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*Wildlife Research*

**Supplementary Material**

**Snow track counts for density estimation of mammalian predators in the boreal forest**

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**Supplemental Results**

Table S1. Lynx density estimates for three study areas, 1986-96, and snow track counts of lynx on trails.

| Area | Year Winter | Lynx density/100km$^2$ | Tracks per 100 km | SE tracks | No km tracks |
|---|---|---|---|---|---|
| Snafu | 1986-87 | 2.7 | 14.5 | 3.80 | 180 |
| | 1987-88 | 5.6 | 18.1 | 2.40 | 421 |
| | 1988-89 | 10.6 | 27.3 | 4.13 | 238 |
| | 1989-90 | 24.3 | 35.6 | 3.77 | 462 |
| | 1990-91 | 44.5 | 95.0 | 10.97 | 531 |
| | 1991-92 | 44.9 | 102.9 | 18.69 | 680 |
| | 1992-93 | 4.3 | 2.4 | 0.54 | 2016 |
| | 1993-94 | 2.0 | 1.1 | 0.55 | 2097 |
| Kluane | 1987-88 | 2.9 | 7.9 | 0.87 | 1765 |
| | 1988-89 | 4.6 | 13.9 | 1.21 | 2128 |
| | 1989-90 | 14.3 | 22.4 | 2.38 | 780 |
| | 1990-91 | 17.1 | 53.9 | 4.13 | 1308 |
| | 1991-92 | 8.0 | 35.8 | 2.83 | 1178 |
| | 1992-93 | 4.3 | 13.8 | 1.67 | 888 |
| | 1993-94 | 2.6 | 4.6 | 0.97 | 979 |
| | 1994-95 | 2.3 | 10.5 | 2.16 | 780 |

| | | | | | |
|---|---|---|---|---|---|
| | 1995-96 | 3.4 | 14.8 | 1.87 | 649 |
| NWT | Mar.-Apr. 1989 | 14.8 | 18.7 | 4.93 | 895 |
| | Nov. 1989 | 26.7 | 11.9 | 1.70 | 380 |
| | Nov. 1990 | 30.4 | 23.3 | 3.21 | 1073 |
| | Mar. 1991 | 29.6 | 58.5 | 5.99 | 441 |
| | Nov. 1991 | 13.3 | 19.4 | 0.85 | 644 |
| | Mar.-Apr. 1992 | 2.2 | 1.1 | 2.97 | 1180 |
| | Mar. 1993 | 3.7 | 5.0 | 1.61 | 477 |
| | Nov. 1993 | 6.7 | 3.2 | 1.08 | 747 |
| | March 1994 | 7.4 | 4.2 | 1.00 | 594 |
| | Nov. 1994 | 7.4 | 3.9 | 1.00 | 648 |
| | March 1995 | 6.7 | 5.6 | 1.50 | 1080 |

Table S2. Coyote density estimates for Kluane study area, 1987-96, and December-April snow track counts of coyotes on trails.

| Area | Year Winter | Total Transects | Coyote density per 100 $km^2$ | Mean Tracks/TN/100km | St. Err. Track count | No. km tracks |
|---|---|---|---|---|---|---|
| Kluane | 1987/1988 | 554 | 2.3 | 2.7 | 0.46 | 1742 |
| | 1988/1989 | 609 | 3.4 | 4.2 | 0.55 | 2128 |
| | 1989/1990 | 176 | 5.7 | 7.7 | 1.65 | 613 |
| | 1990/1991 | 298 | 8.6 | 21.3 | 2.67 | 1006 |
| | 1991/1992 | 270 | 4.9 | 13.5 | 2.27 | 864 |
| | 1992/1993 | 194 | 2.6 | 1.2 | 0.40 | 622 |
| | 1993/1994 | 256 | 1.4 | 0.5 | 0.26 | 888 |
| | 1994/1995 | 194 | 1.7 | 4.2 | 1.61 | 627 |
| | 1995/1996 | 117 | 2.0 | 7.5 | 2.04 | 376 |

Table S3. Results of GLM ANOVA analysis of effects of covariates on lynx snow track counts in the Kluane study area, 1987-96.

| Factor* | DF | SS | MS | F | P |
|---|---|---|---|---|---|
| Transect | 7 | 69306 | 9900.92 | 5.15 | < 0.001 |
| Year | 8 | 454415 | 56801.81 | 29.56 | < 0.001 |
| Transect x Year | 56 | 371228 | 6629.07 | 3.45 | < 0.001 |
| Season | 2 | 12281 | 6140.70 | 3.20 | 0.04 |
| Temperature | 4 | 17473 | 4368.17 | 2.27 | 0.06 |
| Temperature_D-1 | 4 | 10876 | 2718.90 | 1.42 | 0.23 |
| DSLS | 17 | 15746 | 926.25 | 0.48 | 0.96 |
| Residuals | 3061 | 5881605 | 1921.47 | | |

*Season = Oct-Nov, Dec-Feb, or Mar-Apr; Temperature and Temperature_D-1 (day before count) = < -30 ˚C, -29 to -25 ˚C, -24 to -20 ˚C, -19 to -11 ˚C, or >=-10 to +1 ˚C; DSLS = days since last snowfall.

Table S4. Results of GLM ANOVA analysis of effects of covariates on coyote snow track counts in the Kluane study area, 1987-96.

| Factor* | DF | SS | MS | F | P |
|---|---|---|---|---|---|
| Transect | 7 | 859788 | 122826.80 | 58.88 | < 0.001 |
| Year | 8 | 490889 | 61361.15 | 29.41 | < 0.001 |
| Transect x Year | 56 | 724318 | 12934.25 | 6.20 | < 0.001 |
| Season | 2 | 144541 | 72270.62 | 34.64 | < 0.001 |
| Temperature | 4 | 11804 | 2951.06 | 1.41 | 0.23 |
| Temperature_D-1 | 4 | 4072 | 1017.97 | 0.49 | 0.74 |
| DSLS | 17 | 5207 | 306.31 | 0.15 | 1.00 |
| Residuals | 3061 | 6385729 | 2086.16 | | |

*Season = Oct-Nov, Dec-Feb, or Mar-Apr; Temperature and Temperature_D-1 (day before count) = < -30 ˚C, -29 to -25 ˚C, -24 to -20 ˚C, -19 to -11 ˚C, or >=-10 to +1 ˚C; DSLS = days since last snowfall.