



BEAR TRACKS

No. 6

Editors: Dean Cluff and Phil McLoughlin

Spring/Summer 1999

A Newsletter on Grizzly Bear Studies in the Central Arctic, NWT, Canada

RADIO-COLLARS REMOVED !

This spring we removed the remaining satellite radio-collars that we placed on barren-ground grizzly bears last year. We also removed the remaining conventional VHF radio-collars. The intent of using VHF collars was to locate winter den sites for another year and find out whether or not these female bears had cubs.

Removing the collars turned out to be somewhat more difficult this year than last because a few adult females had not emerged from their dens at the time captures were planned (mid-May). Although we generally found den entrances to be open (that is, broken through the snow), some females, especially those with cubs-of-the-year, remained in the den or hid inside when the helicopter approached. Consequently, these bears were unavailable for capture at the time. We continued capturing other bears but returned to capture these later-denning bears once they left their dens.

Although spring seemed somewhat delayed this year, we don't believe we were too early in capturing bears. Many bears, especially the males, had emerged from their dens in early May.

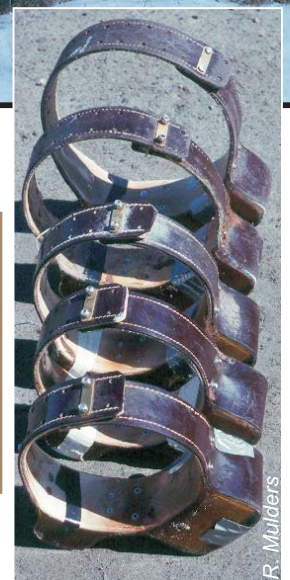
Females with young cubs tend to remain in the den longer and don't stray far from the den for some time. The 3 females that delayed leaving the den all had cubs-of-the year. All appeared in good shape, especially given that they were nursing 2 or 3 cubs.

One male bear proved to be extra difficult to locate because the VHF transmitter on the satellite collar was not working. Although we had a satellite location for this bear, he apparently moved from the area because by the time our capture crew arrived at the satellite location, the bear could not be found. This experience reminded us the value of a VHF transmitter to precisely locate a bear, and the degree to which bears can move or hide.



"All in a day's work"

Here 5 satellite radio-collars are lined-up after removing them from bears, such as the one pictured above.



Many of the collars we removed were on female bears and most of them had cubs. It was encouraging to see litters of 2 and 3 cubs-of-the-year such as the litter of 3 pictured here.

Capturing a family group can be a challenge, especially when the cubs are only a few months old. The “cubs-of-the-year” are captured with a large fishing net once the mother bear has been successfully drugged. Yearling cubs and two-year-old cubs are larger and need to be darted to be handled safely.

Grizzly bear cubs do not always stay with their mother once she’s been darted, so we have to watch all the bears at the same time. This is why we often use a small fixed-wing airplane to help spot the cubs, especially if there is little snow for tracking.



Although we need to drug the cubs too, we only use a very small amount of the drug so they recover quickly. We place the cubs-of-the-year beside the mother or on top of her, as seen here, to help keep them warm.

DENNING RESULTS

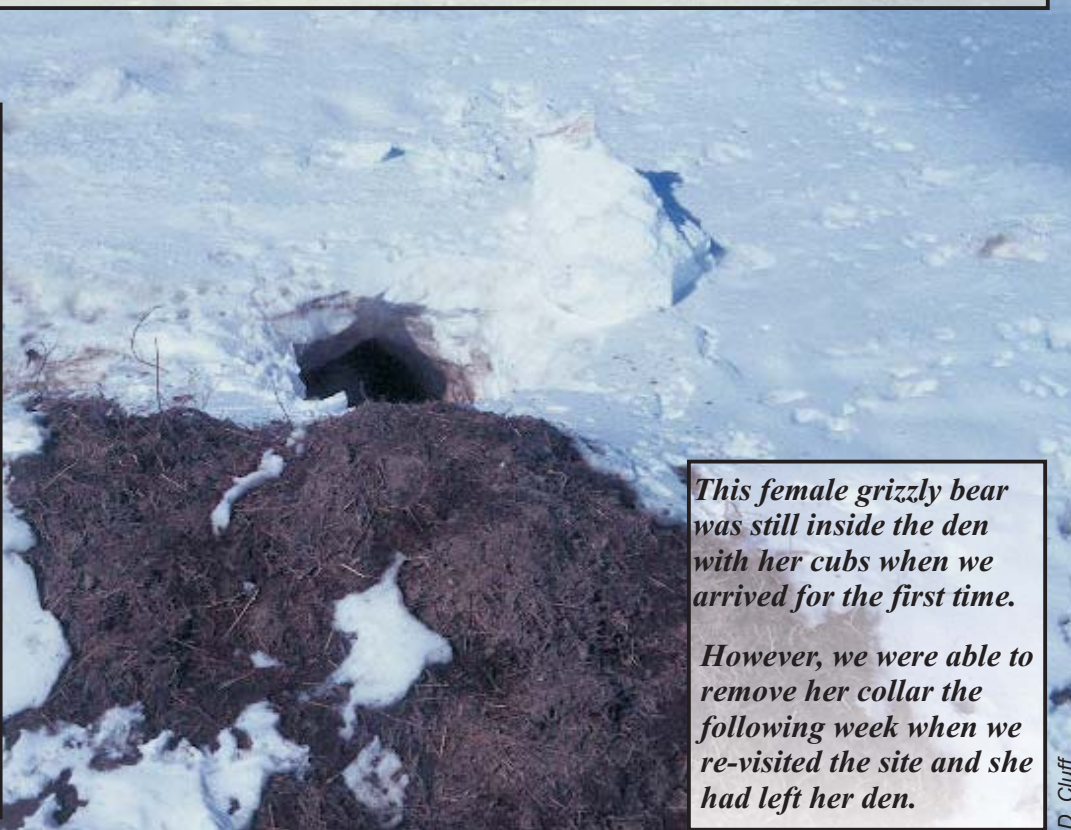
We continued our efforts to locate wintering dens on the tundra. In March, we radio-tracked 20 collared bears from the air to pin-point the location of their den site. We will re-visit these sites later in the summer and document the habitat associated with the dens.

