

Bel RM

MEMO

TO: Russell Galipeau

FROM: Kurt Jenkins 

RE.: Total Count, Mentasta Caribou Herd, 18 June 1991

DATE: 20 June 1991

Russell: Today I attended the biweekly squad meeting. Jay expressed an interest in meeting with you and I tomorrow (Friday) to discuss the Mentasta Caribou herd, with reference to the winter subsistence hunt. At the squad meeting, I verbalized some of my initial impressions of the Mentasta survey with which I was involved. This memo is to inform you of those thoughts, because I will not be able to meet on Friday or any of next week. Friday I will be in region buying food for the upcoming sheep survey and meeting with Dale Taylor regarding the survey.

On Tuesday from 1000-1400, Jim Hannah and I flew one-third of the Mentasta calving area, participating with ADFG on the annual Mentasta total count. The total count is used with spring and fall composition counts to derive a total fall estimate of population size. On Tuesday, we simply counted all caribou we could find in the entire Mentasta range. Next week, spring composition counts will be used to determine what proportion of the total count comprised the "cow base". Fall composition counts will be used to expand the estimated "cow base" to a total estimate based on bull:cow and calf:cow ratios.

Before departing on the survey, I was given 1:250,000 scale topographic maps and instructions to search the entire tundra area surrounding Mt. Drum from Sanford River to the North and Dadina River to the south. Bob Tobey and Craig Gardner searched the remaining two-thirds of the Mentasta range. I was instructed to search the entire area from the snowline to the shrub zone at lower elevation. Hannah and I observed a total of 24 separate groups of caribou in groups ranging from 2-43 caribou (avg. = 8.6 caribou) in size. We observed a total of 207 caribou. Although I have not been able to secure the total count of all three observers, Tobey told me that my count and his count were both below average. (Unfortunately Bob and Craig were both out of the office today, so I wasn't able to secure the total numbers counted).

I see a couple of potential problems with this survey, that are important to bear in mind in interpreting below-average counts. First, overcast weather and very dull lighting conditions during the survey may have impaired our ability to detect caribou. Secondly, caribou were dispersed in small groups scattered throughout the calving areas, rather than aggregated in large groups as is more normal for the post-calving period. Therefore,

I am very concerned that annual differences in aggregation behavior could have a very big influence on visibility biases. It is much easier to miss sighting two caribou than to miss a herd of 100. Unfortunately, none of the data we have on file reports avg. group sizes that would enable to assess that potential bias. Lastly, although we focused our search for caribou in the tundra belt around Mt. Drum, we did observe and record a small number of caribou in the shrub ecotone. It is possible that distribution of caribou at lower elevations during cool, moist springs could alter numbers of caribou observed within the search area.

All of these visibility biases could produce considerable variability in counts from year to year. This points to the importance of conducting counts annually and using them to detect long-term trends in populations only, rather than short-term changes. There are statistical methods that could be used to produce annual counts that would be more responsive to short-term changes in population size. I'm sure we will discuss these methods at a later date.

In the meanwhile, if you need the final results of the Mentasta counts, perhaps you would want to call Bob Tobey on Friday or next week during my absence.

Kurt Jenkins

cc. Wells