

Protection of Fragile old-growth ecosystems.

The impact of clear-cut logging on biodiversity has been well documented but there is a desperate razed landscape of charred stumps, barren limestone rock and lost soils on Northern Vancouver Island where once clear streams flowed thru humid old growth forests in rich life forms. In 2004 a wild fire swept thru Western Forests products clear-cut high above Wimpkish Lake and this thin layer of soil disappeared thru fissures & openings in limestone Karst. It's a different micro-climate under the canopy of an old growth forest. You get some downed trees but generally they are moss covered. The fire burned 1654 about, an estimated 894 of that over Karst. Karst is a fragile type of topography that develops when water dissolves soluble bedrock - predominantly a Canadian hot spot for Karst - the gradual process can form caves and passage ways, creeks or caverns, sinkholes, speleothems, stalactites & (stag) stalagmites. Karst also makes for more productive rain forests draining away extensive rainfall while the dissolved cracks in bedrock give tree roots a good foothold against winter winds. Karst also reduce the acidity of rainfall providing improved habitat for aquatic life including resident and migratory fish. Researchers Griffiths and Carol Ramsey have been fighting for years for better protection of Karst landscape on Vancouver Isl especially those associated with old-growth forests. It shouldn't have been clear-cut. It had no protection and this shows the need for the province to improve the level of protection and ensure in-field inspection. There had been a request for an interview but was told field was done and they followed the recommendations. They have replanted twice & will continue to carry out silviculture treatments as needed. There is protection for certain categories of Karst features but not the greater Karst ecosystem. Haida Gwaii has an extra level of protection including land use objective order. Caving expeditions have uncovered evidence of human use as well as bear bones dating back 17,000 yrs.

In practice The Timber Industry often fails to protect Karst features including a buffer of one-two tree lengths to guard against impact of falling trees. The govt leaves it to The forest professionals to decide what protection is needed but they also lack in depth knowledge of Karst. In 2016 2 scientists from slovenia toured BC & confirmed that old growth forests on Karst in an ecosystem of international significance. The association with coastal rainforests is globally rare and significant and needs protection. Karst terrain occurs on about 4% of land mass of Vancouver Island.

Scott Fraser NDP MLA of Albernie Pacific Rim introduced a private members bill seeking protection legislation in 2000 & 2016. Cave legislation could be used to protect vandalism and other activities. Caves actually represent a small fraction of the greater Karst land scapes, there is more to protecting Karst ecosystems than caves. The Minister of Indigenous Relations and Reconciliation & chair of Environment & Landuse says this issue is very dear to him and is committed & working with Doug Donaldson, Minister of Forests Lands & Resources, Operations & Rural Development to be sure BC strengthens our protection for these fragile landscapes.

Moose Calves -

Rob Rea an instructor from University of Northern BC found 2 moose calves severely dehydrated & almost dead when their mother had been killed near Prince George. A veterinarian gave them fluids and once stabilized took them to Northern Lights Wildlife Society in Smithers. They're named McKenzie and Bijoux, saving the young animals is important because the regions moose pop has dipped dramatically over the past 15 yrs, don't really no why so they tried to play mother mouse. They are fed a milk formula especially for them & have since been weaned to solid food like forest forage, grain pellets, fruit & vegetables, they have been

slowly introduced to the wild getting day passes where they're released for a couple of hours around the shelter, as they grow older and stronger the outside has been increased. Now they only get one bottle at night and kept in the enclosure at night to keep predators away. They can leave the shelter whenever they feel ready they will probably wander off when the buds come out on the trees usually when the snow starts to melt, they get itchy and start moving.

A Forest Practices Board report into a BC Timber sales operation on the Sunshine coast has found that there are ^{rare} plant communities not receiving adequate protection from logging. Elphinstone Logging found that 2 cutblocks of 18.3 ha of mature Timber on the S west slope of Mt Elphinstone contained rare plant communities considered at risk by BC Conservation data base Center. - red-listed western cedar/sword fern, & Western hemlock / flat moss. Despite those conservation concerns, BC Timber Sales had no legal obligation to protect the two ecosystems because they had not been designated as species at risk or regionally important wildlife under the Forest & Range Protection act. The designation could lead to conservation measures such as Wildlife ~~habitation~~ areas and requirement for forest Licensees to prepare a Forest Stewardship plan that describes how the Licensee will meet govt objectives while conducting their activities.

