

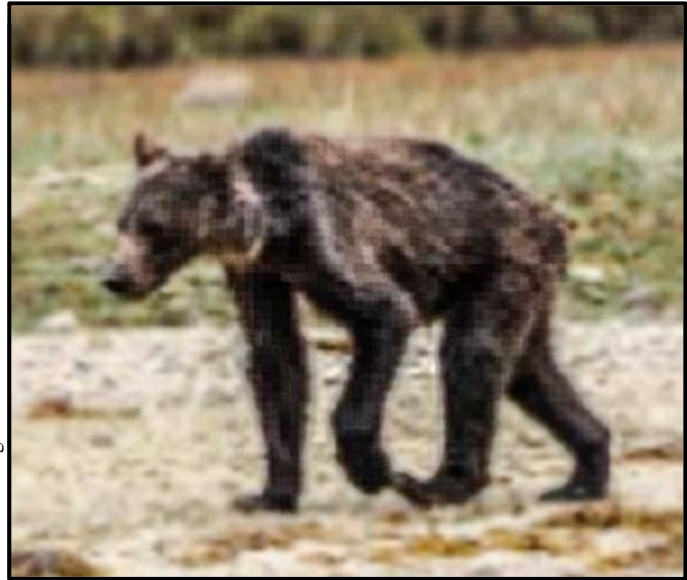
# HOW HUMAN-CENTERED, EXPLOITATIVE WILDLIFE MANAGEMENT IN BC HAS INCREASED THE DAMAGE DONE BY HABITAT DESTRUCTION

## The Facts and What Can Be Done about Them

A Submission to the Government of British Columbia by  
Valhalla Wilderness Society

In British Columbia, Grizzly Bears in some coastal areas are starving to death, in part because, for years, the BC government dismissed scientific evidence that salmon farms were spreading sea lice and disease among wild salmon. The resulting decline of spawning salmon drastically reduced the food supply of the bears. In the BC interior, the province's policy to approve and enlarge ski resorts expands fatal human intrusion into the habitat of the bears, while logging roads (also fatal to them) expand at the rate of 10,000 km per year.

Despite these growing threats to Grizzly Bears, hunting organizations are demanding that the government reverse its ban on hunting them. The groups disclaim responsibility for Grizzly Bear deaths by saying that habitat loss is the greatest threat to Grizzly Bears. That is true, but it is no reason to ignore other sources of deaths. Science looks at cumulative effects, and hunters were killing 250-300 Grizzly Bears a year before the hunt was banned.



Mamalikulla guardians

*Heartbreaking photographs of emaciated, starving Grizzly Bears are emerging from the southern BC coast.*



Jim Lawrence

*Wildlife biologists involved in BC's efforts to recover endangered Mountain Caribou have published in a scientific journal that killing predators will only delay the extinction of the caribou unless more habitat is protected or restored. Unfortunately the admission comes only after large swathes of habitat were logged as predators were killed.*

The Valhalla Wilderness Society is not against hunting some species for meat, but we believe that the degree of habitat destruction influences how much hunting can be considered sustainable, or whether it should occur at all. Various scientific reports point out that the expansion of resource roads, at the rate of 10,000 km per year, has left wildlife more vulnerable to hunting and poaching. Hunting must be considered in the cumulative effects on wildlife.

The solution the hunting lobby most often seeks is killing more of BC's large carnivores — Grizzly and Black Bears, Wolves and Cougars — ostensibly to prevent constantly enlarging habitat destruction and resulting wildlife declines from causing reductions in human hunting. But killing predators aids habitat destruction, by disguising its impact and diverting attention into false solutions and false hope.

Hunting organizations claim that their views are based on "science". This report looks at what science really says about Grizzly Bears, Moose, Caribou, Elk, Wolves and Cougars. It examines how humans habitually evade responsibility for the damage they do to wildlife, by blaming and seeking to annihilate predators; and it shows how BC's finest efforts at conservation are being constrained and undermined by a human-centered, exploitative wildlife management ideology.

With almost 2,000 species at risk, the province urgently needs a shift to practicing conservation biology, or its once-renowned wildlife will become an industrial tragedy. Given that BC's wilderness and wildlife are the core of the province's "SuperNatural" reputation, and its international tourist trade, it would be a tragedy in more ways than one to continue the irreparable damage that's already been done.

# HOW HUMAN-CENTERED, EXPLOITATIVE WILDLIFE MANAGEMENT IN BC HAS INCREASED THE DAMAGE DONE BY HABITAT DESTRUCTION

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## I. A Lingering Frontier Mentality of Resource Management in BC

Over the last 20 years the subject of wildlife management in British Columbia has become a subject of intense controversy. Grizzly and Black Bears, Caribou, Moose, Elk, Wolves, Wolverines, and Cougars have all become matters of serious concern, in hunting as well as habitat issues. The BC government has long recognized and extolled the values of hunting and trapping, but the public increasingly asserts that wildlife when left alone to live their lives are highly valued but are not sufficiently protected.

In 2017 the BC government did take a major, positive step in wildlife conservation when it banned the hunting of Grizzly Bears, with the exception of Indigenous peoples' traditional rights and uses. Unfortunately, hunting organizations, including the BC Wildlife Federation and the Guide Outfitters Association of BC, have incessantly campaigned to reinstate Grizzly Bear hunting, despite the fact that many hunters don't hunt Grizzly Bears or do trophy hunting at all; in fact some of them supported the ban.

Meanwhile the government allows hunting of blue-listed Bighorn, Stone's and Dall's sheep, Mountain Goats and threatened Northern Mountain Caribou. In a ruthless disregard for the survival of species, the provincial government allows Fishers — endangered members of the Weasel Family — to be trapped for their fur. They are extinct over much of their former range and face extensive habitat destruction where they do still survive.

The colonization of Canada by Europeans began by trapping a number of fur-bearing species to widespread depletion. Wildlife management in BC also has a long history of killing predators to increase game animals for hunters. For decades there was widespread use of poisoned baits, bounties and traps to kill wolves in BC. Wolves were wiped out across southern BC, and other species died as well. This history bred an entrenched anti-predator bias in government, and a sense that a wildlife biologist's job is to kill the predators as needed to make adequate big game for human hunters.

Today hunting to put meat on the table is a Canadian heritage, and particularly a First Nations heritage. And today wildlife expertise in BC is fully capable of state-of-the-art wildlife management. But a detrimental frontier mentality is still alive and dominant in BC: *treating wildlife — and forests — as if they are endless; and when it becomes apparent that they are not, refusing to cut back on consumption even when the resource is almost gone (like most of our old-growth forests). The frontier mentality sees some species as worth protecting, because they profit humans directly, and other species as dispensable — to be destroyed as needed.*

The big game species that hunters value receive priority attention. For instance, while much attention is given to the number of Deer, Moose and Elk, a species such as the endangered Spotted Owl — or the threatened Western Screech Owl in the embattled Fairy Creek watershed — receive only token protection when they are near the end of their species' existence on Earth. While the government genuflects to hunters and trappers, in recent months over 100 British Columbians were arrested as they tried to prevent the logging of Vancouver Island's last remaining old-growth forest at Fairy Creek. Old-growth Coastal Temperate Rainforest has amongst the highest biodiversity in all of Canada — thousands of species, many of them old-growth dependent.

Another result of the hunter focus in BC wildlife management is that focus on animals dominates over habitat. This means that the plant communities that feed our wildlife receive very little attention, funding, or research, while logging, drilling or other industrial use prevail. All this is severely incongruous with the fact that BC and the world are in a massive biodiversity crisis, with nearly 2,000 documented species at risk in BC alone. Scientific studies have projected that a third of all species could go extinct by 2070 due to climate change alone.<sup>1</sup>

***This urgently requires a transition from managing wildlife for human short-term profit, to managing it for the survival of the species themselves.***

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<sup>1</sup> Román-Palacios, C., and Wiens, J.J., "Recent responses to climate change reveal the drivers of species extinction and survival, PNAS, 2020.

*In pursuit of REAL Science in Wildlife Management*

The hunting organizations' call for science in wildlife management begs the question: *whose science?* There is a split in the wildlife biology community between those who adhere to the old culture of managing the numbers of predator and prey to serve human priorities, and those who see species in the context of their whole ecosystem, and must now try to maintain their very survival. As public awareness of the biodiversity crisis grows, an old human-centered model of exploitation of wildlife is increasingly confronted by a widespread public ethic that is attuned to the intrinsic value of each species, and feels an urgent imperative to save what we can.

A big issue at this time is whether the province should kill predators simply to make more prey animals for hunters. A government whose destructive habitat policies are responsible for the declines of wildlife populations that provide food is going to feel heat from hunting organizations to make up for it by killing predators, not by closing hunts. Science to the hunting organizations is narrowly focused on "How many predators do we have to kill to have the same number of hunting licenses that we had before." Where are the sciences of conservation biology, ecology and biodiversity that would take into account the functions of the predators that they propose to eliminate?

Today the internet is showing us many instances where predators are treated by hunters and their organizations as vermin and targets for shooting, with piles of dead carnivores proudly displayed, repelling human moral sensitivities. A key example is wildlife shooting contests like the one co-sponsored by the BC Wildlife Federation, that offers prizes for shooting eleven different species, from Grizzly Bears to Magpies and Ravens. (Details will be provided further on.) The government shrugs: it's legal, they say, omitting that the government itself has created that legality, and plays a big role in instigating these killing spree, by treating keystone predator species as dispensable and harmful to other species. This is neither conservation nor science.

The pros and cons of these issues are being vigorously debated by hunting and environmental organizations, and by biologists. Position papers on the hunting of large carnivores, as well as scientific studies and analyses, have flown back and forth from all sides. The BC Guide Outfitters Association and BC Wildlife Federation disseminate a number of position papers justifying their views. This is Valhalla Wilderness Society's (VWS's) contribution to the debate.

VWS is not against hunting some species of wildlife for meat. Humans have been predators in Earth ecosystems since time immemorial. Some of VWS's directors hunted game animals in their youth, and some of our supporters and friends hunt to put meat on the table. However, we are aware of, and we oppose, the ecological harm done by some hunting practices, such as trophy hunting and predator killing by hunting, helicopter shooting and trapping. We are not alone in this. A recent poll by Research Co. has shown that 60% of British Columbians are in favour of hunting wildlife for meat, but *only 7% are in favour of hunting for sport (trophy hunting)*.<sup>2</sup>

Despite the public disapproval of such practices, environmental groups should not underestimate the power of the relentless propaganda campaign now being waged by the BC Wildlife Federation, BC Guide Outfitters Association and other hunting organizations. We endeavor here to refute incorrect rhetoric being used to overturn the Grizzly Bear hunting ban and expand predator killing.

## II.

### **The campaign to reinstate the hunting of Grizzly Bears**

The ink was hardly dry on the Grizzly Bear hunting ban before the BC Wildlife Federation issued a press release opposing the government's decision.<sup>3</sup> The BC Guide Outfitters Association issued a press release, "Politics Trumps Science in BC's Grizzly Bear Decision" (Dec 18, 2017). Their chief arguments are:

<sup>2</sup> Research Co., results of an online survey conducted from Feb. 19 to Feb. 21, 2021, among 800 adults in BC.

