

THE PROBLEM WITH RANGE CATTLE

Why Government and Public support for cattle range use on Public Lands, should cease.

The following email was sent April 8 2010 to Ministers as indicated below. Our e-coli study referred to is available here: <http://www.boundaryalliance.org/ecolireport2009.pdf> and the full text of the **Letter to the Ministers** is reproduced below the e-mail.

By e-mail to:

Minister of Forests and Range: Pat Bell

Minister of Agriculture: Steve Thomson

Minister of Environment: Barry Penner

This email and the attached documents are a notification to you and your Ministries, that results of our attached study: **E-Coli Counts in Dryland Streams** and the Companion document **Pathogens and Protection** contradict fundamental assumptions of Range Use Planning and oversight; that range cattle are not primarily responsible for water contamination on “public land” (rangeland).

The attached letter comments further on water contamination, associated damage to riparian areas, and other damage caused by current and past range practices. The letter is also a critique of Range Management, a call for a halt to years of publicly funded support for the Cattle industry, and a rebuttal of the Cattle Industry’s current wants and demands for funding and further control over public resources. It finishes with a list of Recommendations.

While MOF and MOA are primarily responsible for oversight and funding for range management and the various supports for the Ranching Industry, we have included MOE as most believe that Ministry has or should have responsibility for water quality and could and should be acting to protect natural resources and wildlife.

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Full letter to Ministers follows below

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April 8th 2010

To: Minister of Forests & Range, Pat Bell
Minister of Agriculture, Steve Thomson
Minister of Environment, Barry Penner

This letter, together with accompanying documents, is to notify your Ministries that results of our attached study: **E-coli Counts in Dry-land Streams** and the companion document, **Pathogens and Protection**, contradict fundamental assumptions of Range Use Planning and oversight, that range cattle are not primarily responsible for stream contamination on “public land.” Our study, in this dryland area, shows that the “background levels” of e-coli in streams from wildlife, canine, rodent, avian or other sources is insignificant and that e-coli counts are almost entirely directly related to the presence or absence of range cows. The “preferred belief” of Range Branch and Forest & Range Evaluation Program (FREP,) that cattle are not primarily responsible for contamination, **should be re-examined and re-evaluated for our dryland area.**

In addition to the data supplied, dozens of samples were taken on other streams with results that were in keeping with the proposition that any significant e-coli counts were in the presence of cattle. Before and during the study we observed (as has FREP and Forest Practices Board) the damage being done to public-lands, riparian areas, streams, wetlands, Grasslands.

We will return to the question of contaminated water in detail but in view of recent cutbacks to your Ministries budgets we will first comment on the current “demands” of the Ranching Community in the “Beef Industry Development Strategy” the “Ranching Task Force” and other exercises which seek greater controls over public assets and never ending funding or publicly funded programs to maintain an industry which badly needs rationalization. It will be tempting for your Ministries in the face of budgetary constraints to allow the Ranching Industry to have greater self-administration and oversight of Range use. It should be clear from various FREP and FPB reports that there are already serious problems with the existing degree of Industry and Agency oversight of the Public Land (Rangeland) resource and that any further handover will exacerbate existing problems. Your own agency reports do make this very clear.

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The BC Beef industry has been the subject of numerous reviews and reports which have been almost entirely self serving and supportive of the industry and more public help for the industry. These exercises, which have exaggerated the importance of the industry, have applied arbitrary “multipliers” to income and expenses that have invariably failed to recognize that alternatives always exist and that most of the alternatives would not require the oversight and public expense that has always been attached to range use. There are no adequate justifications for continued Government (public) support for Range Cattle use in our dry-land areas.

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Please do not continue to throw money and resources at the industry which has been firmly attached to the public tit for too long. The industry has a history of seeking to attach itself to a variety of other tits while unfairly railing that they are not getting the support they want, need, or have some right to. This “sense of entitlement” enables the ranching community to make absurd claims on public funds, through numerous funding sources, to perpetuate an industry which should be re-evaluated on a cost/benefit basis before any more support is thrown their way. Instead of an informed, arms-length cost/benefit analysis what we have seen over the years is self-serving studies, commentary, and initiatives, paid for by various public funds, exaggerating the importance of the industry.

