

## Stewart, Rodger W FLNR:EX

---

**From:** Atagi, Dana FLNR:EX  
**Sent:** Tuesday, May 1, 2012 5:46 PM  
**To:** Lloyd, Penny FLNR:EX; Baccante, Nick FLNR:EX; Burwash, Michael FLNR:EX; Chirico, Albert ENV:EX; Ramsay, Mike K FLNR:EX; Stalberg, Mike X FLNR:EX; Van Hove, John FLNR:EX; White, Tara FLNR:EX; Williams, Mark FLNR:EX; Zimmerman, Ted FLNR:EX; Rasmussen, Paul FLNR:EX; Barr, Larry FLNR:EX; Barrett, Scott FLNR:EX; Berardinucci, Julia F FLNR:EX; Bilodeau, Normand G FLNR:EX; Lloyd-Smith, Jane FLNR:EX; Peterson, Dan FLNR:EX; Stewart, Rodger W FLNR:EX  
**Cc:** Wilson, Andrew S FLNR:EX; Smith, Jennifer FLNR:EX; Foott, Carol FLNR:EX; Hatter, Ian FLNR:EX  
**Subject:** RE: S13, S16

Penny,

I have taken a quick look at this proposal and provide you with some of my comments in advance of our SH meeting this month. s.17, s.16, S13

s.16, s.17

S13, S16, S17

All for now. Dana

---

**From:** Lloyd, Penny FLNR:EX  
**Sent:** Thursday, April 26, 2012 1:31 PM  
**To:** Atagi, Dana FLNR:EX; Baccante, Nick FLNR:EX; Burwash, Michael FLNR:EX; Chirico, Albert ENV:EX; Ramsay, Mike K FLNR:EX; Stalberg, Mike X FLNR:EX; Van Hove, John FLNR:EX; White, Tara FLNR:EX; Williams, Mark FLNR:EX; Zimmerman, Ted FLNR:EX; Rasmussen, Paul FLNR:EX; Barr, Larry FLNR:EX; Barrett, Scott FLNR:EX; Berardinucci, Julia F FLNR:EX; Bilodeau, Normand G FLNR:EX; Lloyd-Smith, Jane FLNR:EX; Peterson, Dan FLNR:EX; Stewart, Rodger W FLNR:EX; Wilson, Andrew S FLNR:EX; Smith, Jennifer FLNR:EX; Foott, Carol FLNR:EX; Hatter, Ian FLNR:EX

Julia F FLNR:EX; Bilodeau, Normand G FLNR:EX; Lloyd-Smith, Jane FLNR:EX; Peterson, Dan FLNR:EX; Stewart, Rodger W FLNR:EX

**Cc:** Wilson, Andrew S FLNR:EX; Smith, Jennifer FLNR:EX; Foott, Carol FLNR:EX; Hatter, Ian FLNR:EX

**Subject:** S13, S16

Hello all:

MARR has requested that we

S13, S16, S17

s.16, s.17, S13

s.14, s.15

s.13, 16, s.17

**Will you please provide me with any comments by Friday, May 4<sup>th</sup>?**

Thank-you in advance.

Sincerely,

**Penny Lloyd**  
Tel: 250.356.0830  
Cell: S17

Manager  
Legislative and Regulatory Reform  
Fish, Wildlife and Habitat Management Branch  
Ministry of Forests, Lands and Natural Resource Operations  
Government of British Columbia

Email: penny.lloyd@gov.bc.ca  
*Please consider the environment prior to printing.*

## **Stewart, Rodger W FLNR:EX**

---

**From:** Ramsay, Mike K FLNR:EX  
**Sent:** Wednesday, May 2, 2012 10:13 AM  
**To:** Stewart, Rodger W FLNR:EX; Hatter, Ian FLNR:EX  
**Cc:** Lirette, Daniel FLNR:EX; Palmantier, Kristy FLNR:EX  
**Subject:** Cariboo Moose Population Assessment

I will be talking with the TNG today about the moose population in the Chilcotin. The talks are around a strategy session with Chad Stump, on releasing the information to the communities. Once this goes out I expect some upheaval....

Dan Lirette has worked on this summary for me.....

I am still looking for a date from headquarters to talk about hiring an independent moose expert.



Sum of 2012  
Survey Results and.

**Mike Ramsay**  
**Fish and Wildlife Section Head**  
**Resource Management Division**  
**Forests, Lands and Natural Resource Operations**  
**Cariboo Region**  
**Phone: 250.398.4546**  
**Fax: 250.398.4214**

## Summary of 2012 MU 5-12B and 5-04 Moose Survey Results and Game Management Zone 5C and 5D Population Estimates

In 2012 two Stratified Random Block (SRB) aerial surveys for moose were conducted in the Chilcotin to update population estimates and provide necessary biological information to conduct the resident and non-resident moose allocations. In general, survey results were down from previous surveys 40-60%.

### 1) 2012 Moose Survey Results

#### a) Management Unit 5-04 (South Chilcotin)

Table 1: 2012 and 2005 MU 5-04 Survey Results

	Survey Area	Total Population Estimate (MU)	Estimated Bulls/100 Cows	Estimated Calves/ 100 Cows	Estimated Density (moose/km <sup>2</sup> )	Sightability Correction Factor
Previous Survey (2005)	5152km <sup>2</sup>	1503 ±251	54	34	0.29	1.31
2012 Survey	5152km <sup>2</sup>	883 ±200	40	28	0.17	1.40*

\*2012 SCF of 1.4 was arbitrarily assigned due to poor survey snow conditions. Actual Aerial Survey® calculated SCF was 1.17.

Data entry errors were discovered in the 2005 analysis when the 2012 contractor was reanalyzing the 2005 data. The table above outlines the corrected 2005 estimates, although the 2008 GMZ 5D population estimate utilized the erroneous data. Considering the corrected 2005 data, the moose population in 5-04 has decreased by approximately 40% from 2005 to 2012. The moose density of 0.17 moose/km<sup>2</sup> is well below the regional target of 0.4 moose/km<sup>2</sup>. The bull/Cow ratio has decreased from 2005 but is still above the Provincial minimum target of 30 bulls/100 cows. The calf/cow ratio is well below the regional target of 40 calves/100 cows.

#### b) Management Unit 5-12B (North Chilcotin)

Table 2: 2012 and 2002 MU 5-12B Survey Results

	Survey Area	Total Population Estimate (MU)	Estimated Bulls/100 Cows	Estimated Calves/ 100 Cows	Estimated Density (moose/km <sup>2</sup> )	Sightability Correction Factor
Previous Survey (2002)	2672km <sup>2</sup>	1546 ±201	44	48	.58	1.4*
2012 Survey	2672km <sup>2</sup>	622 ±116	66	43	.23	1.21

\*2002 SCF was arbitrarily assigned.

