

Moose Strategy Has Advice for Professionals

On October 12, 2016, British Columbia announced that it would invest \$1.2 million as part of a multi-level strategy to restore the province's moose population. The announcement followed 21 recommendations contained in a **report submitted to the Ministry of Forests, Lands, & Natural Resource Operations (FLNRO) on July 8, 2016**. That work was informed by input and ideas from across the province, including First Nations, stakeholders, and professionals – many of whom are professional biologists.

The need for a strategy arose from a desire to reverse the moose population decline in some parts of the province, especially the central interior where habitat has been dramatically altered by the Mountain Pine Beetle epidemic and subsequent timber salvage operations. The government estimates that provincially, the annual licensed moose harvest fell from 14,000 in the late 1980's to under 6,000 in 2014, despite hunter effort remaining relatively constant. Surveys confirmed that some regions have seen significant population declines, although the reasons are not entirely clear, simple, or universally accepted.

The recommendations encourage measures that address the public's interests in restoring moose numbers within the broader context of wildlife and land management. Therefore, some of the advice has been fairly broad-based and systems related (e.g., "make moose population enhancement objectives applicable to all industries") and some more specific (e.g., "increase measures to report and reduce mortality by train and vehicle collisions"). While the entire content of the strategy may be of interest to readers, one aspect that is particularly relevant to professionals is related to the use of local, informal observations in decision-making.

Almost immediately upon beginning discussions with First Nations and stakeholders, concerns were heard about the credibility of information used for management, particularly decisions about allowable harvest levels. This was often accompanied by complaints that local public observations were dismissed as "anecdotal" and therefore, were not pertinent. Although the professionals and managers that I met with were aware of these concerns, they often seemed unable to reconcile them with their obligation to "science-based" decision-making.

The strategy recommends that the government "strengthen the use of local observations and knowledge through structured processes". It acknowledges recent and ongoing work in this regard, and encourages a more concerted effort. If this information can be captured in a standard format, documented, and retained year-over-year, it could add significant value to the more formal surveys and research done by professionals.

While improvements to systems for collecting and calibrating incidental (public) observations is one key to strengthening their use, there is something that can be done immediately. In my experience, clear, well-written rationales (a.k.a. "reasons for decision") are invaluable. The rationale is an opportunity to demonstrate respect and encourage collaboration by acknowledging the information and describing how it has been used in relation to other factors considered in the decision. It helps dispel concerns that input has been disregarded or decisions are arbitrary.

Most resource management decisions, including those about moose populations, are not a simple calculation, but a professional judgement based on several, sometimes competing factors. Rarely does formally collected data provide an absolute answer; typically, it gives us quantifiable and verifiable input, and is often expressed in terms of a range and probability. Informal observations can be legitimately used by a decision maker or an advising professional to fine-tune scientific data. Does it confirm or conflict with the formal data? Does it suggest being more, or less conservative in my judgement? Does it warn me of a trend that may not have been picked up by the formal surveys?

In fact, a rationale can serve a much greater purpose than just to document reasons, as the act of writing it can provide the author with a structured process to help ensure a strong decision. A decision is much better able to withstand scrutiny if the logic is apparent. This is important not only in the case of an appeal or review, but also as a tool for consistency.

When I took on the work to develop recommendations for restoring populations, it was with the understanding that despite their iconic and charismatic nature, moose are but one of many values we hold in our wild landscapes. A management

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strategy can only succeed if it is implemented in context with all the choices we make about balancing and integrating those values, both in space and time. With that in mind, much of my advice, while focused on moose, may be applicable to wildlife management more broadly. I'm hoping that finding more and better ways to capture and utilize local observations and knowledge is an example of that.

The full report can be found on the BC Government web site at:

<http://www.env.gov.bc.ca/fw/wildlife/management-issues/docs/Restoring-and-Enhancing-Moose-Populations-in-BC-July-8-2016.pdf> 

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Photo by Mike Bridger, Regional Wildlife Biologist, FLNRO.