Most wildlife management in Canada and U.S. lacks ‘fundamental’ science, study finds

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OTTAWA — A new study of more than 650 wildlife management systems in Canada and the United States concluded that most of them lack “fundamental hallmarks of science,” a finding that the study’s lead author said raises doubts about hunting regulations and animal protection in North America.

Using a framework of 11 criteria to determine scientific rigour, biologist Kyle Artelle and his co-authors found only 26 per cent of the wildlife management systems include benchmarks to measure performance, while almost half — 48 per cent — do not publish information about the size of animal populations or how they are changing over time.

The study also found that just 11 per cent of the systems publicly report how hunting quotas are set, while only 9 per cent of the systems are subject to “any form” of independent review, something the authors say “deviates substantially” from proper scientific practice.

Artelle, a biologist with the Raincoast Conservation Foundation and post-doctoral fellow at the University of Victoria, said the findings mean it is difficult to assess how governments choose to manage animal populations that are hunted in Canada and the U.S.

“This could be cause for alarm if some of this hunt management is not as rigorous as some might hope,” he said in an interview this week.

“It can be concerning on a couple of levels. Science is a really great tool… In the absence of it, it’s hard to say how credible management is.”

The study was published Wednesday in the journal, *Science Advances*. Artelle and his five co-authors examined 667 systems to manage animal populations that are hunted in 62 jurisdictions at the provincial, territorial and state levels in Canada and the U.S. The systems covered 27 species, which Artelle said include big game animals like deer, elk and sheep, smaller mammals killed for their fur, and birds such as quail and pheasants. He said the study included 123 wildlife management systems in all provinces and territories except Quebec, because plans were not available in English.

Artelle explained that their goal was to assess the scientific basis of management systems using 11 criteria under four broad hallmarks: measurable objectives, the use of evidence, public transparency and independent review. Sixty per cent of systems examined in the study fulfilled just one or two of those hallmarks.

While Artelle said that decisions around wildlife management shouldn't be solely based on science — social and economic considerations are important too, he said — he argued that it should be emphasized when the public expects it, or when governments justify policies by appealing to "evidence-based" decisions.

"Agencies will often defend a particular policy using the words 'science-based,'" Artelle said. "It has a lot of weight to it, but if it turns out that this isn't as science-based as it's being sold, then I think that's just concerning in terms of good governance, in terms of having honest discussions with the public."

The population of terrestrial species in Canada dropped by an average of 10 per cent between 1970 and 2014, mainly due to a decline in mammal population, according to the species index published last month by Environment and Climate Change Canada.

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