In our 4 years of monitoring, we have found the den sites of 50 bears. Den sites for 13 bears have been documented for more than one year. We hope we can determine if barren-ground grizzly bears are using specific types of habitat for denning over the winter.

So far, heath tundra, tall shrub areas, and esker-type habitat have been used. Not surprisingly, because of poor digging soil or poorly drained soil, no dens have been observed in tussock/hummock meadows, wetlands, or boulder/bedrock habitat types.

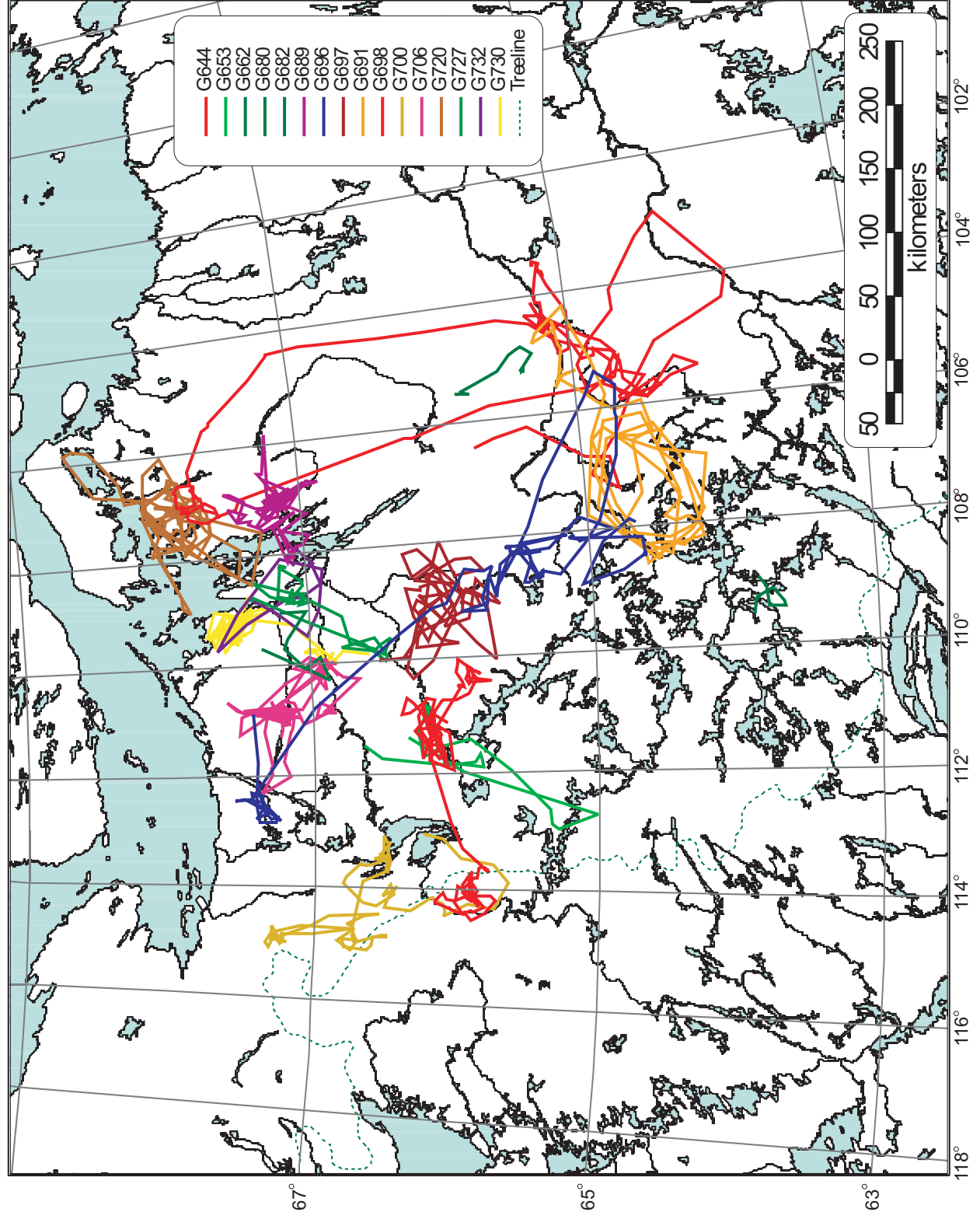
This female grizzly bear was still inside the den with her cubs when we arrived for the first time.

