MOVEMENTS AND DISTRIBUTION OF THE PORCUPINE CARIBOU HERD, 1970-1990

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MOVEMENTS AND DISTRIBUTION OF THE PORCUPINE CARIBOU HERD, 1970 - 1990

D.E. Russell[1], K.R. Whitten[2], R. Farnell[3], and D. van de Wetering[1]

ABSTRACT

This report represents 20 years of data on the movements and distribution of the international Porcupine Caribou Herd. Surveys have been conducted by numerous companies and government agencies in response to a few significant development proposals. These data have lain in scattered, sometimes contradictory reports, government files and on raw radio tracking data forms. We have attempted to bring together all known data (digitized on a SPANs geographic information system) in order to standardize the information that is increasingly being used, for example, to map sensitive habitats or explore distributions in relation to snow conditions and insect levels. For all distributions, the area occupied and, when available, an estimate of the number of animals associated with each distribution is reported. The report cautions the limitations of these data, however.

RESUME

Ce rapport présente 20 ans de données sur les mouvements et la distribution du troupeau de caribous Porcupine. En réponse à quelques importants projets de développement, des recensements furent conduits par des compagnies privées et des agences gouvernementales. Ces données sont dispersées dans plusieurs rapports souvent contradictoires, dans des banques de données gouvernementales, et sur des formulaires de rélevés de télémétrie. Nous avons essayé d'amalgamer toutes les données (digitalisées sur un système d'information SPANS) de façon standardisée. Ces données pourront par exemple servir à cartographier les habitats sensibles ou à analyser la distribution en fonction des conditions de neige ou de l'abondance des insectes. Nous présentons pour chaque distribution la superficie occupée et, lorsque disponible, un estimé du nombre d'animaux associés à chaque distribution. Le rapport identifie également les limites associées à ces données.

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INTRODUCTION

The Porcupine Caribou Herd migrates from taiga wintering grounds in Alaska, Yukon and NWT to summer range north of tree line. The herd (178,000 animals) is the cultural and economic mainstay of a number of primarily native communities within these three jurisdictions. Earlier attempts at delineating the range of the herd was hampered by the vast home range of the herd in relatively inaccessible wilderness. In fact it was not until the early 1950's that combined surveys by Alaska and Canada determined that a number of smaller herds were in fact one large herd of migratory caribou. It was at this time that the name Porcupine Herd was coined, representing the river that the herd crossed during its two migratory periods.

Prior to 1970, the historical movements of the herd were reconstructed by Kevan (1970), in anticipation of the need for more detailed information should oil development intrude into the range of the herd. In this report we deal strictly with information gathered after 1970. We do this for a number of reasons. First, since 1970 a tremendous number of surveys have been conducted within the range of the herd, and with few exceptions the documentation is quite fragmented and largely unaccessible to researchers, managers, or the general public. As well, in a number of cases the distributions for a particular period of time are contradictory for what literature does exist. As pressure for development within the range increases, managers are asking more detailed questions on potential impacts on the herd. Researchers therefore must have access to all available data. All distributions shown in this report have been digitized on a SPANS geographic information system, allowing us to examine distributions in relations to such abiotic factors as snow depth, to overlap distributions in the identification of sensitive habitats, etc. Above all, this report will provide a quotable source for all surveys flown between 1971 and 1990.

Since 1970, most surveys have been precipitated by four proposed or real development projects. In 1971 surveys were initiated to examine the environmental impacts of constructing a pipeline from Prudhoe Bay Alaska to the MacKenzie delta. Proposed routes all transected the range of the herd. Surveys by a number of consulting groups and the Canadian Wildlife Service continued until 1974 (Jakimchuk 1974a; Jakimchuk 1974b; Jakimchuk and McCourt 1976; Roseneau et al 1974, 1975; Roseneau and Curatolo 1976).

The Dempster Highway, a road linking MacKenzie delta communities to Dawson City, Yukon was initiated in 1958 and was finally completed in 1979. Increasing concern for the impacts of the road on migrating and wintering Porcupine caribou, resulted in an impact study from 1976 - 1981. The lead agency, Yukon Fish and Wildlife Branch conducted a number of aerial surveys, although little of the specific survey information was published, some summaries were produced (Russell et al 1992). Summaries are available from work

done by Foothills Pipelines, a company that proposed a gas pipeline that would parallel the Dempster (Foothills Pipelines 1978a, 1978b, 1979).

In 1981 the U. S. Fish and Wildlife Service initiated biological baseline studies in the Arctic National Wildlife Refuge to assess the implications of petroleum exploration and development. These studies continue today, but with the bulk of the effort completed by 1986 (Garner and Reynolds 1986).

Possible hydrocarbon activity in the Canadian Beaufort Sea resulted in more baseline studies on the Porcupine Caribou Herd. These studies focused on the summer ecology of the herd and continued from 1984 - 1987 (Russell et al 1992).

SURVEY METHODS

There has been little consistency throughout the last two decades in the methods employed surveying Porcupine Caribou distribution. Changing technologies, available funding and survey objectives have largely determined which methods were used. Distributions reported here were based on incidental observations and personal communications, non-systematic surveys, systematic transects, non-systematic surveys aided with radio-telemetry, radio telemetry relocations and satellite relocations. Prior to 1978, virtually all surveys were non-systematic aerial reconnaissance. Typical procedure was to fly valleys until concentrations were located, attempt to fly around the periphery of the distributions and then return to the survey. In a few cases reported in this publication distributions were obtained as incidental observations from individuals engaged in other aerial surveys work in the area. In these cases herd distribution should be considered incomplete as the whole range was not surveyed.

Foothills Pipelines flew systematic transects during the winters of 77/78 and 78/79.

Radio-collars were first used during fall migration 1978. Surveys after this date followed one of two patterns; to fly high level until a number of collars were located, drop down to visually circle the distribution and then resume the radiotracking survey or fly the entire radiotracking survey and return to any collar concentrations for low level visual mapping.

Many distributions reported were based entirely on radio-collar relocations without benefit of low level visual observations. In these cases distributions are approximate at best.

Although not included in this report, distributions have been obtained based on satellite relocations. Such relocations can be useful for planning research or to provide information on timing and direction of movements between conventional surveys.

Information on timing of movements near communities were often obtained from personal communication with local residents.

TO USE THIS REPORT

Figure 1 provides details of the study area. For summer distributions the northern portion of Figure 1 was used as a base map to better depict the typically smaller distributions. Figures 2 to 19 represent the calving distributions of the herd. It was felt that these distributions should be highlighted initially as distribution at calving (June 1 - 10) has historically been considered the most important region to most large migratory caribou herds. The remaining distributions are reported chronologically to allow the reader to get a better impression of the annual movements of the herd. As can be seen from the discussion on methodology, caution should be used with reported distributions. In many cases surveys did not cover the entire range of the herd or not all radio-collars were monitored. As well some distributions can be considered indicative of herd distribution for the season reported (for example, most of the reported late winter distributions would be indicative of the entire late winter season). However, particularly in spring and summer, when the herd moves so much, a distribution reported by a survey on one day is not indicative of the location of that group a couple of days later.

For each distribution we have reported a calculated area and, if available, the number of animals associated with that distribution. All areas were calculated with SPANS GIS. Numbers are almost universally based on visual estimations of observers, and in some cases these numbers were normalized based on assumed population size (Table 2). When distributions are based on radio-collar distributions and all collars were monitored, the number of animals in each distribution is proportional to the number of collars and the population size. Readers should consider such estimates as very rough data and treat accordingly.

ACKNOWLEDGEMENTS

The authors would like to thank Jackie Booth, of Hammond Bay Consultants, who assisted in most of our GIS trials and tribulations. As well we thank those individuals, many no longer working with the herd, who shared their survey results, either verbally or in the form of field data forms. Special thanks goes to Fran Mauer, U. S. Fish and Wildlife Service, for his contributions in deciphering the distribution of animals in Alaska. Pam Whitehead helped with the final presentation of this report. Funding for portions of this project were provided by the Northern Oil and Gas Action Program and through Implementation Funds available through the Inuvialuit Final Agreement.

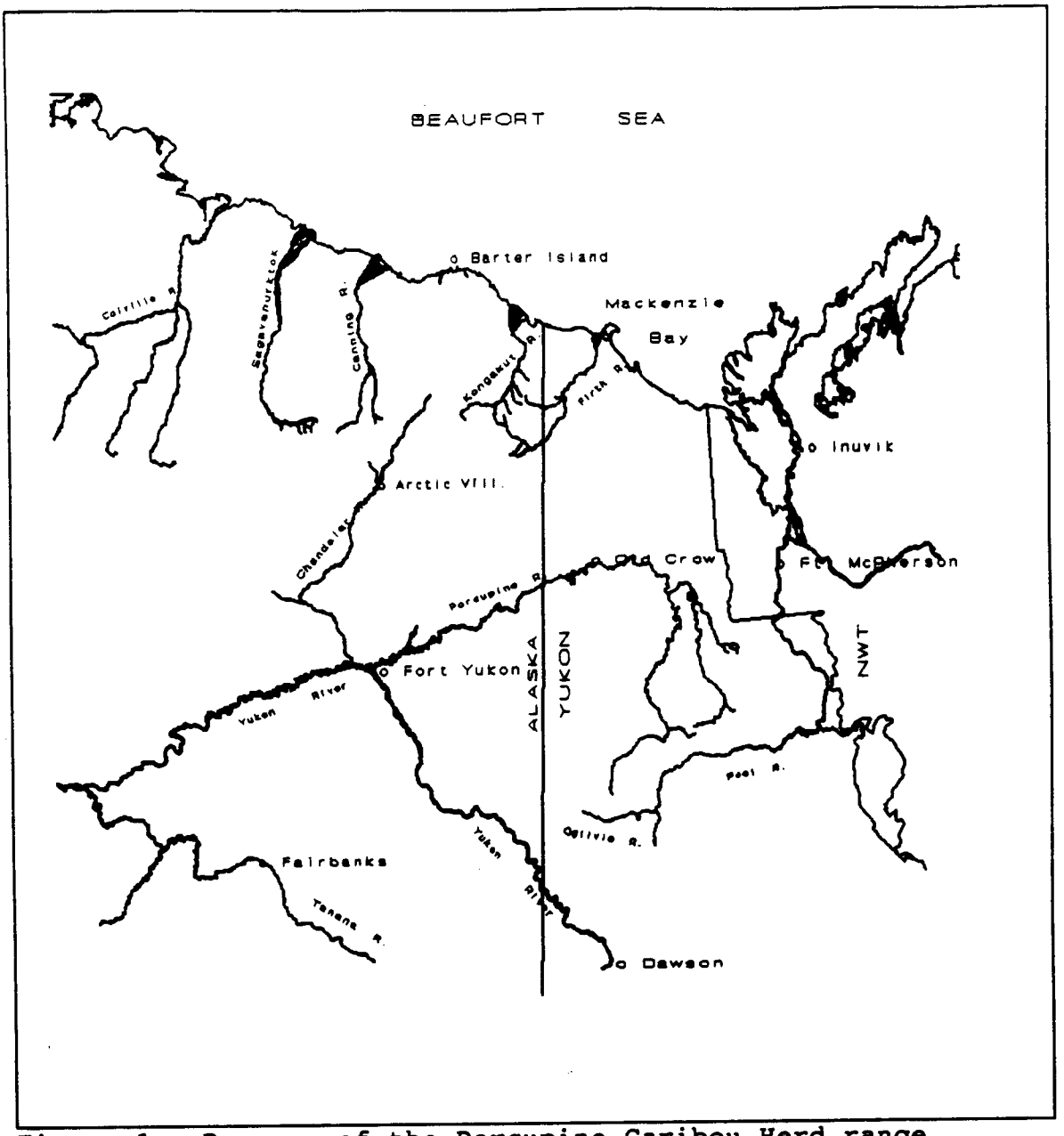

Figure 1: Basemap of the Porcupine Caribou Herd range.

FIGURE 2: Calving Distribution 1972

Calving surveys were hampered by persistent low-lying fog that covered the north slope and foothills for the last two weeks of May and early June.

The distribution of calving caribou extended from the Hulahula River in Alaska to the Babbage River in Yukon. No quantitative estimates of the numbers of calving caribou were made, although it was noted that numbers in Alaska and the Yukon were about equal. Calving occurred on both the coastal plain and in the foothills. In Alaska, the majority of calving occurred in the northern foothills of the Brooks Range. In Canada, calving concentrations were found south of Herschel Island from the coast to the lower foothills of the British Mountains. Two main centres of calving on the coastal plain were located between the Spring and Clarence Rivers and between the Jago and Sadlerochit Rivers (see note).

Between the Clarence and Jago Rivers the coastal plain was almost entirely covered with snow. Calving activity was noted on 28 May, was estimated to have peaked approximately 5-8 June and was essentially over by mid-June.

Bulls, immature caribou and dry cows were observed throughout the British and Barn mountains and small numbers in the northern Richardson Mountains. In Alaska, they occupied the Brooks Range south of the calving grounds.

Note: The original reports for 1972 did not map calving concentration areas but referred to areas of heavy calving activity in the text. The origin of the maps of the 1972 calving concentrations which appeared in the 1976 RRCS report (Curatolo and Roseneau 1977) is uncertain and contradicts the earlier text.

References:

Calef, G. W. and G. M. Lortie. 1973.Roseneau, D. G. and P. M. Stern. 1974.

Clough, N. K., P. C. Patton and A. C. Christiansen (eds). 1987.

McCourt, K. H., J. Russell, D. Doll, J. Feist, and W McCrory. 1974.

Whitten, K. R. pers. comm. 1990.

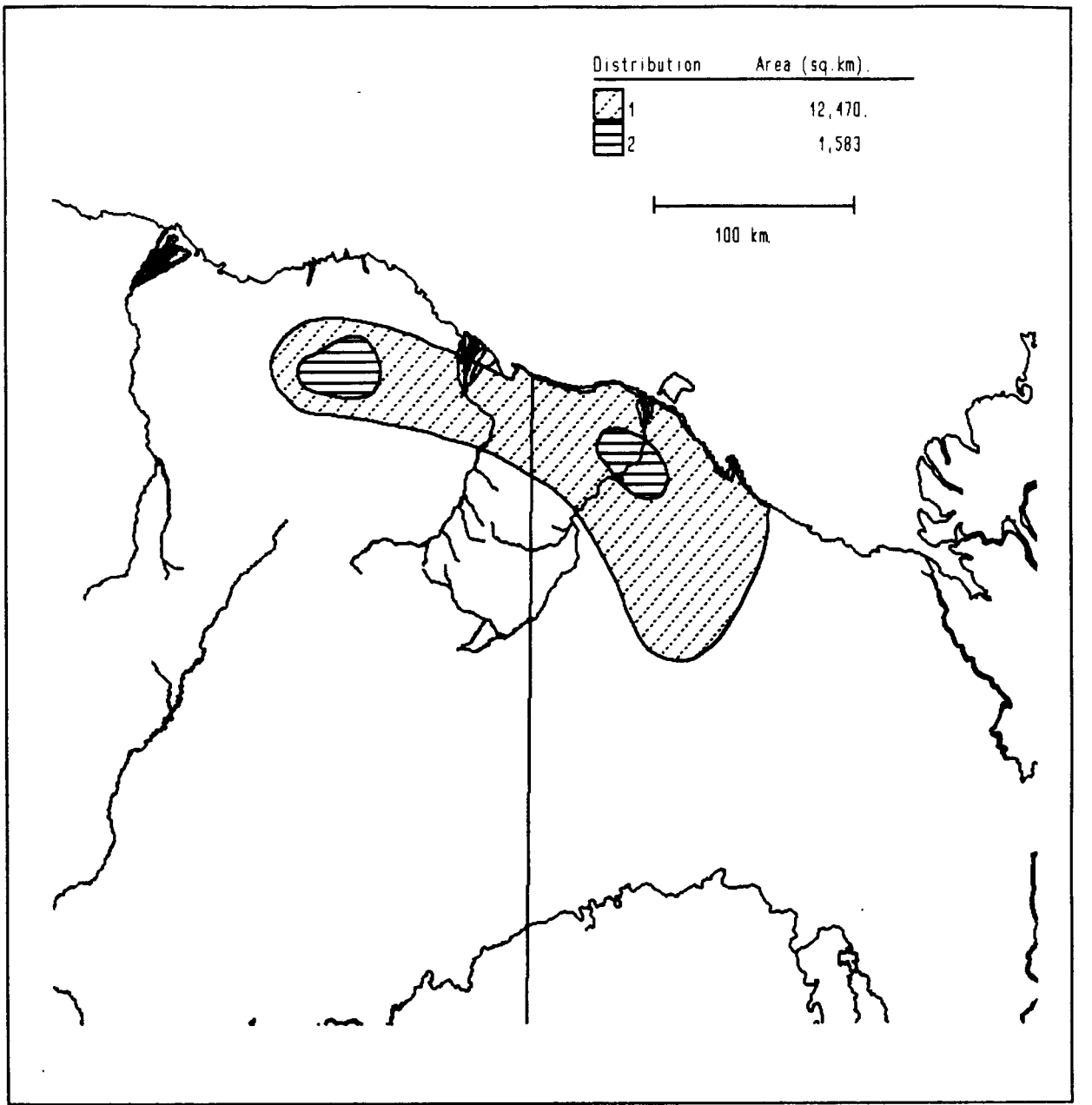

Figure 2. Calving ground distribution of the Porcupine Caribou Herd, June 1972.

FIGURE 3: Calving Distribution 1973

Calving ground surveys were hampered by poor weather conditions. In Alaska, calving caribou occurred on the Arctic coastal plain and foothills from the Jago River to the Yukon-Alaska border (see note). Cows that calved in the southern areas quickly moved north to the coast. Calving commenced 27 May, peaked near the end of the first week in June, and was complete by 15 June. The number of caribou utilizing the coastal plain prior to the completion of calving appeared substantially greater than the number in 1972.

In the Yukon, calving occurred along the foothills of the Barn and British mountains from the Spring River west towards the Yukon-Alaska border. Calving commenced by 3 June, peaked approximately 12 June, and was over by approximately 18 June. Caribou that calved in the Yukon quickly moved westward into Alaska.

Several thousand caribou, many of them bulls, barren cows and yearlings, were observed as far south as the Timber and Muskeg creek areas on 2 June. Non-calving groups were never observed on the coast but were scattered throughout the British and Barn Mountains and across into the northern Richardson Mountains.

Note: Although some reports claim that calving was evenly dispersed over a large area in Alaska and the Yukon, it appears that most of that area was never actually surveyed due to poor weather conditions. ADF&G has concluded that if there was concentrated calving along the Jago River in 1972 and there were even more caribou present in 1973, then there must also have been a calving concentration in the Jago area in 1973.

References:

Clough, N. K., P. C. Patton and A. C. Christiansen (eds). 1987.

Roseneau, D. G., P. Stern and C. Warbelow. 1974.

Surrendi, K. C. and E. A. Debock. 1976.

Whitten, K. R. pers. comm. 1990.

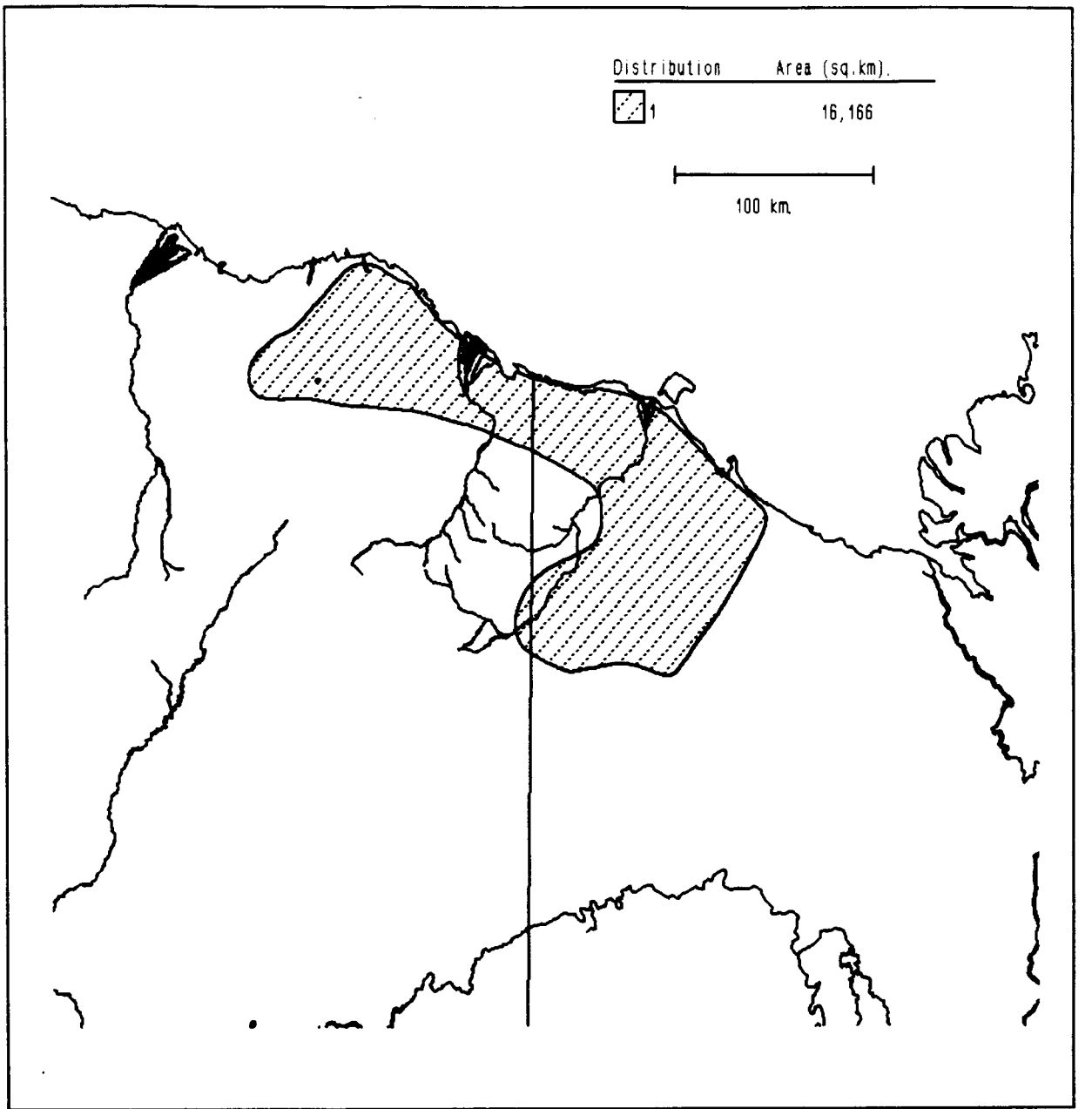

Figure 3. Calving ground distribution of the Porcupine Caribou Herd, June 1973.

FIGURE 4: Calving Distribution 1974

Calving ground surveys were hampered by poor weather conditions and logistical problems.

Aerial surveys were flown 25 and 31 May and 5, 14, 19 June. On 5 June, an aerial survey in the Yukon found only about 500 caribou throughout the foothills of the British and Barn Mountains and along the coastal plain. Observations made on the 14 and 19 June indicated that the majority of calving was over. Approximately 50,000 caribou were observed in Alaska. Concentrated calving was observed in the area between the Katakuruk River and Marsh Creek, from the coast south to the Sadlerochit Mountains, although concentrated calving areas were not mapped. The first calf was observed 31 May in Alaska and 27 May in the Yukon.

Note: Since poor weather and logistical problems prevented survey flights from being flown during the peak of calving (ie. the first week of June) the actual calving distribution for 1974 could have been quite different, probably skewed farther east, than was observed and documented.

References:

Clough, N. K., P. C. Patton and A. C. Christiansen (eds). 1987.

Roseneau, D. G., J. Curatolo and G. Moore. 1975.

Whitten, K. R. pers. comm. 1990.

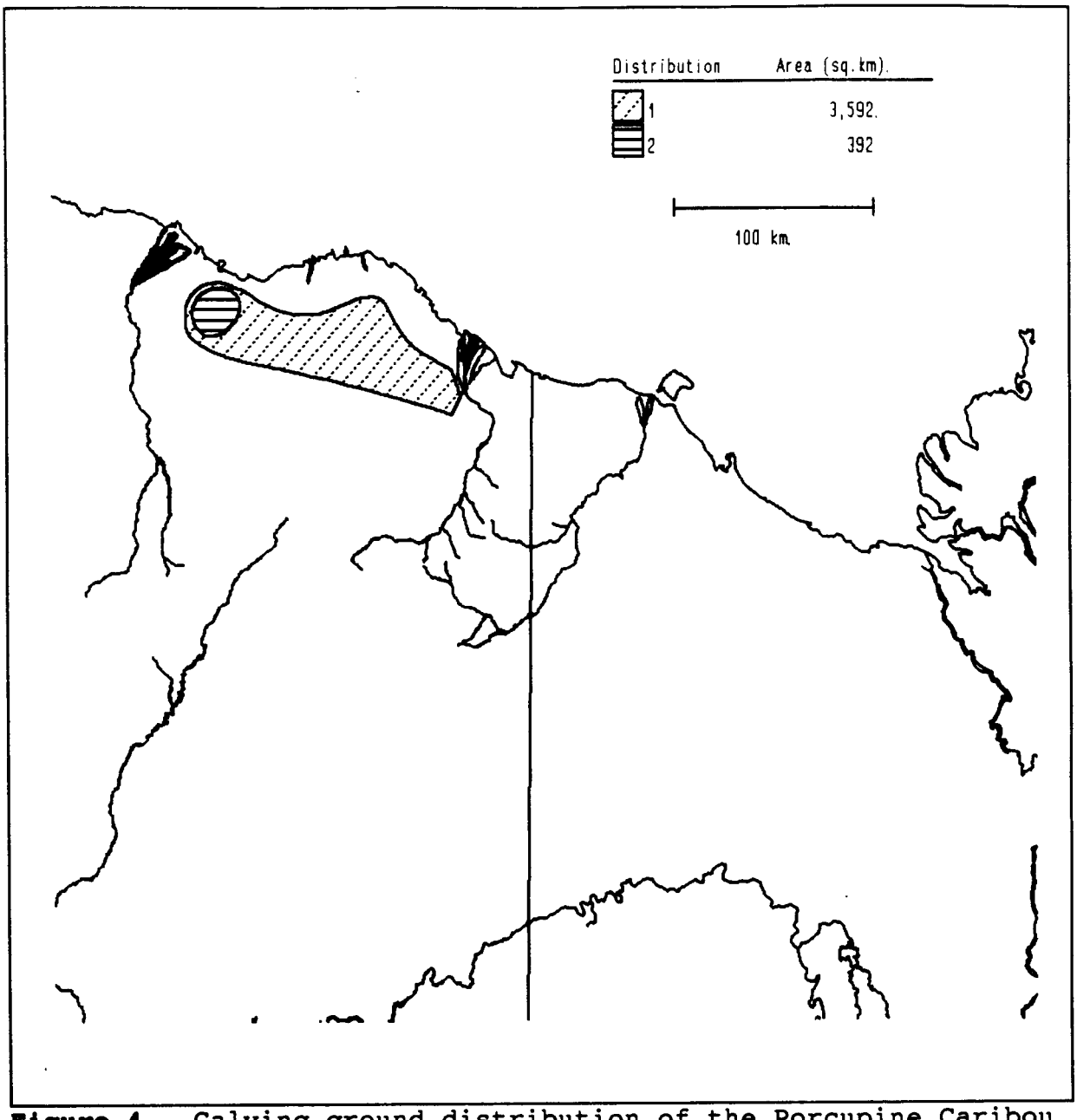

Figure 4. Calving ground distribution of the Porcupine Caribou Herd, June 1974.

FIGURE 5: Calving Distribution 1975

Poor weather limited survey flights during the calving period.

Calving distribution was based on survey flights flown 6-7 June between the Firth and the Tamayariak Rivers. Data obtained from these flights suggested that the majority (an estimated 75%) of calves were born in Alaska over a short period of time, probably between 3 and 7 June. Calving was concentrated along the northern face of the Brooks Range and in the northern British Mountains. The uplands along the Katakuruk River and Marsh Creek and the uplands between the Sadlerochit and Okerokovik Rivers appeared to contain the majority of the calving caribou (an estimated 10-20,000 and 20-35,000 individuals, respectively).

Calving concentrations in the Yukon were not completely determined. It is suggested that some calving occurred between the Firth River drainage and the Alaska/Yukon border.

Note: This was the only year that RRCS estimated numbers of caribou in concentration areas and was the first year that concentration areas were mapped.

References:

Clough, N. K., P. C. Patton and A. C. Christiansen (eds). 1987.

Roseneau, D. G. and J. A. Curatolo. 1976.

Whitten, K. R. pers. comm. 1990.

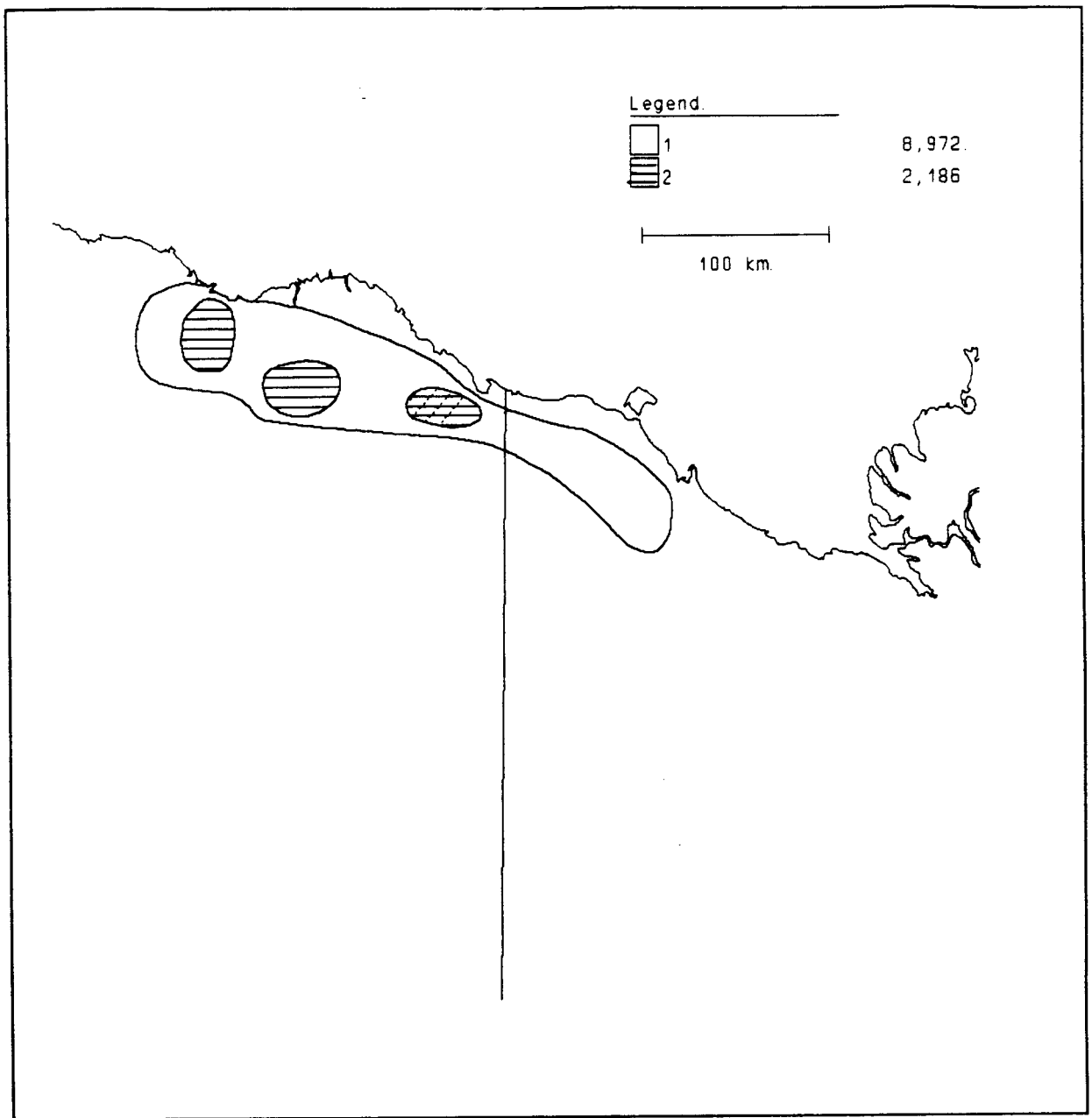

Figure 5. Calving ground distribution of the Porcupine Caribou Herd, June 1975.

FIGURE 6: Calving Distribution 1976

Calving ground distributions were determined from ground surveys and an aerial survey flown 2 June. Calving appeared to be equally distributed between Alaska and the Yukon. Concentrated calving areas were found in the uplands between Sadlerochit and Okerokovik Rivers and along the northern edge of the British Mountains between the Kongakut and Malcolm Rivers. Caribou appeared to move westward through the southern edge of the calving grounds and then moved north as the coastal plain became free of snow. Based on ground observations between 26 May and 5 June, calving peaked around 9 June and was essentially complete by 18 June.

Notes: The only aerial survey date given was 2 June. At this time, many pregnant cows would likely still have been south and east of their ultimate birthing sites.

References:

Curatolo, J. A. and D. G. Roseneau. 1977.

Whitten, K. R. pers. comm. 1990.

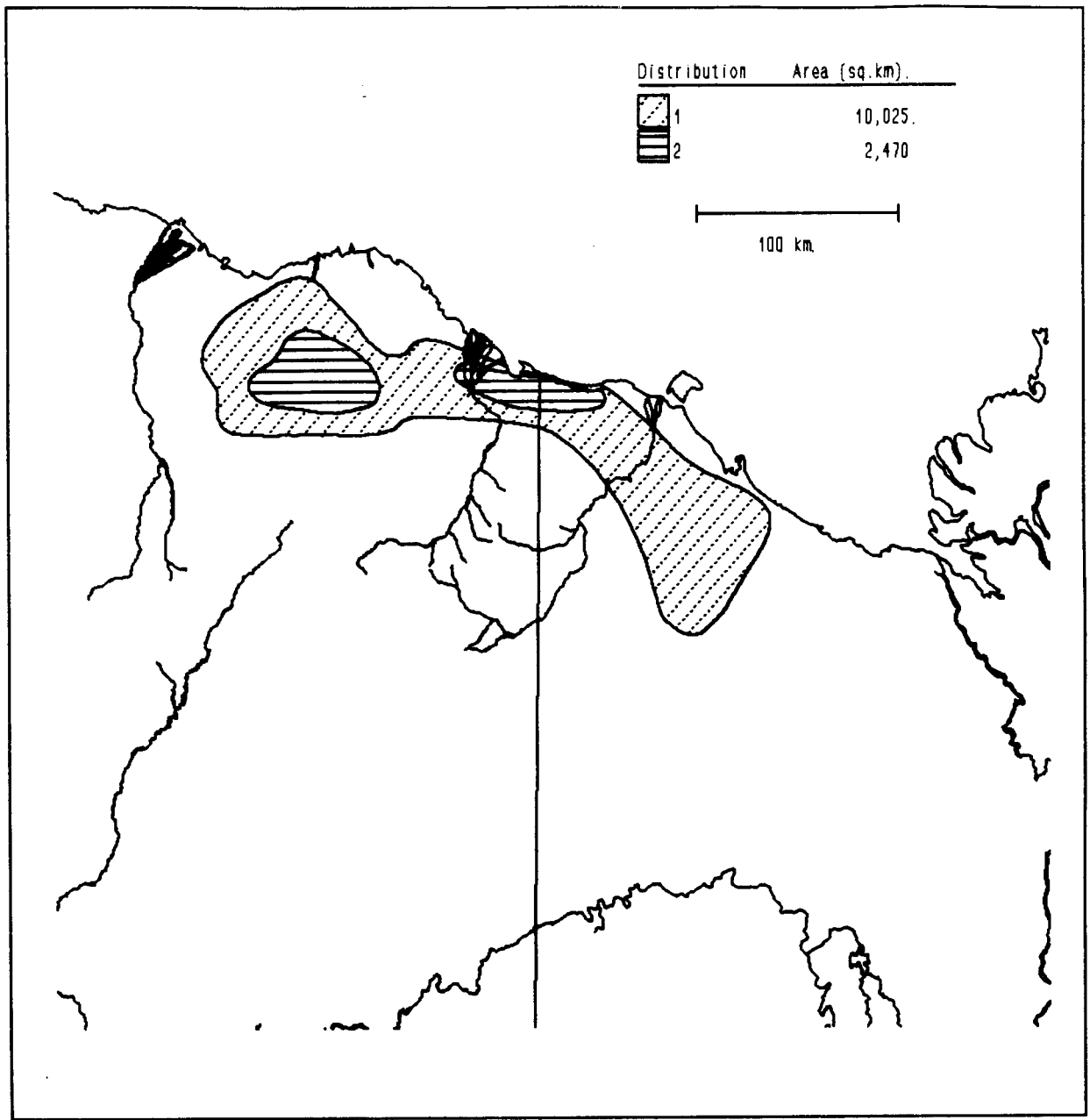

Figure 6. Calving ground distribution of the Porcupine Caribou Herd, June 1976.

FIGURE 7: Calving Distribution 1977

Calving distributions were determined from aerial surveys flown 2-4 and 8-9 June. Calving occurred almost completely in Canada with major concentrations found east of the Backhouse River along the northern front of the Buckland Hills and on the coastal plain. Few cows were observed in Alaska. Some were encountered in the foothills of the Clarence River and some pregnant cows were observed near the Jago River on 9 June. Calving was judged to be 85-90% complete by 8-9 June.

References:

Bente, P. J. 1977.

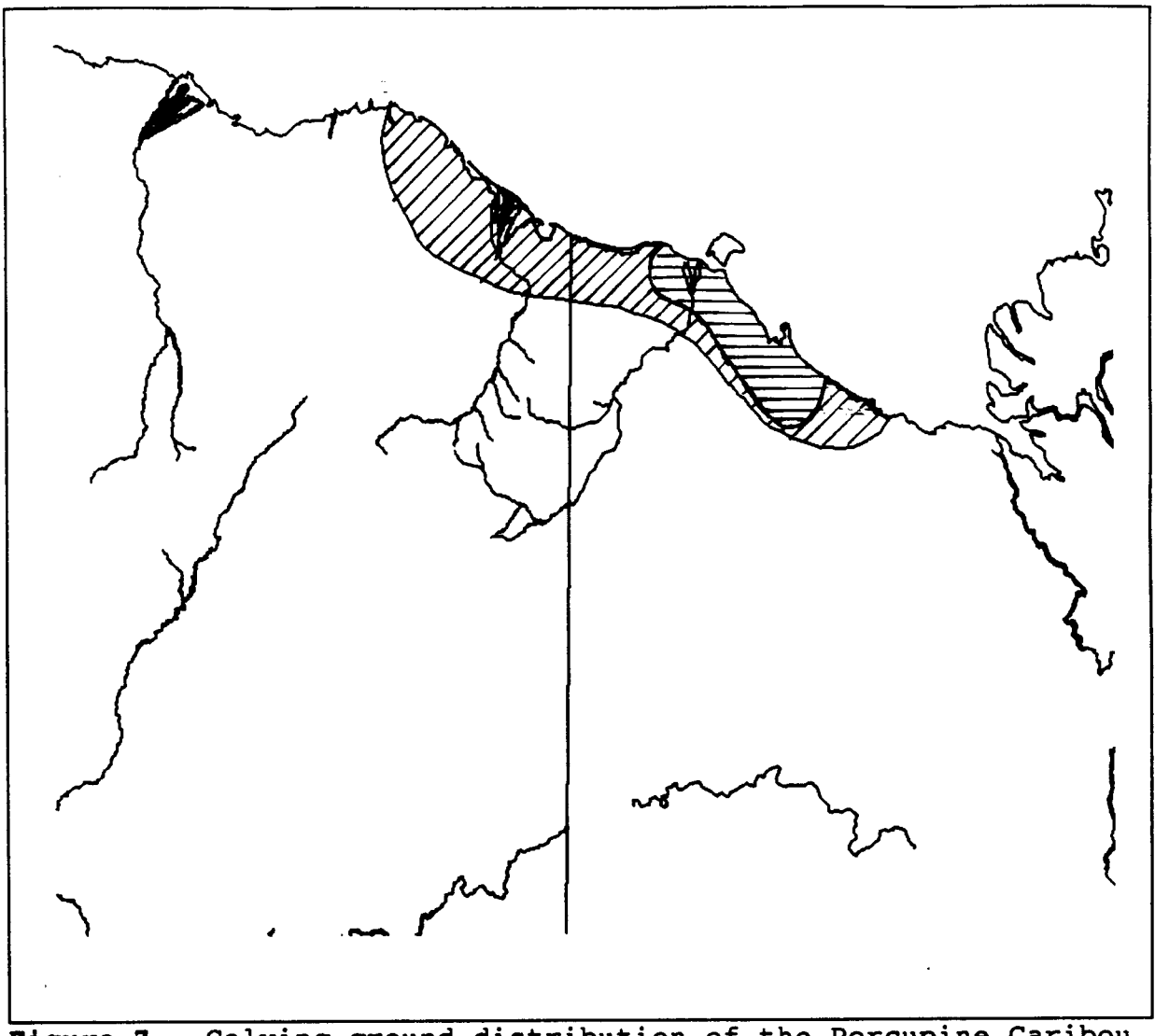

Figure 7. Calving ground distribution of the Porcupine Caribou Herd, June 1977.

FIGURE 8: Calving Distribution 1978

Low level aerial surveys were conducted across northern Yukon and northeastern Alaska during 31 May and 4, 5 and 15 June to delineate the major areas used for calving. No attempt was made to quantify the distribution within the calving ground.

Calving distribution extended from the Firth River to the Okpilak River in Alaska, covering approximately 5,000 km^2 of land. The highest density of cows and calves was between the Jago and Aichilik Rivers in Alaska. More than 95 percent of the caribou appeared to be on the coastal plain in an area about 15 km north of the foothills. The second highest density of calving cows was from the Clarence River delta to Fish Creek in Yukon where the outer foothills and coastal plain were utilized. Calving occurred largely between 4-10 June with a peak during 8-9 June.

An unusual aspect of the calving ground in 1978 was lack of calving cows between the Firth and Babbage Rivers in the Yukon. This was probably a result of the shallower snow on the western side of the Old Crow migration route, used by the majority of the PCH migrating from wintering areas in the northeastern Ogilvie Mountains, which funnelled the caribou into the Alaska-Yukon border region on their way to the calving grounds. Consequently, most of the cows arrived on the coastal plain to the west of the Firth River.

The males, some yearling and some non-breeding females spent the latter part of the calving period in the headwaters of the Firth River, Muskeg Creek and Joe Creek. Other areas were not surveyed and therefore the total distribution of the male and non-breeding portion of the population was not determined.

References:

Farnell, R., C. McEwen and K. Guenter. 1987.

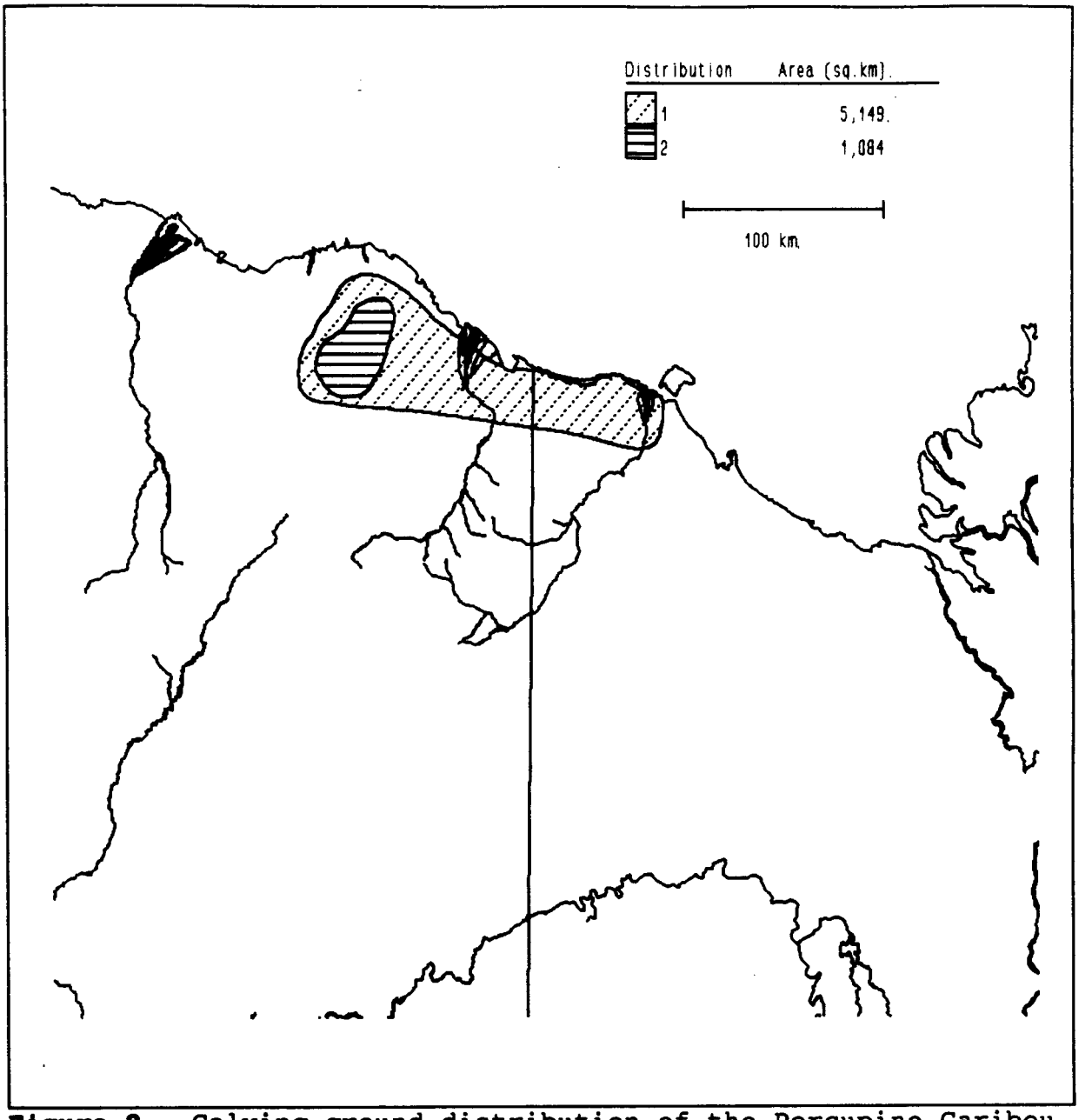

Figure 8. Calving ground distribution of the Porcupine Caribou Herd, June 1978.

FIGURE 9: Calving Distribution 1979

Intensive telemetry and low level transect surveys were flown on 6 of 8 days from 3-10 June to delineate the extent of the calving grounds, to determine varying densities within the calving grounds, and to determine the distribution of the males and non-breeders during the calving period.

Calving was broadly distributed over the Arctic coastal plain and foothills from the Babbage River in Yukon to the lower Katakuruk River in Alaska. Uniform high densities were observed from the Malcolm River, Yukon to the Kongakut River, Alaska and from the Aichilik River to the Katakuruk River in Alaska.

Caribou were sparse within a late snow melt area between the Kongakut and Aichilik Rivers and also between the Malcolm and Babbage Rivers. There were an estimated 11,500 cows and yearling in the Yukon and 33,600 in Alaska or 45,100 in total.

References:

Farnell, R., C. McEwen and K. Guenter. 1987.

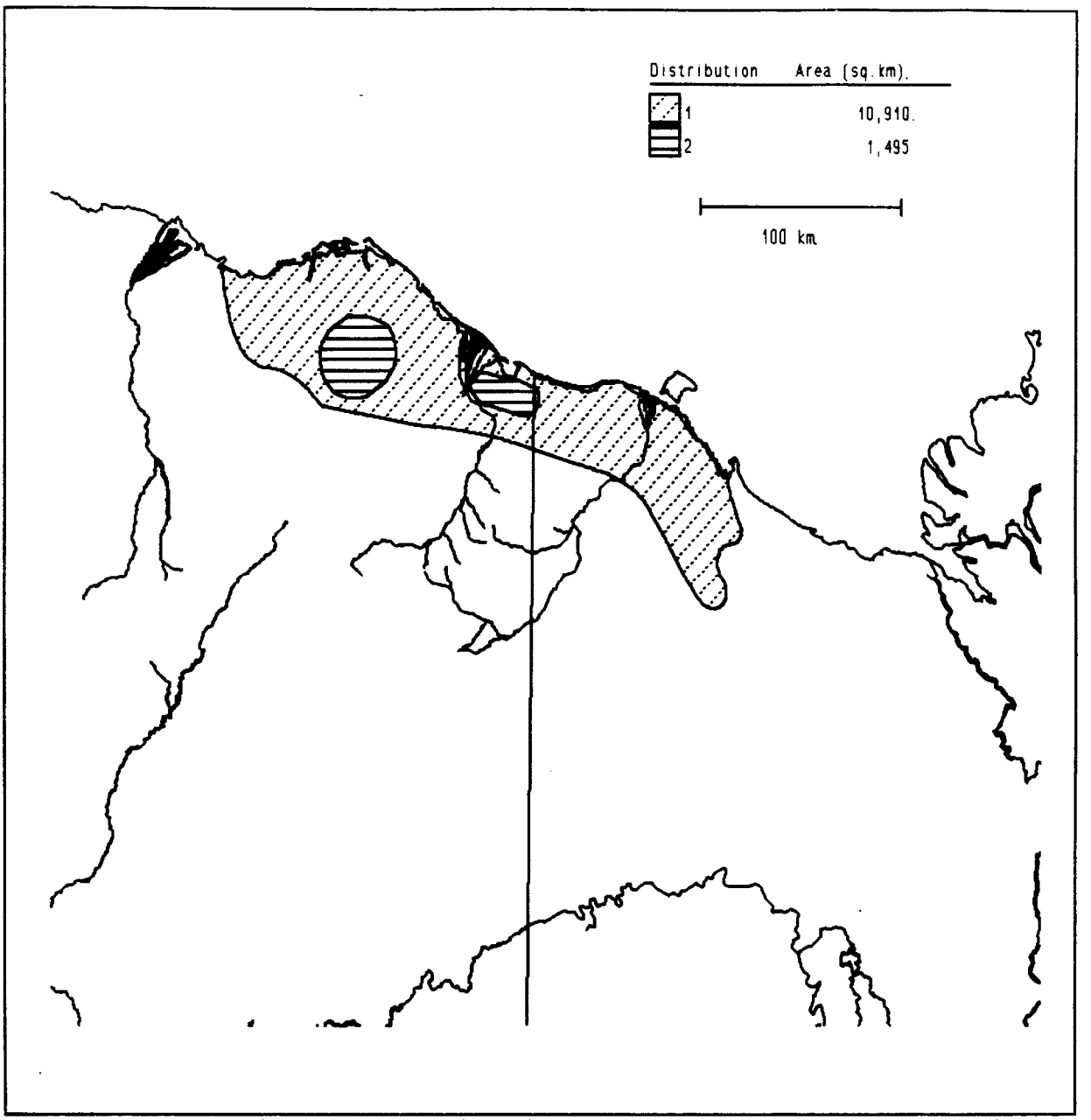

Figure 9. Calving ground distribution of the Porcupine Caribou Herd, June 1979.

FIGURE 10: Calving Distribution 1980

Aerial surveys were flown 4, 8 and 13 June.

The calving distribution was characterized and probably quite influenced by heavy snow cover on both the Yukon and Alaska coastal plain areas. On 4 and 5 June approximately 85% snow cover existed on all of the coastal plain areas surveyed with the exception of a narrow band of 50% snow cover in Yukon between Fish Creek and the Clarence River. The foothill regions along the north flank of the British Mountains and Brooks Range were relatively snow free.

The extent of calving corresponded closely to snow free areas, the distribution of which occurred from the upper extremities of the Trail, Crow, Spring and Firth Rivers, across the Fish Creek-Clarence River coastal plain area, into the Brooks Range foothills west to the Okpilak River. The 1980 calving distribution occurred farther south and east than that observed during most years, probably due to the deep snow encountered during spring migration.

A distinct progression in calving was observed within this distribution. Ground observers noted a peak of calving on June 2nd in the upper Jago River area, 6 and 13 June in the upper reaches of the Muskeg, Trail, Crow and Spring river areas. The peak of calving appeared to be earlier in the western portion of this distribution than in the eastern portion. It was also noted that the location of radio-collared caribou on the calving grounds did not correspond with their position in the spring migration.

References:

Farnell, R., C. McEwen and K. Guenter. 1987.

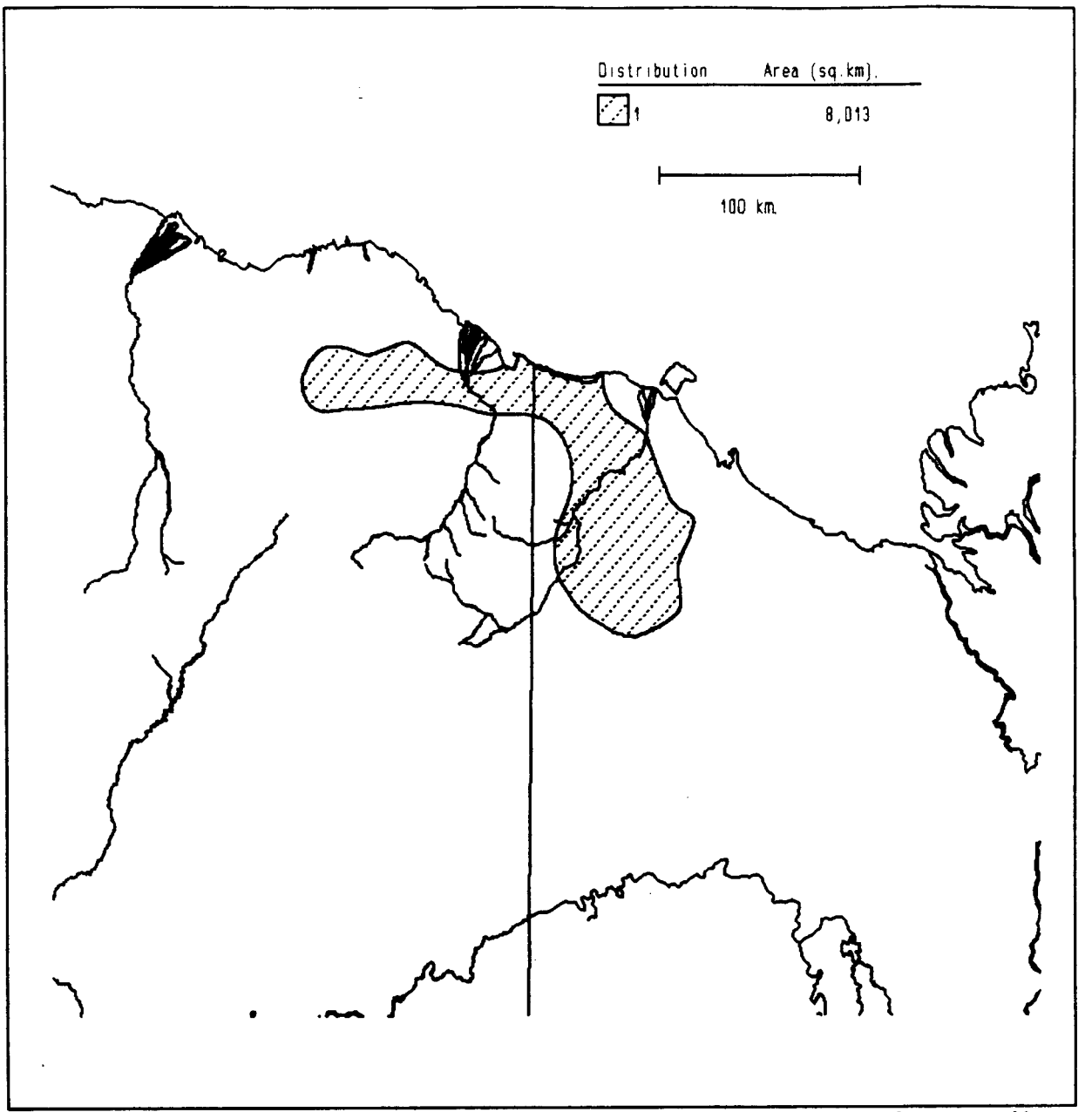

Figure 10. Calving ground distribution of the Porcupine Caribou Herd, June 1980.

FIGURE 11: Calving Distribution 1981

Aerial surveys were flown over the entire Porcupine calving grounds from 28 May to 7 June. Low level flights were flown to determine the early calving distribution, apparent composition and any apparent habitat preferences of caribou throughout the traditional calving grounds. Staging areas, where concentrations of the male-juvenile segment of the population were thought to be were also covered.

The calving distribution of the PCH occurred from the foothills of the northern British Mountains and Brooks Range out across the Coastal Plain to the shores of the Arctic Ocean. The eastern limit of calving during initial surveys was at an area in the foothills immediately east of the Firth River. East of this boundary caribou bands became progressively more composed of bulls and juveniles, to at least as far as the Babbage River where surveys were terminated. The western margin of this calving distribution lay just west of the Sadlerochit River. Caribou occurred in varying abundance throughout this area during the period 29 May to 7 June. The peak of calving occurred between the 3-5 June.

The vast majority of calving took place in foothills regions. Principally the dry relatively snow free uplands from the Okpilak River across the Jago River drainage to just east of the Egaksrak River in Alaska. Many thousands of cows with calves were observed concentrated in this area. Calving was sparse on the flatter coastal plain, which during surveys up until about 2 June had approximately 60% snow cover on the large river deltas. An obvious preference for the snowfree foothills was apparent in both Alaskan and Yukon portions of this calving distribution.

West of the Kongakut River, composition of caribou bands was almost exclusively calving adult females with few juveniles present. East of the Kongakut to the Firth many more non-calving juveniles and a few bulls appeared mixed with the cows.

In Alaska, a definite shift in habitat took place on 6 June when caribou became much more abundant along the coastal plain. It appeared that the caribou were advancing onto the newly exposed vegetation as snowmelt progressed. At this time also the composition changed somewhat as the incidents of bulls and juveniles increased in the Alaskan calving grounds. It appeared that these caribou moved out of the previously mentioned surrounding areas, and mixed with calving cows. In the Yukon, a movement trend to the west by calving cows was observed.

References:

Farnell, R., C. McEwen and K. Guenter. 1987.

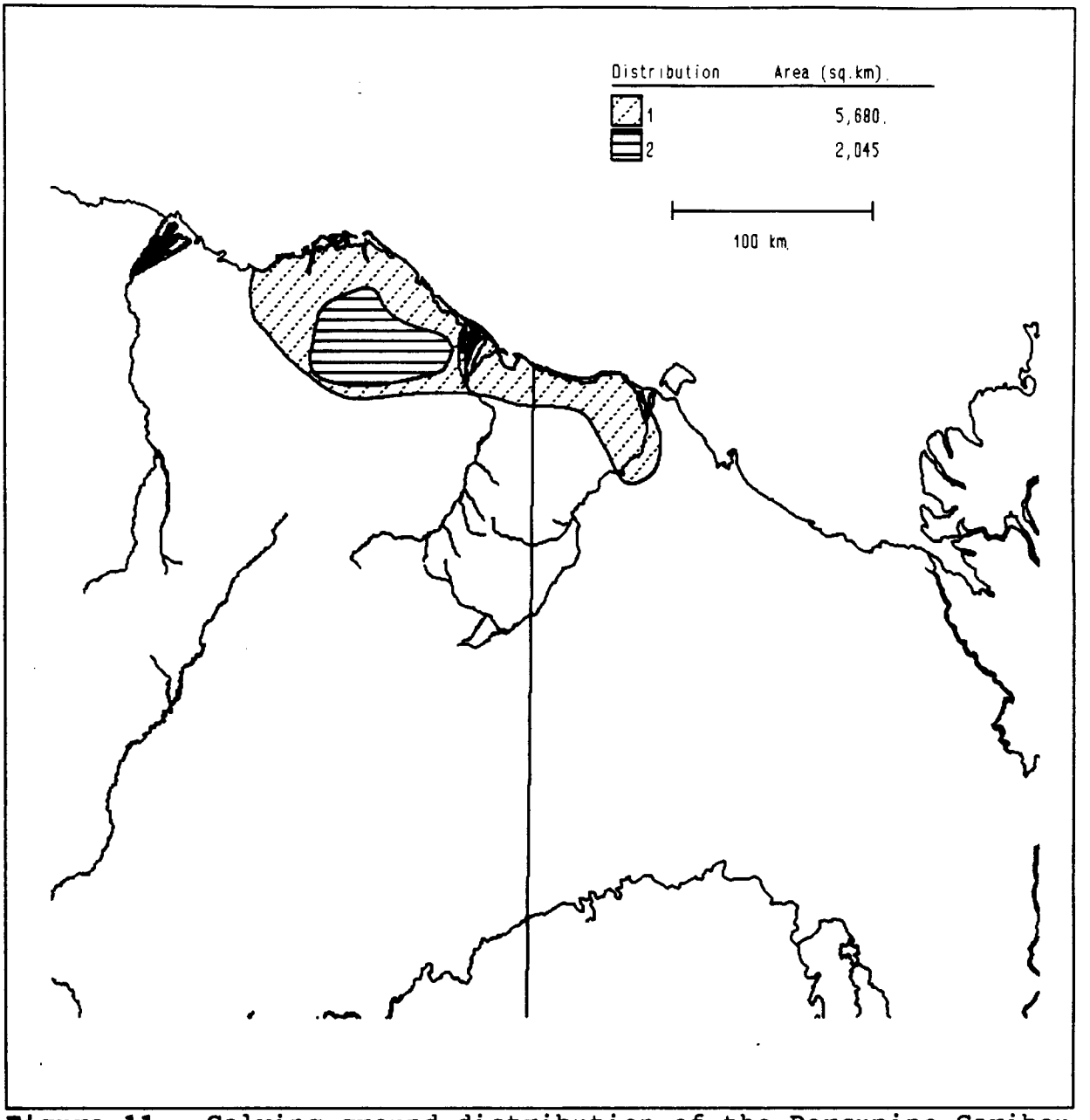

Figure 11. Calving ground distribution of the Porcupine Caribou Herd, June 1981.

FIGURE 12: Calving Distribution 1982

Daily fixed-wing reconnaissance surveys were flown over the known PCH calving areas and also over the northern part of the PCH winter range beginning 1 June. Densities within calving concentration areas was estimated by flying 2 low-level transects in a helicopter.

Unusually late snowmelt throughout northern Alaska and Yukon Territory slowed or delayed the PCH spring migration and diverted caribou to the east of the international border.

The only high density calving area found during the flights was between the Firth River and Spring River south of Herschel Island on 4 June, which was the only snow free area anywhere within the traditional calving grounds. Poor weather prevented more detailed survey coverage, but observations of numerous cow caribou sighted as far south as Muskeg Creek suggested that the entire British Mountains region might have supported high density calving. Eight of the 9 radio-collared cow caribou were located in the high density calving area or on migration routes leading to this area. An estimated 23,400 cows calved in the high density area.

Calving appeared to occur 4-5 days earlier on the high density calving area north of the British Mountains than it did in areas to the south. On the high density area, calving began about 1 June and peaked on 4-6 June. Observations suggested that calving was delayed south of the northern calving concentration area.

References:

Whitten, K. R. and R. D. Cameron. 1984.

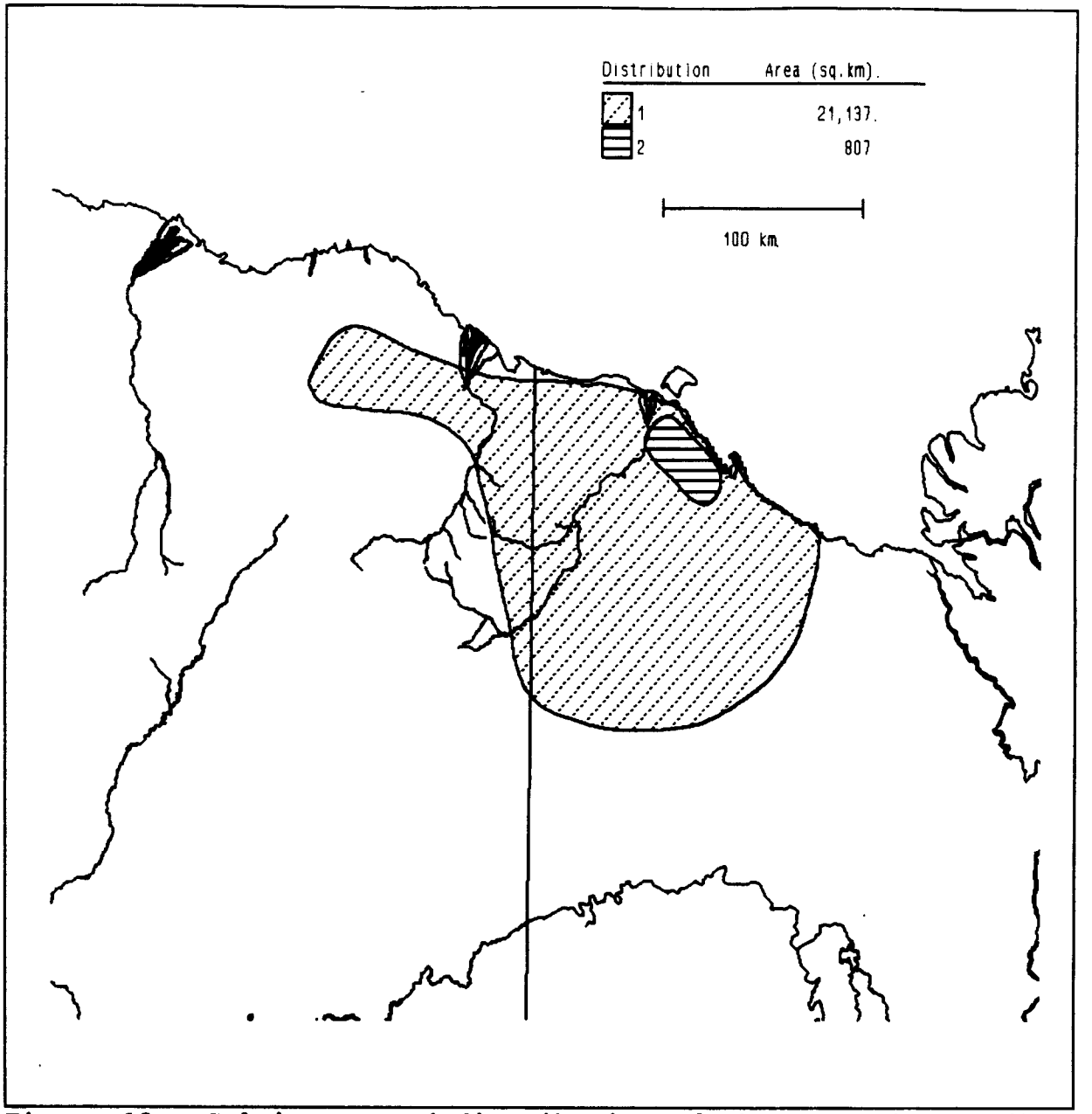

Figure 12. Calving ground distribution of the Porcupine Caribou Herd, June 1982.

FIGURE 13: Calving Distribution 1983

Calving distribution and areas of concentrated calving activity were determined by relocating 23 radio-collared adult female caribou and by aerial reconnaissance surveys during late spring migration and throughout the calving season.

Distributions of calving caribou extended across the Arctic coastal plain and foothills from the Sadlerochit River in Alaska to the Firth River in Canada. A major concentration of calving activity occurred in the lower foothills and adjacent coastal plain along the Jago River. Another concentration of calving occurred on the coastal plain and foothills between the Kongakut River and Komakuk Beach. The peak of calving occurred on 4 June and did not appear to vary significantly from east to west.

References:

Whitten, K. R., G. W. Garner, and F. J. Mauer. 1984.

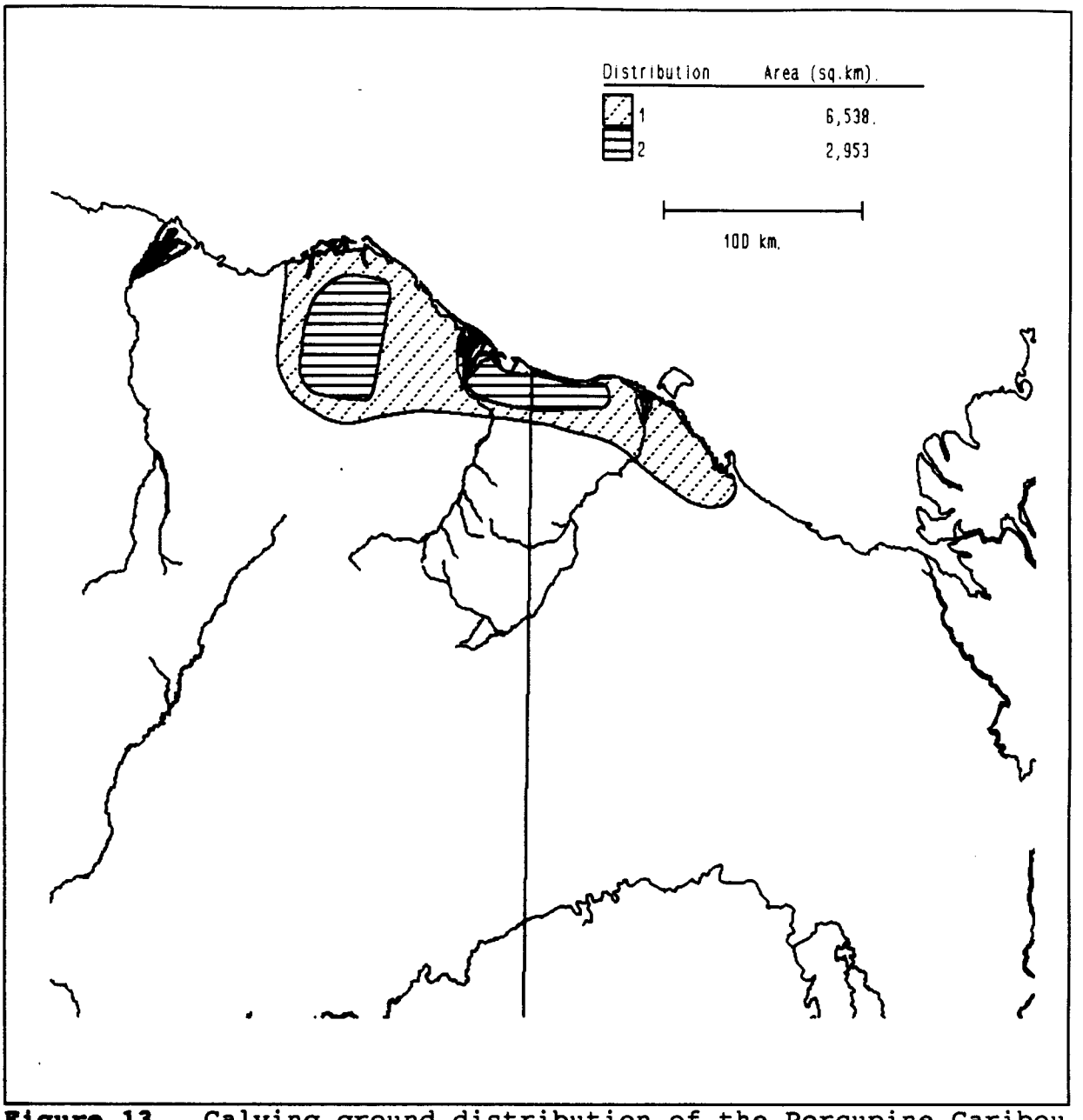

Figure 13. Calving ground distribution of the Porcupine Caribou Herd, June 1983.

FIGURE 14: Calving Distribution 1984

Calving distribution and areas of concentrated calving activity were determined by relocating 31 radio-collared adult female caribou during late May and early June and by aerial reconnaissance surveys during late spring migration and calving seasons.

Distributions of calving caribou extended across the arctic coastal plain and foothills from the Jago River in Alaska to approximately the Babbage River in Canada. Some calving caribou were also distributed along migration routes in the eastern portion of the Brooks Range in Alaska, the British Mountains in Canada, and as far south as the northern margin of the Old Crow Flats. Major concentration of calving activity occurred on the coastal plain in the vicinity of the Niguanak River, between the Aichilik River and the Turner River, and on the coastal plain south of Stokes Point in Canada. The peak of calving occurred on 4 June and did not appear to vary significantly from east to west.

References:

Whitten, K. R., G. W. Garner, and F. J. Mauer. 1985.

