**Additional File 3.** Kernel Density Home Range Estimation

To estimate black bear home ranges, we followed the recommendations of Borger et al. (2006), Bauder et al. (2015), and Fieberg (2007). First, to reduce home range estimation bias, we standardized our sampling among individuals by subsetting the collar data to every 6 hours. We used the ks (Duong 2018) package in the R software environment (R Core Team 2017) with the reference bandwidth and an unconstrained bandwidth matrix to estimate kernel density home ranges. The unconstrained bandwidth matrix has been shown to be less sensitive to fix rate and sampling duration than other home range estimators while producing a single volume contour (Bauder et al. 2015). We estimated kernel density home ranges for each season and identified the final home range boundaries as 95% of the entire utilization distribution for each individual.

**References**

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