<sup>3</sup> "BCWF responds to grizzly hunt ban", Dec. 18, 2017, [http://bcwf.net/images/stories/news\\_release/2017/BCWF%20Responds%20to%20Grizzly%20Hunt%20Ban.pdf](http://bcwf.net/images/stories/news_release/2017/BCWF%20Responds%20to%20Grizzly%20Hunt%20Ban.pdf)



- 1) The ban is not "science-based" but a popularity contest based on emotions.
- 2) The Grizzly Bear hunt was sustainable.
- 3) The Auditor General's report said habitat loss is the greatest threat to Grizzly Bears.

On these premises, for the last three years these organizations have exerted mounting political pressure to overturn the grizzly hunting ban, and they have branded themselves as being "science-based".

#### a. *What science really says about Grizzly Bears*

Large carnivore conservation requires the protection of large, intact ecosystems, and thus aids the protection of hundreds of species and their ecological connections. As BC's largest carnivores, Grizzly Bears are the most vulnerable to extinction, especially because of their susceptibility to displacement or mortality due to human disturbance. As a result they have lost an estimated 53% or more of their former range in North America<sup>4</sup>.

It is true that some Grizzly Bear populations may have increased slightly in the north after the hunting ban went into effect. However, they are losing range in the south. The southernmost populations have dwindled, and some have disappeared altogether. This process includes fragmentation into small, isolated subpopulations, due to the loss of connectivity because of roads, human settlement, and high numbers of people in their habitat. This also threatens their genetic health from too much in-breeding by closely related individuals. Varying scientific accounts say that somewhere from 9 to 16 populations of Grizzly Bears in southern BC are small and fragmented.

Grizzly Bears are blue-listed in BC, which equates to "Special Concern". They have also been assessed as "Special Concern" by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), and listed as such under the federal *Species at Risk Act* (SARA).<sup>5</sup> The Committee is a *scientific panel* that is the designated authority under the SARA for assessing the conservation status of Canada's wildlife. Section 6 of the Act specifies the meaning of "Special Concern":

"6. The purposes of this Act are to prevent wildlife species from being extirpated or becoming extinct, to provide for the recovery of wildlife species that are extirpated, endangered or threatened as a result of human activity and to ***manage species of special concern to prevent them from becoming endangered or threatened.***" (Emphasis added)

Under the SARA, Special Concern requires a management plan for both the species *and its habitat*; the plan must contain conservation measures and is to be monitored for effectiveness. Grizzly Bears have been listed under the SARA for about three years, but still do not have a management plan, although we understand that one is being negotiated with First Nations and other selected stakeholders.



This starving mother Grizzly Bear and her three cubs will likely never make it out of hibernation in spring, if they are even able to enter hibernation. Dwindling salmon stocks across much of BC pose a threat to many of the province's Grizzly Bears, as do roads, ski resorts and poaching. Claims by some BC biologists and hunting organizations that Grizzly Bear hunting was "sustainable" are based on mathematical calculations to determine how many dead bears can be replaced by young recruits, with guestimated numbers plugged in. According to many sources, this is unreliable. In assessing Canada's western Grizzly Bears as needing Special Concern, scientific experts do not rely on population dynamics alone, but include present and future threats and vulnerability to threats.

<sup>4</sup> Laliberte, A and Ripple, W, "Range Contractions of North American Carnivores and Ungulates", *Bioscience*, Feb. 2004.

<sup>5</sup> BC Species and Ecosystem Explorer, <https://a100.gov.bc.ca/pub/eswp/search.do>.

According to the David Suzuki Foundation, before the hunting ban humans were killing an average of 329 Grizzly Bears per year in BC, and trophy hunting was killing 87% of them.<sup>6</sup> The Auditor General's 2017 report confirmed similar figures. So banning the hunt for everyone but aboriginal people was a real conservation measure that saved a couple of hundred Grizzly Bears per year.

The engulfing threat proceeds further north every year. BC's Forests Ministry has set up a Mountain Resorts Branch specifically mandated to create and expand four-season resorts with ski hills. In BC the terrain for such a ski resort will often equate to Grizzly Bear habitat. The agency recently approved a massive ski development near Valemount, between Wells Gray and Mt. Robson Provincial Parks, that will most likely impact Grizzly Bears. Now another new ski town is proposed adjacent to the boundary of Goat Range Provincial Park. The proposed Banff-style village now threatens to become a fatal attractant to the park's grizzlies and those in a broad swathe around the development. Two Grizzly Bear experts have told the government that the resort will totally sever the gene flow needed to maintain the genetic health of the smaller population north and south of Kootenay Lake.<sup>7</sup>

Even on the coast in the Great Bear Rainforest, Grizzly Bears are not safe. For years the BC government ignored scientists' warnings about the diminishment and proven dire threats to wild salmon from sea lice and diseases carried by salmon in offshore, open-net fish farms. Over-fishing of wild stocks on the coast and Fraser Basin compounded the problem, as all the while the danger to wild salmon from warming sea water due to climate change increased. Some coastal First Nations have become so upset after seeing thin, starving, coastal Grizzly Bears in the fall that they have taken to delivering wild salmon from hatchery stock in an attempt to help the starving Grizzly Bears survive.

Numerous biologists in North America today say that up to 55% of BC's wildlands must be fully protected to maintain Grizzly Bears over the long term. Even the federal government now supports protecting 30%. While the Great Bear Rainforest and the Rocky Mountains National Parks provide a good start toward this level of protection (about 34% in the Great Bear Rainforest), they are not yet adequate. Worse, there is a vast area of BC in between these two mountain ranges that have only about 17% protected, and this includes the Columbia Mountain Ranges that are rich with Grizzly Bears and Mountain Caribou.



Craig Pettitt

Before grizzly hunting was banned, the bears of Goat Range Provincial Park suffered a concentration of hunting mortalities due to the proximity of Highway 31A to the park boundary. The hunting ban gave the bears a chance to recover, but now a new, year-round ski village with apartment buildings, shops, parking lots, chairlifts and mountain bike trails is planned adjacent to the boundary of the park. The proposed Zincton resort lies in a critical travel corridor between two provincial parks. Grizzly Bear expert Wayne McCrory has told the Mountain Resorts Branch (MRB) of the Forests Ministry that the resort will displace or kill Grizzly Bears over a large area, severing the only remaining connective corridor between already partially isolated populations. The MRB apparently didn't care and gave the resort a green light to submit a formal proposal, which it has done.

<sup>6</sup> D. Suzuki Fdn., "BC's grizzlies and human-caused mortality in 2016".

<sup>7</sup> McCrory, W.M., Expert environmental review shows Zincton's resort proposal will cause major and serious population declines of the Selkirk Grizzly Bear", June 7, 2020.

b. *Misrepresenting the Auditor General's Grizzly Bear Management Report*

The BC Auditor General's 2017 report on Grizzly Bear management<sup>8</sup> was released shortly before the hunting ban. It portrayed the "science" behind the Grizzly Bear hunt as flawed and inadequate, its conclusions uncertain. It said the government's calculations had no reliable basis because it hadn't been able to accurately inventory Grizzly Bear numbers, and thus didn't know with any certainty how many there were in BC.

After the hunt was banned, the BC Wildlife Federation and the Guide-Outfitters Association claimed that the report supported the Grizzly Bear hunt, omitting the Auditor General's criticisms. According to the Guide-Outfitters' website, the Auditor's report was "an independent audit that reconfirms what the Guide Outfitters Association of British Columbia has been saying – that hunting in BC is not a threat to the Grizzly Bear populations." Instead they focus on the Auditor General's statement that "The greatest threat to Grizzly Bears is not hunting, but rather human activities that degrade grizzly habitat."

While rapid habitat loss and fragmentation is the chief cause of biodiversity decline, the BC Wildlife Federation and the Guide-Outfitters Association cannot claim that it has nothing to do with hunting. The Auditor General's report considered cumulative mortalities, reporting that there was "uncertainty" in "estimated population sizes, unreported mortalities and the sex and age of those Grizzly Bears killed that are unreported."

Other human-caused mortalities of Grizzly and Black Bears are major. BC bears are targeted by a thriving blackmarket for bear gall bladders, paws and genitals. As we write this, only recently the paws of 20 or 30 bears with the claws removed were found scattered across a road in the Okanagan.<sup>9</sup> The majority of hunters are disgusted by this kind of thing, but feel it has nothing to do with hunting. However, credible *science* counts all the human-caused mortalities without prejudice as to who the humans were or what were their activities.

In its press release criticizing the Grizzly Bear hunting ban, the Guide-Outfitters claimed the support of the Auditor General's report, but cited an annual kill rate very different from what the Auditor General reported:

"Strict hunting regulations have been in place since 1976 and the harvest rate is consistently at 2%, well below the sustainable harvest rate of 6%."

What the Auditor General really wrote was:

"government scientists have recommended that this maximum rate of 6% should be used only when there is good biological information about the population. Therefore, where the risks were higher and the information was poor, we expected government to be setting a conservative harvest level that was lower (precautionary approach.) However, in practice, government has mostly used a higher maximum mortality rate of 5 to 6%. In the South Rockies, this lack of precautionary approach contributed to that population's decline."

The AG drew her conclusions from substantial professional input. The Ministry of Forests, Lands, Natural Resource Operations and Rural Development's (MFLNRORD) biologists' reports are consistent with her findings:

"Grizzly Bear hunting is in high demand in the southeast corner of BC. The South Rockies Grizzly Bear Population Unit (GBPU) in particular has been a management challenge for many years because there are 9 guide outfitters, strong resident hunter demand and high non-hunter mortality. Past data have generated imprecise population estimates and there is on-going debate over population size and sustainable kill levels. The known Grizzly Bear mortality rate in the BC South Rockies has exceeded 5% of the estimated population in most years over the last two decades ... The South Rockies is one of 3 areas in BC with consistently high levels of human-caused grizzly mor-

<sup>8</sup> Bellringer, Auditor General, "An Independent Audit of Grizzly Bear Management, 2017.

<sup>9</sup> CBC, "Hunter says she found dozens of severed bear paws scattered across rural BC road", May 24, 2021.

tality. Hunting has been reduced or closed several times in the South Rockies and the neighbouring Flathead unit, because female kill, or total kill, has exceeded maximum allowable mortality levels, while local residents argue that bear numbers remain high or are increasing. The demand for hunting, plus the ongoing uncertainty regarding population size, trend and sustainable kill levels has made managing Grizzly Bear harvest in this portion of BC very complex.” — Garth Mowat, Bruce McLellan et al, FLNRORD, 2013.

In the Northern Rockies, the Ministry conducted a cumulative effects assessment on Grizzly Bears for 2015.<sup>10</sup> The report stated that Grizzly Bear mortalities had exceeded government-set limits in 5 out of 7 planning units. It also reported that the number of Grizzly Bears was uncertain due to the lack of field inventories.

*c. Two Auditor Generals document the failure of the Forests Ministry to protect Grizzly Bears*

BC’s Auditor General identified key threats and a government failure to manage for conservation in her 2017 report on Grizzly Bear management.<sup>11</sup> She explained that in 2011 the management authority over wildlife was taken away from the Ministry of Environment and given to the MFLNRO. The Environment Ministry has a conservation mandate, the Forests Ministry doesn’t. The auditor went on to cite numerous ways in which the Forests Ministry was failing to adequately manage Grizzly Bears:

- “There are 600,000 km of resource roads with on the order of 10,000 km more added each year. This expansion allows greater human access into wilderness areas, which results in increased illegal killing of grizzly bears, and greater human-bear conflicts. Yet, long-promised resource road legislation that could address this risk is not yet in place ... There is no overall plan for resource roads.”
- “There has been little effort to address the issue of connectivity for Grizzly Bears or to provide wildlife corridors and safe transition areas for those populations in the south that may have limited migration and may experience genetic inbreeding....”
- Out of nine Grizzly Bear populations known to be threatened, only one (North Cascades population) had a recovery plan, which was cancelled just after it was begun. (Fortunately, it was just recently reactivated as a direct result of the Okanagan Nation Alliance and other concerned First Nations.)
- The Ministry lacked a Grizzly Bear management plan and was not monitoring and evaluating the effectiveness of activities undertaken to mitigate impacts on habitat or conserve habitat.
- The government has conducted limited habitat inventories and mapping at an appropriate scale to identify key and critical Grizzly Bear habitats.
- Inadequate direction and oversight has been provided by the Forests Ministry to ensure that habitat for Grizzly Bears is protected — both now and in the future.