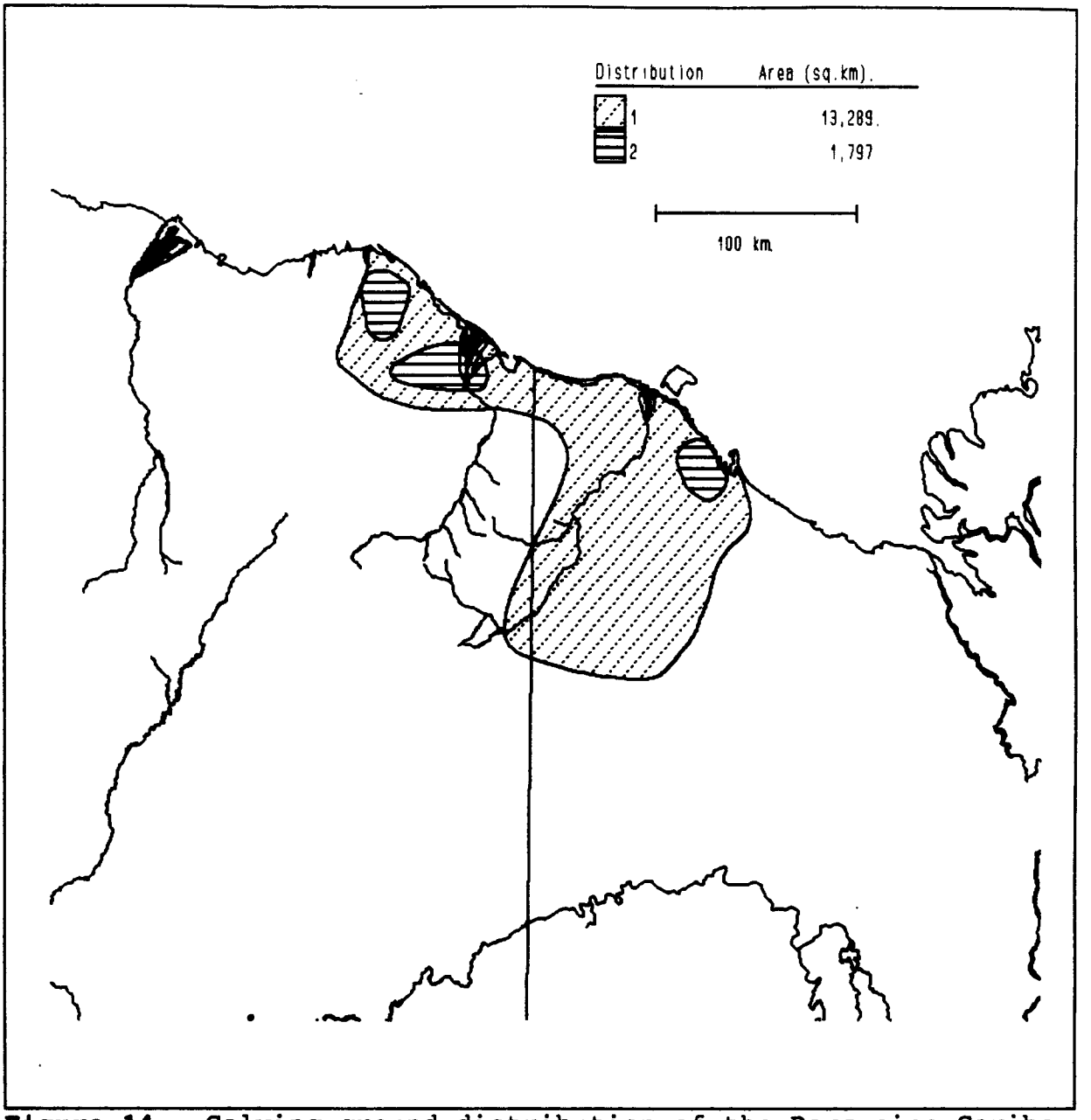

Figure 14. Calving ground distribution of the Porcupine Caribou Herd, June 1984.

FIGURE 15: Calving Distribution 1985

Calving distribution and areas of concentrated calving activity were determined by relocating 57 radio-collared adult female caribou during late May and early June and by aerial reconnaissance surveys during late spring migration and calving seasons.

Distributions of calving caribou extended across the Arctic coastal plain and foothills from the Hulahula River in Alaska to approximately the Babbage River in Canada. A major concentration of calving activity occurred on the coastal plain and foothills from the Hulahula River to the Ekaluakat River. A second concentration area occurred on the coastal plain south of Stokes Point in Canada. The peak of calving occurred on 31 May - 1 June which was slightly earlier than previous years.

References:

Whitten, K. R., G. W. Garner, and F. J. Mauer. 1987.

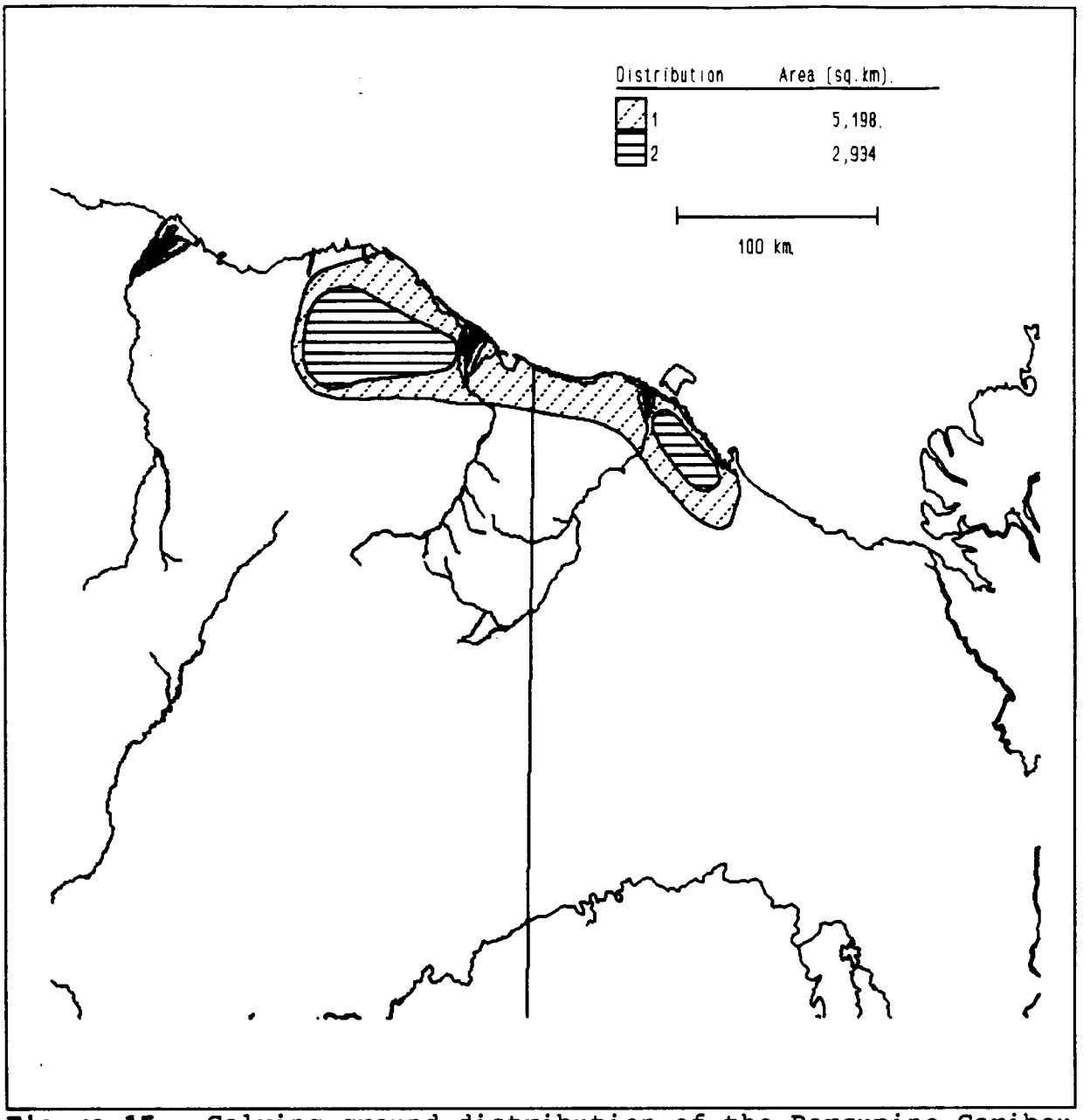

Figure 15. Calving ground distribution of the Porcupine Caribou Herd, June 1985.

FIGURE 16: Calving Distribution 1986

Calving distribution and areas of concentrated calving activity were determined by relocating 42 radio-collared adult female caribou during late May and early June and by aerial reconnaissance surveys during late spring migration and calving seasons.

Late snowmelt impeded spring migration. Calving extended across the coastal plain and foothills from the Hulahula River in Alaska to the Babbage River in Canada, but did not extend as far north onto the coastal plain as in recent years. A major calving concentration occurred between the Kongakut and Firth Rivers and a lesser concentration was along the Jago River.

References:

Mauer, F. J., and K. R. Whitten. 1988.

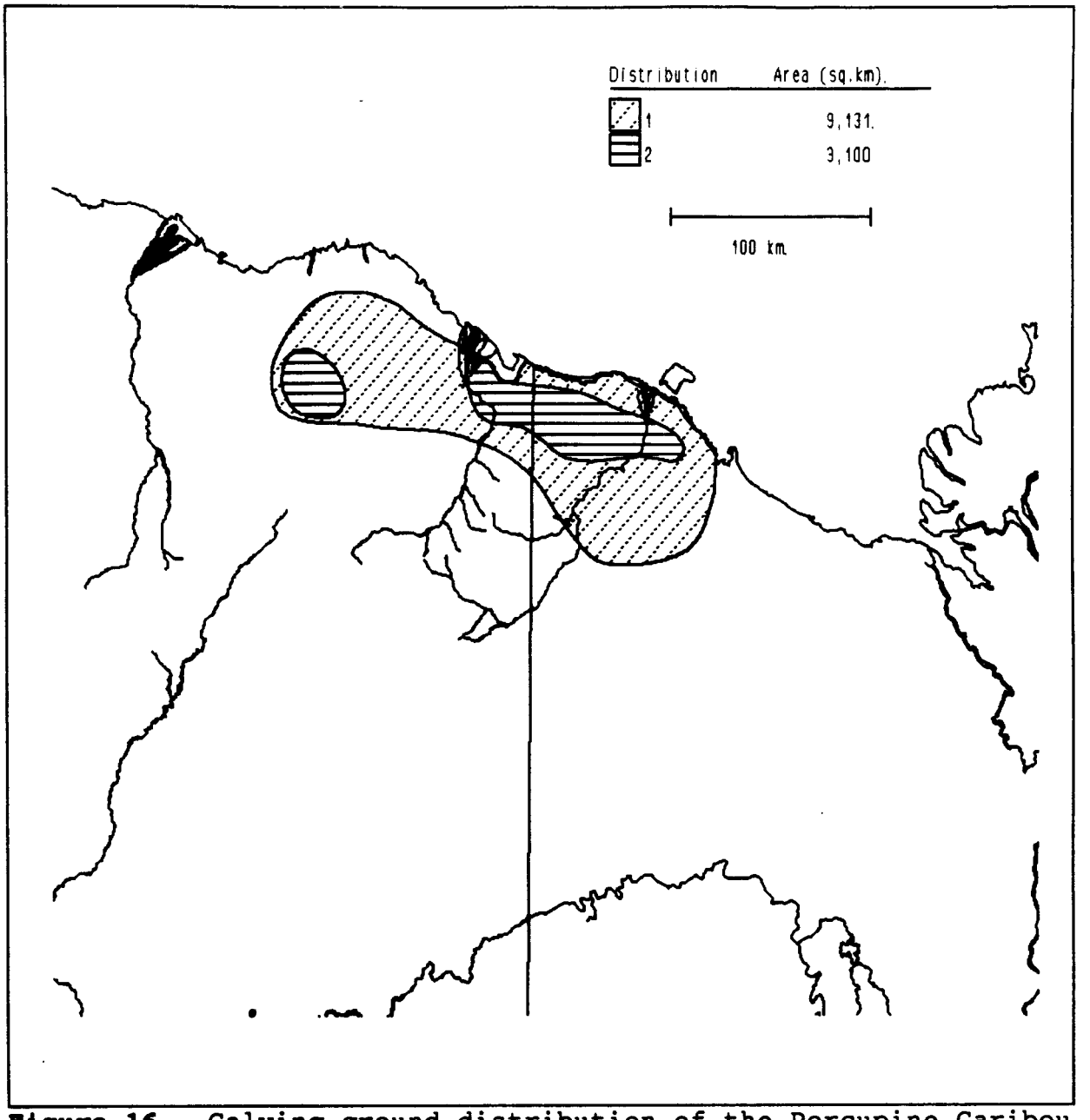

Figure 16. Calving ground distribution of the Porcupine Caribou Herd, June 1986.

FIGURE 17: Calving Distribution 1987

Calving distribution and areas of concentrated calving activity were determined by relocating 51 radio-collared adult female caribou during late May and early June and by aerial reconnaissance surveys during late spring migration and calving seasons.

Late snowmelt again impeded spring migration. Calving extended across the coastal plain and foothills from the Hulahula River in Alaska to the Babbage River in Canada. A major calving concentration occurred between the Firth and Babbage Rivers a lesser concentration occurred on the southern coastal plain in Alaska between the Okpilak and Kongakut Rivers.

References:

Whitten, K. R. pers. comm. 1992.

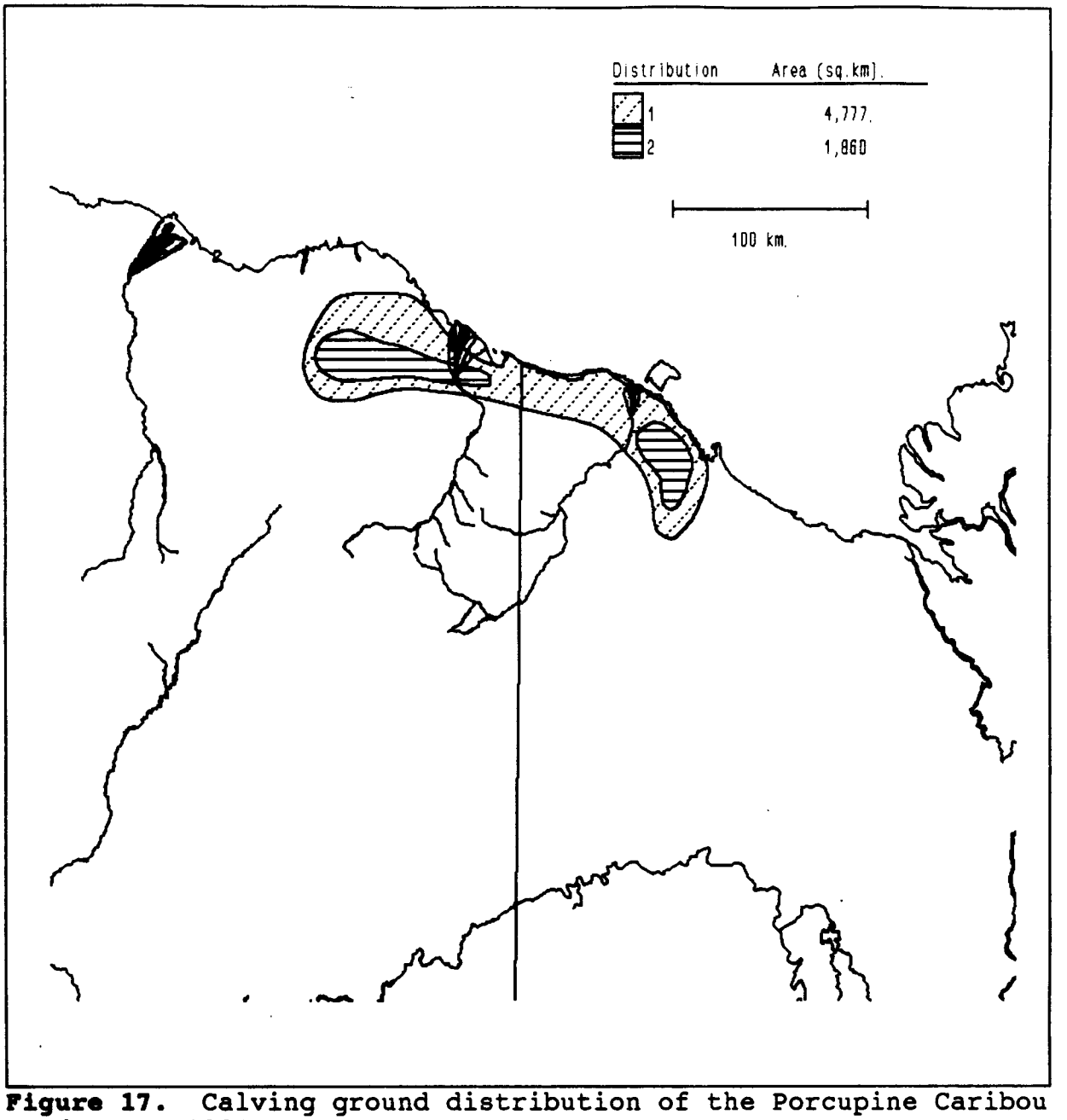

Figure 17. Calving ground distribution of the Porcupine Caribou Herd, June 1987.

FIGURE 18: Calving Distribution 1988

Calving distribution and areas of concentrated calving activity were determined by relocating 91 radio-collared adult female caribou during late May and early June and by aerial reconnaissance surveys during late spring migration and calving seasons.

Snowmelt was the latest recorded since regular calving surveys began in 1971. Deep snow covered the entire coastal plain until about 12 June. In contrast, the mountains and migration routes were essentially free of snow during calving. Most calving occurred In Alaska and was particularly concentrated in the mountains between the Jago and Egaksrak Rivers.

References:

Fancy, S. G., K. R. Whitten, R. D. Cameron, and R. B. Harris. 1989.

Whitten, K. R., T. J. Roffe, R. B. Harris, and S. G. Fancy. 1989.

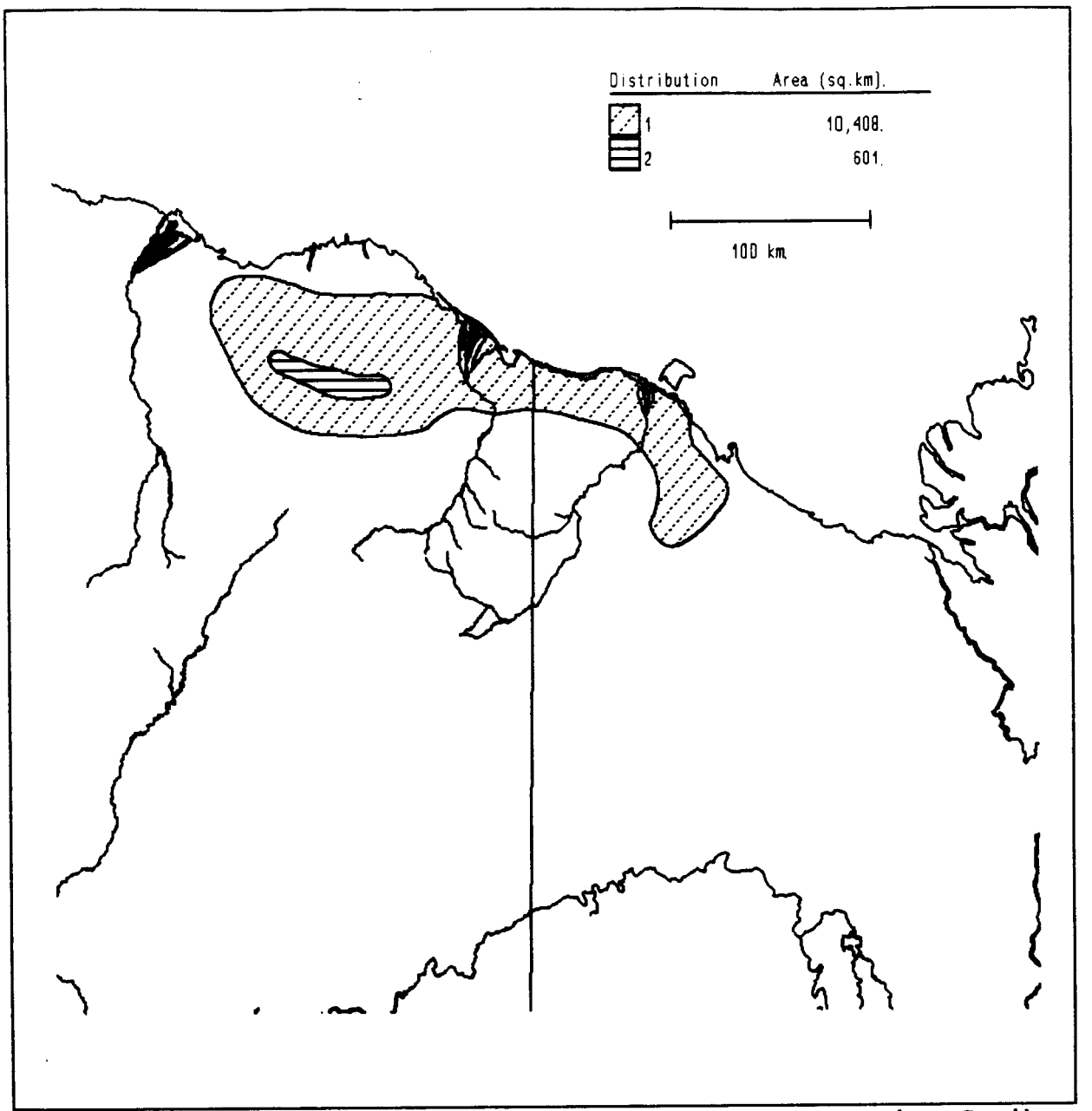

Figure 18. Calving ground distribution of the Porcupine Caribou Herd, June 1988.

FIGURE 19: Calving Distribution 1989

Calving distribution and areas of concentrated calving activity were determined by relocating 74 radio-collared adult female caribou during late May and early June and by aerial reconnaissance surveys during late spring migration and calving seasons.

Snowmelt on the coastal plain proceeded rapidly after about 28 May. Calving occurred from the Sadlerochit River in Alaska to the Spring River in Canada, but most calves were born in a concentration area between the Hulahula and Jago rivers. Cows appeared to follow the retreating snowline. Most births before 2 June were just south of the southern 1002 boundary, and most later births were north within 1002.

References:

Fancy, S. G., K. R. Whitten, and R. D. Cameron. 1990.

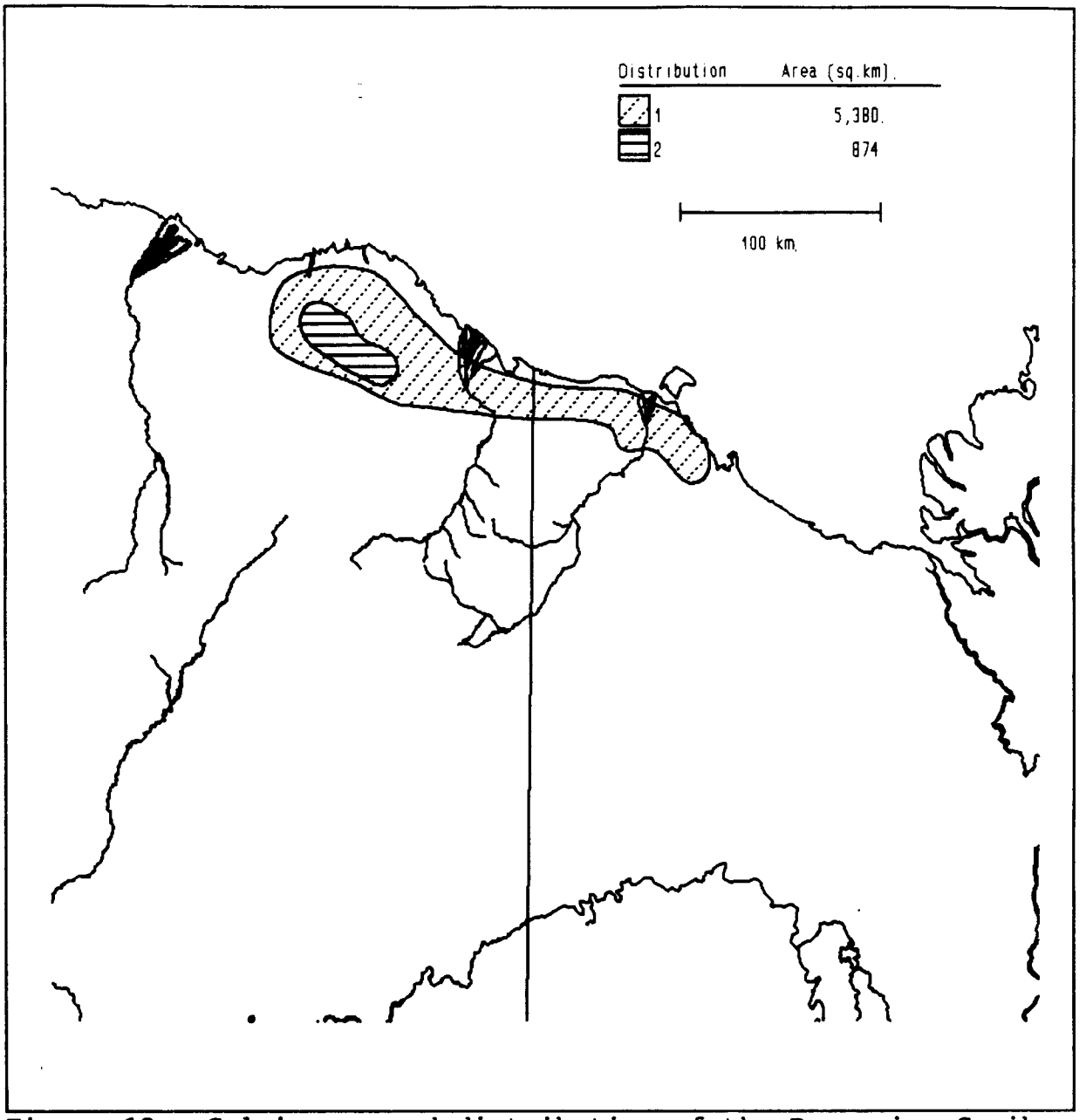

Figure 19. Calving ground distribution of the Porcupine Caribou Herd, June 1989.

FIGURE 20: Calving Distribution 1990

Calving distribution and areas of concentrated calving activity were determined by relocating 74 radio-collared adult female caribou during late May and early June and by aerial reconnaissance surveys during late spring migration and calving seasons.

By the onset of the calving period, the coastal plain was free of snow all the way to the arctic coast. Calving activity extended from the Sadlerochit River in Alaska to the Babbage River in Canada, but about 90% of the calving occurred in a concentration area between the Hulahula and Aichilik Rivers in Alaska, mostly within the 1002 area. A much smaller concentration of a few thousand cows occurred in the Canada near Herschel Island.

References:

Whitten, K. R., S. G. Fancy, and N. E. Walsh. 1992.

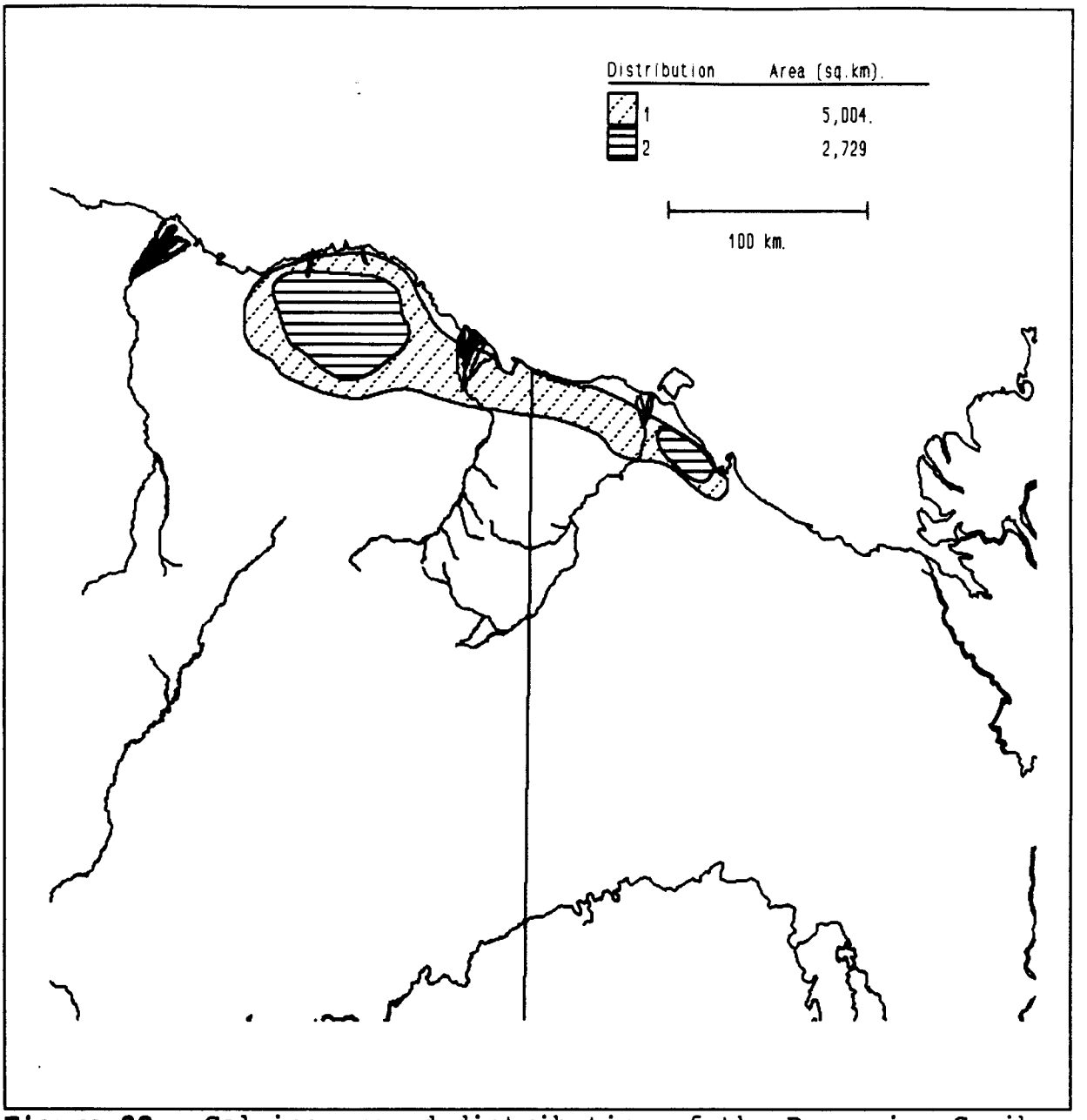

Figure 20. Calving ground distribution of the Porcupine Caribou Herd, June 1990.

FIGURE 21: Early Winter 1970/71

Intensive aerial surveys during the winter of 1970/1971 found three main concentrations of caribou. The largest segment of the PCH wintered between the Blackstone and Miner Rivers (Dist.2, ≈30,000). Other large concentrations of caribou occurred between the Snake and the Blackstone Rivers (Dist.3, ≈15,000) and in the Ogilvie Mountains south and west of the headwaters of the Ogilvie River (Dist.1, ≈12,000). A small group of caribou wintered in the central Richardson Mountains (Dist.4, ≈2,500).

References:

Jakimchuk, R. D., E. Debock, H. Russell, and G. Semenchuk. 1974.

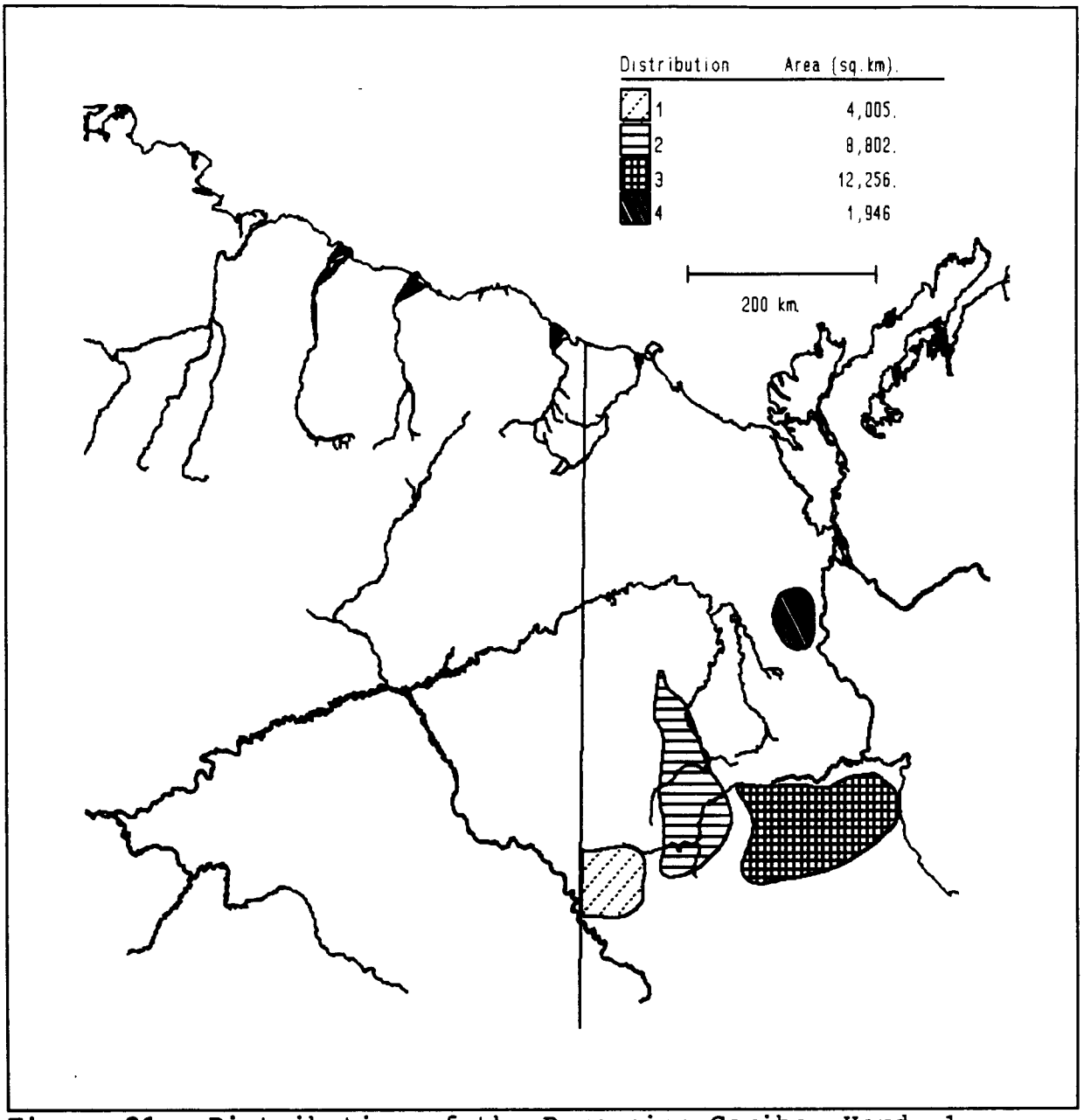

Figure 21. Distribution of the Porcupine Caribou Herd, 1 December 1970 - 30 April 1971.

FIGURE 22: Early Summer 1971

On 1 July approximately 60,000 caribou were observed moving into the Yukon from the Clarence River drainage in the northern foothills of the British Mountains (Dist.1). They continued as one group moving east and then southeast reaching the Crow and Trail River drainages 7 July (not shown), they then began breaking into several smaller groups.

References:

Jakimchuk, R. D., E. Debock, H. Russell, and G. Semenchuk. 1974.

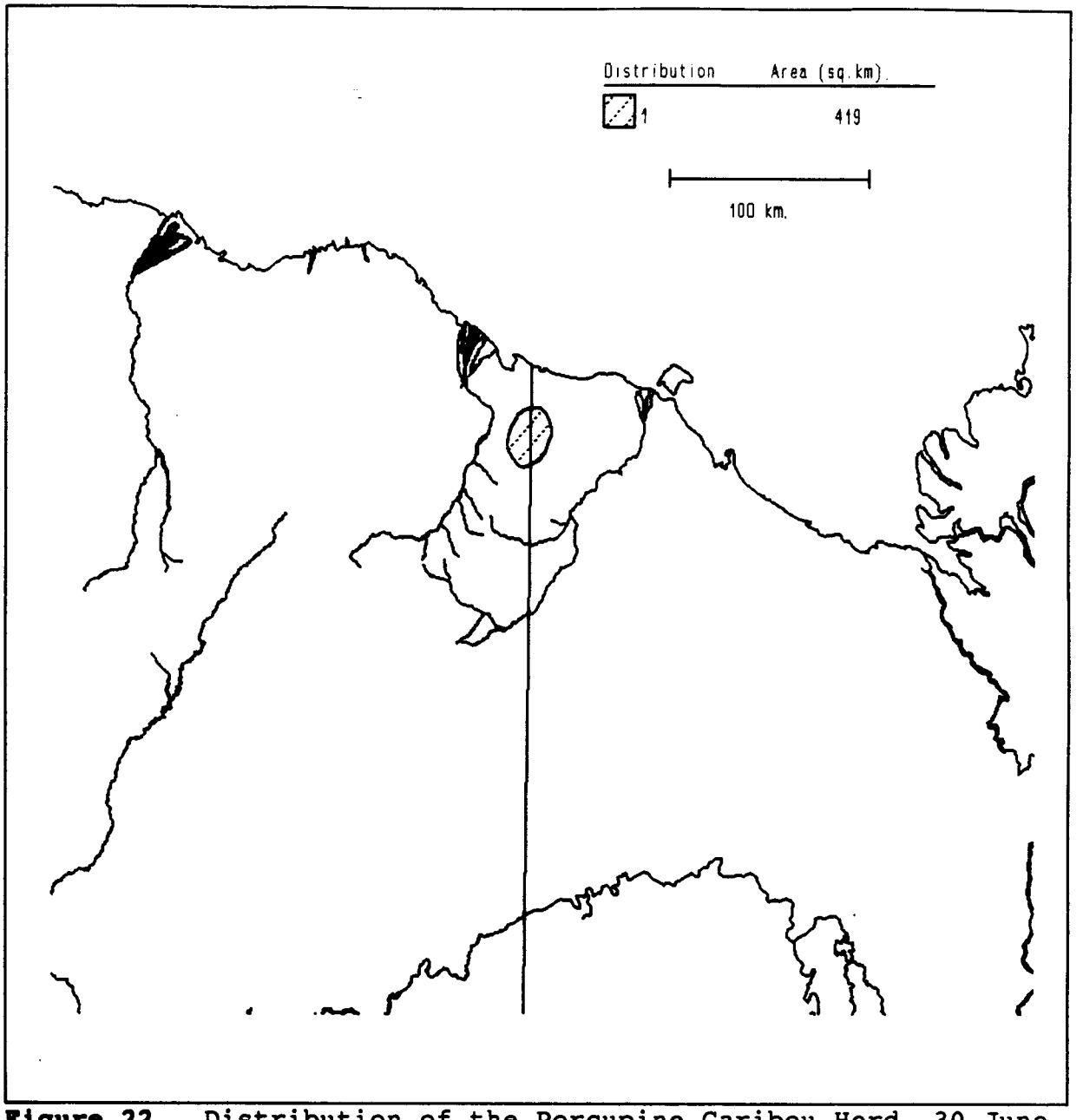

Figure 22. Distribution of the Porcupine Caribou Herd, 30 June 1971.

FIGURE 23: Early and Mid Summer 1971

Caribou which had reached the Crow and Trail River drainages 7 July were joined by other caribou moving into the Yukon from Alaska. Approximately 70,000 caribou stayed in the region shown in Distribution 1 until approximately 14 July when caribou began moving southeast.

References:

Jakimchuk, R. D., E. Debock, H. Russell, and G. Semenchuk. 1974.

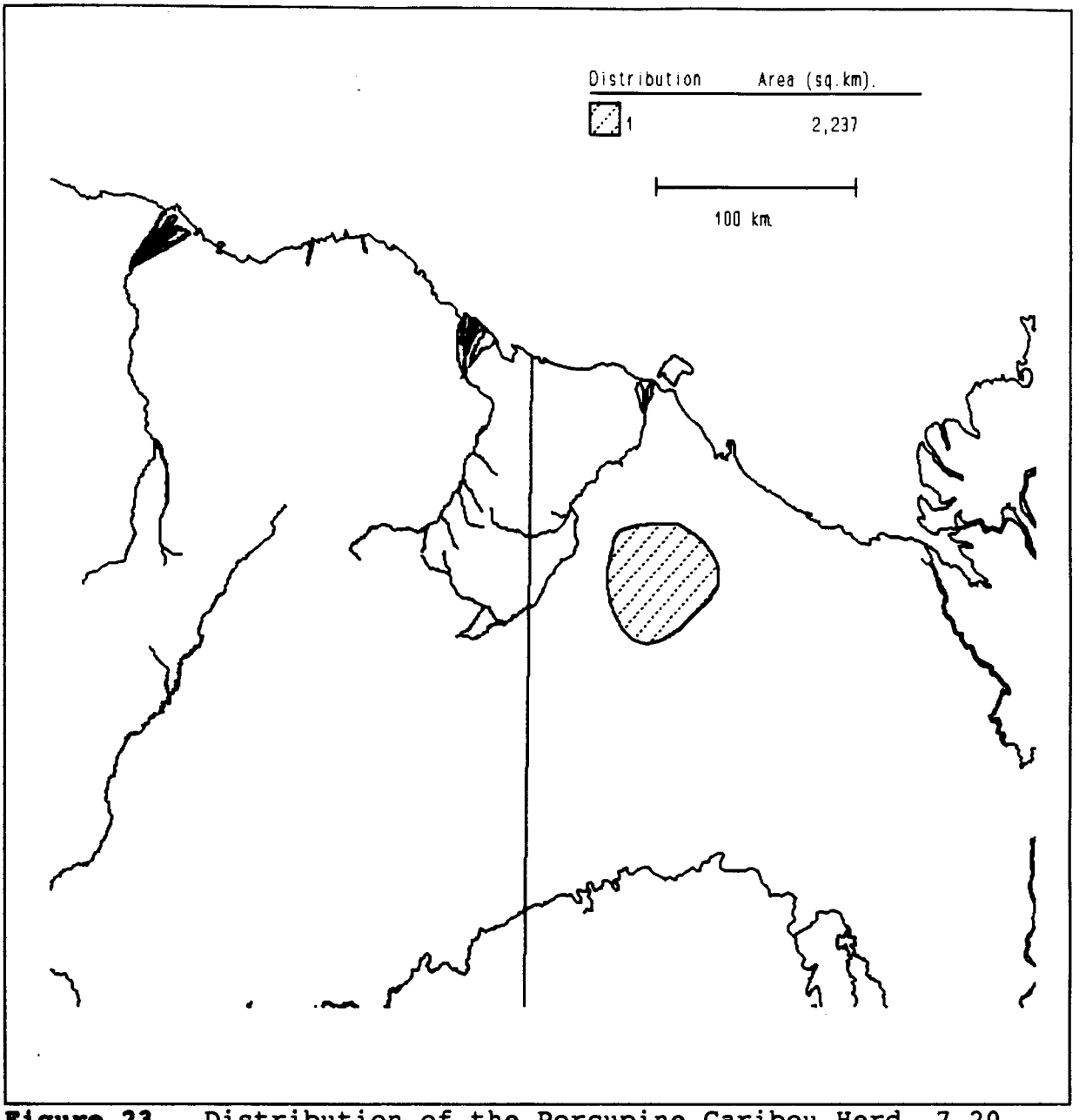

Figure 23. Distribution of the Porcupine Caribou Herd, 7-20 July 1971.

FIGURE 24: Mid Summer 1971

On 17 July the approximately 70,000 caribou that began moving out of the Crow and Trail river drainages 14 July crossed the Blow River and entered the northern Richardson Mountains (Dist. 1). This herd then dispersed and wandered throughout the headwaters of the Bell and Big Fish Rivers.

On 15 July a herd of 15,000 caribou entered the Yukon in the Firth River area (dist. not shown). This group was later observed south of Trout Lake on the southern edge of the Barn Range and were located on 23 July immediately southwest of the headwaters of the Blow River. They then doubled back and returned to Alaska before the end of July.

References:

Jakimchuk, R. D., E. Debock, H. Russell, and G. Semenchuk. 1974.

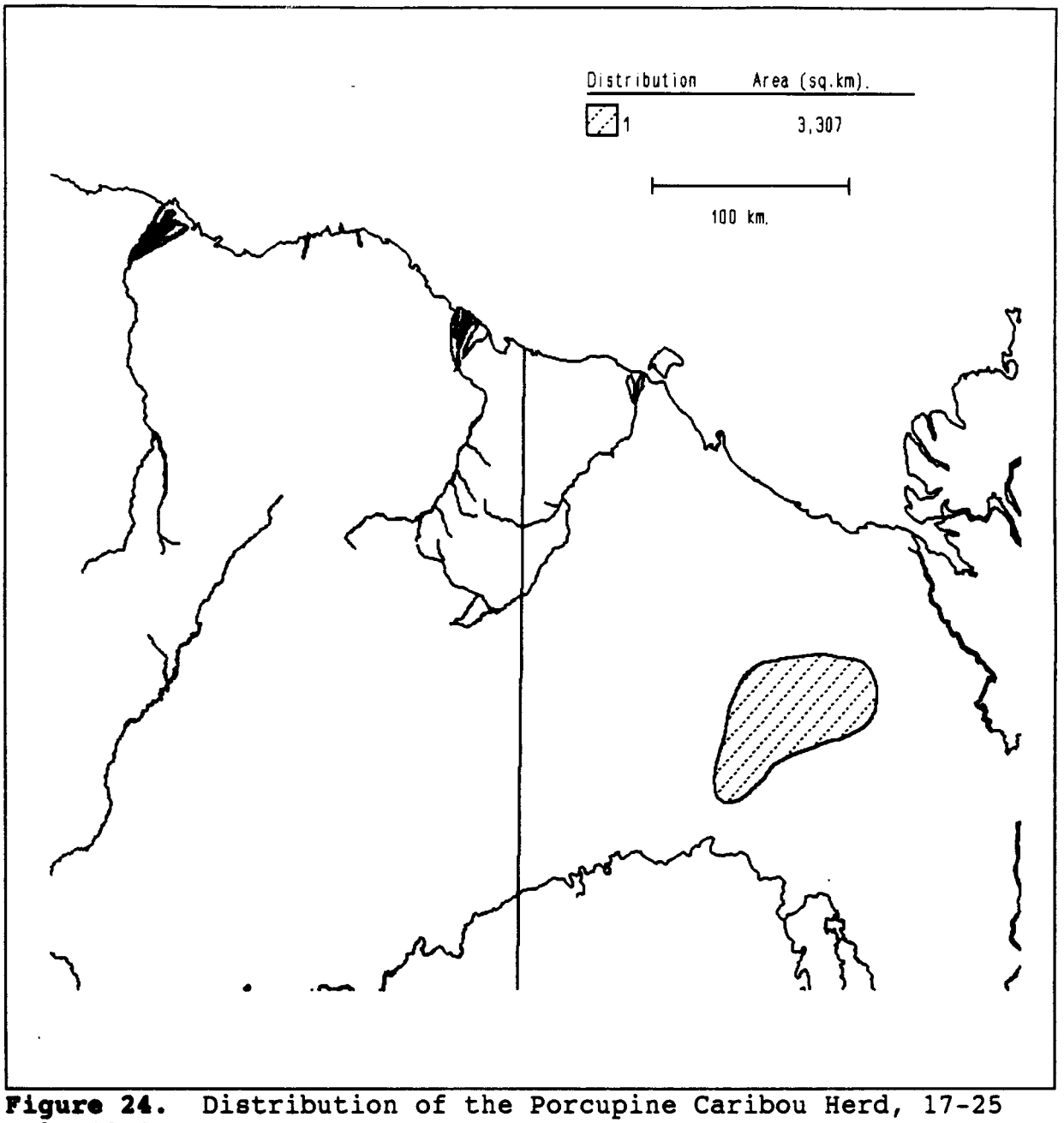

Figure 24. Distribution of the Porcupine Caribou Herd, 17-25 July 1971.

FIGURE 25: Mid and Late Summer 1971

The majority of the PCH are believed to have spent most of August on the north coast and in the area west of the Sheenjek River (Dist. not shown).

The caribou remaining in the Yukon were found in two main areas. Approximately 5,000 spent the month of August in the north Richardson Mountains and along the coast (Dist.2) while another group of 5,000 remained scattered between Bonnet Lake and the Porcupine River (Dist.1).

References:

Jakimchuk, R. D., E. Debock, H. Russell, and G. Semenchuk. 1974.

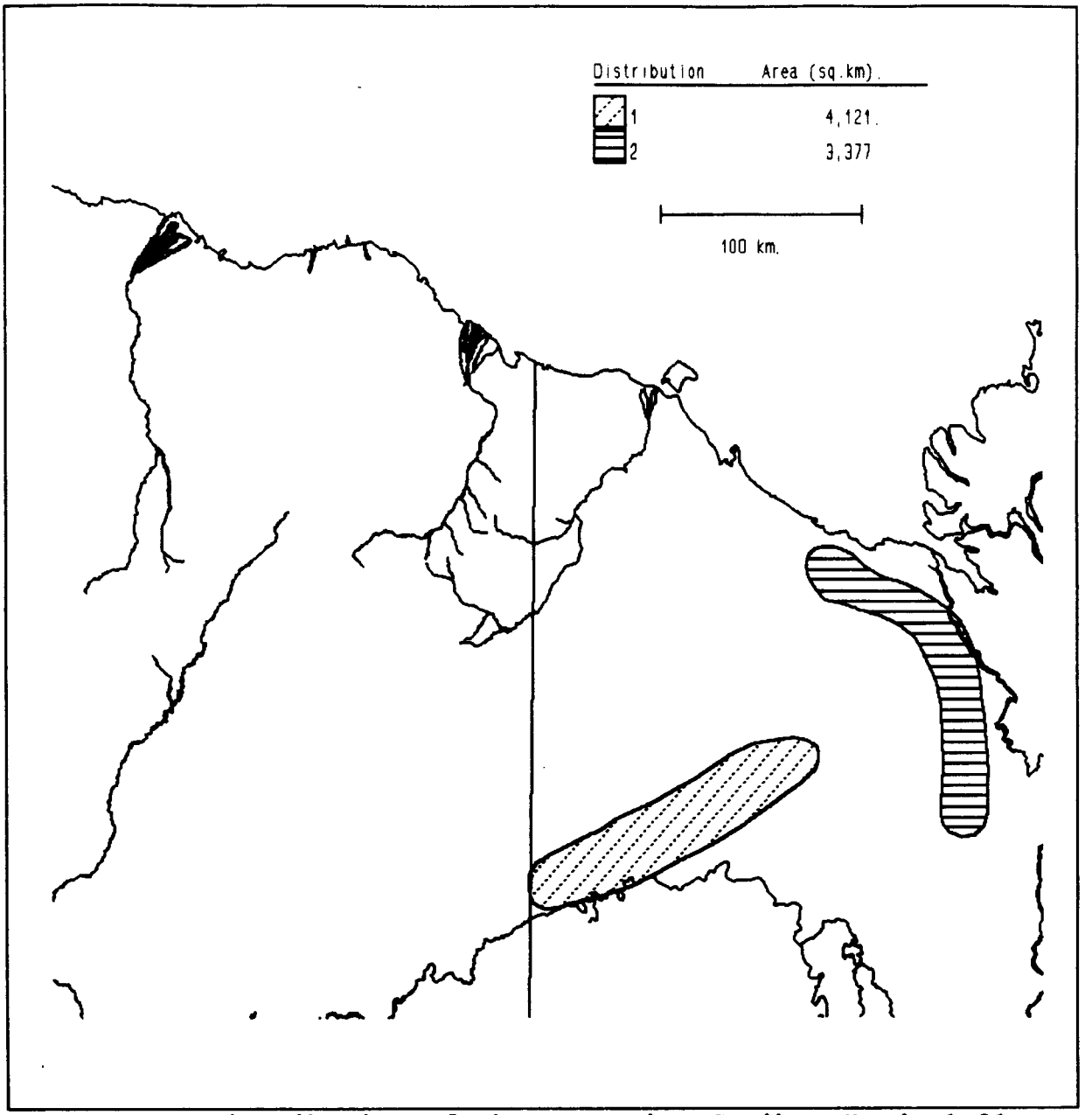

Figure 25. Distribution of the Porcupine Caribou Herd, 1-31 August 1971.

FIGURE 26: Early Winter 1971/72

Surveys were conducted 3-4 December. Only a small proportion of the total herd was observed and much of the evidence of winter distribution was interpreted from signs of activity. Except for the Knorr, Trevor and Caribou Mountain winter ranges (Dist.1 and 2), caribou occurred in small scattered bands.

References:

Calef, G. W. and G. M. Lortie. 1973.

Thompson, D. C. and D. G. Roseneau. 1978.

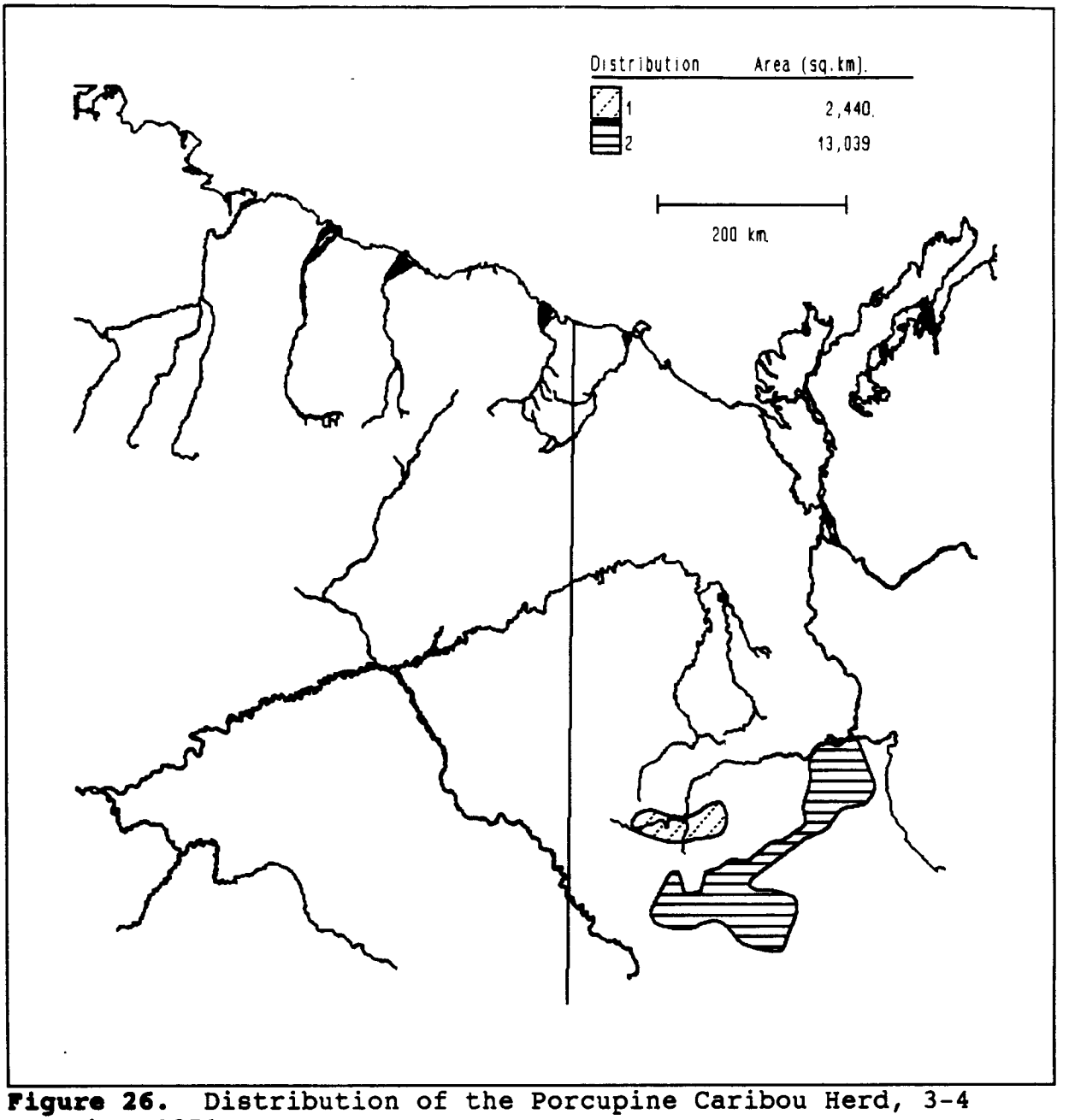

Figure 26. Distribution of the Porcupine Caribou Herd, 3-4 December 1971.

FIGURE 27: Late Winter 1971/72

Observations made in March and April found that approximately 20,000 caribou wintered in the Richardson area, 2,000 wintered in the Eagle-Whitestone, and 40,000-60,000 wintered in the Ogilvie-Peel area (Dist.1). Caribou were also located in the Tatonduk River/Ogilvie Mountain region (dist. not shown).

An estimated 2,000 to 4,000 caribou wintered in Alaska along the North Slope and south of the Continental Divide (dist. not shown).

Note: Caribou from the Central Arctic Herd may have be mistaken for Porcupine Caribou Herd animals wintering in Alaska.

References:

Jakimchuk, R. D., E. Debock, H. Russell, and G. Semenchuk. 1974.

Roseneau, D. G. and P. M. Stern. 1974.

Surrendi, D. C. and E. A. Debock. 1976.

Thompson, D. C. and D. G. Roseneau. 1978.

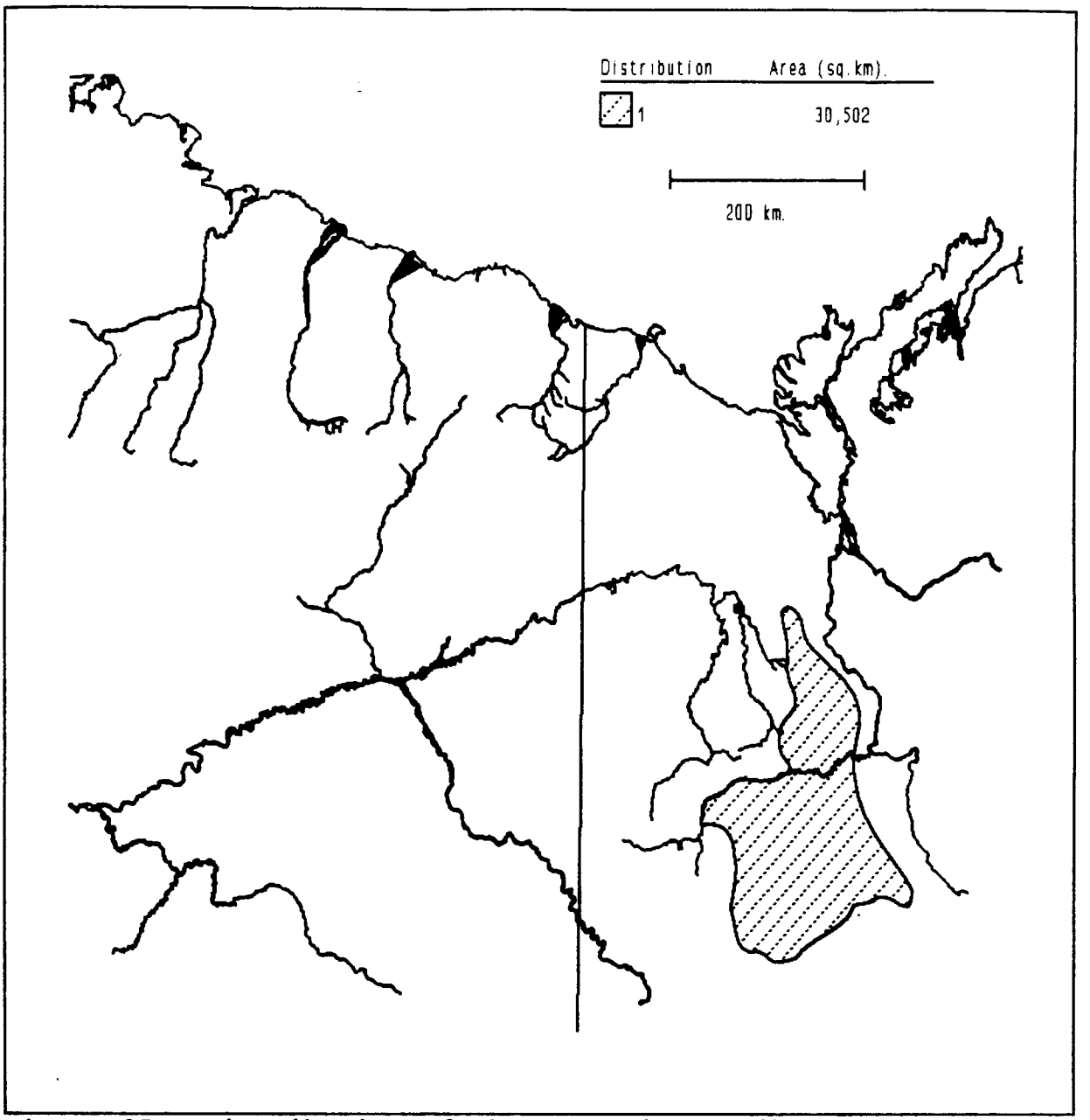

Figure 27. Distribution of the Porcupine Caribou Herd, 15-30 March 1972.

FIGURE 28: Early Summer 1972

Towards the end of the calving period caribou still in the Yukon moved west into Alaska where post-calving aggregations began to form. Between 2-10 July aggregations of caribou (an estimated 60,000 animals in total) occupied the coastal plain from Camden Bay to the Aichilik River (not shown), very few caribou remained in the Yukon.

Large numbers of caribou moved from Alaska into the British Mountains in the Yukon on 10 July. Two major concentrations were found within Dist. 1; one in the headwaters of the Clarence River (15,000 - 20,000) and a second in a small valley between the Clarence and Malcolm Rivers (30,000-40,000). These post-calving herds contained a mixture of cows, calves, sub-adults and mature bulls.

Caribou continued to use the Alaskan coastal plains area throughout the month of July.

References:

McCourt, K. H., J. Russell, D. Doll, J. Feist, and W. McCrory. 1974.

Roseneau, D. G. and P. M. Stern. 1974.

Surrendi, D. C. and E. A. Debock. 1976.

Thompson, D. C. and D. G. Roseneau. 1978.

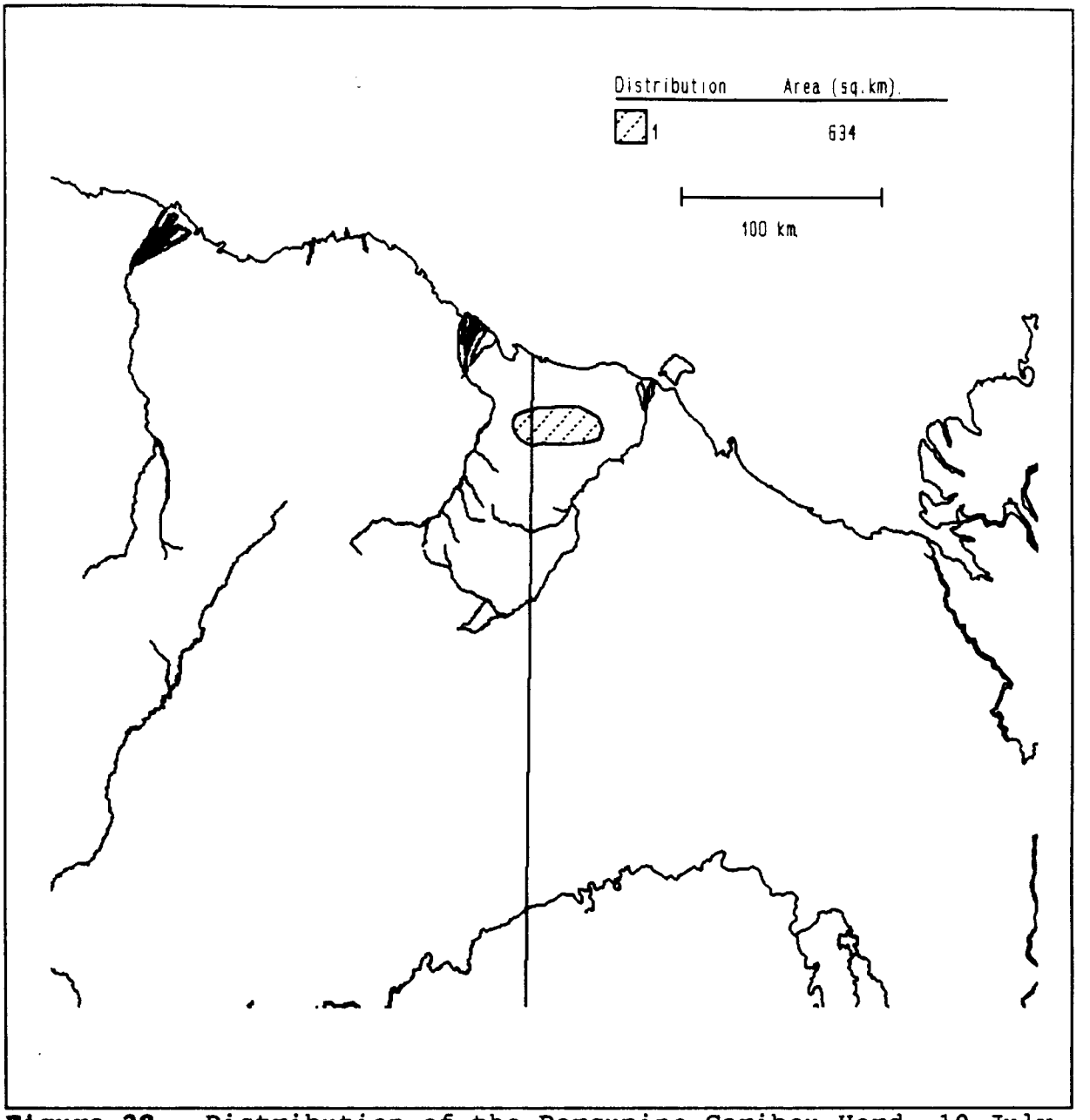

Figure 28. Distribution of the Porcupine Caribou Herd, 10 July 1972.

FIGURE 29: Mid Summer 1972

Nearly all of the post-calving herds that had moved into the Yukon on 10 July were east of the Firth River by 15 July. Most caribou moved southeast through the headwaters of the Trail and Babbage Rivers, continued eastward and reached the head of the Blow River 21 July. From the Blow River, caribou crossed into the headwaters of the Bell and Driftwood Rivers in the Richardson Mountains (Dist. 1, ≈60,000). Many caribou remained there into early August while others made a westward movement into Alaska beginning about 19 July.

References:

McCourt, K. H., J. Russell, D. Doll, J. Feist, and W. McCrory. 1974.

Roseneau, D. G. and P. M. Stern. 1974.

Surrendi, D. C. and E. A. Debock. 1976.

Thompson, D. C. and D. G. Roseneau. 1978.

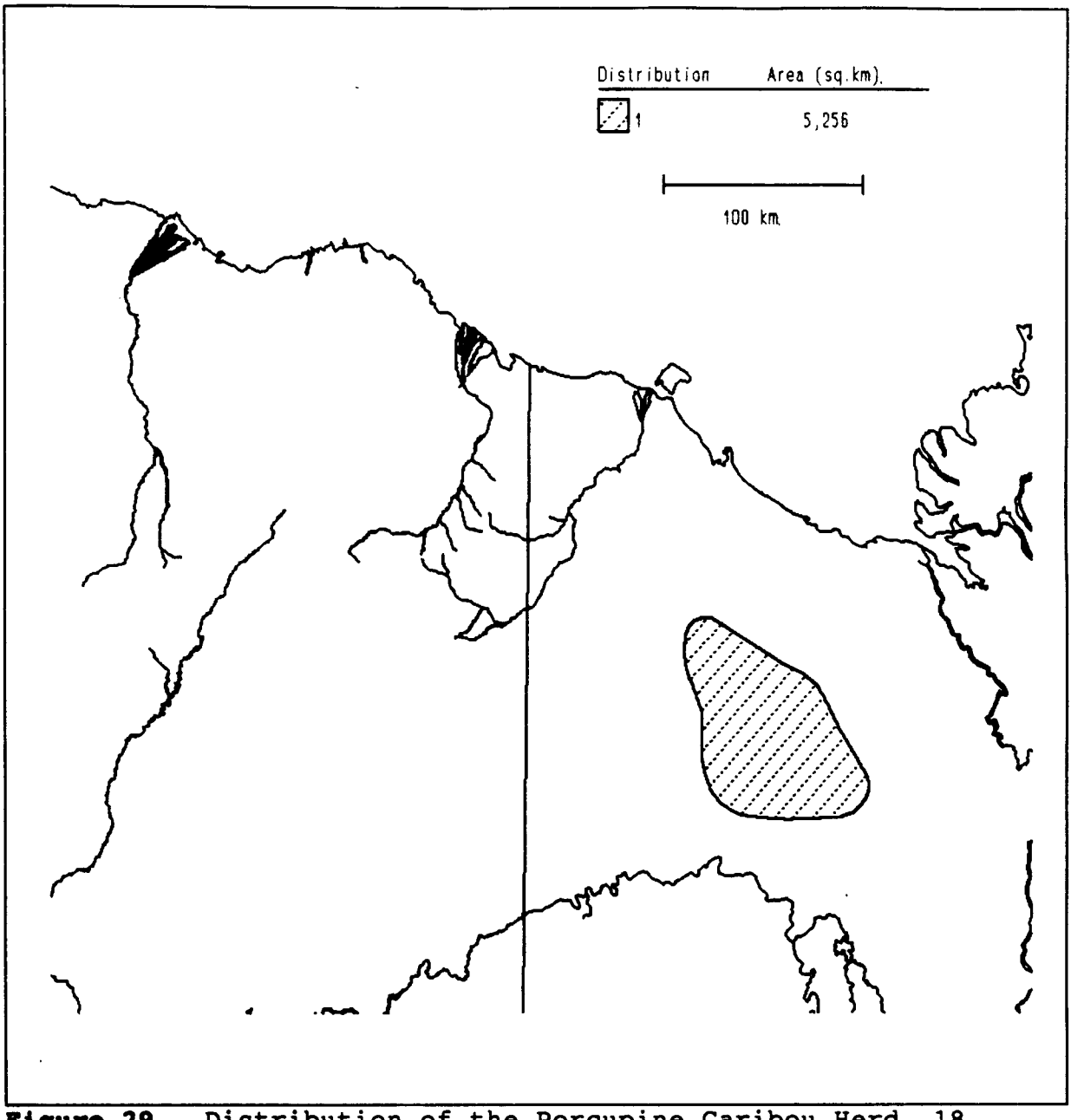

Figure 29. Distribution of the Porcupine Caribou Herd, 18 July - 3 August 1972.

FIGURE 30: Late Summer 1972

From 15 August to 7 September the majority of the Porcupine Caribou Herd was in Alaska. An estimated 50,000-60,000 animals were scattered between the Coleen River and the Chandalar River on the south side of the Brooks Range (Dist. 1). Twenty to thirty thousand caribou were north of the Continental Divide (not shown).

Small scattered groups of caribou remained in the northern Yukon in the southern Barn Mountains, in the Richardson Mountains, Bell River and Waters River areas, in the southern British Mountains, and on the coastal plain between the Firth River and the Alaska border (not shown).

References:

McCourt, K. H., J. Russell, D. Doll, J. Feist, and W. McCrory. 1974.

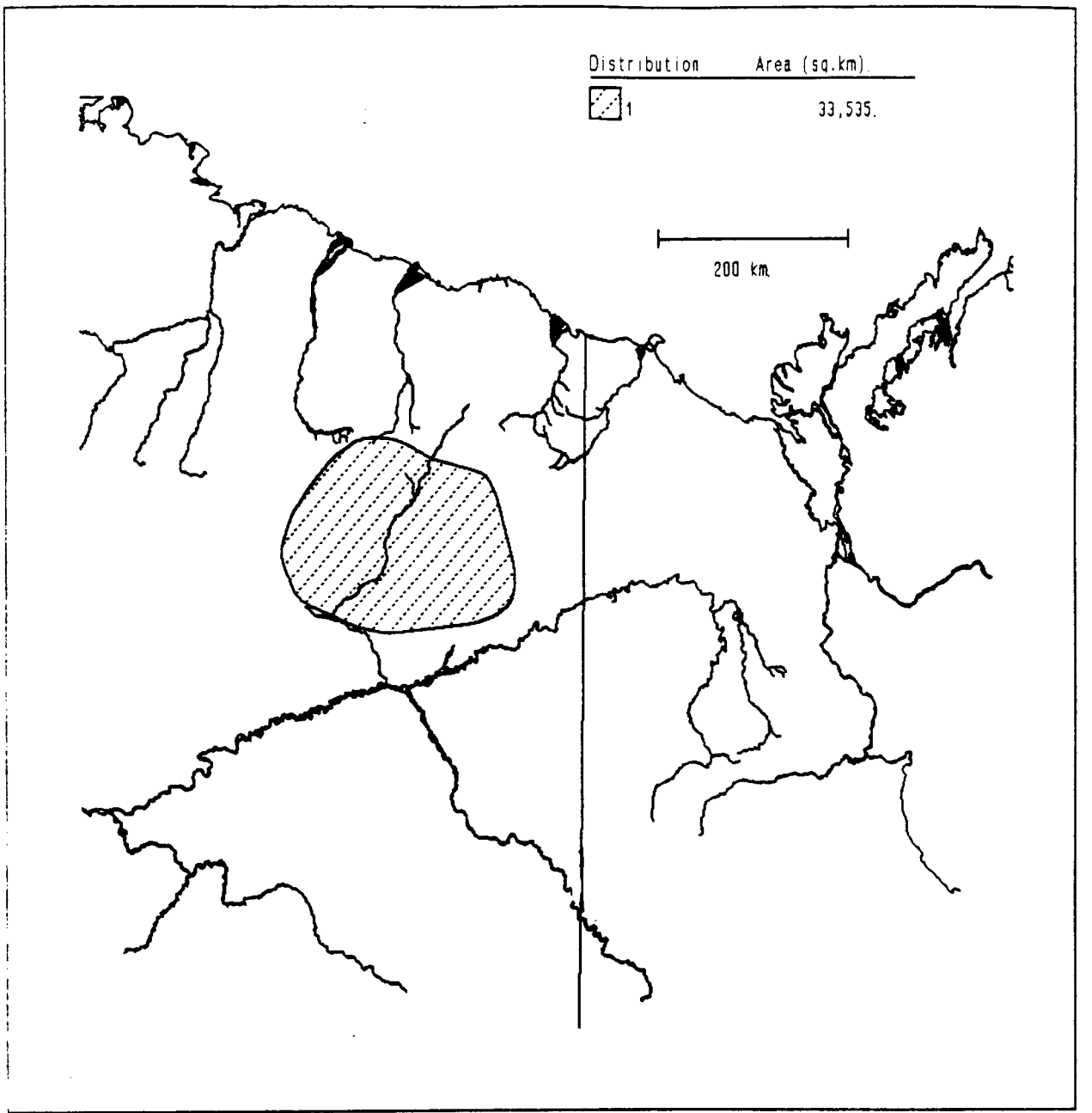

Figure 30. Distribution of the Porcupine Caribou Herd, 15 August - 7 September 1972.