The board noted there are 15 plant communities currently designated under the Forest Range Practices act but that the govt hadn't updated the list since 2006. The board recommended the province provide legal objectives or guidance for managing the amount and distribution of at risk plant communities, updates the list plant communities & revise its protocol to include consideration of plant communities in younger forests. The Ministry of Forests, lands, Natural Resources Operations and Rural development said there is a gap in protection measures and that govt would look at options for improvements including to work with Ministry of Environment & climate change Strategy to properly identify plant and animal species at risk

Endangered Caribou.

Indigenous groups both side of Canadian and USA border are working with the BC govt and others to save a critically endangered species of woodland caribou. The Kalispel Tribe in Washington state is among those leading a project building a maternal pen on land owned by the Nature Conservancy of Canada in the mountains of BC Kootenay (west). Their spokesman says the 8-hectare pen is built it's expected about 6 South Selkirk Mountain caribou will give birth later this year. The pen is 4.5m high has electric fencing on its exterior & is covered with fabric that acts as a visual barrier for predators they will catch the cows using a net gun from helicopter & relocate to pen. In the past as many as $\frac{3}{4}$ of offspring have been killed - this tiny herd is the most endangered mammal in N America and it roams in the high mountain old growth forests of North eastern Washington state & Northern Idaho. They will have 2 shepherds with them during their 3 month stay in the pen. They supply them with lichen & then transition them to reindeer pellets as there isn't enough food in the pen. It's a drastic move but with so few, it's the only thing agreed upon by professionals. The Kalispel Traditionally hunted the caribou and the animals are culturally significant. This will cost about 156,000 US\$, the BC govt says the pen represents one part of the recovery plan and they will be tracked throughout the year. They had a similar project near Revelstoke that has protected the Columbia north herd since 2014 stabilizing that herd to about 150 and penning in caribou has also increased size of herd in the South Peace region.

Loss of Species

Last week a news item stated BC's south Selkirk caribou herd is now functionally extinct and also the south Purcell's population is at 4 animals, sounds shocking, but was no surprise to those who have been advocating for research on caribou. BC started funding caribou conservation in the 70's and research told them to fix the declines but no one listened. Caribou have been extensively studied. We probably know more about them than any other wildlife species. Science tells us declines are a result of habitat loss, principally from logging & Oil + Gas developments. These activities bring young forests while increasing more prey species like moose & white tailed deer which attract more predators. These actions also increase roads bringing people and allow predators to ~~more~~ ^{more} easily. Waiting for cutblocks to grow in takes decades. In the interim the few options are managing human access, recreation, resource extraction, native prey and predator pop., to keep caribou population viable while habitat recovers. There is some hope in 2 mountain caribou pop - the Klinseza and north Columbia where management options have been used & significant land use planning occurred but mostly politicians did nothing or only what looked good, had staff write recovery programs and implemented those that were politically & socially convenient. For the Selkirk it's too late, but their story is becoming the story of wildlife. Moose are on the decline, Rocky MT Big Horn Sheep and Elk are coming in at record lows in the Kootenays, Thompson & Chilcotin steelhead are at record lows & Fraser R Salmon continue on a downward spiral. While researchers say the big issue is habitat loss, but calls for change go unanswered. Last spring the Federal govt cancelled the Rural Restoration Unit, this group focused on habitat restoration and enhancement of streams across B.C. the only part of Fisheries & Ocean Canada with a history of helping steelhead spawning and rearing habitat - but after great backlash was ~~retired~~ ^{retired}.

with funding no doubt, from other programmes. Last week the committee on status of Endangered Wildlife in Canada - independent scientists the govt relies on to assess wildlife conducted an emergency assessment & designated steelhead pop endangered. We are amassing an environmental debt that will be inherited by future generations. Under the current approach seeing a thompson & steelhead or a MT Can'boa will be left^{to} electronic devices or museums.

We're at a crossroads, we can continue as usual & let politicians off the hook for failing to keep wildlife a priority or we can advocate for it.