While the industry and Government has maintained the myth of the industry’s essential contribution to rural economies, the reality is that most ranch “inputs” come from well outside their local community, most products are sold well outside of their community and a large number of operators are in fact dependant on their community for outside jobs to make up for the shortfall between the inputs and outputs.

While industry spokesmen complain about inadequate support, lack of speed in getting support and the “perfect storm” that they have to be rescued from, it is easy to overlook the numbers of ways in which this industry has continued to “shoot themselves in the foot” over the years. Their own actions, or lack of an appropriate response to market changes have contributed as much or more to the unprofitability of the industry as any “supposedly unforeseen” events. The list is long: herd expansion following Crow Rate changes, and the cheaper grain that resulted, led to an expansion of the National herd. This led to a 5 fold increase in exports in the 10 years before BSE. The industry was exporting approx 90% of production, almost all to the U.S. and failed to pay attention to the “train coming down the tracks” that was BSE. The industry and the regulators, CFIA, failed to recognize the market upheaval that would result, an entirely predictable and probable upheaval as the earlier experience of other countries had shown. Any worthwhile risk analysis would have enabled Canada to anticipate the upheaval and take some steps to mitigate the problems. No such analysis was done and the industry and regulators continued to insist “That it wouldn’t happen here”

When it did happen here and the U.S border closed, producers here found themselves in a number of quandaries of their own making. Few export options other than to the U.S. A lack of Canadian processing facilities to process product for other than U.S. markets, should they be found. Industry and CFIA spokesmen publicly deriding other countries who insisted on meaningful BSE testing, a marvellous way of trying to establish new markets. The lack of processing facilities was the result of some years of

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consolidation in the business, takeover of a number of plants by U.S. based companies and the loss of a number of smaller domestic processors due to lack of support from producers who were happy to receive a cent a pound more thru auctions that would see live animals exported to the U.S. rather than forward-contract to a Canadian processor. The Canadian processing industry is now dominated by a few U.S. based processors, some of whom have significant feed-lot operations. This enables them to manipulate the market place to their own benefit, through ownership practices which are not permitted in most significant U.S. beef producing states. Too-late initiatives, to develop processing facilities that would enable some vertical integration, and therefore some producer control over the marketplace, have mostly failed to get the commitments from ranchers that they needed.

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And so it goes on, the increases in fuel, feed, fertilizer all predictable and predicted for some time. The rise in the \$, predicted for some time. No surprises except to those who bury their head in the sand, who hope these realities will go away, and tell themselves that “it won’t happen here” or who expect yet another public funded bailout.

The continual support of this industry has masked the economic realities that should have led to a rationalization of the industry.

As always, public subsidies have distorted the marketplace, leading to unintended consequences. North American subsidies to biofuels have led to elevated grain prices. Bailout funds to ranchers effectively ended up in the pocket of processors. Absurdly low range rental returns a pittance to the treasury while range use (particularly a concern in this dryland area) leads to degradation of riparian zones, water quality, and native grasslands. The public bears all the expenses of “repairing” such degradation and loses potential benefits from other uses of the public lands, enhanced wildlife, improved water quality, recreation uses, wildlife viewing, improved hunting that would significantly improve local economies and general quality of life. Economists in the U.S. have done a cost/benefit analysis of range-land use. They concluded that for every \$1.67 per AUM paid by ranchers, the cost of administration and the funds from a variety of government programs that go to support range use or pay for its damage, total \$28.00 per AUM. This calculation did not include lost opportunity costs which could be added in to reflect the potential income from the “alternate uses”

Ranching and the “cowboy life” has had a special place in the North American consciousness in part because of their early settlement in many areas, their leadership in development of many areas, but mostly due to a cowboy “myth,” largely the product of Hollywood, that has portrayed the cowboy/rancher as a rugged individualist, independent, self-reliant, on the edge of an endlessly expanding frontier. The reality is that ranching has been dependently feeding heavily from the public trough or public resources, since early days.

