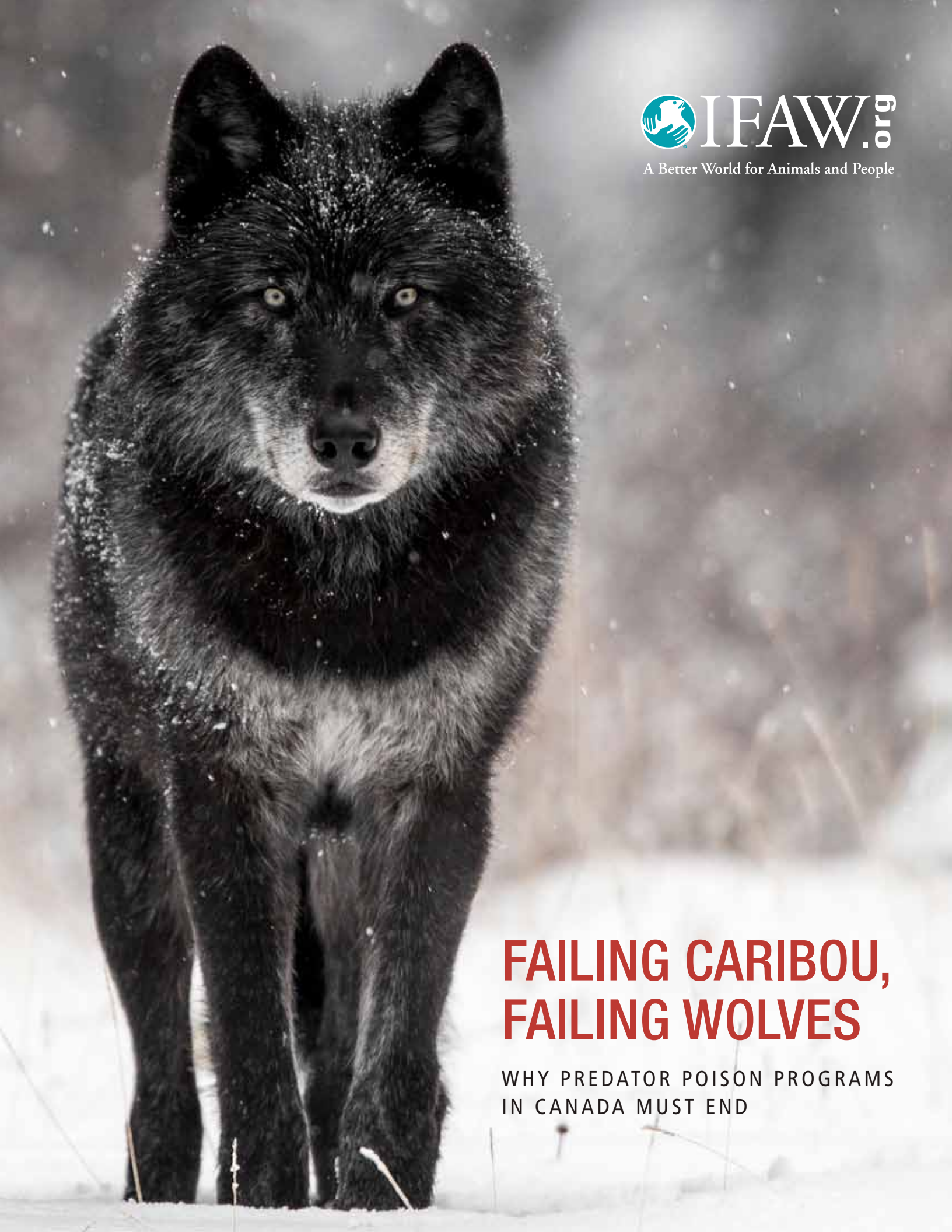

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FAILING CARIBOU, FAILING WOLVES

WHY PREDATOR POISON PROGRAMS IN CANADA MUST END

INTRODUCTION

The woodland caribou is a symbol of Canada's boreal north and considered a sacred resource by many Indigenous Peoples. The fate of the woodland caribou is inextricably linked to the health of the boreal forest and its diverse ecosystems. But woodland caribou are under threat. Their numbers have been dwindling in BC and Alberta for decades, victims of large scale habitat loss and alteration by forestry, and the oil and gas industry.

