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Comments by Dr. Valerius Geist on the report "Ensuring a Future for Canada's Grizzly Bears" April 3, 2010, by the Suzuki Foundation.

VG -I have looked at the report "Ensuring a Future for Chanda's grizzly bears", a fairly pompous title. I am beginning with a comment on the second sentence.

Report - "Some of these, such as mountain goat and mountain caribou, live mostly - or only - in the province."

VG -Good populations of mountain goats are also found in Alberta, Alaska, the Yukon and even the North west territory. The "mountain caribou" is the classical woodland caribou that is found in Alberta, Saskatchewan, Manitoba and Ontario, in small populations. Another subspecies of caribou, the Osborn caribou, is found in the north-west of our province and is quite different from the woodland caribou. Ironically, the woodland caribou, greatly endangered currently from excessive calf mortality from predation, cannot be managed into recovery precisely because of the opposition to management of predators by environmentalists.

Do the authors know what they are talking about?

Report - "Most remarkably, unlike most places in North America, B.C. still has all of the charismatic megafauna that were present at the time of European settlement, including grizzly bears, wolves, and wolverines."

VG - First of all, the implication that survival to this day is accidental is ignorant and arrogant as it ignores and diminishes the wildlife conservation and restoration efforts that gained international attention with the 1911 Commission on Conservation chaired by sir Clifford Sifton, followed by a close cooperation with the United States in restoring wildlife. Prior to that see the efforts of A. Bryan Williams, Provincial Game Warden or Chief Conservation Officer in British Columbia. His work gained such attention internationally that his book about his conservation efforts was translated into German in 1932. I do not have an English copy. The wildlife we enjoy is the consequence of active wildlife management and protection, not accidental survival. Canadians are generally unaware of their achievements in wildlife conservation, and this report is no exception.

Report - "Indeed, B.C. is now one of the last safe havens for most of the large animals left on the continent."

VG - Another ignorant statement. While BC is indeed a very safe place for the "charismatic" mega-fauna, so is much of North America, as wildlife is continentally a greatly treasured resource, in my opinion, more so in the United States than in Canada. Our neighbors have gone to a greater extent safeguarding their wildlife than we have. See their taxation on behalf of wildlife, see their law enforcement efforts, see their restoration efforts, see their laymen organizations in support of wildlife.

Report - "Grizzly bears still roam, feed, and breed in much of the province, whereas in California, they are only found as an image on the state's flag, having long been eliminated from the wild."

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VG - I am glad for that admission! Indeed grizzly bears are found over much of the province, to the extent that they cause in some localities a threat to human safety severely enough to warrant removal of problem bears by conservation officers - just as in our national parks where visitor safety is paramount.

Report - "British Columbia may be home to as many as half of Canada's remaining grizzly bears - and the last best hope to maintain healthy populations south of the 60th parallel."

VG - Another misleading sentence. Grizzly bears are found in the Yukon, in Alaska, in the North West Territories, and only in Alberta is the situation truly deplorable. In the US conserving grizzly bears is a very determined, very public matter. Moreover, the very same species of bears continues on across the Bering Straights through the vastness of Siberia and central Asia, including Tibet, and right into Europe. This not an uncommon species. Bears are resilient and not very difficult to manage.

Report - "Scientists believe that grizzly bears are an essential part of healthy, fully functioning ecosystems in western North America. Known as a "keystone" species, grizzlies are 'ecosystem engineers' that help to regulate prey species and disperse the seeds of many plant species such as blueberry and buffaloberry. They also help to maintain plant and forest health, both by aerating the soil as they dig for roots and pine nuts and ground squirrels, and by moving thousands of kilograms of spawning salmon carcasses into the forest, where trees and other plants absorb their high levels of nitrogen.3"

VG - This is the beginning of technically false "pop-ecology" characterized by attention-grabbing terms. Thus the term "health" is technically inapplicable to ecosystems, though correctly applicable to individual organisms. Nor do grizzly bears "regulate" ecosystems, another misconception based on the inability to distinguish between negative feed back (typical of individuals) and positive feed back, found in ecosystems. Even the term "system" is, strictly speaking, inappropriate. Left to themselves ecosystems are stochastic systems, that is, governed by the capricious event between populations of different species. Ironically, humans can indeed regulate some populations, but that's a human made condition, not one found in nature. Bears are essential to nothing, being a new-comer to North America, entering with the east-Siberian fauna about 12,000 years ago. North America, especially south of the Laurentide ice sheath was free of grizzly bears for millions of years preceding. Their presence does have, of course an effect on the landscape. But so has the unsung black bear, an able competitor of grizzly bears. All species are "ecosystems engineers". Try the pine beetle.