FIGURE 31: Rut 1972

Aerial surveys were flown during early October 1972. The majority of the PCH was distributed in Alaska from approximately the Coleen River west to the middle fork of the Chandalar River (Dist.1, ≈80,000). In the Yukon, an estimated 15,000 to 20,000 animals were in the Tatonduk River area (Dist.3). In the Northwest Territories, a herd estimated to contain 4,000-5,000 caribou was in the Richardson Mountains from the Willow River to the Road River (Dist.2).

References:

Roseneau, D. G. and P. M. Stern. 1974.

Surrendi, D. C. and E. A. Debock. 1976.

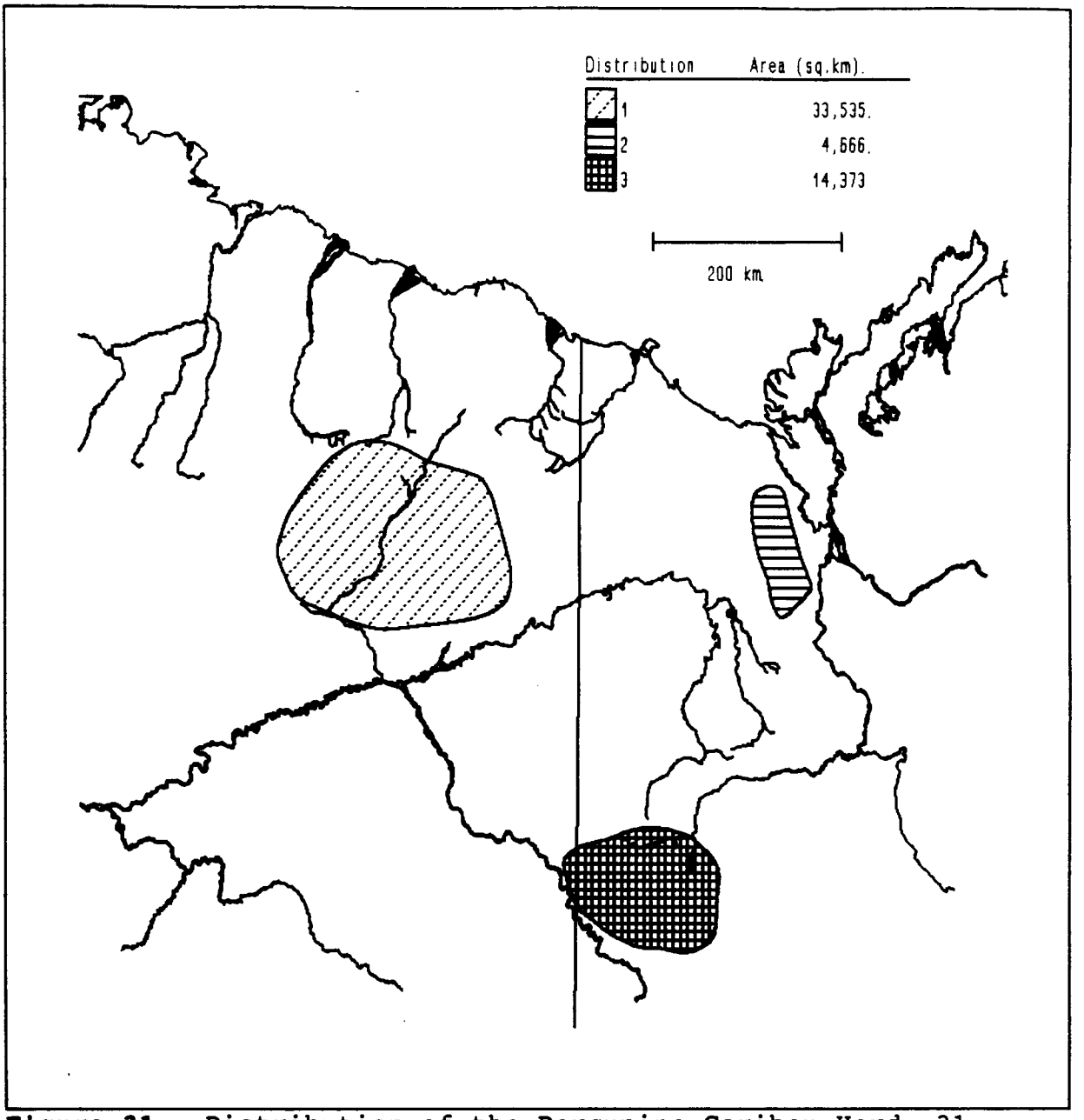

Figure 31. Distribution of the Porcupine Caribou Herd, 31 October 1972.

FIGURE 32: Early Winter 1972/73

Survey data and ground observations indicated that winter distributions found in early October did not change significantly during November and December. The main bulk of the PCH was still in Alaska near Arctic Village (Dist.1, ≈80,000) with two smaller distributions located in the Ogilvie Mountains (Dist.2, ≈5,500) and Richardson Mountains (Dist.3, ≈10,500).

References:

Surrendi, D. C. and E. A. Debock. 1976.

Thompson, D. C. and D. G. Roseneau. 1976.

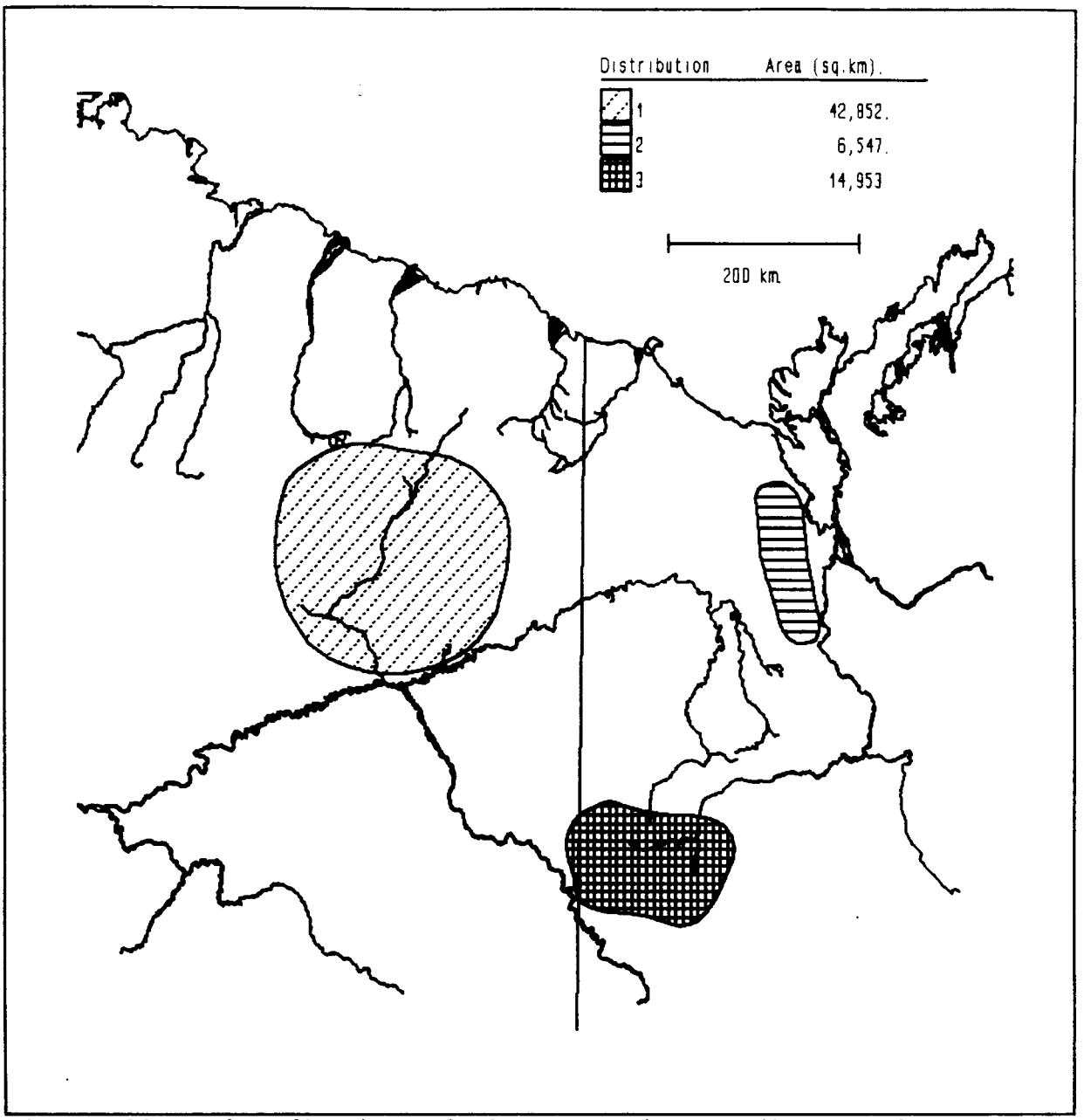

Figure 32. Distribution of the Porcupine Caribou Herd, 20 December 1972.

FIGURE 33: Spring 1973

Little is known of the distribution of caribou in April. It is believed that caribou were still in the three areas where they were located in October, November and December. Caribou that wintered in the Richardson Mountains (Dist.2) began moving westward as early as late March and by 18 April were moving north. Caribou in the Tatonduk River area (Dist.3) began moving north mid April.

References:

Surrendi, D. C. and E. A. Debock. 1976.

Thompson, D. C. and D. G. Roseneau. 1976.

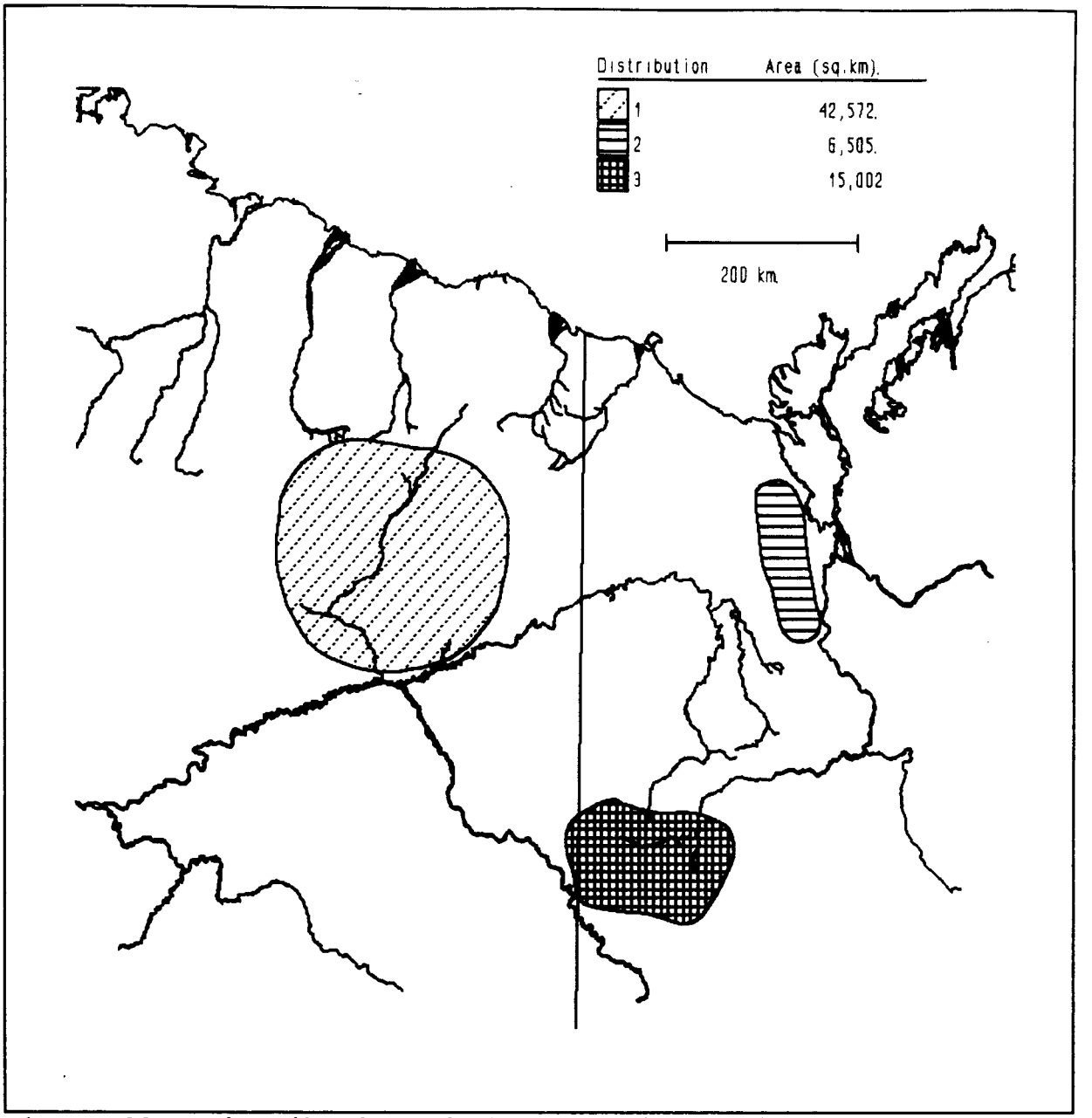

Figure 33. Distribution of the Porcupine Caribou Herd, 1-30 April 1973.

FIGURE 34: Spring Migration 1973

In early May caribou were still in the general areas found throughout the winter. A survey flight on 12 May indicated an extensive movement of caribou from the Tatonduk winter range northward to the Salmon Fork River and Bear Cave Mountain (Dist.1). Caribou had moved out of the Richardson Mountains by 18 May.

References:

Surrendi, D. C. and E. A. Debock. 1976.

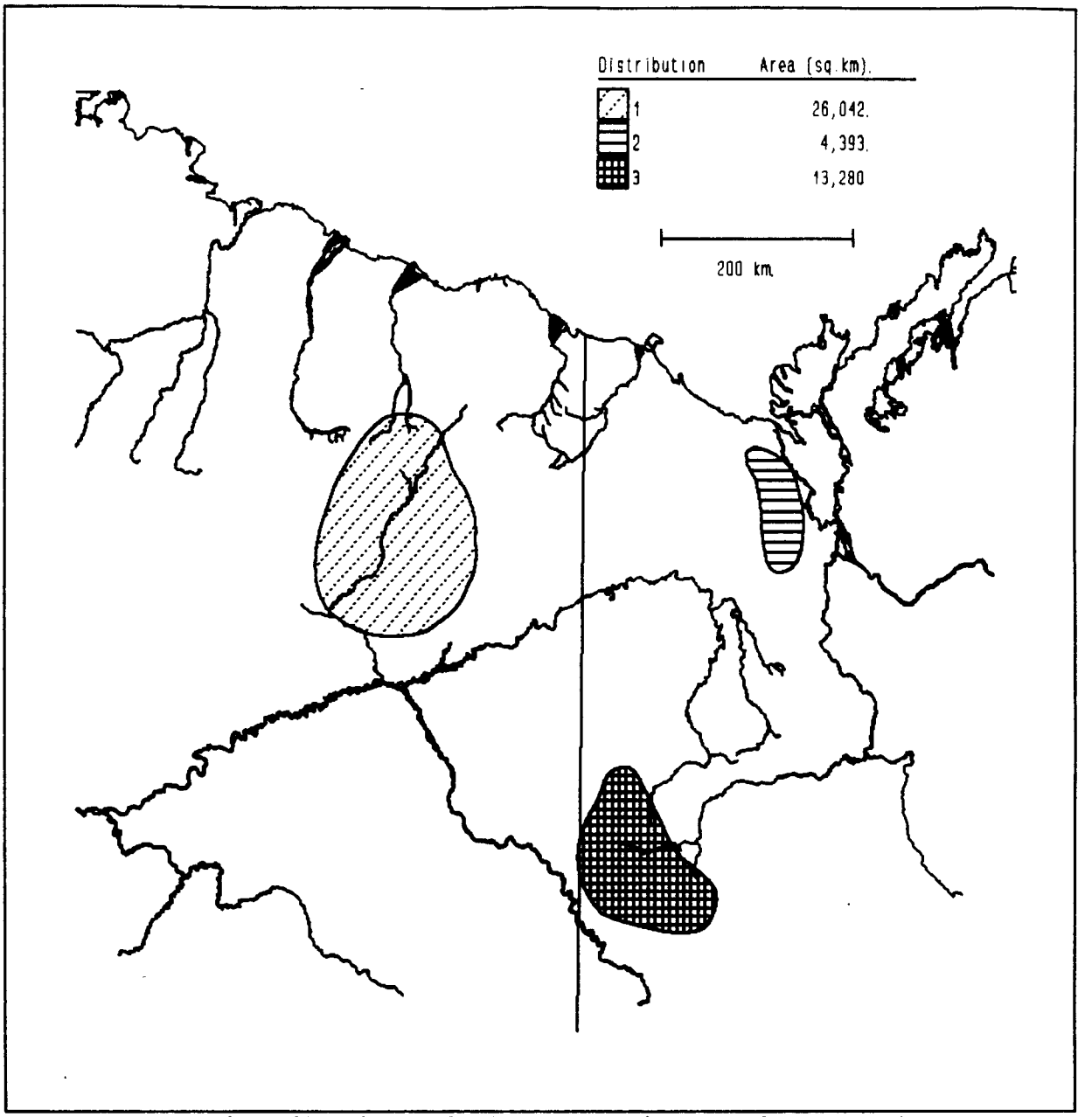

Figure 34. Distribution of the Porcupine Caribou Herd, 12 May 1973.

FIGURE 35: Early Summer 1973

On 8 July an estimated 116,000 post-calving caribou in Alaska grouped into two massive herds and began entering the Yukon near the headwaters of the Clarence River on 9 July (Dist.1). The two groups began to fragment as they continued to move southeast across the Malcolm River. Most post-calving caribou moved southeast through the central Barn and British mountains.

References:

Surrendi, D. C. and E. A. Debock. 1976.

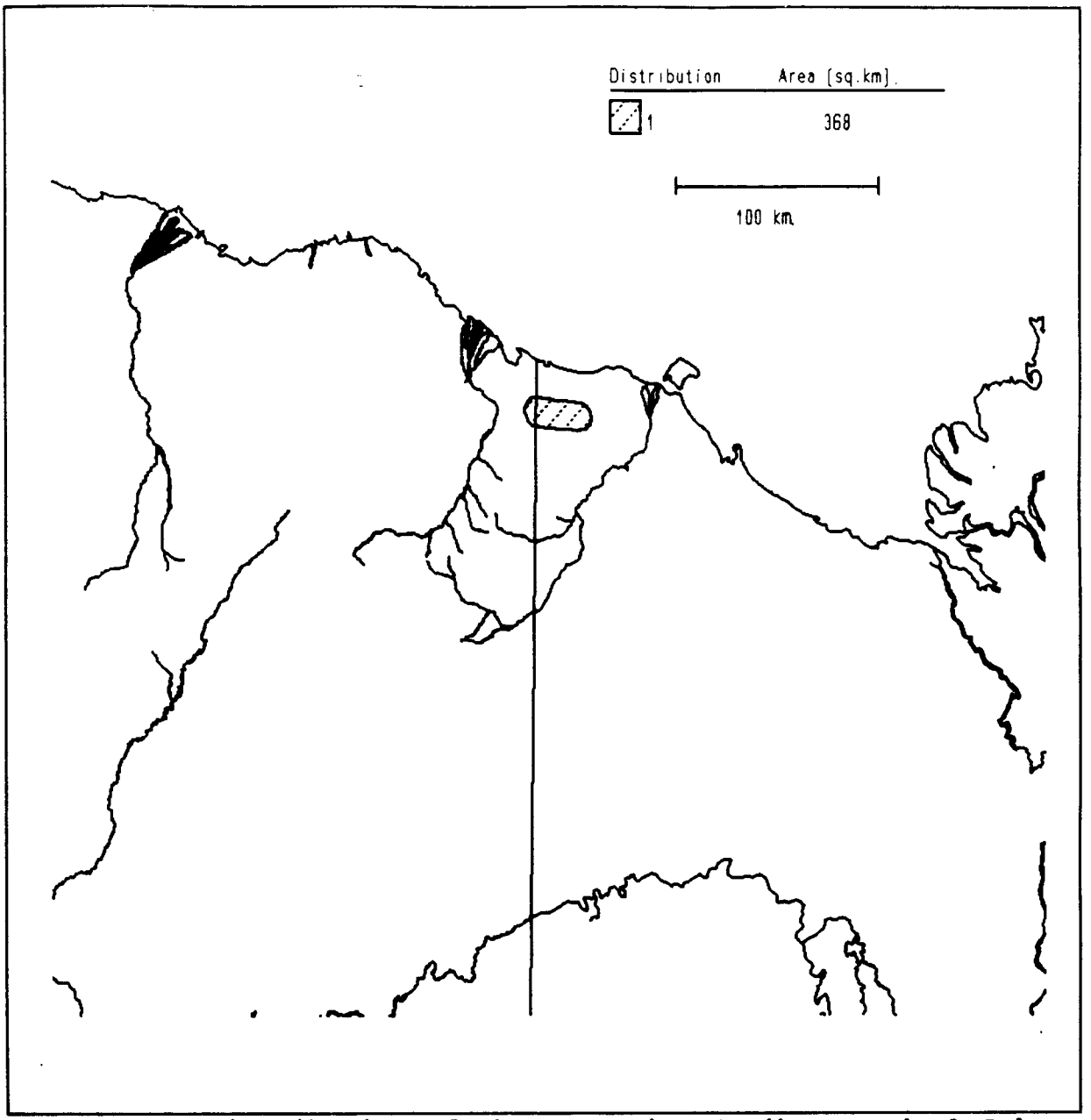

Figure 35. Distribution of the Porcupine Caribou Herd, 9 July 1973.

FIGURE 36: Mid Summer 1973

On 17 July an estimated 60,000 caribou grouped on the high ridges around the confluence of the Blow River and Boulder Creek and entered the Bonnet Lake area by 18 July (Dist.1) where they remained until the end of July.

On 30 July three large herds of caribou (35,000, 25,000 and 5,000) began moving westward out of the northern Driftwood Hills and the western Richardson Mountains. On 1 August approximately 90,000 caribou were observed moving rapidly westward from Johnson Creek, across the Old Crow Plains and into Alaska (not shown). An estimated 4,000 caribou remained in the Driftwood Hills and northern Richardson Mountains.

References:

Surrendi, D. C. and E. A. Debock. 1976.

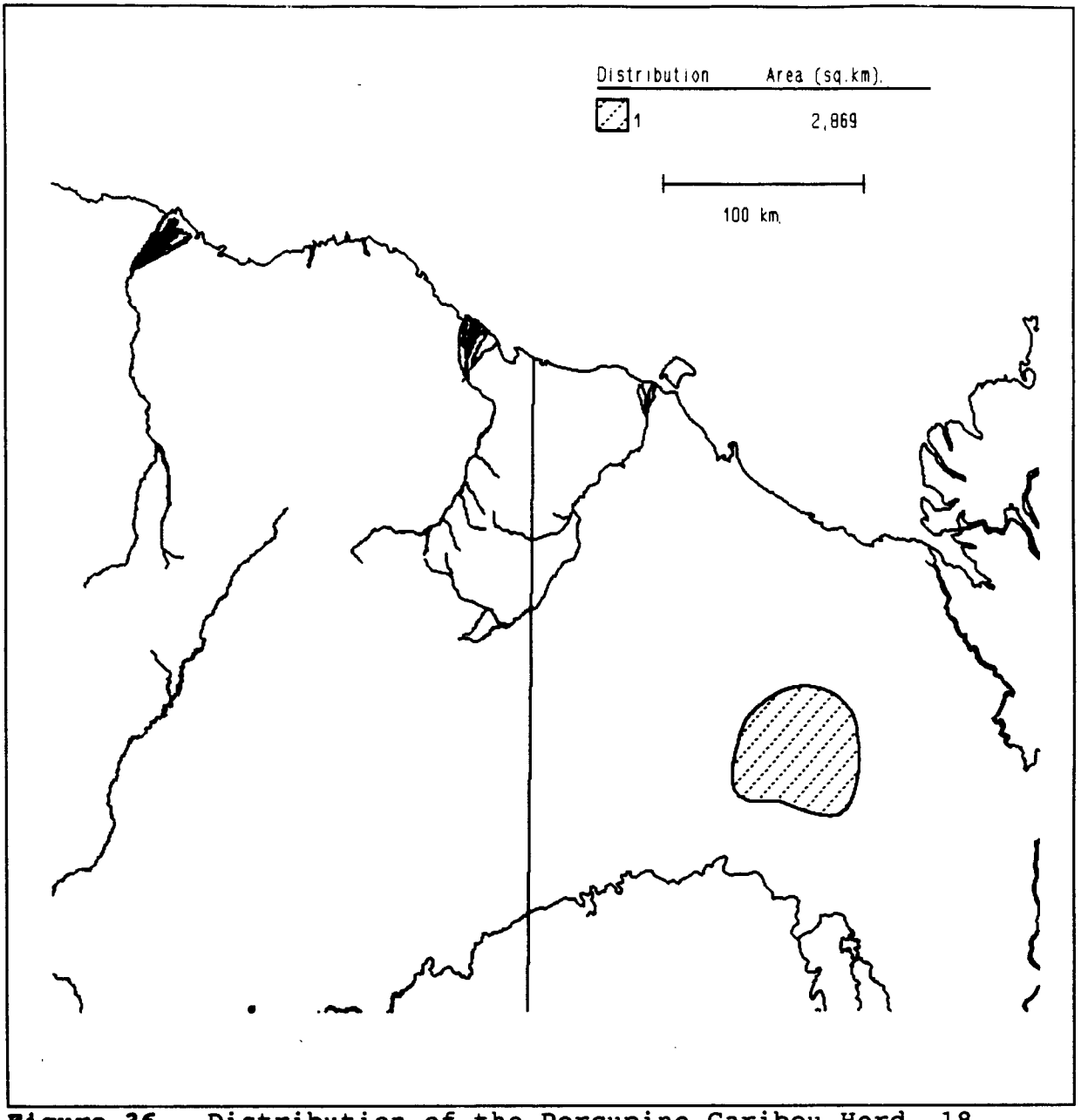

Figure 36. Distribution of the Porcupine Caribou Herd, 18 July - 3 August 1973.

FIGURE 37: Late Summer 1973

An estimated 20,000 caribou remained in the Yukon after the majority of the Porcupine caribou herd moved back into Alaska in early August. Approximately 15,000 were in the northern Richardson Mountains (Dist. 1). Scattered individuals were located in the Barn Range, Driftwood Hills, and the Old Crow Range (not shown).

References:

Doll, D., W. P. McCrory and J. D. Feist. 1974.

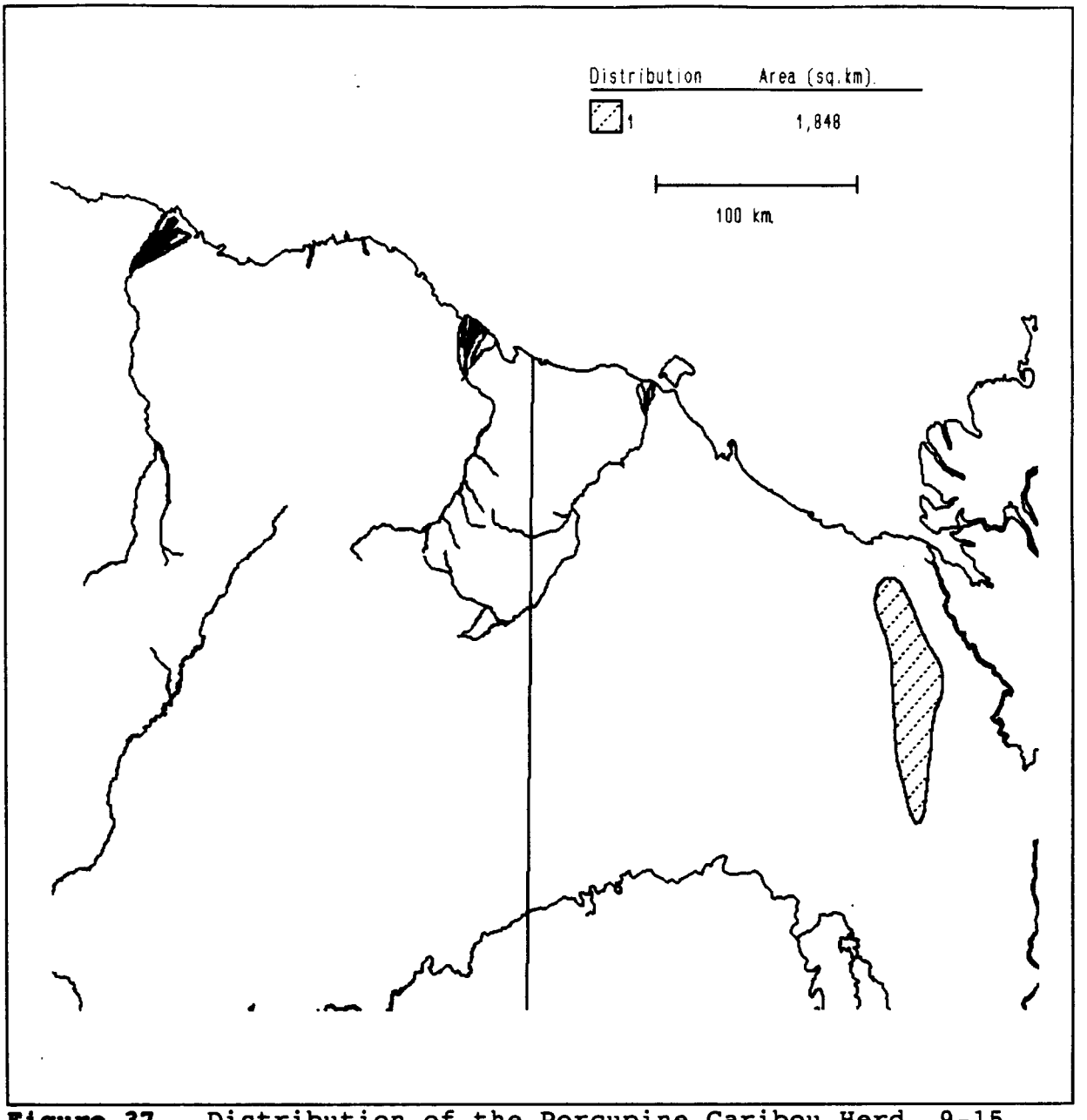

Figure 37. Distribution of the Porcupine Caribou Herd, 9-15 August 1973.

FIGURE 38: Late Fall 1973

The PCH was observed using 5 general wintering areas, according to data collected by several agencies. The majority of the herd was widely dispersed throughout the Peel River drainage (Dist 5, 40,000-60,000)) and the Tatonduk River Drainage (Dist. 4, 15,000-20,000). Smaller groups were found in the Richardson Mountains (Dist 2, 4,000-7,500) and the northern Eagle Plains (Dist 3, 5,000). An estimated 10,000 caribou occupied a winter range in the Chandalar River drainage in Alaska (Dist.1).

During the first week in September large numbers of caribou were moving from Alaska into the Yukon.

Note: It is likely that PCH animals in the Peel River drainage were mixed with local Woodland caribou herds.

References:

Surrendi, D. C. and E. A. Debock. 1976.

Doll, D., W. P. McCrory and J. D. Feist. 1974.

Roseneau, D. G., P. Stern and C. Warbelow. 1974.

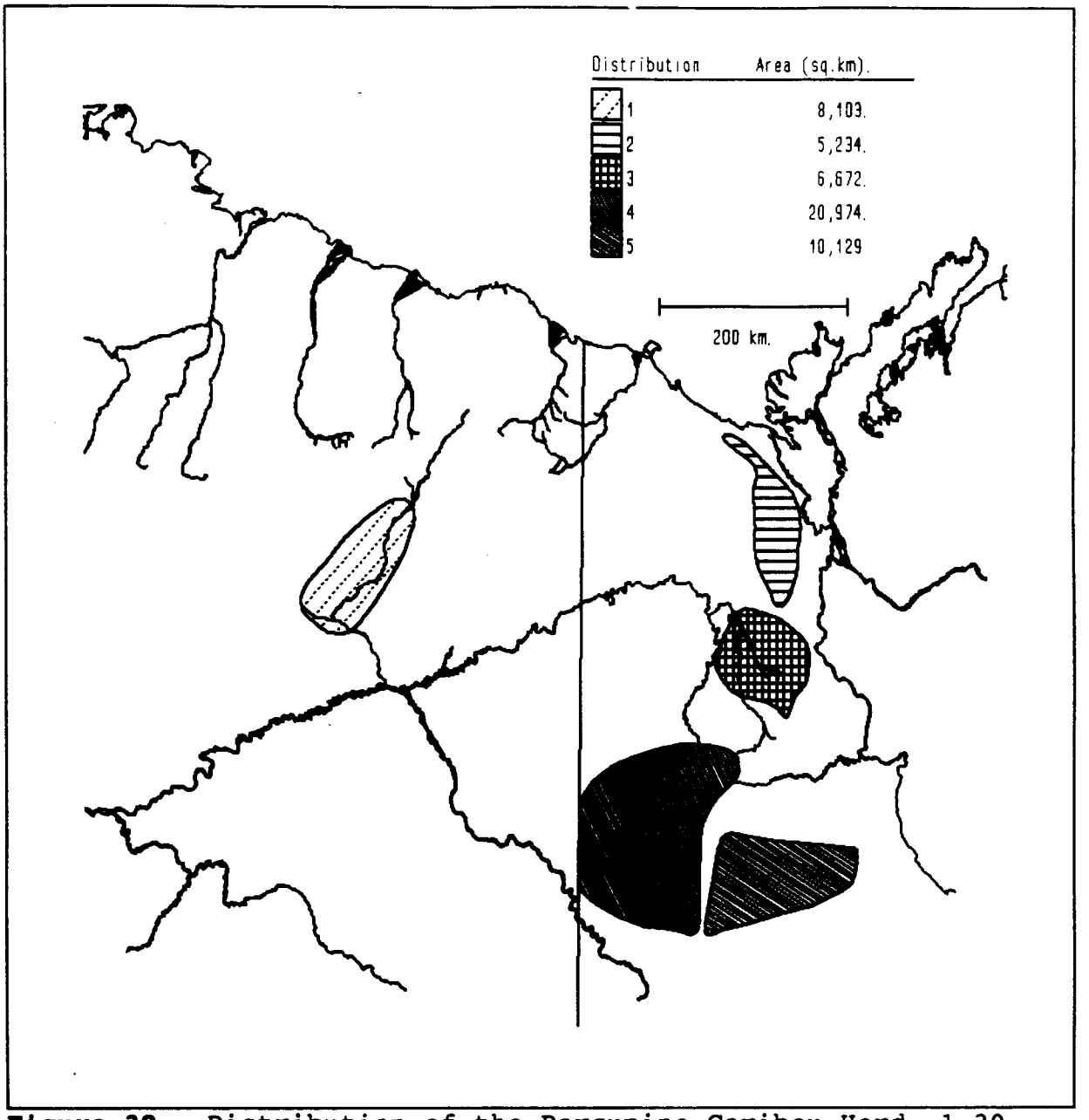

Figure 38. Distribution of the Porcupine Caribou Herd, 1-30 November 1973.

FIGURE 39: Late Winter and Spring 1974

Two reconnaissance surveys were flown in northern Alaska on 1 March. Approximately 10,000 caribou were observed in the Chandalar River area near Arctic Village (Dist. 1).

In the Yukon, aerial surveys were flown during March and the 1-6, 9 and 10 April. Four main wintering areas were found. The majority of the herd was located in the Ogilvie Mountain/Peel River Drainage (Dist 5, ≈55,000). Other areas of concentration included the southern Richardson Mountains (Dist 4, ≈5,000), the Keel Range (Dist 3, ≈5,000), and the coastal plain foothills (Dist 2, ≈5,000). Small groups of caribou were scattered throughout the central and northern Yukon. It appeared that during March and April caribou began to concentrate in the three most southern of the five major wintering areas.

References:

Roseneau, D. G., J. Curatolo and G. Moore. 1975.

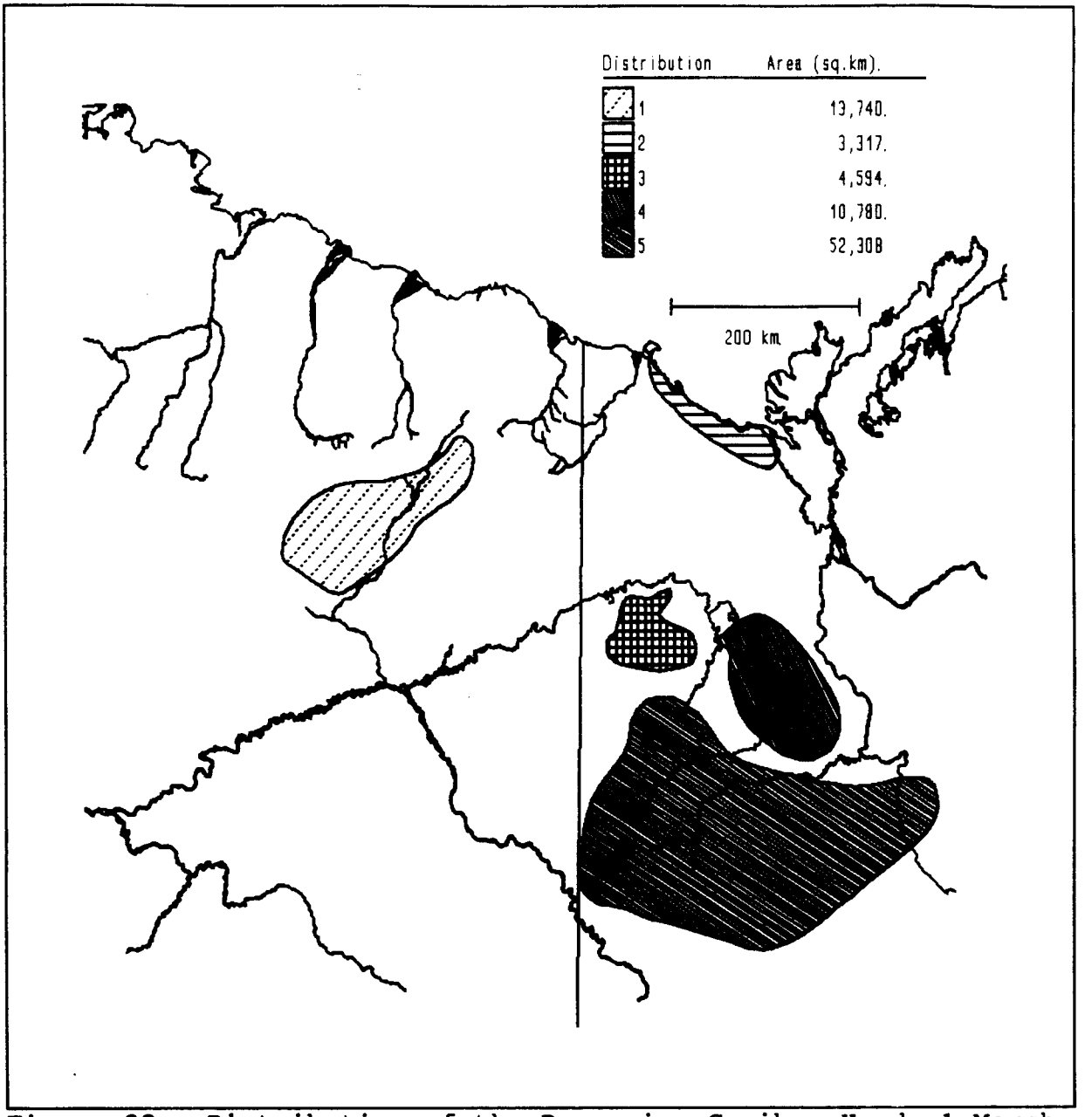

Figure 39. Distribution of the Porcupine Caribou Herd, 1 March - 11 April 1974.

FIGURE 40: Mid Summer 1974

Post-calving aggregation (not shown)

Caribou remained on the calving grounds between the Canning and Sadlerochit Rivers from approximately 15 June to 18 July. The area surrounding the Marsh Creek and the Katakturuk River drainages was heavily utilized during late June and early July. Caribou then began a westward drift into the upper Tamayariak River drainage and by 9 July 55,000 to 60,000 caribou were located between the Tamayariak and Canning Rivers. Aggregations had formed by 12 July.

Mid summer

Three survey flights were conducted on the 2-3 August covering much of the northern range of the PCH (north of the Porcupine River). Four concentrated groups of caribou were observed, in the Cottonwood Creek drainage, Berry Creek headwaters and two near Bonnet Lake (Dist 1, ≈25,500). All groups appeared to be travelling northeast.

References:

Roseneau, D. G., J. Curatolo and G. Moore. 1975.

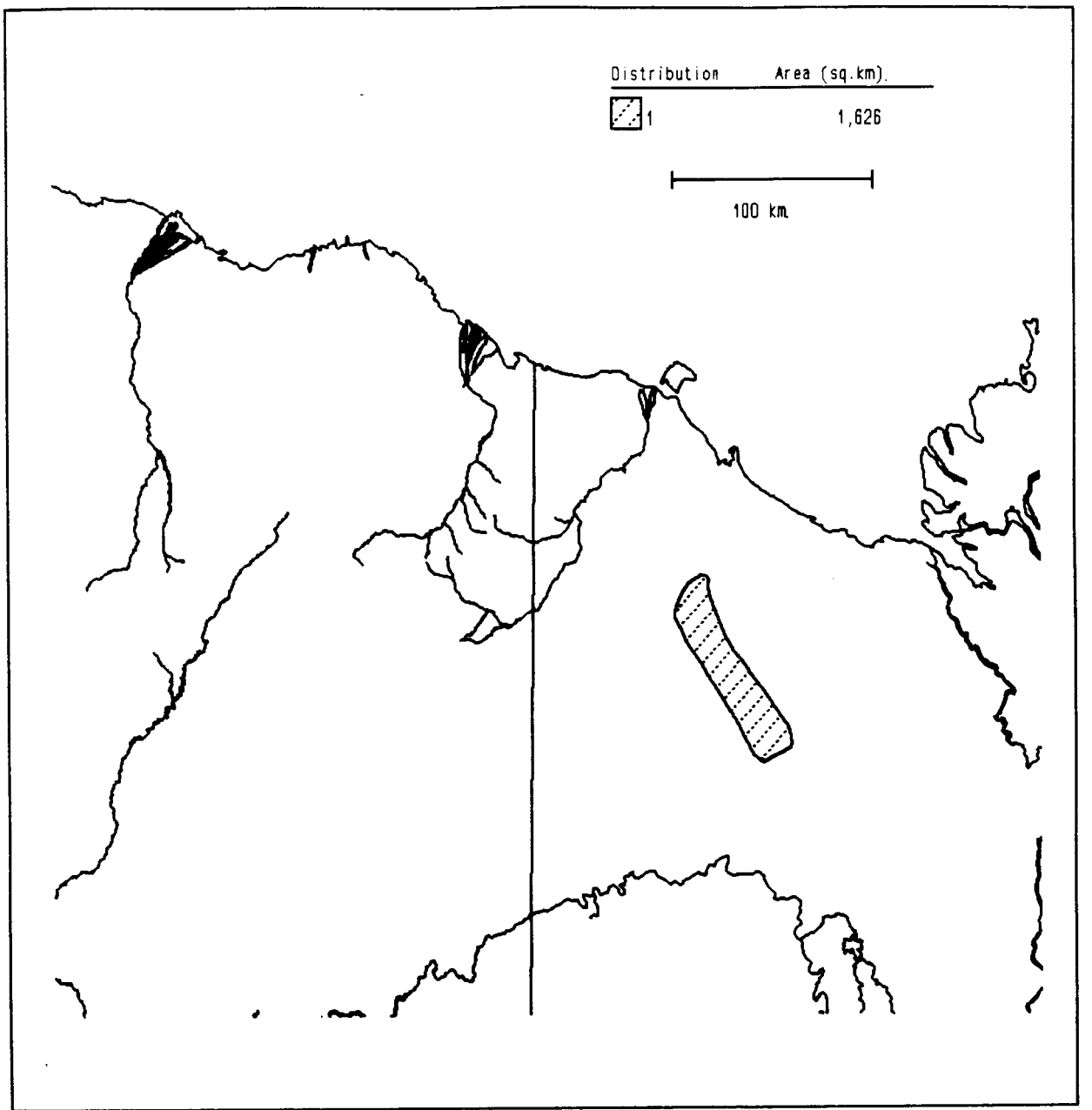

Figure 40. Distribution of the Porcupine Caribou Herd, 2-3 August 1974.

FIGURE 41: Late Summer 1974

By 21 of August large numbers of caribou began arriving from the east and northeast at Arctic Village, Alaska, suggesting that caribou in the Yukon moved west from their early August locations. Approximately 200-300 bulls, cows and calves were observed in the Richardson Mountains west of Coalmine Lake on 21 August (not shown).

References:

Roseneau, D. G., J. Curatolo and G. Moore. 1975.

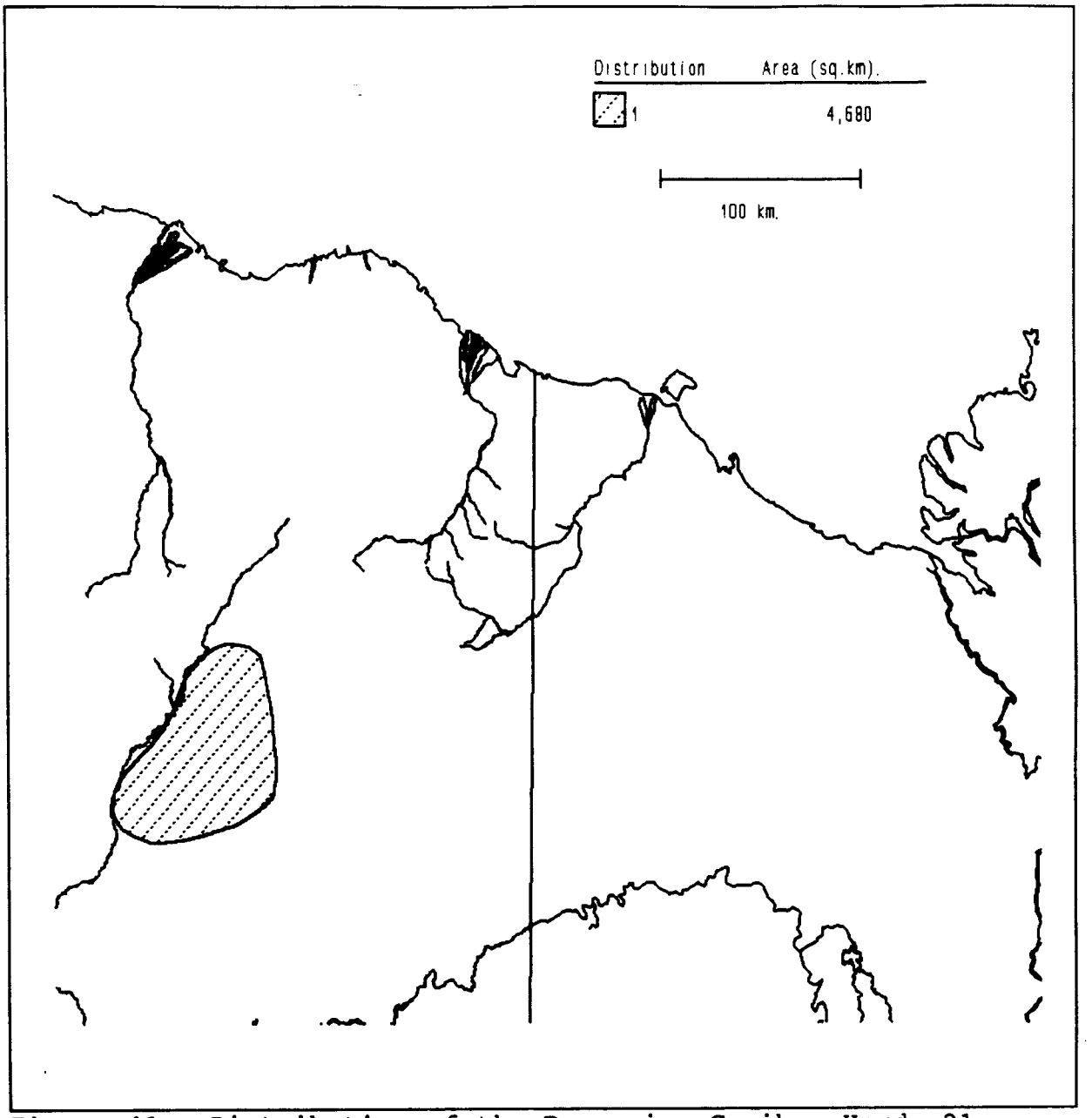

Figure 41. Distribution of the Porcupine Caribou Herd, 21 August 1974.

FIGURE 42: Fall Migration 1974

Aerial surveys conducted in September and October in Alaska and Yukon failed to locate any large concentrations of caribou although many small groups were found. In general, caribou were scattered throughout the northern part of the range in groups ranging from 5 to 3,500 animals. Documented observations have many caribou dispersing west as far as Arctic Village during August, then east into the Yukon in early September and then west again into the Chandalar River drainage wintering area in Alaska in early October (≈10,000-15,000 animals, not shown).

In the Yukon caribou were observed in the northern Richardson Mountains and along the Bell River throughout September and October. Caribou did not cross the Dempster Highway in the fall of 1974. An outfitter reported up to 50,000 caribou in the area immediately east of the Alaska/Yukon border (Dist.1) during late September and October.

References:

Roseneau, D. G., J. Curatolo and G. Moore. 1975.

Roseneau, D. G. and F. A. Curatolo. 1976.

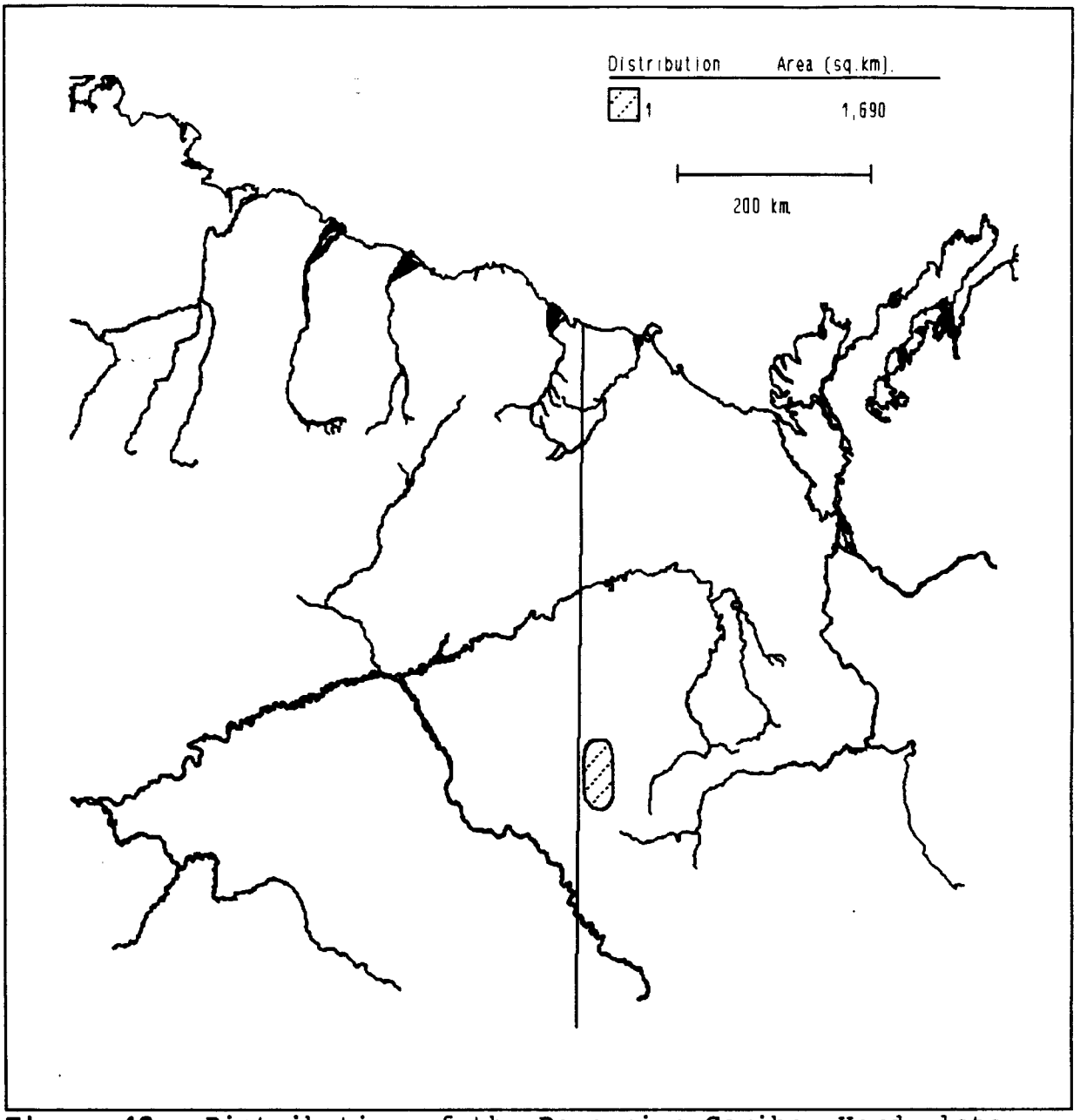

Figure 42. Distribution of the Porcupine Caribou Herd, late September - October 1974.

FIGURE 43: Mid-Late Winter and Spring 1975

On 26-27 February and 26-30 March ADF&G and USFWS conducted surveys which helped determine the numbers and location of caribou that wintered in Alaska. They estimated that between 4,000 and 10,000 caribou wintered in the Chandalar River and upper Sheenjek River drainages (Dist. 1).

In the Yukon, surveys flown from 22 to 24 April suggested that approximately 10,000 caribou wintered in the area north of Rat Pass in the north Richardson Mountains (Dist. 2). Caribou were also found in scattered bands in the south Richardson Mountains though not in the numbers that they were found in the north. It appeared that few animals wintered in the Ogilvie Mountain, the Tatonduk River area or the Keele Range.

References:

Roseneau, D. G. and F. A. Curatolo. 1976.

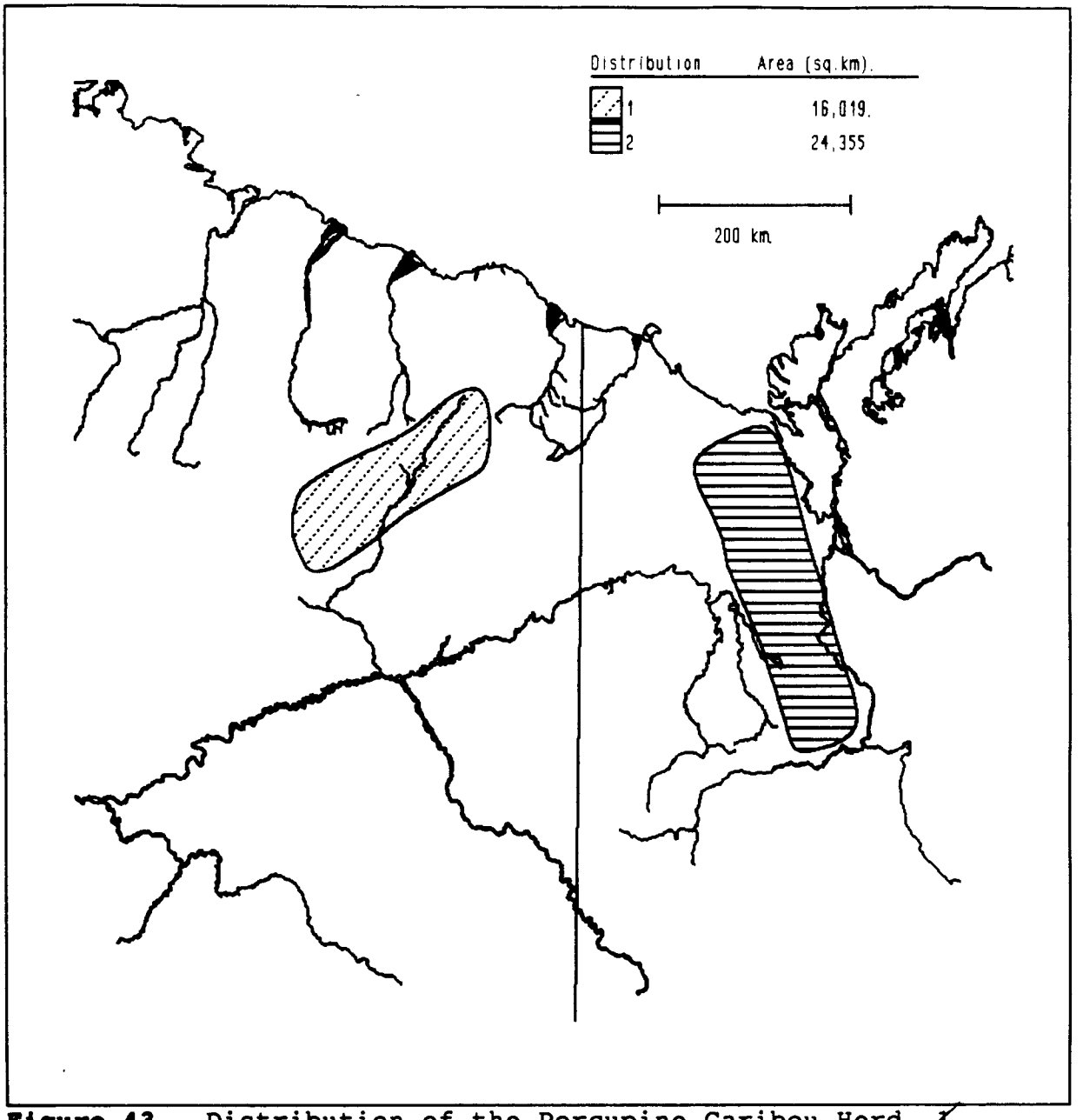

Figure 43. Distribution of the Porcupine Caribou Herd, 1 December 1974 - 31 March 1975.

FIGURE 44: Movement 1975

After the calving period caribou were loosely distributed over several portions of the eastern Arctic slope. Individuals and small groups were scattered over the area north of the Brooks Range and east of the Canning River. An extensive survey flight on 30 June located three loosely aggregated concentrations of caribou totalling an estimated 22,000 to 32,000 animals within a few kilometres of the coast between Carter Creek and the Hulahula River (Dist 1). Another concentration, estimated at 35,000 to 50,000 animals, was about 16 to 26 kilometres from the coast scattered from the Jago River to east of the Niguanak River (Dist. 2).

References:

Roseneau, D. G. and F. A. Curatolo. 1976.

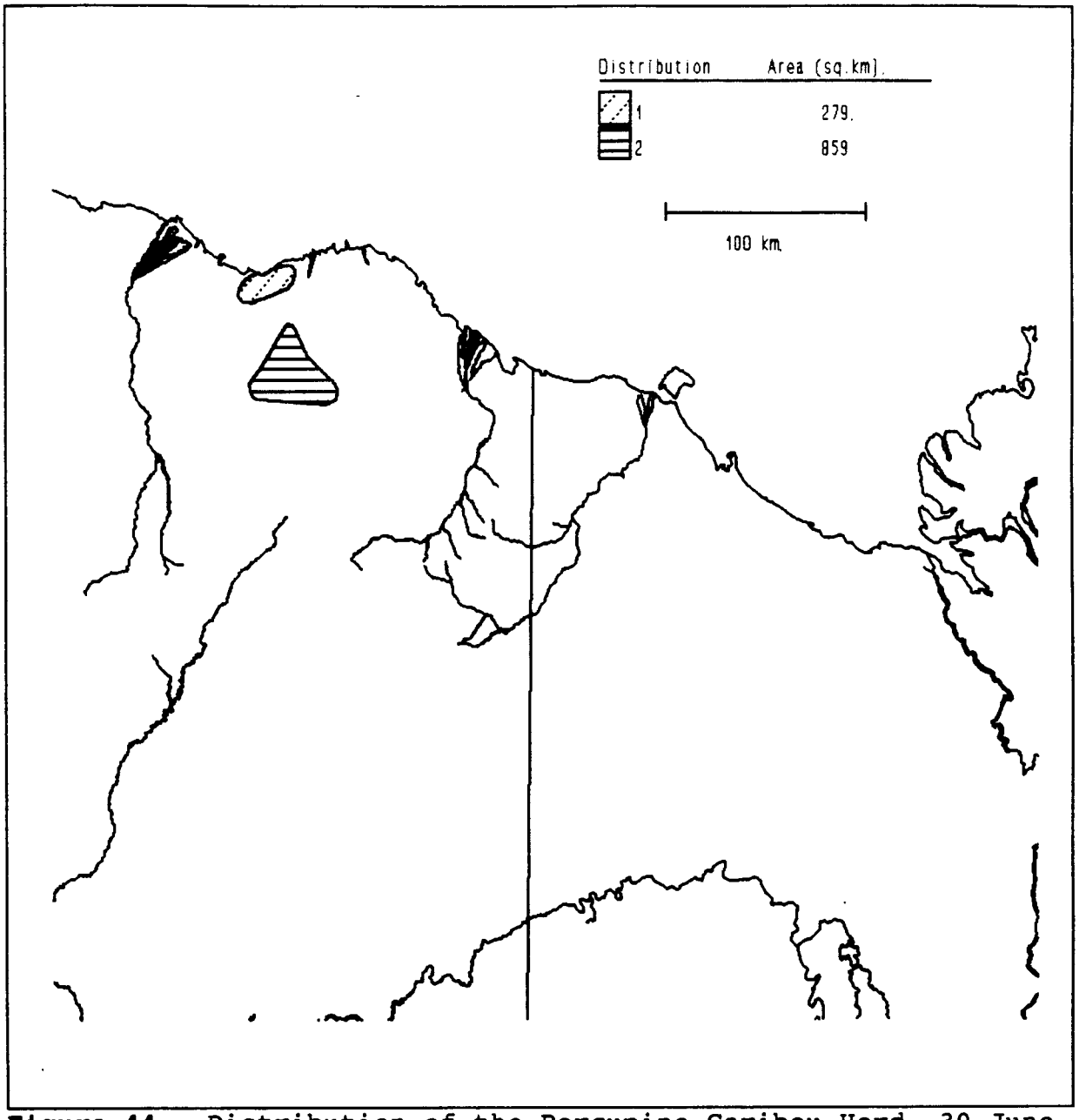

Figure 44. Distribution of the Porcupine Caribou Herd, 30 June 1975.

FIGURE 45: Mid Summer 1975

Survey flights in the Yukon on 2, 3, 4 August observed caribou moving from the Richardson Mountains-Driftwood River region northwest along the southern edge of the British Mountains and into Alaska. On 3 August an estimated 25,000 to 30,000 animals were well dispersed between the Coleen River and the Alaska/Yukon border (Dist.1). A few days later movement continued westward toward Arctic Village. On 10 August the first caribou were observed near Arctic Village.

References:

Roseneau, D. G. and F. A. Curatolo. 1976.

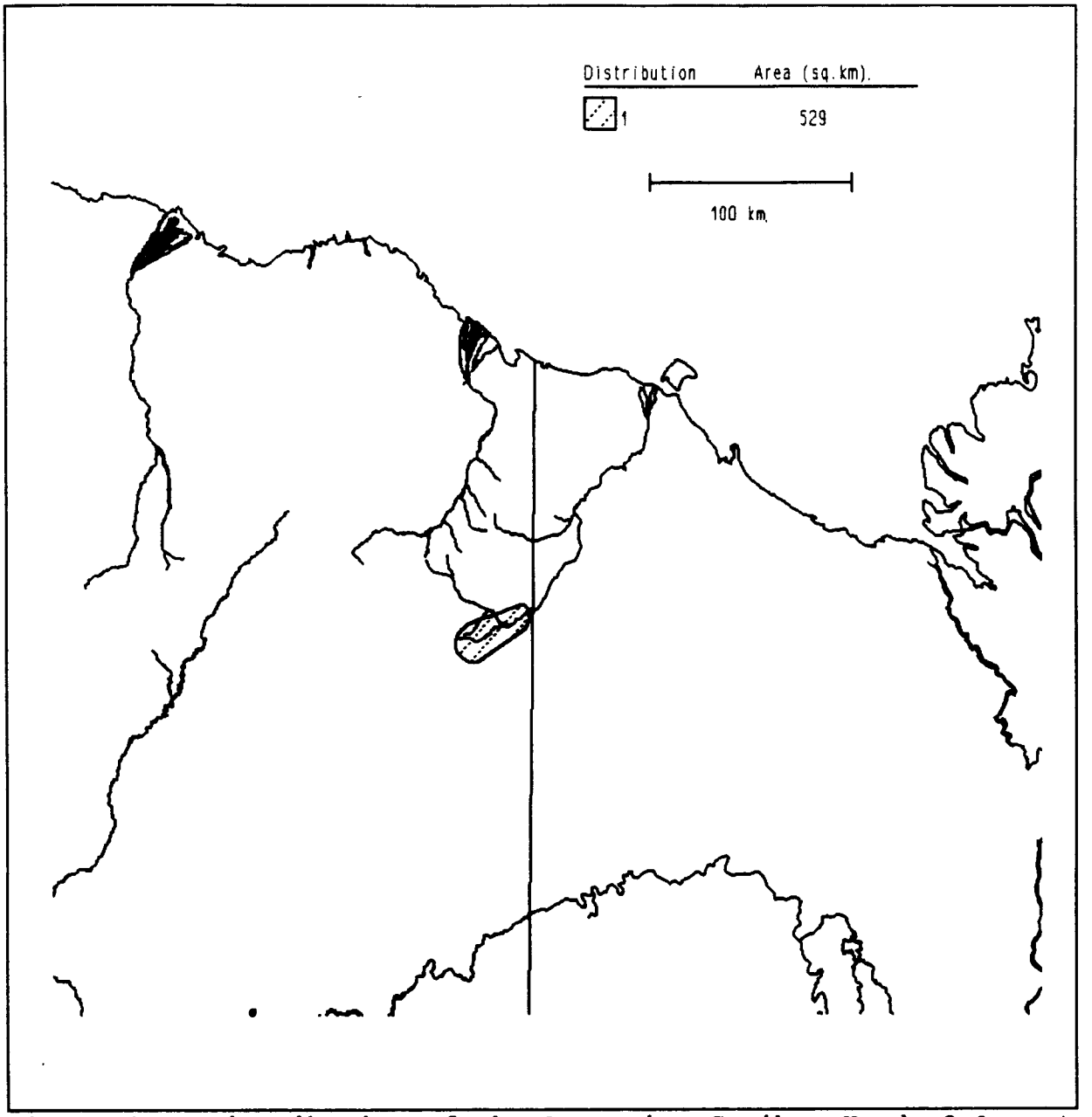

Figure 45. Distribution of the Porcupine Caribou Herd, 2 August 1975.

FIGURE 46: Late Fall, Early Winter, Mid Winter 75/76

In the Yukon a few thousand caribou wintered in the hills north of Old Crow (Dist.1). The majority of the herd wintered between the Porcupine and Pell Rivers (Dist.2). Approximately 1,000 caribou wintered in the Rock River area (not shown) and 3,000 had wintered in Alaska in the Chandalar River area (not shown). A flight along the mid-coastal plain from Inuvik to Shingle Point and Komakuk during late February did not observe caribou or their sign.

References:

Curatolo, J. A. and D. G. Roseneau. 1977.

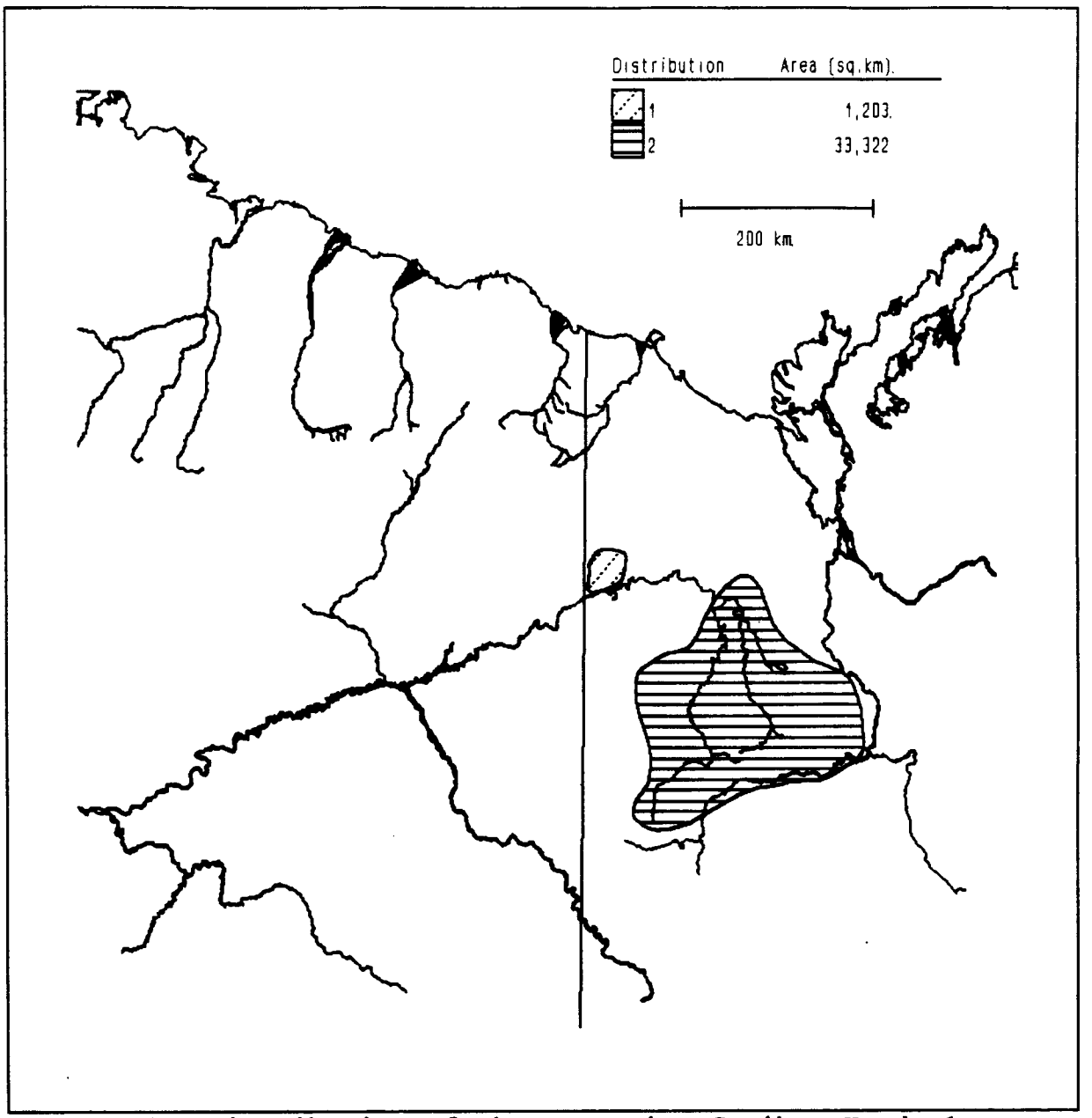

Figure 46. Distribution of the Porcupine Caribou Herd, 1 November 1976 to 20 February 1977.

FIGURE 47: Early Summer 1976

Large coastal post-calving aggregations did not form in Alaska in 1976. Aggregations that did eventually occur were not in one general area and did not form prior to the major eastward post-calving movement of the herd back into the Yukon.

On 11 July three major post-calving aggregations, which included the bull segment of the herd, were moving eastward towards the Driftwood River area (Dist. 1 & 2).

References:

Curatolo, J. A. and D. G. Roseneau. 1977.

