TEXAS AND ADJACENT TERRITORY (St. Louis, 1895) and James W. Freeman’s PROSE AND POETRY OF THE LIVESTOCK INDUSTRY (Denver and Kansas City, 1905) were the two reprinted in handsome numbered editions of 500. The Cox, in two volumes, has a new introduction by J. Frank Dobie—the Freeman one by Ramon Adams. The price of each is $100. This is the first reprint of each of these exceedingly rare books. A good copy of the first of either brings $500.

If you have the time, the patience, and the money, by all means get the first edition of all the books mentioned. The firsts will give you a feeling of pride of ownership as long as you live and will constitute a substantial addition to your estate. But, first editions are not mandatory in a range man’s library. The reprints provide the same or an improved text at much less cost and can be had now. There is no valid reason for a range man to be without a library to supplement his working tools and to enrich his understanding of his calling.

The Rangeland’s Northern Frontier

W. R. HANSON
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Since the time of Columbus there has been a movement of western man from Europe toward the northwest. Following the early discoveries in America, people sought anxiously, but in vain, for a northwest passage to the Orient. This search opened up a lucrative fur trade in America which remained the chief commercial enterprise in the northwest for nearly 200 years. Agricultural settlement and modern industry have gradually replaced the fur trade. In most cases, ranching with its use of open rangeland, was the first type of agricultural use of land with farming following in its wake. In a few cases settlement was not established on an agricultural basis, but moved westward in the search of gold with farming and ranching coming along to supply meat and farm produce to the miners. Such was the case in parts of California, Montana, and the interior of British Columbia.

An expansion of the use of rangeland for livestock production is still going on today in Canada but has become northward instead of westward. This northern extremity of the ranch country may be termed its Northern Frontier.

Northern Frontier

Most of British Columbia is occupied by the Appalachian Highlands. In between the mountain ranges lie warm valleys which are often semi-arid in the rain shadows of high ranges to their westward.

East of the Rockies lies the northern extension of the Northern Great Plains, the Boreal Forest and the Arctic Tundra. The northern plains fall into two vegetative regions; the open prairies in the south and the parkland (alternate poplar bluffs and moist prairies) toward the north.

By the year 1900 ranching was established on most of the open plains country and in the southern valleys of British Columbia. During the next three decades, grain farming east of the Rockies and fruit farming in British Columbia began to take over the rangeland and to push northward even beyond the limits of ranching. The demand for food in the first world war and the development of short-season wheats sent farmers into the valley of the mighty Peace River, 500 miles north of the 49th parallel. Surprisingly enough it be-

came a good grain country with
the world wheat crown being
held there for many years.
But now the rangeland fron-
tier is again on the move. With
increase in population and the
demand changing from wheat to
meat, enterprising stockmen
have looked for new frontiers.
Some of these movements have
been just as adventuresome as
the opening up of the West a
century ago.

Grass Beyond the Mountains
The drier valleys in the Rock-
ies and westward offered good
opportunities for ranching and
the largest ranch in the British
Commonwealth, the Gang
Ranch, was established in the
southern interior of British Co-
lumbia. But man soon began to
look to the little-known valleys
farther north. Anyone who has
read Richard Hobson's book
"Grass Beyond the Mountains"
has enjoyed an epic of the north-
ern movement of the rangeland.
The author and his partner, by
themselves, moved a herd of
cattle through timberland and
muskeg and over the top of a
mountain range to pioneer
ranching in a big new district.
With this and similar undertak-
ings the frontier of the range-
land moved 200 miles farther
north and Vanderhoof and
Prince George replaced Kam-
loops as the centres of the north-
ern ranch frontier.

The Mighty Peace
East of the Rockies in Alberta
and British Columbia the north-
ern wheatlands and the rough
country adjacent are undergo-
ing a transition into ranch country.
The old march of events from
open range to wheatfields is be-
ing reversed and cattle are re-
placing wheat. The stockmen in
southern Alberta who have
breeding stock to sell are look-
ing northward for their market.