Report - "Grizzly bears are indicators of sustainable development," says Dr. Stephen Herrero, who headed Alberta's Eastern Slopes Grizzly Bear Project, one of the largest grizzly bear research projects in North America. "Where viable populations of grizzly bears persist, the landscape is being managed sustainably."4

VG - My colleague of many years in the Faculty of Environmental Design at the University of Calgary, Dr. Stephen Hererro, expresses here a sentiment I share. I also want grizzly bears - where they are appropriate, and I do want to see them managed, by human hand, so that the populations are characterized by well-developed, healthy individuals, that distance themselves from humans. Well

manged grizzly bear populations do, of necessity, translate into sustainable plant and animal communities as it is the mangers task to insure the existence of such. Unmanaged animal populations, grizzly bears included, can cause problems and the mere presence of grizzly bears does not automatically translate into sustainability. Nor are there landscapes without grizzly bears that are unsustainable.

Report - "Unfortunately, grizzly bears face the same threats in B.C. as they face everywhere they live: habitat loss, damage, and fragmentation; the cascading effects of salmon collapse and climate change; and human-caused mortalities as a result of sport hunting, poaching, collisions with trains and vehicles, and the inevitable (and often fatal) conflicts grizzlies must endure because of careless human behaviour.⁵ Grizzlies have already been eliminated or are currently threatened in about 18 per cent of the province, not including the Lower Mainland and most of the Interior."

VG - This is misleading advocacy void of substance. To begin with, grizzly bears are missing from 18 percent of the province because they should not be in the suburbs and towns of greater Vancouver, in the agricultural fields of the Frazer valley, the vineyards and orchards of the Okanagan or the calving centers of the ranches in the interior. There are areas dedicated to agriculture and industry, and grizzly bears do not belong there. Moreover, grizzly bears do not occur on Vancouver Island, and that's a fair chunk of real estate. Secondly, grizzly bears are not threatened everywhere, quite the contrary, they have reached nuisance status in some districts requiring removal of some bears by conservation officers. Grizzly bears must not be allowed to expand beyond the availability of natural foods as grizzly bears short of food overcome their great reluctance to approach humans and in desperation search for food about human habitations. Hunger, especially hyperphagia in fall prior to fattening for hibernation, is an immensely powerful motivator for bears to confront people. Letting bear populations expand uncontrolled is here the real crime, against both, bears and people. I however, fully endorse the authors concerns about diminishing salmon stocks as a traditional food source of grizzly bears. I have asked why bears do not get an allotment of salmon, even though the post-spawning salmon are essentially bear food, and wonder what an allotment of salmon would do to stabilize grizzly bear population. The failure of salmon to appear has led to decimation of hungry bears entering human settlements. Conflicts with humans have their causes and such deserve serious, not pop-ecology treatment. The small take of grizzly bears by legal hunting is not a threat, and halting is it no contribution to the species survival. Quite the contrary.

Report - "Exactly how many grizzly bears live in B.C. has long been a controversial issue. The 1979 Preliminary Grizzly Bear Management Plan for British Columbia pegged the grizzly population at 6,600, a number that was used into the mid-1980s.⁶ The government's most recent official population estimate, updated in 2008, suggests that more than 16,014 grizzly bears live in British Columbia, down from 16,887 in 2004.⁷"

VG - The controversy is a needless one. The BC Wildlife Branch has been scrutinized by peers on its effort to manage bears, a process of public accountability lacking entirely in national parks. I have also reviewed earlier BC's management plans and found them credible. Of course improvements are possible, and public pressure on this and other provincial management efforts

are desirable. Controversy is not at all bad, but there has to be not advocacy, but disinterested investigations at work, and this report does not reflect such.

Report - "However, many independent biologists argue that B.C.'s habitat-based density estimates may not be reliable enough to adequately estimate grizzly bear populations.⁸ There is ample evidence to suggest this is true. For example, recent local population inventories in some parts of the province have found that grizzly bear numbers are far lower - sometimes by as much as 100 per cent - than the government's initial estimates.⁹"

VG - So what? Ongoing scrutiny and research does generate better techniques and estimates. Eliminate hunting bears, and thus the need for population assessments, and nobody will know how many bears there are or how they are faring! Some advancing of the public good that would be!