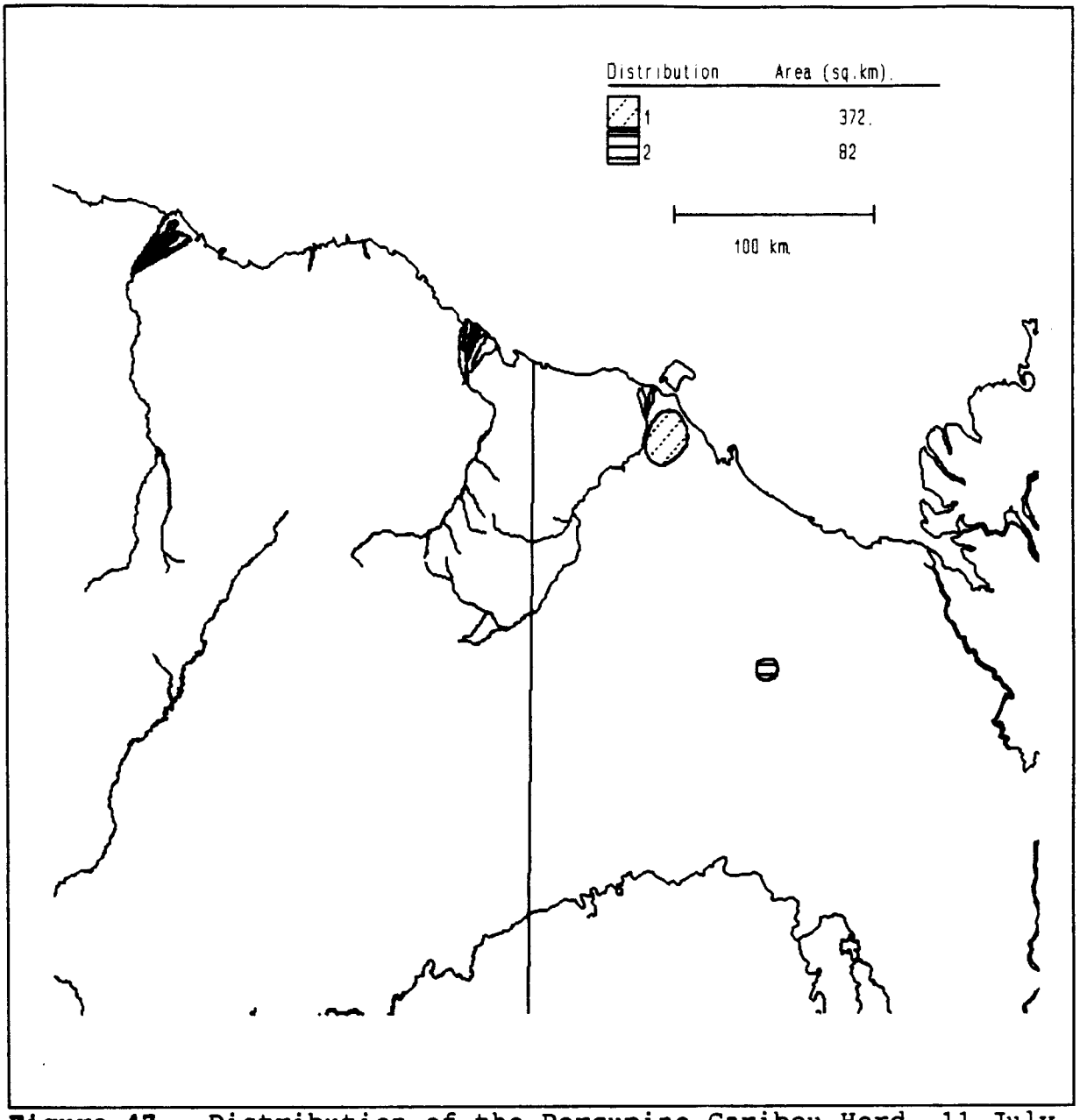

Figure 47. Distribution of the Porcupine Caribou Herd, 11 July 1976.

FIGURE 48: Fall Migration 1976

On the 11 and 12 of September caribou were found scattered from the Arctic coast south across the Porcupine River in small groups not larger than 50 animals (Dist.1). Caribou were more dense in the northern part of the distribution. There appeared to be a slight movement of animals southward.

Small groups of caribou were also crossing the Porcupine River near Old Crow (not shown).

References:

Curatolo, J. A. and D. G. Roseneau. 1977.

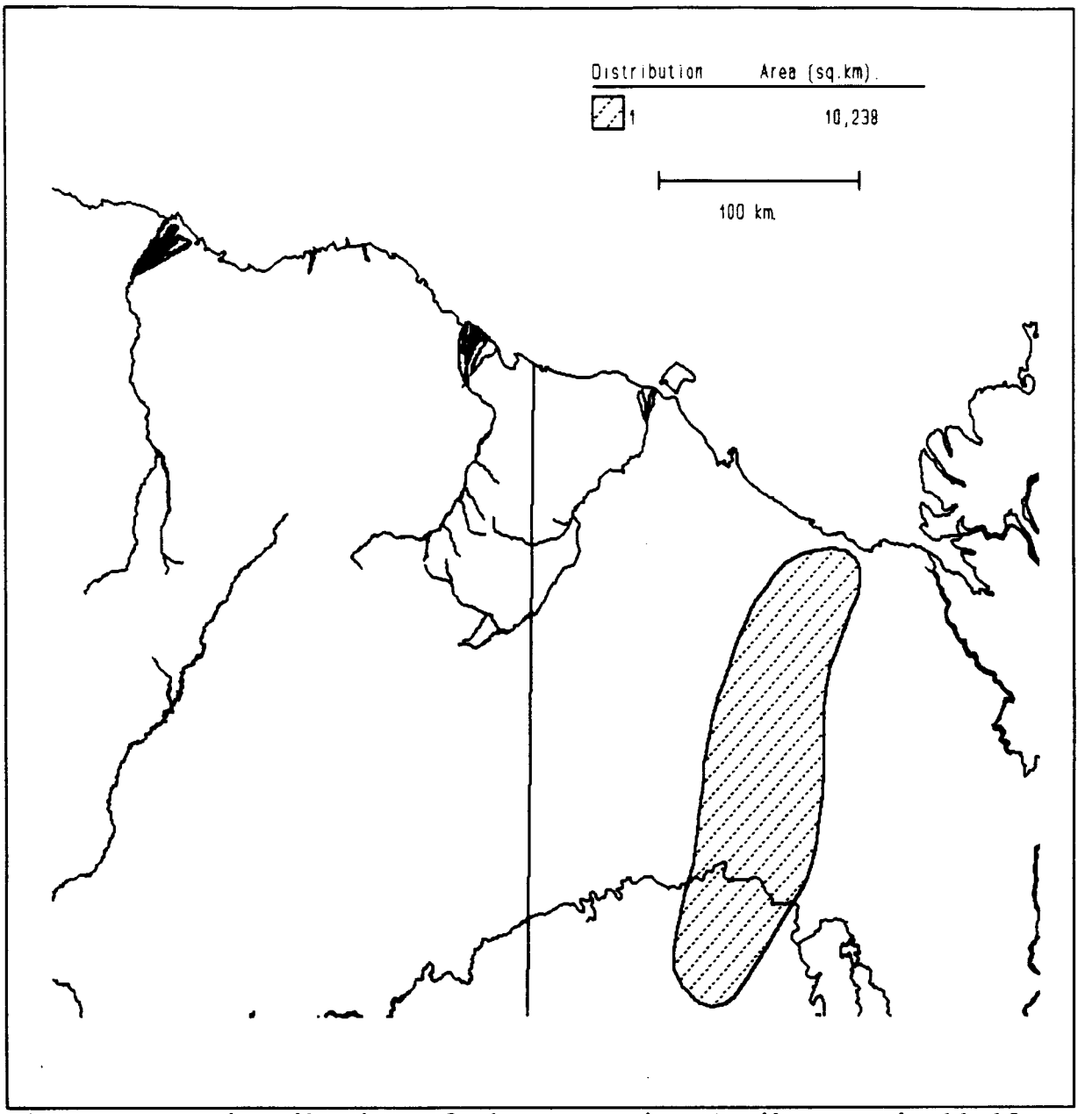

Figure 48. Distribution of the Porcupine Caribou Herd, 11-12 September 1976.

FIGURE 49: Early Winter 1976, Mid and Late Winter 1977

Very few caribou wintered in the Arctic Village area in the winter of 1975/76. Limited amounts of data suggest that the majority of the Porcupine caribou herd wintered in the Porcupine and Peel River drainages.

References:

Curatolo, J. A. and D. G. Roseneau. 1977.

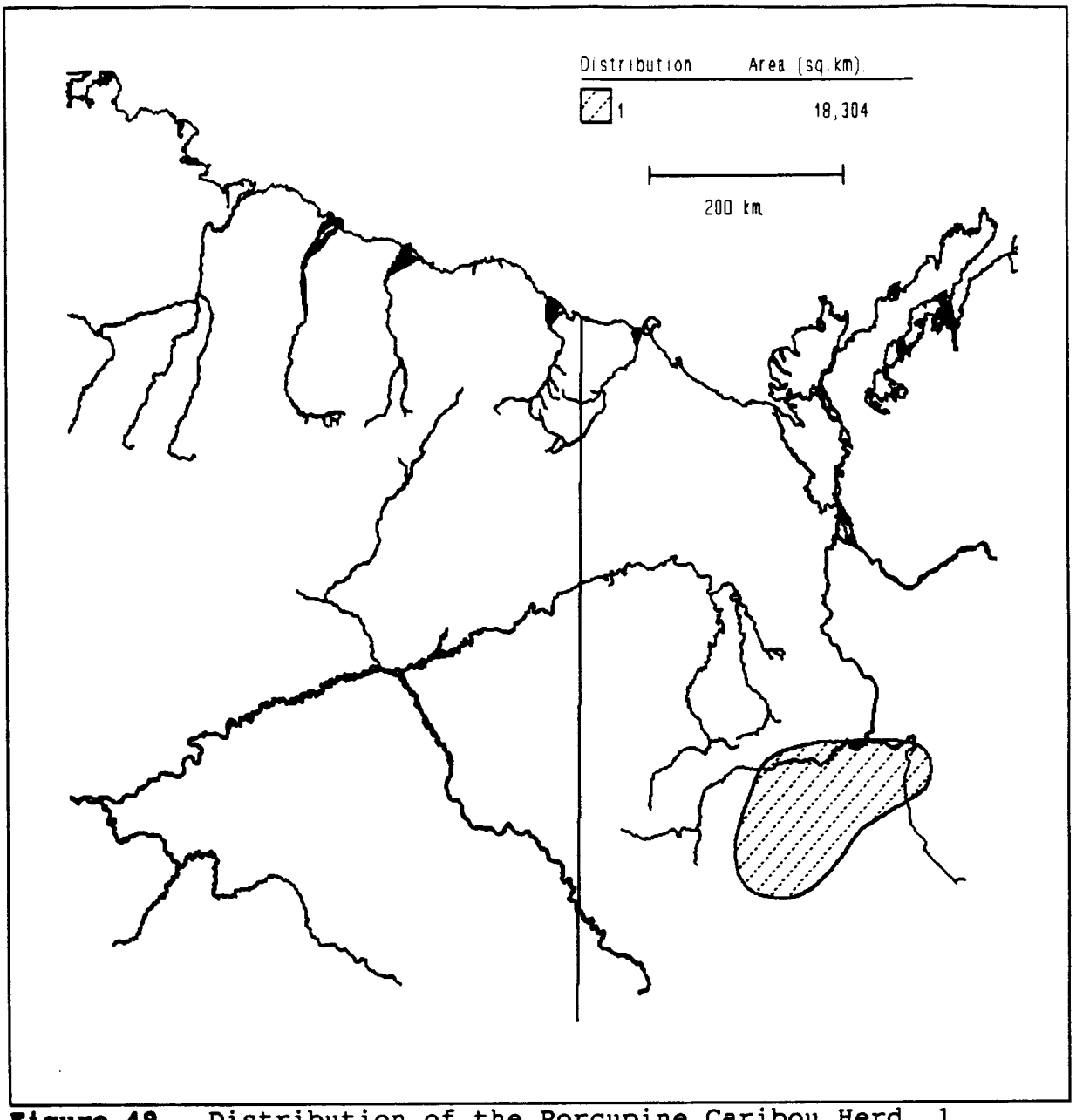

Figure 49. Distribution of the Porcupine Caribou Herd, 1 December 1976 - 31 March 1977.

FIGURE 50: **Mid Summer 1977**

On 24 June cows and calves were observed from the Aichilik River to the Malcolm River. Bull and yearling groups, as well as cows and calves, were observed west of the Firth River on 25 June. Some groups were moving west while others were moving east.

Loose aggregations were located on the 8 and 9 July. The groups moved east to the Aichilik River and then returned west to an area south of Barter Island where a complete aggregation was observed on 18 July (Dist 1).

References:

Bente, P. J. 1977.

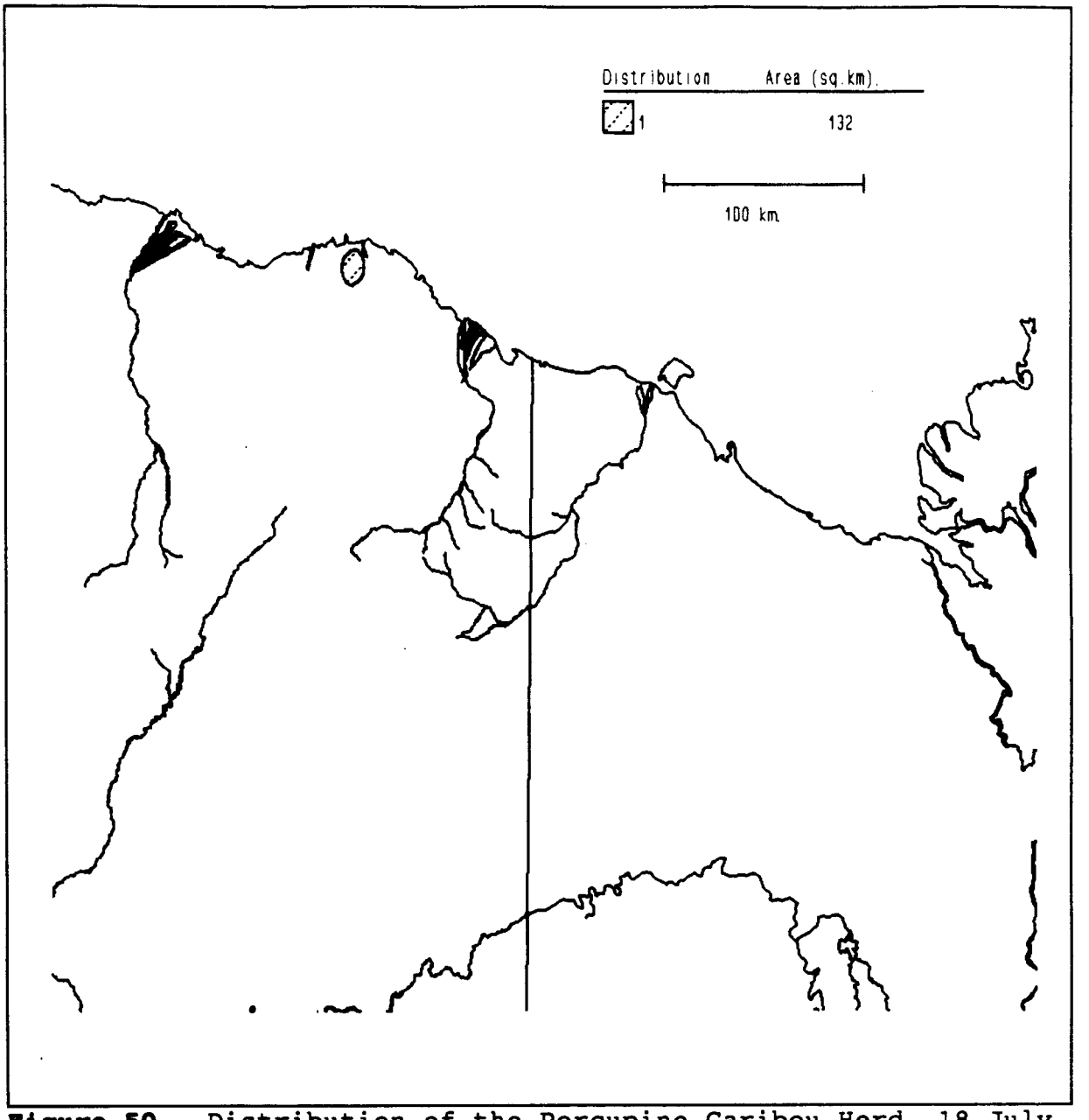

Figure 50. Distribution of the Porcupine Caribou Herd, 18 July 1977.

FIGURE 51: Early Winter 1977/78

Reconnaissance flights flown November 30 and December 1, 1977 found the majority of the PCH wintering in the Yukon, predominantly in the Ogilvie Mountains/Peel River drainage. Caribou were concentrated in two specific areas; the headwaters of the Fishing Branch, Miner and Salmon Fork Rivers of the northwestern Ogilivie Mountains (Dist.1, ≈60,000), and the lower Hart/Blackstone River basin (Dist.2, ≈5,000). Areas of moderate caribou abundance (2,000 to 3,000 caribou) were Eagle Plains, the Tatonduk and Ogilvie River drainages, the lower Snake and Arctic Red Rivers, and the Wind and Bonnet Plume River basins (not shown).

Note: Studies conducted after 1978 have determined that the upper Hart Basin and northern Wernecke Mountains are wintering grounds for resident woodland caribou herds. Winter range overlap between the PCH and resident woodland caribou herds may have occurred in these areas in 1978.

References:

Thompson, D. C. and D. G. Roseneau. 1978.

Farnell, R., C. McEwen and K. Gunter. 1987.

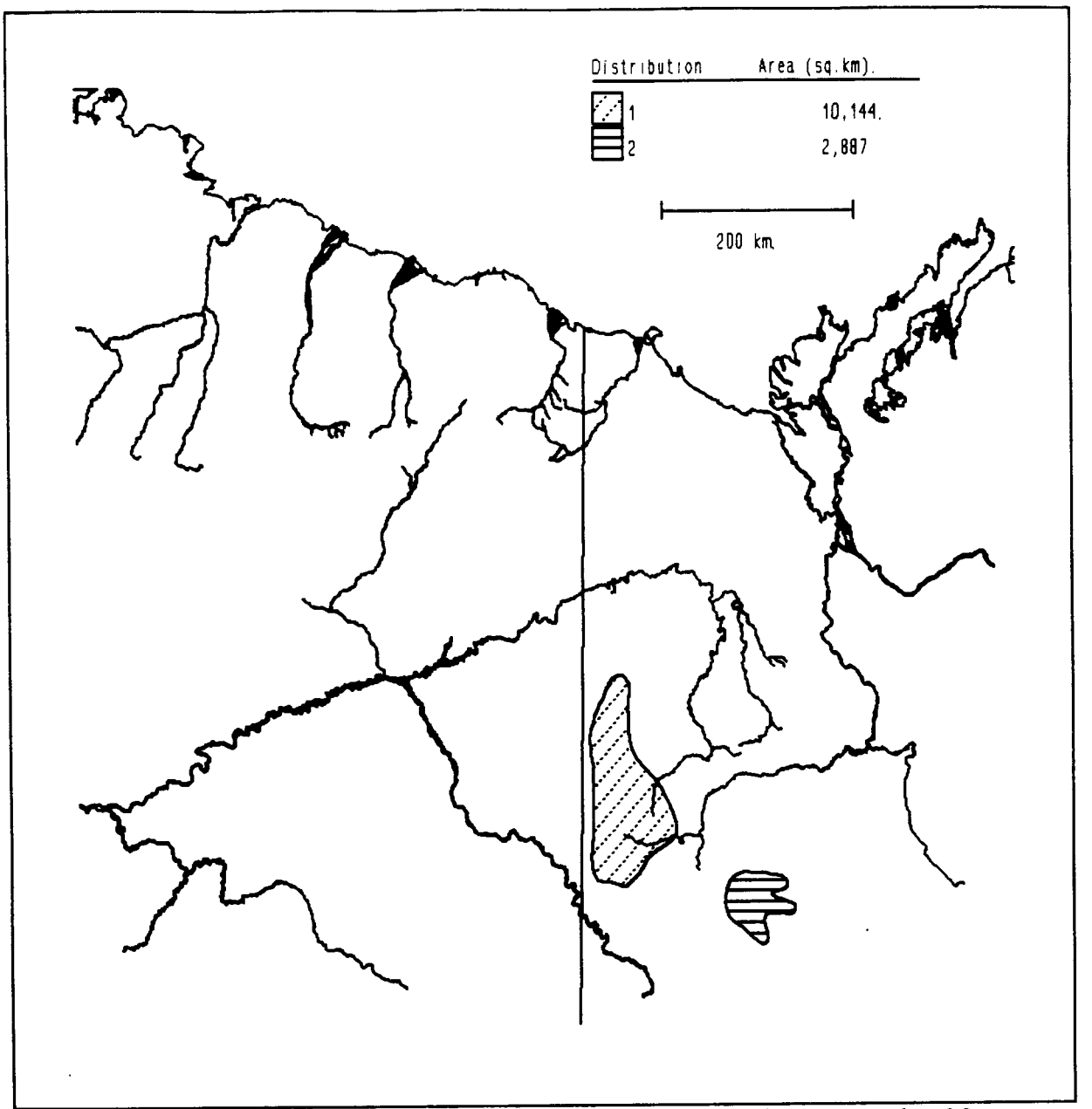

Figure 51. Distribution of the Porcupine Caribou Herd, 30 November - 1 December 1977.

FIGURE 52: Mid and Late Winter 1977/78

Reconnaissance flights were flown throughout the Yukon from 24 January to 31 March. By late January caribou had moved out of the Ogilvie basin and into the Porcupine River drainage, concentrating in the northwestern Ogilvie Mountains (Dist.1, ≈60,000). Caribou east of the Dempster Highway were concentrated in two specific areas; in the Upper Hart Basin (Dist.2, ≈2,500) and in the Lower Hart/Blackstone Basin (Dist.3, ≈5,000). Movement between and out of the basins occurred throughout the winter. Areas of moderate caribou abundance (500 to 2,000 caribou) were Eagle Plains, southern Richardson Mountains, Lower Wind River, Lower and Upper Snake River, North and South Fork Tatonduk River, and the southern slopes of the Ogilvie Mountains east of the Dempster Highway.

Note: Studies conducted after 1978 have determined that the Upper Hart Basin and northern Wernecke Mountains are wintering grounds for resident woodland caribou herds. Winter range overlap between the PCH and resident woodland caribou herds may have occurred in these areas in 1978.

References:

Thompson, D. C. and D. G. Roseneau. 1978.

Farnell, R., C. McEwen and K. Gunter. 1987.

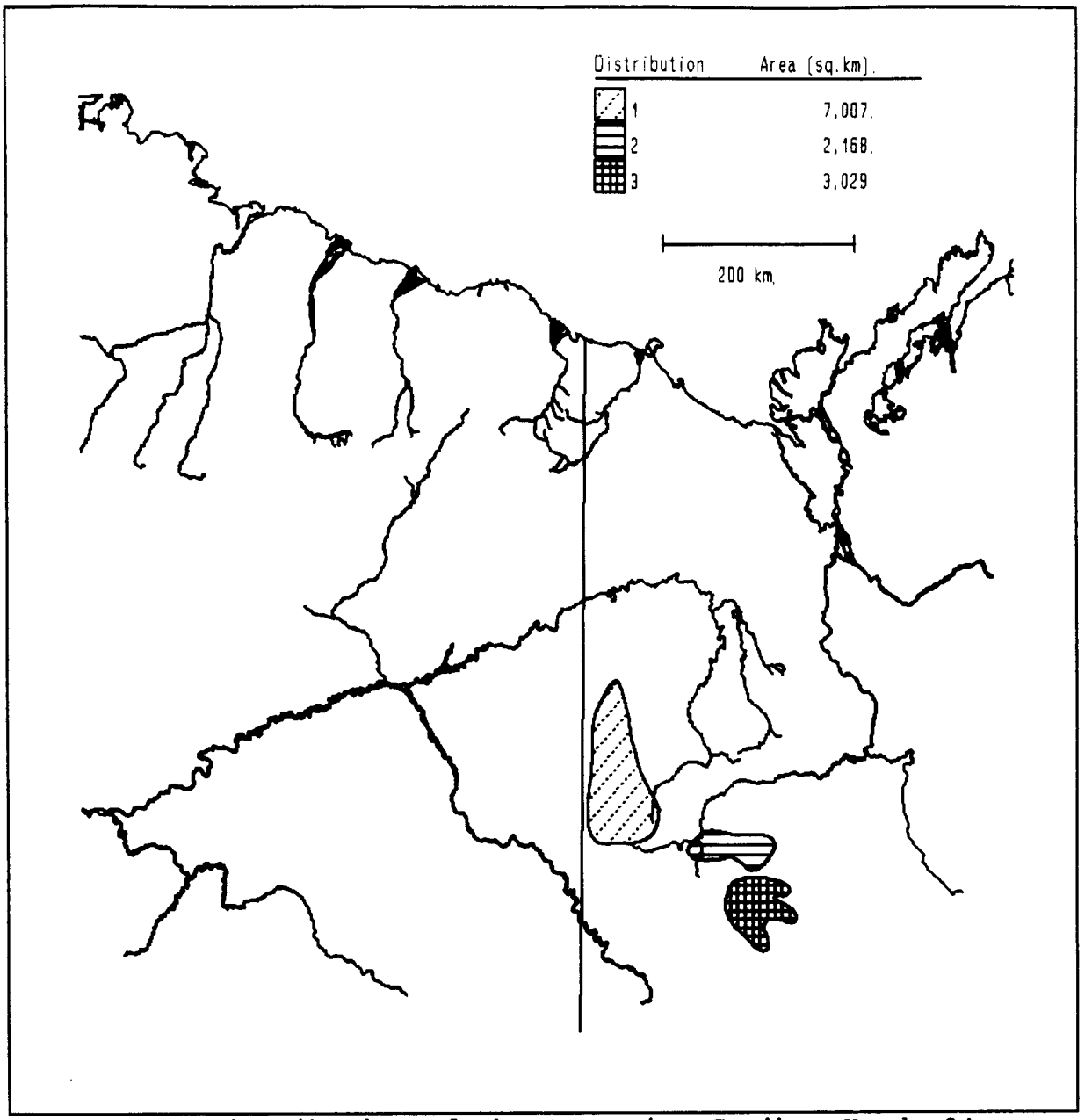

Figure 52. Distribution of the Porcupine Caribou Herd, 24 January - 31 March 1978.

FIGURE 53: Early Summer 1978

Surveys flown between July 5 and August 3 covered most of the home range of the PCH north of the Porcupine River, Rat Pass and the heads of the Coleen and Sheenjek Rivers.
In Alaska, large post-calving herds composed almost entirely of cows and calves were located between the Aichilik and Kongakut Rivers on the north slope of the coastal plain (Dist.1, ≈50,000). An estimated 50,000+ caribou in four large herds moved in an easterly direction towards the Yukon border and parallel to the Arctic coastline.

During early July most of the bull/yearling segment of the PCH was located in the Yukon (Dist.2, ≈30,000) and only beginning to form large post-calving aggregations. Small groups of up to 250 bulls and yearlings with a few cows and calves were scattered from west of the international border to the Babbage River, drifting westward along the coastal plain. Large aggregations (5,000+) were located in the northern Barn Range near Anker Creek and Sleepy Mountain and on the north slope along the Babbage River. These herds converged on the lower Babbage River and continued to move generally northwest, merging with the smaller groups along the coastal plain. There were an estimated 30,000+ caribou in the Yukon at this time.

References:

Farnell, R., C. McEwen and K. Gunter. 1987.

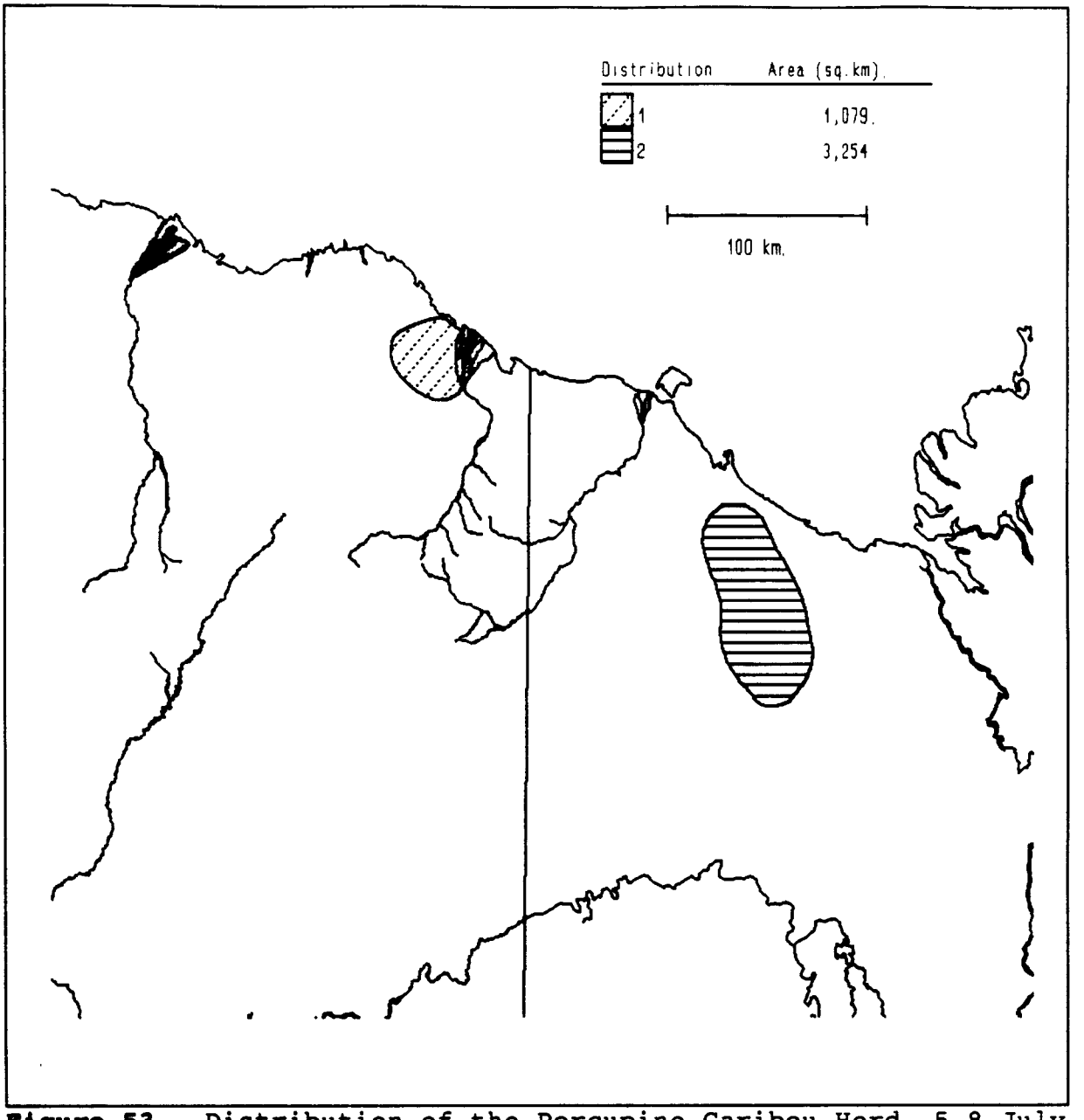

Figure 53. Distribution of the Porcupine Caribou Herd, 5-8 July 1978.

FIGURE 54: Early Summer 1978

Surveys flown between July 5 and August 3 covered most of the home range of the PCH north of the Porcupine River, Rat Pass and the heads of the Coleen and Sheenjek Rivers.

In Alaska, the large post-calving cow-calf herds continued their easterly movement and began to cross the border into the Yukon (Dist.1, ≈50,000).

During mid July all of the large bull-yearling post-calving aggregations in the Yukon, with the exception of one herd, were located along the north slope between the Babbage and Firth Rivers (Dist.2, ≈24,000). On July 12 a bull-yearling herd of ≈6,000 caribou fragmented from the north slope area and moved south up the drainage of Okpioyual Creek and across the headwaters of the Spring River.

References:

Farnell, R., C. McEwen and K. Guenter. 1987.

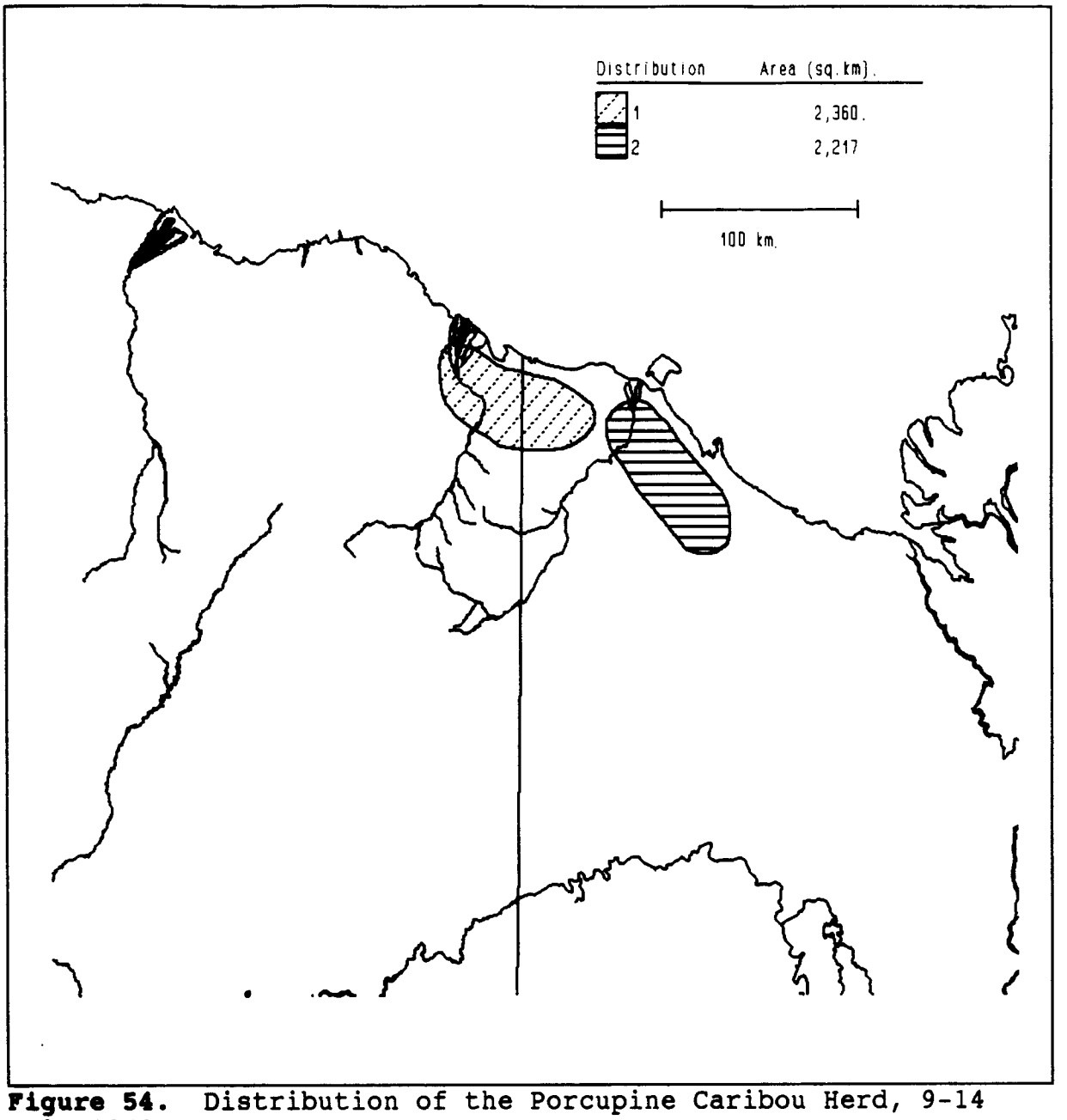

Figure 54. Distribution of the Porcupine Caribou Herd, 9-14 July 1978.

FIGURE 55: Mid Summer 1978

Surveys flown between 5 July and 3 August covered most of the home range of the PCH north of the Porcupine River, Rat Pass and the heads of the Coleen and Sheenjek Rivers.

On 14 and 15 July the bull-yearling and cow-calf segments of the PCH converged along the delta of the Firth and Malcolm Rivers and began moving southwest (Dist.1, ≈80,000). During late July the majority of this post-calving aggregation continued to move southwest into the head of the Firth River in Alaska. During late July the majority of the post-calving aggregations moved south to the head of the Firth river and then west into Alaska across the Coleen and Sheenjek river south of the Brooks Range. On 26 July this aggregation joined a bull-yearling herd of ≈6,000 caribou which had moved southwest to the head of Monument Creek in Alaska from the head of the Crow River in the Yukon.

Two herds totalling about 15,000 caribou did not move into Alaska with the majority of the PCH. On 25 July one herd of an estimated 10,000 caribou, of mixed age and sex composition, was located north of Cottonwood Creek and west of the Babbage River in the Yukon (not shown). On 26 July another mixed herd of 1,300 caribou was found in the head of Muskeg Creek (not shown). Both herds continued to move southeast to the head of the Bell River and into the Richardson Mountains.

References:

Farnell, R., C. McEwen and K. Guenter. 1987

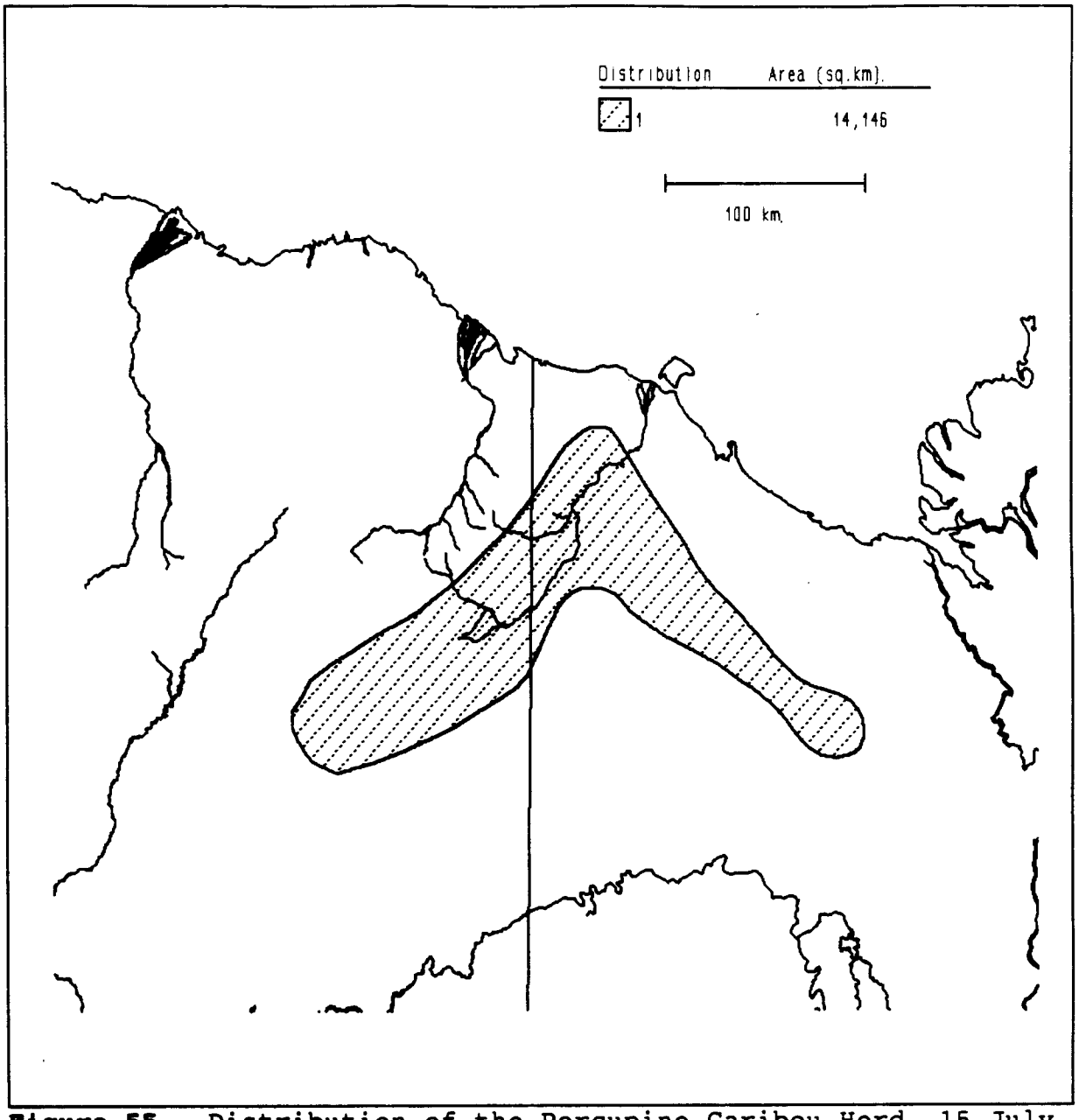

Figure 55. Distribution of the Porcupine Caribou Herd, 15 July - 3 August 1978.

FIGURE 56: Late Summer 1978

Surveys were flown from 23 to 28 August. The distribution of caribou in the Yukon (Dist.1) was centred in the northern Richardson Mountains where caribou were located in small, scattered groups (Dist.2). A slow movement out of Alaska was occurring from the head of the Firth River southeast to the Babbage River and Barn Mountain Range. There were 15,000 to 20,000 caribou in the Yukon at this time.

Dist.1. = outer limit of distribution
Dist.2 = area of concentration

References:

Farnell, R., C. McEwen and K. Guenter. 1987.

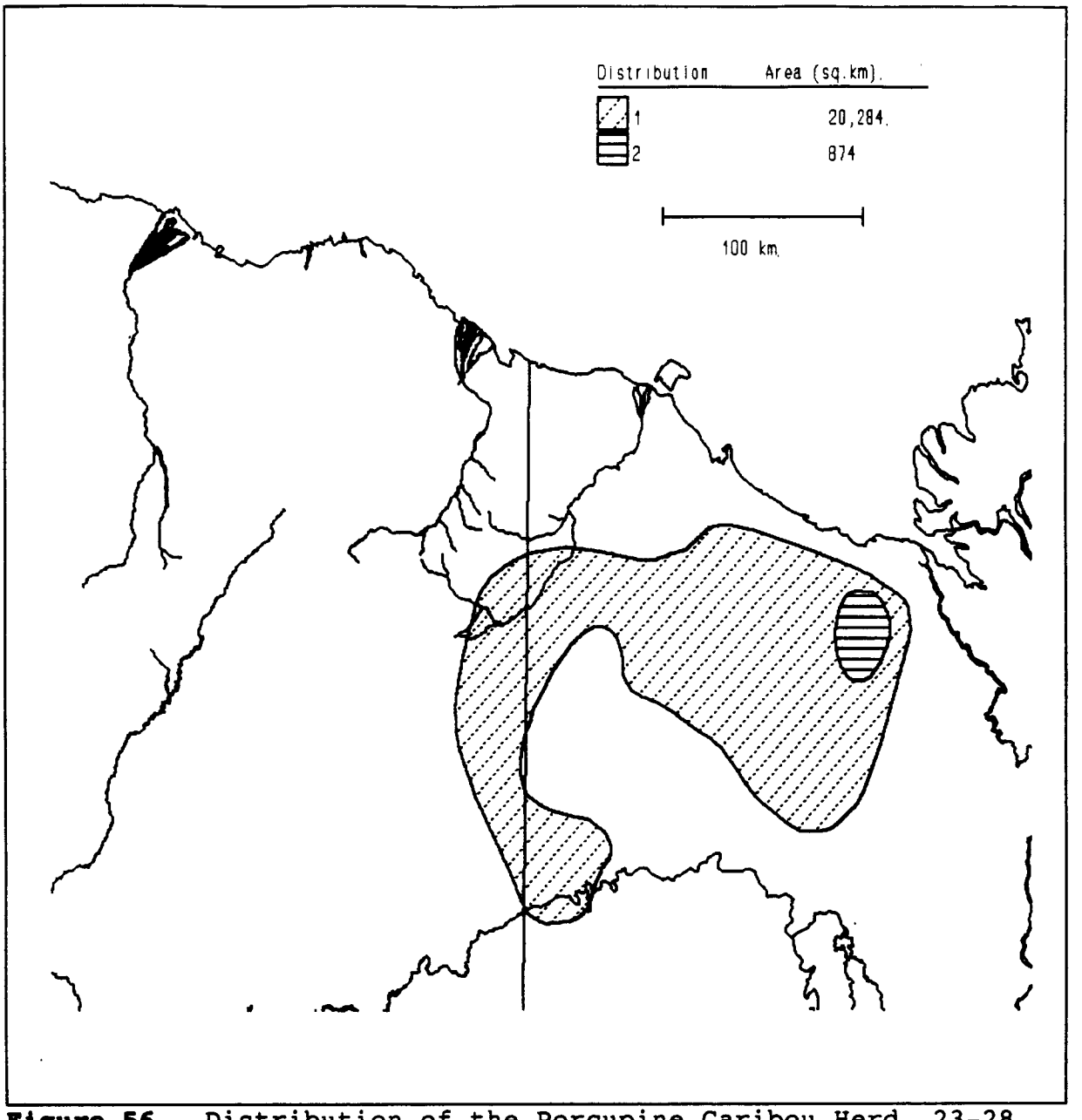

Figure 56. Distribution of the Porcupine Caribou Herd, 23-28 August 1978.

FIGURE 57: Late Fall 1978

Reconnaissance surveys were flown from the 15 to 25 November. A large concentration of caribou moved south along the Alaska-Yukon border and spent the early winter between the Salmon Fork and Tatonduk Rivers, mainly on the western slopes and valley bottoms of the western Ogilvie Mountains (Dist.1, ≈30,000).

Other wintering groups of caribou include an estimated 2,000 caribou on the Old Crow Flats and surrounding hills and ≈50 caribou observed along the north slope near Shingle Point. Groups of caribou were found near the headwaters of the Hart River but these may have been wintering woodland caribou from the Hart River Herd (not shown).

References:

Farnell, R., C. McEwen and K. Guenter. 1987.

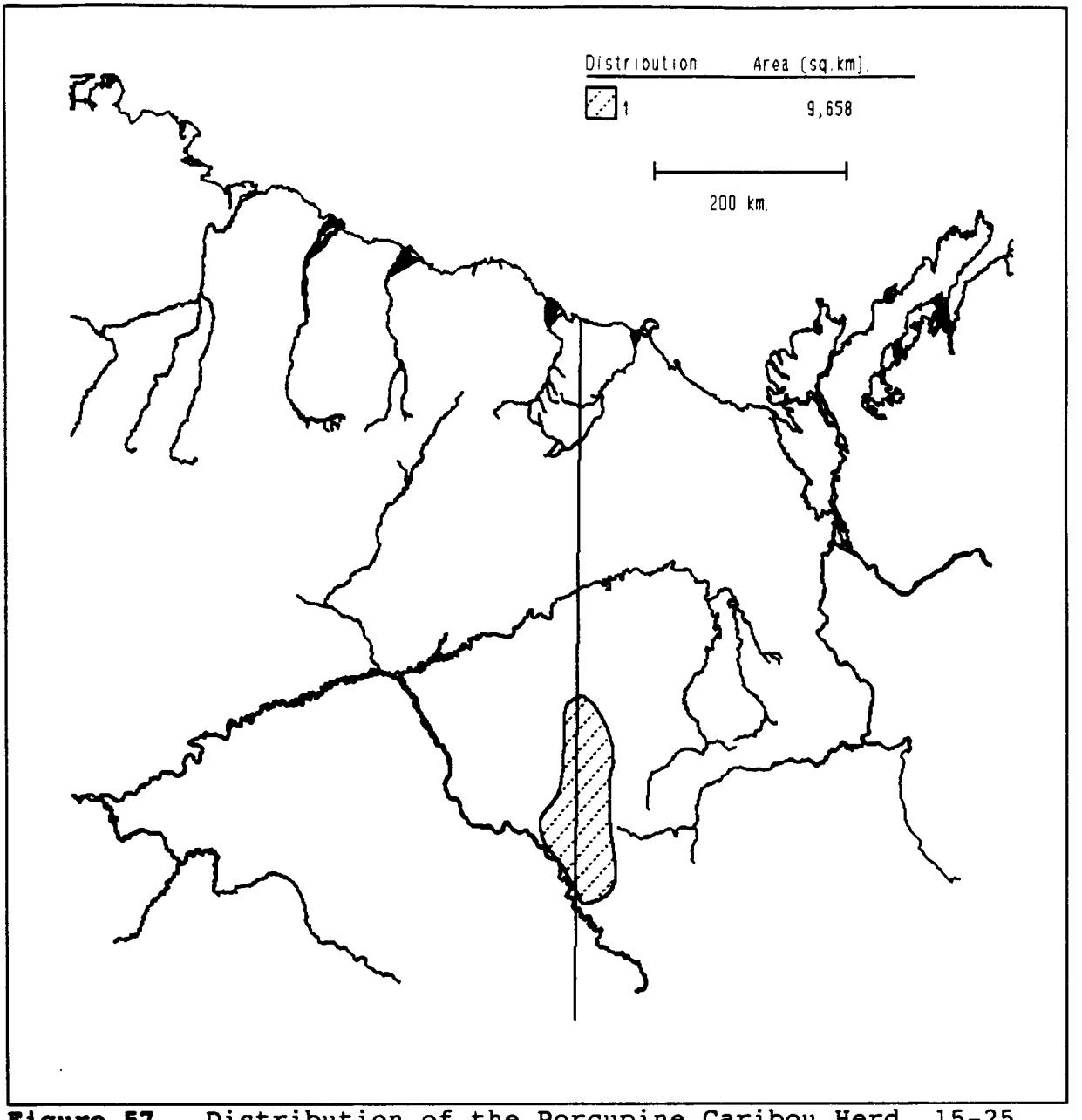

Figure 57. Distribution of the Porcupine Caribou Herd, 15-25 November 1978.

FIGURE 58: Early, Mid and Late Winter 1978/79

Surveys flown from 4 December 1978 to 15 March 1979 covered the entire winter range in both Alaska and the Yukon. Flights were restricted to high level radio tracking surveys and were not intended to determine absolute caribou abundance in the different wintering areas.

The majority of the PCH wintered in Alaska north of the Salmon Fork River in the Coleen and Sheenjek river drainages (Dist.1, ≈65,000). The next largest group of caribou was located along the Alaska-Yukon border (Dist.2, ≈25,000) where caribou had been observed during the late fall. There did not appear to be any movement of animals between the two areas, although this observation may have been biased by the limited number of relocations and by the poor tracking conditions due to the high level surveys.

Small scattered groups of caribou were located on the northern Old Crow Flats (≈1,000 caribou), in the Peel, Porcupine, and coastal Blow River drainages (≈100 caribou each), in the northern Wernecke Mountains (2 groups of 100+ caribou), and near km 200 of the Dempster Highway (200+ caribou).

Dist.1. = extreme outer limit of winter distribution in the area to 15 March 1979.

References:

Farnell, R., C. McEwen and K. Guenter. 1987.

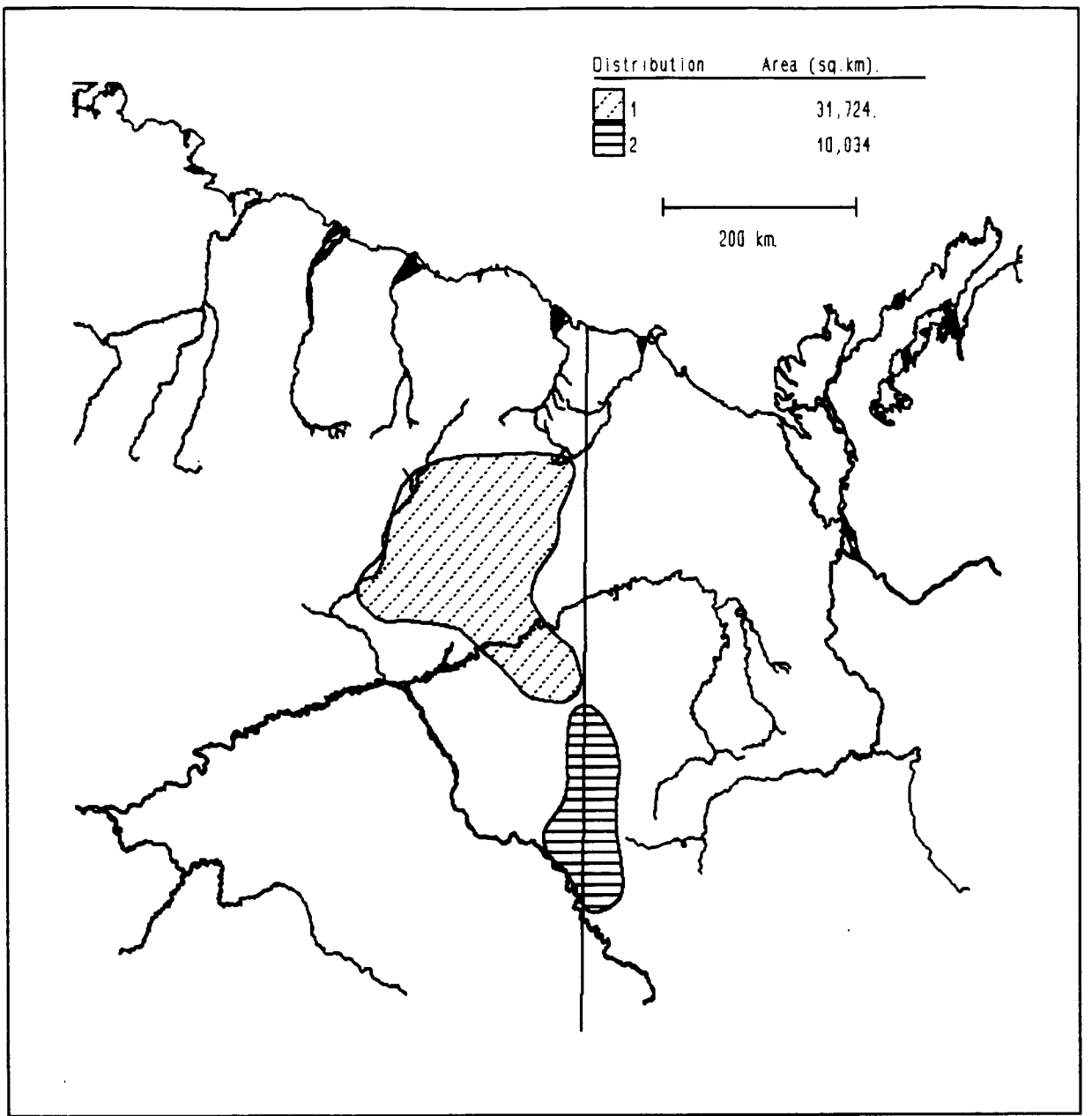

Figure 58. Distribution of the Porcupine Caribou Herd, 4 December 1978 - 15 March 1979.

FIGURE 59: Calving Period - Bull Distribution 1979

Intensive telemetry and low level transect surveys were flown from the 3 to 8 June to determine the bull-yearling distribution of the PCH during the calving period.

During the calving period the bulls moved northeast to a staging area in the Blow and Babbage river drainages. In early June, two radio-collared bulls that had wintered in Alaska were located in the Driftwood River basin and on the north coast near Shingle Point in the Yukon. By mid June the bulls were located in scattered bands from the Arctic coast east of the Babbage River to the headwaters of the Firth River in Alaska (Dist.1). An estimated 700 bulls had crossed the Babbage River and entered the eastern boundary of the calving distribution by June 8.

References:

Farnell, R., C. McEwen and K. Guenter. 1987.

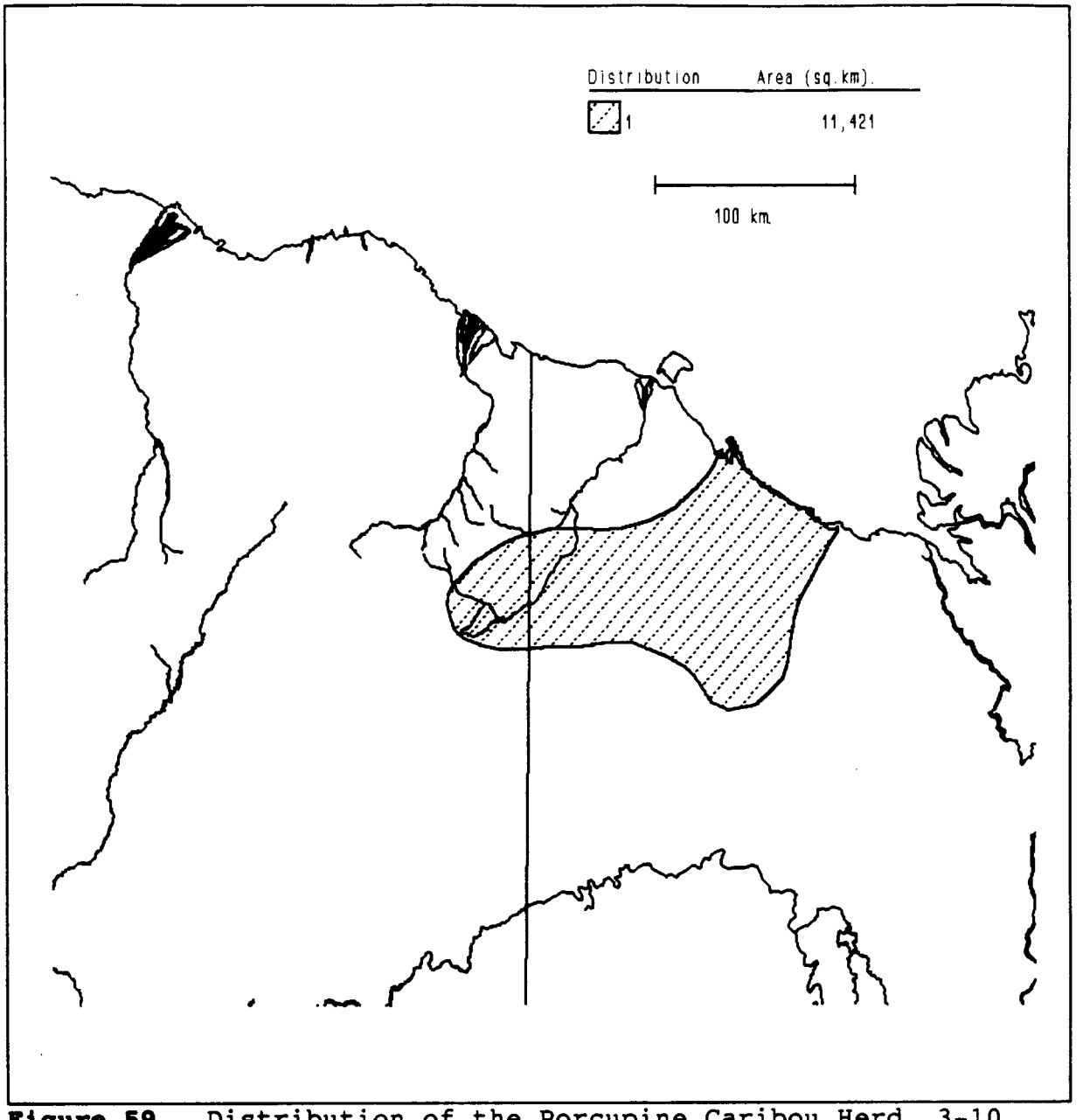

Figure 59. Distribution of the Porcupine Caribou Herd, 3-10 June 1979.

FIGURE 60: Movement 1979

Reconnaissance and telemetry surveys in the Yukon on 27 June found scattered bands of caribou, composed predominantly of bulls and yearlings, located throughout the northern Barn Range and the lower Babbage and Trail Rivers (Dist.2). Groups size ranged from 100 to 400 caribou. On 29 June, large cow-calf aggregations were relocated in the foothills of the Brooks Range from the Jago River east to the Kongakut River (Dist.1). The total number of caribou in this distribution was estimated to be ≈35,000 caribou with group size ranging from <50 to 3,000 caribou. Movement was in a northeast direction from the foothills to the coastal plain.

References:

Farnell, R., C. McEwen and K. Guenter. 1987.

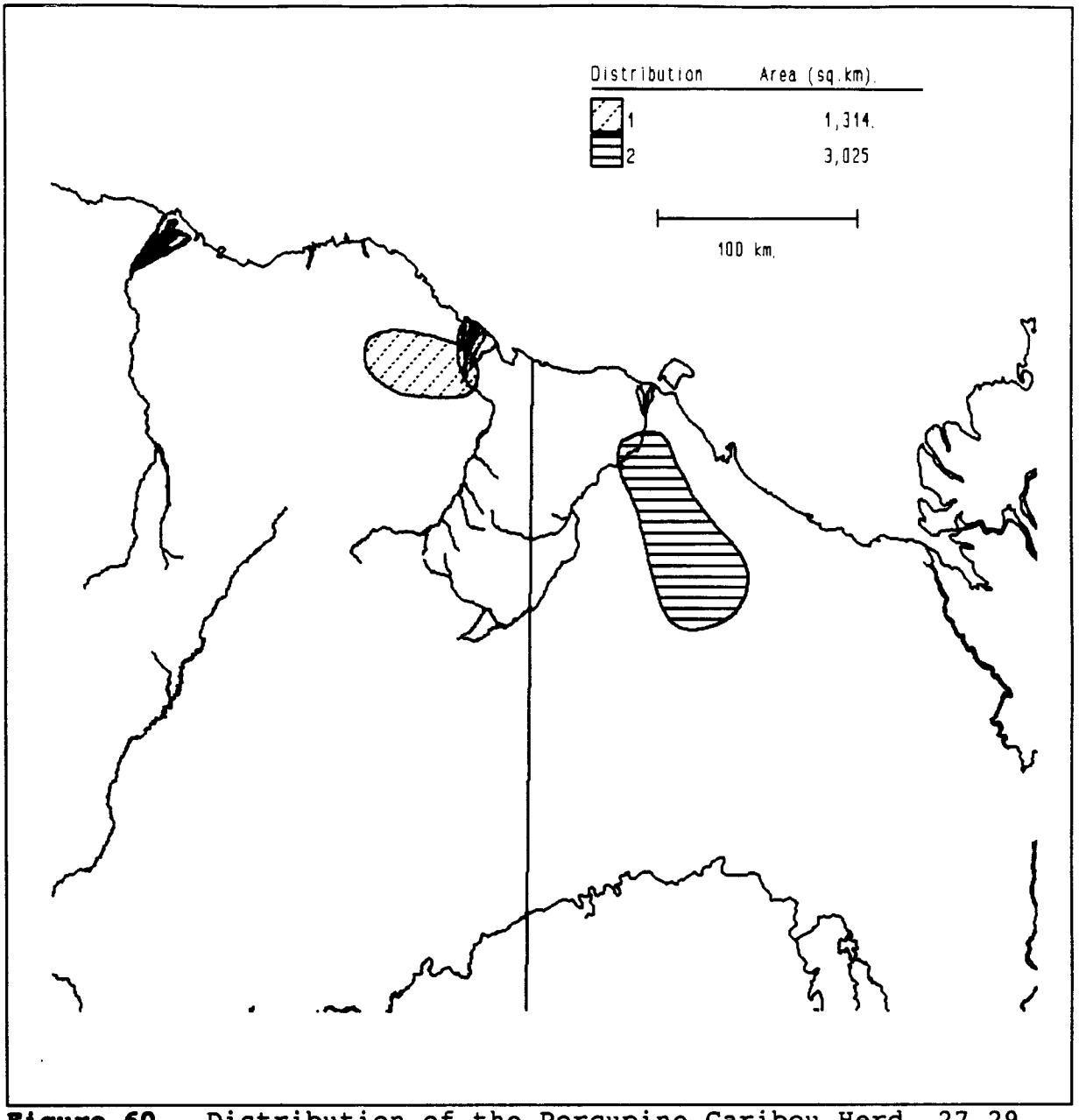

Figure 60. Distribution of the Porcupine Caribou Herd, 27-29 June 1979.

FIGURE 61: Early Summer 1979

Reconnaissance and telemetry surveys flown in early July showed that on July 3 the entire cow-calf segment of the PCH had formed two large aggregations near Demarcation Bay and were moving in a northeast direction. On July 4 the cow-calf aggregations had formed into one massive herd that was moving southeast (Dist.1, ≈80,000). During this period the bull-yearling herds were aggregated on the Firth River coastal plain and in the British Mountains and were moving in a northwest direction (Dist.2).

Upon convergence of the cow-calf and bull-yearling aggregations, near the Malcolm and Firth Rivers, caribou moved south and east into the British Mountains. An undetermined number of caribou went west into the southern Brooks Range and drainages of the Coleen and Sheenjek Rivers.

References:

Farnell, R., C. McEwen and K. Guenter. 1987.

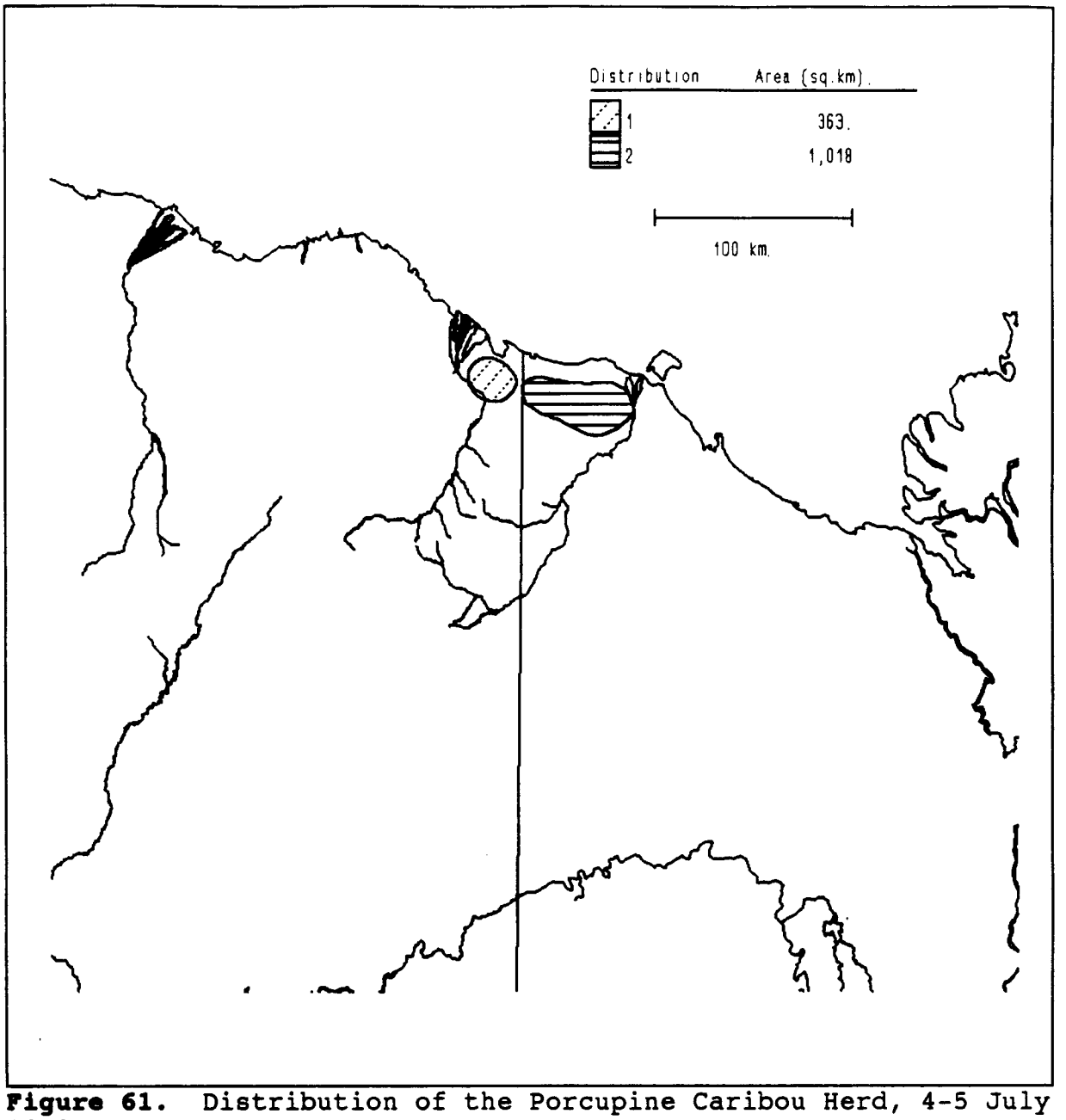

Figure 61. Distribution of the Porcupine Caribou Herd, 4-5 July 1979.

FIGURE 62: Mid Summer 1979

Reconnaissance and telemetry surveys were flown 24 to 28 July. Caribou were located in the Driftwood Hills and Bell River drainage in Yukon (Dist.1) and in the southern Brooks Range and Davidson Mountains in Alaska (not shown).

References:

Farnell, R., C. McEwen and K. Guenter. 1987.

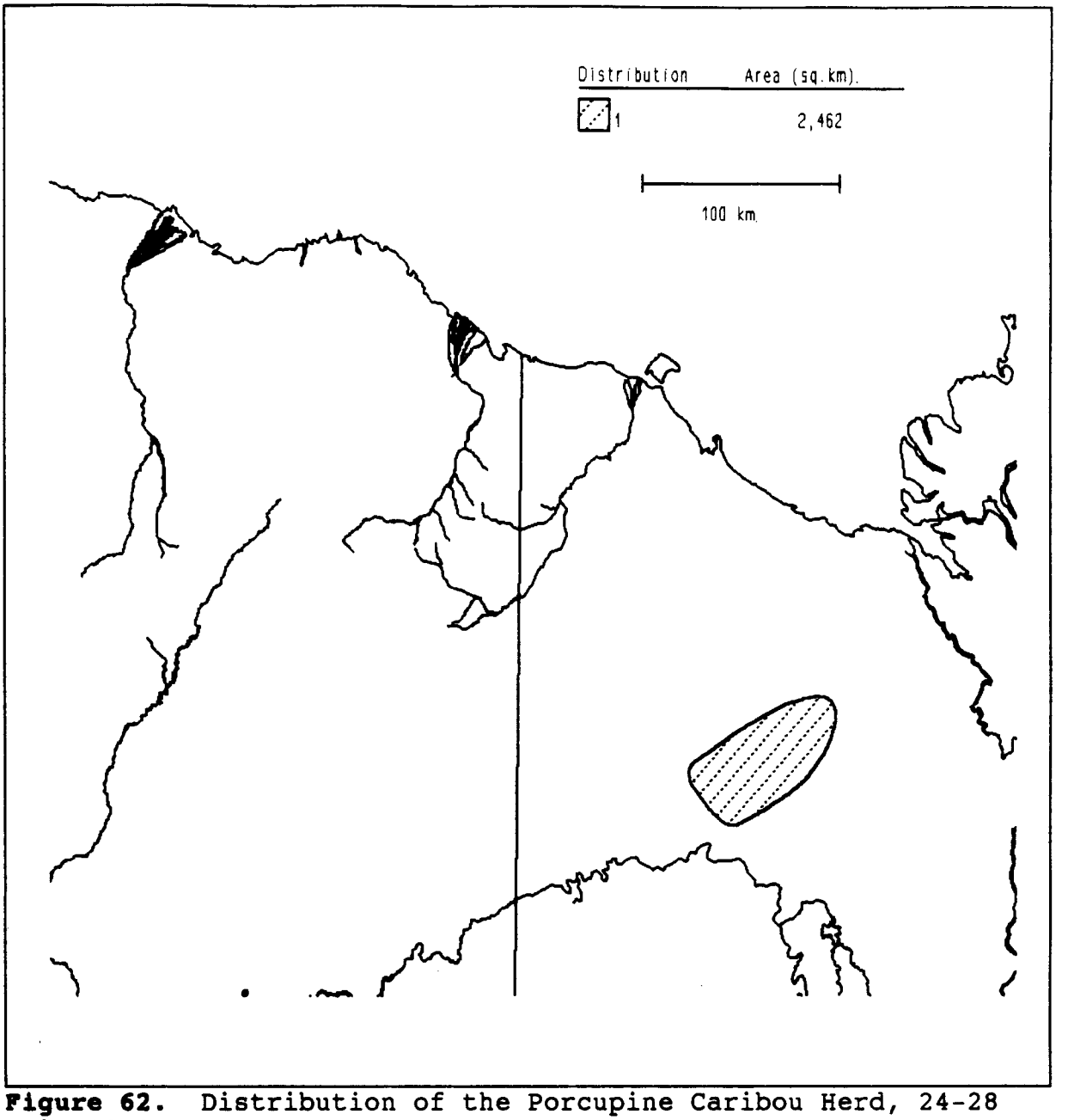

Figure 62. Distribution of the Porcupine Caribou Herd, 24-28 July 1979.

FIGURE 63: Late Summer 1979

Surveys flown from 19 to 25 of August relocated caribou in the Sheenjek and Coleen river drainages in Alaska (not shown) and the Bell River and Driftwood Hills in the Yukon (Dist.2). Caribou were also located in the headwaters of the Firth River and Muskeg Creed (Dist.1).

References:

Farnell, R., C. McEwen and K. Guenter. 1987.