Perhaps because of the “myth,” perhaps because ranchers have had some political sway in the hinterlands, (out of proportion to their numbers and maybe due to the fact that they have too much time available in the winter that can be spent at politics) Government has usually thrown money at the industry in a futile effort to make them viable. It should stop. As the public become more aware of the

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use and misuse of public lands and the ecologically friendly alternatives to range use, any sympathy for propping up the industry will disappear.

Meanwhile Government and the Public face old and new demands from the Ranching Industry:

“more access to land”

“more access to water”

“more money for weeds, fencing and infrastructure”

“more allowance of ‘intensive management’ of public land”

“more privatization opportunities on crown land”

“reduction of competition on public land from wildlife

“payment for so called Ecological Goods and Services”

“longer and more secure tenures”

“better support for the industry, an improved ‘image’ for the industry, a greater voice for the industry by way of an advocate” *It is not enough apparently that the head of Range Branch is the former head of the Cattlemen’s organization, an arrangement that is already somewhat incestuous.*

And a host of other benefits and ownership or control over public resources.

There are no adequate economic or societal benefits to justify any of the above wants or demands but there are substantial economic and societal benefits to be gained by honestly evaluating the costs of range-use and heading down the path to the alternatives. This “honest evaluation” will be hard to come by without “outside expertise” as it is apparent that within Government there is reluctance to look at anything other than the “status quo” to protect the existing practices and to protect their own jobs.

Contaminated Water

Early in our sampling/testing program the trends were obvious. We contacted FREP in the expectation that they were doing some water testing and could provide comparative information as per the expectations raised by their Mission Statement: ***“To be a world leader in resource stewardship monitoring and effectiveness evaluations; providing the science-based information needed for decision making and continuous improvement of British Columbia’s Forest and Range practices, policies and legislation”***. We found that FREP did no water testing. Counting cow pats in riparian zones was the extent of the science. FPB the same. Our concerns were passed on to several sources in FREP who all responded with some or all of the following:

- a) DNA “source-tracking” has established that cattle are not the primary source of e-coli in streams.
- b) Coliform counts naturally increase in warmer weather.
- c) Water samples taken have high variability in e-coli; therefore “one time samples” unreliable.
- d) Range Branch Act & protections or practices only applicable to “Community Watersheds”

We will deal with these “preferred beliefs” in turn.

Re (a) All FREP and some additional MOE sources referred us to some DNA based “source tracking” studies by C Meays et al conducted in recent years in the Vernon Watershed. We were advised that these studies showed that cattle were not the major contamination source. Our own enquiries found the Vernon Water District (VWD) had had repeated water quality problems over the years resulting in

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numerous boil-water advisories. The VWD, believing over the years that range-cattle use in the watersheds was the likely source of the e-coli contamination, was successful in getting various extensive and untypical initiatives in place to restrict stream access, and provide alternate off-stream water sources for cattle.

Meay's studies took place after these initiatives. We visited the watershed area (used by range cattle) in 2007 and saw numerous natural water sources (with no hydrological connection to the streams, in that season) where cattle had access without going near streams. On our mid September visit we saw few cattle and very little cropping impact. In subsequent conversation with Meay's who was doing further research in the area that year, Meay's indicated that cattle presence appeared to about the same as during the DNA testing. What becomes apparent from this is that a study in a non-typical area where much work has been done to keep cattle away from streams, where cattle presence appears to be at a much lower than usual stocking rate, is being touted as proof that cattle are not a problem. Some of the areas sampled in this study were not even range areas. These studies are being used to "demonstrate" to the willing believers, the cattle interests and various ministry staff who should know better, that cattle are not a problem and that the Vernon studies can be widely applied. The truth is that the Vernon studies have no useful relevance to our dry-land conditions, and the typical range-cow populations. For those who follow TV's CSI shows, DNA testing is likely to be regarded as absolute proof. Microbial Source Tracking (MST) or Bacterial Source Tracking (BST) however, is very different from CSI type determinations. While MST/BST show great promise and have some broad-strokes applications, it would be useful to consider comments from an Environment Canada Workshop: "**recent studies were perceived to have placed a wet blanket on Microbial Source Tracking, particularly for large watersheds with complex sources of fecal contamination,**" "**there was a growing recognition of the limitations of existing MST methods, and that initial optimistic expectations in the early days, need to be tempered.**"¹

Another authority on MST has stated that: "**despite the political realities and management-level convenience of source definitions such as 'wildlife' and 'livestock', for some markers it may not be scientifically defensible to use such artificial definitions.**" "**the capability of any MST method to quantitatively measure the relative contributions of fecal contamination to a water sample has not yet been convincingly demonstrated.**"²

The Meay's studies which seemed to fit the preferred belief of cattlemen and those who administer range use, was of course primarily financed by Cattlemen.

