

NICHE SEPARATION BY MINK AND RIVER OTTERS: COEXISTENCE IN A MARINE ENVIRONMENT

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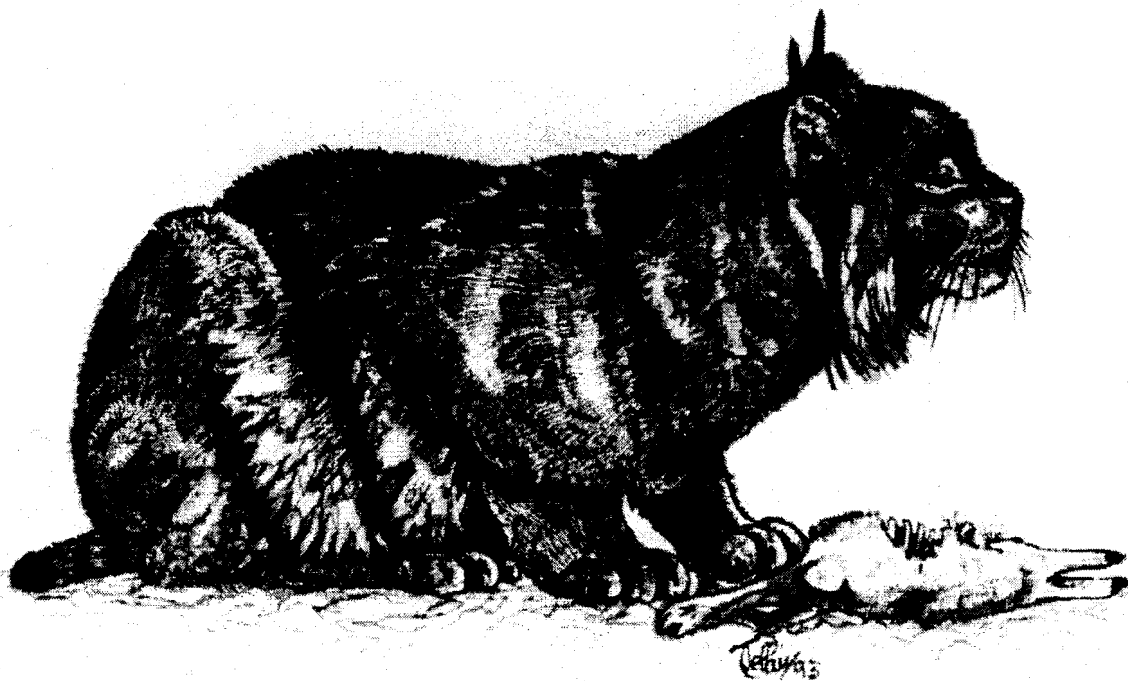
Abstract: We studied habitat selection and niche separation by mink (*Mustela vison*) and sympatric river otters (*Lutra canadensis*) living in a coastal environment in Prince William Sound, Alaska, during summer 1991. We hypothesized that exposure to wave action, depth of tidal zone, substrate composition, and availability of cover were important habitat variables in selection of sites by mink at the terrestrial-marine interface. We also hypothesized that because of high resource abundance, little resource partitioning would occur between mink and river otters in the marine environment, leading to a large niche overlap. We employed step-wise logistic regression to develop a model separating feeding sites of mink, based on trails and latrines, from random sites. This model identified vegetated slope, tidal slope, overstory (old-growth forest), understory (brush), small rocks, and exposure to wave action as the variables characterizing sites selected by mink. Mink selected (use > availability) shallow vegetated slopes and tidal slopes. Mink also selected sites that were more protected from wave action and with more overstory cover, but avoided (use < availability) beaches with small rocks as the main substrate, which is likely correlated with low availability of food. Analysis of niche overlap identified exposure and overstory as two variables that differ significantly between these two mustelids. Niche overlap including all habitat variables was 48%. Removal of exposure and overstory from this calculation resulted in 78.5% overlap. River otters selected sites with high exposure to wave action, whereas mink selected sites with low and medium exposure. Otters selected sites with high overstory cover, whereas mink showed less preference for such sites. Therefore, we have recorded niche separation in a marine environment, but were unable to attribute it to competition. Moreover, pronounced resource partitioning occurred even when food was abundant.

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