The moose population estimate in 5-12B has decreased by approximately 60% from 2002. The estimated density of 0.23 moose/km<sup>2</sup> is well below the regional target of 0.4 moose/km<sup>2</sup>. The bull cow ratio has increased from 2002 and is well above the provincial minimum target of 30 bulls/100 cows. The calf/cow ratio is above the regional target of 40calves/100 cows.

## Moose Population Estimates GMZ 5C&5D

### a) Game Management Zone 5D (South Chilcotin)

Table 3: GMZ 5D SRB Survey Density Estimates, 1994-2012

Year	5-03	5-04	5-05	5-06
1994		0.71*		
1995		0.39		0.18*
1996				
1997	0.35			
1998		0.41		
1999				
2000				
2001				
2002				
2003				
2004				
2005		0.35†		
2006				
2007				
2008				
2009				
2010				
2011				
2012		0.17		

\*1994 5-04 and 1995 5-06 survey areas were under 1,000km<sup>2</sup>

†The 2005 density estimate has now been corrected to 0.29

Table 4: 2012 and 2008 GMZ 5D Moose Population Estimate

Year	Estimated Density	Suitable Moose Habitat (km <sup>2</sup> )	Estimated Moose Population
2008	0.35	16837.5	5893
2012	0.172	16837.5	2896
Percentage Change (%)			-50.86%

The 2008 GMZ population estimate was based on the erroneous 2005 survey data. The 2012 GMZ 5D moose population estimate is based on the 2012 GMZ estimated density (taken from the 2012 5-04 survey) extrapolated to the total suitable moose habitat area in the GMZ. The 2012 GMZ 5D population estimate has decreased by 51% from the 2008 estimate. The 2012 GMZ 5D estimated Bull/Cow and Calf/Cow ratios are taken from the 2012 MU 5-04 Survey (Table 1).

b) Game Management Zone 5C (North Chilcotin)

Table 5: GMZ 5C SRB Survey Density Estimates, 1994-2012

Year	5-14	5-10	5-12A	5-12B	5-13A	5-13B	5-13C
1994	0.33*						
1995			0.38 <sup>‡</sup>		0.31		
1996							
1997			0.34 <sup>‡</sup>				0.40
1998					0.44		
1999						0.31	
2000							
2001	0.46						
2002				0.58			
2003					0.30		
2004							
2005							
2006							
2007							
2008							0.485
2009							
2010							
2011							
2012				0.233			

<sup>‡</sup>5-12A density taken as average of the Anahim East and Dean River surveys conducted in 1995, same procedure used for 1997

\*1994 5-14 survey area was under 1,000km<sup>2</sup>

Table 6: 2012 GMZ 5C Moose Population Estimate and Bull/Cow and Calf/Cow Ratio Estimates

Survey	5-12B	5-13C
Year	2012	2008
Area	2,672	4,688
Survey Estimated Density	0.233	0.485
Survey Estimated Bulls/100 Cows	65.9	34.6
Survey Estimated Calves/100 Cows	42.5	30.5
Weighting due to survey age	100.00%	20.00%
GMZ Estimated Density*	<b>0.30</b>	
GMZ Estimated Bulls/100 Cows*	<b>57.8</b>	
GMZ Estimated Calves/100 Cows*	<b>39.4</b>	

\*GMZ 5C estimates were calculated from the 2012 5-12B and 2008 5-13C SRB surveys weighted by survey area, and survey age.

The 2012 GMZ 5C moose population and composition estimates were based on the 2012 5-12B SRB survey and the 2008 5-13C SRB survey. The surveys were weighted by survey area and by survey age, where the weighting of the surveys were reduced by 20% per year. The older 2008 survey results were included in the population assessment because of dead-side harvest data analysis suggesting that the moose density in MU 5-12 is likely lower than in other MUs in the GMZ. The hunter days/kill has spike dramatically in MU 5-12 when compared to the GMZ 5C average. See Appendix 1 for more information.

Table 7: 2012 and 2008 GMZ 5C Moose Population Estimate

Year	Estimated Density	Suitable Moose Habitat (km <sup>2</sup> )	Estimated Moose Population
2008	0.44	30,088	13,193
2012	0.30	30,088	8,966
Percentage Change (%)			-32%

The 2012 GMZ 5C moose population estimate has decreased by 32% from the 2008 estimate.



## Next Steps and Discussion

The next step is to model the GMZ 5C&D moose populations using the updated population estimates to revise the Annual Allowable Harvest (AAH) for each of the GMZs. In general the decrease in population estimates will likely lead to a roughly proportional decrease in AAH.

The fact that the bull/cow ratios in both GMZ 5C and 5D are well above the provincial minimum target of 30/100 suggests that it has not been licenced harvest of bull moose which has been driving the declines to the moose populations. Other possible factors that could be contributing to the declining moose populations include: an increase in predation mortality, an increase in unlicensed harvest of antlerless animals, a reduction in natural survival due to habitat changes, and forest fire related mortality or emigration.