Re (b) partially true, but misleading. In our sampling we found general coliforms increased rapidly in summer and as 'general' coliforms are usually associated with decaying matter e.g. vegetation, these increases are expected in warmer weather. We found no evidence that e-coli increased by any natural process other than by deposition. When cattle were in areas for brief periods in spring or early summer (with attendant high e-coli counts) e-coli counts would later diminish over summer to near zero. While there are some indications in the literature that under some (rare) circumstances e-coli can naturally increase, we found no evidence of it here.

¹ http://www.environment-canada.ca/INRE-NWRI/D575CDF5-0181-484F-9F3B-5CD940970658/mst_projecten.pdf

² D Stoeckel et al, Performance, Design and Analysis in Microbial Source Tracking Studies

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Re (c) We agree variability is a factor. It is our opinion however that potential variability is used by some as an excuse not to do any testing, claiming that any “meaningful” testing would require multiple sampling over multiple time periods. This claim is followed by the suggestion that the various Ministries lack the resources to do such testing. As we were aware of this mindset during our sampling we collected a number of samples at different times. On average we found approx 16% variation in e-coli counts. At very low contamination levels this would suggest, for example, that such variation might make one sample meet drinking water standards and another fail. This would be of some interest to a property owner trying to provide evidence of potability, however on the range it could mean e-coli readings of 1000 CFU or more, or another sample that might be 1100 or 1200 CFU's. A rough count at these typical levels is completely adequate to demonstrate that water quality is being impaired by range use.

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Re (d) Despite the Range Act and other Objectives and Plans that mention protecting Community Water Sheds, (with the implication that these Acts , Objectives and Plans, are not required to protect other watersheds from which individuals draw water) your Ministries know that such language is an arbitrary designation that means nothing to Public Health or public opinion. The Forest Practices Board has dealt with this issue at some length, has stated that there is no reason for that arbitrary designation and that all watersheds should be protected. As with so many recommendations of FPB and FREP, that recommendation has been ignored. The organization formed to provide guidelines and oversight of logging on private lands dealt with the issue more recently and decided that there were no justifications for treating “Community” and other watersheds differently. If your Ministries continue to ignore the reality of contaminated water and fail to adequately prevent that contamination and fail to adequately test for contamination, you as Ministers are assuming a moral and probably legal responsibility for any outcomes. You might wish to give some thought to situations such as Walkerton and to the United Nations Environment Program which indicated recently that “dirty water kills more than war” and that: “over half the world’s hospital beds are occupied with people suffering illnesses linked with contaminated water.” While we are obviously not facing the same degree of risk as many countries, there has been a trend in Range Management of ignoring the risks being imposed on an unwitting public, and of failing to incorporate recommendations of FREP and FPB that would go some way to reduce the risks and of dismissing public concerns. **We have instead in recent years seen Range Plan changes that have eased requirements and guidelines, making water contamination more likely.**

Can water quality be protected? We think not without massive, impractical and unjustified public expense to fence off sensitive areas, along with substantially reduced AUM’s

Many years ago, much public money was spent to “improve” range management, with drift fences to discourage overuse of certain areas, water sources and waterers developed to reduce cattle impact on streams. In many areas most if not all, these “improvements” have not been maintained. An informal survey by a number of hunters/outdoorsmen over two years in numerous Range Tenure areas in the Kettle basin, reported that almost no waterers were still functional. On this issue ranchers and Range Dept have claimed that hunters or others have damaged these waterers. The surveyors reported that lack of maintenance, rotted supports, rotted posts around input areas allowing trampling at inputs were