Efforts to save caribou have had deadly impacts on other species – in particular, wolves. The Government of Alberta has been killing thousands of wolves since 2005 in attempt to buy time for caribou recovery by reducing predation. British Columbia also introduced a wolf kill program in 2015, killing more than 553 wolves in the first four years of the program, with a goal of removing 80% of the wolf population in some regions.[1] Wolf packs in these two provinces are being destroyed by aerial shooting, snares and, in Alberta, indiscriminate and inhumane poisoning. In the meantime, caribou habitat continues to be destroyed through forestry and oil and gas development, and most caribou populations continue to decline.[2]

Killing native wildlife under the guise of conservation is highly controversial, scientifically indefensible, and ethically debatable. The use of indiscriminate killing methods, particularly poisoning, has environmental and conservation repercussions that extend far beyond the concerns about inhumane killing of wolves.

This report discusses the problems with the current practice of culling wolves in general, and focuses in particular on the Alberta government's practice of poisoning wolves, which is inhumane, indiscriminate, and ineffective.

We need bold action and fresh thinking for wolves, caribou, and people, so that we may thrive together in the shared place we call home.

EXECUTIVE SUMMARY

Poisoning of wolves is inhumane.

Each winter, wolves are killed in the province of Alberta using poisons approved for use by the federal government. These poisons are widely considered to be inhumane. Strychnine poison results in a prolonged, agonizing death that can take several hours. The use of strychnine to kill wolves is opposed by the American Veterinary Medical Association, the Canadian Veterinary Medical Association, and the American Society of Mammologists, and is in violation of the International Union for Conservation of Nature (IUCN) Wolf Manifesto, of which Canada is a signatory.

Poisoning of wolves is indiscriminate.

Poison kills far more than the wolves it targets. According to data from the Government of Alberta, between 2005 and 2017 an estimated 230 wolves were killed by poison in the Little Smoky Region, as well as 179 animals of other species. This number includes a grizzly bear, an animal listed as threatened in Alberta. These figures represent only those animals that were found and recorded by scientists in the field. The actual death toll is certainly much higher.

Culling wolves is ineffective.

Scientists agree that killing wolves through poison or any other means is a temporary solution at best, since the ongoing development and fragmentation of critical caribou habitat – not wolf predation – is the ultimate threat to caribou. A review of lethal predator control programs around the world suggests that culls rarely achieve the desired result of increasing prey species, and often have unintended and undesirable consequences for both target and non-target species.[3]

In addition, the disruption of a wolf pack's social dynamics caused by killing individual wolves may actually increase wolf populations in an area by increasing reproductive rates and allowing new wolves to colonize a territory. Unless a commitment is made to long-term, total eradication of *all* caribou predators – which would unquestionably create an ecological disaster – killing wolves will have little long-term impact. Wolves and other predators are a necessary component of healthy boreal forest ecosystems. By removing the weak and vulnerable from a herd, predators such as wolves, bears, and cougars strengthen the genetics and reduce disease, thereby keeping caribou herds strong, healthy, and resilient.

We know that killing wolves is not going to save caribou. Continuing to poison wolves – and countless other animals – so that governments can claim to be doing *something* to protect caribou, while at the same time allowing critical habitat to be destroyed, is ethically unacceptable, ecologically damaging, and misinforms the public about basic ecological principles.

Poisoning predators is an archaic, outdated practice that needs to stop.

HUNTING DOWN THE "BIG BAD WOLF"

In days gone by, killing predators was our first response to animals that were considered a threat to ourselves or our livestock, or as a competitor for resources. Wolves – long demonized in fables and folklore – were viewed as vermin, a menace to be eliminated.