In 2018 the western Grizzly Bear was listed for Special Concern on the *Species at Risk Registry*. It still does not have a management plan.

In 2020 a different Auditor General released a “Management of Conservation Lands” by the Forests Ministry “We concluded that the ministry had not effectively managed the Conservation Lands Program to conserve important habitat.” Some of the reasons cited: a “No provincial strategic plan ... plans for Wildlife Management Areas (WMAs) not renewed for almost 19 years, 70% of them never approved, 3 WMAs don’t have plans.”

<sup>10</sup> FLNRORD, “Current condition report for Grizzly Bear in the Northeast Region”, Cumulative Effects Framework, 2018

<sup>11</sup> Bellringer, Auditor General, “An Independent Audit of Grizzly Bear Management, 2017.



There is currently intense concern that the government has drafted a new provincial Grizzly Bear management plan, but its contents are being kept secret and not being released for public review until it has been first reviewed by all of the hundreds of First Nations governments in the province – a consultation process that will take a long time, and to some, it is a deliberate stalling tactic designed to systematically delay the much greater habitat protection needed province-wide.

*d. The major effort to discredit public opinion and ethics as a factor in wildlife management*

During the public engagement process on the proposed Grizzly Bear hunting ban, polls showed that 78% of the public supported the Grizzly Bear hunting ban<sup>12</sup>. In announcing the ban, the Minister of Forests, Lands, Natural Resource Operations and Rural Development stated:

“Through consultations this past fall, we have listened to what British Columbians have to say on this issue and it is abundantly clear that the grizzly hunt is not in line with their values”.

The government should be lauded for recognizing that Grizzly Bear hunting does not comport with the values of British Columbians.

The BC Guide-Outfitters Association and BC Wildlife Federation used the government’s statement to claim that the ban was not science-based. In 2019 a Wildlife Federation release called the decision “populist-based”<sup>13</sup> and asked: “do you want your government to make the popular decision or the rational decision?”

Besides ignoring a mountain of factual evidence, these responses mischaracterize public opinion. The general public is better educated about ecology than these industrial interests allow. What’s more, institutionalized pro-hunting politics had trumped the work of Grizzly Bear scientific experts for years before the hunt was finally banned. VWS director and bear biologist, Wayne McCrory, R.P.Bio, began his work to protect coastal Grizzly Bears 30 years ago. His independent review of Grizzly Bear trophy kills in the Kitlope Valley for the Xenaksiala First Nation confirmed that the vast watershed was largely hunted out. Over 20 years ago it led to the first Grizzly Bear no-hunt moratorium in the province. When the provincewide grizzly hunting ban was achieved, McCrory recalled:

“The battleground for the Grizzly Bears has been one of the longest and dirtiest (on the other side) political environmental campaigns I have ever witnessed in BC, not the least due to government pro-hunting, entrenched biologists discrediting and personally attacking any biologist who spoke out and documented that management of the hunt was not scientifically credible ... Dionys de Leeuw was the first government biologist to issue a report honestly stating that the government was allowing too many Grizzly Bears to be killed. He lost his job for it.”

In finally banning Grizzly Bear hunting the government had verification by the Auditor General of scientific deficiencies that had been more or less suppressed for many years; it had the fact that Grizzly Bear viewing in the Great Bear Rainforest generated more than 12 times the visitor spending as bear hunting, and almost 11 times more revenue to the government than that generated by bear hunting income to guide outfitters<sup>14</sup>; and it had the support of 78% of British Columbians. Since that time a new poll (Research Co., 2021)<sup>15</sup> has shown that:

“At least four in five British Columbians consider it inappropriate to hunt five animals for trophy/sport hunting: Grizzly Bears (86%), black bears (85%), wildcats, such as cougars, lynx and bobcats (84%), wolves (82%) and Elk (80%).”

<sup>12</sup> MFLNRORD, “BC government ends Grizzly Bear hunt”, Dec. 18, 2017.

<sup>13</sup> Populism and the ban on the grizzly hunt, <https://bcwf.bc.ca/populism-and-the-ban-on-the-grizzly-hunt/>

<sup>14</sup> Centre for Responsible Travel, “Economic Impact of Bear Viewing and Bear Hunting in the Great Bear Rainforest of BC, 2014.

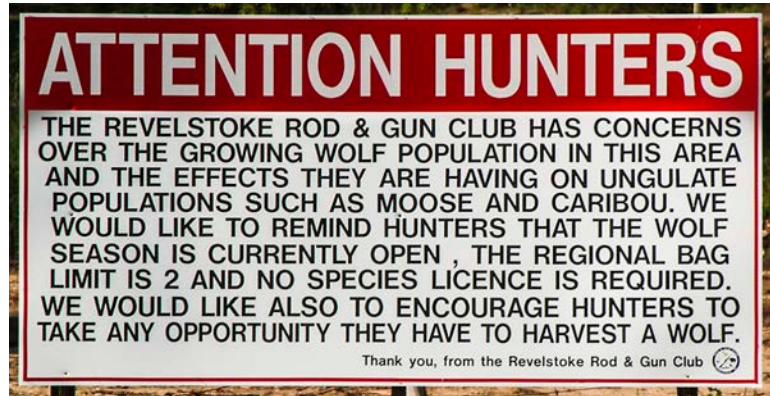
<sup>15</sup> Research Co., results of an online survey conducted from Feb. 19 to Feb. 21, 2021, among 800 adults in BC.

One of the things that the government and the hunting organizations tend to ignore is that the keen public interest in these animals has grown to enormous proportions because most places on the planet no longer have them. Scarcity not only increases the thrill of seeing the animals, and draws people to places where they can be found, but also makes the public aware of being stewards of a now-rare global heritage.

### **III. Political pressure to kill BC's large carnivores**

As hunting organizations advocate killing of Grizzly and Black bears, Wolves and Cougars, it must be understood that these species, except grizzlies, are already hunted in BC. There is open hunting season on wolves for most of the year in every region of BC. Many management units in BC have no closed season on wolves and allow hunters to kill as many as they want.<sup>16</sup> In those units that do have bag limits, hunters are permitted to kill three a year. In those that have seasonal closures, the closure is usually only one or two months. They can be shot in our provincial parks. The regulations expressly mention a six-month season on wolves in Tweedsmuir Provincial Park. Trapping goes on for 6-9 months of the year, and there is no limit on how many wolves can be trapped.

In addition, the provincial government has shot at least 1,200 wolves from helicopters with semi-automatic assault rifles in the last several years alone, and has allowed hunters to run down cougars with dogs.



This sign was photographed on a highway near Revelstoke in 2006. But government biologists had been claiming that Caribou around Revelstoke were disappearing because of an increase of Moose, Deer and Elk due to clearcuts in the old-growth forest habitat of Mountain Caribou. Theorizing that reducing Moose would reduce wolves, in 2003 the government had given out ten times more hunting tags for Moose than usual. Hunters reduced the Moose population by 80%. This sign is one more testimony to the way that wolves are falsely blamed for things that humans do.

Hunters can shoot two black bears and one or two cougars a year in almost every region of the province. Coyotes, bobcats, lynx, raccoons and/or skunks are offered a large part of the year for shooting. It's highly unlikely that any of these smaller animals are eaten, and difficult to imagine them as trophies. So what more do the hunting organizations want? More wolves shot by government agents, from helicopters with machine guns, to make more game for hunters? More predator killing contests? Research for this report could not find the answer.

#### *a. The old wolf-killing agenda masquerading as conservation*

In the winter of 2019-20 the government announced new wolf culls for Caribou over a greatly expanded area, having sent the consultation document to a list of "stakeholders". The list included four environmental groups, five hunting/trapping organizations, ten heli-skiing, cat-skiing and snowmobile groups (mostly commercial), four logging companies and various government reps.

The public interest is very much larger than the economic and hunter-trapper interests combined, but *at the government's planning tables the public interest is overwhelmed by interests that want to profit or play in mountain Caribou habitat*. Such round tables do not reflect the make-up of the public, but instead have an enormous bias; the poll results showing massive public opinion against killing predators demonstrates how skewed the makeup of the government's consultation lists are from the balance of public opinion. The less government includes members of the public and their environmental groups in consultations, the more our wildlife management is being influenced by vested interests.

<sup>16</sup> 2020-2022 Hunting & Trapping Regulations Synopsis, BC, MFLNRORD

Arguments for expanded predator culls have begun to equate the situation of deer, Elk and Moose — our most numerous big game species — with that of the severely endangered mountain Caribou. For instance, the following is from a newsletter of the BC Wildlife Federation:

"Given the province's record low Moose and endangered Caribou populations, the harvest and intensity of managing carnivores will have to increase."<sup>17</sup>

Hunting organizations have also launched a letter campaign among their members and urged them to meet with their MLAs. An example of the result is the remarks of MLA Mike Morris before the BC legislature, which have been circulated in a video on Facebook. Mr. Morris, a former hunter and trapper, attributes his remarks to hundreds of letters received from members of BCWF, the Wild Sheep Society and other hunting groups. He told the legislature that "by clearcutting millions of hectares of forest over the past 75 years", we have made it "difficult to impossible for ungulates to find shelter or hide from predators" so that "once robust populations" are now:

"decimated and almost eliminated in many regions."

He stated that most mortalities are due to predation by grizzly and black bears, wolves and cougars. He claimed that "predators" had expanded across the province — insinuating that this plague of predators had eaten the province's big game species down to nearly nothing. He urges BC's wildlife biologists to "restore the balance". Since the biologists don't control logging, this obviously means by killing the four species of large carnivores.

While there is ample reason to be concerned about declines in prey species brought about by excessive logging, Mr. Morris's story is typical of long-time efforts by hunting and ranching interests to exaggerate losses of prey species and blame predators to get the government to kill them, whether to make it easier for more hunters to find game, or to reduce livestock losses for ranchers. Below we look at the following questions:

1. Were any or all BC ungulates "decimated and almost eliminated in many regions"?
2. If so, what really happened to them?
3. Will killing predators work to bring back thriving populations of prey species?

b. *Were any or all BC ungulates "decimated and almost eliminated in many regions"?*

A table entitled "British Columbia Ungulate Species Regional Population Estimates and Status"<sup>18</sup> can be found on the website of the Fish & Wildlife Branch of the BC Forests Ministry. It lists ten BC ungulates, showing a patchwork of Stable, Increasing or Declining populations by region, indicating local and regional variation in conditions. Every one of the ten hooved species listed is legally hunted to one degree or another today.

The table shows that in 2017 provincewide there was an estimated total of 110,000-185,000 Moose in BC; 100,000 to 170,000 Mule Deer; 98,000-155,000 Black-tailed Deer; and 82,000-130,000 White-tailed Deer. Less common species include 40,000 to 73,000 Elk; 11,500-19,500 Caribou; and 43,000-71,000 Mountain Goats. The species with a very limited range in BC are 11,500-18,000 Stone's and Dall's Sheep; 5,200-6,300 Bighorn Sheep and 800-1,800 Bison. Even the Bighorn Sheep and Bison are hunted.