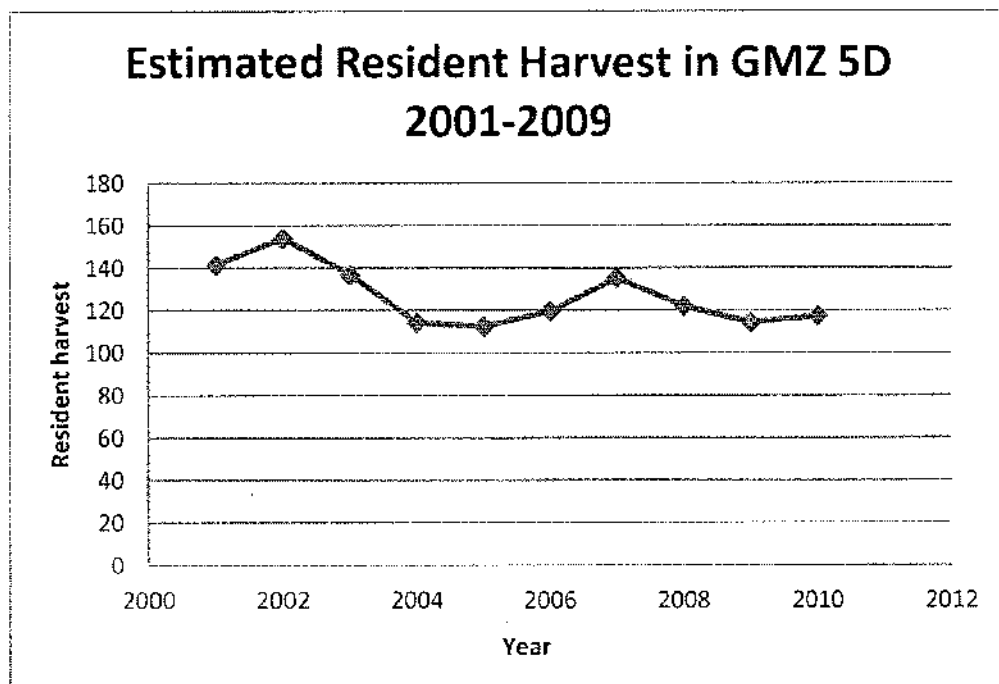
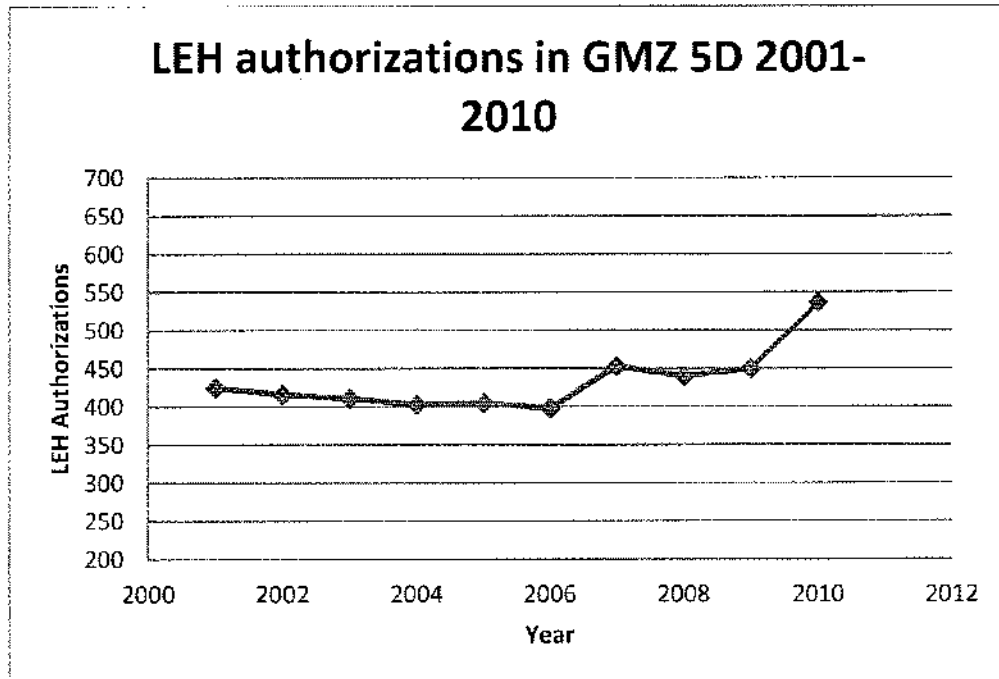
The Cariboo Region is looking into the possibility of bringing in an independent moose expert to evaluate the Cariboo Region moose population and identify factors influencing the population. This information would allow better informed decisions around habitat and moose harvest management. This information would be used as the basis for a regional moose recovery plan to reverse the declines in the moose populations and ensure a continued sustainable hunting opportunity for moose in the Cariboo.

## Potential Impact to Guide Outfitters

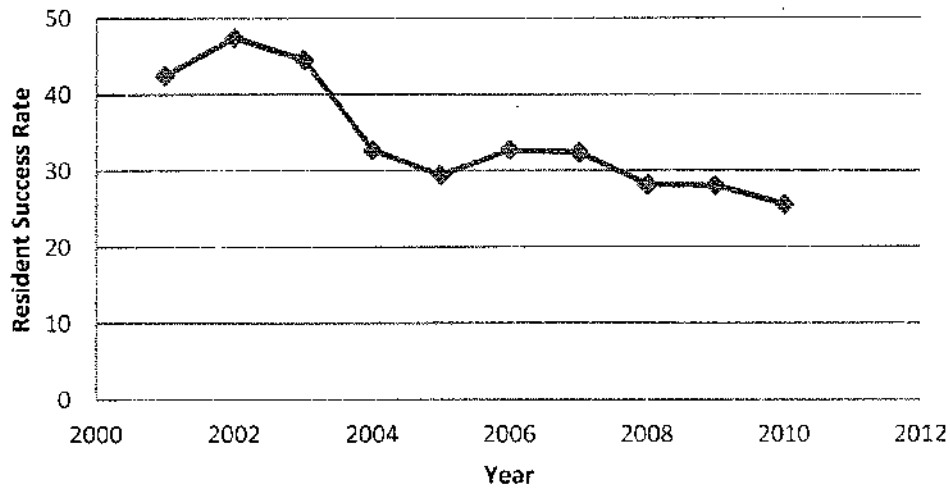
For the 2012 quota year, full impact of the new (2007) allocation policy was again deferred by implementation of the 30% hardship guideline. The 30% hardship guideline limited the decrease in individual allocation to 30%. A similar system was used in the 2009-2011 allocation period, where allocation decreases were limited to 20%. For 2013 the mitigation measures may be removed, whereby guides will be hit with the impact of full implementation of the allocation policy. For some guides that was forecasted to be up to a 75% reduction to allocation. When combined with a likely reduction to AAH due to decreased in the moose population estimate, many guides in the Chilcotin will see dramatic reductions to their multi-year allocations and quotas.

