The Role of Traditional Ecological Knowledge in Conservation

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Few conservation and management issues demand as much innovation and co-operation as the conservation of large carnivorous mammals. Low densities, large home ranges, and the secretive nature of species such as the grey wolf, wolverine, lynx, mountain lion, and grizzly bear complicate research efforts. The extensive spatial and food requirements of these species and their potential to conflict with human activities generate socio-political conflicts that span political borders, agency mandates, and cultural imperatives.

At present, the fate of large carnivores is closely tied to the integration of sociology and wildlife biology, mediated by cultural beliefs. Increasingly, for example, environmental research related to conservation and management of large predators involves the application of Western science and traditional ecological knowledge. Historically, cultures throughout the world have developed different views of nature. Many are rooted in traditional systems of beliefs, which Indigenous people use to understand and interpret their biophysical environment. Their knowledge embodies a wealth of wisdom and experience of nature accrued over millennia from direct observations, and transmitted—most often orally—through generations. These systems of interacting with the environment are essential to the cultural identity and social integrity of many Indigenous populations.

Residents of Indigenous communities hold dynamic local or traditional ecological knowledge. A combination of adaptively evolving practice, belief, and mindfulness of natural systems, accrued information is conveyed culturally through generations. This knowledge provides an understanding of local and regional ecology over large geographic and temporal scales, providing insights into the effects of hunting and trapping, cycles of wildlife availability, and shifts in climate or ecosystem structure and function. This collective knowledge is a significant source of ecological information, which guides active strategies for wildlife conservation and land management.

Canada’s Constitution Act, 1982 recognizes that Indigenous people hold rights to areas and natural assets within their recognized territories. Consequently, applied environmental research is now being conducted alongside Indigenous peoples who live within traditional communities closely linked to the local ecology through economic, social, and cultural connections. These communities are often the centre of local governance (e.g., villages, or reserves within traditional territories) within large landscapes. Many of these areas are places where Aboriginal people co-evolved with wildlife for millennia and where they still reside. By necessity, these long-term relationships resulted in established and inherited ancestral principles, values, and practices, ensuring the persistence of people, other animals, and place.

Accordingly, many wildlife researchers and managers are embracing and incorporating information from cultural knowledge. Likewise, Indigenous human communities that have direct cultural connections to local ecology and place
are drawing upon information from environmental research. The mutual recognition is that although Western science and traditional knowledge constitute different paths to knowledge, they are rooted in the same reality and affirm one another.

Often, however, these traditional beliefs are at odds with prevailing "colonial" management philosophies such as the North American Model of Wildlife Conservation. Despite the innate capacity within Indigenous communities to employ customary management systems, Western science-influenced carnivore management and conservation policy dominate within territories of Indigenous peoples throughout Canada, usually without consideration of cultural values. Although the intimate and inseparable ancient relationships of Aboriginals with the natural and cultural environment of landscapes far precede the recent claims of colonial governments, a belief in the superiority of European science remains integral to the established and applied principles of wildlife management.

In contrast with many Aboriginal groups, the management philosophy and policies of non-Indigenous governments are narrowly directed towards treating large predators as a "resource" to kill, whereas the broad cultural diversity of Indigenous cultures comprises many different viewpoints. Most provincial and territorial agencies have adopted policies skewed towards preserving opportunities for recreational killing rather than conservation or preservation of ecological integrity. In addition, wildlife agencies have resolutely judged large carnivores as animals in need of management, adopting policies that treat them as a problem, rather than as respected members of the biological community.

Governments have consistently dismissed traditional views because wildlife management supposedly relies on the scientific process to generate information that informs management strategies and policies. Centralized bureaucracies such as provincial, territorial, and federal governments are usually responsible for implementing these plans. Ironically, however, wildlife management in most of North America is an ideological pursuit primarily intended to benefit people, mostly at the expense of wildlife. Management often invokes and sometimes incorporates scientific principles in the form of biology, ecology, and animal conservation. In practice, however, in my view, all are secondary to the intuition and experience of wildlife managers, as well as to public demand and politics. Although sound research by careful scientists continues to be the gold standard for judging the efficacy of wildlife management, rigorous studies of an empirical or theoretical nature are rare.

Scientific knowledge has long held a central role and attained a dominant position in our contemporary societies, but the fact that other valid knowledge systems exist cannot be ignored. Western science is fundamentally entrenched in the philosophy of ancient Greece and the Renaissance. Traditional knowledge systems have developed radically different approaches to construct and transmit knowledge. However, when traditional knowledge is combined with sound scientific knowledge, new models for conservation and management of large carnivores are produced that sustain a symbiotic and beneficial integration of people with their environment.