Descriptive Results

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##General results

Snowshoe hare densities decreased over each winter, because they were always predated, with the greatest overwinter declines occurring from 2016 to 2018, after which hare densities were mostly below the median of 0.37 hares per hectare (Figure 1A). Averaged across all winters, hares experienced 24% chance of being predated, with 2020 showing the highest mortality rate (37%) and 2017 showing the lowest (17%; Figure 1B). The median daily temperature across all years was -15.63 C; temperatures fluctuated week to week, going above and below the median temperature, except during 2016 when all weeks were warmer than the median (Figure 1C). The median snow depth across all winters was 41.19 cm. Snow increased over every winter, reaching a maximum of 78.2 cm in 2021 (Figure 1D). The pattern of accumulation differed between winters; some winters experienced gradual increases (e.g., 2018 and 2019) while others experienced dramatic increases over short periods of time (e.g., 2017 and 2020; Figure 1D). In 2016 and 2019, when temperatures were relatively warmer, snow began to melt and decline in march (Figure 1D). After converting snow depth to food availability, we found there to be a median of 29.46 kg per hectare of soluble willow twigs available to hares (Figure 1E). After using hare density to calculate food availability on a per capita basis, this equated to 89.24 kg of soluble willow per hare (Figure 1F).

Averaged by week, snowshoe hare foraging rate was very flexible ranging from a minimum of 2.01 to 14.93 hours per day, with 9.45 being the average foraging effort in a given week (Figure 2A). Food supplementation reduced female foraging effort by 0.72 hours (p = 0). Within the control sample, male hares foraged on average 0.34 hours more than females (p = 0.002). As day length increased over winter from January to March, hares decreased their foraging rate by 10.75 minutes per hour decrease in night length (p = 0).

The average protein composition of fecal sample from food supplemented and control individuals were 11.57% and 10.63%, respectively. Fecal samples collected in January were higher in protein (11.33%) than those collected in March (10.8%; p = 0.019).