Thankfully, times and attitudes are beginning to change. Wolves are now rightly viewed and understood as an integral part of our ecosystems and landscapes, and are being reintroduced and given protection in areas where they were previously eradicated.

But the misunderstanding and fear of wolves, and strong resistance to sharing our landscape with them, remains strong in some parts of Canada and the United States.[4]

The governments of Alberta and British Columbia (BC) are the only two provinces in Canada that continue to disrupt natural ecosystems with wolf control programs. For decades, these governments have implemented heavy handed wolf culls in attempt to buffer the decline of specific woodland caribou herds, declines caused by habitat loss.[5] These culls have had little or no success in securing caribou numbers, primarily because habitat degradation continues.

Elsewhere in Canada, wolf culls have been discontinued over the years. The Northwest Territories stopped poisoning wolves in 1964,[6] and the Yukon cancelled a wolf cull program in 1997 after a 15-year cull was determined to be ineffective and at an unacceptably high cost to taxpayers.[7] More recently, the Government of Ontario scrapped a plan to ease wolf and coyote hunting regulations, faced with inadequate science to demonstrate that wolf predation was the primary cause of moose declines.[8]

WHY ARE WE KILLING WOLVES IN WESTERN CANADA?

The governments of Alberta and BC are conducting large-scale campaigns to kill thousands of wolves, in a desperate and misguided attempt to protect small, isolated, and endangered herds of woodland caribou. But predation by wolves is not the primary threat to these caribou. Scientists agree that the real threat to this vulnerable and elusive species is habitat loss and fragmentation, primarily from forestry and petroleum development.

The powerful oil and gas industry is the economic lifeblood of the province of Alberta, and the biggest supplier of foreign oil to the United States.[9] Alberta's energy industry produces 27% of Canada's GDP, 80% of Canada's oil and 67% of our natural gas. It is also the largest supplier of natural gas and oil to the US.[10] Despite the fact that energy development is one of the leading threats to biodiversity and ecosystem services worldwide, the Alberta Department of Energy's policy is to maximize value from oil and gas production.[11] Human disturbance impacts an estimated 74% of the caribou range in Alberta,[12] and it will take decades for boreal forests to recover enough to provide adequate habitat for caribou. The challenge of protecting endangered caribou and boreal biodiversity, while developing a globally important energy industry and protecting jobs comes with no easy answers.

For provincial governments tasked with protecting endangered species, as required under the federal Species At Risk Act, it is not an enviable position to be in. Recovery actions have been widely criticised as being inadequate, and have relied on wolf control as a short-term solution.

Wolves and Caribou

Wolves eat a wide variety of prey species, including mice, beaver and rabbits, but ungulates such as moose, deer, elk and caribou make up about 80% of their diet.

If wolves eat caribou, "common sense" dictates that killing wolves should increase the number of caribou. It seems simple on the surface, but the reality is far more complex.

Since 2005, culling wolves has been the main caribou recovery measure taken by the provincial government of Alberta. For almost a decade, the

wolf killing program was kept hidden from the Canadian public. But in 2014, the government program was revealed, to widespread concern and condemnation.[13] Today, there continues to be little transparency in current wolf control programs and much of the available information has been revealed only through requests for data made under *Alberta's Freedom of Information and Protection of Privacy Act*. Although the total number of wolves (and other animals) killed to date has not been disclosed by any provincial government, a minimum estimate of 1400 wolves were killed through various methods in the Little Smoky caribou range alone between 2005 and 2018.