However, we were able to remove her collar the following week when we re-visited the site and she had left her den.



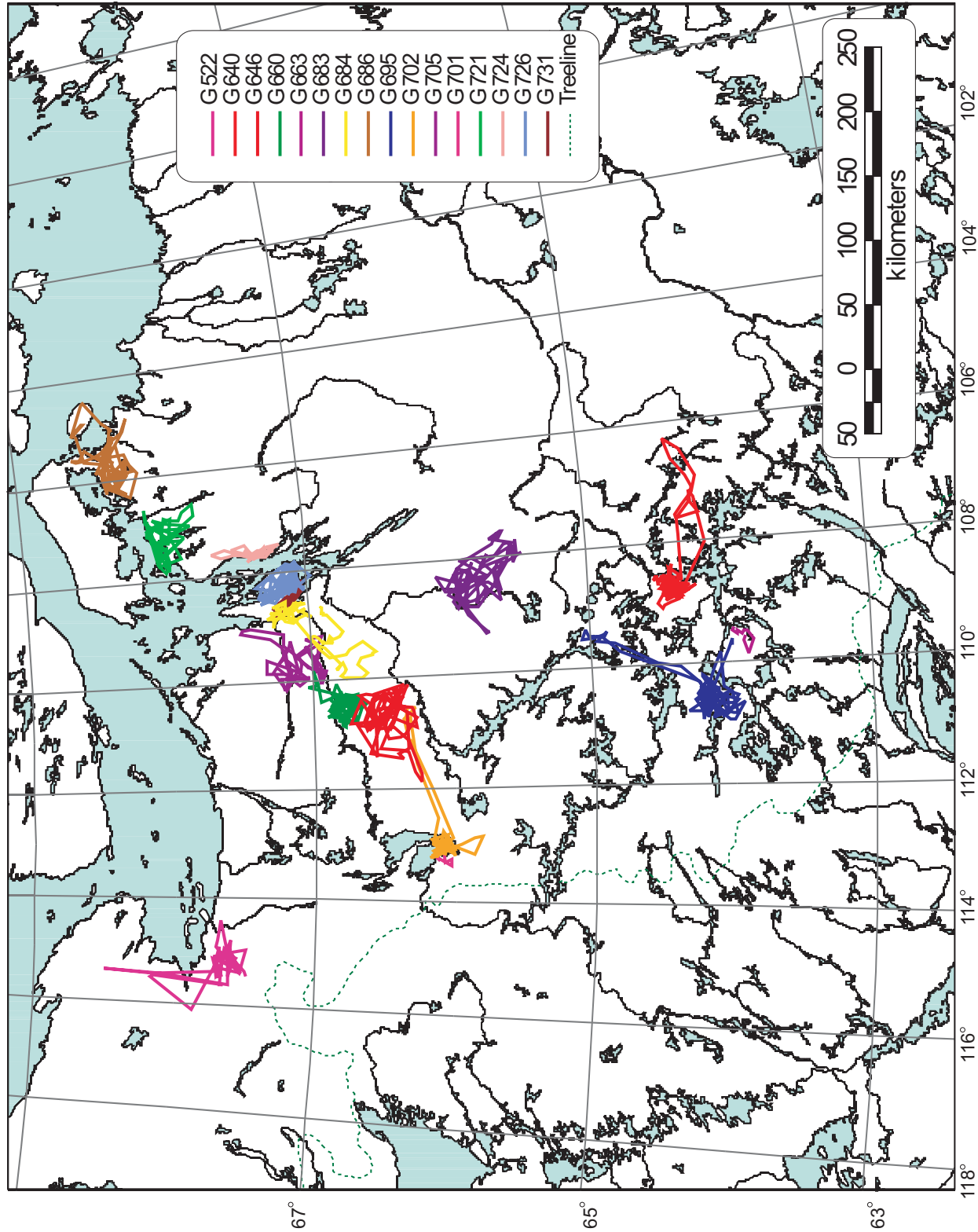
MALE GRIZZLY BEAR MOVEMENTS 1998

- each color represents a different bear



FEMALE GRIZZLY BEAR MOVEMENTS 1998

- each color represents a different bear



Capture Summary

-- Phase 1 --

From spring 1995 to 1999, we captured 264 grizzly bears. Many of these bears were recaptures as we replaced and removed radio-collars and investigated body condition. Of total captures, 152 different bears were identified.

Of these 152 individuals, 39 were adult females and 36 were adult males. Among subadults (aged 3-4 years), 11 were females, 9 were males. We marked 30 cubs-of-the year (16 female, 14 male), 16 yearling cubs (8 females, 8 males), and 9 two-year-old cubs (3 females, 6 males). We also marked 2 three-year-old bears (1 female, 1 male) that were still with their mother. All age classes noted above were at the time of first capture.

Since May 1995 we have placed 89 satellite collars on 81 bears. Some bears received a second satellite collar after the first one was removed. For 23 bears (mostly females), a break-away VHF radio-collar was fitted after the satellite collar was removed.



Kitikmeot biologist, Brent Patterson, returns a grizzly bear cub to its mother after her radio-collar was removed.

WHAT'S NEXT ?

Population Estimate Needed

With the removal of the remaining radio-collars this past spring, the first phase of the study of population ecology of grizzly bears in the Slave Geological Province nears completion. Only one more look for winter den sites for 20 bears remains before the field work wraps up. This phase has provided excellent information on population units, critical habitats, seasonal habitat use, den site selection, seasonal ranges, seasonal food habits, and changes in condition over the summer. The study has also allowed us to evaluate the potential effects of development on grizzly bear habitat and habitat use. Some of this information is already published but look for new maps, summaries and reports in the year ahead.