Cattle and Muskrats
East of The Pas in Manitoba,
on the northwest shores of Lake
Winnipeg, lie extensive delta
lands built up from alluvium
carried from the Rockies by the
Saskatchewan River. On These
delta lands a great muskrat fur
industry grew up. With the great
slump in fur prices the industry
faced ruinous conditions. One
enterprising fur trader decided
to do something about it. Tom
Lamb obtained 2,000 acres of
rich delta land and lease rights
to adjacent areas and moved a
herd of cattle 75 miles down the
Saskatchewan by barge to a new
ranch home. The deep alluvial
soils grow heavy crops of native
grass and sedges and even
heavier crops of introduced spe-
cies such as brome, timothy, al-
falfa and clover. The grazing
season extends from mid-April
to mid-November and feed in
the form of hay and grain is
supplied for the winter. If this
enterprise is successful, another
frontier will be established and
The Pas saloons will ring to the
song of the cowhand as well as
those of the trapper, the gold
miner and uranium prospector.
At present, the northern ex-
tremity of ranching operations
might be marked by a line from
Vanderhoof through the Peace
River country and southeast-
ward to The Pas, Manitoba, and
thence south to the United
States border (Figure 1).

How Far North?
There is a tremendous terri-
tory between the present range
country and the Arctic (1000
miles from Peace River to Ak-
avik at the mouth of the Mac-
kenzie). It is interesting to spe-
culate how far north the front-
er of the rangeland may be pushed.
Will there come a time when the
northlands of western Canada
will produce its own meat sup-
ply? Might we see cattle ranches

FIGURE 1. Map of western Canada showing rangeland's northern frontier, maximum and
mean temperatures for summer and winter and growing season for selected stations.
on the lower Peace and large-scale commercial reindeer ranches on the Mackenzie? It is not the intention here to do more than raise the point and to present two situations which encourage speculation.

**Wood Buffalo Park**

In the northern part of Alberta and extending into the Northwest Territories, about 700 miles north of the 49th parallel lies an area of about 17,000 square miles set aside as a refuge for the wood buffalo or northern bison (*Bison bison athabascae*). This is a slightly larger and darker colored relative of the plains bison with rather a different behavior. After nearing extinction the species was protected by a Federal Act of 1893 which prohibited all shooting of the wood buffalo. Wood Buffalo Park was set up as a refuge in 1922. The herd is estimated to have increased from about 500 to about 1,500 between 1893 and 1922. Shortly thereafter (1925-28) a herd of plains bison (*Bison bison bison*) was shipped from Wainwright Park in east central Alberta to the Wood Buffalo Park. The plains buffalo herd at Wainwright had become polluted with disease and parasites, especially tuberculosis and liver flukes. The diseased and parasite-ridden animals were introduced into the park and intermixed with the aborigines. Although the parasites seemed to disappear the herd still carries a high infection of tuberculosis. The two races have interbred until at present there is only a small herd of the original Wood Buffalo in the extreme reaches of the park.

Nevertheless, the hybrid race seems to thrive there. The herd in the park is estimated at 12,000 and they have spread into two adjacent areas. At the same time 200 to 500 head have been slaughtered each year.

The aims of the Government have now gone beyond preserving the herd from extinction for their aesthetic attraction and the long-range plan considers the herd as a resource with economic value. Slaughter in recent years has provided meat for relief purposes to Indians in the vicinity. A surplus of bison and a shortage of fresh meat exist side by side in the Northwest Territories and supplying the commercial market is being considered.²

If the plains bison can be transplanted to the prairies of the lower Peace and Slave Rivers, is there a place for domestic livestock?

**Reindeer on the Arctic**

The Canadian Government purchased some 2,370 reindeer in Alaska and moved them to Ak-lavik with hopes of raising the standard of living of the Eskimos on the Mackenzie delta. The animals have done well but the Eskimos have not taken to the pastoral life of herdsmen. Jobs on the DEW line in recent years have been more attractive than tending a small herd of reindeer which offers only scant returns.

Reindeer range is the same as that of the caribou. They prefer the various lichens during winter but also eat sedges and grasses along the lake shores. Summer forage includes the leaves of willows, birch and various herbs.