The three main methods of wolf control currently used are aerial gunning, snaring, and poison. Bounties have also been introduced in several municipalities to further incentivize the killing of wolves.[14]

In Alberta and British Columbia, wolves are gunned down from planes or helicopters. Known as *air-wolfing*, animals are chased and shot from the air, or on the ground once they collapse from exhaustion. Individuals known as Judas wolves are also radio-collared and released. The collared wolf will then lead the gunner to the rest of its wolf pack, and they will be shot.[15]

Neck snares are also an approved and legal part of the wolf control program. In addition to causing immense suffering, snaring is particularly harmful as it also kills a large number of non-target species, with at least 676 non-target animals reported between 2000-2012 in caribou range zones, including 163 cougars, 3 grizzly bears, 70 lynx, 12 black bears, 12 moose, 173 fisher – and 2 caribou![16]

The third killing method, the use of poison baits, is perhaps the most insidious. Poisoning predators involves the killing of healthy animals such as moose which are used as draw baits to attract wolves. The consumption of poison results in a long and painful death, and because poisons are indiscriminate they kill a large number of predators and scavengers. In addition, poisons may persist in the landscape for an extended period of time, traveling down the food chain.

Poison

The widespread opposition to poisoning from scientists, veterinarians, and the public, comes with good reason. Like snaring, the use of poisons to kill wolves – and other wildlife - is extremely inhumane and indiscriminate, killing far more than the wolves it is set out for.

The use of poisons to kill wildlife has been banned or voluntarily abandoned throughout most of Canada. Alberta and Saskatchewan are the only remaining Canadian provinces registered to use poison to kill large mammals such as wolves, coyotes, and bears. Poisons such as strychnine, sodium cyanide, and Compound 1080 may be used in these provinces to kill various species of wildlife on public or private land if deemed a threat to endangered species, livestock or an inconvenience to agriculture.

Poisons are used across Canada with various degrees of public access for pest control on private land. But only the government of Alberta is registered to use poison to kill native wildlife on public land, and wolf poisoning is a major component of their caribou recovery strategy.

Strychnine, specifically, is registered for use by Alberta's Fish and Wildlife Division to kill wolves, coyotes and black bears. Strychnine-bait traps are set near caribou herds for Alberta's wolf kill programme, with about 15-20 bait stations active at any given time during the mid to late winter, generally between January and March.

Strychnine is a bitter, odourless, crystalline powder. It is a neurotoxin that attacks the central nervous system. It is soluble in water, persistent in soil and has the potential for bioaccumulation. Strychnine is a potent poison to all animals—including humans.

There is no antidote to strychnine poisoning. Victims do not lose consciousness immediately, but first succumb to tremors and full body seizures, which become more severe and longer lasting as the poison becomes absorbed into the system. Symptoms include anxiety, muscle stiffness, convulsions, panting, and vomiting, increasing in severity and coinciding with extreme pain and suffering.[17] The victim will eventually lose consciousness and die from asphyxiation or exhaustion. Death can occur from 30 minutes up to 24 hours, depending on the dose consumed.

Death by strychnine is slow, painful and inhumane. Strychnine poison is not considered an acceptable form of euthanasia by the Canadian Council on Animal Care, the American Veterinary Medical Association, the Canadian Veterinary Medical Association or the American Society of Mammalogists, and is in violation of the International Union for Conservation of Nature (IUCN) Wolf Manifesto, of which Canada is a signatory.[18] An analysis of twelve wolf management methods being considered in the Northwest Territories ranked poisoning last in terms of humaneness and welfare.[19]