Despite the success of the current study, a major information gap remains in our understanding of grizzly bear ecology. A solid population estimate is needed to ensure that the bears and their habitat are managed properly. Hunters from Bathurst Inlet, Umingmaktok and Kugluktuk harvest grizzly bears at the north end of the study area and bears across their range are killed "in defense of life or property". Human activities on the tundra are also excluding bears from areas of former habitat.

We are concerned that such mortality and habitat loss could lead to a decline in the population. A reliable population estimate is needed to determine if the population can cope with these impacts and to determine what needs to be done to ensure the population doesn't decline.

-- Dean Cluff & Ray Case

Be sure to check out our
back issues on the
Government of the
Northwest Territories
web site: www.gov.nt.ca



Acknowledgments

We gratefully acknowledge the financial support and contributions-in-kind from all our project sponsors. Great Slave Helicopters, Canadian Helicopters, Nunasi Helicopters, Helicopter Wildlife Management, and Air Tindi skillfully assisted our bear capture efforts. We thank Lynda Yonge for her comments and editing efforts.

PROJECT SPONSORS (Phase 1)



THE NWT GRIZZLY BEAR PROJECT

PROJECT LEADERS

Ray Case, Department of Resources, Wildlife, & Economic Development, Government of the NWT, Yellowknife
François Messier, Department of Biology, University of Saskatchewan, Saskatoon

RESEARCH PARTICIPANTS

Dept. of Resources, Wildlife, & Economic Dev.

Dean Cluff, North Slave Region
Robert Gau, Kitikmeot Environmental
Steven Matthews, Wildlife & Fisheries Division
Robert Mulders, Wildlife & Fisheries Division
Cindy Squires-Taylor, NWT Centre for Remote Sensing

University & Industry

Philip McLoughlin, Univ. of Saskatchewan
David Penner, Penner & Associates Ltd.

Dept. of Sustainable Development, Nunavut

Brent Patterson, Kitikmeot Region
Andy McMullen, Kitikmeot Region

This newsletter contains preliminary information only and should not be cited without permission from the authors.

For More Information:

Contact: **Dr. Ray Case**, Wildlife & Fisheries Division, Department of Resources, Wildlife & Economic Development
600, 5102 - 50 Ave., Yellowknife, NT X1A 3S8 (867) 920-8067 (tel) (867) 873-0293 (fax) or email ray_case@gov.nt.ca