## Appendix 1: Resident Harvest Data Analysis 2001-2010

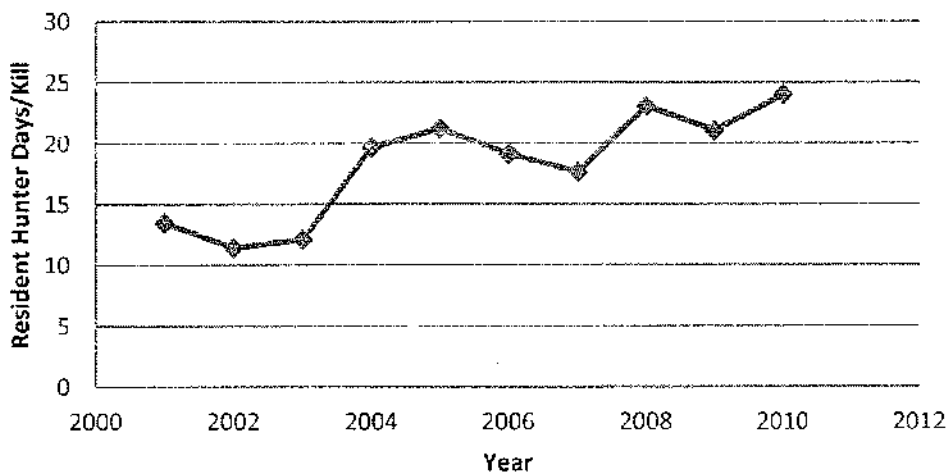
a) GMZ 5D



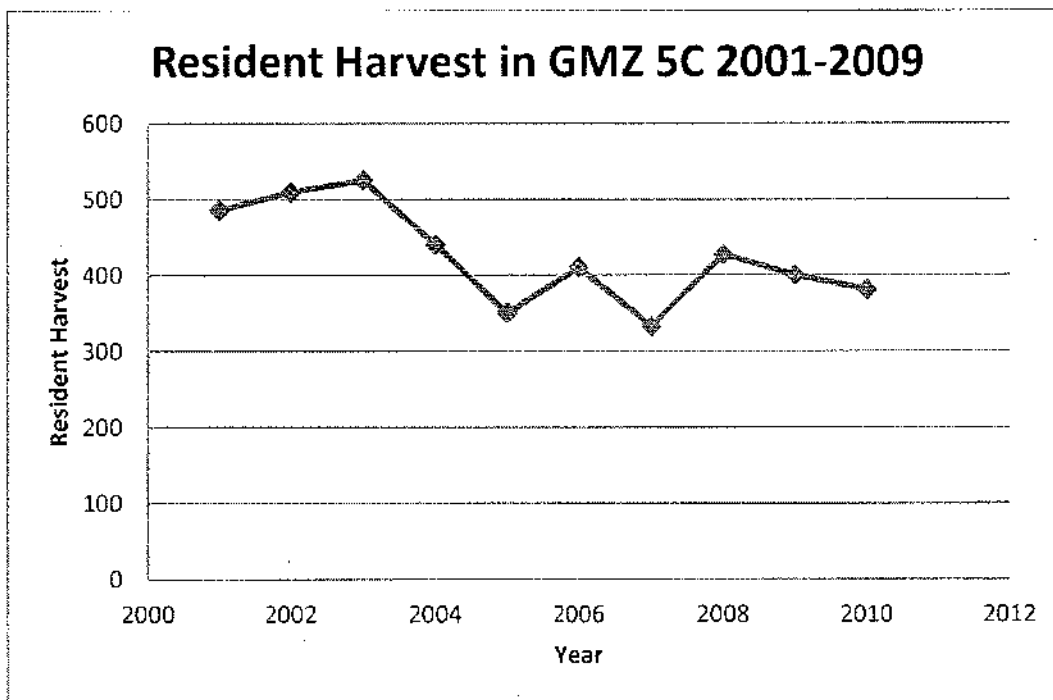
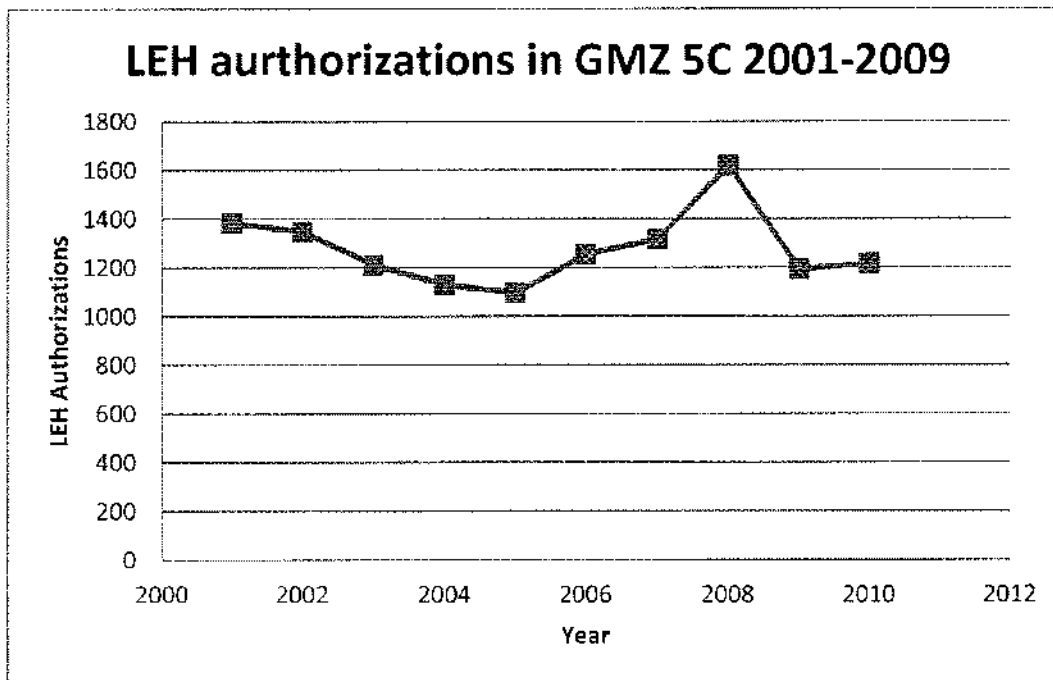
### Resident Success Rate in GMZ 5D 2001-2009



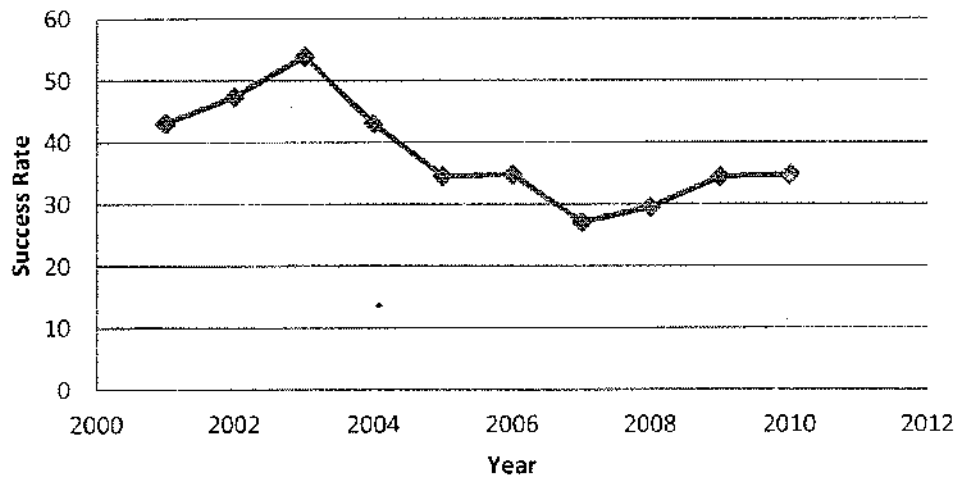
### Average Resident Hunter Days/Kill in GMZ 5D 2001-2009