Report - "One thing is certain: far fewer grizzly bears live in British Columbia today than even 100 years ago. Grizzly bears once roamed most of North America, from Alaska to Mexico and as far east as Ontario and the American Midwest. Approximately 35,000 grizzlies once roamed British Columbia's coasts, mountains, and grasslands¹⁰, but the activities that extirpated them from much of the rest of the continent over the last century - hunting, road-building, and unsustainable levels of forestry, mining, and oil and gas development, and conversion of once-prime grizzly bear habitat into agricultural production and towns and cities - continue to threaten grizzly bears in British Columbia.¹¹"

VG - More uncritical populist rhetoric, too much to handle in detail! In the past 100 years there have been enormous changes in the big game fauna of British Columbia. Moose, a popular grizzly food at calving time, did not exist in most of the province, but colonized the province over the next 40 years. Huge dams to generate electric power cut deeply into the availability of productive riparian habitat. There was a huge eruption of elk in the North of the province, a positive change for bears. There was a huge decline in salmon in the last century, a federal matter excepting the deplorable fish farming, and one undoubtedly affecting bears badly. There were wolf control poisonings to decrease wolf carried diseases that also affected bears, but led to a substantial rebound in ungulate populations in the north. There has been a dramatic recovery of wolves since the 1980's. White-tailed deer erupted across the north of the province right into the Yukon territory. How can one possibly equate all this into bear numbers? Hunting??? I was employed in Wells Gray Park 1959-19960. There were a lot of grizzly bears present. But hunting? Why shoot a grizzly? It's no good to eat. That was the sentiment. The only grizzly killed that I heard of was shot for the Victoria Provincial Museum above Azure Lake by my late friend and fellow biologist Fay Hartman. However, I am with the authors on the matter of building of mining roads and seismic activity searching for oil and gas. Nor is enhanced exploration activity by inexperienced prospectors a boon to bears, nor is the increase in helicopter travel. However, the increase of burning for horse feed in the north, the most probable cause for the eruption of elk, almost certainly led to an increases in grizzly bears as both meadow grasses and elk are prime grizzly food. And yes, agriculture has expanded and is not compatible with grizzly bears. Potential agricultural land is in short supply, but not potential grizzly bear habitat! Nor can grizzly bears be tolerated in every square foot of the province, or should be. Finally, the authors seem to be unaware that in British Columbia we suffer a huge deficit in ungulate populations, and this is more unavailable grizzly bear food!This

deficit is the more deplorable since it is in good part due to the difficulties made for the wildlife branch in managing carnivores in critical areas and critical times so as to allow an escapement of fawns, calves and kids to allow the build-up of populations. The resistance to management comes primarily from urban believers in miraculous natural self regulation, and other ecological delusions. With more predator control there would be more ungulates, and consequently, there would be a lot more food for grizzly bears.

Report - "Today, the B.C. Wildlife Branch has divided the province into 57 grizzly bear population units (GBPUs) that cover 90 per cent of the grizzly's historic range in British Columbia (Map 1, on pg. 10).12"

VG - That's a good approach.

Report - "Grizzly bears have already been eliminated from large portions of the Lower Mainland, the Peace River area around Fort St. John, and parts of the Cariboo and Thompson-Okanagan regions in the south-central part of the province."

VG - What is the point of this sentence? And why should grizzly bears not be removed? This is prime agricultural land. When the decision is made to settle, to farm or ranch the land, then there are humans, fellow citizen, making a living there, and they are entitled to a quite enjoyment of their properties and means of making a living. As a civil society we have a commitment to these people, and it so happens that large carnivores and settled landscapes are not compatible. These are prime places where there should not be any grizzly bears. Conversely, there are landscapes of minimal human use that are badly degraded for grizzly bears and there is no excuse not restoring and manging such lands for wildlife, grizzly bears included.

Report - "In addition, nine grizzly bear population units covering nine per cent of the province are so small they are now listed as "threatened" by the B.C. government and are at risk of disappearing as well."

VG - However, they have been expanding in other units to the extent of requiring control measures.

Report - "Scientists predict that the current rate of grizzly bear habitat degradation - from expanding human settlements, road-building, recreation, forestry, and other industrial developments - could result in grizzly bears being threatened or critically endangered in close to half of their current range in B.C. by 2065.13 By that time many local populations will be beyond hope of recovery and will likely be eliminated altogether."

VG - Habitat degradation? From human settlements grizzly bears are excluded anyway. Settlements are not degraded grizzly habitat. Road building, recreation and industrial developments do indeed impinge on grizzly bears themselves, rather than their "habitat". Desertion by bears of perfectly good habitat is the problem here, not habitat degradation. Some attention to this problem restores the use by bears of habitat they otherwise would shun. Forestry, on the other hand, can do a lot for bears by converting temporarily clearings into feeding areas containing such bear food as grasses, herbs, berries and ungulates. Road building, recreation, industrial developments and forestry are inevitable. We

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will not get rid of them for the sake of bears. Good, hands-on management however, can neutralize their effects on bears or even benefit them.

And Oh, am I glad that I have it from this authority that I need not worry about bears in half of the province. That's a pretty large piece of land.

Bears beyond hope of recovery? They have done pretty well in this province, they are holding their own so far against incredible odds in the greater Yellowstone region, and are set to recover elsewhere with some hands-on management. However, if grizzly bears are to be restored, then restored for what? What is the point of generating nuisance bears that have to be removed, when such can be removed by legal, regulated hunting and when bears can be kept within limits of their food supplies?