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evident, and there was no sign of wilful damage. Some hunters helped with installation of the original waterers and resent the suggestion that they might have damaged them. There has been no oversight or requirement by Range Branch that ranchers maintain these improvements. Drying trends in our area have been evident for more than 10 years and various models suggest that those trends will continue. As a result of the drying trend, various effects are evident in growth/regrowth of vegetation and cattle increasingly seek out moister zones. As a result there are increasing cattle pressures on riparian zones including streams, seeps, springs and the few wetter meadows. Although Range Tenure maps show numerous “water sources/waterers” throughout tenures, many, probably most, of these no longer work, some no longer flow, and some at higher levels dry up completely, partially the result of trampling and overuse. Remaining sources are therefore under increasing pressure. The increased pressure on remaining riparian zones leads to overuse of riparian vegetation, Pugging and Hummocking etc and heavily contaminated streams and water-holes. The ongoing damage to riparian zones has been the subject or focus of various FREP and FPB reports. FPB has pointed out that “in dry years, the riparian vegetation may be the main forage in the pasture” and “that grazing schedules should be determined on the basis of riparian sensitivity rather than forage capacity of the uplands.” FPB has pointed out that: “results show that a significant number of streams, lakes and wetlands are not functioning at an acceptable level, particularly in the drier areas of the Province and that **this level of impact is not acceptable to the public.**” Numerous other FPB and FREP reports and assessments repeat these and other concerns. Sometimes the Percentage of overall damage to a particular watershed is misleadingly used to minimize criticism when the reality can be that all riparian areas accessible to cattle, in a particular watershed, have been thoroughly trashed. There is no evidence that Range Branch and Range Plans are doing anything to follow FPB and FREP advice, just as there is no evidence that Range Branch and Range Plans are following the advice of FPB to designate “key areas” (which would often be riparian zones) for protective measures. In this dry-land area, Range Branch instead ask ranchers “if they wish” to designate any “key areas.”

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Grasslands:

Once again a host of Reports from FPB and FREP have documented the many effects of cattle grazing on grasslands, “damage to natural conditions,” “significantly altered grasslands,” “considerable evidence of the negative impacts of historical grazing.” Reports acknowledge that “recovery” of grasslands is slow, “that recent grazing practices have further slowed recovery” and that many grasslands areas may not “recover” without further intervention. In a few cases Range Branch has moved to remove cattle grazing in a particular area or pasture for a year or so, an action that only pretends to be a solution. Exacerbating the damage to grasslands has been the loss of ‘biological soil crusts’ aka cryptogamic crusts or microbotic crusts. These crusts which confer numerous ecological benefits and are important to arid ecosystems have been trampled and destroyed by cattle grazing over the years. FPB and FREP have noted the loss and perhaps because they are aware that any natural recovery would take some unknown number of years even in the absence of cattle, have offered no remedies. Ironically a couple of the benefits of intact cryptogamic crusts are an ability to resist reseeding of weed seeds and tree seeds. Ranching interests meanwhile are constantly seeking remedies at public expense for weed control and remedies for forest incursion on grasslands. The remedy to recovery of the public-land grasslands would mostly be found in an absence of cattle.

Can Improved Range Use Planning solve these problems?

FPB's Special Investigation, Range Planning under the Forest and Range Practices Act, Nov 2009 highlights the sorry state of Range Management and planning although there is little new in the investigation that wasn't evident in earlier reports by FREP and FPB. As Ministers you are undoubtedly aware of the Report's findings but some of them bear repeating as they go to the very question of the fundamental faults in the system and to expectations by Range Management that "improvements" in planning and procedures can or will result in acceptable use of a public resource. Despite years of effort in redesigning Range Management, FPB advises that many Range Plans did not meet minimum requirements, but were approved anyway:

- actions and measures were not clear, measurable or enforceable and did not always address known issues on range tenures
- Plans were not required to identify sensitive or designated features, such as wildlife habitat areas
- Government objectives for Range were not well understood by tenure holders or government Range staff.