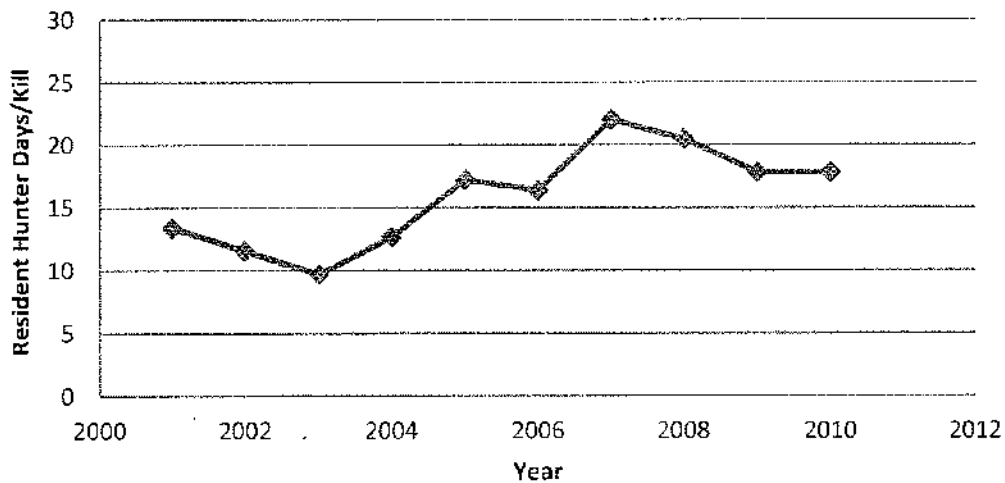
b) GMZ 5C



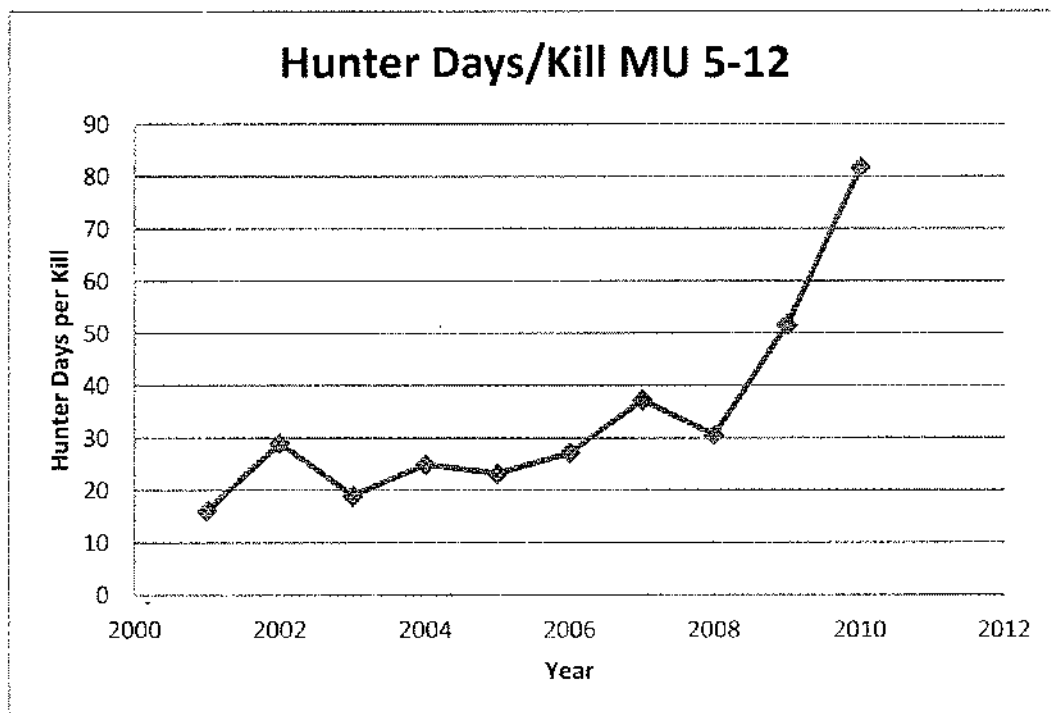
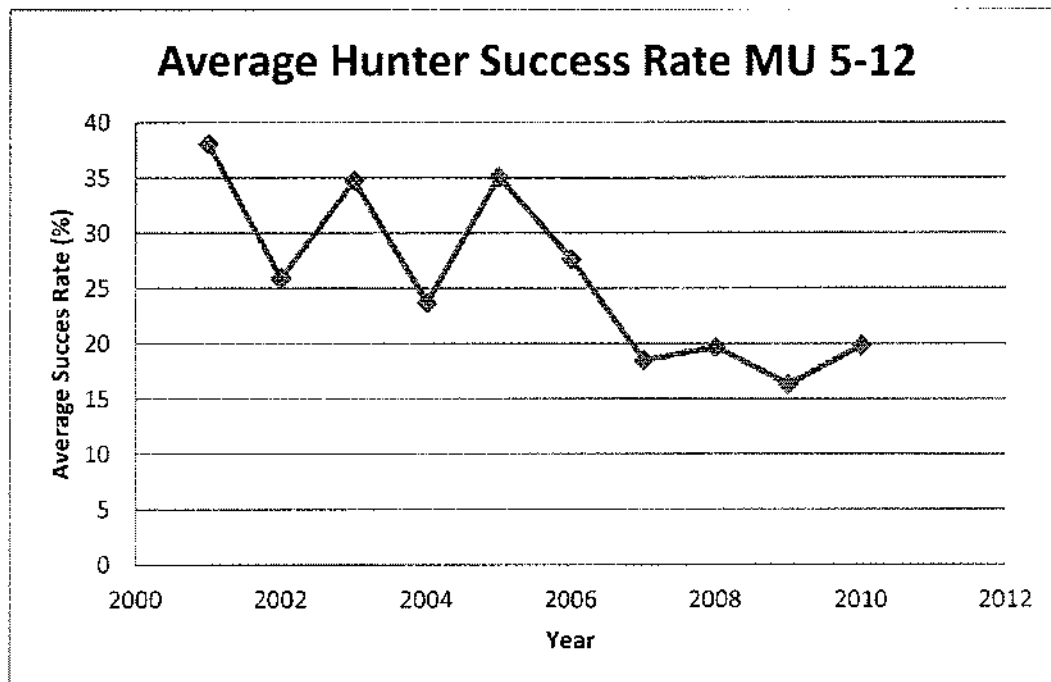
**Average Success Rate in GMZ 5C 2001-2009**



**Resident Hunter Days/Kill in GMZ 5C 2001-2009**



c) MU 5-12 ONLY



## Stewart, Rodger W FLNR:EX

---

**From:** Ramsay, Mike K FLNR:EX  
**Sent:** Wednesday, May 2, 2012 3:51 PM  
**To:** Stewart, Rodger W FLNR:EX

Here is my attempt at a draft early warning note.



Moose EWN.docx

**Mike Ramsay**  
**Fish and Wildlife Section Head**  
**Resource Management Division**  
**Forests, Lands and Natural Resource Operations**  
**Cariboo Region**  
**Phone: 250.398.4546**  
**Fax: 250.398.4214**

## Early Warning Note

Date:

CLIFF:

Email to: **Communications Manager**  
Email to: **«Responsible ADM»**

From: Cariboo Region 5, FLNRO  
Contact: **Mike Ramsay**  
Issue: Moose Population Declines in Chilcotin

Ph: 1-250-398-4546

### **Background:**

Moose surveys conducted in January and February of 2012 have indicated an estimated moose population decline in the Chilcotin Region (West Cariboo) by 40-60%. Looking back over the past 2 years the estimated moose population decline in all areas surveyed in the Cariboo exceeds 30%. In all areas surveyed cow moose and calf moose numbers have seen larger declines than bull moose. A decrease in the moose population of this magnitude will significantly reduce guide outfitter quotas (by as much as 50% in 2013), Limited Entry Hunting opportunities (by as much as 50% in 2013), and First Nations ability to harvest moose for food and ceremonial purposes. Given that the cow and calf numbers have declined so significantly the moose population will take years to recover.

