

Jen Grauer
Student Research Conference Abstract

Dietary Niche of Carnivores in Vermont
Advisors: Dr. C. William Kilpatrick, Dr. James Murdoch

Carnivores, along with any other group that shares common resources, face pressures of interspecific competition and are forced to differentiate in their dietary niche in order to coexist in the same habitat. Vermont provides habitat for a variety of carnivores, including bobcats (*Lynx rufus*), northern river otters (*Lontra canadensis*), American black bears (*Ursus americanus*), fishers (*Martes pennanti*), and other species that may utilize the same resources such as possums (*Didelphis virginiana*). Samples of the various mammals in Vermont were obtained from live trapping at field sites in Chittenden County, VT during the summer and fall, from previous trapping by an advisor, and from the Vermont Fish and Wildlife Service. Hair and multiple tissue types were analyzed for isotopic signatures of carbon ($\delta^{13}\text{C}$) and nitrogen ($\delta^{15}\text{N}$) using a mass spectrometer to compare the nutritional intake and trophic positions of meat-eating species in the state. While still in progress, the comparison of carbon and nitrogen isotopic ratios across multiple species allows for an understanding of how and whether or not these species are differentiating in dietary niche and what this means for their persistence in the state.