

Cost-effectiveness and accuracy of two methods for fisher (*Pekania pennanti*) aging

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The fisher (*Pekania pennanti*) has experienced severe population declines across its native range in North America, particularly in Nova Scotia. At one point around the 1920s the fisher was assumed to be extirpated from the province. A combination of trapping regulations, habitat recovery and reintroductions established local breeding populations. For some Nova Scotians, trapping is a livelihood, thus the Trappers Association of Nova Scotia (TANS) has expressed interest in a trapping season for fishers. We intend to fill multiple knowledge gaps of the fisher population in Nova Scotia, the first of which is the age of the population. We employed two common methods for aging mammals, tooth sectioning and radiographs, and compared accuracy of results and cost-effectiveness of both methods. Tooth sectioning yields accurate age data to the year, though it is expensive and typically requires a third party to analyze samples. Radiographs yield age class data (juvenile/adult), and samples can largely be analyzed in-house. We found that when we identified a juvenile fisher via radiographs, we were correct 100% of the time, however when we identified an adult fisher, 21% of the time it was actually a juvenile fisher. Furthermore, we found juvenile females were misidentified 28% of the time, significantly more than juvenile male fishers (13%). We hope this research will establish best practices while providing government the necessary background to make informed decisions regarding the management of this species.

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