

Do tine counts reflect age in Columbian black-tailed mule deer (*Odocoileus hemionus columbianus*) on Vancouver Island, British Columbia

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In British Columbia, people wishing to harvest ungulates during the allotted hunting season must adhere to selected harvest criteria (SHC) for each selected species. The age of harvested ungulates is an important factor in determining SHC for management purposes. The goal when implementing SHC measures is to protect specific age classes, but this can only be done if there are specific antler development patterns associated with different age classes. This study examines if the number of tines on antlers (tine count) is a reliable indicator of age in Columbian black-tailed mule deer (*Odocoileus hemionus columbianus*) populations on Vancouver Island, British Columbia. A total of 33 I₁ incisors were obtained from harvested *O. h. columbianus* from 2014 – 2017. The incisors were sectioned using an isomet 1000 saw; and aged using the cementum annuli method. The ages of the harvested deer were compared to the tine counts at the time of harvest to examine the age categories found within each antler conformation. The amount of age variation within a specific tine sub-set was examined to see if the imposed SHC of two-point or greater in the Oyster River region (MU 1-6) is an effective management strategy for *O. h. columbianus* populations on Vancouver Island. My results show age variation within specific tine count sub-sets for deer displaying the specified antler conformations. Due to the fact that hunters are reliant upon phenotypic characteristics, antlers especially, to predict the age of the deer at the time of harvest, this study demonstrates that current management strategies need to account for the variation in age structure demonstrated by this study.