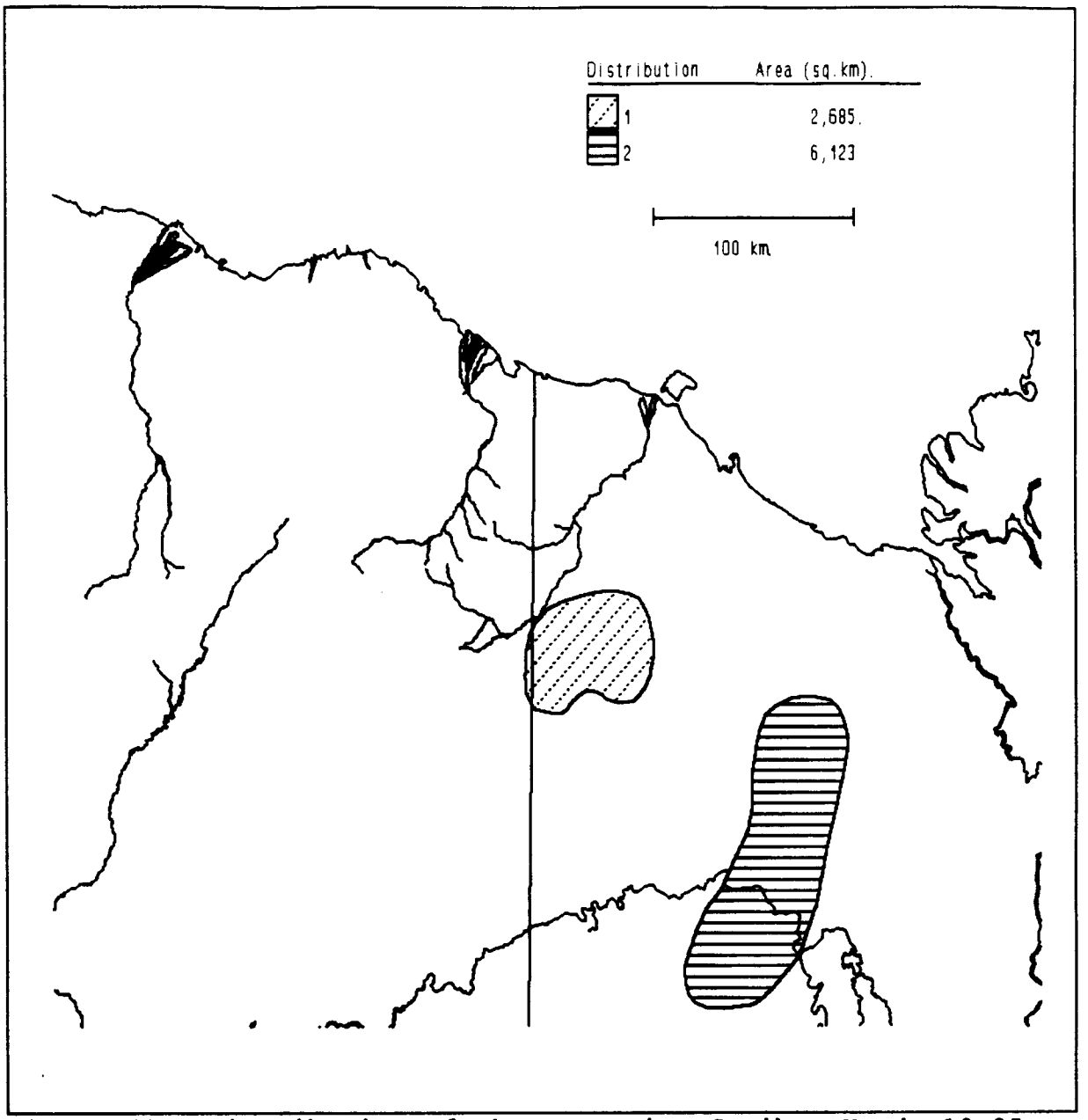

Figure 63. Distribution of the Porcupine Caribou Herd, 19-25 August 1979.

FIGURE 64: Late Fall 1979, Early and Mid Winter 1979/80

Low level reconnaissance and high level radio-tracking surveys were flown between November 16, 1979 and January 30, 1980.

The largest concentration of caribou during the early part of the winter occurred in the Ogilvie Basin area. It was estimated that almost all of the 100,000 overwintering caribou were distributed in a narrow band from the Ogilvie Basin in the south to the headwaters of the Salmon Fork and Fishing Branch Rivers in the north (Dist.1).

One radio-collared caribou was located at Schaeffer Creek on the Eagle Plains, an estimated 100 caribou were in the area (not shown). Low level surveys flown twice weekly along the Dempster highway showed no evidence of PCH caribou crossing the Dempster Highway until mid January.

References:

Farnell, R., C. McEwen and K. Guenter. 1987.

*** Foothills Pipe Lines (Yukon) Ltd. 19--

*** N.W.T. Fish and Wildlife Service

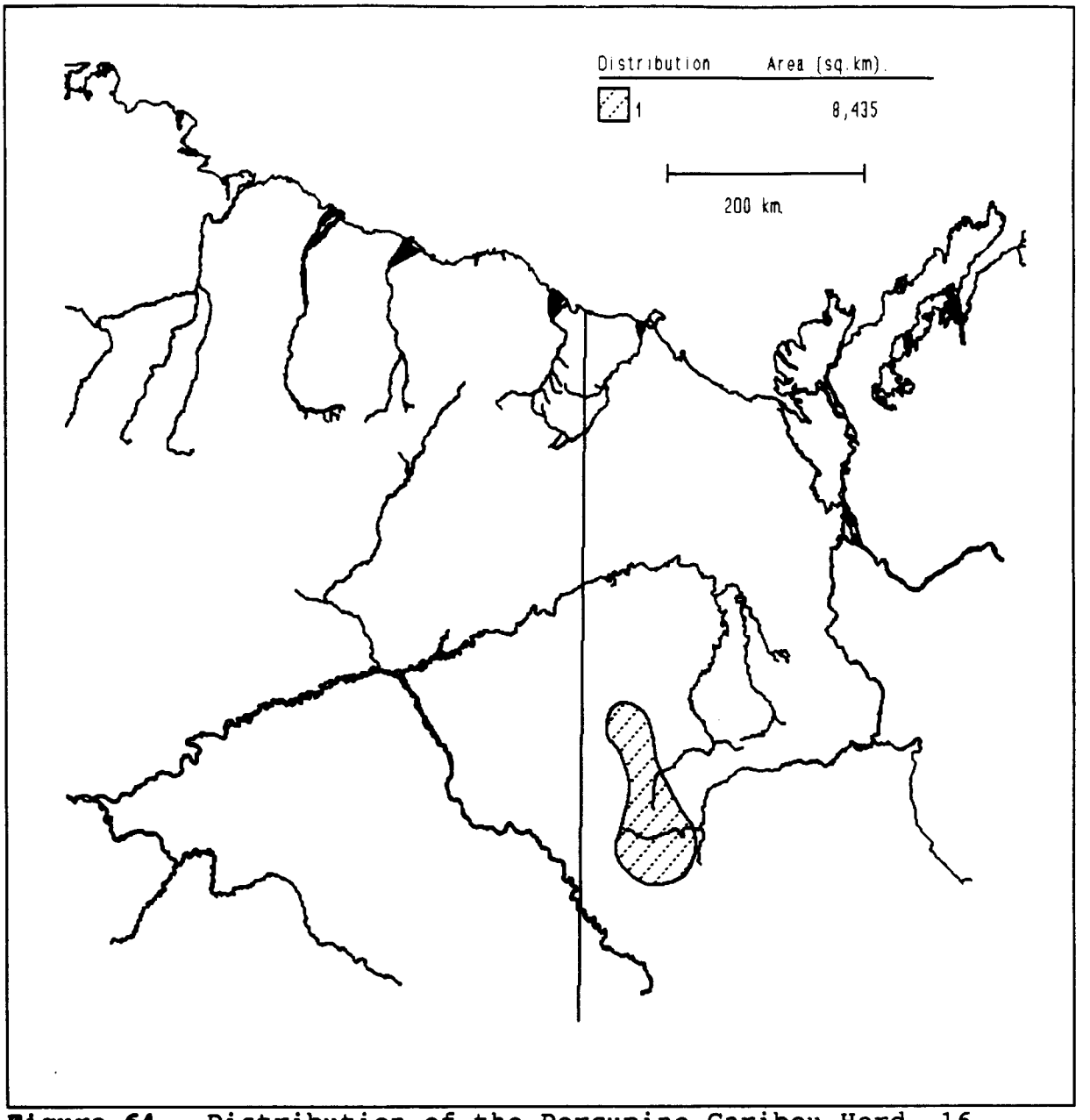

Figure 64. Distribution of the Porcupine Caribou Herd, 16 November 1979 - 30 January 1980.

FIGURE 65: Late Winter 1979/80

Low level reconnaissance and high level radio-tracking surveys were flown between 31 January and 12 March. Caribou that had been concentrated in a relatively small area in early and mid winter were now widely distributed. Evidence of wintering caribou occurred from the southern perimeter of the Ogilvie Basin to the northern edge of the Keele Range, and from the Alaska-Yukon border east to the Blackstone River. Areas of concentration were found in the Keele Range in the headwaters of Lord and Johnson Creek (Dist.1, ≈40,000), and in the western Ogilvie Mountains in the headwaters of the Nation, Kandik, and Grayling Fork Rivers (Dist.2, ≈4,000). It was estimated that less than 1,000 caribou crossed the Dempster Highway.

Surveys into Alaska did not locate any wintering caribou. Tracks found in the headwaters of the Black, Kandik and Nation Rivers on 18 February were believed to be those of dispersing caribou from wintering areas in the Yukon.

References:

Farnell, R., C. McEwen and K. Guenter. 1987.

*** Foothills Pipe Lines (Yukon) Ltd. 19--

*** N.W.T. Fish and Wildlife Service

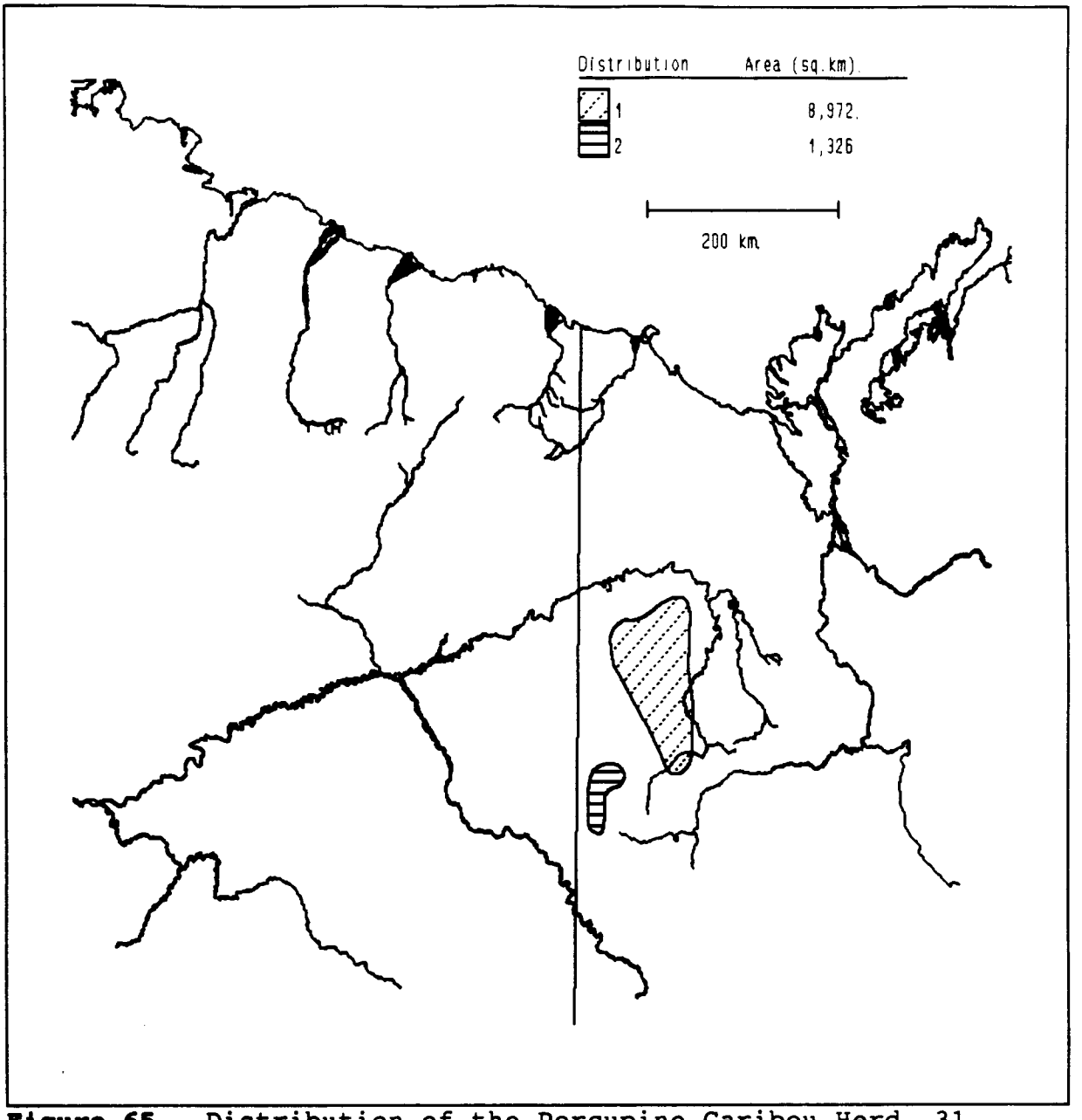

Figure 65. Distribution of the Porcupine Caribou Herd, 31 January - 12 March 1980.

FIGURE 66: Spring 1980

Low level reconnaissance and high level radio-tracking on 21 April found an estimated 15,000 to 20,000 caribou located along the north flank of the Keele Range near Lone Mountain and throughout the eastern section of the small lake basin immediately south of Old Crow (Dist.1). A second concentration of an estimated 5,000 caribou was located south of the confluence of Berry Creek and extended south to the alpine ridges of the Keele Range (Dist.2). Most of the caribou in these "damming" concentrations crossed the Porcupine River in the first week of May and then proceeded north across Old Crow Flats.

References:

Farnell, R., C. McEwen and K. Guenter. 1987.

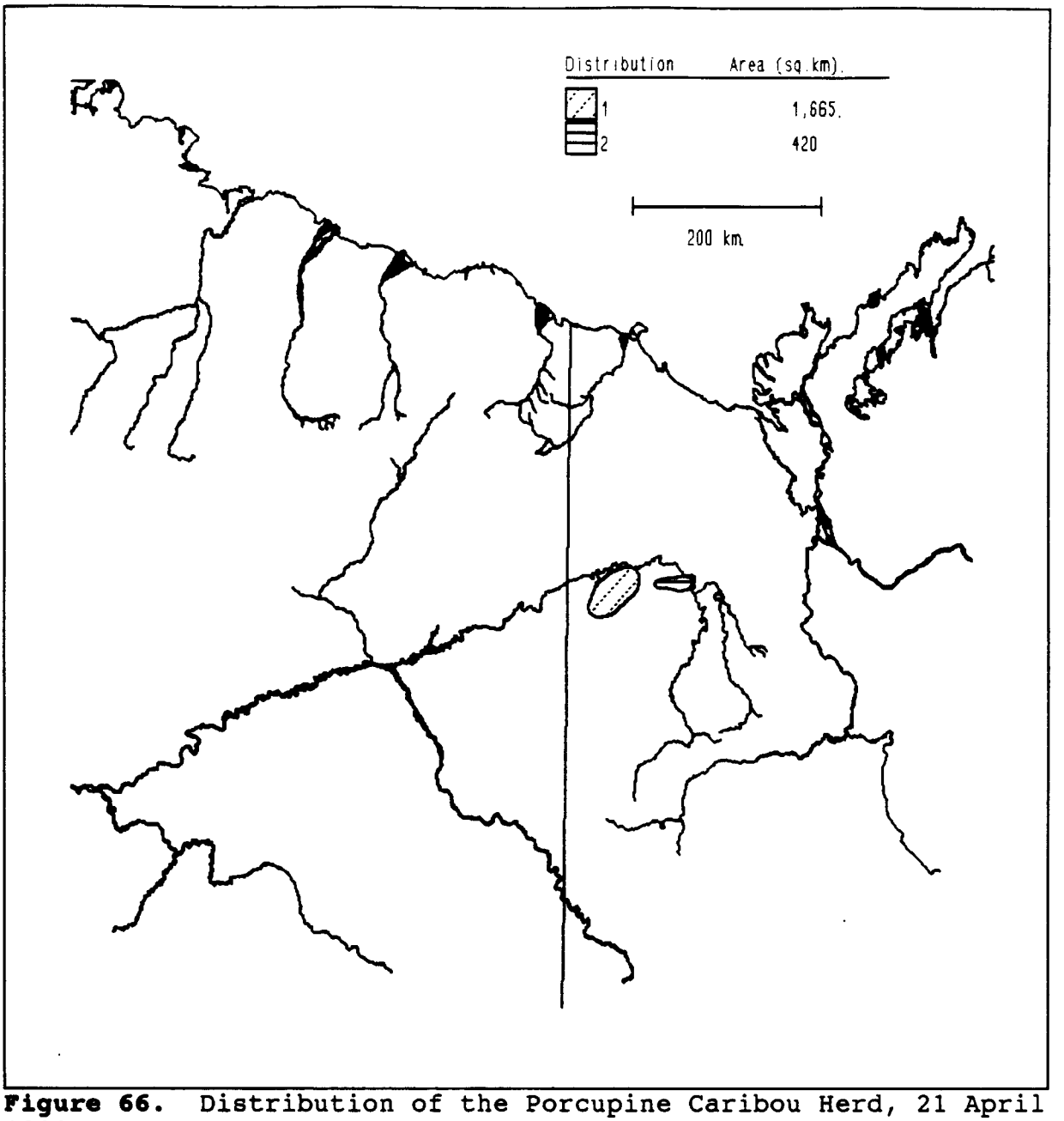

Figure 66. Distribution of the Porcupine Caribou Herd, 21 April 1980.

FIGURE 67: Movement 1980

Low level reconnaissance and high level radio-telemetry were flown from 30 June to 6 July. In late June the majority of cows and calves were in the vicinity of the Jago River, drifting eastward along the foothills and coastal plain (Dist.1). Large numbers of bull bands were scattered along the coastal plain in the Yukon from the Firth River in the west to Shingle Point in the east (Dist.2). These bands were travelling westward toward Komakuk Beach.

References:

Farnell, R., C. McEwen and K. Guenter. 1987.

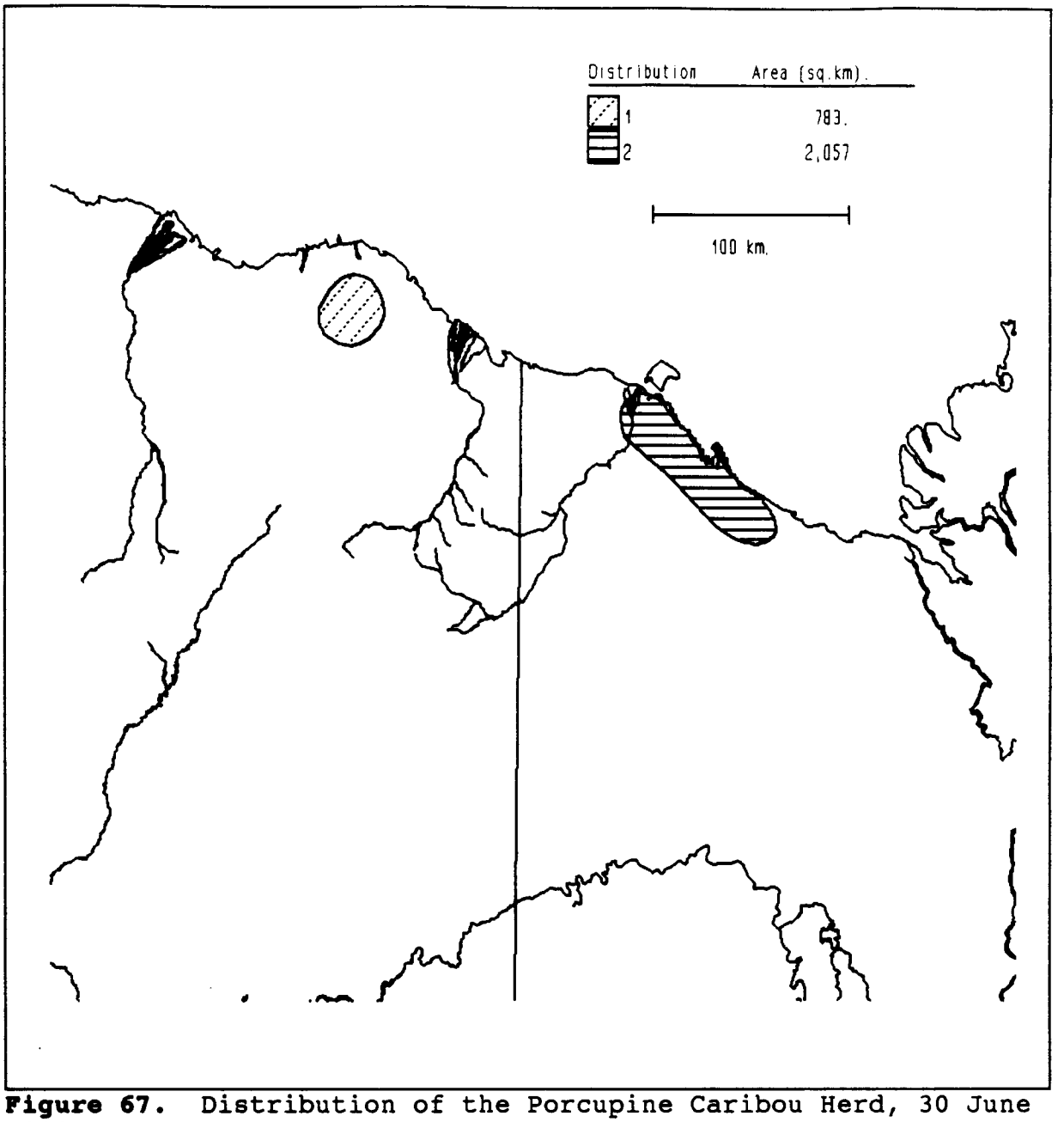

Figure 67. Distribution of the Porcupine Caribou Herd, 30 June 1980.

FIGURE 68: Early Summer 1980

Low level reconnaissance and high level radio-telemetry were flown from 30 June to 6 July. On 1 July a large group of bulls had reached the Clarence River and small bands of bulls were moving west from the Firth River (Dist.2). For the next 4 days large aggregations formed (up to 10,000 caribou), broke up and reformed, as well, herds changed direction and then doubled back towards the Clarence and Kongakut Rivers. The cow-calf aggregations had moved further east and were nearing the mouth of the Kongakut River (Dist.1).

References:

Farnell, R., C. McEwen and k. Guenter. 1987.

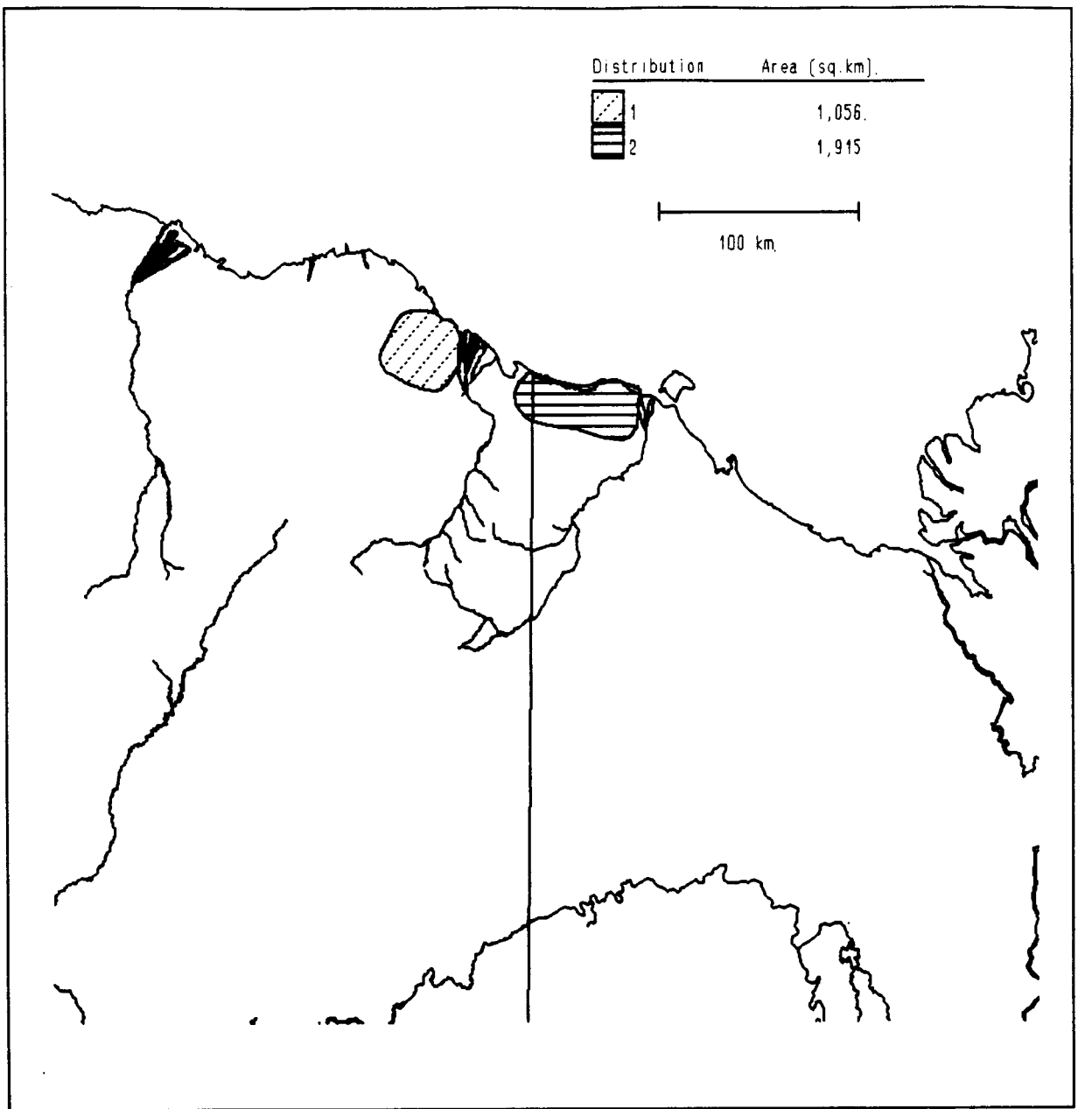

Figure 68. Distribution of the Porcupine Caribou Herd, 1-5 July 1980.

FIGURE 69: Early Summer 1980

On 6 July a large number of bulls had joined the cow-calf aggregation which had reached the Kongakut River (Dist.1).

References:

Farnell, R., C. McEwen and K. Guenter. 1987.

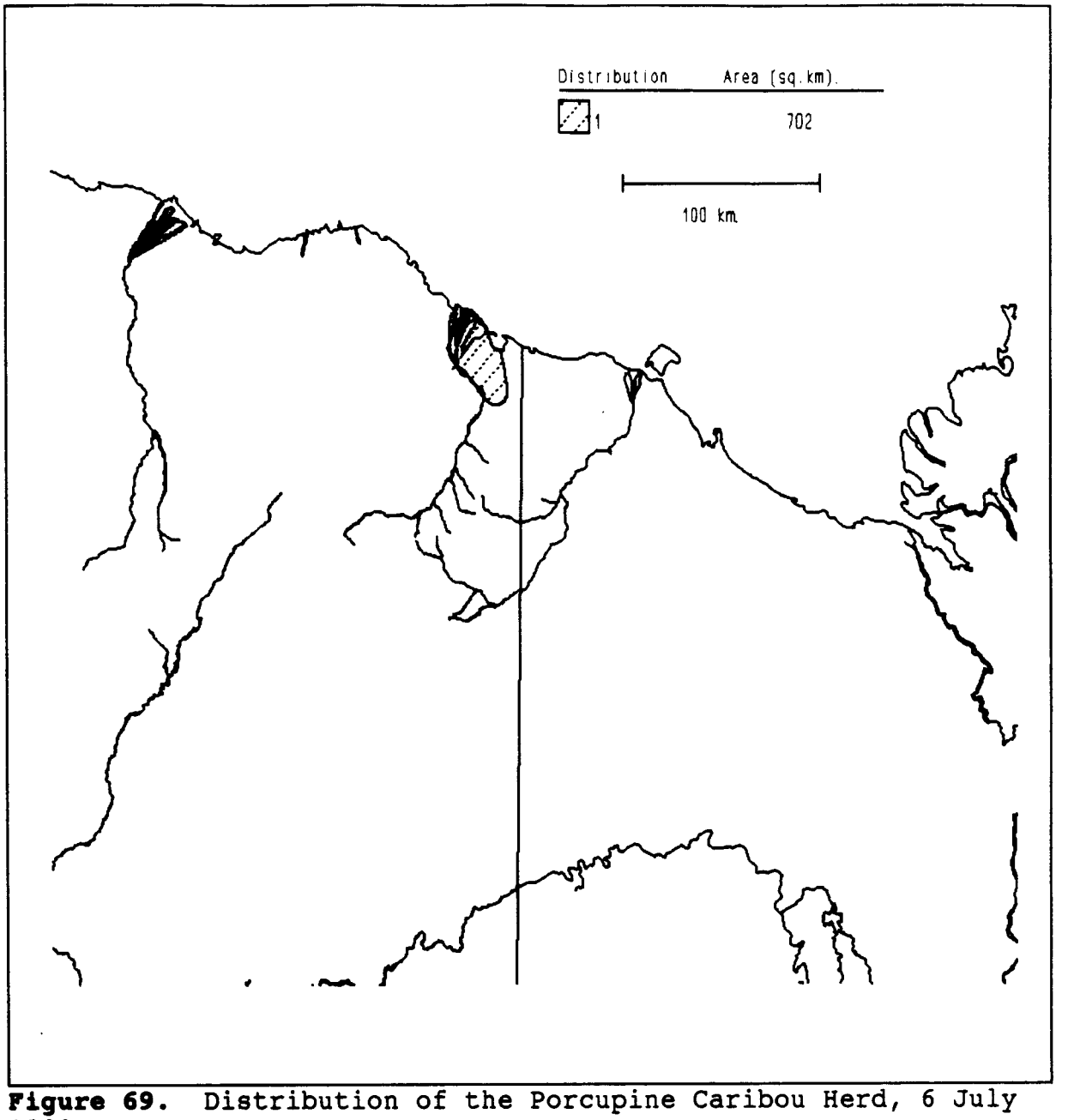

Figure 69. Distribution of the Porcupine Caribou Herd, 6 July 1980.

FIGURE 70: Mid and Late Summer 1980

No surveys were flown to determine post-aggregation movements. Personal interviews with Old Crow hunters suggested that the majority of the PCH was located in a broad band north of the Porcupine River just east of the NWT border to the Sheenjek River (Dist.1). Large aggregations were reported in the head of the Christian River area of Alaska. Other concentrations were in the head of the Firth River, Joe Creek, Bear Mountain, and Bilwaddy Creek.

References:

Farnell, R., C. McEwen and K. Guenter. 1987.

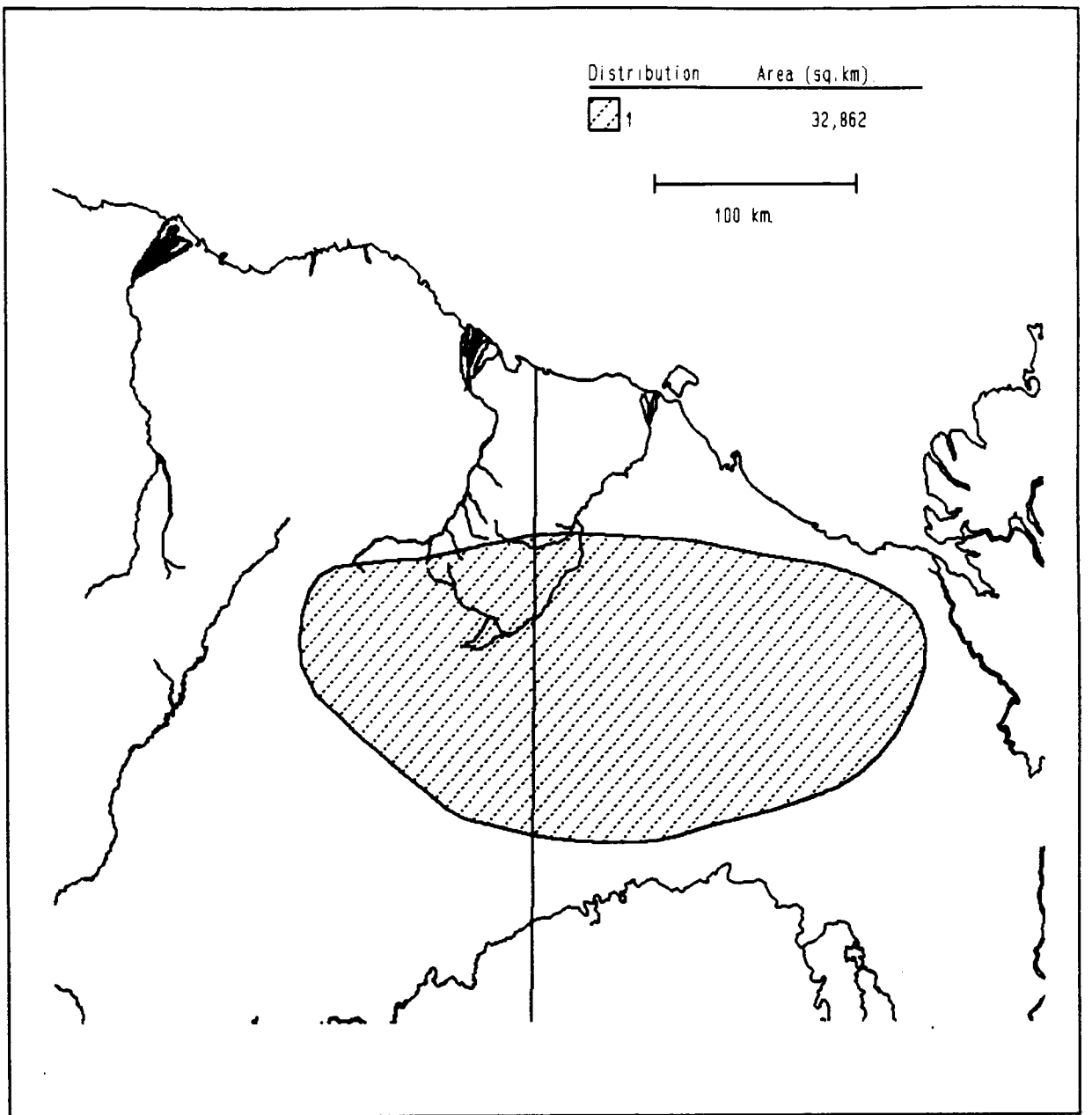

Figure 70. Distribution of the Porcupine Caribou Herd, 1-31 August 1980.

FIGURE 71: Late Fall 1980

Radio-tracking surveys were flown 17 to 25 November. An estimated 70,000 to 80,000 caribou of the PCH wintered in the Yukon. Caribou were widely dispersed from the Ogilvie Mountains northeast to approximately km 288 on the Dempster Highway and southeast to the headwaters of Rae Creek (Dist.1).

Very high densities of caribou were observed adjacent to the Dempster Highway from km 96 to km 240, as well as in many creek drainages east of the highway. Caribou distribution west of the highway appeared to be scattered.

A total of seven PCH and three Hart River radio-collared caribou were relocated during the November surveys. All three Hart River radio-collared animals were found in herds associated with numerous PCH herds. Two radio-collared PCH were found within the wintering area of the Hart River Herd.

An estimated 20,000 caribou were wintering in Alaska near Arctic Village (not shown).

References:

Farnell, R., C. McEwen and K. Guenter. 1987.

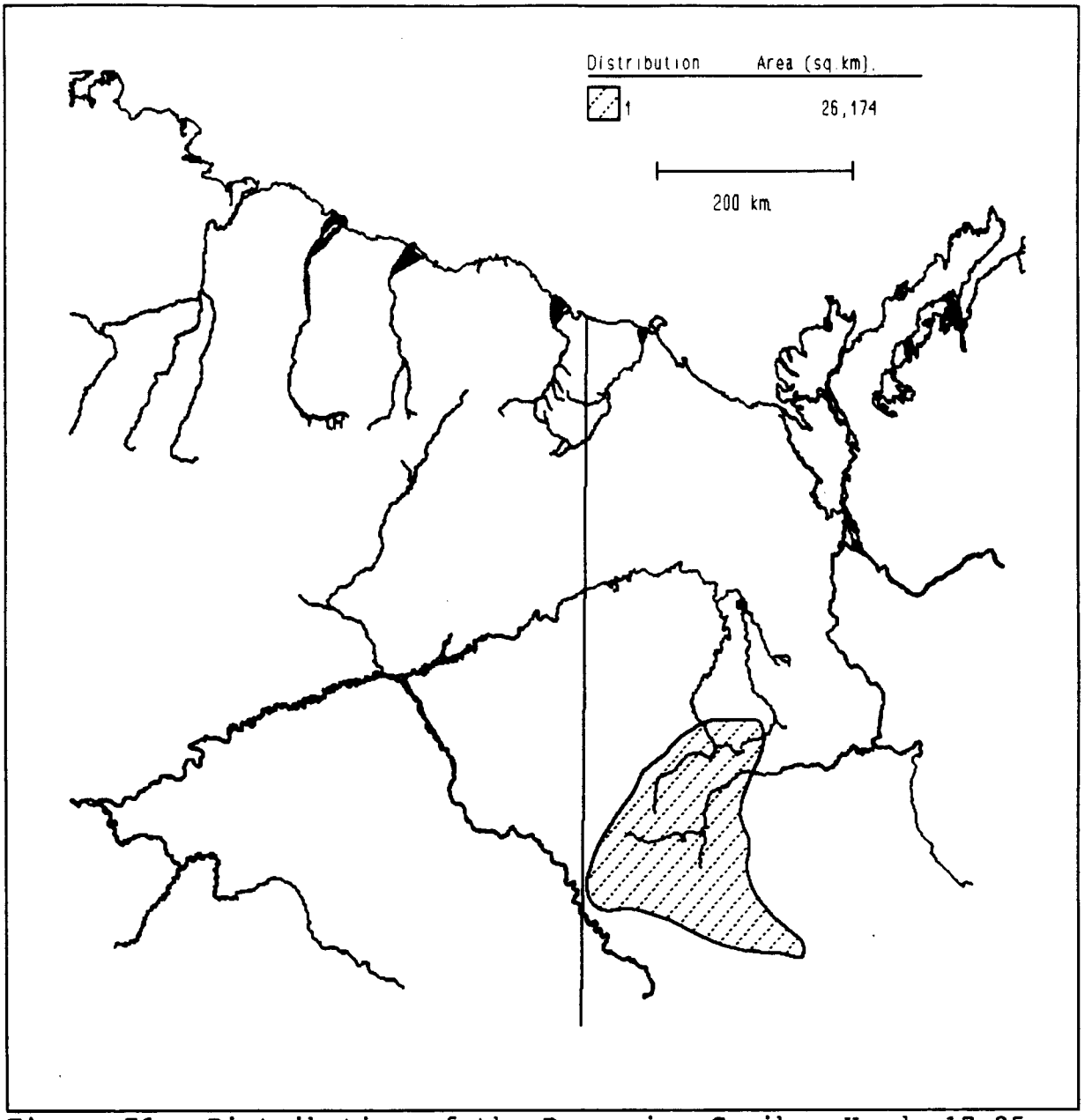

Figure 71. Distribution of the Porcupine Caribou Herd, 17-25 November 1980.

FIGURE 72: Late Winter 1980/81

High level radio-tracking and low level reconnaissance surveys were flown throughout the winter range of the PCH between 4 to 7 March.

Caribou were found distributed from the headwaters of the Hart and Blackstone Rivers in the south across Eagle Plains to the Keele Range in the north (≈65,000, Dist.1). Concentrations in the Keele Range were primarily cows and concentrations in the Blackstone and Hart River were primarily bulls. A second concentration of caribou was found in the area of the Tatonduk River (≈12,000, Dist.2).

In Alaska, an estimated 20,000 caribou were distributed from the middle fork of the Chandalar River to South Chandalar Lake, north to Arctic Village and east to the east fork of the Chandalar River (not shown).

References:

Farnell, R., C. McEwen and K. Guenter. 1987.

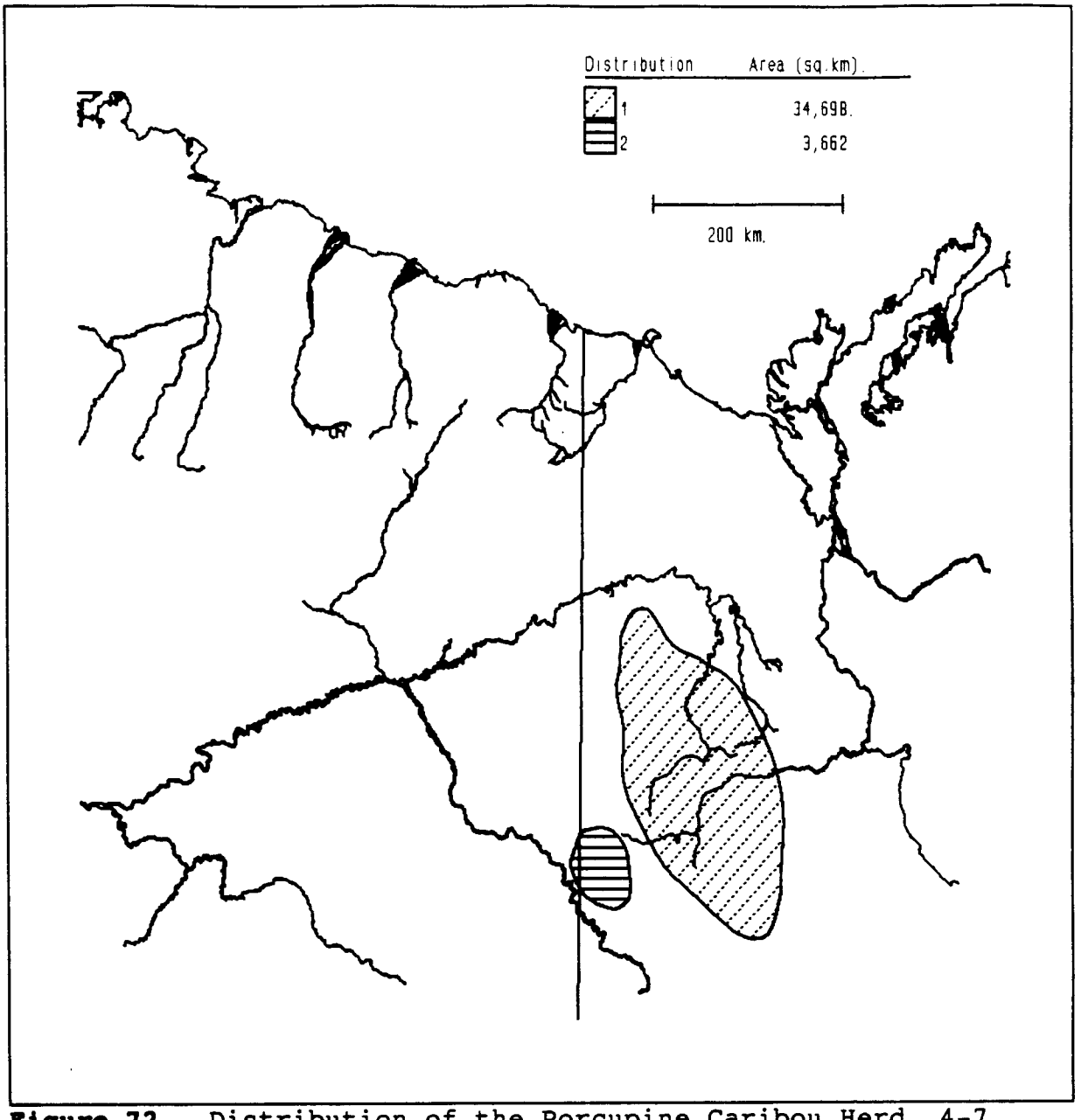

Figure 72. Distribution of the Porcupine Caribou Herd, 4-7 March 1981.

FIGURE 73: Post-calving 1981

High level radio-tracking surveys were flown 11,13,23,24 June. Radio-collared bulls were scattered across the Yukon coastal plain, in the Barn Mountain Range, and in the head of the Firth River (Dist.2). The coastal plain individuals moved west while Firth River individuals moved east, apparently to staging areas in the Barn Mountain Range and the Trail and Spring river drainages. Cow-calf aggregations in Alaska were moving towards the east (Dist.1).

By June 23 large herds of bulls were observed farther west in the pass between the Firth and Malcolm Rivers (not shown). Estimated band sizes ranged from 15 to 3,000 caribou.

References:

Farnell, R., C. McEwen and K. Guenter. 1987.

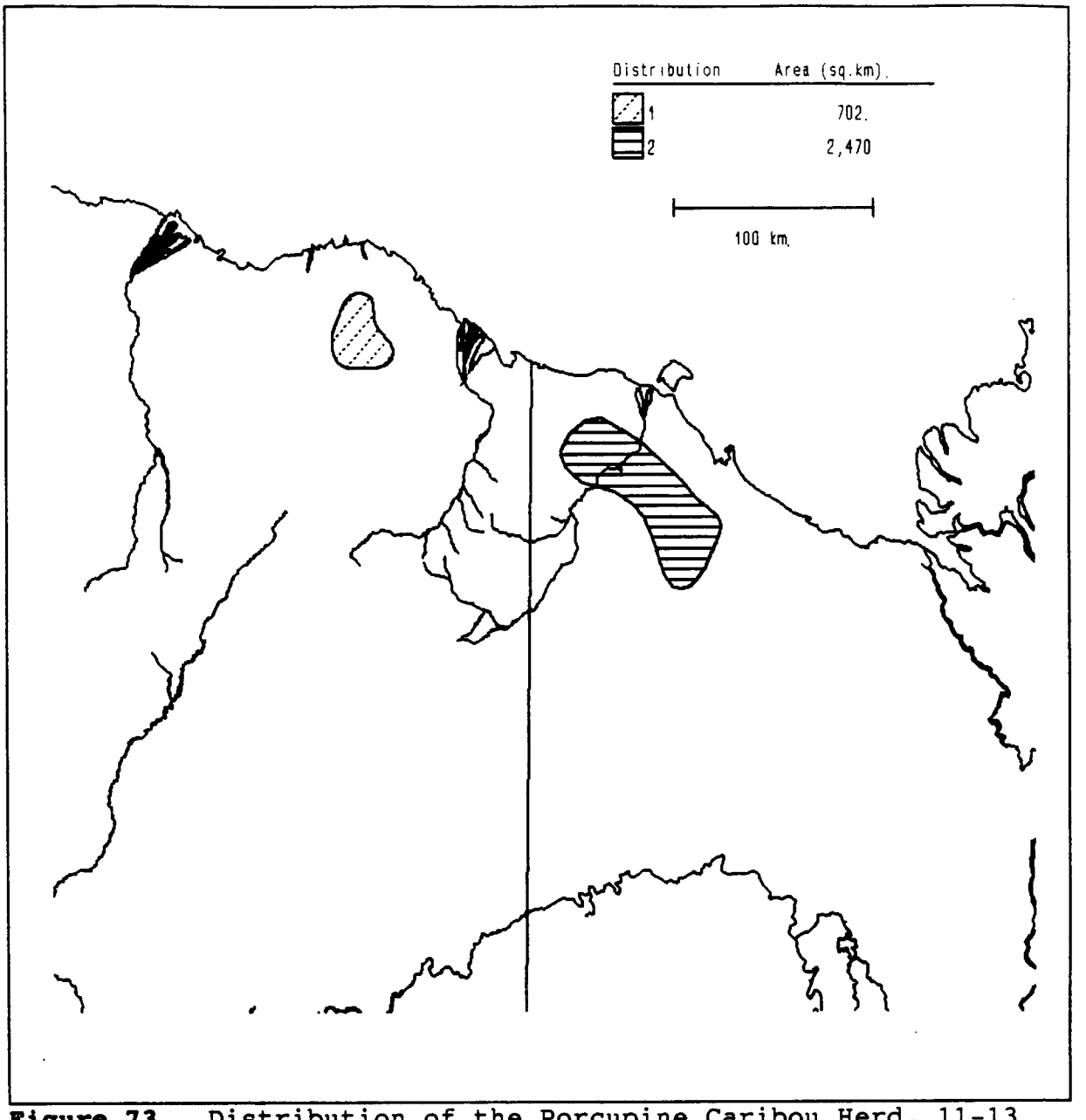

Figure 73. Distribution of the Porcupine Caribou Herd, 11-13 June 1981.

FIGURE 74: Movement 1981

Intensive low level surveys were flown 29 June to determine the distribution and movements of post-calving aggregations. The entire PCH was found in the northern foothills of the British Mountains moving southeast from Alaska to the Yukon (Dist.1). Herd size ranged from solitary caribou to an estimated 10,000 caribou. Surveys by the U.S. Fish and Wildlife Service found very few caribou remaining on the calving grounds.

References:

Farnell, R., C. McEwen and K. Guenter. 1987.

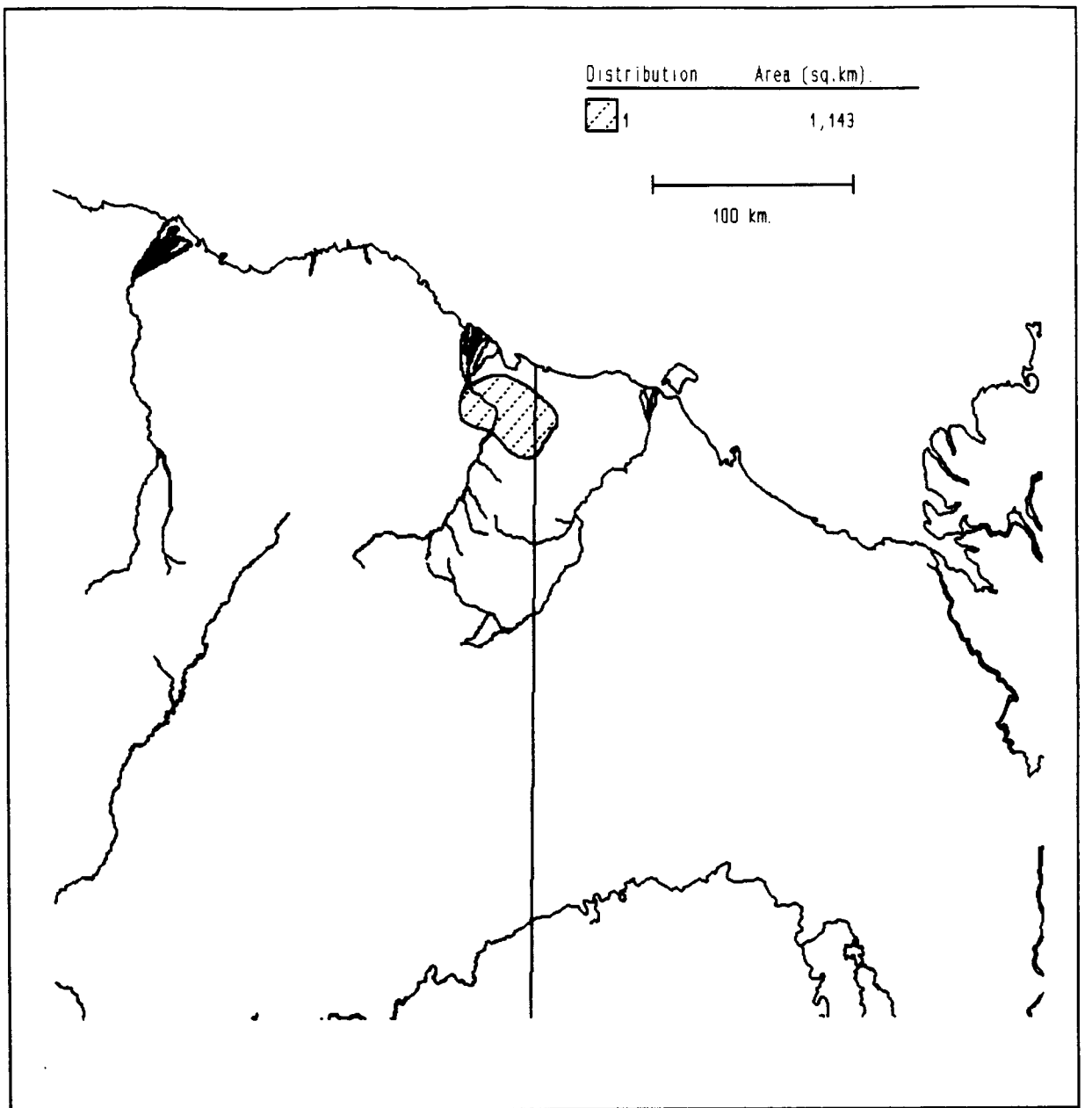

Figure 74. Distribution of the Porcupine Caribou Herd, 29 June 1981.

FIGURE 75: Late Fall 1981; Early, Mid and Late Winter 1981/82

Surveys to determine the winter distribution of the PCH were conducted sporadically throughout the winter period, partly in conjunction with studies of winter range overlap of the PCH with resident woodland caribou in the Wernecke Mountains.

The greatest concentration of wintering caribou was in the Tatonduk River drainage (Dist.3, ≈35,000). Caribou were also found in the southern Richardson Mountains and the Bell and Wind/Bonnet Plume river drainages (Dist.2, ≈27,000), where they overlapped with the winter range of the Hart River and the Bonnet/Plume woodland caribou herds. A smaller concentration of animals was found in the Richardson Mountains (Dist.1, ≈5,000), although the exact distribution was not delineated and no radio-collared caribou were detected.

In Alaska, an estimated 20,000 caribou wintered in the Chandalar River drainage near Arctic Village and another 20,000 were south of the Yukon River in an area classified as the range of the Fortymile Herd (not shown). Several hundred caribou wintered in the mountains between the Kongakut, Firth, and Coleen Rivers in Alaska.

References:

Farnell, R., C. McEwen and K. Guenter. 1987.

Whitten, K. R. and R. D. Cameron. 1983.

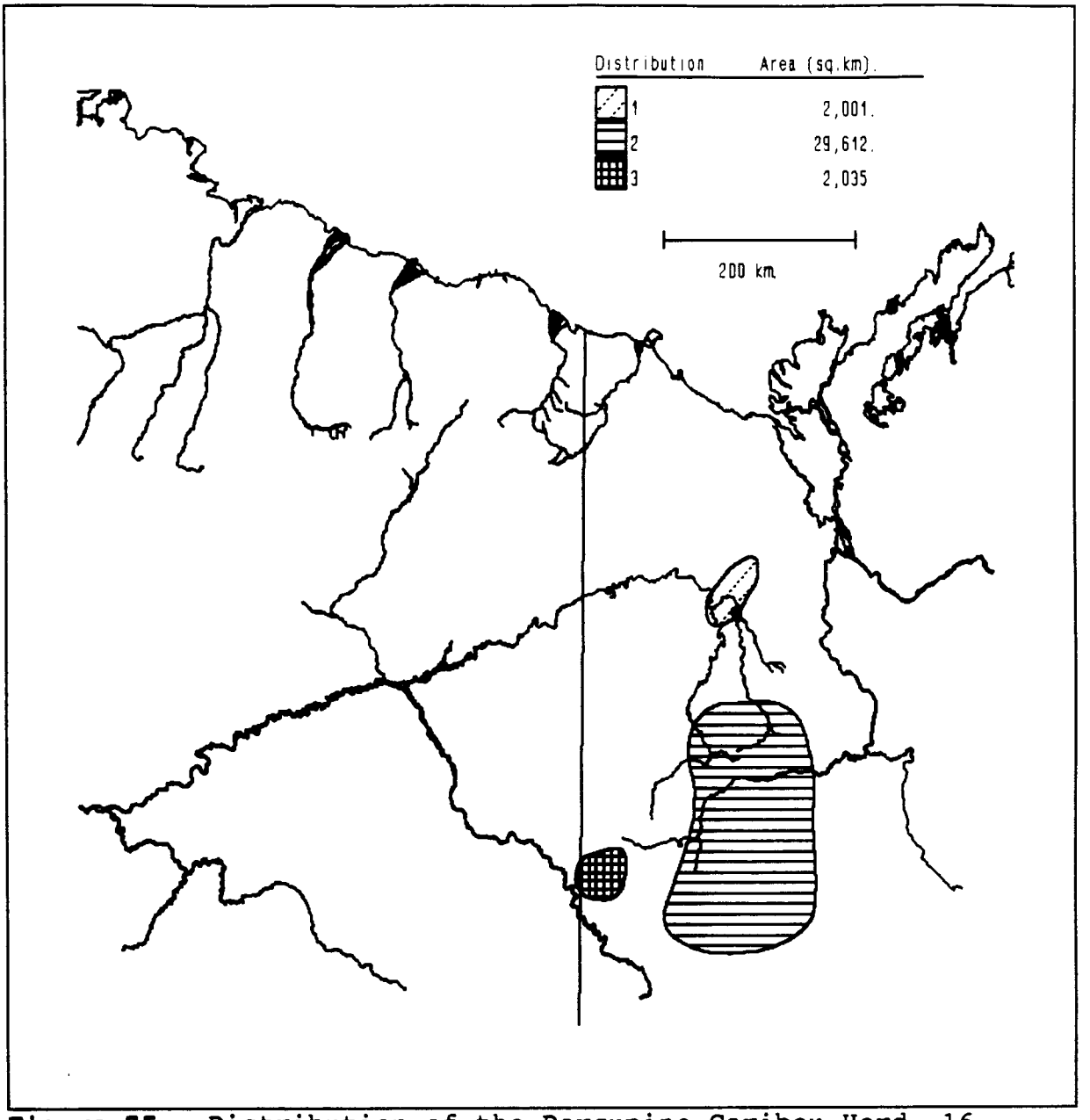

Figure 75. Distribution of the Porcupine Caribou Herd, 16 November 1981 - 31 March 1982.

FIGURE 76: Post-calving and Movement 1982

The objective of this survey was to locate and monitor the movements of male caribou prior to their joining females aggregating on the coast during the post-calving period (Dist.1). Seven of the ten collars were located in the upper portions of the Colleen and Firth Rivers (Dist.2). The remaining three collars were scattered in northern Yukon; one east of Mt. Sedgwick, one on the lower Firth River, one north of the Porcupine River (Dist.3).

The core group of seven collars moved north and east during the ten day survey period, and five of these were strung out along the Firth River. The others were relocated at the head of Crow and Trail Rivers just west of Mt. Sedgwick.

The distribution of radio collared males may not have realistically reflected the distribution of migrating bulls. Other biologists working in the region reported large numbers of bulls moving north from the northern Old Crow Flats and northern Richardson Mountains.

References:

Russell, D. E. and W. A. Nixon. 1986.

U.S. Fish and Wildlife Service (unpublished reports).

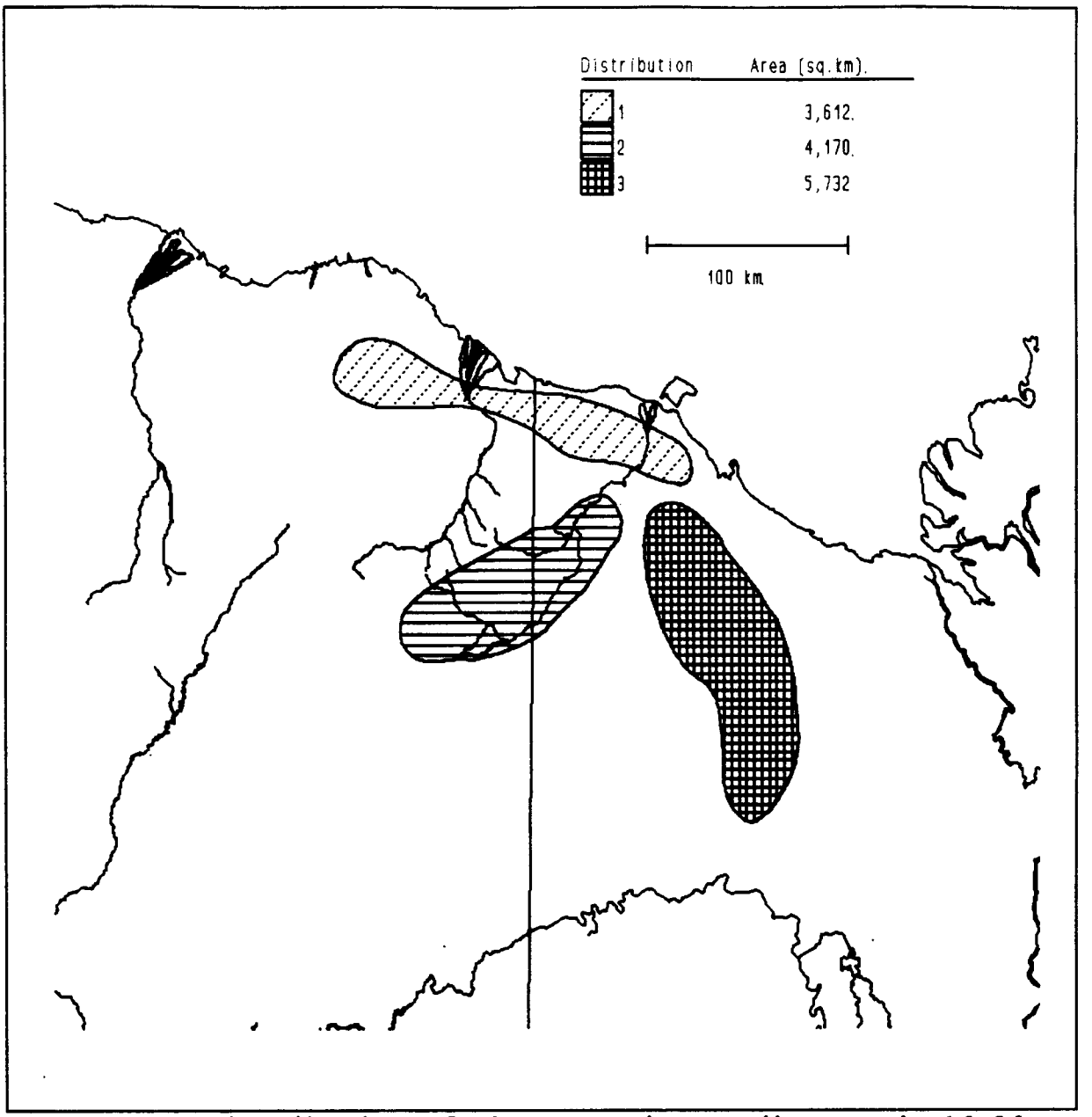

Figure 76. Distribution of the Porcupine Caribou Herd, 16-26 June 1982.

FIGURE 77: Early and Mid Summer 1982

During July most of the Porcupine Caribou Herd was on the Arctic Coastal Plain. Several large aggregations moved southward across the Brooks Range through the Okpilak, Hulahula, and Jago valleys towards the Sheenjek and Coleen drainages.

Distributions determined from relocation data forms; no report was made from this survey.

References:

U.S. Fish and Wildlife Service (unpublished reports).

Whitten, K. R. 1984.

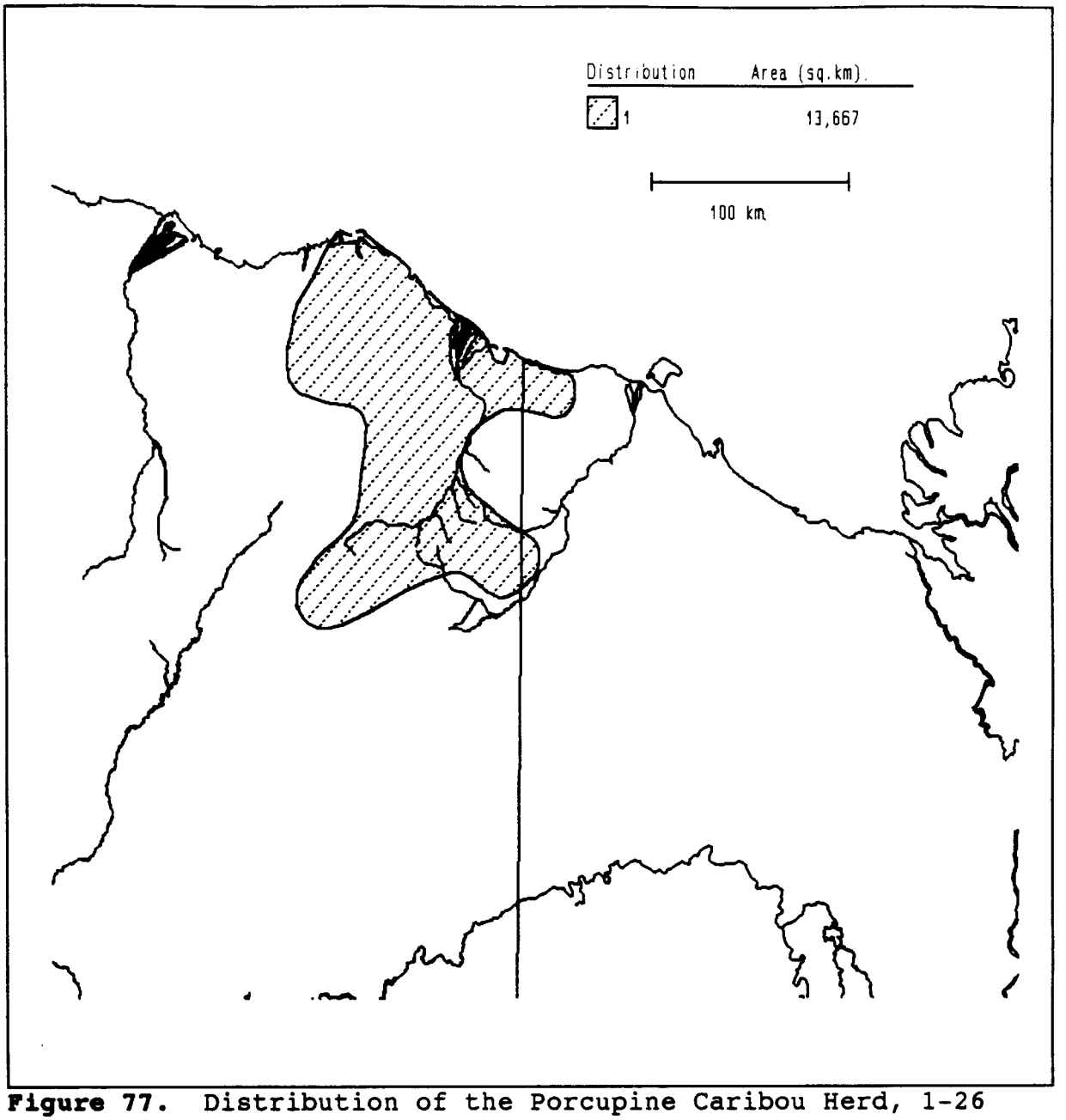

Figure 77. Distribution of the Porcupine Caribou Herd, 1-26 July 1982.

FIGURE 78: Late Summer 1982

Several large aggregations of caribou were located in the Sheenjek and Coleen drainages in Alaska.

Distributions determined from relocation data forms; no report was made from this survey.

References:

U.S. Fish and Wildlife Service (unpublished reports).

Whitten, K. R. 1984.

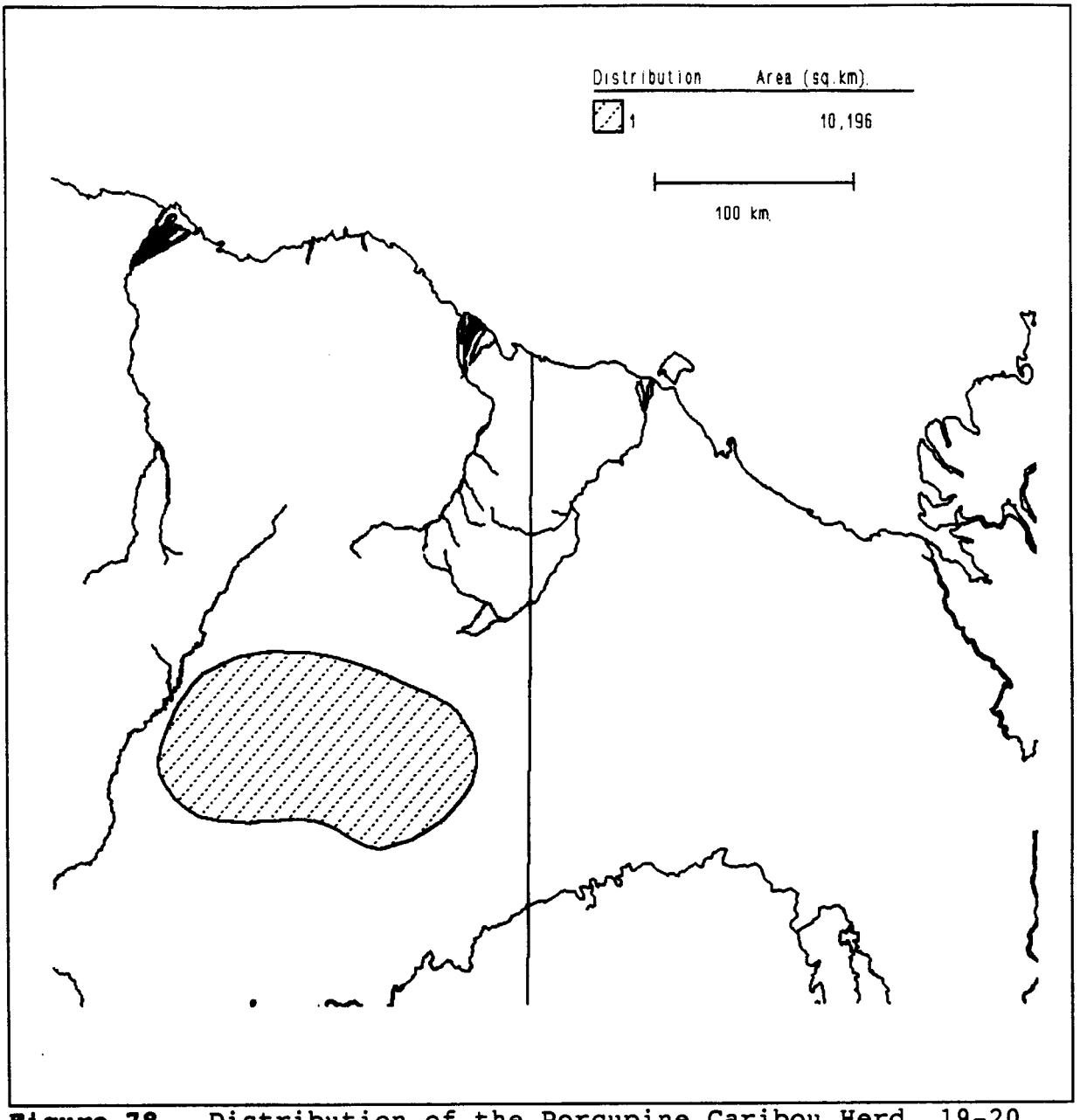

Figure 78. Distribution of the Porcupine Caribou Herd, 19-20 August 1982.

FIGURE 79: Late Summer and Fall Migration 1982

On 30-31 August, caribou sign was observed which indicated movement east and southeast through the British Mountains. Caribou on the south side ofthe Brooks Range had moved northeast into the Firth River valley and the British Mountains, and had joined other caribou near the Blow and Babbage Rivers. Approximately 100 caribou were located east of Old Crow on the Porcupine River.

In early September, scattered bands of caribou were found at the heads of the Firth and Driftwood Rivers, east of the Babbage River, and east and west of the Blow River. Surveys on 21-22 September revealed heavy trailing from the northern Richardson Mountains to the Driftwood Hills. Many thousands of caribou were observed south of Bonnet Lake and north of treeline. On 25-26 September a few scattered bands were found in the Old Crow Range and a few had crossed the Porcupine River.

The front of migrating caribou was located on the lower Bell River on 1-2 October. Aerial surveys were discontinued at this point, but in mid-October, caribou were observed crossing the Dempster Highway at Eagle Plains.

References:

Russell, D. E. and W. A. Nixon. 1986.

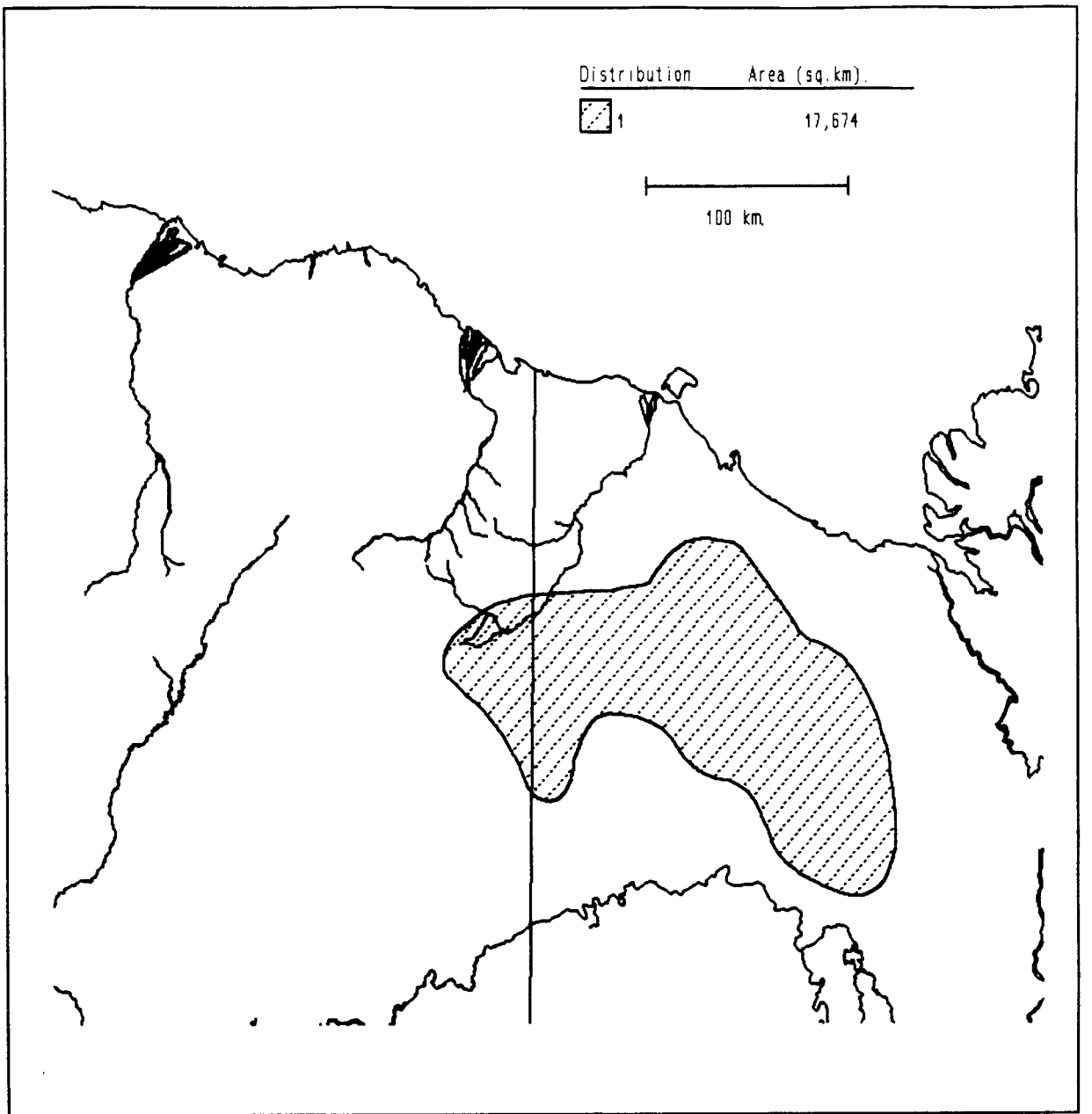

Figure 79. Distribution of the Porcupine Caribou Herd, 28 August - 2 October 1982.

