

TESTING SPATIAL INDEPENDENCE OF RADIO-COLLARED BIGHORN SHEEP TM

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A common assumption in the analysis of wildlife radio-tracking data is that marked individuals move and select resources independently. This assumption can significantly affect results especially if animals are highly social or territorial. In the case of bighorn sheep, social groups are prevalent throughout the year, and this often results in single locations with multiple radio-collared individuals. Nearest-neighbor analyses have been used to test avoidance behavior by carnivores. We used this method and data from three small herds of bighorn sheep in western Montana to conduct a test of the spatial independence of individual animals. This issue can be important in a posteriori analysis and interpretation of data, as well a priori consideration of necessary sample sizes.