Report - "Human-caused mortality is also a significant problem in B.C. Between 1977 and 2009, almost 11,000 grizzly bears were killed by humans, 87 per cent of which were legally killed by hunters.14

VG - That's a fraction, about a third, of allowable mortality. Unfortunately, the kill figure cited is probably low, because in much of the wild country grizzly bears are considered a nuisance, and a dangerous one to boot and are killed off without publicity. Earlier on in the 1950's and 60's I would say the sentiment was that they are a worthless nuisance. As a field biologist I found out then just how little worth the grizzly was to various users of the wilderness. In the meantime the grizzly has appreciated as an icon and as a trophy animal. If legal hunting, which is closely controlled, monitored and supervised, which removes currently a trivial number of grizzly bears, is terminated then the grizzly will revert once again to nuisance status. The legal removal of nuisance bears in this province will no more terminate than the legal removal of grizzly bears in national parks for the sake of visitor safety. With no legal hunting, there will be no monitoring, and nobody will know how many grizzly bears we have. It will save the province some money. There will be no need for biologists to become specialists in bear ecology and behavior. They can be let go. We will have simply squandered a wealth and employment creating economic resource for the sake of subjective sentiments, without the slightest benefit for bears.

As H. L. Mencken once quipped: "For every complex problem there is an answer that is clear, simple and wrong." And so it is with the above! A complexity of conservation problems pertaining to bears has been reduced to absurdity. Without the small, even trivial legal kill of grizzly bears there will be no funds for monitoring, research and thus the end of public accountability. It will be a Pyrrhic victory for conservation, in fact it will be worse. It will be the end of any meaningful debate about the fate of grizzly bears in the province because the reason to monitor and study bears and be accountable will have been removed. Grizzly bears? Who cares! They are protected. Are they not? Why spent precious public funds on them? Moreover, an eminently renewable, vigorous natural resource will have been removed from creating wealth and employment - the opportunities for viewing grizzly bears in coastal sanctuaries notwithstanding. In national parks land-bound grizzly bears are systematically being eliminated by persistent photography and visitor curiosity, habituating bears literally to their death. There are reasons why Lake Louise and Banff are this continent's number one and two death zones for grizzly bears (and black bears). And now let me dwell briefly on "habitat". Grizzly bears, like all large northern mammals,

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are not habitat specific. They require space, food, shelter and some human sympathy for survival, and grizzly bears are no exception. They are not too particular about the setting either, and are found from alpine valleys to tidal estuaries, from the Arctic barrens to the mountains of Mexico, etc. Nor do they need "natural" environments to thrive. There was a vigorous grizzly bear population thriving on garbage dumps in Yellowstone National Park, and there were thriving bear populations living off garbage in Banff and Jasper national parks. Bears have not done well in these parks since the removal of the garbage as well as the massive killings of garbage conditioned bears, and bears are fairly rare animals there today and it's an occasion to see one. Since visitor safety is paramount, park bears that habituate and turn inquisitively on people are removed in an ongoing fashion. Outside parks there are large areas with abundant natural foods that are shunned by bears because they are very sensitive to human encroachment, most of it of a recreational nature, but made possible by proliferating roads and seismic lines. All bears are very timid creatures, that go a long ways to avoid humans. Where they meet humans regularly they draw absolutely logical conclusions and avoid such where humans carry guns and act assertively. Conversely, these very sensitive and intelligent creatures quickly discover that unarmed hikers are scared of them, and begin some self assertion of their own. It has fatal consequences for bears, especially if people persist in trying to get close for viewing or photography. Protected areas swarmed over by hikers are death traps for bears. Unprotected areas covered with access and swarmed over by people seeking recreation are avoided by bears, no matter how good the "habitat". Where bears run out of food due to failure of salmon runs or berry crops they will seek alternative food sources, and inevitably enter into conflict with humans for our communities are loaded with bear food. Being "bear aware" keeps that food away, but leaves the hungry bears searching, with obvious consequences. Consequently, blanket "solutions" like halting hunting and "protecting bear habitat" - whatever that means - are simplistic and absurd in the extreme. And political advocacy, fueled by animal rights philosophy - if one can call it such - is of no help. We must not ignore how runaway protection of predators, marine or terrestrial, leads to losses of prey we happen to value, to losses of livestock, the spread of diseases not to mention to needless hardships and distress for people that rely on natural resources for a living. Wildlife conservation, management and utilization has a very long history, pertinent to our current hopes and aspiration for the future. Unfortunately, this report pays little heed to such.

I have read the introduction and criticized such, and wonder what is the point of a continuing critique of this grizzly bear report?

Have the scientists who signed Paul Paquet's letter ever read this report?

Is this a true reflection of the competence of the *Suzuki Foundation*?

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