FIGURE 80: Late Winter 1982/83

A dense concentration of caribou occurred in the area of Whitefish Lakes and upper Bell River. Other caribou were scattered south to the Peel River, west to the Fishing Branch, and east to the south Richardson Mountains.

In Alaska, an estimated 10,000 Porcupine caribou were distributed throughout the mountains between the lower Middle Fork of the Chandalar River and Arctic Village during mid November (dist. not shown). These were believed to be the only Porcupine caribou present in northeastern Alaska.

References:

Russell, D. E. and W. A. Nixon. 1986.

Whitten, K. R. 1984.

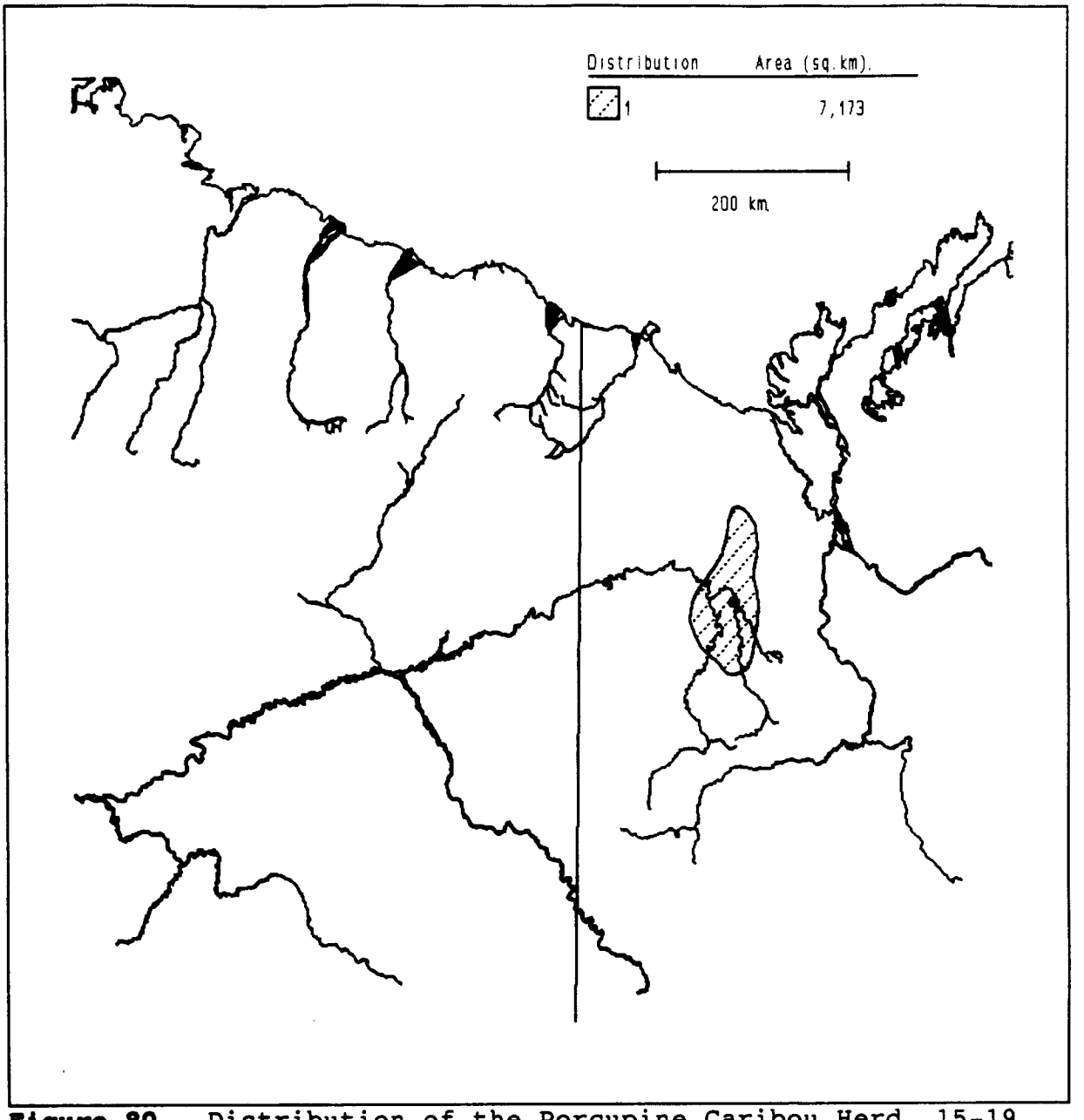

Figure 80. Distribution of the Porcupine Caribou Herd, 15-19 March 1983.

FIGURE 81: Spring 1983

Caribou or their sign were evident in the narrow band extending from Whitefish Lakes to the head of the Babbage River. Animals were concentrated in the low hills at the head of Berry Creek and the isolated range of hills south of Bonnet Lake and west to the head of the Driftwood River. The north-south extent of this distribution was about 100 miles and generally confined to the Richardson Mountains west of the Bell River. West of the Porcupine River, a much smaller undetermined number of caribou were moving northward through the head of Johnson Creek into the Lord Creek drainage.

References:

Russell, D. E. and W. A. Nixon. 1986.

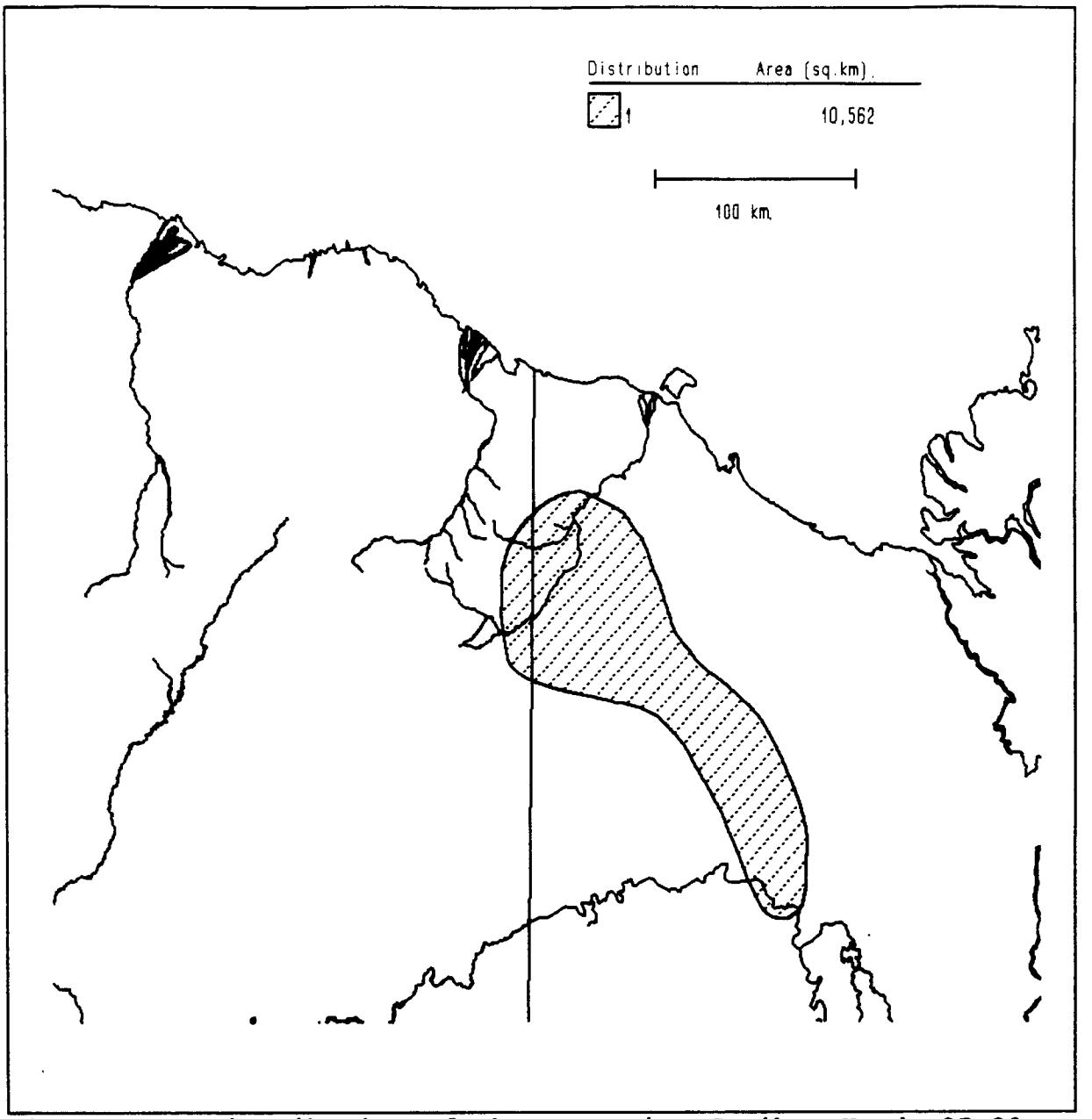

Figure 81. Distribution of the Porcupine Caribou Herd, 27-29 April 1983.

FIGURE 82: Spring Migration 1983

Five bulls were located in the area of Johnson Creek, Driftwood River, and Little Flat Creek. Three other bulls were located northeast of Old Crow Flats. Many cows were located in the region of Timber Creek, Muskeg Creek, Joe Creek and the Firth River. The remaining collared cows were located in the upper Bell and upper Blow Rivers, and between the Babbage and Trail Rivers. Movement was generally north and west.

References:

Russell, D. E. and W. A. Nixon. 1986.

U.S. Fish and Wildlife Service (unpublished reports).

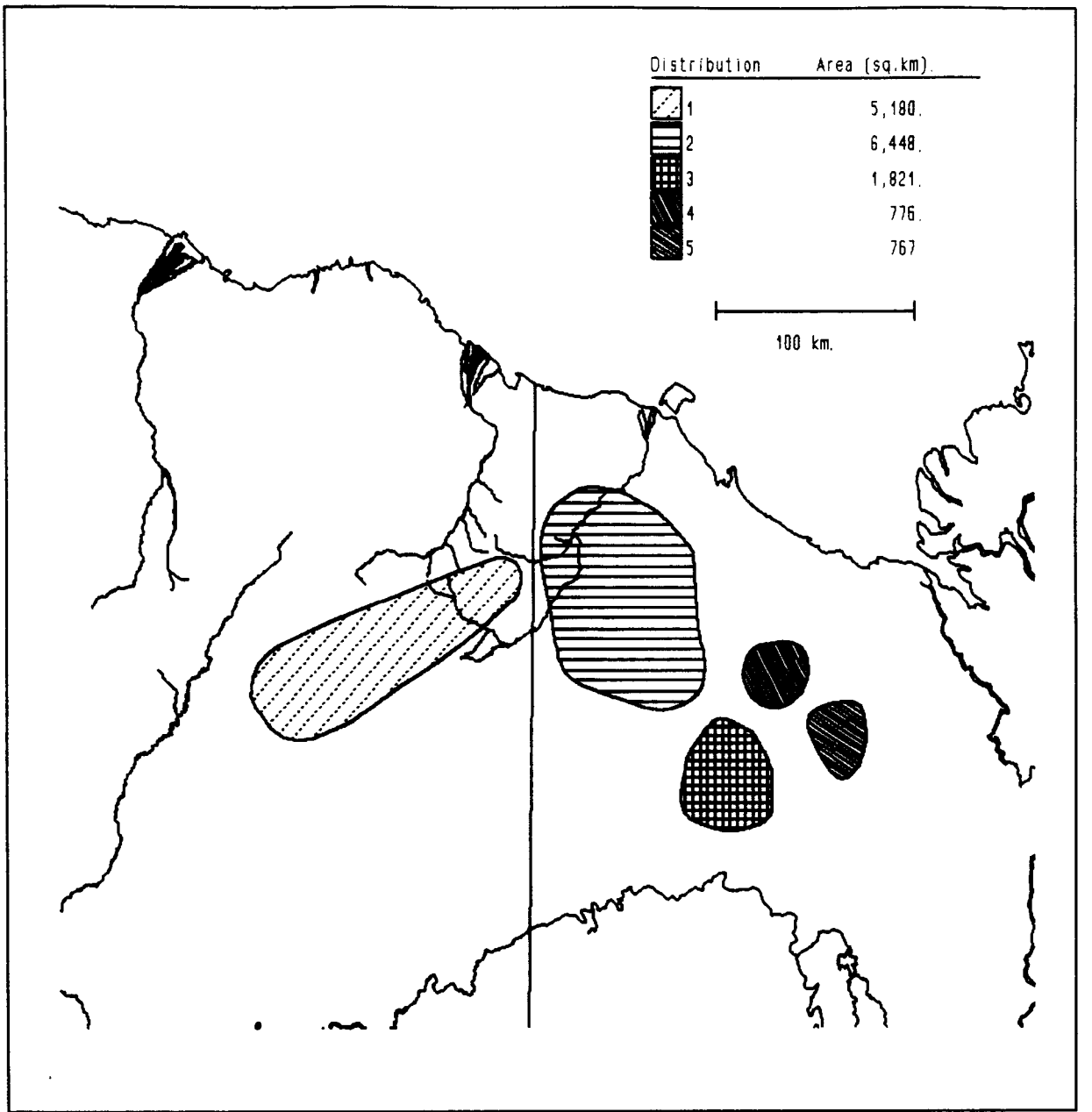

Figure 82. Distribution of the Porcupine Caribou Herd, 1-19 May 1983.

FIGURE 83: Spring Migration 1983

A large number of caribou were found on the Coastal Plain south of Clarence Lagoon and Komakuk. Others were located on the Malcolm and Firth River deltas, and on the upper Firth River among the Aspen, Joe, and Muskeg Creek tributaries.

References:

Russell, D. E. and W. A. Nixon. 1986.

U.S. Fish and Wildlife Service (unpublished reports).

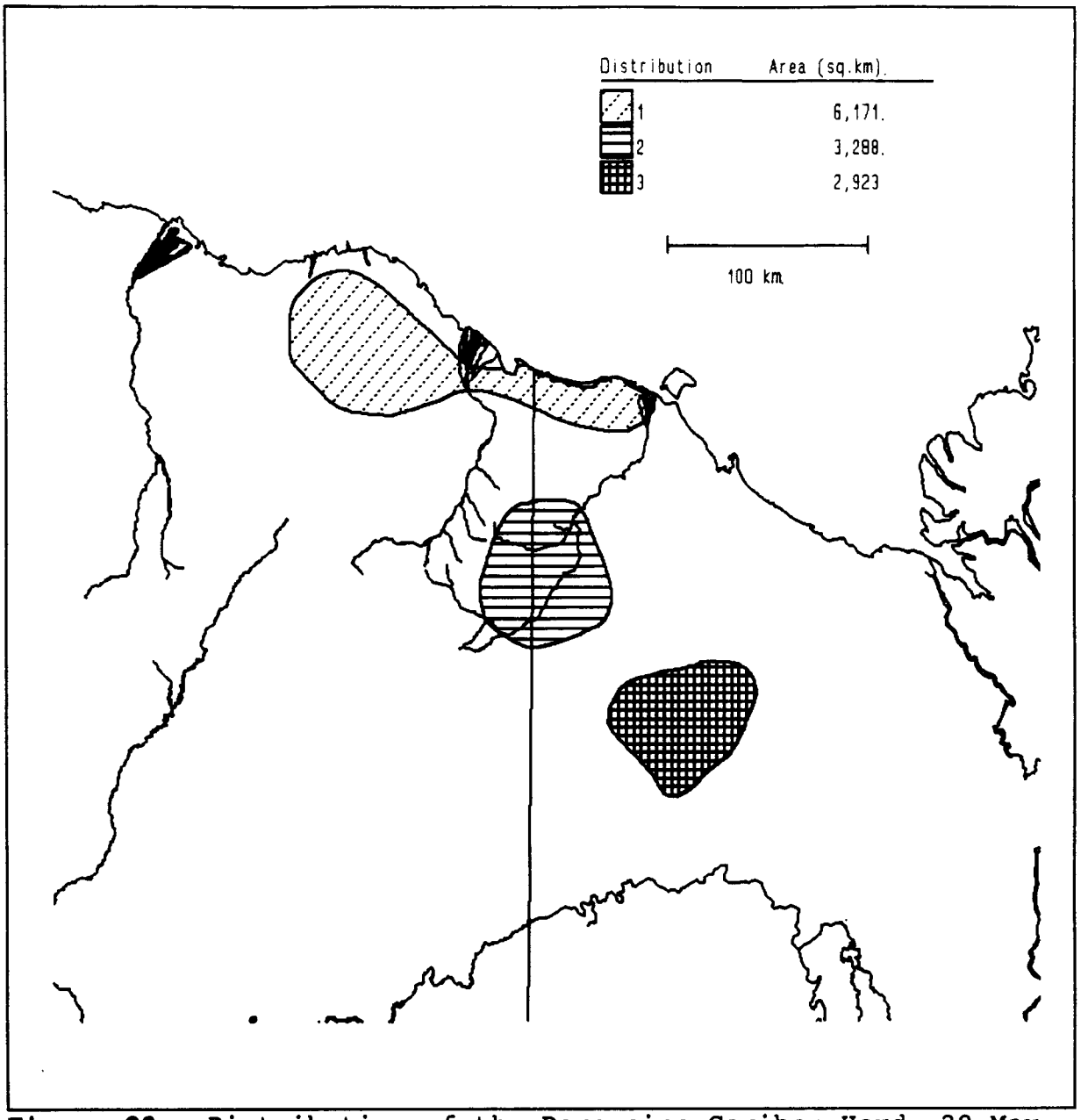

Figure 83. Distribution of the Porcupine Caribou Herd, 28 May - 3 June 1983.

FIGURE 84: Calving 1983

Caribou (bulls primarily) were concentrated in an arc along the north edge of the Old Crow Flats and in the headwaters of the Firth River. Scattered groups were also noted on the south edge of the British Mountains and along the coastal plain near the mouth of the Babbage River.

References:

Russell, D. E. and W. A. Nixon. 1986.

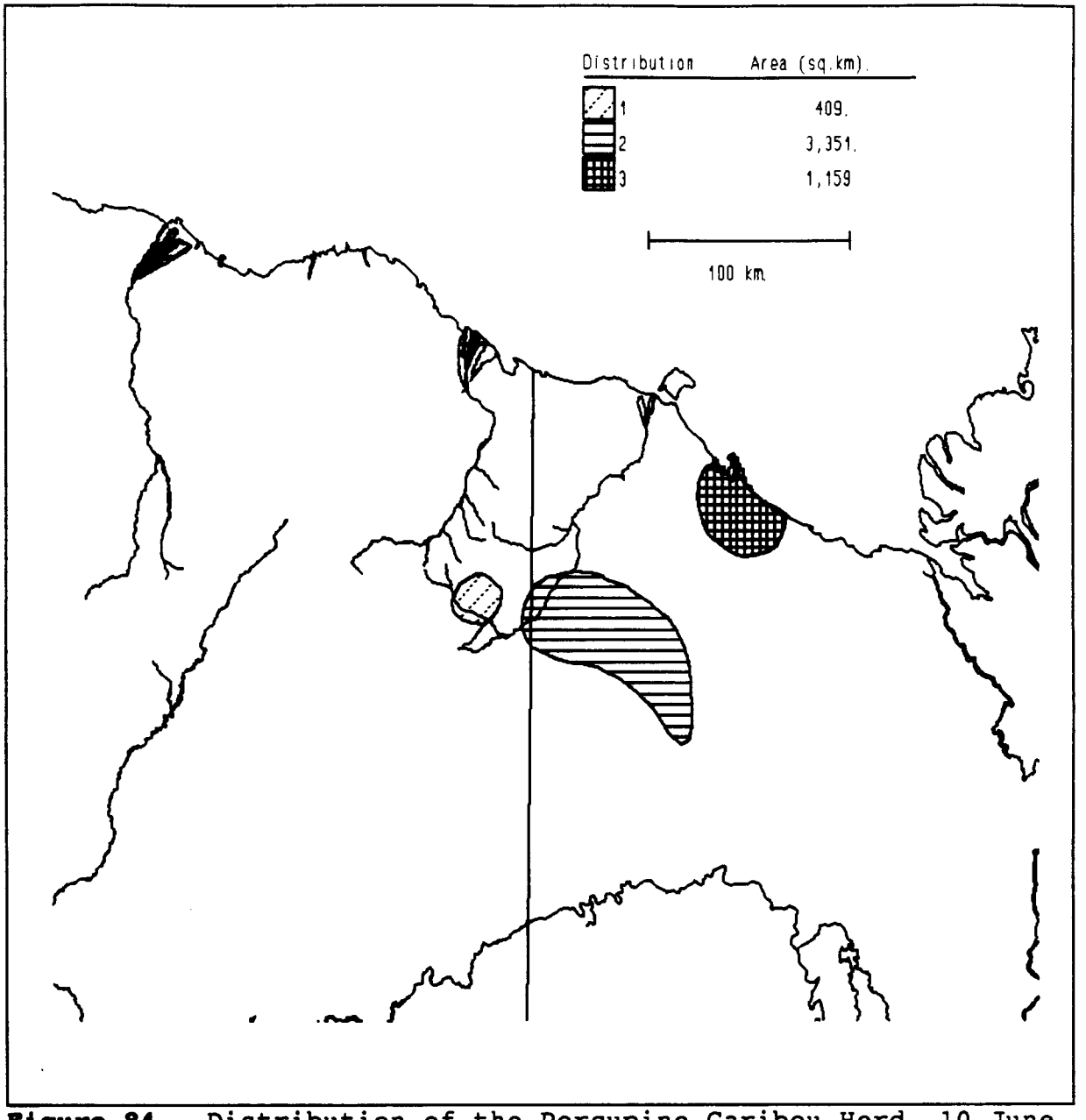

Figure 84. Distribution of the Porcupine Caribou Herd, 10 June 1983.

FIGURE 85: Post-calving 1983

Surveys continued to concentrate on the bull segment of the herd. The majority of radio-collared bulls were relocated within the headwaters and tributaries of the Firth River. Animals were noted also scattered north of Old Crow Flats, in the Crow drainage and on the coastal plain.

References:

Russell, D. E. and W. A. Nixon. 1986.

U.S. Fish and Wildlife Service (unpublished reports).

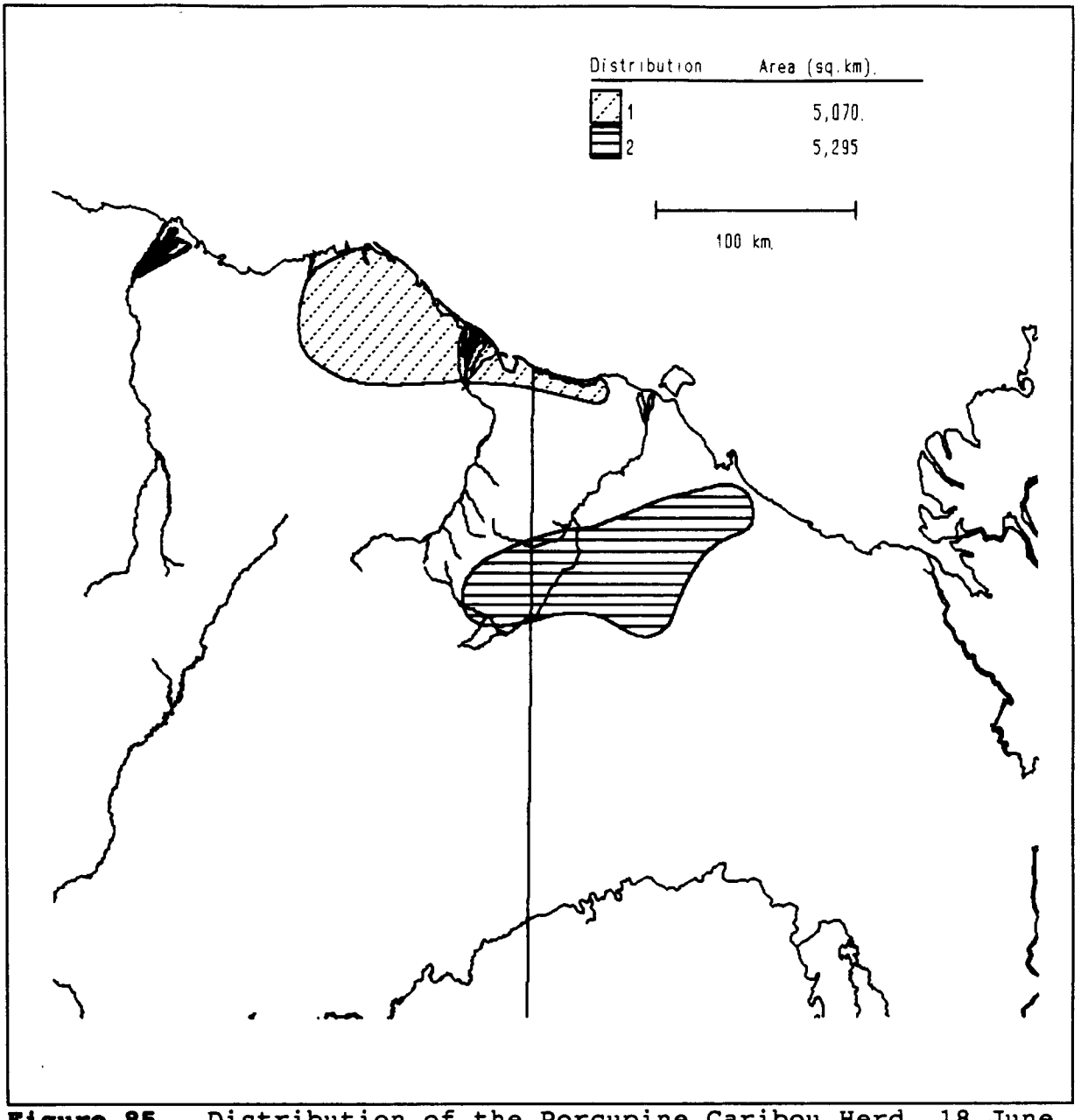

Figure 85. Distribution of the Porcupine Caribou Herd, 18 June 1983.

FIGURE 86: **Movement 1983**

The majority of bulls still remained in the Firth drainage, scattered from Joe Creek to the mouth of the Firth. More of a concentration appeared in the Crow River drainage compared to the 18 June survey.

References:

Russell, D. E. and W. A. Nixon. 1986.

U.S. Fish and Wildlife Service (unpublished reports).

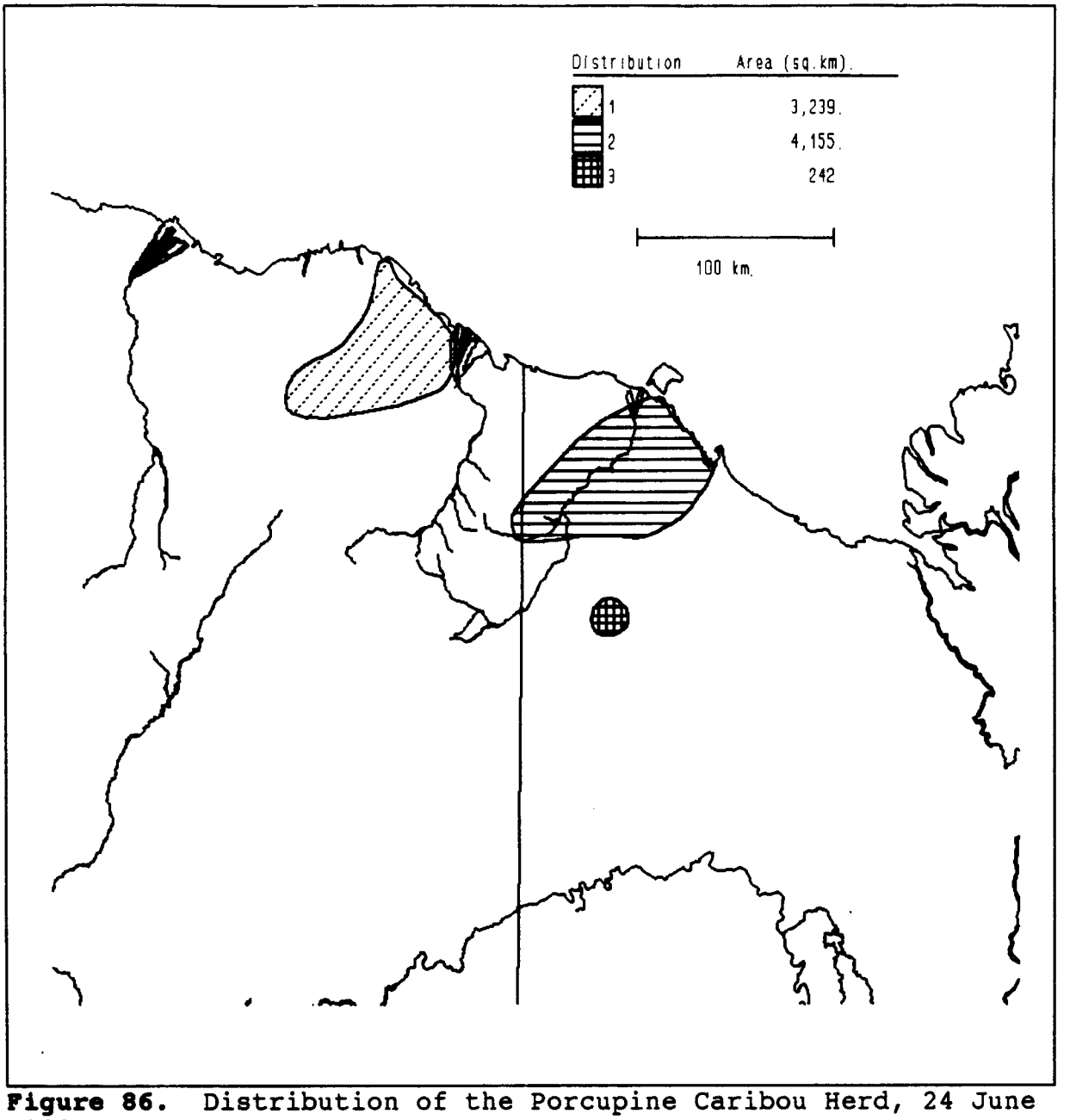

Figure 86. Distribution of the Porcupine Caribou Herd, 24 June 1983.

FIGURE 87: Early Summer 1983

Dist.1 was surveyed the 2-4 July.

The USFWS estimated that the entire herd, approximately 135,000, was within Dist.1.

References:

U.S. Fish and Wildlife Service (unpublished report)

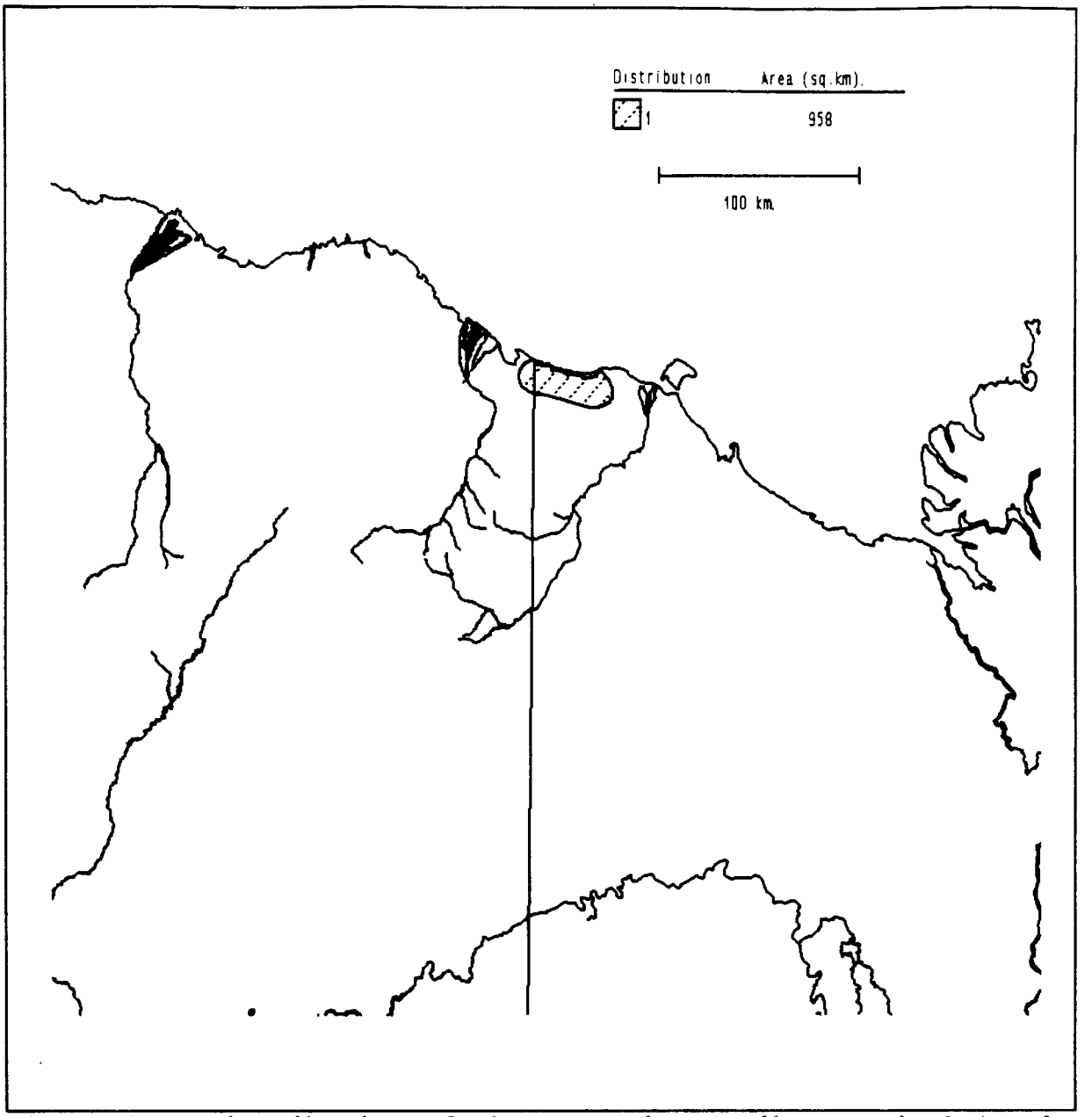

Figure 87. Distribution of the Porcupine Caribou Herd, 2-4 July 1983.

FIGURE 88: Early Summer 1983

Surveys were flown 6 July.

The USFWS estimated that the entire herd, approximately 135,000, was within Dist.1.

References:

U.S. Fish and Wildlife Service (unpublished reports)

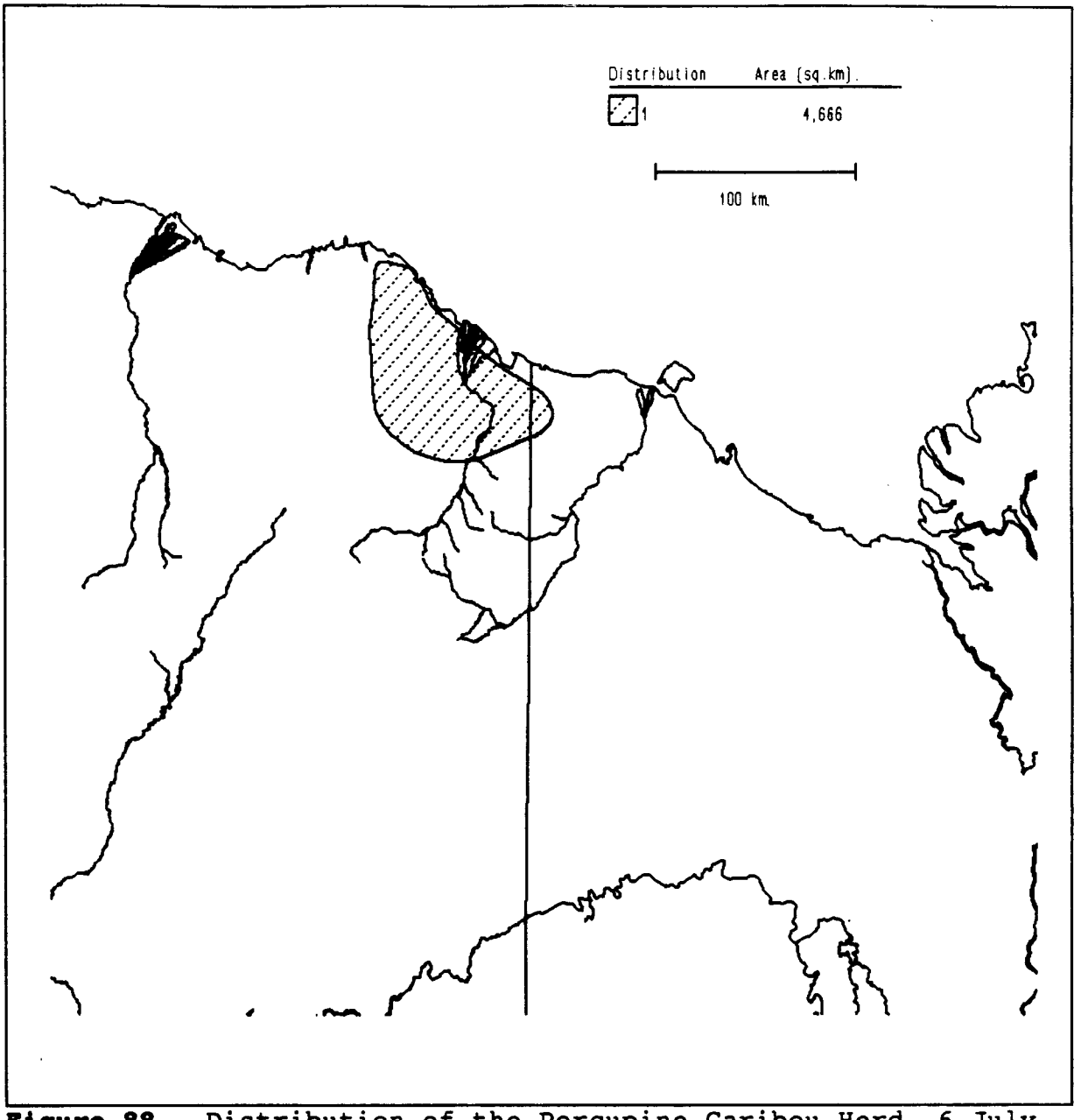

Figure 88. Distribution of the Porcupine Caribou Herd, 6 July 1983.

FIGURE 89: Mid Summer 1983

Surveys were flown 23-30 July.

References:

U.S. Fish and Wildlife Service (unpublished reports)

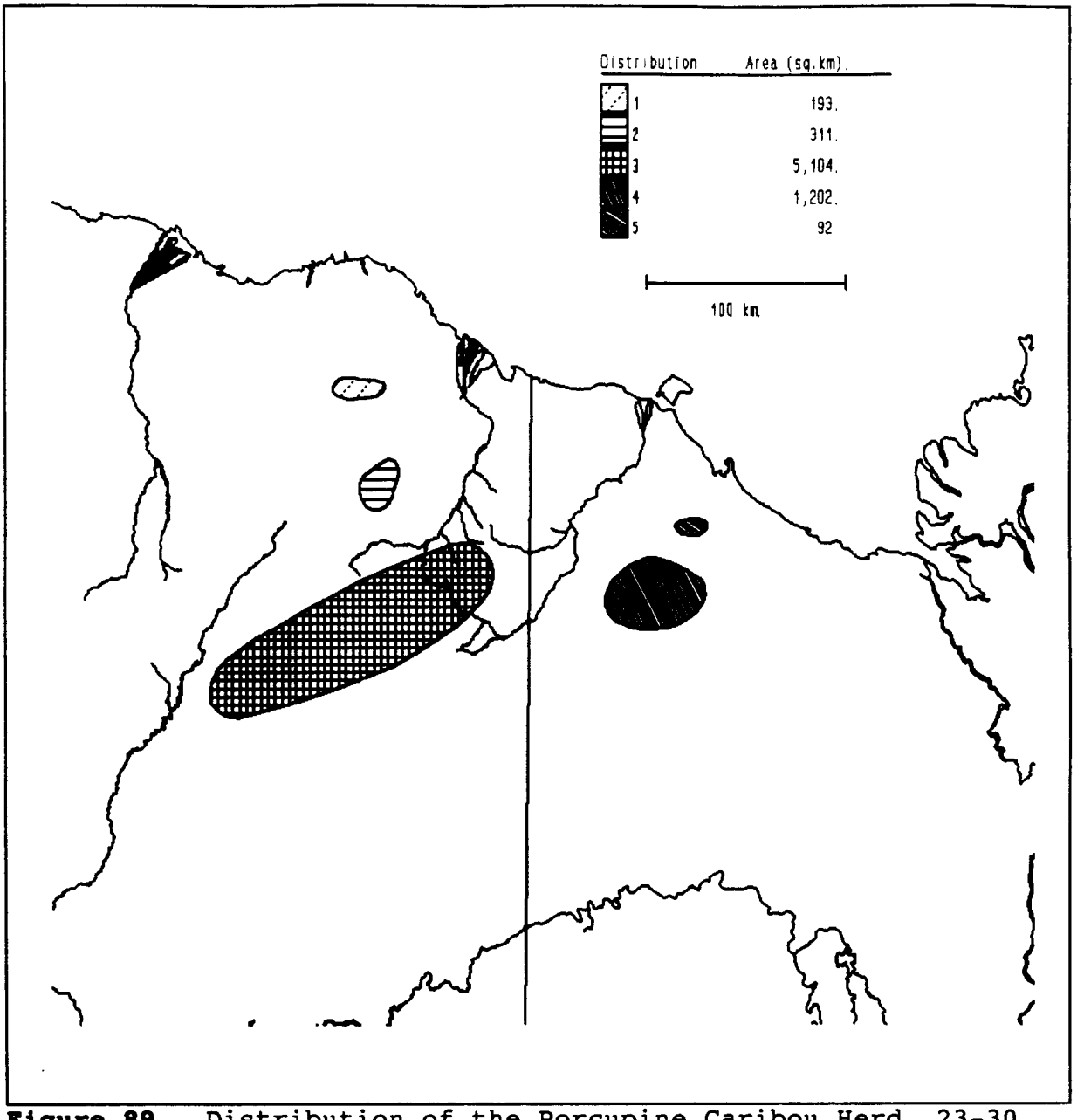

Figure 89. Distribution of the Porcupine Caribou Herd, 23-30 July 1983.

FIGURE 90: **Rut 1983**

An extensive survey over the winter range revealed that the majority of Yukon wintering animals were concentrated in the Ogilvie and Hart basins (67 of 70 collars relocated). Trailing in the area was extensive and snow cover was 100%. The remaining collars were scattered north to Old Crow generally evenly spaced along the Old Crow migration route.

References:

Russell, D. E. and W. A. Nixon. 1986.

U.S. Fish and Wildlife Service (unpublished reports)

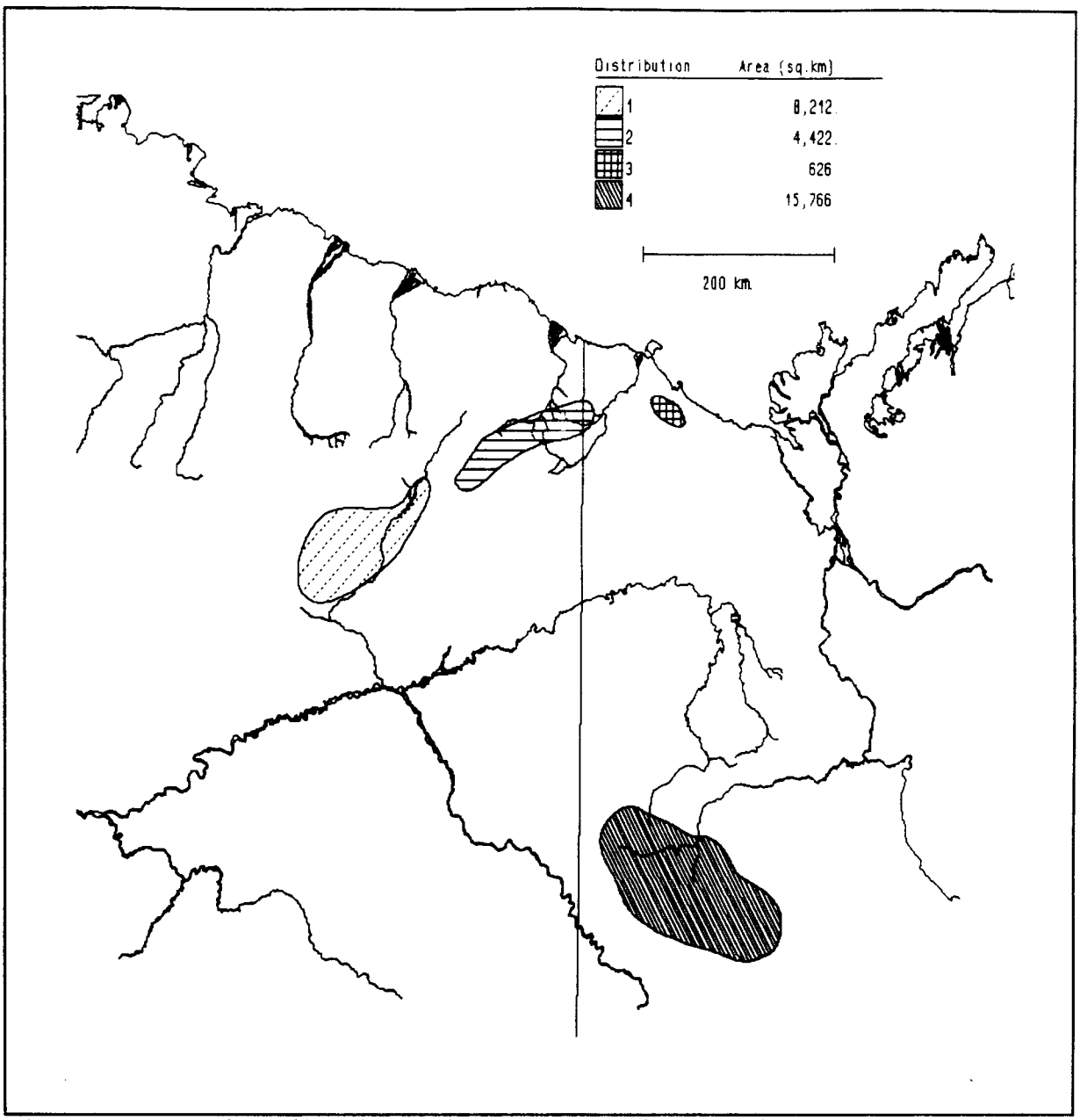

Figure 90. Distribution of the Porcupine Caribou Herd, 19 and 24-27 October 1983.

FIGURE 91: Late Fall 1983

Surveys were conducted 18-21 November.

References:

U.S. Fish and Wildlife Service (unpublished reports)

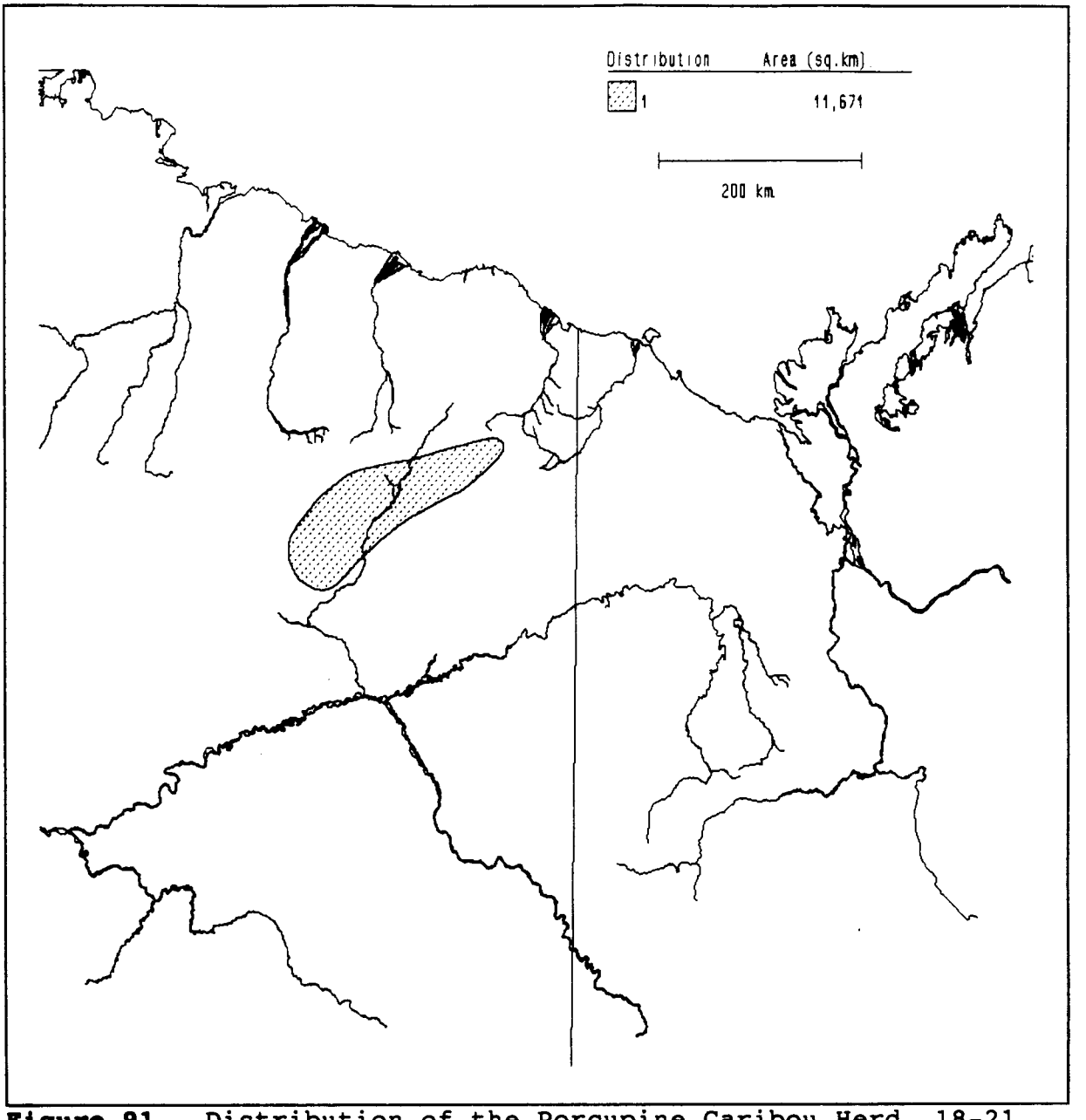

Figure 91. Distribution of the Porcupine Caribou Herd, 18-21 November 1983.

FIGURE 92: Early Winter 1983/84

Surveys conducted 7-8 December found an increasing number of collars located in the Peel plateau and Eagle plains region. However, the Ogilvie and Hart drainages still contained the majority of collars.

References:

Russell, D. E. and W. A. Nixon. 1986.

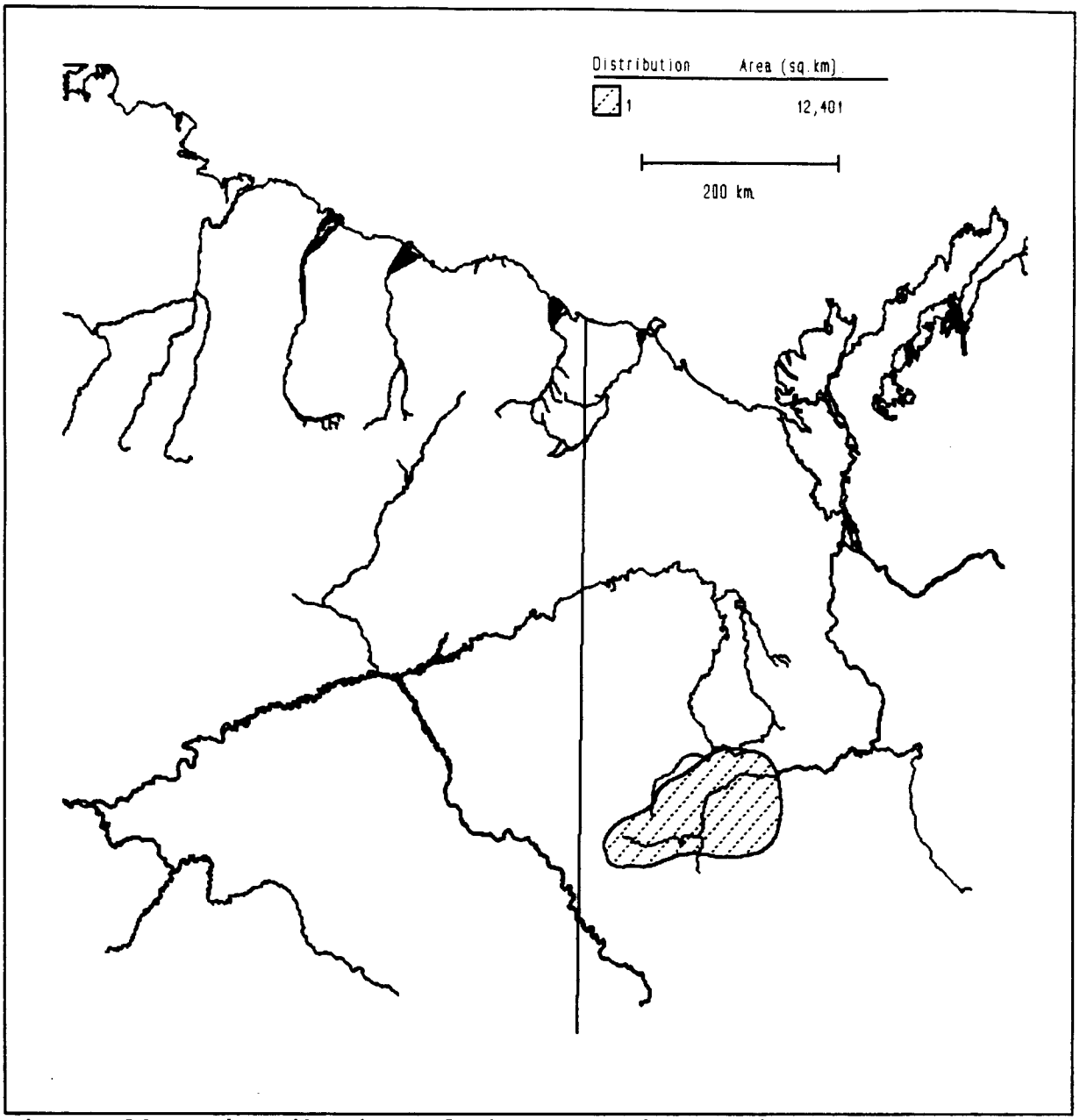

Figure 92. Distribution of the Porcupine Caribou Herd, 7-8 December 1983.

FIGURE 93: Mid Winter 1983/84

A northward shift in distribution continued by late winter with 35 of 60 collars relocated in the upper Whitestone drainage and Eagle plains. A large number of collars still remained in the Ogilvie basin.

References:

Russell, D. E. and W. A. Nixon. 1986.

U.S. Fish and Wildlife Service (unpublished reports)

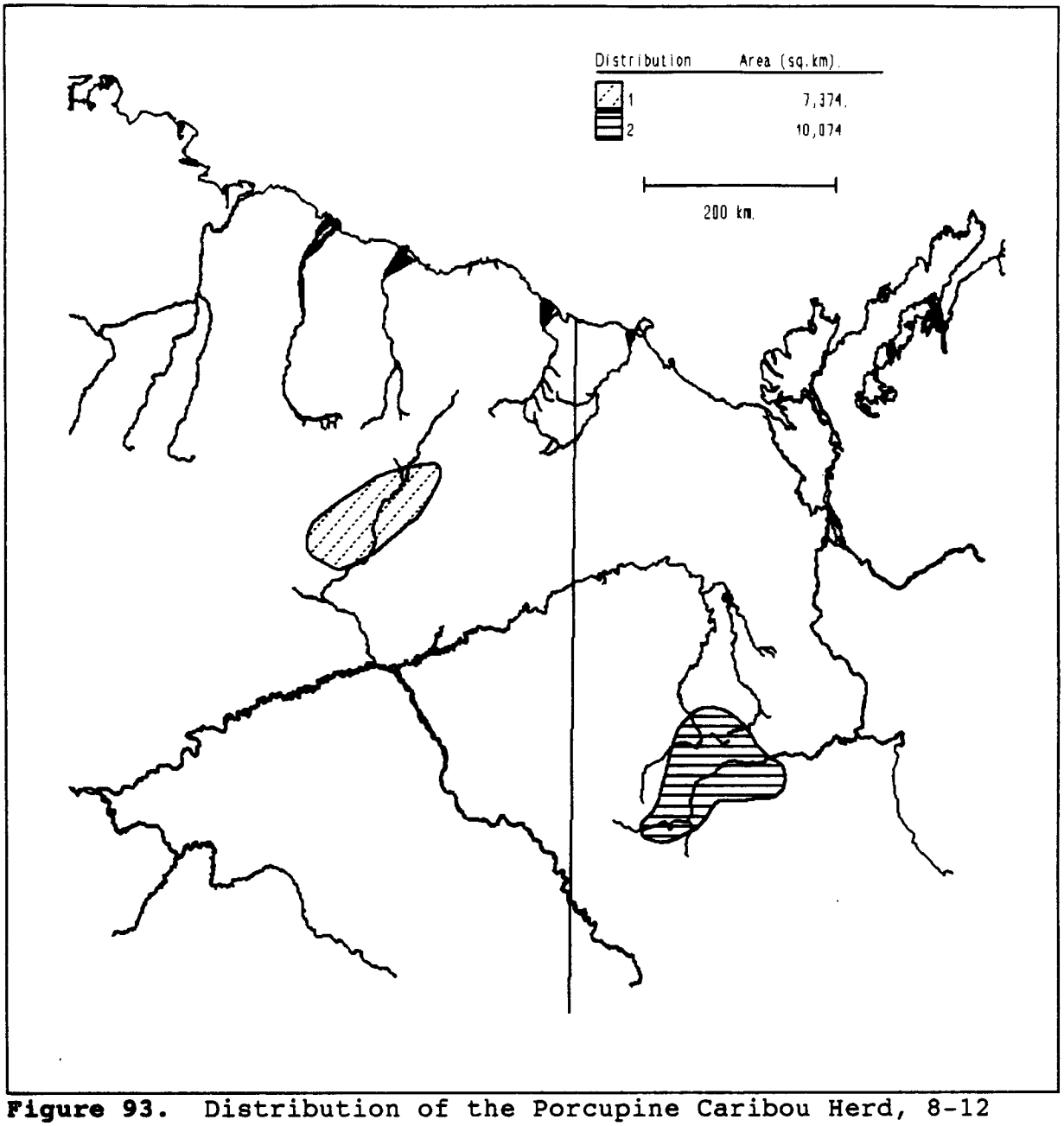

Figure 93. Distribution of the Porcupine Caribou Herd, 8-12 1984.

FIGURE 94: Late Winter 1983/84

Surveys were conducted 23-24 March.

References:

Russell, D. E. and W. A. Nixon. 1986.

U.S. Fish and Wildlife Service (unpublished reports)

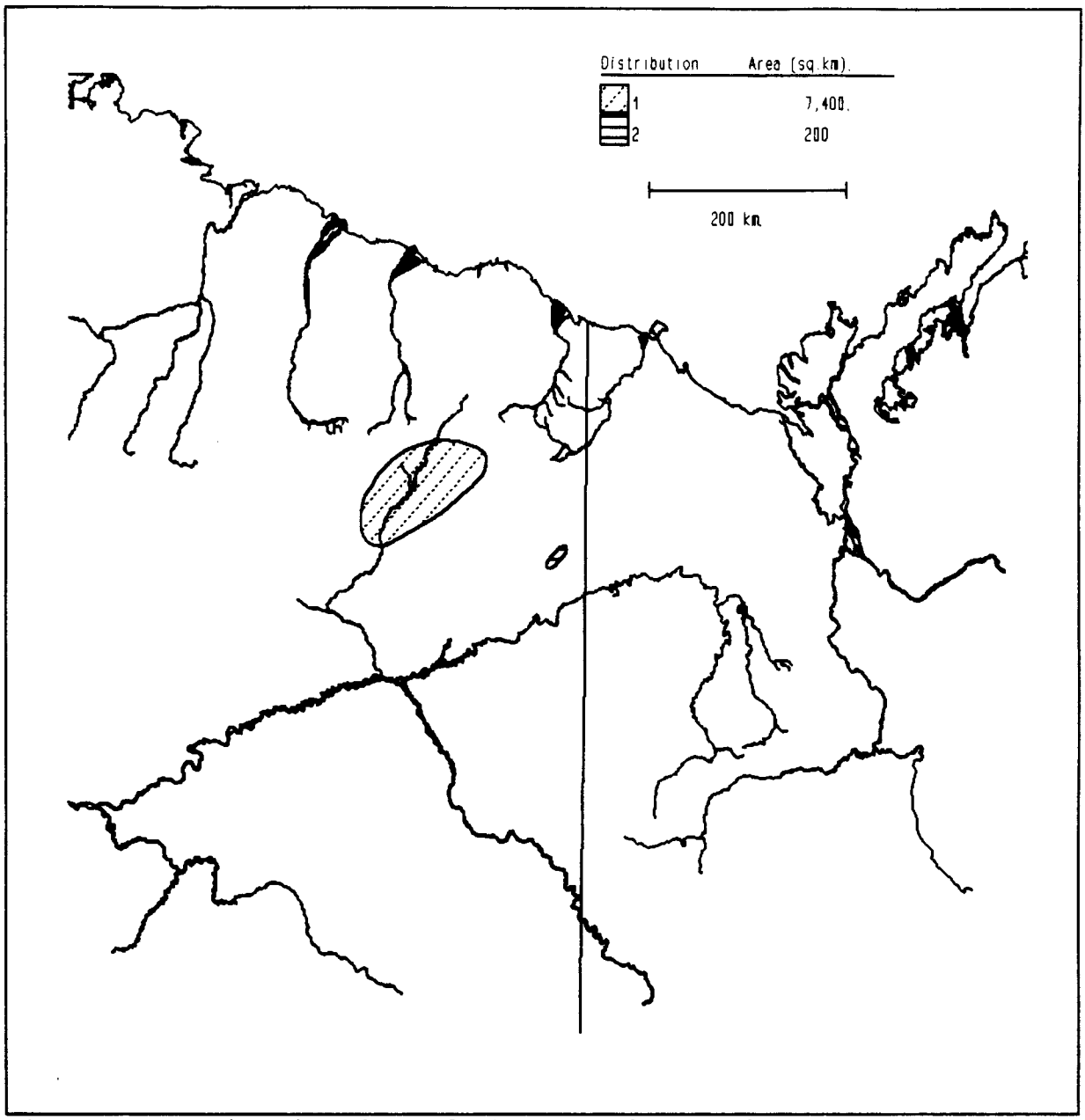

Figure 94. Distribution of th Porcupine Caribou Herd, 23-24 March 1984.

FIGURE 95: Spring 1984

The main concentration of radio-collared caribou was in the Fishing Branch River basin and lower Miner River (25 collars). The remainder were found in the upper Whitestone River basin (10 collars), the Ogilvie River basin (11 collars) and the Hart River basin (8 collars). The six remaining collars were relocated scattered between the areas of concentration.

References:

Russell, D. E. and W. A. Nixon. 1986.

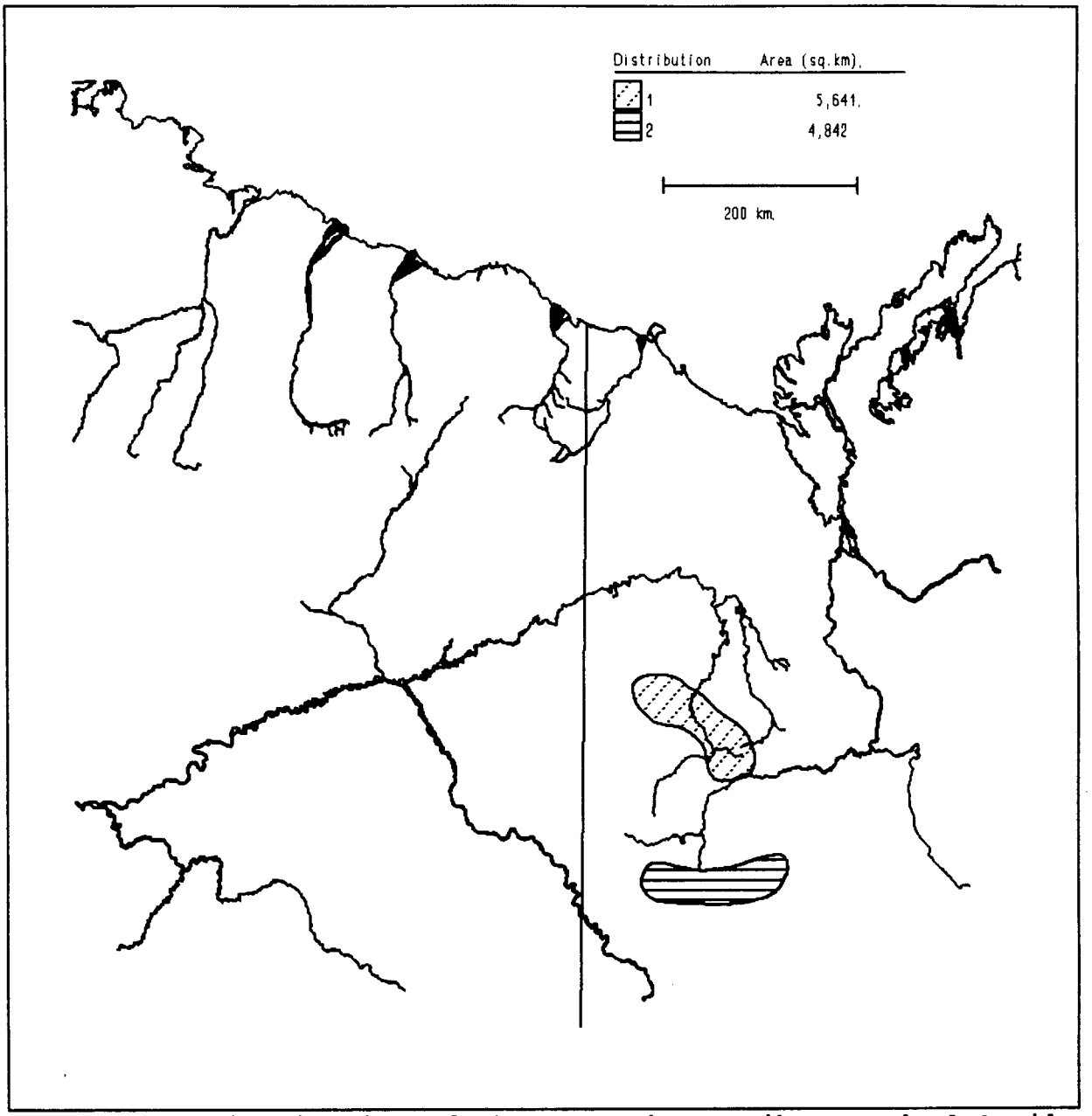

Figure 95. Distribution of the Porcupine Caribou Herd, 8 April 1984.

FIGURE 96: Spring 1984

Surveys were conducted 23-28 April. Spring migration proceeded slowly since the previous relocation flight, with the majority of animals still in the Fishing Branch drainage and lower Miner River. Animals in groups of 50 to several hundred were beginning to concentrate in the mountains south of Old Crow but did not appear to be progressing further north onto the Little Flats south of Old Crow. A few animals were scattered as far south as the Hart basin.

References:

Russell, D. E. and W. A. Nixon. 1986.

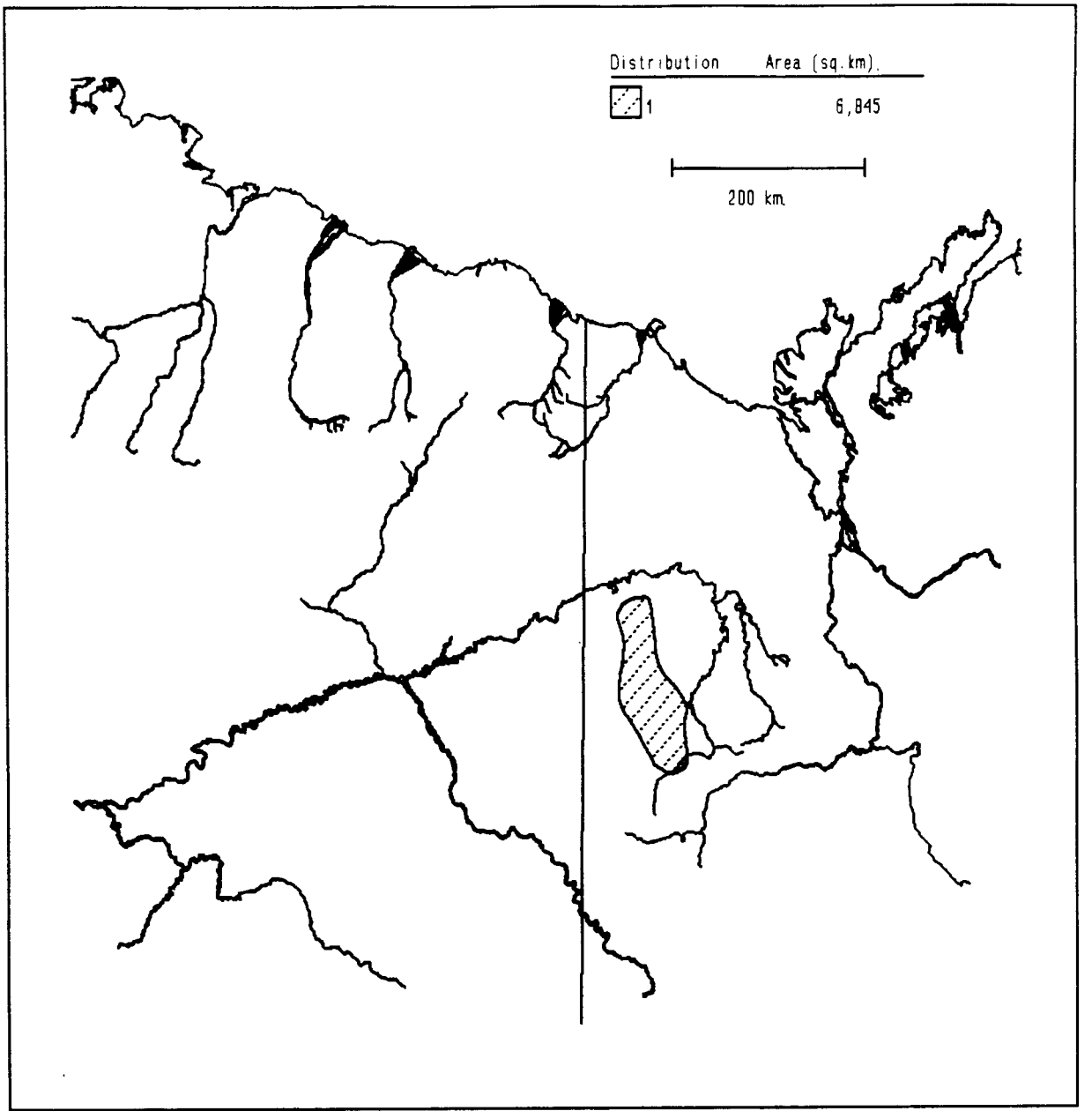

Figure 96. Distribution of the Porcupine Caribou Herd, 23-28 April 1984.

FIGURE 97: Spring Migration 1984

A relocation flight was flown 18 May. The majority of animals were located northwest, west and southwest of the Old Crow Flats. Another concentration still remained in the Bluefish River area while a few animals had proceeded into the Babbage River, Trail River and Barn Mountain region.

References:

Russell, D. E. and W. A. Nixon. 1986.