It is estimated that increased access from pine beetle harvest, increased predator numbers (wolves and bears) and s.16 are responsible for the declines. The Ministry (FLNRO) has responded by increasing the number of predator permits available to harvest problem predators, increased the wolf hunting and trapping seasons, increased the wolf bag limit from 3 to no limit, increased the private land trapping season, and increased the opportunities for ranchers to be permitted to trap on private land. Ministry officials are working within FLNRO to reduce road access. A campaign is underway to communicate the state of the moose population with First Nations and seek their input for possible solutions.

s.13, s.16

### **Suggested Response:**

s.13, s.16



## Stewart, Rodger W FLNR:EX

---

**From:** Kriese, Kevin FLNR:EX  
**Sent:** Thursday, May 3, 2012 6:34 AM  
**To:** Zimmerman, Ted FLNR:EX; Atagi, Dana FLNR:EX; Lloyd-Smith, Jane FLNR:EX; Bilodeau, Normand G FLNR:EX  
**Cc:** Manwaring, Richard G FLNR:EX; MacDougall, Gerry L FLNR:EX; Stewart, Rodger W FLNR:EX; Warner, Bill FLNR:EX  
**Subject:** Moose survey results

Ted gave me a quick heads up about moose numbers last week and I got a note from Wayne Salewski about the meeting Omineca held this week to brief the Regional Wildlife Management Committee on results; suffice it to say results are pretty bad. Rumour is that Skeena is also bad news and maybe cariboo.

It sounds like this will heat up and I realize you are already talking about responses. Suggest that we need three things:

1. Quick note by Friday to me on what we know, what we don't know, what are going to do (LEH cow reductions?) and what we are thinking about doing
2. Can we do something "strategic" to assess the drivers for declines and potential responses. Rumour of a review by esteemed person(s). Done cooperatively with the wildlife committees involved.? I support a short term, thorough, and credible assessment of what is causing it. Even if it doesn't change what we "know" we need to get rid of the rumours about what is going on and try to develop a consensus before we act.
3. Do we need funds for such a review/study. Do we need more information from elsewhere, such as information from ecosystems on habitat condition changes (i.e. retrospective habitat supply analysis would be pretty easy to do as part of MPB response analysis)
4. Other actions we can take?

We will also need a communications plan around this s.13 Strategy  
should include use of some kind of pro-active summary of the results (electronic discussion paper?).

I'll set up a briefing to discuss further next week.

thanks

## Stewart, Rodger W FLNR:EX

---

**From:** Manwaring, Richard G FLNR:EX  
**Sent:** Thursday, May 3, 2012 7:45 AM  
**To:** Stewart, Rodger W FLNR:EX  
**Subject:** Re: Moose survey results

Thanks. Whatever material you have, I will brief the Minister Monday.

Rick Manwaring, RPF  
Assistant Deputy Minister  
South Area, Regional Operations  
Forests, Lands, and Natural Resource Operations  
250-828-4449

On 2012-05-03, at 7:13 AM, "Stewart, Rodger W FLNR:EX" <[Rodger.Stewart@gov.bc.ca](mailto:Rodger.Stewart@gov.bc.ca)> wrote:

There is indeed a serious challenge with moose population trends in the Cariboo. Steep double digit drops on density and standing crop.

We are about to complete an Early Warning Note and have been in contact with GCPE (Wenham).

We are also developing an RFP to acquire independent academic expertise to assist us to identify the drivers of moose population dynamics in this region, and to assess the relative impact of each.

A communications strategy is critical. A scan of the situation, which I have shared with DRM indicates very high risk of this going quite sideways for government. Hence care is needed in how we communicate these results and implications to stakeholders and FN.

In this region there is a particular trend in the antlerless component of the population that will raise specific critical commentary, and increase tensions between sectors.

Rodger

---

**From:** Kriese, Kevin FLNR:EX  
**Sent:** Thursday, May 03, 2012 06:34 AM  
**To:** Zimmerman, Ted FLNR:EX; Atagi, Dana FLNR:EX; Lloyd-Smith, Jane FLNR:EX; Bilodeau, Normand G FLNR:EX  
**Cc:** Manwaring, Richard G FLNR:EX; MacDougall, Gerry L FLNR:EX; Stewart, Rodger W FLNR:EX; Warner, Bill FLNR:EX  
**Subject:** Moose survey results

Ted gave me a quick heads up about moose numbers last week and I got a note from Wayne Salewski about the meeting Omineca held this week to brief the Regional Wildlife Management Committee on results; suffice it to say results are pretty bad. Rumour is that Skeena is also bad news and maybe cariboo.

It sounds like this will heat up and I realize you are already talking about responses. Suggest that we need three things:

1. Quick note by Friday to me on what we know, what we don't know, what are going to do (LEH cow reductions?) and what we are thinking about doing

2. Can we do something "strategic" to assess the drivers for declines and potential responses. Rumour of a review by esteemed person(s). Done cooperatively with the wildlife committees involved.? I support a short term, thorough, and credible assessment of what is causing it. Even if it doesn't change what we "know" we need to get rid of the rumours about what is going on and try to develop a consensus before we act.

3. Do we need funds for such a review/study. Do we need more information from elsewhere, such as information from ecosystems on habitat condition changes (i.e. retrospective habitat supply analysis would be pretty easy to do as part of MPB response analysis)

4. Other actions we can take?

We will also need a communications plan around this.

s.13

s.13 Strategy should include use of some kind of pro-active summary of the results (electronic discussion paper?).

I'll set up a briefing to discuss further next week.

thanks

## **Stewart, Rodger W FLNR:EX**

---

**From:** Higgs, Karen E FLNR:EX  
**Sent:** Thursday, May 3, 2012 8:39 AM  
**To:** Stewart, Rodger W FLNR:EX  
**Subject:** RE: REQUEST: EWN on the matter of declining moose populations - Cariboo Region  
**Attachments:** 188127 EWN Moose Population Declines.docx

Will there be a briefing note following this EWN?

I have attached the revised EWN on the new template.