For critics of current and past Range Management these particular failures are believed to be no accident. These same critics would know that Range Branch has been cosy with range holders at the expense of public lands and resources. The FPB 'Commentary' makes reference to this unfortunate and inappropriate relationship with their criticism of MFR Range staff's preference for "relationship building" and by noting that: "it is imperative that the relationship not cloud the responsibility of range staff to ensure that agreement holders meet the minimum requirements of the legislation."

Perhaps the biggest indictment of the failure of Range Management and Planning is that the FPB Special Investigation of Nov 2009 found, after years of so-called management improvements, that most tenure holders and many Range Staff said: "they did not really understand government's objectives for range or how they were supposed to be addressed in a range-plan, and that agreement holders often lacked the necessary training to write a good range plan and to understand the requirements for range stewardship under FRPA."

The inadequacy of regulation and oversight can be highlighted in a recent example of FPB response and report to a complaint.³

FPB did not agree with the complaint that cattle were not moved as per the requirements of the RUP (range use plan/permit) The licensee claimed that cattle were moved as per schedule but some returned through gates left open by the public. While this is possible, if adequate oversight was being done by the licensee or Range Branch such events could be quickly remedied. If gates had signs indicating that they should be open or closed, most passersby would quickly rectify the careless or deliberate actions (if any) of the few. Perhaps licensees prefer not to provide signage so that any presence of unauthorized cattle can be blamed on the public.

³ FPB Report: Cattle Grazing on the Overton-Moody Range Unit. Nov 2009

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From our observations the presence of cattle in areas outside of authorized periods is common, resulting in overuse and damage, particularly in riparian areas. As in the example above, passersby would have no idea whether cattle should be in a particular area or not and it is only those who visit an area repeatedly (as per our water sampling program) who become aware of the extent of “unauthorized” use. A requirement that grazing schedules be “posted” on a tenure would help the general public identify unauthorized use but we think that proposal will be met with as much enthusiasm by ranchers as the suggestion of signs on gates.

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We have pointed out in this letter that some improvements in Range Management might have been possible if FREP and FPB recommendations had been fully followed. It is unfortunate that neither entity can mandate necessary changes. It has always been possible for these recommendations to be given the force of law by Ministerial direction, direction which has obviously never been given.

It is our opinion that full compliance with FPB and FREP recommendations, had it occurred, would still be allowing a level of damage to public resources that is not sustainable or acceptable. Theroretically some combination of extraordinarily improved oversight and stewardship together with substantially reduced AUM’s might reduce damage to publicly acceptable levels however it is probable that such a combination is not achievable, structurally or economically.

Our recommendations that follow are primarily applicable to the issues as they apply to our “dryland” area, however it is apparent that most of these issues apply elsewhere to some degree.

RECOMMENDATIONS:

DO:

- a. Obtain arms-length, independent economic analysis of the true costs of maintaining existing range-use, including ‘lost opportunity’ costs.
- b. Initiate a water-quality testing program that is capable of documenting range-cow contamination. We suggest that such testing needs to be at arms-length from Range staff and their “preferred beliefs.”
- c. Require that FREP and FPB recommendations be mandated.
- d. Require that existing range-use licences be revisited to require full compliance with FREP & FPB recommendations.
- e. Initiate a process and protocols to evaluate, re-acquire or purchase existing tenures with the intent of permanently removing tenures from Range-use. We would not expect range staff to have any enthusiasm for this task and direction, logically it could be undertaken by MOE. We expect that item (a) above would confirm that wild-life and other natural values can return

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substantially higher economic and social values than range-use, while oversight and administration costs could be substantially reduced.

DO NOT:

- A. Continue to throw money at the cattle industry
- B. Hand over any further rights of self-administration to tenure holders.
- C. Consider using public-funds to pay the industry for so called Ecological Goods and Services, e.g. viewscapes, carbon capture and other illusory “benefits.”
- D. Increase tenures or convey or confirm ownership of public resources to tenure holders, e.g. water on crown land by granting licences. Do not provide any long-term commitments to the industry that may encourage or perpetuate existing practices. Given the likelihood of continuing warming trends, repeated instances of low flows and issues of future water availability in dryland areas, cattle and cattle feed production may soon be recognized as unsustainable.
- E. Designate any Public Lands as having a “preferred use” of cattle grazing

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