There is serious concern about declines of Moose and Elk in certain areas. This is in no way equivalent to the decline of Mountain Caribou; the government figures show approximately ten times more Moose than Caribou. In BC the decline of Moose has been concurrent with the location and timing of massive salvage logging in the Interior Plateau from Kamloops north to Prince George, beginning around the year 2000. In contrast, Caribou are on a long-term decline throughout much of BC due to pervasive decimation of old-growth forest. Their range is

<sup>17</sup> BCWF, "Fact versus Fiction: Large carnivore hunting and the social license to hunt", 2021.

<sup>18</sup> MFLNRORD, "British Columbia Ungulate Species Regional Population Estimates and Status"  
<https://www.env.gov.bc.ca/fw/wildlife/management-issues/>.

shrinking dramatically. Still, the only BC populations of Caribou that can be called “decimated and almost eliminated” are the Central and Southern Mountain populations, which have only 470 and 1,240 animals respectively. These Caribou have been assessed as endangered.

*c. What really happened to the Moose?*

Government biologists have been publishing journal articles, and drilling into the public mind for two decades, that clearcuts draw Deer, Moose and Elk and greatly increase them in number. These species evolved to use young forest on burns, feeding on the seedlings and saplings of trees; so they adapt easily to some clearcutting, whereas Mountain Caribou are totally dependent on old-growth forest. Historically their old-growth habitat kept the caribou relatively separated from the other members of the Deer Family. But as clearcuts spread into the old-growth, within about 20 years the young-forest species find abundant food on them and invade, followed by their evolutionary companions, the Wolves. Because Elk and Moose evolved with Wolves, they are larger and more capable of escaping them or fighting them off than Caribou. In addition White-tailed Deer and Moose can have two, sometimes three young. Mule Deer can have two; Caribou and Elk only one.

Biologists have almost universally blamed increased Moose, Deer and Elk, and their predators, for the decline of Mountain Caribou. Going on the theory that reducing excess Moose would reduce wolves, the government liberalized Moose hunting in two project areas. Moose were reduced by 40% around the Parsnip Caribou herd, and by 80% in the range of the Columbia North, Columbia South and Frisby-Queest herds.<sup>19</sup>

However, in other regions Moose were suffering a drastic decline. Due to massive tree death caused by Mountain Pine Beetle, multiple companies in the Interior Plateau carried out salvage logging 24 hours a day, unlimited in scope, with no overall plan of location and size of cutblocks. In some cases the clearcuts are 10,000 hectares or larger; one conglomerate of these large cutblocks connected by small patches of forest covers 100,000 hectares.<sup>20</sup> This is known to be very damaging to the forest and to biodiversity and wildlife. Beetle-killed trees often have a thriving understory of young trees that quickly grow once the overstory canopies have died. Forebearing from logging the dead trees preserves large quantities of carbon stored in the soil, while the understory continues carbon sequestration, whereas salvage logging releases the carbon into the atmosphere and terminates further sequestration for some years.<sup>21</sup> So, along with hurting Moose, the salvage logging was hurting the whole planet.

The following is from two reports stemming from a major research project carried out by the Forests Ministry in conjunction with several universities, to determine the cause of the Moose decline.<sup>22 23</sup>



Craig Pettitt

Government researchers believed that Moose reductions were so successful at reducing wolves in Mountain Caribou habitat that they recommended increased killing of 83% of Moose in a broad area around the Mountain Caribou herds.<sup>20</sup> In response, in 2020 the government proposed hunting tags for Moose cows and calves in some management units, at the very time that Moose were in drastic decline in other regions. First Nations opposed it, and some hunters were furious and refused to do it. The government largely scrapped the proposal, but there is a Moose calf hunt allowed in the Omineca region in the 2020-2022 Hunting Regulations.

<sup>19</sup> Serrouya et al, PNAS 2019.

<sup>20</sup> Forest Practices Board, “Biodiversity Conservation during Salvage Logging in the Central Interior of BC, FPB/SR/35, Nov. 2009

<sup>21</sup> Pojar, J., “Forestry and Carbon in BC”, 2019.

<sup>22</sup> Proctor, C., “Factors Affecting Moose Population Declines in BC: 2020 Progress Rpt, Feb 2012-May 2020”, MFLRORD.

<sup>23</sup> Mumma, A., Gillingham, M.P., “Determining Factors that Affect Survival of Moose in Central BC, 2019.



- Out of six study areas where Moose decline, only two had excessive cow deaths. For the other four, the rate of cow mortalities was sustainable, consistent with a stable population.
- Proximate causes of cow deaths were 56% predation, 19% health related, 14% were hunting mortalities—almost all of them by poaching.<sup>24</sup>
- At least 40% of cow Moose killed by wolves had health issues that may have predisposed them to predation.
- 22% of the dead cow Moose were in poor body condition when killed; another 30% were in a state of acute malnutrition. Apparent starvation and other health problems were the cause of death for the ones showing acute malnutrition.
- The research found below normal pregnancy rates, which suggests insufficient calf production may have been a factor in the population decline. Also 78% of calves were killed by predators. All the dead calves in two study areas had either poor body condition or acute malnutrition when they died.

The research reports suggest that poor body condition and starvation may be linked to the poor pregnancy rates. A 2019 BC government Moose fact sheet states that:

“overall, Moose were in poor to fair condition. Body condition is a key factor in the health of female Moose and their ability to breed, maintain pregnancies, produce healthy calves (Moose can produce twins) and provide adequate milk for calves to thrive. In addition, calves in poor body condition are far more susceptible to predation, accidents and other health-related causes of death.”<sup>25</sup>

The truth is that Moose favour a mosaic of habitats, including about 50% mature forest.<sup>26</sup> They need forest cover to stay cool in summer, to intercept snow in winter, and for food. But Forests Ministry research by Dr. Jeff Werner and Dr. Kathrine Parker made startling discoveries that may tell why the Moose were in poor condition.<sup>27</sup> They determined that vegetation in the interior of the clearcuts has lower digestible protein, due to high sun exposure, compared to forest understory or cutblock edges. This raises the possibility that, with the existence of massive salvage logging in that region, Moose are being starved of protein. In addition, Moose are very sensitive to overheating; large clearcuts change the microclimate to very hot and dry. Could these be the reasons why our Deer Family species that tolerate some clearcuts also need some access to old forest? Dr. Werner is also investigating the heavy use of glyphosate spraying on clearcuts as a possible cause of Moose decline.

Further north, in the oil patch, Health Canada, the Sauteau First Nations and the West Moberly First Nations commissioned a study on the impacts of contaminants from oil and gas development in the territories of the First Nations. For many years there have been stories from native people that Moose drink from contaminated pools and their meat smells of it. According to the consulting firm that carried out the study:

“The results confirm that animals do visit well sites, that they do ingest the fluids out of sumps and flare pits, and that they do ingest the soil around sumps and in and around flare pits. It was also confirmed that ungulates utilize well sites as man-made licks and that other animals such as bear, wolf and coyote visit well sites to find prey but also to drink out of sumps and flare pits.”<sup>28</sup>

An observer from West Coast Environmental Law at a Treaty 8 (South Peace First Nations) symposium on Moose stated:

<sup>24</sup> Procter, C., et al., 2020.

<sup>25</sup> MFLNRORD, “Fact Sheet: Moose in BC”, October 2019.

<sup>26</sup> “Moose in BC: What’s driving the declines”, [https://www.youtube.com/watch?v=xH\\_epWSjMEo](https://www.youtube.com/watch?v=xH_epWSjMEo).

<sup>27</sup> Werner, J., “The abundance of scarcity”, FLNRO, 2019. Video available online.

<sup>28</sup> Wildland Resources, “Petroleum Contaminants Community Research Project” Final Report, 2004.

“The Province, for its part, focused almost exclusively on the threat to Moose by non-human predators (wolves), and emphasized wolf-culling as a strategy to help ensure stable Moose populations moving forward. In contrast, Indigenous participants, while acknowledging the threat to Moose from wolves (particularly as growing numbers of seismic lines and logging roads facilitate easier access for the wolves) more broadly cited unprecedented levels of industrial development in their territories as constituting the greatest threat to Moose populations. In addition to extensive mining, forestry, and hydroelectric dams, Treaty 8 territory is also dotted with tens of thousands of oil and gas wells, and criss-crossed by pipelines, seismic lines, and access roads. These projects fragment Treaty 8 territory and make it difficult for large species of wildlife to forage enough food to survive.”<sup>29</sup>

d. *Will killing predators work to bring back thriving populations of prey species?*

Obviously killing predators will not increase Moose that don’t have enough to eat. In fact one research paper on the Moose decline warns that, where starvation and malnutrition are occurring, it may be that increasing the number of Moose by killing predators would make the problem worse, because it might mean more Moose with an insufficient food supply.<sup>30</sup> Nor will killing predators help a Moose population that habitually drinks toxic chemicals.

In the case of the Mountain Caribou, government and its biologists touted a single “limiting” factor — predation — to the Caribou population. This meant that impacts of habitat loss on the Caribou, other than increased predation, were ignored. Statistics are usually cited that predation was responsible for some percent of the mortalities of collared Caribou. This is routinely taken to mean that predation must be the reason why the Caribou are declining. Biologists speak of the “proximate” cause of mortality — the immediate, direct cause of death. They may concede that there’s an “ultimate” cause (habitat loss), but the implemented solutions focus heavily on the proximate cause. This is treating only the symptoms and not the disease.

Predation is often the last step in a chain of events for animals suffering from excessive energy loss, lack of thermal cover, disease, poor nutrition or starvation due to the loss of forest functions. In some cases, animals killed by predators may have died anyway, especially in winter. More importantly, the causes of population decline may be reproductive failures that leave no trace without intensive scientific investigation.

In regards to Woodland Caribou, Brown and Mallory (NCASI 2007) cited numerous ways that real or apparent predation mortalities can bias assessments:

“The identifiable causes of mortality in relation to recruitment and survival data may suggest the relative importance of one or the other limiting factor, but do not take into account possible interactions that affect vulnerability to mortality (Pimlott, Shannon and Kolenosky, 1969; Keith et al. 1984) Physical condition has been shown to predispose animals to predation and an increased susceptibility to predation, due to poor nutrition, would not be apparent from mortality information from collared animals.”<sup>31</sup>

Brown and Mallory cited ways that effects on ungulates due to habitat changes or stress could result in reproductive failures, ie, low pregnancy rates; aborted or stillborn calves that could be taken by predators before researchers can find them; or weak calves that can’t survive the rigors of life in the wild. It so far appears that this is exactly what happened to the Moose of BC’s Interior Plateau.

<sup>29</sup> WCEL, “Field notes from the Treaty 8 field summit”, 2016, <https://www.wcel.org/blog/field-notes-treaty-8-Moose-summit>

<sup>30</sup> Mumma, A., Gillingham, M.P., “Determining Factors that Affect Survival of Moose in Central BC, 2019.

<sup>31</sup> Brown, G. and Mallory, F., “A Review of Ungulate Nutrition and the Role of Top-Down and Bottom-Up Forces in Woodland Caribou Population Dynamics”, NCASI Technical Bulletin No. 934, June 2007.

