



obtained from satellite-collared animals, 1985-1995, and from near-daily relocations of conventional radio-collared calves on the calving ground, 1992-1994.

Data were analyzed with contingency tables, linear and stepwise logistic regression, multi-response permutation procedures (MRPP, Mielke and Berry 1982), and analysis of variance. Akaike's Information Criteria (AIC; Akaike 1973, Akaike et al. 1986) were used for final model selection. Bonferroni procedures were used to provide overall experiment error protection as appropriate. GIS technology, remotely-sensed habitat data-layers, habitat-demography relationships, and simulation modeling were used to assess potential effects of displacement of calving grounds on calf survival each June.

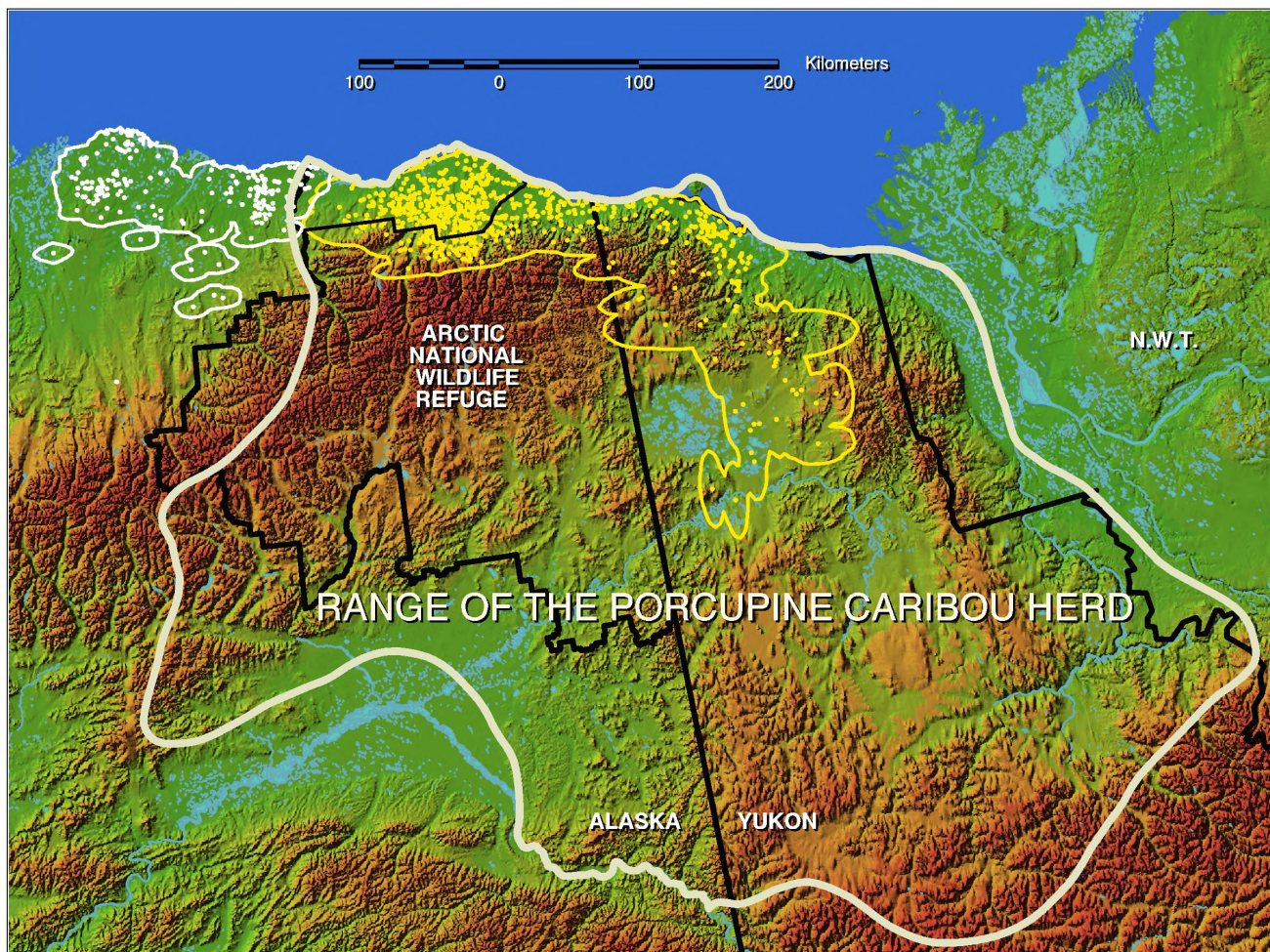
Not all types of data were available throughout the entire primary study period of 1983-2001. Calf weights near birth were estimated from captured 1- and 2-day-old animals in 1983-1985, and again in 1992-1994. Calf weight-gains on the calving ground and cow weights in June and September were estimated in 1992-1994.

Caribou food habits were estimated during 1973 (Thompson and McCourt 1981), 1979-1981 (Russell et al. 1993), and for this study during 1993-94 from microhistological analyses of fecal pellets (Sparks and Malechek 1968) corrected for forage digestibility (Duquette 1984).

Annual adult caribou survival was estimated in 1983-1992 (Fancy et al. 1994, Walsh et al. 1995). Over-winter calf survival was estimated in 1983-1985 and 1988 (Fancy et al. 1994, Walsh et al. 1995). *June calf survival* (the proportion of parturient radio-collared females retaining live calves during the last week of June) was estimated in 1983-1992 (Fancy et al. 1994, Walsh et al. 1995) and for this study in 1993-2001.

Calving distributions and vegetation types on the calving grounds were available for all years 1983-2001, but satellite-based estimates of NDVI and snowcover were only available for the years 1985-2001.

The study area covered the annual range of the Porcupine caribou herd (Fig. 3.2), emphasizing the calving ground, and was described in the introduction of



**Figure 3.2.** For the Porcupine caribou herd: annual range (wide white solid line), calving sites (yellow points), and aggregate extent of calving grounds (thin solid yellow line), 1983-2001. For the Central Arctic caribou herd: aggregate extent of calving (thin solid white line) and calving sites (white points), 1980-1995. (Adapted from Wolfe 2000).