Karen Higgs  
Executive Assistant for  
Gerry MacDougall  
Regional Executive Director  
Cariboo Region  
Phone: 250-398-4327

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Thursday, May 3, 2012 8:18 AM  
**To:** Higgs, Karen E FLNR:EX; MacDougall, Gerry L FLNR:EX  
**Cc:** Manwaring, Richard G FLNR:EX; Wilson, Andrew S FLNR:EX; Wenham, Logan GCPE:EX; Ramsay, Mike K FLNR:EX  
**Subject:** REQUEST: EWN on the matter of declining moose populations - Cariboo Region

Karen, please CLIFF this EWN for us, and run by Gerry before it goes on to Rick and Logan. Please check to ensure that the ministry header is correct (I fear our template is out of date).

Everyone, heads up for this one coming through the system. Mike and his small crew received to hand the final, accuracy checked survey reports just a few short days ago, and have begun working at how it is that we communicate these results without initiating several forms of rapid oxidation.

Andrew.... I am aware that Mike as been seeking assistance in development of the RFP for procurement of the scientific expertise we need to assist us in assessing factors driving population dynamics. To date he has faced challenges in getting the help he needs. Can you please work with your staff to see what can be done to help Mike get air under this important initiative? That said, I am aware of the extent of this issue with both Skeena and Omineca also showing disturbing trends, and that they too might be seeking assistance in some manner. However, we cannot delay in launching our initiative, the insights of which will assist Skeena and Omineca with their challenges as well.

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell s.17 desk (250) 398 4549  
fax (250) 398 4214

## Early Warning Note

Date: May 3, 2012 CLIFF: 188127

Email to: Vivian Thomas, **Communications Manager, PAB**  
Email to: Logan Wenham, **Public Affairs Officer, PAB**  
Email to: Rick Manwaring, **ADM, South Area**  
CC to: Jennifer Goad, **Manager, Executive Issues**

From: Resource Management, Cariboo Region  
Contact: Mike Ramsay, Fish and Wildlife Section Head Ph: 250-398-4546

Issue: Moose Population Declines in the Cariboo and Chilcotin

Briefing Note to follow: «Yes/No»

### ***Background:***

Moose surveys carried out in early 2012 indicate that the moose population in the Cariboo Region, west of the Fraser River, has declined by 40 to 60 percent. Surveys east of the Fraser River last year produced similar results, though declines are not as substantive. Considering the survey data acquired over the past 2 years, the estimated moose population decline across the Cariboo Region exceeds 30 percent.

The antlerless (cow and calf) component of the population shows larger declines in comparison to bull moose. The cows and calf numbers have declined so significantly that it is estimated that the population will take years to recover.

A decrease in the moose population of this magnitude will significantly reduce guide outfitter quotas by as much as 50 percent for the 2013 season. This impact is incremental to the effect of allocation policy. Limited Entry Hunting opportunities for resident hunters, who harvest bull moose only, will be reduced by as much as 50 percent for the 2013 season.

The ability of First Nations to harvest moose for food and ceremonial purposes will be impacted.

Increased road access and expansive clearcuts, increased predation (wolves and bears) and  
s.16 are considered to be contributing to the population decline.



***Suggested Response:***

s.13

## **Stewart, Rodger W FLNR:EX**

---

**From:** Atagi, Dana FLNR:EX  
**Sent:** Thursday, May 3, 2012 12:27 PM  
**To:** Stewart, Rodger W FLNR:EX; Kriese, Kevin FLNR:EX; Zimmerman, Ted FLNR:EX; Lloyd-Smith, Jane FLNR:EX; Bilodeau, Normand G FLNR:EX  
**Cc:** Manwaring, Richard G FLNR:EX; MacDougall, Gerry L FLNR:EX; Warner, Bill FLNR:EX; Williams, Mark FLNR:EX  
**Subject:** RE: Moose survey results

For the information of those on the upcoming conference call, I have provided a summary of recent Skeena moose survey results and management actions.

### 2012 Skeena (Bulkley Valley Lakes District) moose stratified random block survey results are as follows:

- BVLD moose population has declined from the 2004 SRB surveys by 20% (15,800 in 2004 to 12,600 in 2012)
- All herd components have declined (bulls, cows and calves)
- We observed no significant changes in either bull:cow or calf:cow ratios overall (32 +/- 5 bulls:100 cows and 37.5 calves:100 cows) however we did observe a decline in the bull:cow ratio in the Lakes District
- Suspected causes for observed population decline:
  - Cumulative impacts from environmental conditions, human caused mortality and/or predation
  - Severe winter of 2006/2007 was key
- Wildlife staff are optimistic that the status of the BVLD moose population is healthy compared to results reported from other 2012 surveys. Factors contributing to this assertion include: good calf recruitment and bull:cow ratios and recent licensed harvests averaging 725 bull moose/year (less than the AAH). Under these conditions, moose models predict a stable to increasing population.

### Summary of Impacts to Licensed Harvest

- In 2010, the Skeena Allocation Committee (made up of representatives from F&W, guide outfitters and resident hunters) arbitrarily opted to use a moose population estimate of 12,000 moose for the BVLD unit. This was a response to the consensus observation that the severe winter of 2006/2007 had caused a substantial decline in the moose population. Model runs determined an AAH of 900 bull moose for the 2010-2011 allocation period.
- As a result of this, there are no proposed changes to the AAH for the 2012/2013 license year and the upcoming allocation period (2012-2016) in spite of a 20% decline in population
  - Status Quo AAH = 900 bull moose/year is still appropriate given the 2012 estimate of 12,600 moose.
  - Guide Quotas not impacted due to AAH changes (but some due to Allocation Policy)
  - Resident LEH numbers will change only as a result of changes in annual success rates (not AAH)

### 2011 Moose SRB Survey in the Nass Wildlife Area (Nisga'a Final Agreement)

- The NWA has not been so fortunate as we have observed significant declines in the moose population over the period 1997 to 2011.
  - Results from SRB surveys: 1997 (N=1700), 2001 (N=1600), 2007 (N=650), and 2011 (N=518; 70% reduction since 1997) over the 5000 km<sup>2</sup> area
  - Management actions have included reductions in the TAH with each survey, reductions in the annual Nisga'a Allocation as per the treaty, restriction of the Nisga'a hunting season, restriction to a bull-only harvest by Nisga'a hunters, and in 2007 significant restrictions to the licensed hunt (reduction in GO quota and LEH authorizations) were imposed to promote moose recovery
- In 2012/2013, we closed the very limited licensed moose hunt as recovery has not been achieved.
- We are engaging with the both the Gitanyow FN and Nisga'a Lisims Government to negotiate a "managed" FN hunt for moose to recover this population.

All of our stakeholders who participate in the Skeena Hunter Advisory Committee are aware of this information and management actions. Mark Williams has given an interview with Andrew Hudson (Smithers Interior News) on the results of the BVLD moose survey on May 2, 2012.