Poison kills more than wolves

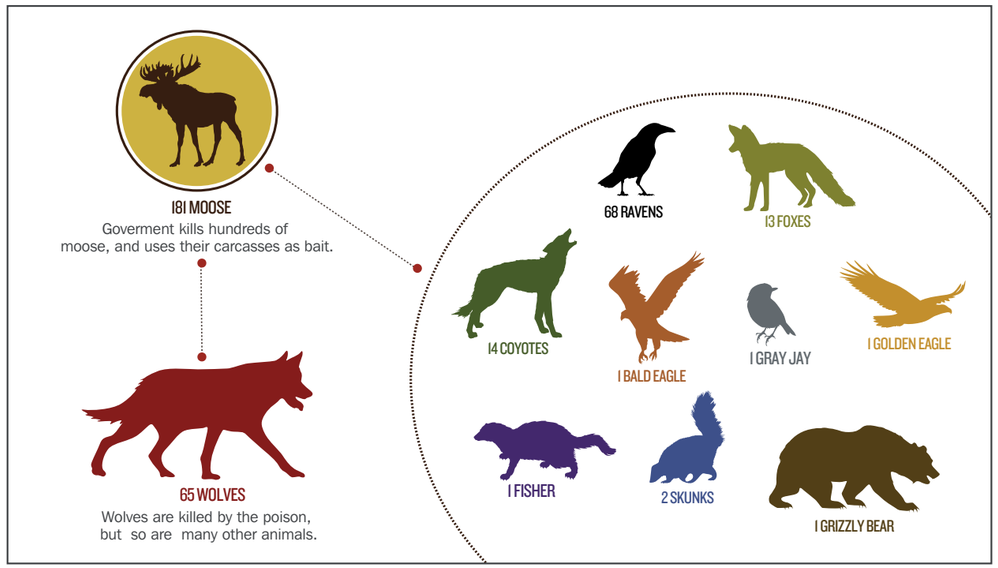
The use of strychnine is indiscriminate and kills many non-target species that consume the poisoned bait, or through secondary poisoning from scavenging on carcasses. The killing chain of poison extends far beyond the wolves for which it is intended.

At each bait station, a healthy moose or other ungulate is killed and brought to the site. This draw bait is not itself poisoned, but ten to twelve strychnine-laced poison pieces of meat baits are buried in the snow surrounding the carcass.

Non-target animals such as coyotes, foxes, bald eagles, fishers, wolverines, and ravens may be attracted to the bait and consume the poison.[20] In the Little Smoky region of Alberta, the use of strychnine to cull wolves has killed 11 different non-target species, including the bald and golden eagle, grey jay, raven, fox and coyote, grizzly bear, lynx, marten, fisher and skunk.[21] Strychnine baiting has contributed to the extirpation of the fisher and wolverine in parts of Alberta, the decimation of the now endangered swift fox, and the local extirpation of American badgers, now listed as a species of special concern.[22]

Determining how many non-target animals are killed by poisoning is difficult. Animals that have consumed poison will often disperse, burrow, or hide in the undergrowth in the hours it may take before death. In addition, deep winter snowcover makes searching for carcasses next to impossible. Between 2005 and 2017, 230 wolves were reported killed by poison in Little Smoky, and at least 253 other "non-target" animals were also killed, including lynx, coyotes, foxes, fishers, and ravens.[23]

ANIMALS REPORTED KILLED BY STRYCHNINE IN LITTLE SMOKY, AB, 2012-2017



Culling is ineffective.

Ecologists are quick to point out that there is little scientific justification for culling wolves. Even those scientists conducting the killing program admit the cull could, at best, only hope to buy time to allow implementation of long-term, caribou recovery strategies.[24]

Killing wolves to try and save caribou is a short-term measure with little chance of success. But for a government operating in fear of the backlash that could be provoked by imposing limits on industry, and faced with time periods required for habitat restoration that exceed several election cycles, it is a decision that is relatively cheap and easy to implement. And it continues today, despite the lack of scientific evidence to suggest it will benefit caribou recovery in any meaningful way.

Culling wolves is described as a "tool in the toolbox" in the strategy to save caribou, but it is arguably the least effective. The basic logic of culling — that killing predators will result in an increase in their prey — oversimplifies the workings of complex ecosystems and ignores the main threats to boreal caribou. In the short term, killing wolves often means more wolves in an area, due to increased reproduction and immigration.

Culling wolves means disrupting their social hierarchy, a hierarchy which actually limits their reproduction. A healthy, stable wolf pack is essentially a family, comprised of a breeding pair, sometimes sibling, cousins, elder post-reproductive individuals, and a few offpsring: two-year olds, yearlings and new pups of the year. Most of these wolves never breed. However, when this family structure is disrupted, the tight social control inhibiting reproduction falls away, and individual wolves begin reproducing.