U.S. Fish and Wildlife Service (unpublished reports)

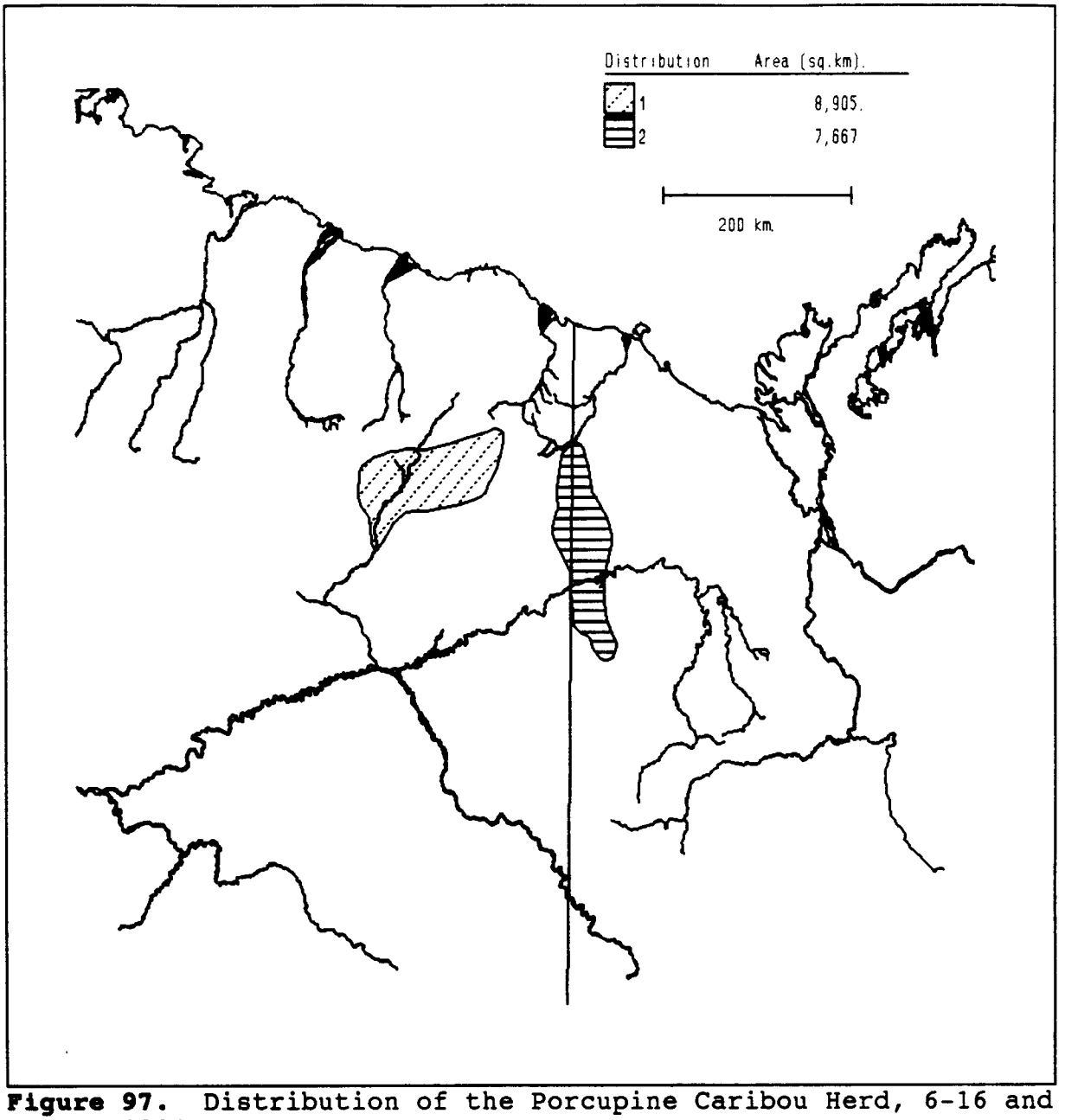

Figure 97. Distribution of the Porcupine Caribou Herd, 6-16 and 18 May 1984.

FIGURE 98: Pre-calving 1984

Distributions determined from relocation data forms; no report was made from this survey.

References:

U.S. Fish and Wildlife Service (unpublished reports)

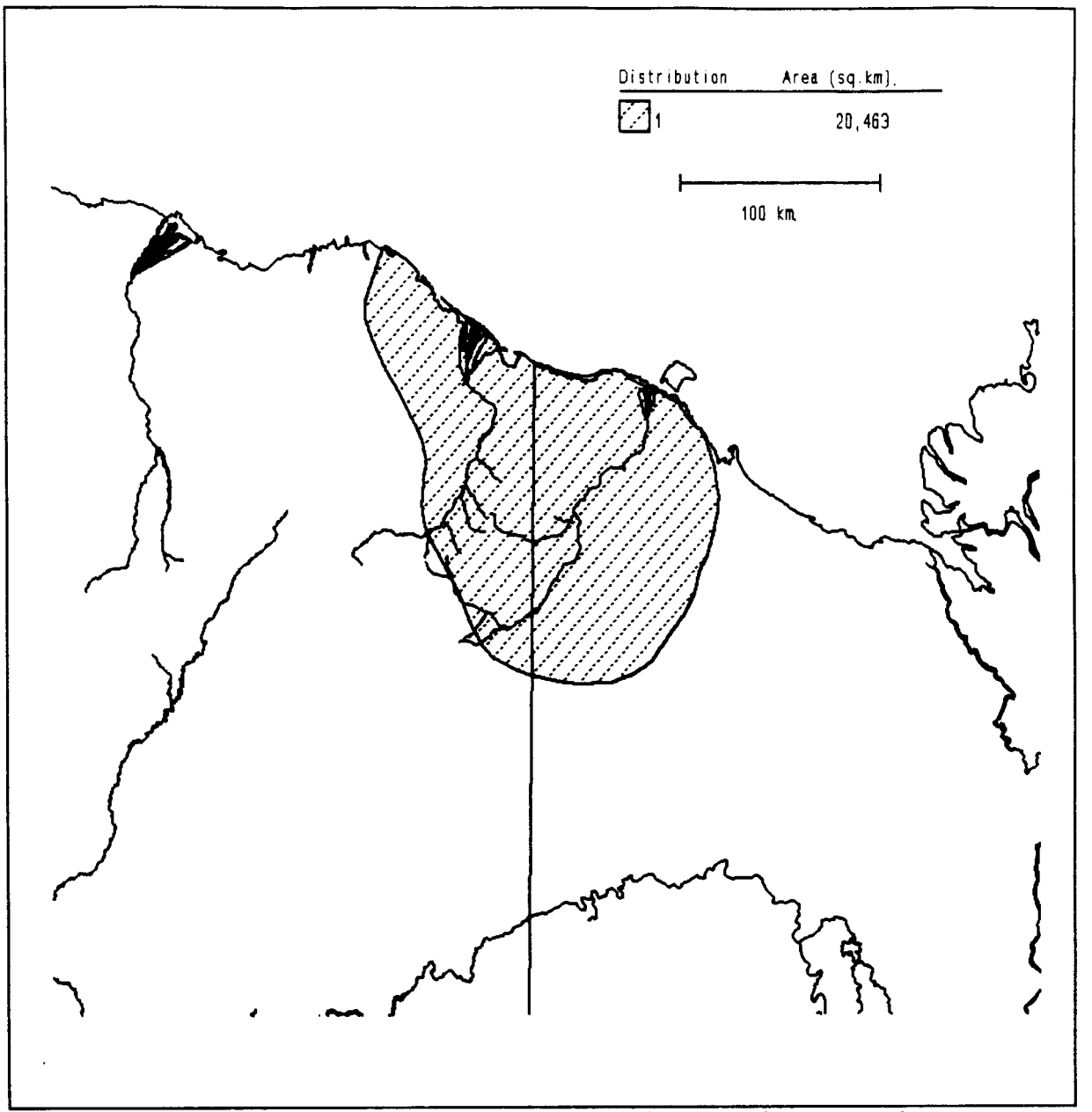

Figure 98. Distribution of the Porcupine Caribou Herd, 30 May - 2 June 1984.

FIGURE 99: Movement 1984

Distributions determined from relocation data forms; no report was made from this survey.

References:

U.S. Fish and Wildlife Service (unpublished reports)

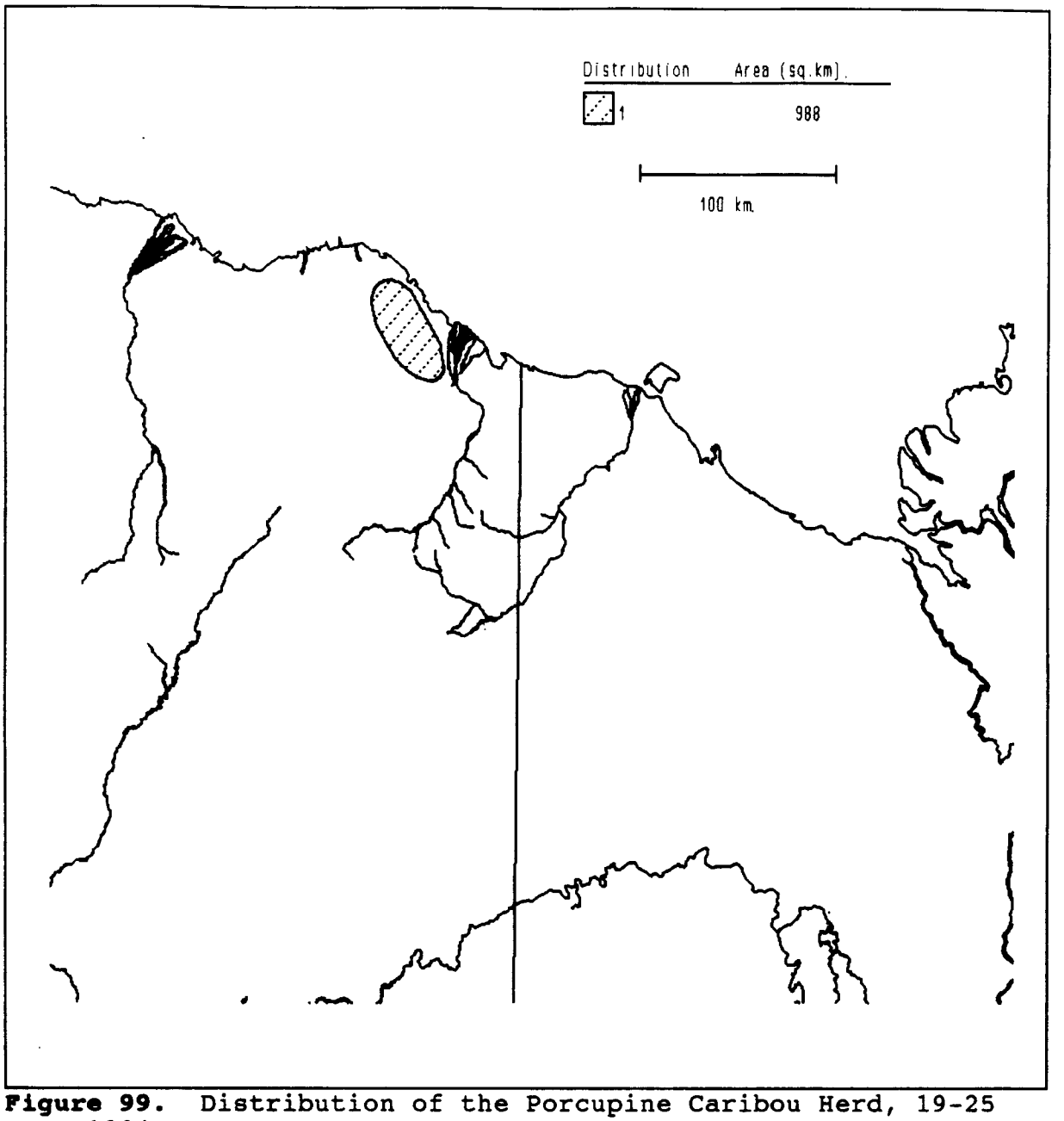

Figure 99. Distribution of the Porcupine Caribou Herd, 19-25 June 1984.

FIGURE 100: Early Summer 1984

Intensive radio tracking of selected collars was conducted during the period of insect harassment as part of ongoing Canadian Wildlife Service research into the range use patterns of the Porcupine herd.

By 5 July, large groups of post-calving cows and trailing bulls had joined up by the Yukon/Alaska border and were forming discrete groups (Dist.2). Radio-tracking flights indicated that about 100,000 animals were in the Yukon in 13 groups. The largest of these groups was followed through the season. This group, located on the Spring River contained close to 40,000 animals with 32 radio-collars. On 6 July and for two days strong winds blew from the southwest preventing monitoring of the group. On 8 July winds had subsided enough to relocate the group, greatly fragmented, approximately 30 miles to the southwest at the head of the Trail River (Dist.3). For the next five days the animals moved little. Mosquitoes were bothersome during this time, and the typical diurnal pattern was foraging at night, moving to relief areas by 0800, remaining in these areas until 1930, and then moving out into the basins of Muskeg Creek for another period of feeding. On 12 July another storm began and continued until 15 July. The large group split into at least 6 smaller groups, all but two of which moved westward into Alaska along the northern edge of Old Crow Flats (Dist.4).

References:

Russell, D. E. and W. A. Nixon. 1986.

U.S. Fish and Wildlife Service (unpublished reports)

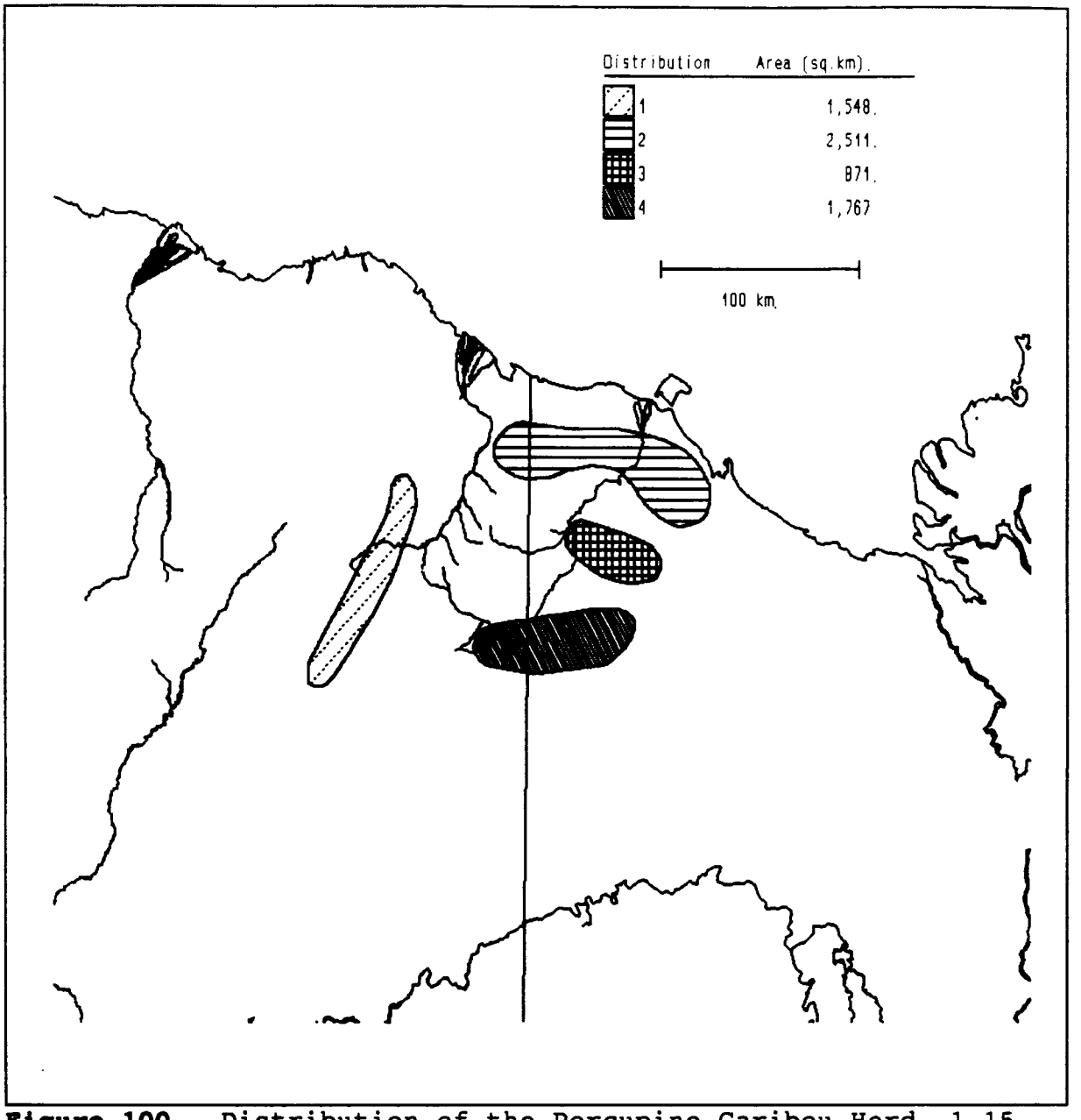

Figure 100. Distribution of the Porcupine Caribou Herd, 1-15 July 1984.

FIGURE 101: Mid Summer 1984

By mid July, most of the caribou that had aggregaed in the British Mountains in the northern Yukon moved southwestward from the Firth River and joined the caribou in Alaska. Most then moved westward across the southern foothills of the Brooks Range and reached Arctic Village between 15-20 July. At the end of the month, over 100,000 caribou, including at least 104 with radio-collars, were scattered across the foothills and mountains between Arctic Village and the Coleen River (Dist.1).

By 19 July only about 8,000 caribou remained in the Yukon. These animals, in various size groups, moved quickly eastward, through the Barn Range, across the Blow valley, and remained in the northern Richardson Mountains until 1 August (Dist.2). By that time the frequent storms and cool weather served to disperse the larger groups and bands rarely exceeded 100 caribou in August.

References:

Russell, D. E. and W. A. Nixon. 1986.

Whitten, K. R., F. J. Mauer, F. W. Garner, and D. E. Russell. 1986.

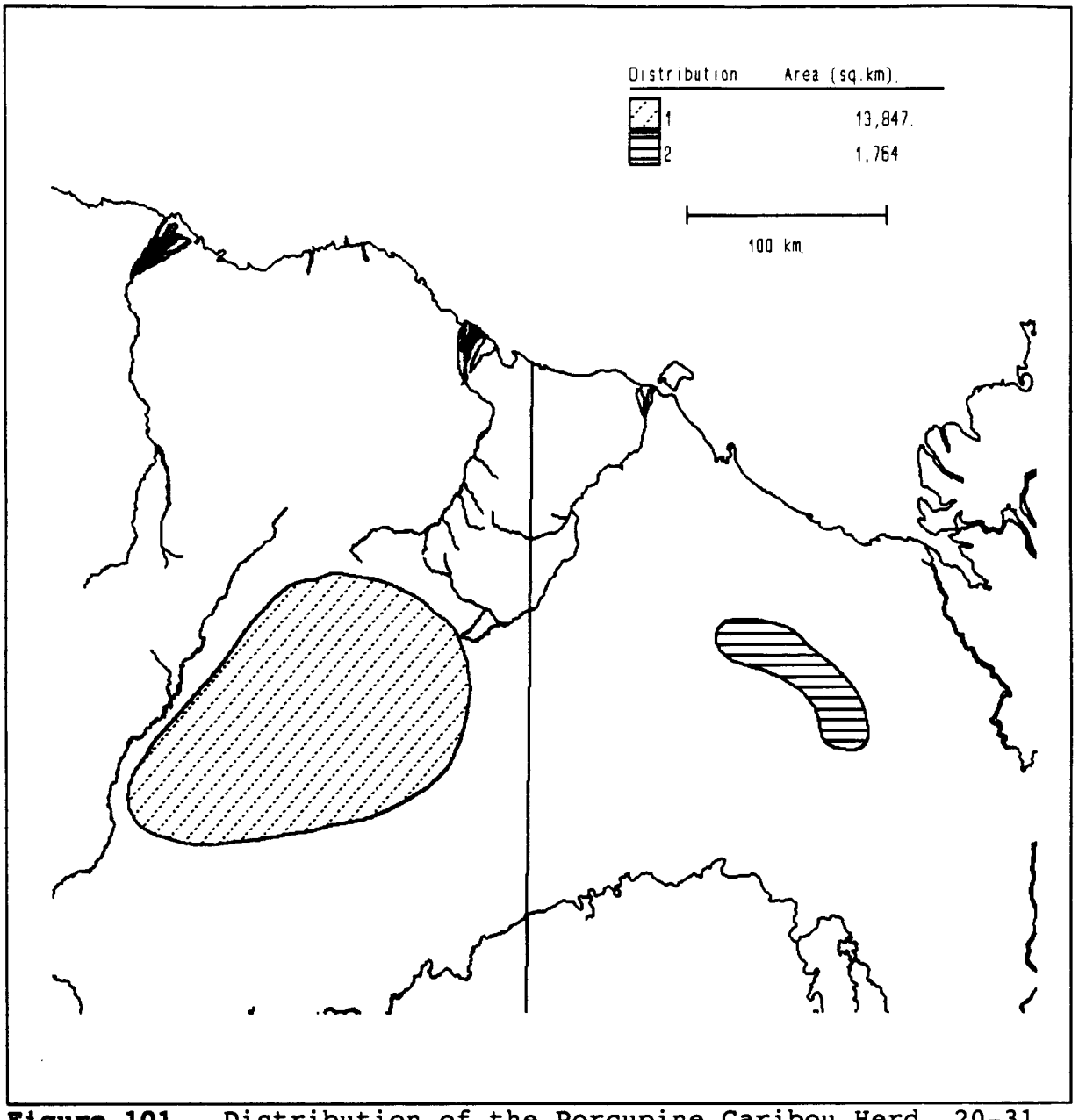

Figure 101. Distribution of the Porcupine Caribou Herd, 20-31 July 1984.

FIGURE 102: Late Summer 1984

Most of the caribou in Alaska moved back into the northern Yukon by late August. A relocation flight 22-23 August found radio-collared caribou throughout the northern Yukon, with the majority southwest of the Old Crow Flats.

References:

Russell, D. E. and W. A. Nixon. 1986.

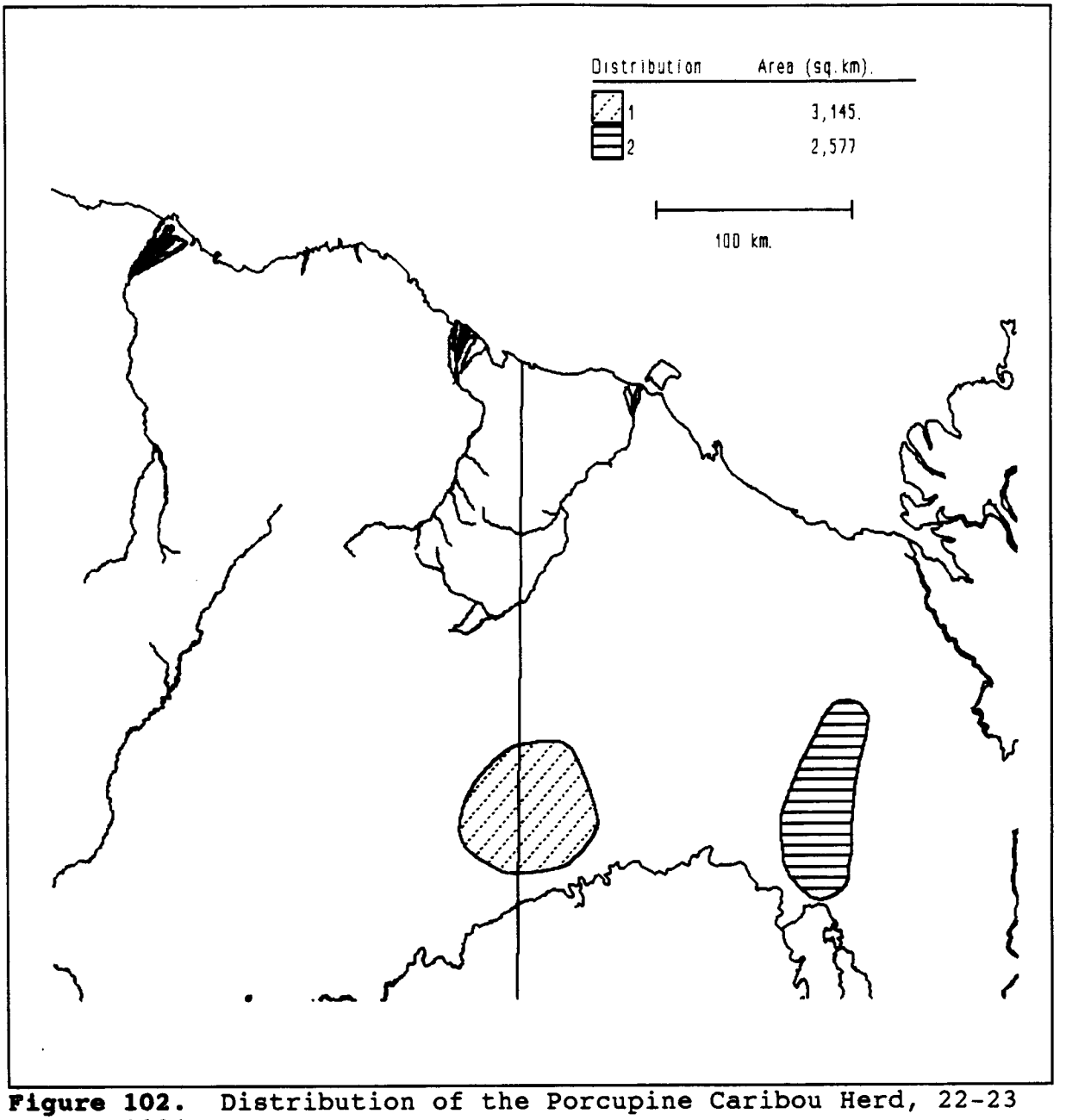

Figure 102. Distribution of the Porcupine Caribou Herd, 22-23 August 1984.

FIGURE 103: Late Summer 1984

Distributions determined from relocation data forms; no report was made from this survey.

References:

U.S. Fish and Wildlife Service (unpublished reports)

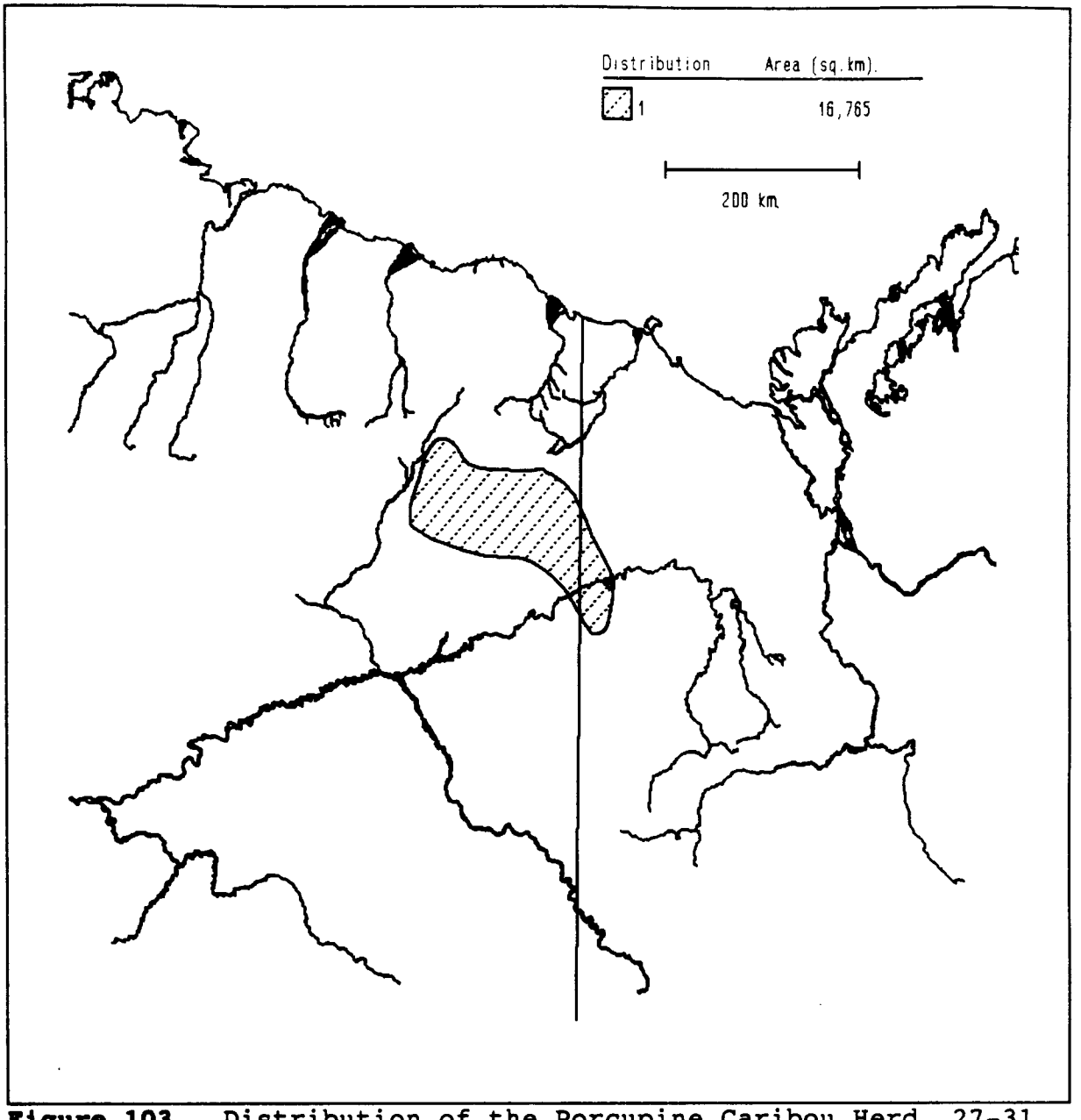

Figure 103. Distribution of the Porcupine Caribou Herd, 27-31 August 1984.

FIGURE 104: Fall Migration 1984

Ninety-three collared caribou were relocated during surveys flown 20-22 September. Three areas of concentration were noted - the headwaters of the Blow River/northern Richardson Mountains (Dist.2, 27 collars), south of Old Crow/head of Lord Creek (Dist.3, 19 collars), and the head of the Fishing Branch River (Dist.4, 12 collars). The furthest south collars were located was in the head of the Miner River (65°40' lat. 140°0' long.).

References:

Russell, D. E. and W. A. Nixon. 1986.

U.S. Fish and Wildlife Service (unpublished reports)

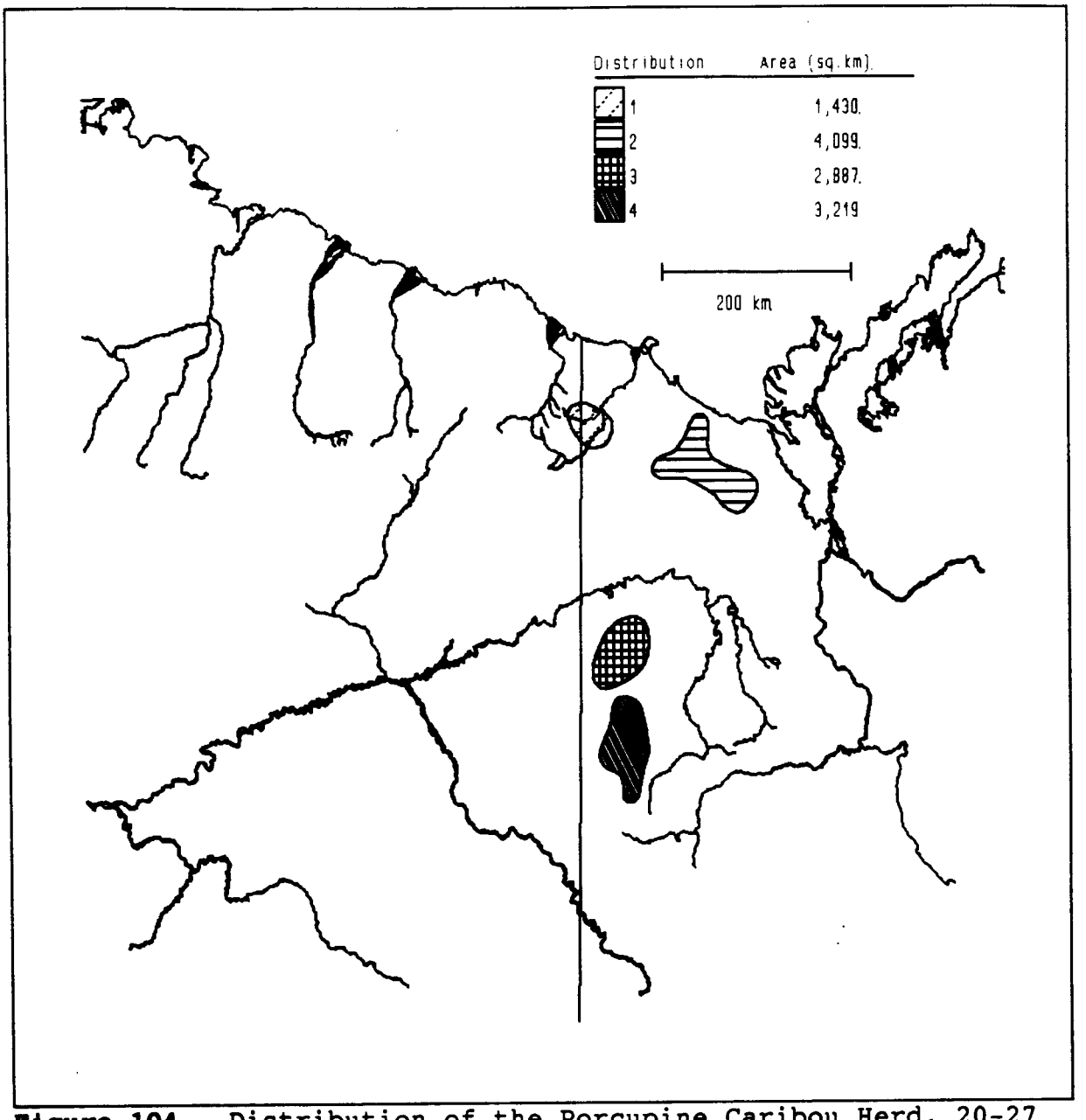

Figure 104. Distribution of the Porcupine Caribou Herd, 20-27 September 1984.

FIGURE 105: **Late Fall 1984**

Surveys flown 16-17 November found the vast majority of the herd located in the northern Richardson Mountains from the North Slope to the latitude of Fort McPherson (Dist.2, 35 collars). Other areas of occupation included the north eastern portion of the Eagle Plains (6 collars), west of Old Crow Flats (3 collars) and the Ogilvie basin (2 collars).

References:

Russell, D. E. and W. A. Nixon. 1986.

U.S. Fish and Wildlife Service (unpublished reports)

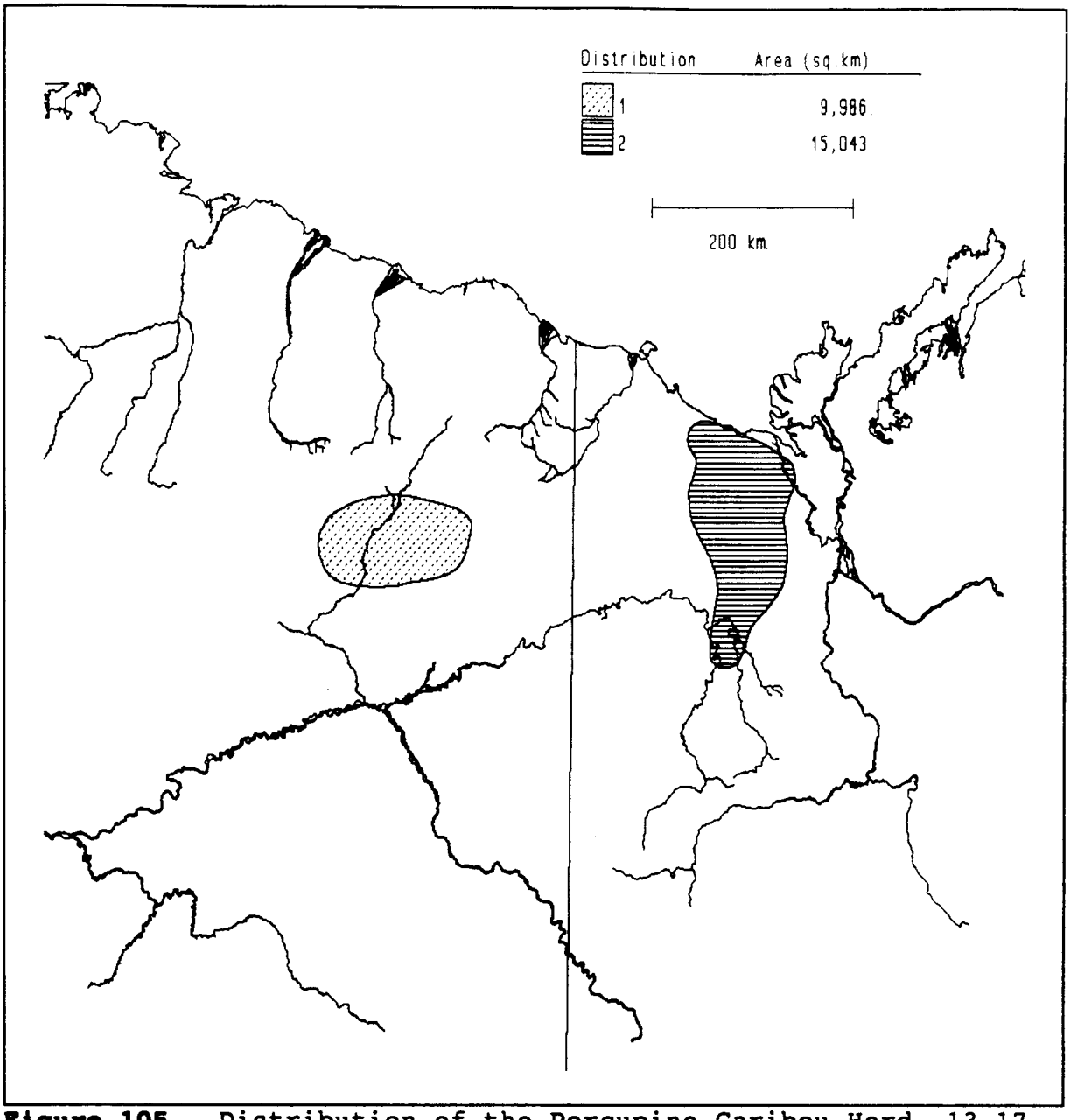

Figure 105. Distribution of the Porcupine Caribou Herd, 13-17 November 1984.

FIGURE 106: **Early Winter 1984/85**

Surveys were flown 6-7 December. Distributions were similar to those found in late fall. If any shift in distribution occurred between the surveys it was animals in the far north moving south and east (on to the MacKenzie Delta near Aklavik), and animals on the Eagle Plains moving north into the Whitefish Lakes region.

References:

Russell, D. E. and W. A. Nixon. 1986.

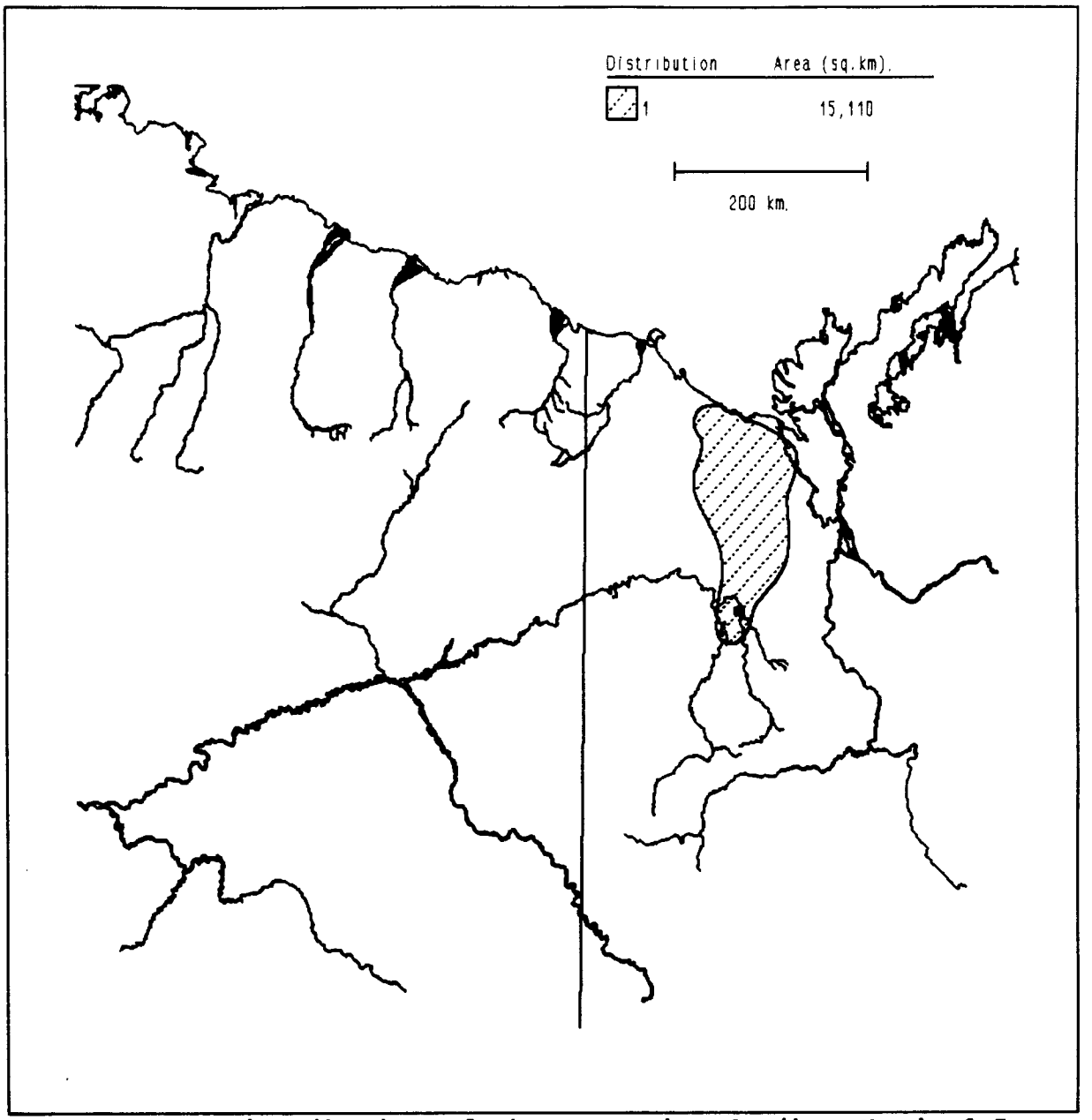

Figure 106. Distribution of the Porcupine Caribou Herd, 6-7 December 1984.

FIGURE 107: **Late Winter 1984/85**

References:

U.S. Fish and Wildlife Service (unpublished reports)

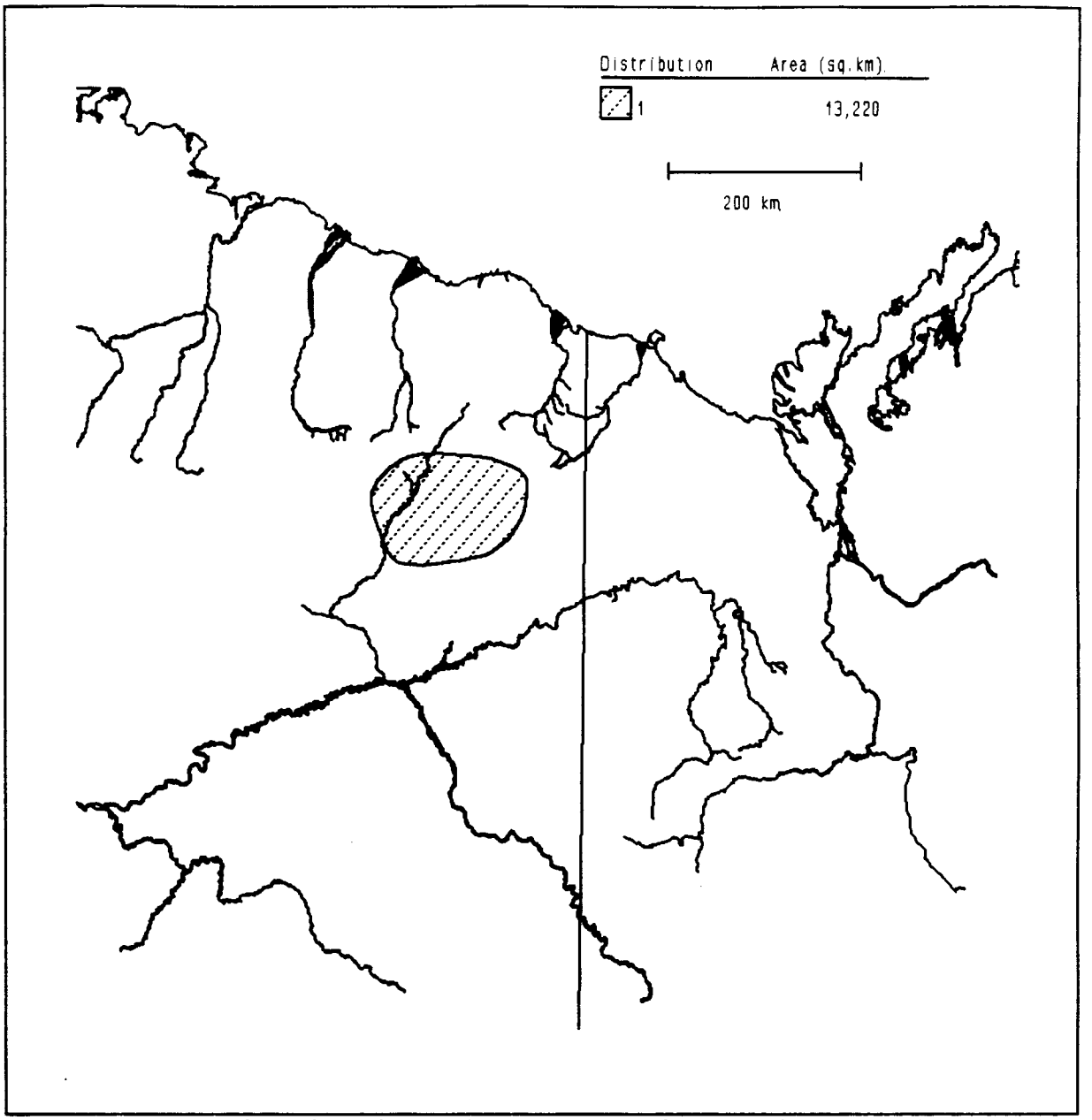

Figure 107. Distribution of the Porcupine Caribou Herd, 28 February 1985.

FIGURE 108: Spring Migration and Pre-calving 1985

Only 23 collars were relocated on a survey conducted 22 May. Most of the PCH (primarily cows and juveniles) had already moved into Alaska along the north end of the Old Crow Flats (Dist.3) and along the North Slope (Dist.4). Of those found, the majority (17) were located west of the Babbage River (Dist.2), primarily in the head of the Crow and Firth Rivers. Only 2 collars (both bulls) remained in the northern Richardson Mountains (Dist.1).

References:

Russell, D. E. and W. A. Nixon. 1986.

U.S. Fish and Wildlife Service (unpublished reports)

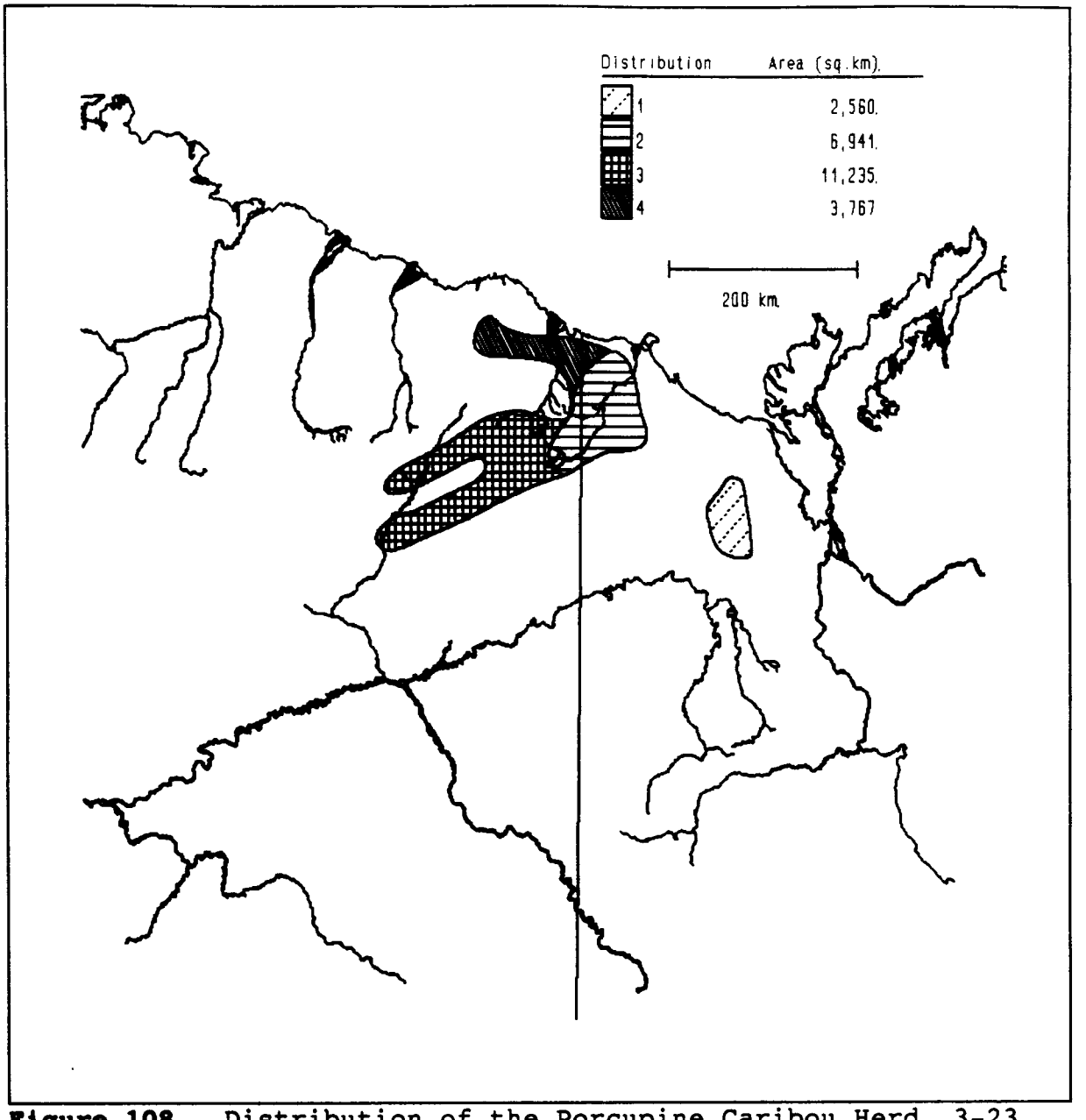

Figure 108. Distribution of the Porcupine Caribou Herd, 3-23 May 1985.

FIGURE 109: Post-calving and Movement 1985

Fifty collars were located while surveying the north slope of northern Yukon 22 June. These were primarily cows distributed in small bands (<200 caribou) from west of the Babbage River to the Alaska border. Most of these were in foothills and on the coastal plain between the Babbage and Malcolm Rivers. A brief survey flown 23 June along the coastal plain and foothills indicated a steady westward movement of caribou. By 27 June, most of these caribou were west of the Malcolm River and moving into Alaska.

References:

Russell, D. E. and W. A. Nixon. 1986.

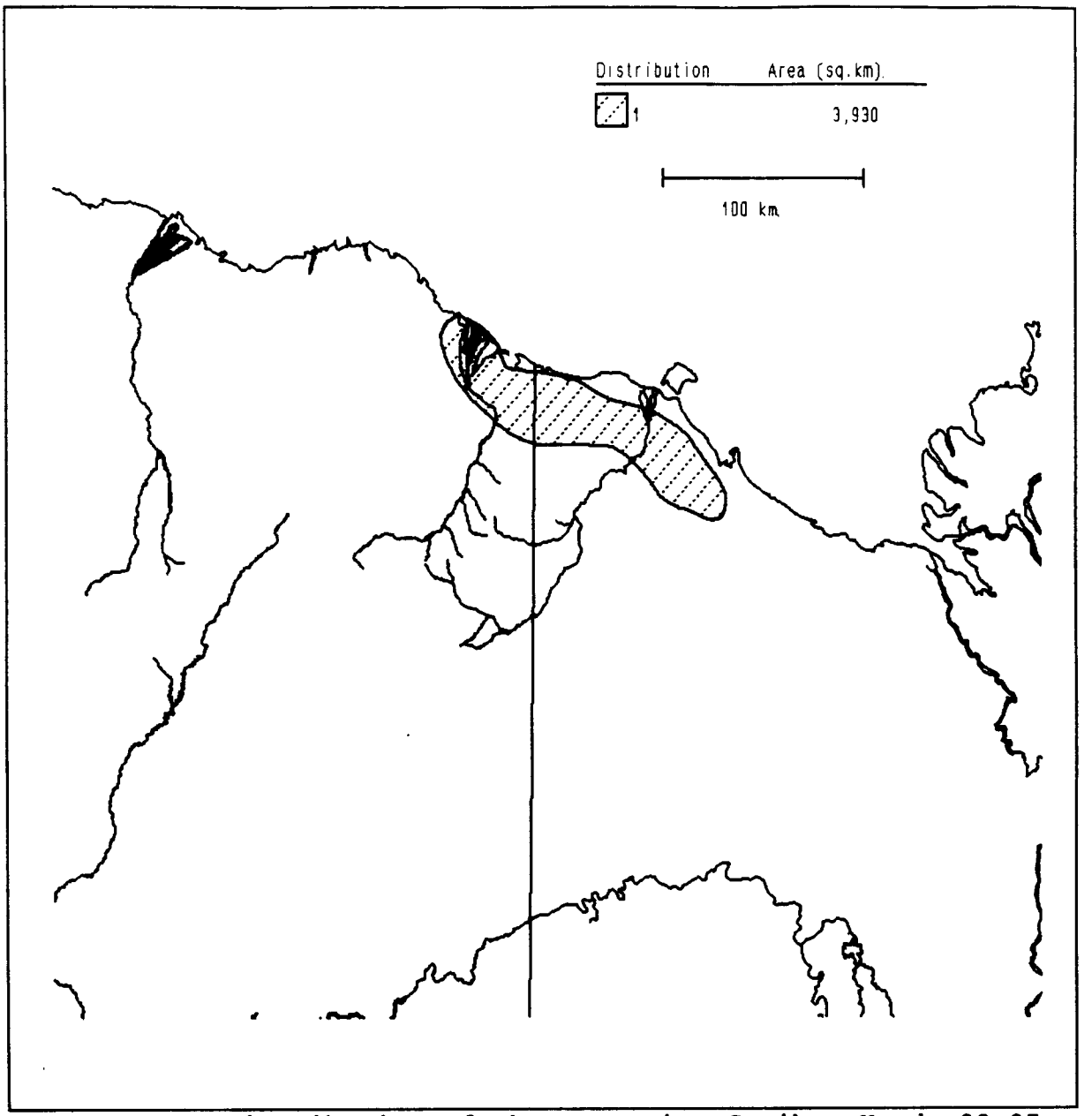

Figure 109. Distribution of the Porcupine Caribou Herd, 22-27 June 1985.

FIGURE 110: Early Summer 1985

Poor weather interfered with flying early in July. Relocation surveys 5-6 July indicated an eastward movement of caribou from Alaska through the British Mountains in groups ranging from an estimated 3,000 to 20,000+ caribou (Dist.1). These groups made extensive use of the upland areas east of the Firth River at the headwaters of the Crow and Trail Rivers. These groups periodically split up and reformed during the second week of July with group size varying from approximately 1,000 to 25,000+ caribou. During this time the caribou started moving south and east making extensive use of the Muskeg Creek drainage.

References:

Russell, D. E. and W. A. Nixon. 1986.

U.S. Fish and Wildlife Service (unpublished reports)

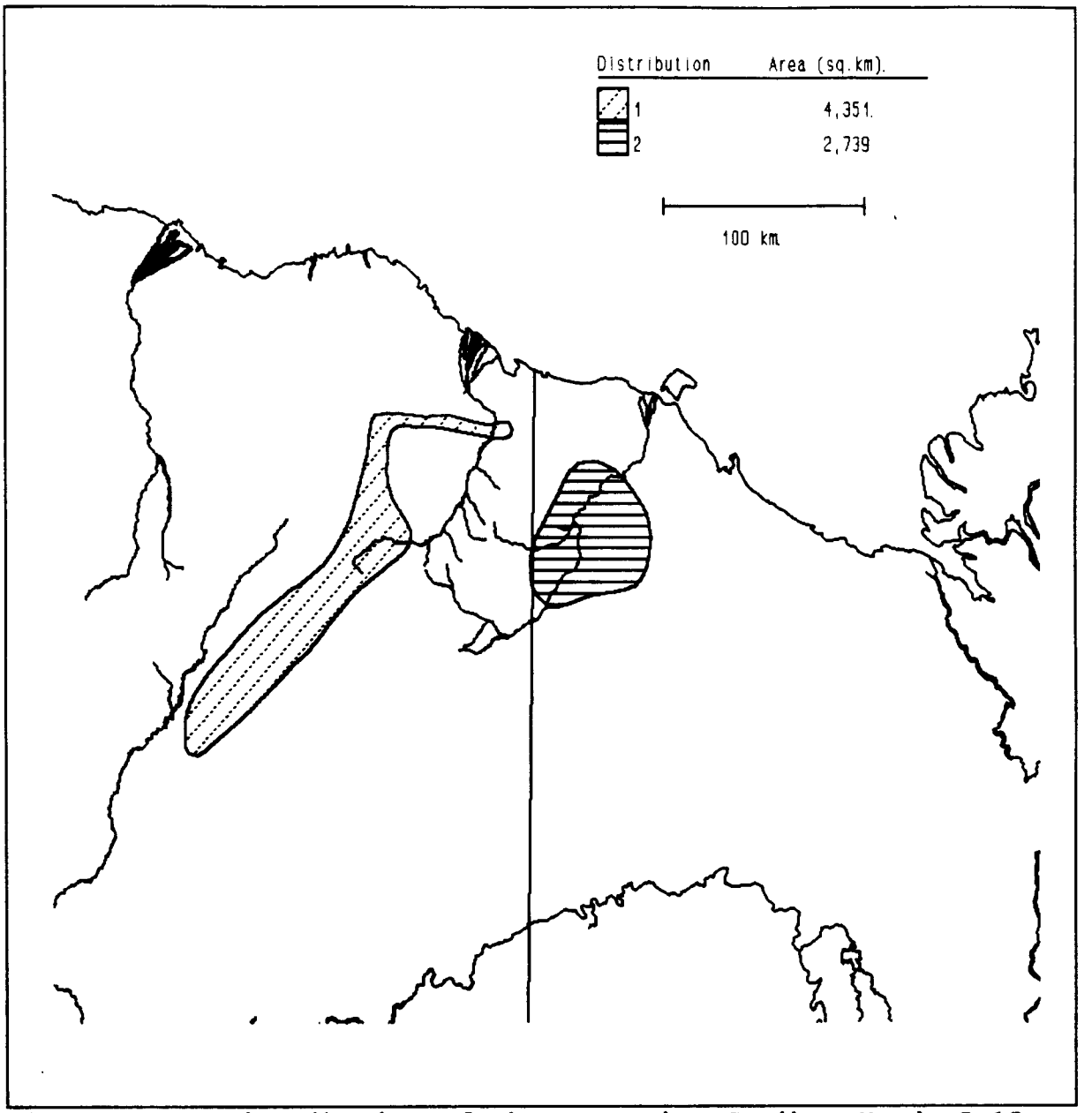

Figure 110. Distribution of the Porcupine Caribou Herd, 5-15 July 1985.

FIGURE 111: Early and Mid Summer 1985

By 11 July several thousand caribou were moving through the headwaters of the Babbage River. By mid-July, approx. 20,000 caribou were found in the middle of the Barn Range (Dist.1). This group continued moving east and were found east of the Blow River 18 July in groups of approx. 4,000 to 12,000.

References:

Russell, D. E. and W. A. Nixon. 1986.

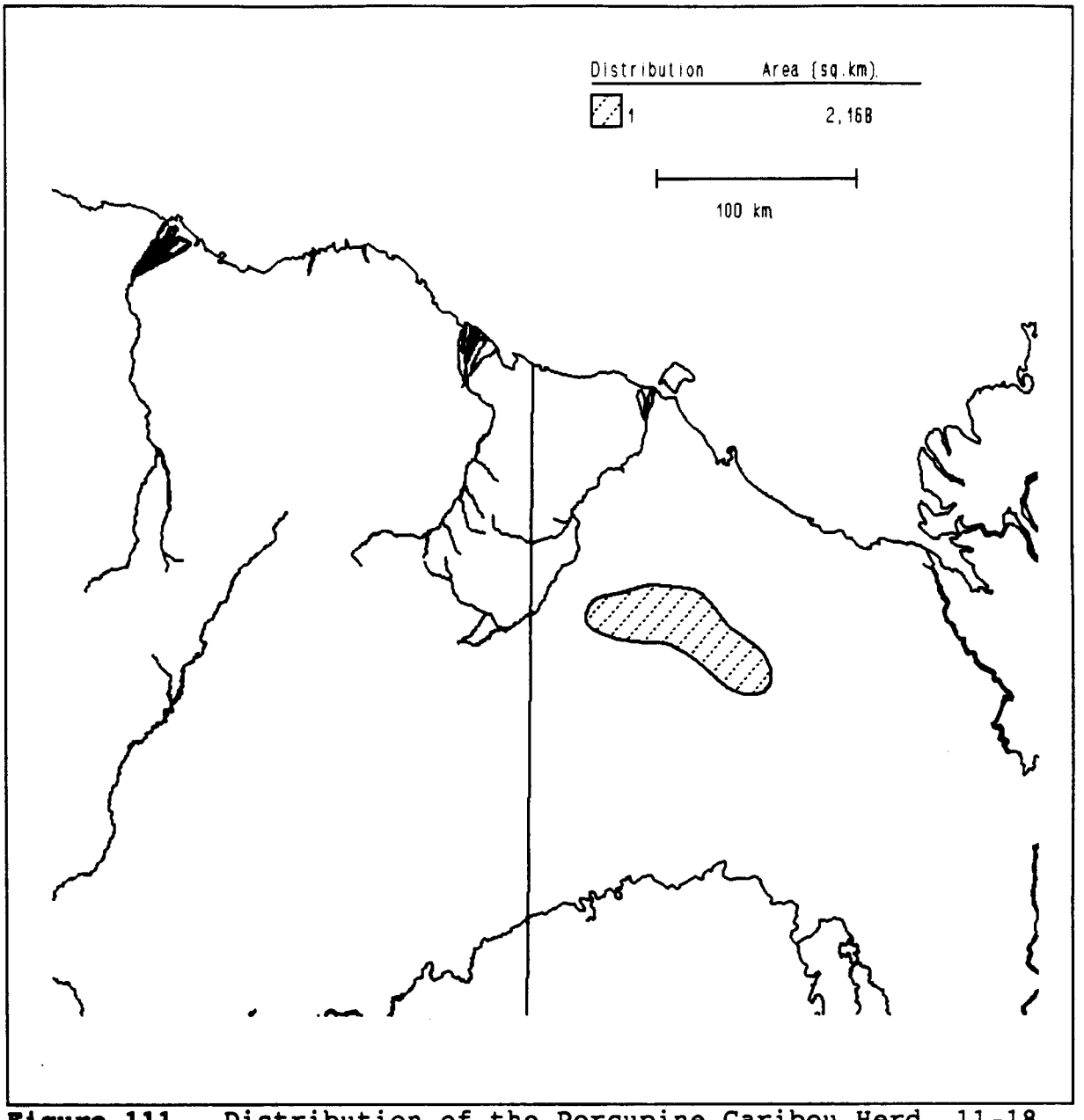

Figure 111. Distribution of the Porcupine Caribou Herd, 11-18 July 1985.

FIGURE 112: Mid Summer 1985

Surveys flown 22 July - 6 August found an estimated 25,000+ caribou in the Richardson Mountains (Dist.1). Group size varied from 1,000 to 9,000 depending on weather conditions and hence, insect activity. Movement was generally southward the last week of July (as far as 68° 00'lat.) and then northward by August 2 to the Rapid Creek and Purkis Creek drainages. When the final survey was done 6 August most caribou in northern Yukon were found in the extreme north Richardson Mountains on the edge of the coastal plain.

References:

Russell, D. E. and W. A. Nixon. 1986.

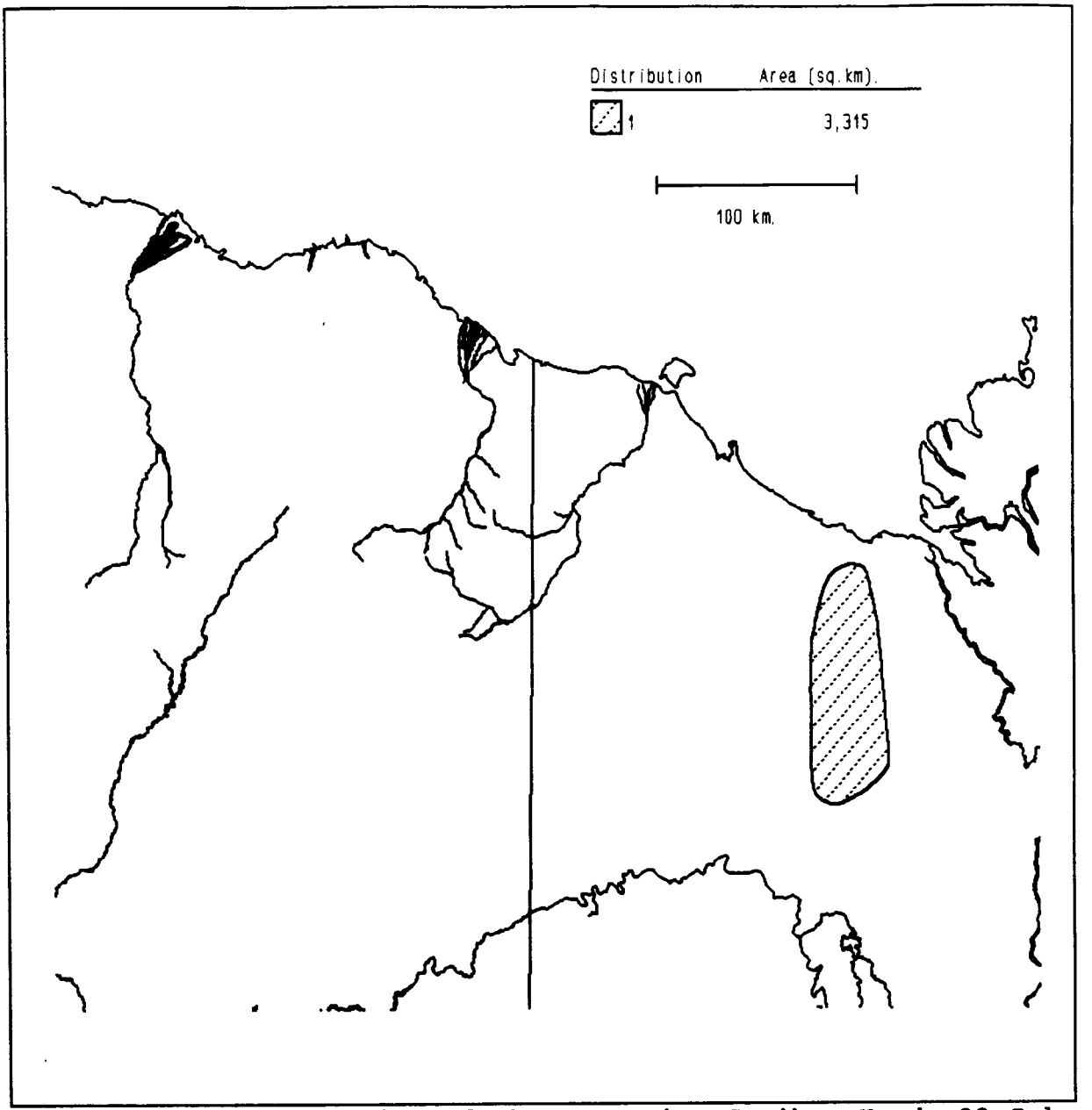

Figure 112. Distribution of the Porcupine Caribou Herd, 22 July - 6 August 1985.

FIGURE 113: Late Summer 1985

A total of 78 adult and 22 calf collar frequencies were located on this survey. A couple of caribou were located on the north slope, but the majority were located in two general areas; one east of the Old Crow flats in the Driftwood River drainage (Dist.1) and the second south of the Porcupine River and north of the Fishing Branch River (Dist.2). Six were located in the area of Whitefish Lakes, and ten were located between Old Crow and the Alaska border.

References:

Russell, D. E. and W. A. Nixon. 1986.

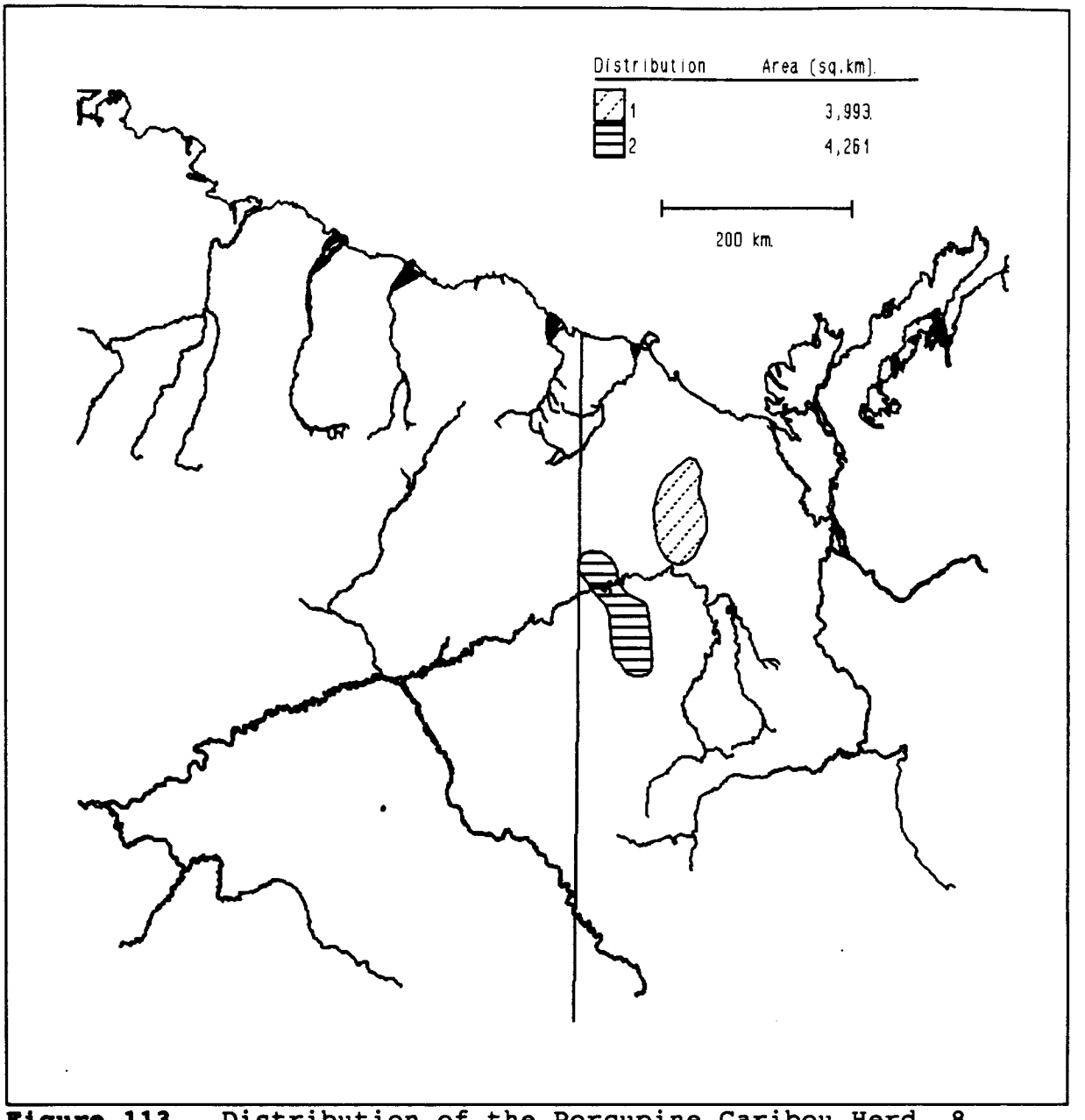

Figure 113. Distribution of the Porcupine Caribou Herd, 8 August - 7 September 1985.