The problem of improving the Eskimo status with reindeer is a socio-economic one. Although losses from straying due to poor management have been high, the last annual round-up in July 1957 gave a count of 2,600 in the government herd and 3,150 in three Eskimo herds. Unless more Eskimos will accept the life of a reindeer herder the industry will probably not grow beyond its present size.

**Some Climatic Factors**

To understand the north country one must consider certain climatic factors. Vegetational growth is much greater than one would expect. One of the contributory factors to this rapid growth is the very long days during the growing season. Even though there is perma-frost in the entire Mackenzie River valley good vegetable gardens are produced at the settlements.

The data in Table 1 shows a marked increase in length of days in summer from south to north. The longest day at Beaverlodge in the Peace River country is more than 10 per cent longer than at Mandan, North Dakota. At the Arctic circle the

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²Sport hunting of buffalo was allowed in the area adjacent to the northeast boundary of Wood Buffalo Park from September 15 to November 30, 1959. Thirty licenses were issued for the first season.
Table 1. Some meteorological data for selected stations

<table>
<thead>
<tr>
<th>Meteorological Station</th>
<th>Temperature in Degrees Fah.</th>
<th>Hours from Sunrise to Sunset June 21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern Great Plains</td>
<td>115</td>
<td>71.7</td>
</tr>
<tr>
<td>Mandan, N. D.</td>
<td>107</td>
<td>69.0</td>
</tr>
<tr>
<td>Great Falls, Montana</td>
<td>107</td>
<td>66.0</td>
</tr>
<tr>
<td>Swift Current, Sask.</td>
<td>97</td>
<td>62</td>
</tr>
<tr>
<td>Calgary, Alberta.</td>
<td>98</td>
<td>60</td>
</tr>
<tr>
<td>Beaverlodge, Alberta.</td>
<td>82</td>
<td>52</td>
</tr>
<tr>
<td>Mackenzie River Basin</td>
<td>Boreal Forest</td>
<td>103</td>
</tr>
<tr>
<td>Fort Smith, N. W. T.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arctic Tundra</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aklavik, N. W. T.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Mean Period without killing frost.

The sun never sets in mid-summer. The mean and maximum temperatures for July are much higher than might be expected. Plant growth fairly jumps and summer forage is abundant outside the dense forests.

Even the winters are less severe than the latitude would indicate. Beaverlodge has a January mean of only 2.5°F. below Mandan and the minimum temperature is only 8°F. lower. Blizzard conditions are less severe in Northern Alberta than in the Dakotas. Nevertheless, winters are long and periods of sub-zero temperatures may be extensive. Therefore, winter is the limiting factor. Although domestic livestock can survive the cold, even in the Arctic regions, the supply of feed and necessary shelter are the major problems. Even if the suggestion that the wood buffalo or the Caribou be substituted for cattle proves practical, the problem of feed supplies for a long winter period would make meat production costly.

The Future

The northern movement of the livestock industry in the last half century is real but there must be a point beyond which climate makes it impossible to extend. North of the chinook belt in Alberta, even though the summer conditions at a place like Beaverlodge are conducive to growing forage, wintering cattle on the range is very hazardous or impossible, and feeding over a long winter is costly. Good prices in the last decades have made it economical to raise beef farther north than before. As a result, ranching has moved into the Caribou country of British Columbia and Alberta. The development of the livestock industry farther north will depend upon the demand for meat and the prices which prevail. If prices are high enough, meat could be produced economically on the Arctic, but undoubtedly, a point will be reached beyond which it is cheaper to ship the meat supply from farther south than to produce it locally. This point may not have been reached. The recent oil and mineral development, with attending settlement in the north are, no doubt, having their influence and there are those who dream of thriving ranches in legendary valleys of the far north.

FIGURE 3. Reindeer on Summer Range in Mackenzie delta.

ABSTRACTS FOR SALE

Abstracts of Papers presented at the Thirteenth Annual Convention in Portland, Oregon, February 2-5, 1960 are for sale at the Executive Secretary’s office for $1.00 per copy, postpaid.