Fecal results

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Fecal samples from control hares had a median of 10.48 ± 1.71% protein, 0.97% less than samples from food supplemented hares (p = 0, t = 4.24, df = 250; Figure 2B). Fecal samples collected in January were 0.66% higher in protein than those collected in March (p = 0.019, t = -2.37, df = 250). Using the 148 cases where fecal samples were collected from a hare with weekly foraging data, fecal protein showed a slightly negative response to foraging effort (p = 0.018, t = -2.39, df = 146).

The most parsimonious models for explaining diet quality, or fecal protein content, were models D2 and D4, which contained twig biomass and temperature, and hare density and temperature, respectively (Table 2). Model D2 found that as twig availability increased from 14 to 36 kg/ha, fecal protein increased from 10.1% to 11.4% (p = 0; Figure 5A). While fecal samples from food supplemented had 1.88 ± 1.2% higher protein than controls across the range of twig availability, there was no difference between the two groups’ responses to twig biomass (p = 0.01; Figure 5A). There was a significant interaction between food treatment and ambient temperature (p = 0.01). As weekly temperatures increased from -30 to 6°C, food supplemented hares increased their fecal protein by 1.75%, always staying above the 10% threshold, while control hare fecal protein decreased by 0.76%, from 10.96% to 10.2% (Figure 5B). Model D4 showed that hare fecal protein content decreased slightly as hare density increase, about 0.87 ± 0.305 for every 0.5 hare/ha increase. As the hare population increased from 0.2 to 1.1 hares/ha, fecal protein decreased from 11.5% to 10.4%, and food treatment did not affect the slope of this response (p = 0.71; Figure 5C).