FIGURE 114: **Late Summer 1985**

References:

U.S. Fish and Wildlife Service (unpublished reports)

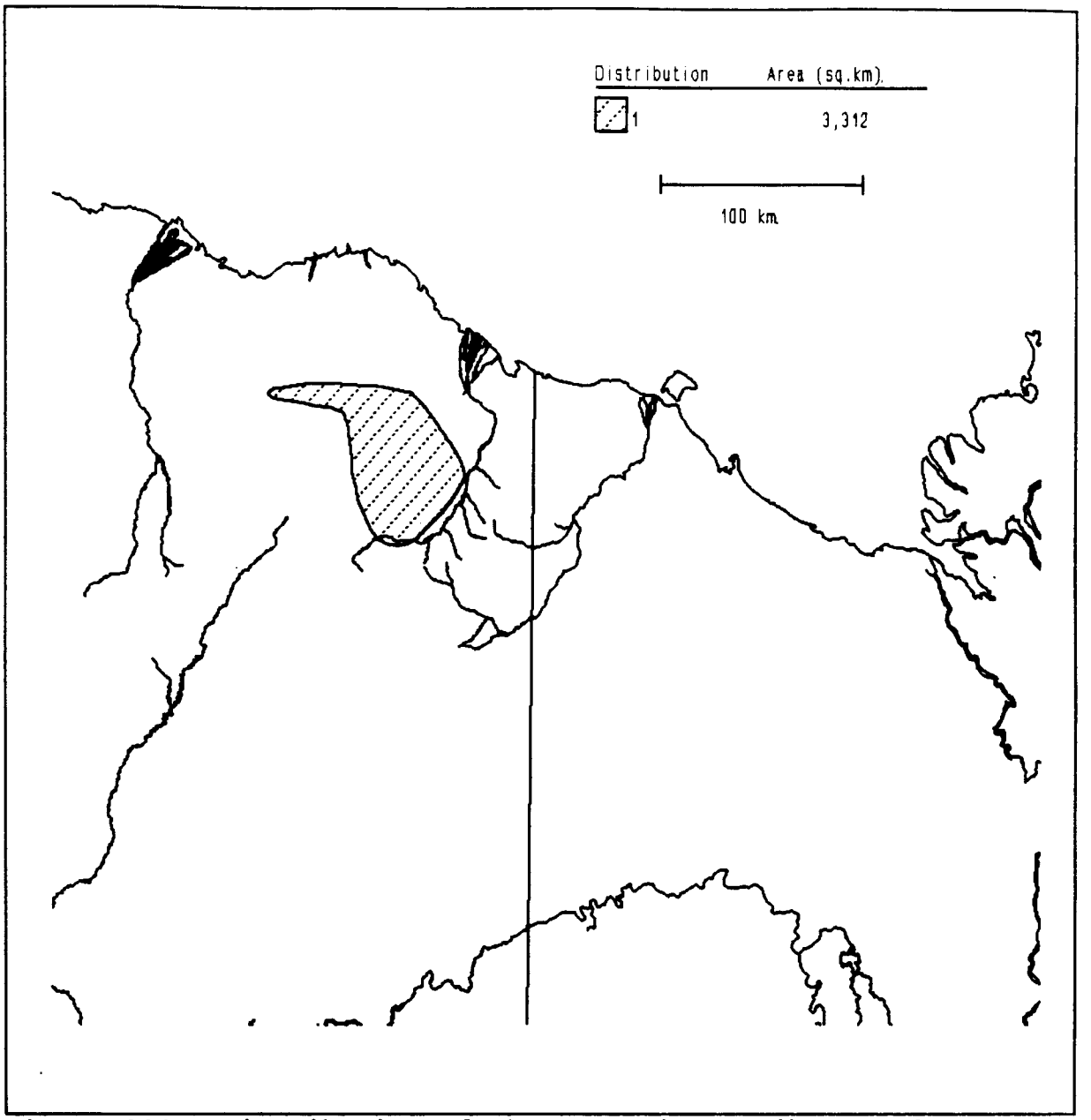

Figure 114. Distribution of the Porcupine Caribou Herd, 15 September 1985.

FIGURE 115: Rut 1985

A total of 96 collar frequencies were located during surveys flown 15-16 October. The majority of caribou were found in the Ogilvie River basin west of the Dempster Highway and in the headwaters of the Tatonduk River (Dist.3). A second small concentration of caribou was found in the southern Richardson Mountains (Dist.2). Others were scattered from the northern Yukon south to the Blackstone and Hart River drainages, and from the Alaska border to the Richardson Mountains.

References:

Russell, D. E. and W. A. Nixon. 1986.

U.S. Fish and Wildlife Service (unpublished reports)

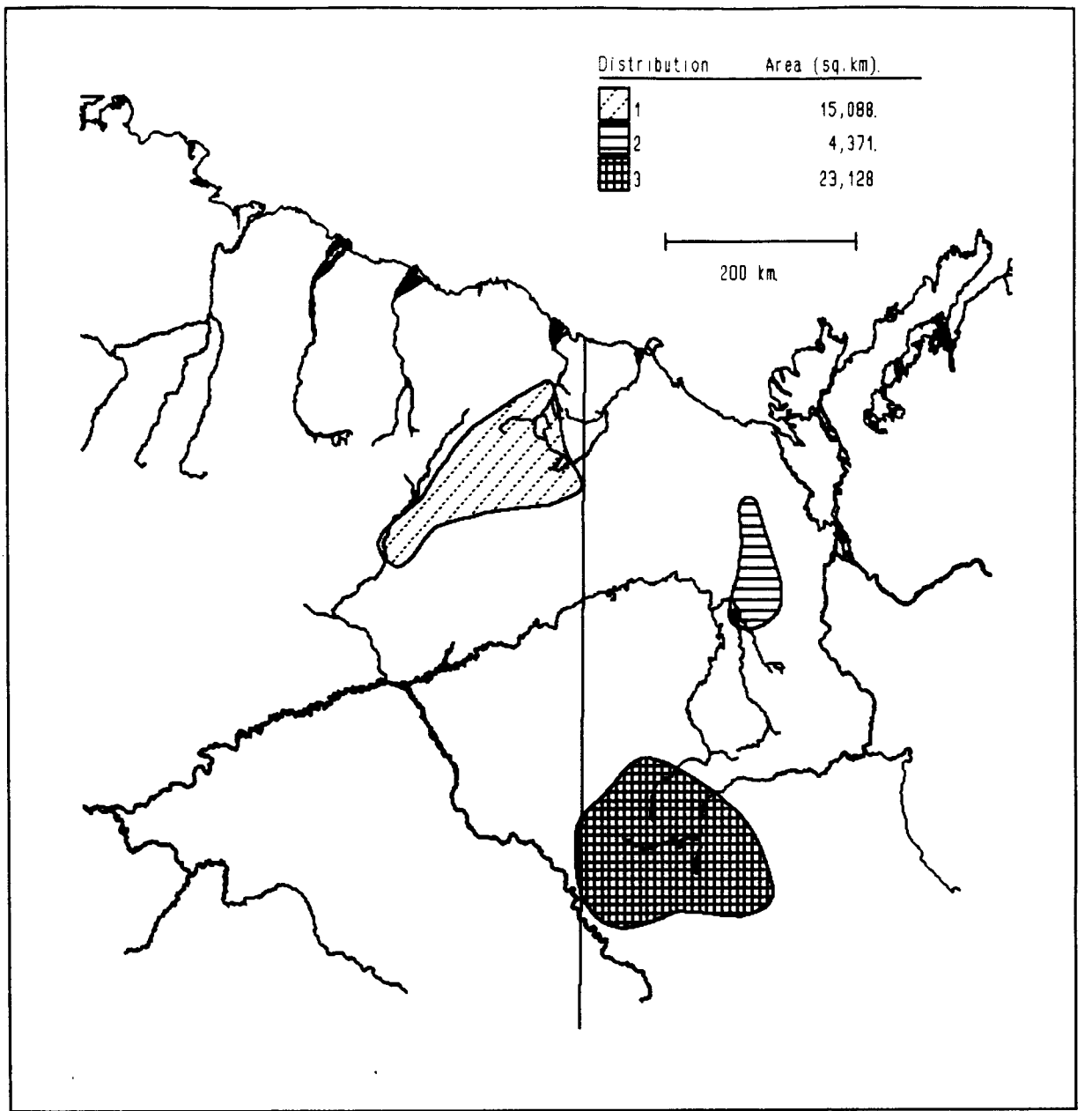

Figure 115. Distribution of the Porcupine Caribou Herd, 12-20 October 1985.

FIGURE 116: Early Winter 1985/86

Surveys were flown 8-9 January. Most of the 75 collar frequencies located were in the southern Richardson Mountains between the Peel River drainage and the Whitefish Lakes/Bell River region. Others were scattered throughout the northern Yukon.

References:

Russell, D. E. and W. A. Nixon. 1986.

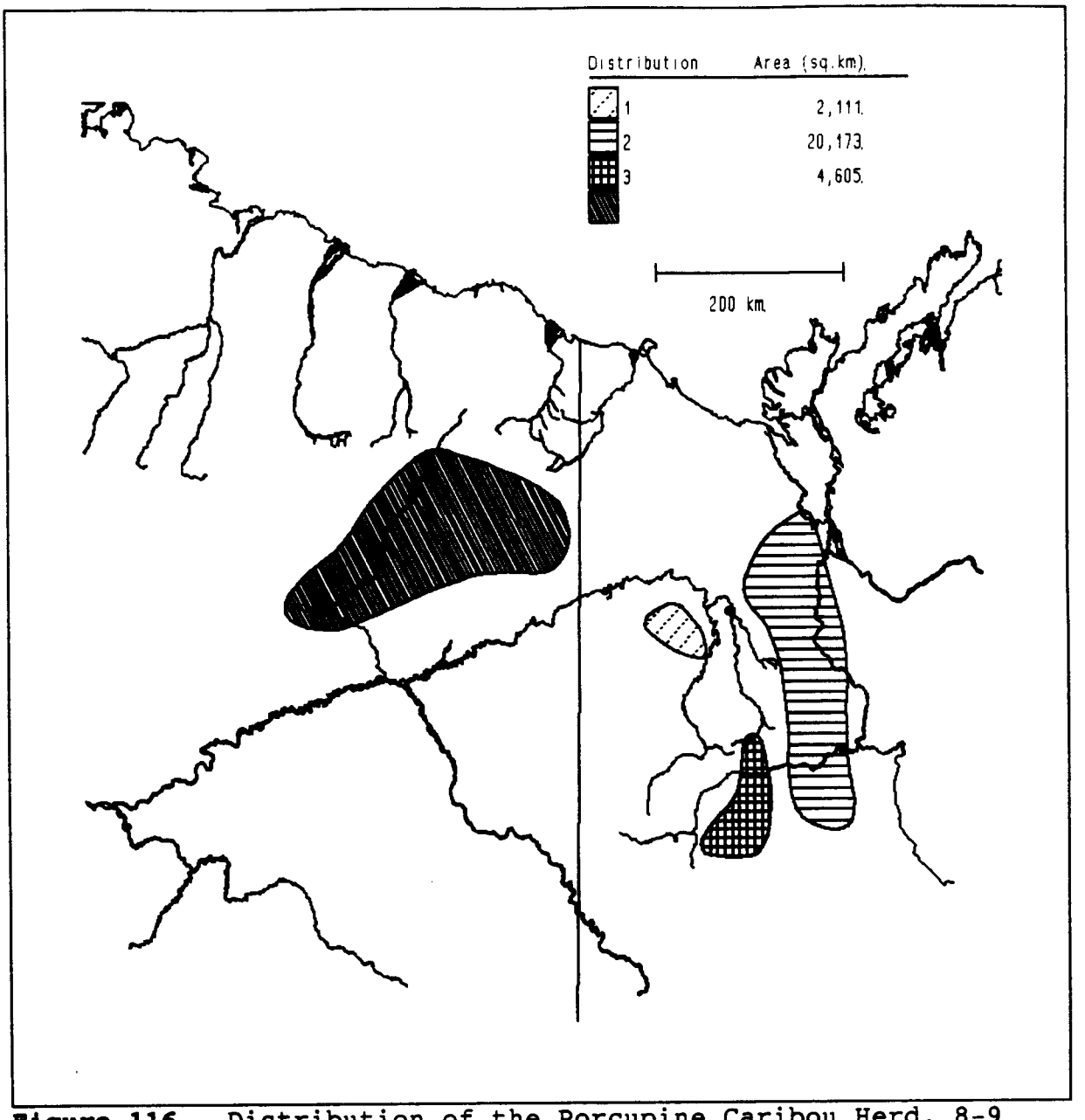

Figure 116. Distribution of the Porcupine Caribou Herd, 8-9 January 1987.

FIGURE 117: Late Winter 1985/86

Thirty collars were relocated during surveys flown 8-12 March. the majority of collars were located in the area surrounding Whitefish Lake and in the area of Rock River from east of Eagle River to the western slopes of the Richardson Mountains. Two collars were located in the south near Moose Lake and one collar was located near Lord Creek.

References:

Canadian Wildlife Service (unpublished report)

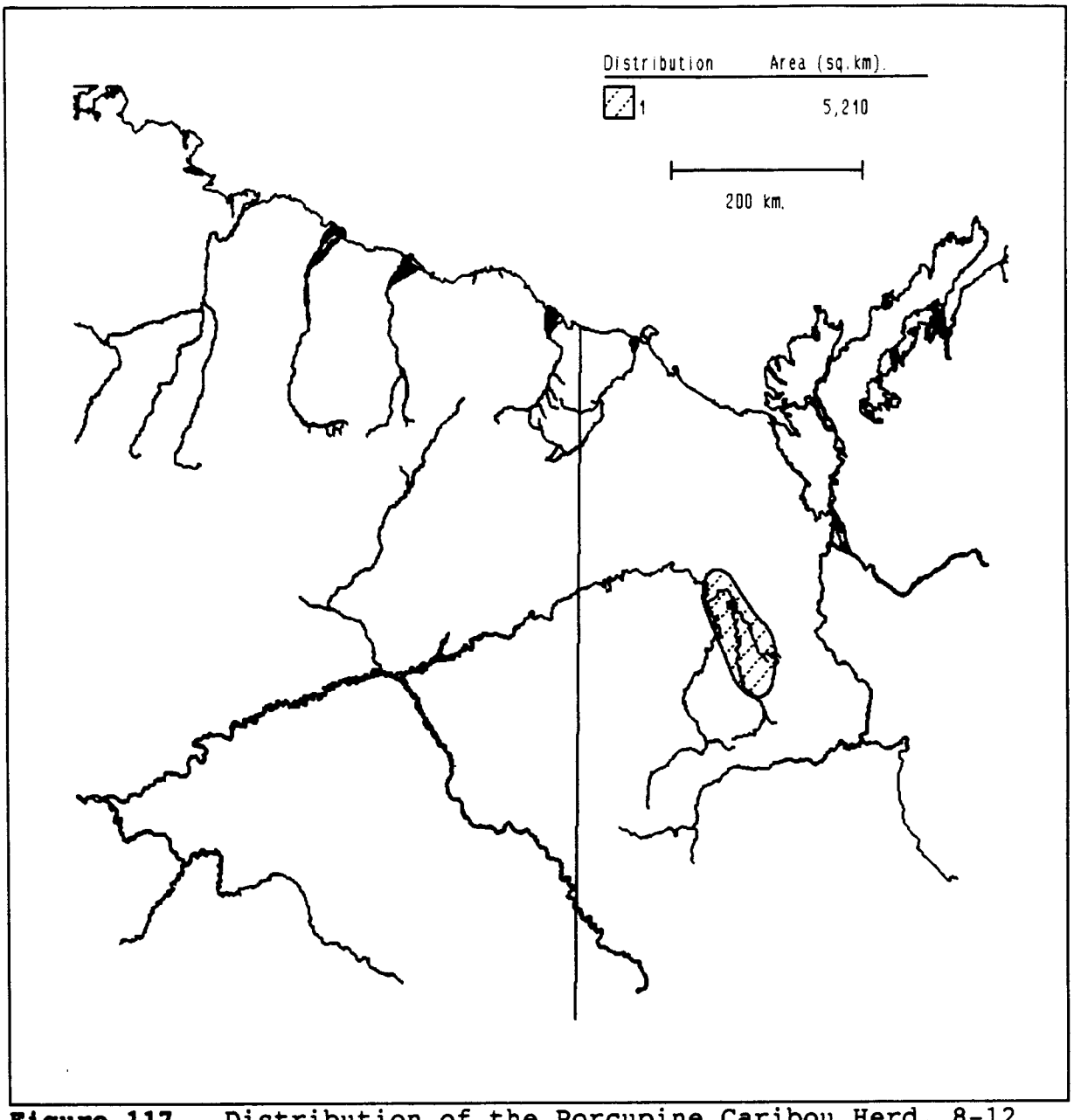

Figure 117. Distribution of the Porcupine Caribou Herd, 8-12 March 1986.

FIGURE 118: Pre-calving 1986

Fifty-six collars were relocated during a survey flown 23 May. The heaviest concentration was in the British Mountains along the Firth River drainage. Smaller concentrations were found near Bonnet Lake and the headwaters of the Blow River, in the Bluefish River drainage, and scattered throughout the Old Crow Range. Two collars were located along the Dempster Highway east of Whitestone River.

References:

Canadian Wildlife Service (unpublished report).

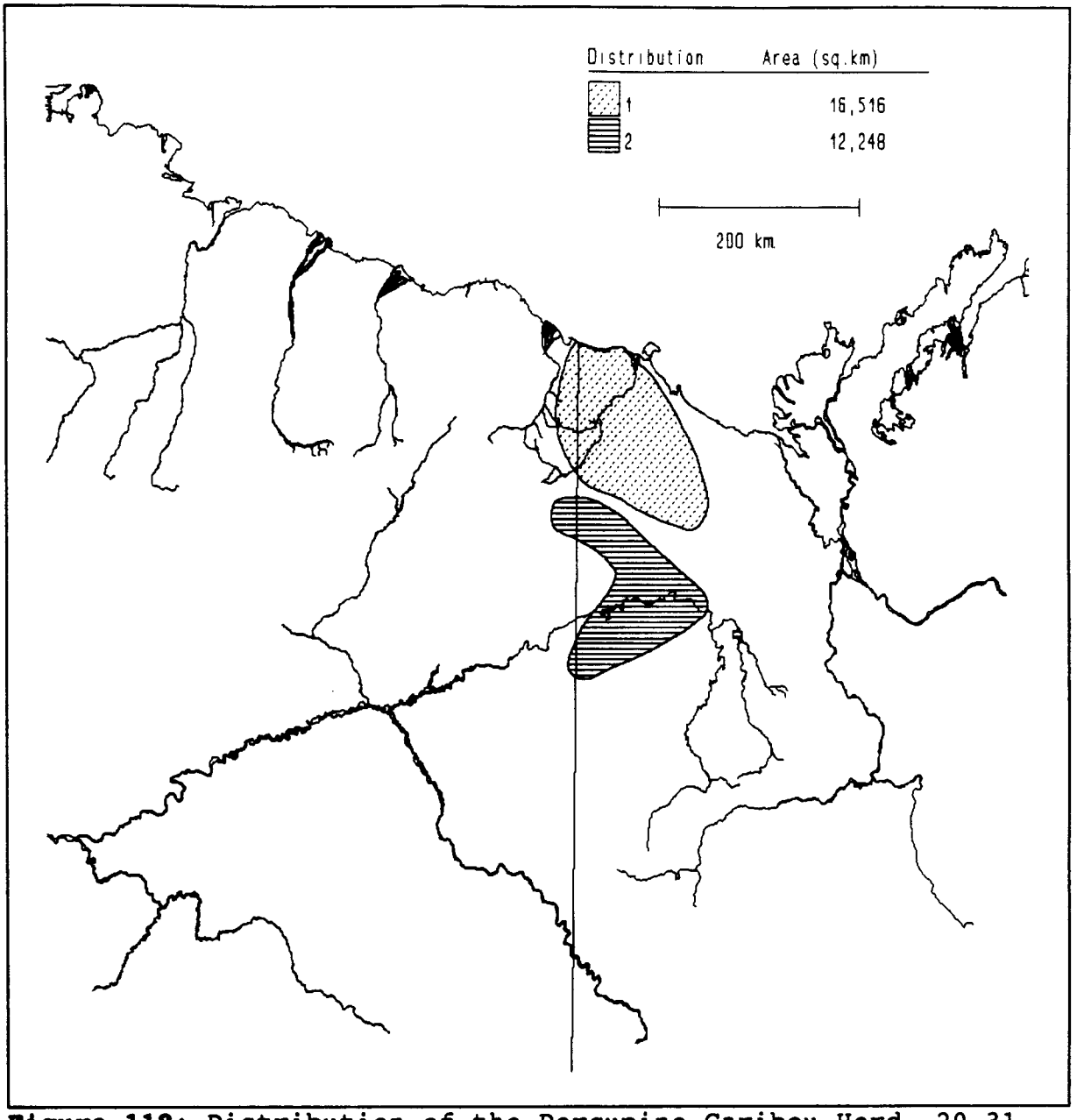

Figure 118: Distribution of the Porcupine Caribou Herd, 20-31 May 1986.

FIGURE 119: Late Summer 1986

Thirty-two collars were relocated during a survey flight flown 10 August. The highest concentrations of collars were found in the Richardson Mountains at the headwaters of the Bell River and in the Barn Mountains at the headwaters of the Blow River. Three collars were located farther west in the British Mountains on Joe Creek, Trail River and Timber Creek.

References:

Canadian Wildlife Service (unpublished report).

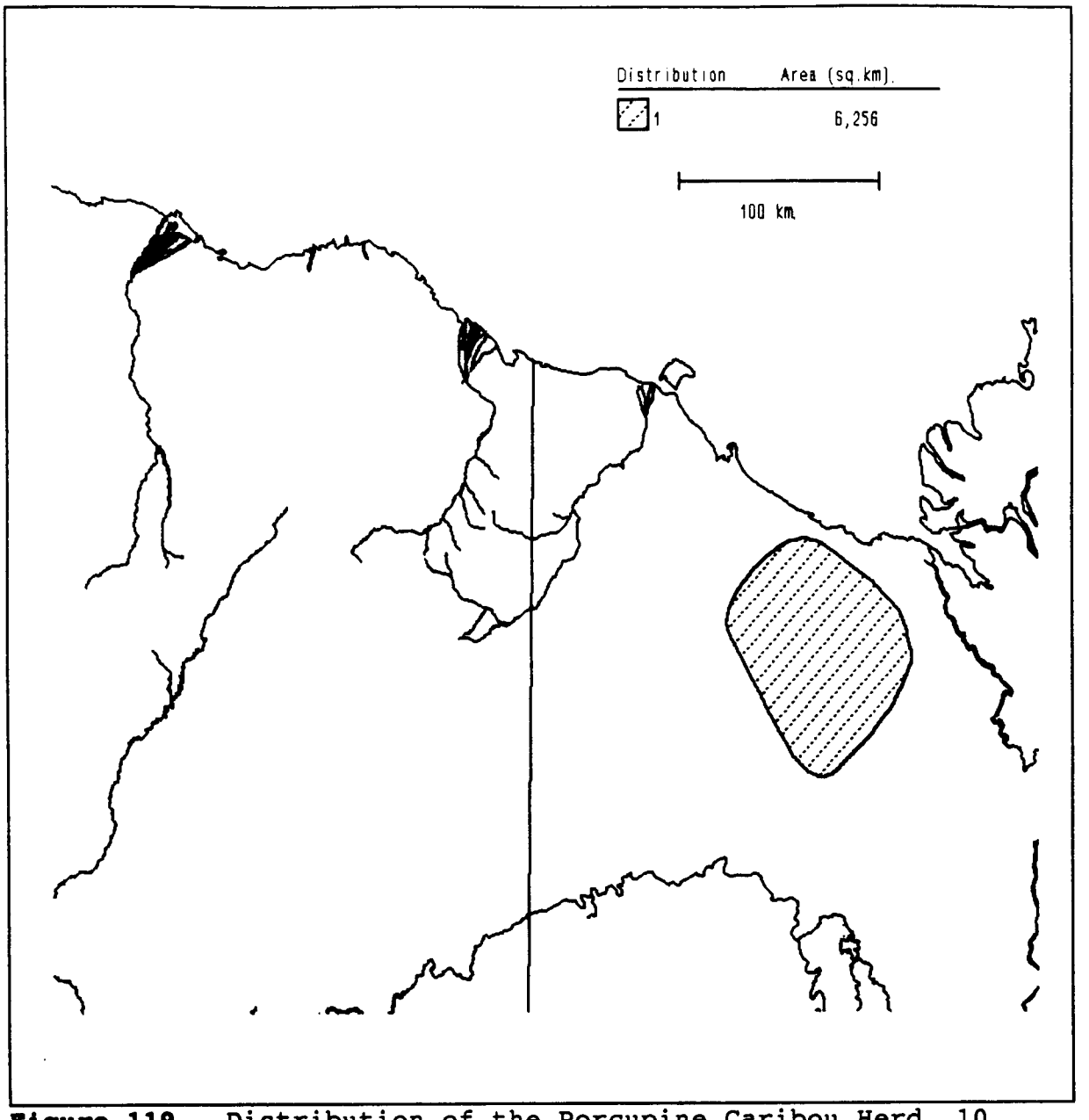

Figure 119. Distribution of the Porcupine Caribou Herd, 10 August 1986.

FIGURE 120: Fall Migration 1986

Twenty-six of the 39 collars relocated on this survey flown 11-12 September were concentrated north and south of the Porcupine River from Old Crow to the U.S.-Canada border. The remaining collars were scattered in the east from the Barn Mountains south to the Dempster Highway near the mouth of the Ogilvie River.

References:

Canadian Wildlife Service (unpublished report).

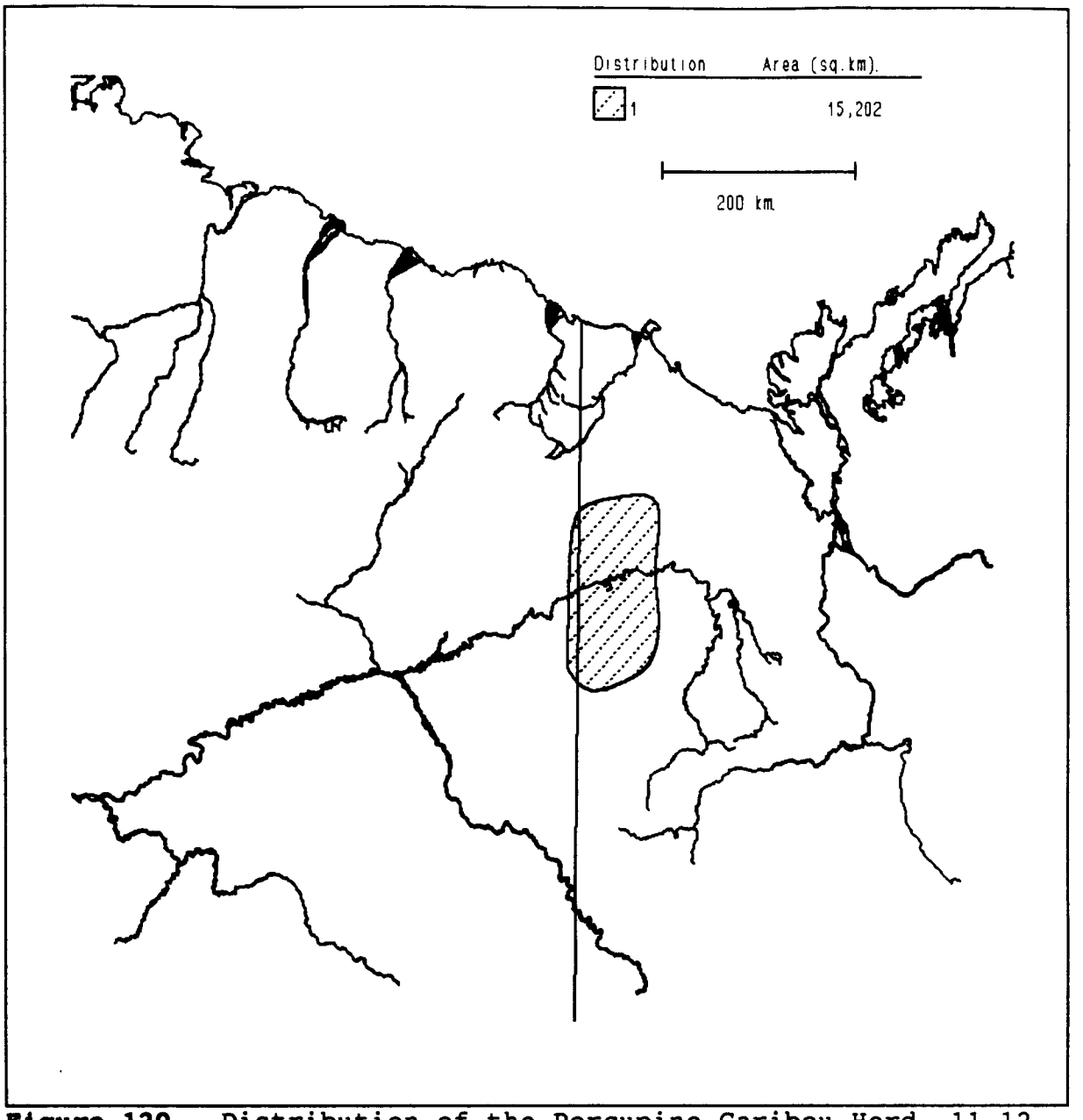

Figure 120. Distribution of the Porcupine Caribou Herd, 11-12 September 1986.

FIGURE 121: **Rut 1986**

All of the 7 collars relocated during surveys flown 8-13 October were found in Alaska. Four collars were between Bear Mountain and the Sheenjek River, the other 3 were located on the Kongakut River.

References:

Whitten, K. R. pers. comm. 1990.

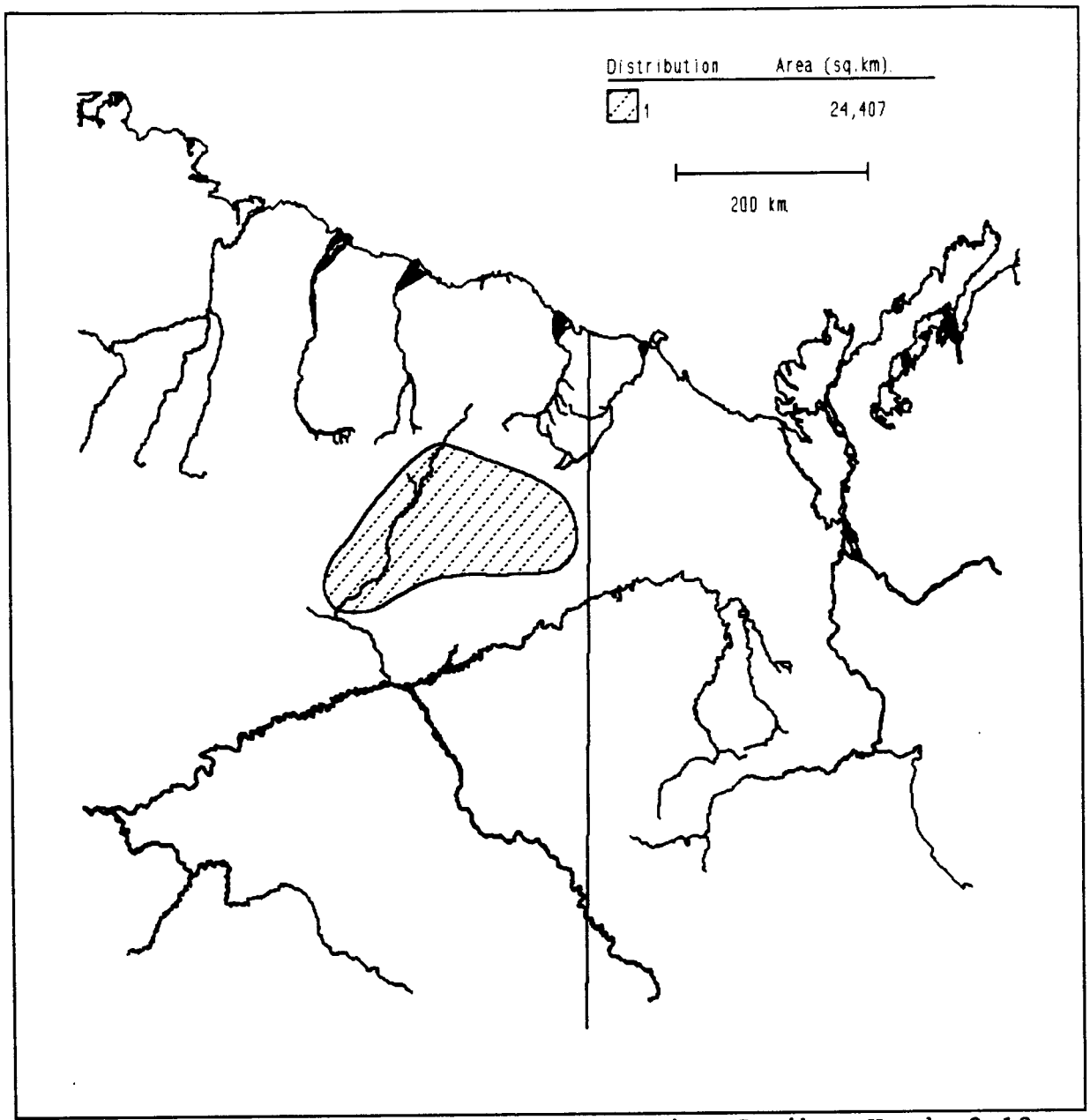

Figure 121. Distribution of the Porcupine Caribou Herd, 8-13 October 1986.

FIGURE 122: **Early Winter 1986/87**

References:

U.S. Fish and Wildlife Service (unpublished reports)

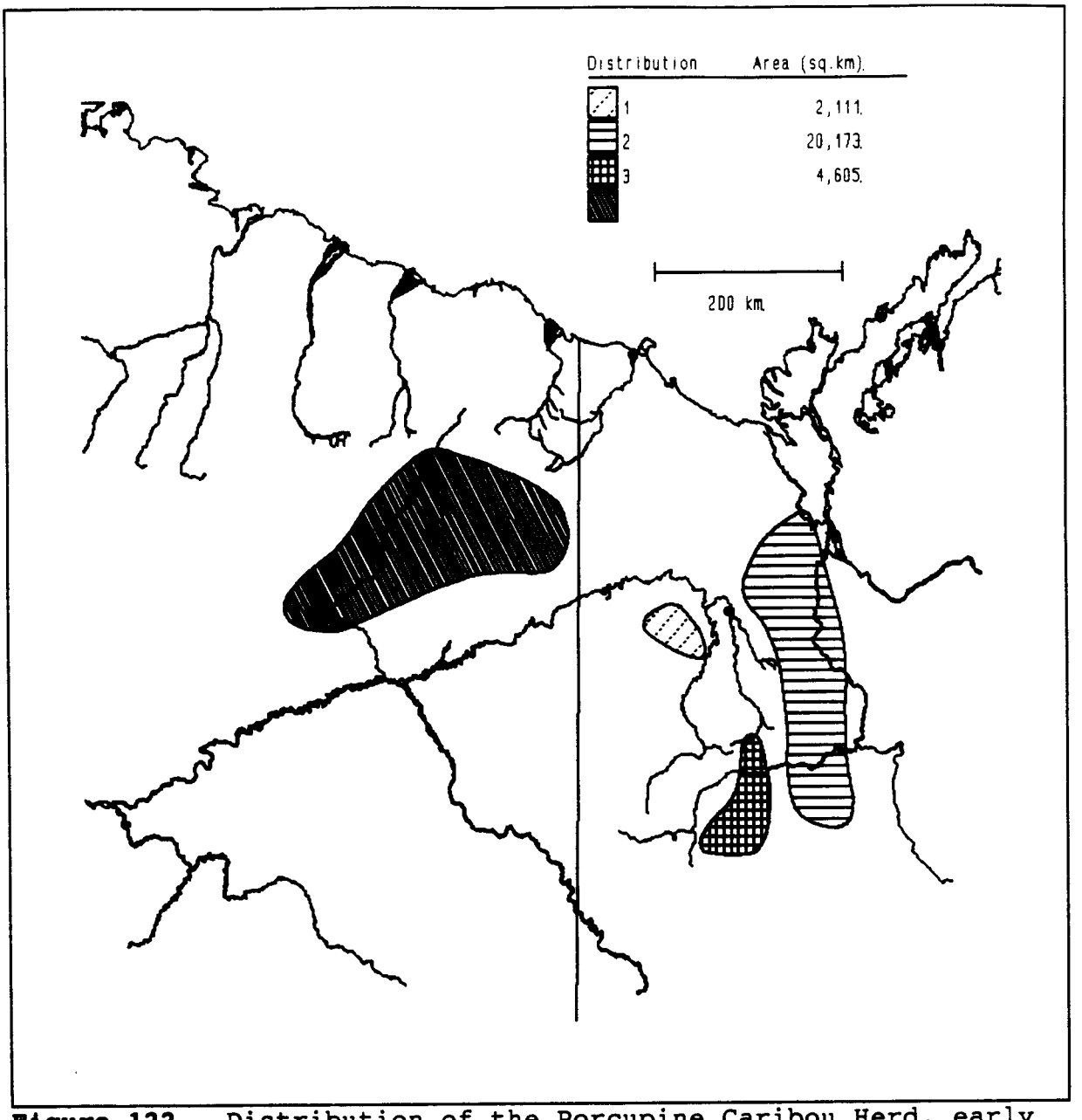

Figure 122. Distribution of the Porcupine Caribou Herd, early winter 1987.

FIGURE 123: **Late Winter 1986/87, Spring 1987**

References:

Whitten, K. R. pers comm. 1990.

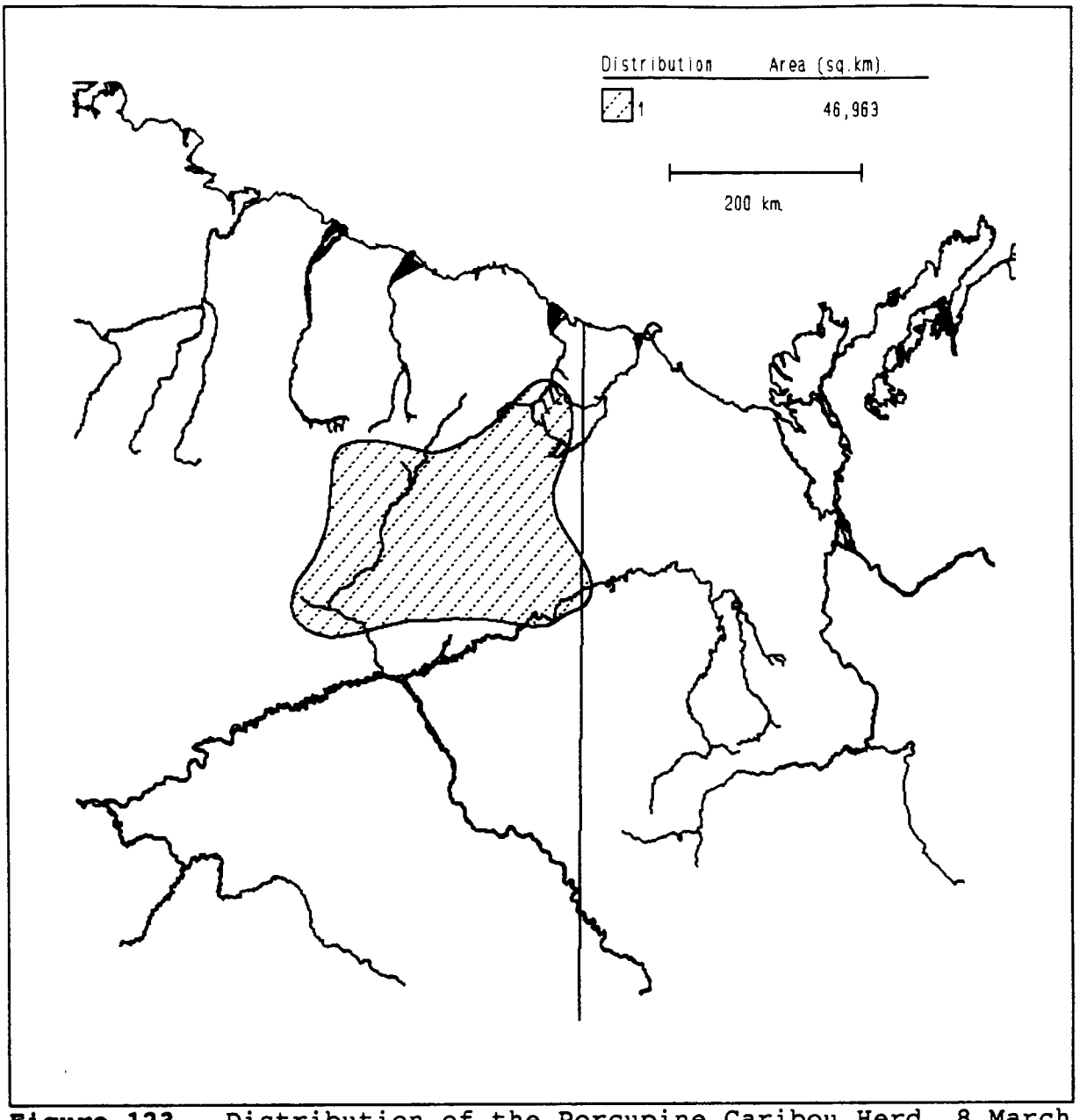

Figure 123. Distribution of the Porcupine Caribou Herd, 8 March and 25-26 April 1987.

FIGURE 124: Fall Migration 1987

Sixty-five collars were relocated during surveys flown 1-5 October. Caribou were scattered in a band stretching northeast from the Old Crow Range in Alaska to the Firth River in the Yukon and from the Firth River southeast to the headwaters of the Driftwood and Bell Rivers.

References:

Canadian Wildlife Service (unpublished report).

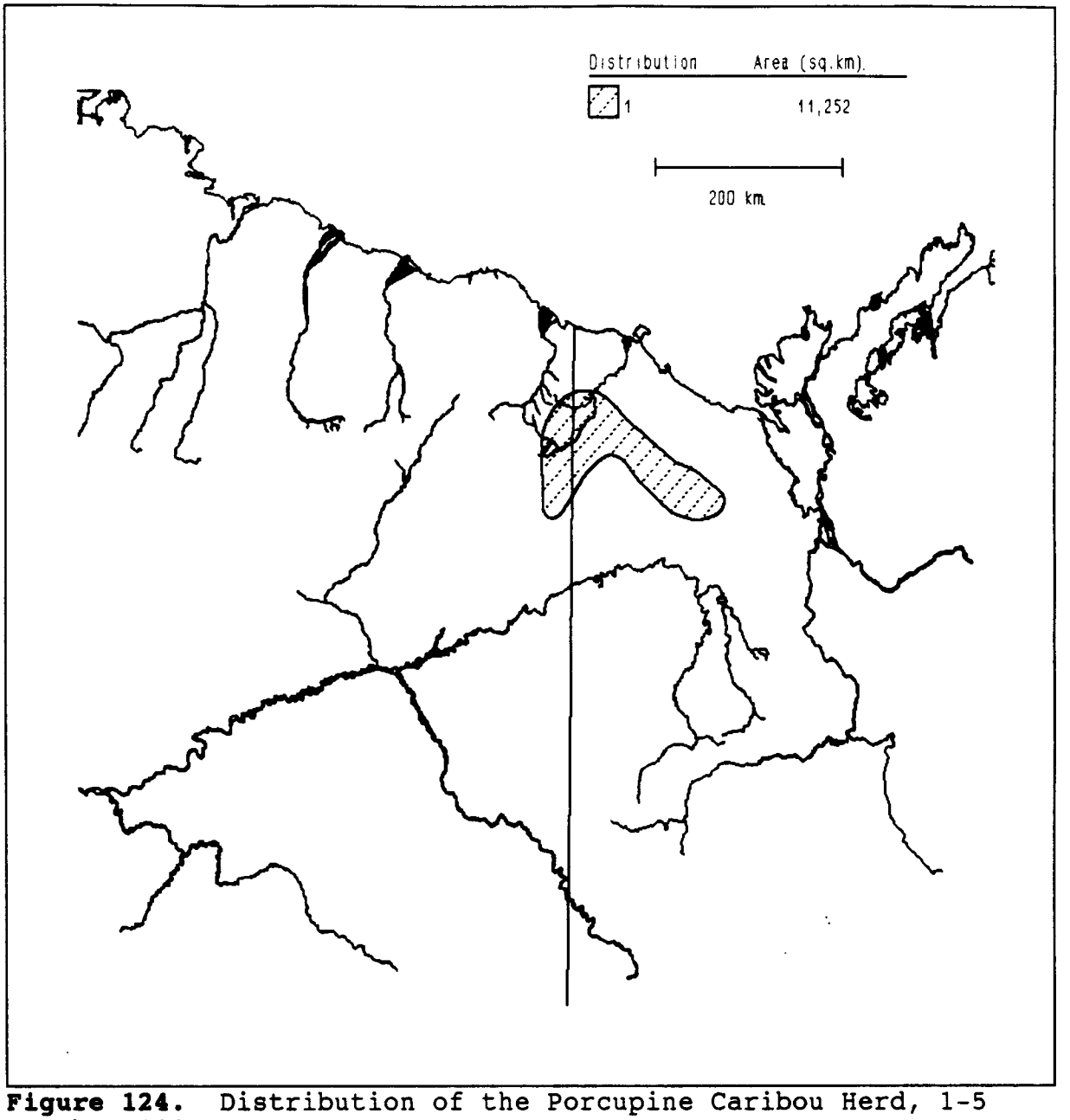

Figure 124. Distribution of the Porcupine Caribou Herd, 1-5 October 1987.

FIGURE 125: Mid and Late Winter 1987/88

Thirty-nine of the 47 collars relocated were in the Richardson Mountains from Mount Davies Gilbert south to mile 203 of the Dempster Highway. Two collars were located in the British Mountains near the Kongakut River and 6 were scattered throughout Old Crow Flats, generally along the Old Crow River.

References:

Canadian Wildlife Service (unpublished report).

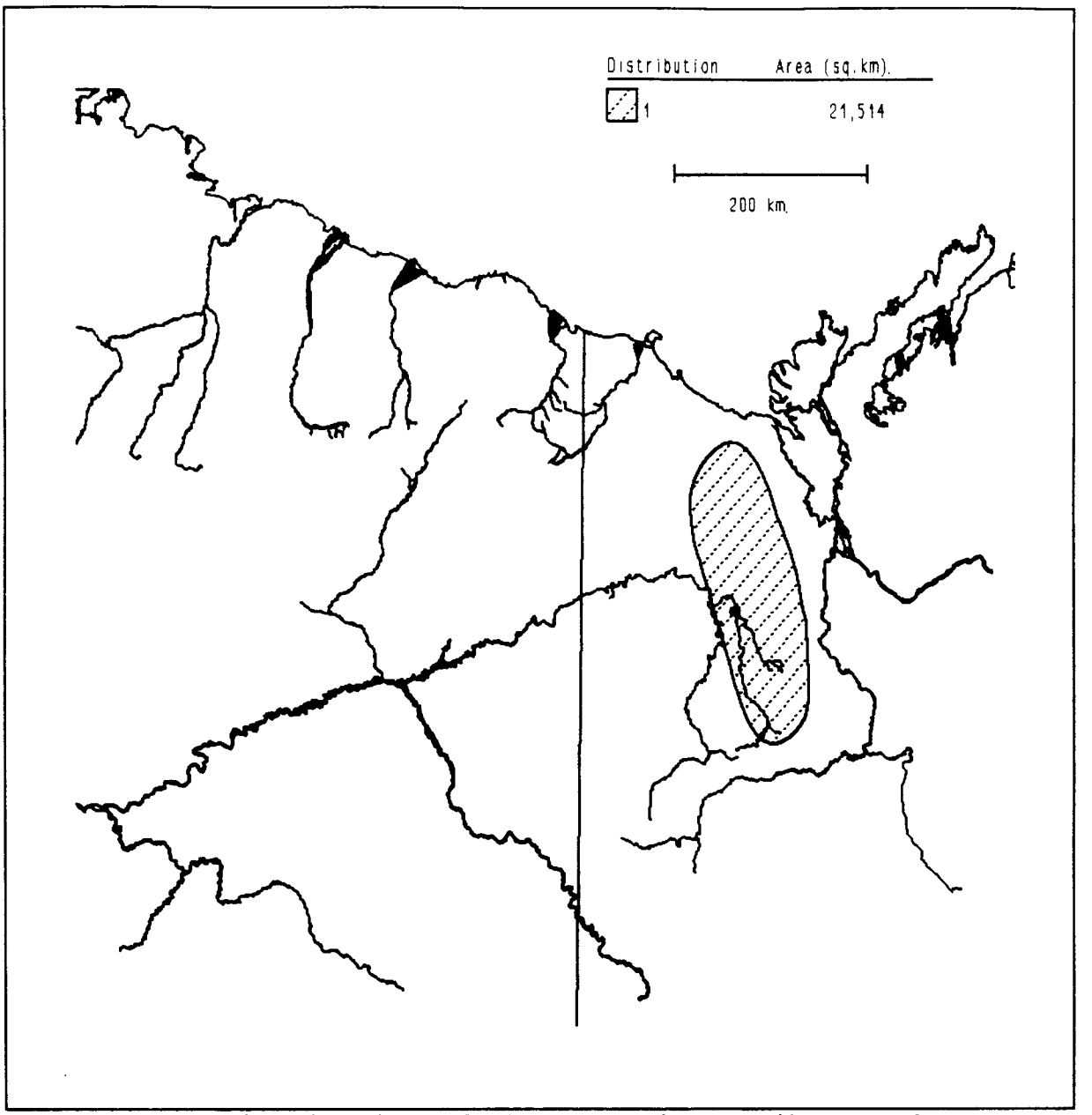

Figure 125. Distribution of the Porcupine Caribou Herd, 11 January - 20 February 1988.

FIGURE 126: Late Winter 1987/88

Surveys were flown 25-26 March. Most of the 41 collars relocated were found in the Richardson Mountains. Two collars were in the British Mountains near the Firth River and 4 were on Old Crow Flats

References:

Canadian Wildlife Service (unpublished report).

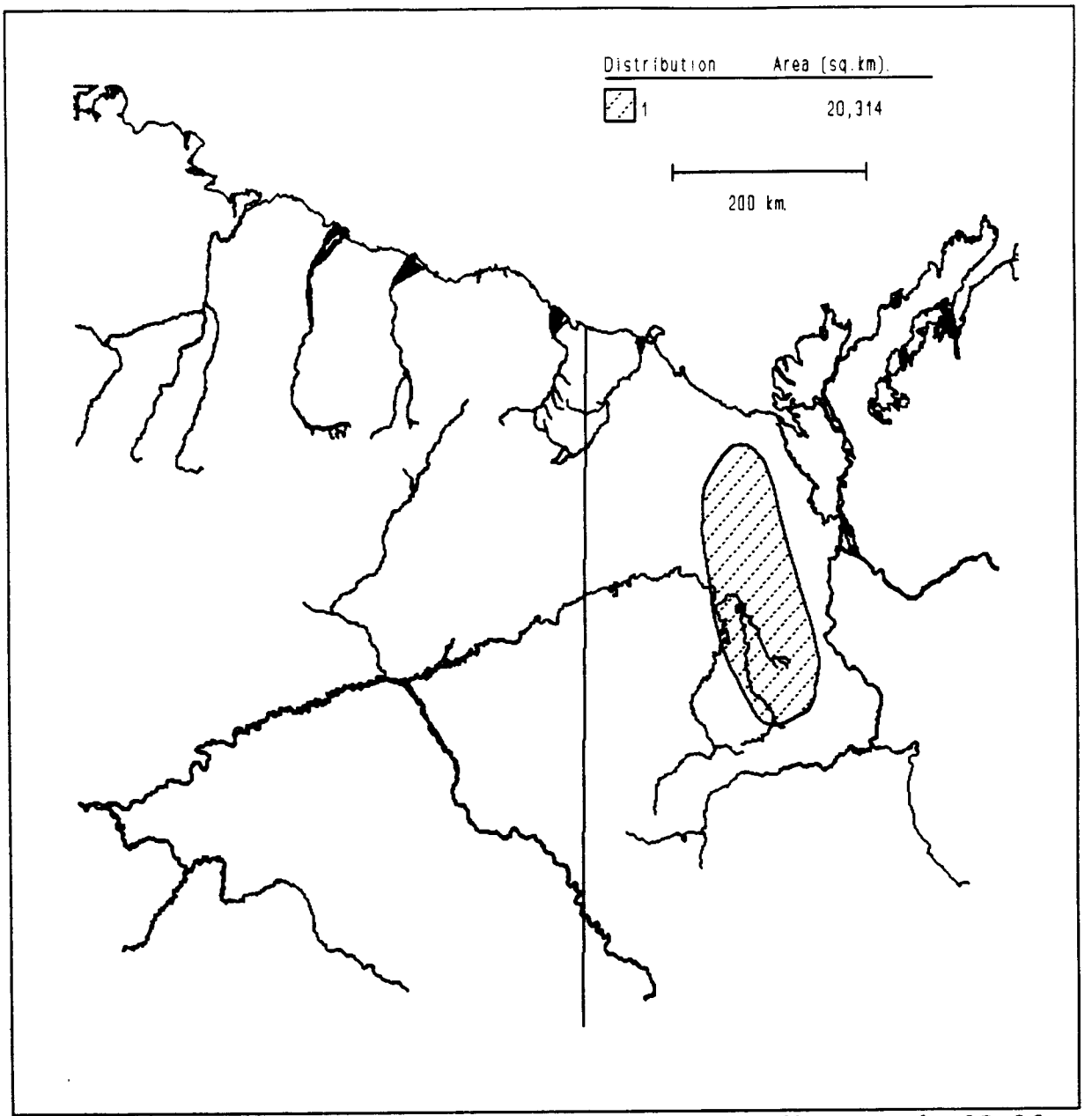

Figure 126. Distribution of the Porcupine Caribou Herd, 25-26 March 1988.

FIGURE 127: Fall Migration 1988

Surveys were flown 22-30 September. One hundred of the 122 relocated collars were found in a band stretching from Old Cow Flats north to the Firth River. The remaining 22 collars were located along the coast from the mouth of Fish Creek southeast to Rapid River.

References:

Canadian Wildlife Service (unpublished report).

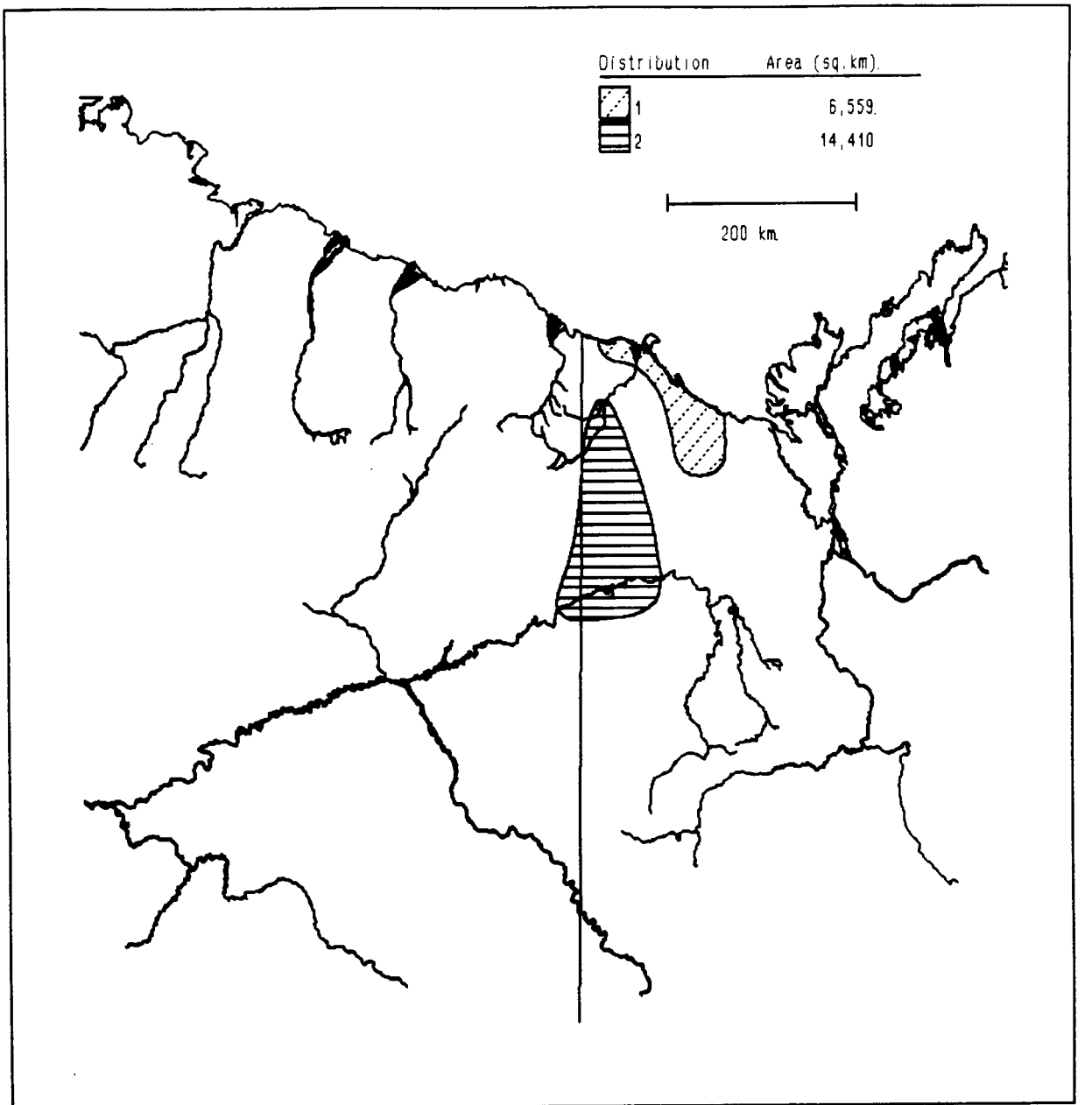

Figure 127. Distribution of the Porcupine Caribou Herd, 22-30 September 1988.

FIGURE 128: Late Fall 1988

All but 6 of the 83 collars relocated during 9-13 November were scattered throughout the Richardson Mountains from Canoe Lake south to the Caribou River. Five collars were found in the Ogilvie Mountains from Blackstone River northeast to Miner River. One collar was located in the Driftwood Hills.

References:

Canadian Wildlife Service (unpublished report).

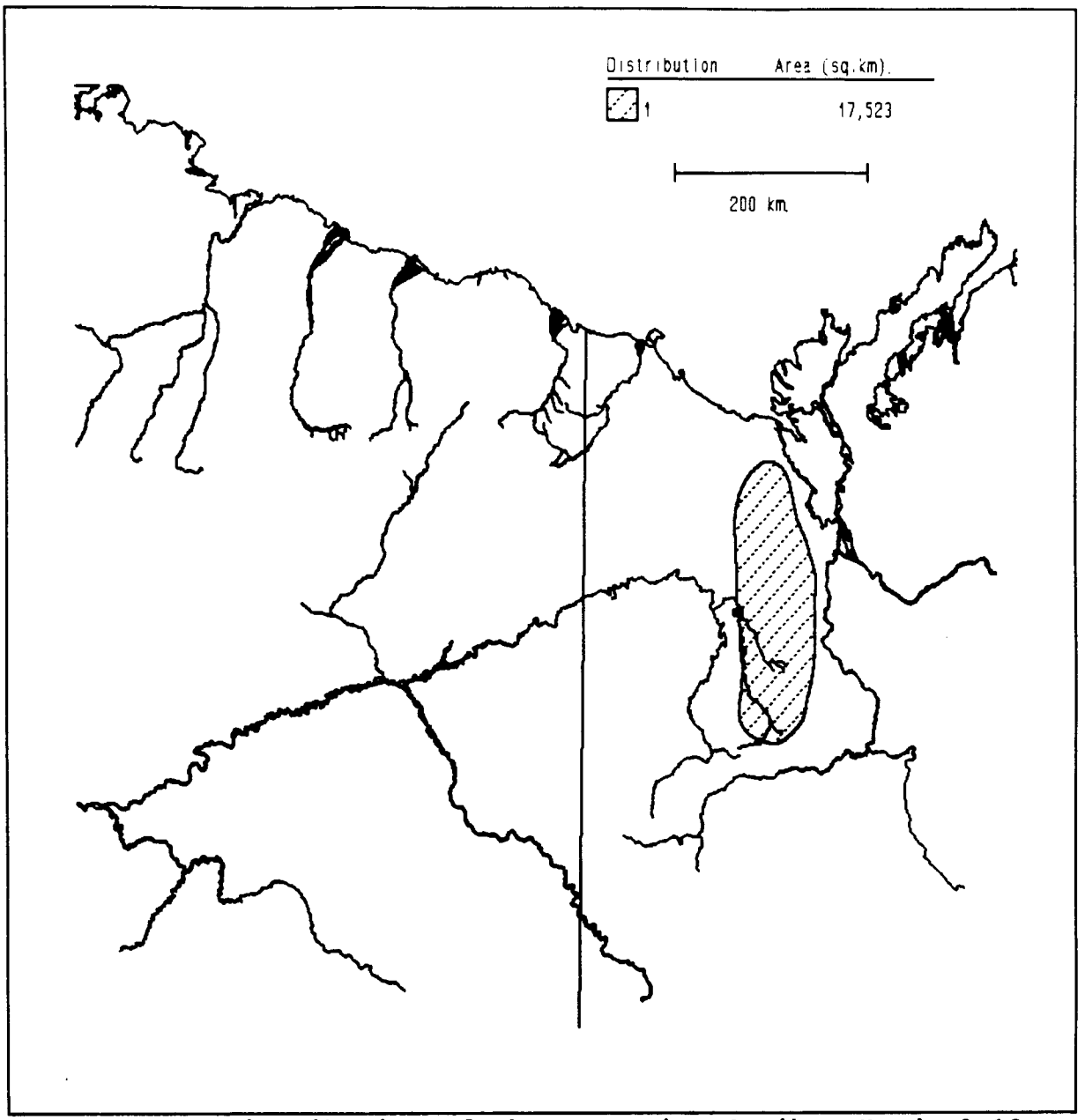

Figure 128. Distribution of the Porcupine Caribou Herd, 9-13 November 1988.

FIGURE 129: Spring 1989

Ninety collars were relocated during surveys flown 8-11 April. The highest concentrations were in the north along the Babbage, Blow and Rapid River drainages. Other collars were scattered southeast to Canoe Lake and south through the Richardson Mountains. Some collars were scattered from the Branch River in the Ogilvie Mountains north to Sharp Mountain in the Keel Range.

References:

Canadian Wildlife Service (unpublished report).

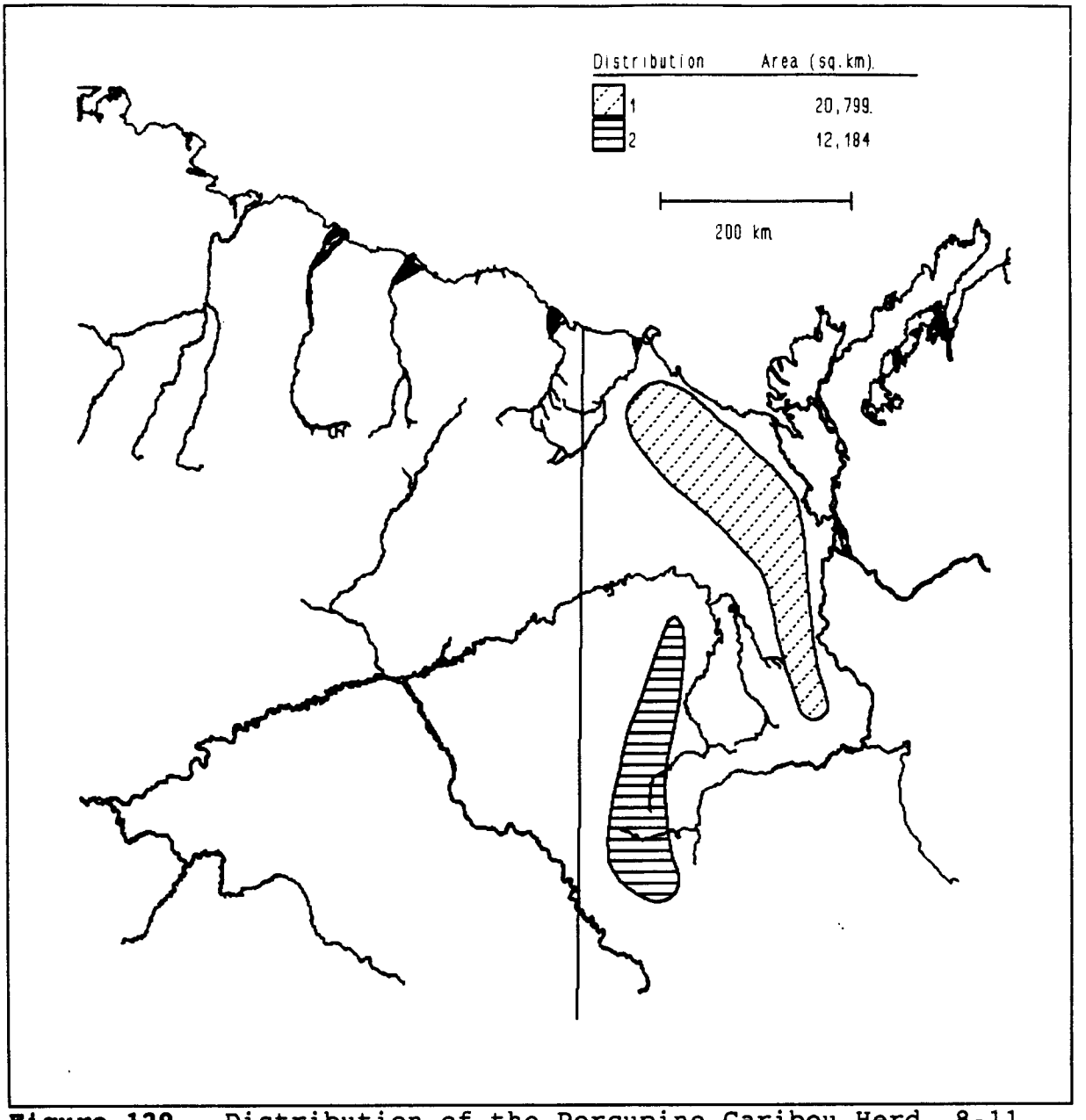

Figure 129. Distribution of the Porcupine Caribou Herd, 8-11 April 1989.

FIGURE 130: Fall Migration 1989

Most of the 86 collars relocated during surveys flown 21-25 September were found in a band stretching from the Old Crow Range northwest to the headwaters of Jago River in Alaska. Another concentration of collars (17) was found in the area surrounding Whitestone Mountain. The remaining collars were scattered; 4 in the Richardson Mountains, 2 near Bonnet Lake and 1 at the headwaters of Thomas Creek in Old Crow Flats.

References:

Canadian Wildlife Service (unpublished report).

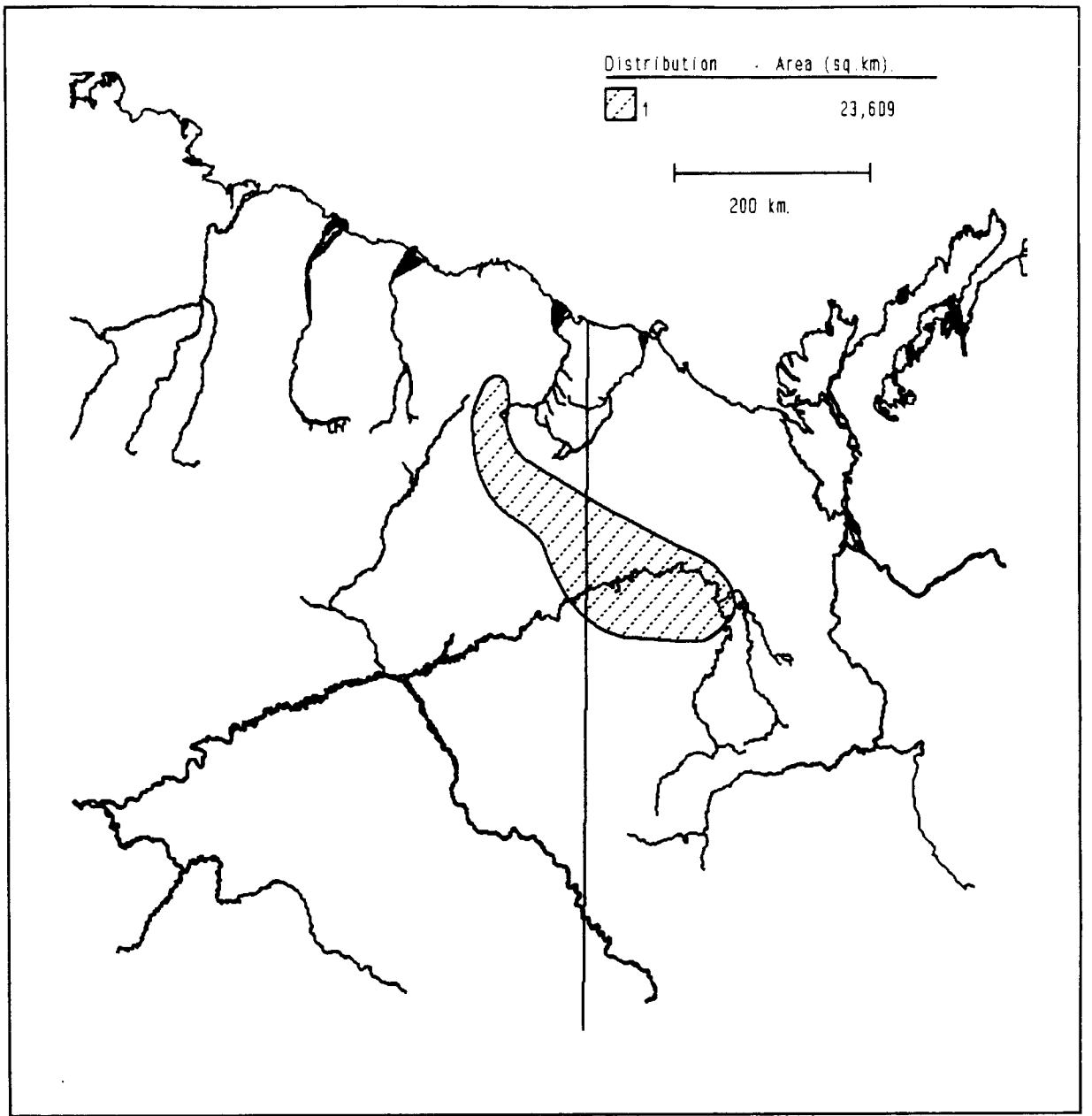

Figure 130. Distribution of the Porcupine Caribou Herd, 21-25 September 1989.

FIGURE 131: **Spring 1990**

References:

Whitten, K. R. pers comm. 1990.

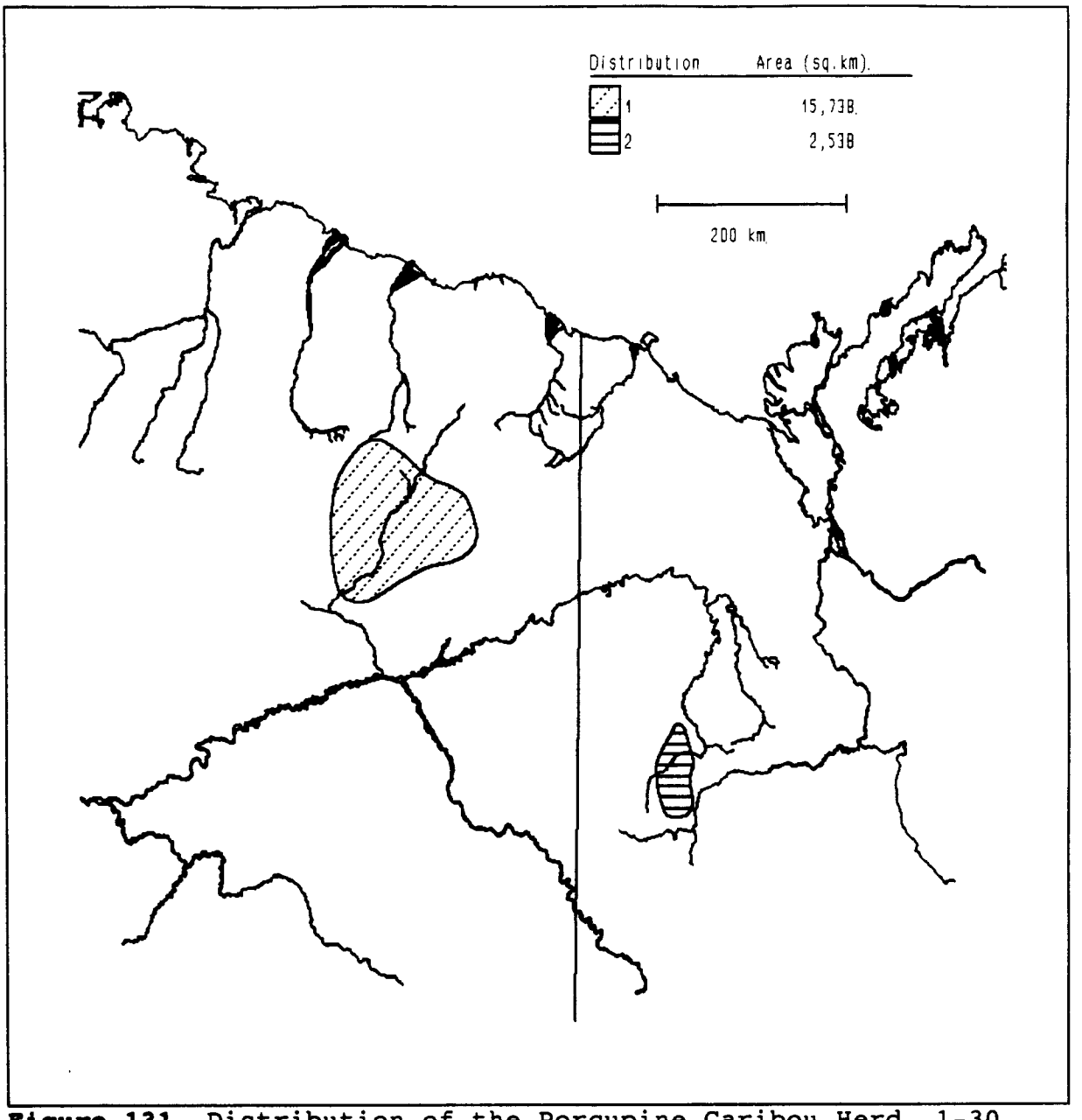

Figure 131 Distribution of the Porcupine Caribou Herd, 1-30 April 1990.

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