Fortunately, what we portray here as government mismanagement and poor or biased science is not all that there is to the government or its wildlife management ministries. There is another side, as shown by the meticulous research into the causes of Moose decline. But despite that recent research, the hunting organizations continue to urge to their members and government that predators simply **MUST** be killed right away.

They would do well to turn their attention so some of the BC government's scientist-advocates for predator culls. In a 2019 journal article, they had stated that protecting remaining intact habitat would not save the Caribou, but intensified predator killing was urgently necessary. Now a new research paper co-authored by some of the same biologists has admitted that predator killing is only delaying the extinction of Mountain Caribou, which is inevitable if the habitat destruction isn't immediately stopped and already disturbed habitat recovered.<sup>32</sup> They called predator killing "palliative". According to the dictionary, "palliative" means treating the symptoms of a disease without treating the cause.

#### **IV. Killing BC's predators: What would conservation biology say?**

Where there is actual wilderness in BC, much of it retains its full range of native large carnivores; this is mostly non-existent in much of southern BC, the Canadian prairies east of the Rocky Mountain foothills, eastern Canada, and almost all of the US. It is precious and should not be squandered. Preserving what biodiversity remains in BC means keeping all the parts of its ecosystems present and functioning; it means also restoring damaged ecosystems and re-wilding them with Grizzly Bears and others (such as the BC North Cascades); it means places where humans can experience the wholeness of nature, and places where scientists can study how ecosystems function. Today many biologists recommend that places that have their full range of native carnivores keep them, and those that have lost their top predators to restore them. Below we consider some of the reasons:

##### *a. Chronic Wasting Disease: Top predators as benefactors of prey species*

It is well known that predators, including wolves, target more vulnerable animals which include old, very young, weak or sick individuals; and by doing so they benefit the health of populations of prey species. They are known to have evolved acute sensitivities to weakness and disease in prey species that is invisible to humans. For this reason prominent wolf experts, including Canada's Dr. Paul Paquet and the US expert David Mech, have urged that wolves are capable of detecting and killing ungulates infected with a horrifying and spreading disease, Chronic Wasting Disease (CWD), well before humans would discover it. Dr. Paquet has stated:

"To date and in general CWD has not thrived where wolf populations are active, although the disease has appeared on the margins of these populations."<sup>33</sup>

A study in Colorado found that: "both female and male deer killed by a mountain lion were more likely to be infected than same-sex deer killed in the vicinity by a hunter, suggesting that mountain lions in this



##### **Shooting themselves in the foot?**

Cougars, Wolves and human hunters all prey on the big game species, but only the Cougars and Wolves are capable of early detection of ungulates infected by Chronic Wasting Disease, and they will remove them. BC should want to protect cougars. It appears to carry out monitoring for CWD and the BC Wildlife Federation has sponsored field research, but predictably there is no evident interest in disease control by predators. Instead the government allows hunters to chase down cougars with dogs. Hunters can also legally use dogs to chase down Black Bears, Lynx and Bobcats. The tracking capability of dogs means that elusive and increasingly sparse wildlife have little capacity to hide.

<sup>32</sup> Nagy-Reis et al, "Habitat loss accelerates for endangered mountain Caribou in western Canada", *Cons Science and Practice*, 2021.

<sup>33</sup> Todd Wilkinson, "The Undeniable Value of Wolves, Bears, Lions and Coyotes in Battling Disease", *Mountain Journal*, 2017.

area actively selected [CWD]-infected individuals when targeting adult mule deer as prey items.<sup>34</sup>

Two years later different researchers published a report on modelling exercises which indicated that:

“predation could markedly decrease prevalence of CWD under certain conditions ... What is clear is a consistent and robust trend toward decreasing CWD prevalence in populations subject to predation...”<sup>35</sup>

An authoritative 2020 article by researchers from seven universities and medical/veterinary centres states: “Empirical evidence supports the role of predators in the removal of sick and infectious prey across diverse disease systems (Packer et al, 2003)”. Referring to the research showing that cougars selectively prey on mule deer with Chronic Wasting Disease, the authors state: “Other native large predators, such as grey wolves and bears (*Ursus spp.*) may similarly influence the prevalence and geographic distribution of CWD in wild reservoirs...”<sup>36</sup>

*Hunting by humans confers no such benefit on populations, in fact it does the opposite: it removes the healthiest individuals.* For protection against Chronic Wasting Disease, some biologists recommend that it is best to have a variety of native carnivores functioning, because the different species operate in ways that don’t necessarily overlap.

#### *b. Top predators promote biodiversity*

One of the first things to know about top predators is that they *are* key parts of an ecosystem’s biodiversity. Without them, one does not have the whole ecosystem. The “system”, or what is known as the “web of life”, has therefore lost many of its interactions and functions, leaving the remaining organisms more vulnerable to change.

Many scientific studies have shown that the image we have of top predators as killers and destroyers is totally wrong. In the overall ecosystem, top predators bring life and health; they function as protectors and regulators. One of their most crucial roles is sustainably regulating the populations of large plant-eating species. When top predators have been eliminated from an area, the large plant-eaters may suffer a boom-and-bust existence in which they multiply beyond the carrying capacity of their range, strip it of available food, and then face a slow death by disease or mass starvation. The stripping of vegetation removes habitat for other species. It is well recognized in science that the presence or absence of top predators shapes the ecosystem from the plant level on up.

There has been much debate about whether human hunters can replace the functions of wolves. Unquestionably human hunters do help keep big game animals from overpopulating, but they do not perform all the functions of top predators. Some of the differences pointed out by biologists include: 1) intensity and timing of predation — predators are in the ecosystem every day of the year, day and night, winter and summer; 2) removal of different prey age and sex classes; 3) off-take of species other than those favoured by hunters; 4) top predators regulate medium-sized predators; 5) human hunting must be supported by infrastructure, namely roads, lodges, etc, which are harmful to the ecosystem; 6) top predators have a powerful effect on the carrion available to other species. Twelve species of vertebrates have been known to feed on animals killed by wolves.<sup>37</sup> To this must be added that large carnivores remove weak and diseased animals, whereas human hunters take the healthiest.

Consider the contribution of Grizzly Bears to biodiversity, and ask whether human hunters can replace them. Biologists observe that grizzlies eat salmon from streams and carry the nitrogen-rich protein into the forest in their

<sup>34</sup> Krumm, C.E., et al, “Mountain Lions prey selectively on prion-infected mule deer”, *Bio Lett*, Oct 2009.

<sup>35</sup> Wild, M. A. et al., “The Role of Predation in Disease Control a Comparison of Selective and Nonselective Removal on Prion Disease Dynamics in Deer”, *J Wildlife Diseases*, 2011.

<sup>36</sup> Escobar, L.E., “The ecology of chronic wasting disease in wildlife”, *Bio Rev*, Cambridge Philosophical Society, 2019.

<sup>37</sup> Berger, J., “Hunting by Carnivores and Humans: Does Functional Redundancy Occur?”, *Large Carnivores and the Conservation of Biodiversity*, ed. Ray, J. C. et al, Island Press, 2005.



urine and feces, as well as by leaving the remains of their salmon meals. A scientific expedition along the North Arm of Quesnel Lake observed that the salmon remains had drawn bald eagles to the forest along the lake, where they added their own feces. The result was a very high diversity of tree lichens along the shore, including rare species, of lavish size and abundance.<sup>38</sup> Similarly, Grizzly Bear diggings for ground squirrels have been shown to increase the diversity of plant species in alpine meadows.

*c. Nature's most effective regulators: the wolves and cougars.*

Wolves shape ecosystems in many intricate ways just by their presence in an area. These effects have been (mis)named by ecologists “landscapes of fear”. For instance, wolves patrol sensitive riparian areas along streams. Prey species try to avoid them; in addition, they move more frequently, so that they don't congregate and linger in an area until they've stripped it of the plants they prefer. The result of wolves in an ecosystem is more richly vegetated riparian zones with plentiful habitat for birds, beavers and other smaller animals. The vegetation decreases soil erosion and can stabilize streams hydrologically.

Wolves and cougars also protect many kinds of small animals by reducing the number of mid-sized predators such as coyotes and foxes, which prey on the smaller animals. When wolves and cougars are eliminated, the populations of mid-sized predators may explode, feeding on smaller species, some of which disappear altogether.

Yellowstone National Park —The elimination of 100% of large predators was the goal of Yellowstone National Park when it was first created in 1872.<sup>39</sup> By the time the killing stopped in 1926, there were hardly any Cougars left in the park, and no Wolves except for a few lone stragglers. Scientists studying park records back to that time have pieced together what happened then: an explosion of the Elk population all but stripped the park of their favourite foods, especially young deciduous trees. Over the next 60 years the park lost an estimated 80-85% of its aspen trees, 50-95% of its willows, and suffered a near complete loss of cottonwood seedlings.<sup>40</sup> The loss of vegetation caused soil erosion which destabilized stream beds; and researchers suggest that the numbers and species of songbirds were likely reduced due to habitat loss. The loss of willows and aspens due to severe over-browsing by Elk also all but wiped out the beaver population needed to sustain wetland and stream health in the ecosystem.

At the same time, the coyote population soared after the wolves were eliminated. Many were shot but the population explosion couldn't be contained. Researchers later listed a dozen endangered species, or species of concern, for which coyotes were a major source of mortality.<sup>41</sup>

Desperate to halt the damage, around 1995 the park imported wolves from BC and Alberta. Today scientists have been measuring the reduction of the Elk population (due to several causes in addition to the wolves), and the encouraging recovery of aspens, willows and cottonwoods. But some researchers say that much of the damage is



Nature observers and scientists have revealed that the wolves' intelligence, social organization and communications are far more than we could previously have imagined. To treat such animals as vermin to be destroyed as needed, to cover up for our habitat destruction that is taking a toll on game animals prized by hunters, is appalling to the sensitivities of many people. Those of us who feel that way can't expect hunters to share our particular ethic — although there are strong indications that many of them do; but we can say to the government that we are British Columbians too, and we value these animals alive and in healthy functioning ecosystems.

<sup>38</sup> Spribille, T., Botanical Surveys in the Area of the North Arm of Quesnel Lake, 24-30 Sept 2007, Rpt to Valhalla Wilderness Society.

<sup>39</sup> Johnston, J., “Preserving the Beasts of Waste and Desolation: Theodore Roosevelt and Predator Control in Yellowstone,” *Yellowstone Science*, Spring 2002.

<sup>40</sup> Wagner, F., *Yellowstone's Destabilized Ecosystem: Elk Effects, Science and Policy*, Oxford University Press, 2006.

<sup>41</sup> Ripple, W.J. et al, “Widespread mesopredator effects after wolf extirpation”, *Biological Conservation*, 2013.

irreversible. The willows had provided food and building materials to beavers, but the beaver dams had also provided water required by the willows. While some beavers have returned to the park, they found a greatly reduced food supply, and in some areas beaver dams were no longer possible due to erosion having steeply incised the streambeds. Thus the beaver population remains a small fraction of what it used to be, and without beaver ponds, the willows have not been able to regenerate fully after the wolves' return.<sup>42</sup>

When they returned, the wolves killed many coyotes and dug up their dens. By 2012 Ripple, et al, reported that coyotes had declined by 39% from their pre-wolf population<sup>43</sup>, and stabilized at that level.

