

A GLASS HALF-FULL: AVOIDING PROTECTION PARALYSIS



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It is easy to give in to despair when considering the circumstances of Alberta's woodland caribou and the response from government, both provincial and federal. Reading articles such as Carolyn's piece above, one begins to wonder if there is any political will to address the root causes of population decline or if we will instead remain locked in a paralyzing spiral of studying, denying and sidestepping until there are simply no more caribou left and the problem "goes away" on its own.

This is, to be sure, a glass-half-empty way of looking at the situation. However as the appeal to such an analogy implies, it is not the only available lens. Organizations such as Global Forest Watch Canada and the Environmental Law Centre react to the situation by reaching different, more optimistic conclusions.

One such conclusion is neatly encapsulated by a pair of reports published by scientists affiliated with the University of Alberta. Richard Schneider, Grant Hauer, Stan Boutin et. al. propose a method for selecting woodland caribou reserves that optimizes based on the impact that the establishment of these reserves would have on Alberta's resource development opportunities. From their research, they reach an astonishing conclusion:

Up to half of Alberta's woodland caribou range can be protected with a merely one percent cost to resource development opportunities.

Furthermore, this includes protecting 50 percent of grizzly habitat lying within Alberta's public lands, 50 percent of the Environmentally Significant Areas (ESAs) in same, and 50 percent of Alberta's headwaters. The latter three targets can be increased to 80 percent, though admittedly keeping the woodland caribou range protection target at 50 percent, and

still allow no more than a two percent cost to resource development opportunities.

Considered in the context of the prevailing thinking about caribou habitat conservation in Alberta—that any progress toward that goal must necessarily go hand-in-hand with a substantial restriction on industrial development—this must be seen as an optimistic viewpoint.

Alberta's introduction in 2008 of the Land-use Framework (LUF), and the planning process behind its implementation. As part of that process the authors met with the LUF planning team, and specifically the Boreal Caribou Committee (now the Alberta Caribou Committee). They prepared the 2010 report, *Identifying Conservation Area Options in Alberta Using an Optimization Approach*, with the aim of proposing a new strategy for identifying conservation areas to be included in the LUF.

Previous methods for selecting woodland caribou conservation targets and priorities had focused on those herds most vulnerable to extirpation, such as the Little Smoky herd in west central Alberta. Today, those highly vulnerable herds are found in regions where caribou are most greatly threatened by industrially-related habitat disturbances and where consequently the cost associated with protecting caribou range rises sharply with the amount (in area) of the range to be protected. This has led to the current paralyzing situation where there is an apparent political reluctance to take steps toward meaningful caribou conservation through critical habitat protection, as opposed to band-aid approaches, like wolf culls, that at best make overtures toward addressing secondary or tertiary threats.

The report in question instead uses a strategy that optimizes for cost, as measured by the "proportion of net present value (NPV) of petroleum and forestry resources within the conservation area system as a proportion of the total NPV of the study area," with the total study area being all public lands in the forested region of Alberta.

It should be noted here that the NPV (in both this paper, and the one discussed



Winner: Winner: Adult Category "Our Precious" by The Dunford Clan Scramblers (Heather Hadden, Sarah Woolgar, Mary-Jo Woolgar)

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This is especially true when keeping in mind the allowances made by the 2011 *Proposed Federal Woodland Caribou Recovery Strategy*. That strategy states that for caribou herds at the greatest risk of extinction (which include seven of Alberta's 12 remaining herds) critical habitat could be allowed to dwindle to as little as five percent of the herd's range.

The impetus behind the papers that claim these conclusions was the government of

below) includes the projected value of expected resource flows and not merely that economic value currently being exploited. When a figure such as “one percent of total NPV” is expressed below, it is understood as referring to one percent of all value that could be expected to be derived from known resource deposits.

More finely-tuned restrictions were added to this base optimization target. These include requirements for representation of all natural subregions; for minimization of linear feature density (referring to roads, pipelines, etc.); for inclusion of caribou and grizzly range; for inclusion of ESAs; for inclusion of foothills headwaters; and for promotion of conservation area “clumping,” an attribute that in turn encourages large, cohesive and well-connected conservation areas. By adding or removing these restrictions in various combinations, the authors were able to select a set of conservation areas that maximize caribou habitat representation while minimizing NPV cost and the impact on potential economic activity.

