Appendix 1. Sources of parameter estimates and the default settings of REMUS.

Parameter	**Default Value**	**Reference**
1) the size of the total area simulated and its habitat composition (proportion of the total area covered by lowlands)	20 000 km^2 (78%)	James, 1999
2) initial density of caribou	0.07 / km^2	Stuart-Smith et al., 1997
3) carrying capacity for caribou forage (lichens + vascular plants) in lowland habitat (f_k)	870 kg/ha + 240 kg/ha	Wickstrom et al., 1984; Renecker and Hudson, 1986; Thomas and Kiliaan, 1998
4) initial amount of forage available (lichens + vascular plants)	870 kg/ha + 240 kg/ha	Wickstrom et al., 1984; Renecker and Hudson, 1986; Thomas and Kiliaan, 1998
5) the annual maximum growth potential of caribou forage (*s*), (lichens, vascular plants)	0.07, 0.5	Danell et al., 1985; Bergstroem and Danell, 1995; Gaare, 1997
6) caribou greatest rate of forage intake (*h*: lichens, vascular plants; and forage requirements *l*)	400 kg/ha, 300 kg/ha	Bergerud, 1972; Hanson et al., 1975; Holleman et al., 1979; Fuller and Keith, 1981; Trudell and White, 1981; Thomas 1995
7) initial density of wolves	0.008 /km^2	Gunson 1992
8) maximum growth rate of wolves	λ_{max} = 2.40, r = 0.875,	Messier, 1985; Ballard et al., 1987; Messier, 1987; Bergerud and Ballard 1989, Fuller, 1989; Pletscher et al. 1997; Bergerud and Elliot 1998, Hayes and Harestad, 2000a

9) wolf kill rates and food acquisition	food acquisition: $log_{10}y = 0.93 - 0.03x$, y is the number of moose killed per wolf per day, x is the number of wolves per pack; annual killing rate: $y_{moose} = 12x/(0.46+x)$, x is moose density; and $y_{caribou} = 37x/(4.6+x)$, x is caribou density	Thurber and Peterson, 1993; Dale et al., 1994; Messier, 1994; Schmidt and Mech, 1997; James, 1999; Hayes and Harestad, 2000; Hayes et al. 2000; James and Stuart-Smith, 2000
10) prey requirements of wolves	nutritionally stressed at moose density below 0.4 /km^2; at 0.2/km^2 cannot subsist if no alternate prey	Messier, 1985; Messier, 1987
11) prey size	caribou: 147 kg, moose: 434 kg	Stelfox, 1993
12) wolf territoriality expressed as the maximum density that wolf population will not exceed due to territorial behavior	0.059 /km^2	Messier, 1994
13) territory size of a wolf pack	950 km^2	Messier, 1985; Ballard et al., 1987; Gunson, 1992; Wydeven et al., 1995; Okarma et al., 1998
14) predation efficiency (d)	0.46 for moose and 4.6 for caribou	Messier, 1994; James, 1999
15) prey selection	Moose preferred	James, 1999
16) prey switching	ON	Bergerud, 1983

17) bear predation on caribou (proportion of calves, yearlings and adults taken by bears annually)	(0, 0, 0)	Ballard, 1994
18) moose initial density	0.25 /km^2	Schneider and Wasel, 2000
19) carrying capacity for moose forage (kilograms of dry biomass/km^2) in upland habitats (f_k)	970 kg/ha	Renecker and Hudson, 1986
20) initial amount of moose forage	970 kg/ha	Renecker and Hudson, 1986
21) moose greatest rate of forage intake (h)	533 kg/ha	Renecker and Hudson, 1986
22) the annual maximum growth potential of moose forage (s)	0.5	Danell et al., 1985; Bergstroem and Danell, 1995
23) fire	ON	Cumming, 2001
24) snow conditions (average maximum snow depth and the degree of reduced access to food resources for caribou due to snow conditions)	OFF	Thomas, 1995; Stuart-Smith et al., 1997; Schneider et al., 2000; Dzus, 2001
25) moose hunting (proportion of adult males + females harvested annually)	No hunting	Alberta Environmental Protection, 2001
26) caribou harvest (proportion of calves, yearlings and adults either poached or hunted annually)	No harvest	Dzus, 2001
27) the maximum density of wolves set by wolf control	No control	N/A
28) initial density of linear corridors (seismic lines, roads) and oil wells	(0, 0, 0)	Dyer, 1999; Dyer et al., 2001
29) rate of change in the densities of linear corridors and oil wells	(0, 0, 0)	Dyer, 1999; Dyer, et al., 2001

30) caribou reduced use of 100, 250, 500 and 1000 m buffers adjacent to seismic lines and roads, and 100, 500 and 1000 m buffers adjacent to oil wells	(0, 0, 0)	Dyer, 1999; Dyer, et al., 2001