Olympic and Zion National Parks — Dr. William Ripple, Dr. Robert Beschta and co-authors have gone on to document the same cycle of diminished top predators, over-browsing by prey species, loss of biodiversity and serious hydrological damage in Olympic and Zion National Parks in the US.<sup>44 45</sup>

Banff National Park — Research in Alberta's Banff National Park published in 2005 by Dr. Mark Hebblewhite et al<sup>46</sup> corroborated much the same effects documented in US National Parks. In 1986 wolves recolonized the Bow Valley, avoiding areas of high human density but fully recolonizing other areas. The study documented that the area without wolves had more Elk, and more plant damage. Its active beaver dams were diminishing in number. The aspen sapling density in the high wolf area was twice that of the low-wolf area. Net production of willow was seven times higher in the high-wolf area. Abundance and diversity of songbirds in the high-wolf area was approximately twice that of the low-wolf area. The researchers documented four kinds of songbirds in the high wolf area that were absent in the low-wolf area.

This is why some scientists are warning that the focus on "extinction" of species is misplaced, and that the focus should be on the loss of the functions of a species. They speak of the "extinction of ecological interactions". (Valiente-Banuet, et al., 2015).<sup>47</sup> This means that, while some wolves and cougars may survive BC's killing spree, there will not be enough left in a large area to carry out their function in the ecosystem, including removing diseased deer species, protecting tree plantations after clearcutting, and protecting myriad small species. The goal of BC's wolf culls is to kill 85-100% of wolves in large areas.

At the same time, the conservation of large carnivores requires consideration for individual animals. For instance, young cougars, wolves and grizzly bears are not born knowing what to eat and how to bring down large prey. They have to learn from their mothers or, in the case of wolves, from their families.

In BC mass slaughter of wolves from helicopters, and killing cougars by chasing them down with dogs, is undertaken without reviewing the benefits of the predators or the prospective ecological impacts of reducing or losing them. There is reason for grave concern that, as other Caribou herds without enough habitat continue to dwindle, they too will provide the "extreme emergency" rationale for slaughtering even more large carnivores.

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<sup>42</sup> Marshall, K. N., et al., "Stream hydrology limits recovery of riparian ecosystems after wolf reintroduction", *Pro. R. Soc.*, Feb. 2013.

<sup>43</sup> Ripple, W.J. et al, 2013.

<sup>44</sup> Beschta, R.L. and Ripple, W.J., Wolves, trophic cascades and rivers in the Olympic National Park, USA, *Ecohydrol.*, 2008.

<sup>45</sup> Ripple, W. J. and Beschta, R., "Linking a cougar decline, trophic cascade, and catastrophic regime shift in Zion National Park, *Biological Conservation*, 133 (2006) 397-408.

<sup>46</sup> Hebblewhite, M., et al., "Human Activity Mediates a Trophic Cascade Caused by Wolves", *Biological Sciences Faculty Publications*, 2005, Paper 288.

<sup>47</sup> Valiente-Banuet, A., et al., "Beyond Species Loss: the extinction of ecological interactions in a changing world", *Functional Ecology*, 2015, 29, 299-307.

## **V. Trophy hunting and trapping BC's blue- and re-listed species**

Roosevelt Elk, three subspecies of Mountain Sheep, and Mountain Goats are all blue-listed by the BC Conservation Data Centre. This equates to Special Concern. The endangered Southern and Central Mountain Caribou populations are not subject to licensed hunting. However, the Northern Mountain population is listed as “Special Concern” under COSEWIC and the *Species at Risk Act*, and is hunted. Scientific studies about these species express more concern about their threats and conservation status than what their formal listed assessments indicate. This is not surprising, because many examples exist where the listing process takes years to amend and can be subject to political agendas and economic priorities.

### *a. Wild Sheep*

The situation with Wild Sheep highlights the genetic and health impacts of trophy hunting on wildlife populations, and how this can make them less able to cope with climate change. The 2021-22 Limited Entry BC regulations show one or the other of BC's three Wild Sheep types available for hunting in six regions of the province. Only a few are taken by hunters, but for a long time scientists have said that even a small number of animals killed for trophies can diminish the health and resilience of their populations, because animals in the prime of life with the best genes are taken. Health and resilience are needed because Wild Sheep are threatened by diseases transmitted by domestic sheep and goats. The northern subspecies, Stone's and Dall's Sheep, are also threatened by climate change.

*National Geographic* (Leahy, Nov. 28, 2017) featured research on the impacts of trophy hunting on the health of wild sheep populations, and how this can affect the ability of a wild species to survive climate change. The article featured the research of David Coltman, professor of biological sciences at the University of Alberta, and lead author of a study on Alberta's Bighorn Sheep:

“Coltman's studies have shown that decades of trophy hunting have resulted in a 20 percent decline in the size of ram's horns in today's sheep.

“We also know that sheep with the biggest horns produce the largest offspring, and losses of them all contribute to a decline in the fitness of the overall population, Coltman says. Horns aren't ornaments. They're a signal of fitness. The biggest horns that trophy hunters crave are likely found only on the highest-quality individuals, he says. This is an example of human selection leading to artificial evolution.”<sup>48</sup>

Coltman et al. found that Bighorn rams that would have high mating success at 8-10 years of age are harvested at 4-7 years, “conferring a reproductive advantage to small-horned males that, in the absence of size-selective harvests, would normally be outcompeted.”

*National Geographic* also featured a research paper published in the “Proceedings of the Royal Society B: Biological Sciences”. Leahy summarized the findings:

“‘Trophy’ animals tend to be the most evolutionarily fit and possess the high-quality genes a population of animals need to adapt quickly to a changing environment, says evolutionary ecologist and lead author Robert Knell. “They also father a high proportion of the offspring. But if they're killed before they can spread their ‘good genes’ around, this reduces the overall fitness and resilience of that population.

“When environmental conditions change—a shift in seasonal rainfall or warmer temperatures—the risk of extinction increases dramatically, even with a healthy population of animals apparently unaffected by trophy hunting, Knell [lead author of the study] says...

<sup>48</sup> <https://www.nationalgeographic.com/animals/article/wildlife-watch-trophy-hunting-extinctions-evolution>

“This can happen even with an annual harvest rate as low as 5 percent of the high-quality males. With environmental change now a reality across the globe, the study shows that some animal populations facing even relatively light hunting pressure are more vulnerable to extinction than is generally believed, Knell says.”

b. *Roosevelt Elk*

This coastal rainforest subspecies of Elk occurs in BC only on Vancouver Island and the Sunshine Coast of the Lower Mainland. Their situation highlights the lack of adequate protection for their old-growth forest habitat, and the fact that poaching mortalities (many of which are unknown) add to licensed hunting mortalities.

These Elk use young forest on clearcuts and burns, however, they also have a critical need for lower-elevation old-growth forest, especially in winter. Deep snow makes it difficult for Elk to move to find food, and the excessive energy expenditure can be fatal; plus it is difficult to run from predators in deep snow. But the canopies of old-growth forest intercept snow, making for less snow depth on the ground. The forests also provide thermal cover. Despite their use of young forest, large clearcuts exclude them because the Elk need clearcuts to be more closely interspersed with old forest.

This subspecies was wiped out in BC, or nearly so, twice due to coastal logging and over-hunting. They had to be reintroduced to Vancouver Island. The government has finally cultivated a population of about 3,000 on the Island today. They are said to be increasing, but their numbers remain well below carrying capacity and they remain blue-listed. Regardless, the government gives out about 20 hunting tags a year and photographs on the internet show hunters with bull Elk in their prime with spectacular antlers.

When some of the Elk made a nuisance of themselves around farms and homes, the government translocated them to the Sunshine Coast in 1987. The area was heavily clearcut and is more so today. The Forest Practices Code directed Ungulate Winter Ranges to be set up for them by 2003. These would greatly limit or ban logging. While numerous ones were set up on the Island, to this day, nearly 18 years after the deadline, there are no protected winter ranges for Roosevelt Elk on the Lower Mainland, although the government made several more translocations from the Island, and has been moving Elk around on the Sunshine Coast ever since.

In 2017 Wayne McCrory, RPBio, was asked by concerned residents to assess two watersheds threatened by logging on the Sunshine Coast for Elk presence and habitat values. At that time there were estimated to be only 90 animals on the Sunshine Coast. McCrory's report stated: “Elk and black-tailed deer are susceptible to population declines, and even catastrophic die-offs, if not enough old forest is reserved for the years when severe winter conditions occur.” His report was one of a succession of scientific assessments that have emphasized the need for protection of old-growth forest for the Elk. So far none has ensued.



Craig Pettitt

The more numerous Rocky Mountain Elk of interior BC declined by about half over ten years in 2018 in the East Kootenay region. Some government statements said the cause was unknown or it was predation. But ultimately the government and the hunting community acknowledged that in years previous the government had increased hunting tags and allowed killing of Elk cows to reduce conflicts with agricultural land. But in addition Elk need some access to old-growth forest to intercept snow; without it they can suffer die-offs in winter.



The government claims there is sufficient habitat, but a 2018 Current Condition report<sup>49</sup> by the Forests Ministry's own Cumulative Effects Framework shows that, while the Elk have increased, a very large part of the Sunshine Coast population is at high risk, with low probability of reaching the population objectives of the government's management plan. Due to heavy snowfall, the Elk need old-growth winter habitat, but the Cumulative Effects project assessed a large part of the Lower Mainland project area as having low availability and quality of winter range.

A large part of the Sunshine Coast range has a high level of Elk poaching. Reportedly Elk poaching has always been a problem on Vancouver Island, but has increased in the past year, to the point of causing a Limited Entry hunt to be cancelled. Why, then, do we hear from hunting organizations that only bears, wolves and cougars are killing the big game animals?

### *c. Northern Mountain Caribou in BC*

The most recent (2011) assessment by the Committee on the Status of Endangered Wildlife recognizes only one kind of Northern Mountain Caribou and has assessed it as "Special Concern". Formally it is designated as the "Northern Mountain population of Woodland Caribou", and it has approximately 45,000 animals spread out over BC, Yukon and the Northwest Territories. It has lost 30% of its historic range in BC.<sup>50</sup>

An earlier assessment listed nine herds of Northern Mountain Caribou separately, as a subset of Southern Mountain Caribou. This separation is no longer scientifically valid, but a 2020 BC list of Northern Mountain Caribou continues the separation. The first group contains 17 herds; the population trend for 14 was listed as "unknown"; two were increasing and one was stable.<sup>51</sup> How many are hunted could not be ascertained for this report, but at least six of them are and most of those have "unknown" population trends. Many of the population estimates were quite old — a serious shortcoming in this time of rapid habitat loss and population declines.

Of the nine separated herds, seven are listed as decreasing on BC's 2020 list. The Northern Mountain Caribou are hunted in the Skeena, Omineca and Peace regions of BC, which have general open season on Caribou bulls. According to the federal Imminent Threat Assessment, the management units that have hunting overlap with parts of the Chase and Wolverine herds. There were 572 caribou in the Chase subpopulation in 2019, which is listed as stable on BC's 2020 list. The Wolverine herd is listed as decreasing, with only 264 animals in 2019.

The National Council for Air and Stream Improvement, Inc., reports that the number of animals taken from each of six subpopulations ranges from 37/year to 94/year. Poaching occurs, but the extent is unknown. In addition First Nations do not require a license and do not have to report their kills.

The Northern Mountain Caribou have a federal Management Plan (2012), pursuant to the *Species at Risk Act* regulations for "Special Concern". It emphasizes the cumulative effect of habitat loss and hunting mortalities, in effect stating that what is a sustainable hunting quota depends on the degree of habitat disturbance, and vice versa:

"The influence of hunting on the Northern Mountain population has implications for the management of both the Caribou population and habitat... If herds are managed for sustainable harvest, their habitat must be managed to support healthy populations that are able to withstand harvest pressures. New road development and subsequent off-road trails often accompany industrial activity and facilitate hunting access. Access management is therefore integral to harvest [hunting] management."

