

## **\*\*Do American Black Bears Track Resource Waves in Yellowstone National Park?**

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American black bears (*Ursus americanus*) are opportunistic omnivores that consume diverse foods, allowing them to maintain a macronutrient diet and optimize body mass gains. During the spring in the Northern Range of Yellowstone National Park, black bears may synchronize their daily movements to resource waves, including when green vegetation reaches peak foraging quality (green wave) and a pulse of neonate elk (*Cervus canadensis*, calving wave). To understand how resource waves might influence black bear movements in spring, we instrumented 8 black bears with GPS collars in 2017 and 2018 and estimated fine-scale resource selection based on used and available locations with integrated step-selection functions. Our findings indicate that black bears selected areas with high forage quality, suggesting they followed the green wave during spring. Although the calving wave was an important covariate associated with black bear resource selection, bears avoided elk calving areas, suggesting that they instead consumed elk calves opportunistically. Due to their smaller body size and lower metabolic needs, black bears might be able to capitalize on the green wave, potentially providing an advantage if grizzly bears (*Ursus arctos*) are better competitors for neonate elk. Given that the distribution of foods may change due to variation in climatic patterns, understanding how black bears use resource waves may be vital, especially if nutrient-rich foods become limited, which could impact the growth and expansion of bear populations in the region.