Habitat destruction and heavy culling of packs creates high levels of dysfunction within wolf communities, breaking apart pack structure, creating less cohesive groups, lone wolves or several small packs instead of a single large one. A larger pack is divided into several smaller packs, each producing pups and resulting in a population increase.

If wolf numbers are reduced and their primary prey (deer, elk, moose) population is high, wolf packs will recover in response to the available prey base – this is called *compensatory reproduction*. Exterminating an entire wolf pack often results in increased resource availability for surrounding wolves. The vacated territory is soon occupied by the redistribution of neighbouring pack members, as they form new breeding pairs after the disruption of their social structure.[25]

Ecological and Physiological impacts of Hunting

Wolves are keystone species within the various ecosystems in which they live. They are an ecologically important predator that hunts large ungulates such as moose, elk, deer, and caribou across a wide range of habitats. Prey are often targetted based on their vulnerability, often weakness from an injury or disease. Predation by wolves can prevent or reduce the occurrence of diseases such as tuberculosis, or tick infestations.

Hunting wolves also has physiological implications that could change their evolution. Wolf populations that are disrupted by hunting experience high levels of stress hormones that could lead to changes in immune systems, disorders, and genetic affectations passed down by DNA.[26]

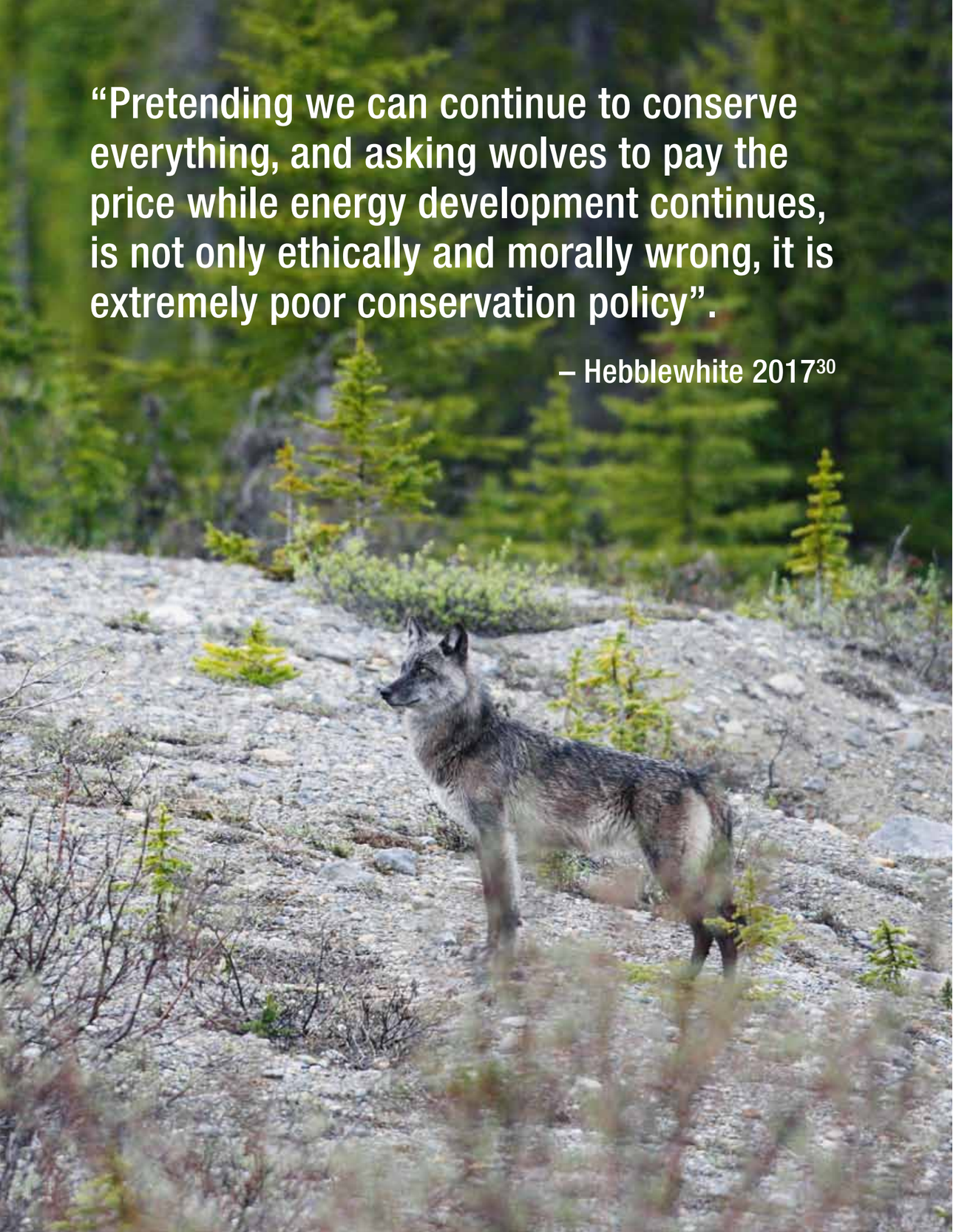
THE IMPORTANCE OF WOLVES AND CARIBOU TO FIRST NATIONS

Traditional Ecological Knowledge also notes the importance of predators for the health of caribou, with the role of wolves sometimes referred to as that of the "doctor".[27]

… we can't blame the wolf… But the wolf is just like a doctor for caribou. If the wolf it doesn't bother caribou then he will die off. They kill only the one that are sick, they'd known that they're sick so they kill them; that's the – that's the way the wolf are doing…[28]

A legend from the Keewatin Nation also highlights the importance of the relationship between wolves and caribou:

There was a man and a woman, nothing else on the Earth walked or swam or flew. And so the woman dug a big hole in the ground and she started fishing in it. And she pulled out all of the animals. The last animal she pulled out was the caribou. The woman set the caribou free and ordered it to multiply. And soon the land was full of them. And the people lived well and they were happy. But the hunters only killed those caribou that were big and strong. And soon all that was left were the weak and the sick. And the people began to starve. And so the woman had to make magic again, and this time she called Amorak, the spirit of the wolf, to winnow out the weak and the sick, so that the herd would once again be strong. The people realized that the caribou and the wolf were one, for although the caribou feeds the wolf, it is the wolf that keeps the caribou strong.[29]



CONCLUSION

WOLF CULLS ARE INHUMANE, INDISCRIMINATE, AND INEFFECTIVE.

Culling wolves is not a viable long-term solution to caribou recovery. At best, it is a “band-aid solution”, and one that is increasingly unacceptable to Canadians.[31] At worst, it disrupts wolf social structures, causes pain and suffering to thousands of sentient animals, and further disturbs already damaged ecosystems. Rigorous and aggressive caribou habitat protection and restoration - not predator culls – are required to protect both caribou and their habitat.

The Government’s use of poison to kill wolves – and other wildlife – needs to stop immediately. Poisoning wildlife is:

- **Inhumane**: the use of poisons violates the standards for humane death and is prolonged and painful
- **Indiscriminate**: Poison harms everything that consumes it, not only wolves, but other birds and mammals, including endangered and threatened species
- **Ineffective**: Culling is ineffective at increasing caribou numbers in absence of habitat restoration. Even the government biologists conducting the program admit it will not ensure caribou recovery; at best it is a temporary measure to buy time for other measures to take effect.

Killing wolves is not an effective or long-term solution to protect caribou, and can cause more problems by further disrupting already damaged ecosystems. Rather than promoting ways in which humans and wildlife can thrive together, culling has been found to actually decrease human tolerance for wolves and increase instances of poaching.[32] Policies of culling, bounties, and poisoning send a message that wolves are pests with little value, and that the indiscriminate killing wildlife with little respect is acceptable.

Culling is bad wildlife policy.

Culling predators is an outdated approach to wildlife management, one that is not supported by science. Culling is bad for wolves, bad for caribou, bad for ecosystems and bad for our relationship with wild animals and the places we call home.

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