The Plan included "Use population modeling to develop sustainable harvest rates and thresholds below which harvesting restrictions should be considered." How is this possible when ten years later the population trends of

<sup>49</sup> MFLNRORD, "Howe Sound Cumulative Effects Project: Roosevelt Elk — Current Condition Report, 2018.

<sup>50</sup> BC Conservation Data Centre Conservation Status Report, "Rangifer tarandus pop. 15: Caribou (Northern Mountain Population).

<sup>51</sup> BC Caribou Recovery Program, "Population Estimates for Caribou Herds of British Columbia", June 2020.

many of the herds are still “unknown”? The Plan included monitoring to determine whether it was being successful. We could find no monitoring information, but with so many trends unknown, clearly the Plan has not been successful.

First Nations have both an aboriginal right and a genuine need to hunt some Caribou for meat, and as a result some have had strong protection campaigns for Caribou and their habitat. Many people living in remote communities depend on wild meat. However, guide-outfitter advertisements on the internet market hunts for trophy bulls. Given the severe threats posed by climate change and habitat loss, it is extremely unacceptable to kill animals with the largest racks of antlers year after year, to mount their heads on someone’s wall. The internet is full of photographs of hunters posing over the dead bulls with magnificent racks of antlers. That this is no longer acceptable in view of the engulfing environmental impacts can be seen in the fact that some provinces have banned it. According to the National Council:

“Sport hunting of Woodland Caribou is still occurring and is limited to Newfoundland, British Columbia and the Yukon. It is banned in Alberta (1985), Saskatchewan (1987), Manitoba (2006), Ontario (1929, and Quebec (2001) ... Improved hunting access to Woodland Caribou has resulted from increased density and maintenance of linear features extending to even more remote areas. Further, advances in equipment and tools (e.g., GPS, guns, ATVs) have led to improved tracking and hunting of these animals.”<sup>52</sup>

#### d. *The Endangered Fisher*

The Fisher is a species belonging to the Weasel Family, prized for its dense, dark brown fur. They are forest-dependent and thus have been extirpated from most of the Shuswap, Okanagan, Columbia and Kootenay regions by excessive logging. They were heavily impacted by the salvage logging of beetle-killed forest that also severely impacted Moose. The Columbian population in the interior of BC was recently red-listed (“endangered”) by BC’s Conservation Data Centre. Scientists have warned that the population is so low that the removal of even a few animals could wipe out this unique gene pool altogether.

Shockingly, BC’s 2020-22 Hunting and Trapping Regulations tell trappers how endangered the species is, then describe the kinds of traps they can use to kill them. This is powerful evidence of hunter-trapper influence in government and an intent on the part of government, not unlike the forestry intent, to profit off of the animals until they’re gone.

### **VI. The BC Government’s Hunting Partners**

In a 2020 auction a hunter paid \$35,500 for a 14-day hunt for a blue-listed Stone’s sheep. It appears that habitat changes, especially climate change, may be the chief cause of the decline of the Stone’s subspecies; but as the studies quoted above show, trophy hunting can weaken population genetic viability and make them far less resilient to climate change.

Nearly twenty years ago the BC government auctioned off two special hunting tags, one for a Stone’s mountain sheep at \$179,000 Canadian, and one for a Roosevelt Elk at \$58,000 at a convention of the US Foundation for North American Sheep.<sup>53</sup> Reportedly, these auctions were to pay for conservation of wildlife, but most of that likely went to pay for shooting wolves. In that year of 2003, The Fur-Bearers released a list of 75 BC wildlife management projects paid for by the Foundation over a period of 20 years.<sup>54</sup> Their news release listed over \$100,000 in payments for wolf control in the Muskwa-Kechika area of BC, about \$62,500 for unspecified programs and for wolf-collaring (most likely for lethal removal) and \$20,000 for range management for wild sheep.

<sup>52</sup> Solarik, K.A., “Current state of knowledge and research on Woodland Caribou in Canada”, NCASI, June 2020.

<sup>53</sup> Pynn, “US big-game hunters help fund BC wolf kill,” *Van. Sun*, Mar. 11, 2003.

<sup>54</sup> Fur-bearer Association, “Hunters Managing BC Wildlife, Mar. 10, 2003.

What's more, the 2003 auction occurred in the very year that was the deadline set in the Forest Practices Code for creating Ungulate Winter Ranges for Roosevelt Elk. As stated earlier, the protected winter ranges never happened.

Today, in 2021, the Wild Sheep Society has a raffle in progress for a Roosevelt Elk hunt on the Sunshine Coast. The subtitle of the advertisement on the internet says "Conservation and Opportunity". But what kind of conservation? Where are the protected winter ranges for Roosevelt Elk on the Sunshine Coast? The kind of hunting pressure that represents, with a rich reward to the government coffers, is a powerful political incentive for slaughtering predators, especially wolves.

The Fur-Bearers also provided VWS with a letter dated September 29, 2006, from the Foundation for North American Wild Sheep.<sup>55</sup> The letter, on the foundation's letterhead, stated that it paid nearly \$700,000 US for wildlife management in BC "over the years". More than \$200,000 US dollars of that were for wolf killing. In the 1980s more than 700 wolves were shot from helicopters with this funding, all to increase sheep for US trophy hunters to shoot. It appears most of this was for the Muskwa-Kechika area of BC, which is now a protected area of BC where guide-outfitters dictate wildlife management policies for their own vested interests.

While these references are old, and hopefully extensive coverage in the *Vancouver Sun* brought attention to the problem, these examples do show how an institutionalized culture of serving hunters evolved in BC's wildlife management. Nearly 20 years later, the government has other ways of tapping private funds to pay for wildlife management.

a. *"Together for Wildlife" and the Public Advisory Councils*

The BC government has always kept hunting and trapping regulations a private affair between itself and the hunters and trappers. The new "Together for Wildlife" program promises to involve other sectors of society, such as conservationists, in advisory councils that will inform government. What it will deliver is yet to be seen, but VWS is skeptical the program for the following reasons:

The program would set up, not only a "Minister's Public Advisory Council", but also a network of regional advisory councils to encourage "partnerships". These in turn would have "regional hunting and trapping subcommittees".

This looks very much like what happened to the Mountain Caribou recovery program after the federal government formed its partnership with the provincial government: paper shuffling, lip service, window dressing, endless meetings and hand shaking, and no habitat protection for the southern Mountain Caribou herds. "Together for Wildlife" doesn't mention new habitat protection, but it looks like it will be tapping private "partners" to do recovery of habitat already logged and roaded.

The following example shows why VWS is concerned that the contemplated network of advisory committees may only serve to manipulate, confuse and deceive the public. In 2014 the province released its Wolf Management Plan, which hasn't been updated since 2014 and appears to still be in effect. The Executive Summary states:

"Provincial policy supports the use of predator control to protect livestock and species at risk. Predator control to enhance ungulate populations for hunting is not supported by policy." (Emphasis added).

Section 7.4 of BC's Wolf Management Plan states:

**"No Reduction of Wolves to Enhance Ungulate Populations or Hunting:** In the 1980s, BC abandoned predator control programs aimed at increasing populations of game species and current

<sup>55</sup> Thagard, N., Foundation for North American Wild Sheep, Sept. 29, 2006.

policy does not support predator control for the purpose of enhancing ungulate populations for hunting.”<sup>56</sup> (Emphasis added.)

Deceptively, in that very same year the Forests Ministry was holding regional consultations with hunters and trappers concerning a Kootenay Mule Deer Plan for 2014-18. It authorized the killing of all large predators in the Kootenays, including black bears, in order to increase the Mule Deer population for hunters.<sup>57</sup> How much this was followed out, we could not discover, since at that time predator control was kept secret from the public (until people’s dogs stepped in the traps set by government agents and left without any signs to alert passers by.) The Mule Deer management plan is still offered on the government’s website, so it appears to still be in effect.

The regional advisory board rendered the provincial wolf plan merely a cardboard cutout of a wolf plan. What’s really missing is a multi-disciplinary panel of independent scientists. What to do if the government that hosts Caribou briefing sessions via Zoom with over a hundred people is unwilling to pay any costs to protect additional old-growth forest for Caribou habitat?

*b. BC’s superb Moose research throws a scathing light  
on 20 years of deficient and biased Caribou research*

Perhaps VWS’s most galling experience of the government’s bias toward hunting has been encountering the vigorous research effort that has been galvanized in government and universities to determine the cause of Moose decline in some areas of BC. This throws a scathing light on the 20-year paucity of credible research on Mountain Caribou, as BC’s southernmost herds were functionally extirpated.

What’s lacking is particularly evident in the areas of nutrition, stress, weather and climate — whatever might reveal ways that habitat loss was affecting Caribou directly other than through predation. View the superb video the BC government created on the decline of Moose and the elaborate research efforts to determine the cause, at [https://www.youtube.com/watch?v=xH\\_epWSjMEo](https://www.youtube.com/watch?v=xH_epWSjMEo). Read the 9-page, detailed, outstanding 2019 Ministry Fact Sheet on Moose, and consider the care that is being taken to evaluate body condition, nutritional status, nutrient levels in Moose foods, and possible reproductive effects from malnutrition.

Then consider that there are there are 110,000 to 185,000 Moose in BC, but only 1,250 Deep Snow Mountain Caribou of the Interior Wetbelt. Recovery efforts for the Deep Snow Mountain Caribou began over 20 years ago. Yet there has been no concentrated research effort into their nutrition, food habits, etc.

The BC government does have wildlife biologists who are very knowledgeable and will tell the truth when given a chance. But around 2002, when Mountain Caribou recovery planning began to threaten the timber industry, a “kill the predators” mindset gained dominance. A monoculture of thought began to dominate, and communications with the public — even research papers — became sprinkled with political rhetoric passing as science — for instance, totally inane statements that further habitat protection wouldn’t help the Caribou. This form of wildlife management robbed attention, funding and research from habitat issues.

In 2020 the National Council for Air and Stream Improvement, Inc., in Quebec published “Current State of Knowledge and Research on Woodland Caribou in Canada”. Ironically, the Council’s website states that its mission is: “to serve the forest products industry as a center of excellence providing unbiased, scientific research and technical information necessary to achieve the industry’s environmental and sustainability goals.” It does seem to fulfill that goal. Their report noted subjects that are significantly lacking in Canadian Caribou research:

“While significant efforts have been made to understand the species’ basic ecology and predator-prey dynamics, topics associated with genetics, nutrition, parasites, and diseases remain under-

<sup>56</sup> MFLNRO, “Management Plan for Grey Wolf”, 2014.

<sup>57</sup> FLNRO, Cranbrook, “2014-2018 Kootenay-Boundary Mule Deer Management Plan”, 2014.



studied across the species range, inhibiting effective management and recovery efforts for the species ...

“The knowledge gap persists despite growing evidence of nutritional limitations operating in other cervids and other *Rangifer* subspecies that suggests considerable need for greater emphasis on nutrition research on Caribou summer ranges ... To date, however, very few studies have focused on non-winter diets or feeding habits of woodland Caribou...”

The National Council’s study surveyed the themes of peer-reviewed, published Caribou research averaged across Canada. A little over 9% of peer-reviewed Caribou studies concerned energetics and nutrition; but in BC only 6% covered those topics, while 22% covered predator-prey dynamics. By far the majority of research papers concerned administration, basic ecology or disturbance.