It was found that a well-connected system of conservation areas that includes a 50 percent coverage of each of woodland caribou range, grizzly range, ESAs and foothills headwaters within the study area resulted in a net impact on one percent of total NPV. Increasing all area coverage restrictions, except for caribou range, to 80 percent resulted in a net impact on two percent of total NPV.

The encouraging results of this report led to a second paper, this one more tightly focused on the issue of caribou habitat protection as opposed to the selection of more broad-based conservation areas. *Selection of Reserves for Woodland Caribou Using an Optimization Approach* was published in PLoS ONE, an open access scientific journal, in January 2012.

This latter research used a similar modelling and optimization approach to that in the first report. It also included parameters to maximize representation of all natural subregions in Alberta and to minimize habitat reserve overlap with areas exhibiting high incidence of additional risk factors affecting caribou viability. Such risk factors include projected effects of climate change and high densities of white-tailed deer. White-tails were chosen for indicating anthropogenic alterations in forest structure. Such alterations in structure may also lead to an increased

risk to caribou from predator species like wolves.

The results of the paper paint much the same picture as that in the former report: 50 percent of Alberta’s caribou range, by area, can be protected with only a one percent cost to total NPV. If the requirement to include all natural subregions is dropped and the requirement to minimize risk factors is slightly relaxed, relative to minimizing cost, then this protection target can be increased to 60 percent of caribou ranges, by area, while keeping costs to roughly one percent of total NPV.

It should be noted that these protection targets, of 50 percent and 60 percent of caribou range, are not equal across the province and across all herds. Some herds such as the Yates and Caribou Mountain herds in the far north of the province would see 100 percent of their habitat protected by this approach, while others such as the already highly-threatened Little Smoky herd would fare significantly worse, and not see much of their range protected at all.

However to conclude from this that such a strategy is not worth considering is to miss the point.

That point, put bluntly, is that in the current climate of inaction, no further caribou habitat in Alberta is being protected anywhere, at all.

Every single one of Alberta’s 12 remaining herds has been identified as *Non-Self-Sustaining* in the federal proposed recovery strategy. In the name of industrial development every single one is likely to suffer the same fate recently met by the Banff herd: extirpation.

What research like these two papers shows is that there are clear starting points for pulling ourselves out of this morass. Rather than the status quo, which sees us shrugging our collective shoulders, declaring that woodland caribou cannot be protected without invoking “unacceptable” impacts on economic activity, and using this declaration as an excuse to ignore the most significant threat to caribou, we can change our strategies and protect significant expanses of caribou range.

To do so would not necessarily, as Schneider et. al. demonstrate, incur significant costs to resource development opportunities at all. In essence, to mangle a metaphor, we would get to have our land and eat it too.

After having taken such a first step,

caribou range protection would be significantly further ahead than the status quo, resource development opportunities not significantly adversely affected and we as a province would then be able to consider what the next steps should be. It would be an altogether better position than that in which we currently find ourselves.

However the opportunity to take that first step is slipping away fast. Only one of Alberta’s remaining herds has a population reported to be stable; all others are in decline, some quite rapidly so. If we do not take action soon, the pessimistic view of the half-empty glass will become a self-fulfilling prophecy as woodland caribou populations drop past the point where any level of habitat protection will be sufficient to prevent the slide to extirpation.

This raises the question of what the government response to research of this nature has been. Unfortunately it is hard to tell. The multi-stakeholder Boreal Caribou Committee, which includes representatives from Alberta Energy and Alberta Sustainable Resource Development, received a presentation on the initial report. Six months later the Alberta government distilled this, along with however many other inputs, into “A Woodland Caribou Policy for Alberta”, a two-page glossy brochure in which it is hard to find much trace of the report’s research.

There is little question that there are some in the Alberta government who truly have the best of intentions regarding the province’s threatened species, including the woodland caribou. However it seems difficult to convince anyone in Edmonton that, for the time being, at least, the glass really is half full. ▲

Sources:

The *Proposed Federal Woodland Caribou Recovery Strategy* can be found at http://www.sararegistry.gc.ca/document/dspDocument_e.cfm?documentID=2253

Identifying Conservation Area Options in Alberta Using an Optimization Approach can be found at http://www.biology.ualberta.ca/faculty/stan_boutin/ilm/uploads/pdfs/Cons_Area_Project-final_report-Dec_7.pdf

Selection of Reserves for Woodland Caribou Using an Optimization Approach can be found at <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0031672>