In the words of wildlife biologist Dr. Paul Paquet, a researcher at the University of Victoria and a director of Raincoast Conservation Foundation:

“Wildlife management wraps itself in science and presents itself as being scientific, but really, when you examine it, it isn’t true.” (Van. Sun Mar. 24, 2014)

Government has all the best access to technology and expertise, but this is mostly clothing worn by a system controlled by the influence of economic forces.

## **VII. The Need for Ethical Science**

The Guide Outfitters Association of BC, BC Wildlife Federation and the BC Wild Sheep Society are combining their efforts with the goal of generating 25,000 letters to the legislature by June, and getting members to meet with their MLAs. Material sent to their members shows the main themes being used to discredit the government’s decision to ban the hunting of Grizzly Bears. A sample letter to government, provided as a model for Wildlife Federation members, expresses concern about declining game species, the need to kill predators, and a belief that their way of life is under attack by “anti-hunting groups”:

“I support science-based wildlife management, which means managing predators sometimes, and prey other times, yet I see the government making decisions based on emotion and the rhetoric of anti-hunting groups rather than science.”<sup>58</sup>

The BC Wild Sheep Society posted a letter online for people to sign and send to their MLA. The letter complains: “The loss of the Grizzly Bear hunt was due to social pressure, instead of scientific reasons.”

According to the Guide-Outfitters Association, “emotions” about predator killing should be set aside:

“We recognize that predator control is an emotionally charged issue. However, we must set our emotions aside and adhere to science-based principles and do what is best for wildlife. As stewards of this majestic resource, we must not allow our emotional responses to trump science and prevent the appropriate management of our wilderness. Predator control MUST be something we do. If we do not have the courage to do so, it is wildlife that will pay the ultimate price.”<sup>59</sup>

What is seen here is a powerful propaganda campaign to build a shared sense among their members that they are the science-based, unselfish players in the field, whereas those who supported the Grizzly Bear hunting ban and

<sup>58</sup> BCWF, “Protect the future of hunting in BC”, <https://bcwf.bc.ca/initiatives/protect-hunting/?bblinkid=249066854&bbemailid=29391361&bbejrid=1883630204>

<sup>59</sup> GOABC, “Tahltan First Nation Takes Bold Step in Wildlife Management”, Sept 15, 2010.

oppose the killing of predators inferredly have no factual basis for their positions. We believe the information in this report proves otherwise.

The thrust of the hunting groups' campaign is to turn the issue into one of science versus public opinion, facts versus misinformation, courage to do what's right versus baseless emotions. This is misleading because:

1. Responsible decisions endeavor to integrate multiple factors and cumulative effects. When science and public opinion are at odds, government has a problem, but when science and public opinion are aligned, government has a green light. The government rarely acknowledges that public opinion is in line with science, which it often is in environmental matters. For instance, government refuses to recognize the scientific and public opinions on old-growth logging or protecting Mountain Caribou. So it should be lauded when it does so, and acts on it.
2. The quest for science must be a quest for *ethical* science. Science without ethics gave us the atom bomb. Science without emotions dropped it on cities. Prominent wildlife biologists have repudiated the idea that all that matters in the treatment of wildlife is populations. They hold that the human moral nature has responsibilities to individual animals, to prevent suffering, and respect their intrinsic value and family lives.
3. Science should be connected to a broad context, not constrained to serve human uses. Is it the science of "How many hunting tags can we have and how many predators do we have to kill to get them?" Or is it science that looks at the health of ecosystems and the functions of each species within them, and is cognizant of the need to stem the massive species loss that is accelerating on the planet?

The use of the words "popular", "social pressure" and "emotions" to impugn the government's Grizzly Bear hunting ban as being falsely based do reflect, distortedly, some things that are very real:

1. "Popular" — A majority of British Columbians value their wildlife alive and are often thrilled to see them. Grizzly Bear viewing in the Great Bear Rainforest and at several sites in Alaska draws thousands of people. There are smaller Grizzly Bear viewing opportunities in many places in BC. Wolves in Yellowstone and Denali National Parks draw thousands and have fans on the internet.
2. "Social Pressure" — The public is increasingly aware of the engulfing destruction of nature and its harmful effects on biodiversity. Filmmakers and media such as National Geographic have greatly increased the public's knowledge of wildlife science. According to the Humane Society, "over 41 million people have viewed the video 'How Wolves Change Rivers'".<sup>60</sup> These people, too, are letting their values be known to government.
3. "Emotions" — Claims that British Columbians who supported banning the Grizzly Bear hunt did so out of baseless emotions is derogatory and untrue. The truth is that Grizzly Bear hunting self-destructed when two hunters posted on the internet a video of themselves shooting a grizzly, showing its agonized death throes, and themselves gloating over it. It went viral and caused widespread outrage and revulsion. This is what the hunting organizations mean when they claim that the hunting ban was driven by emotions. The internet shows many photographs of hunters with dead Grizzly Bears. It appears that the size and ferocity of the bears is taken as an indicator of the size of the hunters' prowess, yet it's modern weapons and ammunition that have made that kind of hunting easier. Emotions about this arise from humanity's increasing knowledge about and connectedness to the natural world. Such persons are aware that few places on Earth have these native large carnivores, and they feel a sense of urgency that we in BC have a responsibility to the world to take care of them.

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<sup>60</sup> Humane Society International, <https://blog.humanesociety.org/2020/01/twenty-five-years-after-their-return-yellowstone-wolves-face-new-challenges.html>

*a. Wildlife As Target Practice*

The BC Wildlife Federation (BCWF) and the Creston Valley Rod & Gun Club co-sponsor yearly wildlife-killing contests, on the pretext that a plague of wolves is killing the Caribou. (There haven't been Caribou near the Creston Valley for a few years now.) The contest is called "The Caribou and Young Ungulates Survival Project". The contest offers prizes up to \$300 awarded on the basis of points earned for killing wolves, cougars, black bears, coyotes, bobcat, lynx, raccoons, skunks, ravens, crows and magpies. What about raccoons, crows and magpies threatens Caribou? Here the Caribou are clearly being used to leverage the killing of any and all predators. And there is a youth prize that is sure to help young people anaesthetize their feelings. All this is in keeping with the BCWF's description of itself at the very top of its website:

"We advocate for anglers, hunters, outdoor recreationalists, firearms owners and recreational shooters."

In other words, the Federation has become an advocate for gun ownership and for shooting as a pleasure in itself. Shooting for fun is exactly what a wildlife shooting contest represents — target practice on 11 species of wildlife.

*b. BC Wildlife Federation (BCWF) rallies its members to oppose gun controls*

As early as 2018 the Federation opposed, and urged its members to oppose, a ban on assault weapons in a government consultation process that year. Canada has had a number of mass shootings, and its worst one, that killed 22 people, occurred in 2020. Two weeks later Trudeau, stating that "you don't need an AR-15 to bring down a deer", imposed a ban by executive order. Semi-automatic weapons were among those that were banned. And yes, semi-automatic weapons are used for hunting — the Federation assures us so on the internet. They are also used to slaughter wolves from helicopters.

The Federation became part of a coalition of over 50 hunter/trapper/and fishing organizations in the "Canadian Coalition for Firearm Rights." It has been opposing the firearms ban ever since. You can read its positions at <https://bcwf.bc.ca/initiatives/your-firearms-rights/>. A sample:

"The BCWF cannot support the federal government's arbitrary decision to prohibit and confiscate over 1,500 types of firearms ... The BCWF has written the Prime Minister and other governmental authorities to protest this arbitrary and irrational action. Being a charity, BCWF cannot engage in partisan activity, but our members should take action. BCWF urges members to contact their MP."

Additionally, their website and newsletters show that it is rallying its members against gun control legislation at the federal, provincial and municipal levels. Members are urged to go to the offices of their municipal, provincial or federal representative to oppose gun control legislation. VWS has neither the expertise nor the mandate to evaluate gun control legislation, but we are aware that the lack of gun control laws has led to a social unravelling in the US, with frequent mass shootings; we are aware that this same trend has begun in Canada, to tragic results; and we are aware of how the US National Rifle Association (NRA) blocked gun control laws in the US and tried to block them in Canada, and what the results have been in the US.

*c. Marketing campaigns to increase hunting*

The advent of wildlife shooting contests and the Federation's advocacy for "firearms owners and recreational shooters", while urging members to oppose gun control, increases VWS's concern, especially because we don't see a benefit to hunters having 1,500 kinds of firearms available; the only benefit we see is to the arms industry in the sales of guns to hunters. If, as Trudeau says, "you don't need an AR-15 to bring down a deer", you certainly don't need 1,500 kinds of firearms.

It's only natural for organizations to promote their sport, but the US National Rifle Association has had a high-rev advertising campaign for some time to promote hunting. This becomes a concern to VWS when it is considered

that making more hunters means selling more guns, but it also requires more game animals for more hunters to shoot, and high populations of them so that novice hunters can bag their prey. The mechanisms we have described here, whereby the history of Canadian wildlife management has led to a habit of killing predators to enlarge the number of game animals, are much more dangerous if industrial expansionism and its money are bringing pressure on governments to shoot our large carnivores to make more game for the new hunters that will buy more guns and sporting equipment.

### **VIII. Protecting BC's Wildlife**

The BC government has allowed the logging industry to cut down its options, of which it now appears to have two: either implement dramatic wildlife conservation measures, or face the growing revelations of how a succession of BC political administrations have wrecked large amounts of BC's great natural heritage — and done so while arresting around 2,000 British Columbians over the last three decades. Will the current government preside over the near extinction of Pacific Wild Salmon? How many emaciated, starving Grizzly Bears do we want tourists on the Inside Passage to see? How many more hunters' photographs from predator slaughtering sprees, or of wealthy international hunters posing with dead trophy bulls of blue-listed species, will travel around the world on the internet? What will the disappearance of BC's unique Deep Snow Mountain Caribou do to BC's SuperNatural reputation, facilitated as it has been by substituting predator culls for habitat protection? Valhalla Wilderness Society recommends the following steps as being necessary to turn this impending tragedy around:

- ✦ Restore wildlife management responsibility to the Ministry of Environment with a strong conservation mandate. Empower the Ministry with more funding and personnel.
- ✦ Wildlife management decisions should include scientific and ethical considerations, and take into account the value of the living animals to people and their functions within ecosystems.
- ✦ Wildlife management be guided by the conservation of biodiversity.
- ✦ Maintain the Grizzly Bear hunting ban and extend it to trophy hunting of other blue-listed species.
- ✦ Stop using predator killing as a substitute for habitat protection for dwindling ungulate species.
- ✦ Put an end to logging old-growth forest.
- ✦ Canada's own federal government has supported preserving 30% of the planet. BC needs to increase the size, number and connectivity of parks to the level of 30% across the province.

Only a myopic government, stuck in the 19<sup>th</sup> or mid-20<sup>th</sup> centuries, would fail to see that everything that comprises human life on this planet is dependent on healthy, functioning ecosystems that have been thrown into severe crisis by cascading species loss and climate change. To treat resources as if they are endless, and refuse to curtail consumption until they are almost gone is the same frontier mentality that almost annihilated the buffalo. It is no longer the frontier days, but the same selfish, wanton profit imperatives that wiped out immense herds of buffalo are wiping out the Mountain Caribou, the Spotted Owl, the Western Screech Owl and many others today. Dwindling Salmon stocks, starving Grizzly Bears and shocking declines of even the numerous Moose are harbingers of things to come if BC doesn't change.



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