Dana Atagi

**From:** Stewart, Rodger W FLNR:EX

**Sent:** Thursday, May 3, 2012 7:14 AM

**To:** Kriese, Kevin FLNR:EX; Zimmerman, Ted FLNR:EX; Atagi, Dana FLNR:EX; Lloyd-Smith, Jane FLNR:EX; Bilodeau, Normand G FLNR:EX

**Cc:** Manwaring, Richard G FLNR:EX; MacDougall, Gerry L FLNR:EX; Warner, Bill FLNR:EX

**Subject:** Re: Moose survey results

There is indeed a serious challenge with moose population trends in the Cariboo. Steep double digit drops on density and standing crop.

We are about to complete an Early Warning Note and have been in contact with GCPE (Wenham).

We are also developing an RFP to acquire independent academic expertise to assist us to identify the drivers of moose population dynamics in this region, and to assess the relative impact of each.

A communications strategy is critical. A scan of the situation, which I have shared with DRM indicates very high risk of this going quite sideways for government. Hence care is needed in how we communicate these results and implications to stakeholders and FN.

In this region there is a particular trend in the antlerless component of the population that will raise specific critical commentary, and increase tensions between sectors.

Rodger

---

**From:** Kriese, Kevin FLNR:EX

**Sent:** Thursday, May 03, 2012 06:34 AM

**To:** Zimmerman, Ted FLNR:EX; Atagi, Dana FLNR:EX; Lloyd-Smith, Jane FLNR:EX; Bilodeau, Normand G FLNR:EX

**Cc:** Manwaring, Richard G FLNR:EX; MacDougall, Gerry L FLNR:EX; Stewart, Rodger W FLNR:EX; Warner, Bill FLNR:EX

**Subject:** Moose survey results

Ted gave me a quick heads up about moose numbers last week and I got a note from Wayne Salewski about the meeting Omineca held this week to brief the Regional Wildlife Management Committee on results; suffice it to say results are pretty bad. Rumour is that Skeena is also bad news and maybe cariboo.

It sounds like this will heat up and I realize you are already talking about responses. Suggest that we need three things:

1. Quick note by Friday to me on what we know, what we don't know, what are going to do (LEH cow reductions?) and what we are thinking about doing
2. Can we do something "strategic" to assess the drivers for declines and potential responses. Rumour of a review by esteemed person(s). Done cooperatively with the wildlife committees involved.? I support a short term, thorough, and credible assessment of what is causing it. Even if it doesn't change what we "know" we need to get rid of the rumours about what is going on and try to develop a consensus before we act.
3. Do we need funds for such a review/study. Do we need more information from elsewhere, such as information from ecosystems on habitat condition changes (i.e. retrospective habitat supply analysis would be pretty easy to do as part of MPB response analysis)
4. Other actions we can take?



We will also need a communications plan around this.  
Strategy should include use of some kind of pro-active summary of the results (electronic discussion paper?).

I'll set up a briefing to discuss further next week.

thanks

## **Stewart, Rodger W FLNR:EX**

---

**From:** MacDougall, Gerry L FLNR:EX  
**Sent:** Thursday, May 3, 2012 12:46 PM  
**To:** Stewart, Rodger W FLNR:EX  
**Subject:** FW: Fwd: REQUEST: EWN on the matter of declining moose populations - Cariboo Region

If it comes up on your discussions....

---

**From:** Kriese, Kevin FLNR:EX  
**Sent:** Thursday, May 3, 2012 12:45 PM  
**To:** Manwaring, Richard G FLNR:EX  
**Cc:** Cuthbertson, Danielle FLNR:EX; MacDougall, Gerry L FLNR:EX  
**Subject:** Re: Fwd: REQUEST: EWN on the matter of declining moose populations - Cariboo Region

Haven't spoken but agree regions should lead.  
Kevin Kriese, ADM  
North Area

---

**From:** Manwaring, Richard G FLNR:EX  
**Sent:** Thursday, May 03, 2012 09:32 AM  
**To:** Kriese, Kevin FLNR:EX  
**Cc:** Cuthbertson, Danielle FLNR:EX; MacDougall, Gerry L FLNR:EX  
**Subject:** Fwd: REQUEST: EWN on the matter of declining moose populations - Cariboo Region

Kevin, FYI:

I presume we will coordinate in regional ops and lead vs prov ops? If so, Gerry figures Rodger can coordinate for the areas. Has the knowledge on the subject.  
Have you spoken to Susanna about how to manage the issue?

Rick Manwaring, RPF  
Assistant Deputy Minister  
South Area, Regional Operations  
Forests, Lands, and Natural Resource Operations  
250-828-4449

Begin forwarded message:

**From:** "Stewart, Rodger W FLNR:EX" <[Rodger.Stewart@gov.bc.ca](mailto:Rodger.Stewart@gov.bc.ca)>  
**Date:** 3 May, 2012 8:18:15 AM PDT  
**To:** "Higgs, Karen H FLNR:EX" <[Karen.Higgs@gov.bc.ca](mailto:Karen.Higgs@gov.bc.ca)>, "MacDougall, Gerry L FLNR:EX" <[Gerry.MacDougall@gov.bc.ca](mailto:Gerry.MacDougall@gov.bc.ca)>  
**Cc:** "Manwaring, Richard G FLNR:EX" <[Richard.Manwaring@gov.bc.ca](mailto:Richard.Manwaring@gov.bc.ca)>, "Wilson, Andrew S FLNR:EX" <[Andrew.Wilson@gov.bc.ca](mailto:Andrew.Wilson@gov.bc.ca)>, "Wenham, Logan GCPE:EX" <[Logan.Wenham@gov.bc.ca](mailto:Logan.Wenham@gov.bc.ca)>, "Ramsay, Mike K FLNR:EX" <[Mike.Ramsay@gov.bc.ca](mailto:Mike.Ramsay@gov.bc.ca)>  
**Subject:** REQUEST: EWN on the matter of declining moose populations - Cariboo Region

Karen, please CLIFF this EWN for us, and run by Gerry before it goes on to Rick and Logan.  
Please check to ensure that the ministry header is correct (I fear our template is out of date).

Everyone, heads up for this one coming through the system. Mike and his small crew received to hand the final, accuracy checked survey reports just a few short days ago, and have begun working at how it is that we communicate these results without initiating several forms of rapid oxidation.

Andrew.... I am aware that Mike as been seeking assistance in development of the RFP for procurement of the scientific expertise we need to assist us in assessing factors driving population dynamics. To date he has faced challenges in getting the help he needs. Can you please work with your staff to see what can be done to help Mike get air under this important initiative? That said, I am aware of the extent of this issue with both Skeena and Omineca also showing disturbing trends, and that they too might be seeking assistance in some manner. However, we cannot delay in launching our initiative, the insights of which will assist Skeena and Omineca with their challenges as well.

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations

Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell s.17 desk (250) 398 4549  
fax (250) 398 4214

## **Stewart, Rodger W FLNR:EX**

---

**From:** Manwaring, Richard G FLNR:EX  
**Sent:** Monday, May 7, 2012 9:05 AM  
**To:** Stewart, Rodger W FLNR:EX; MacDougall, Gerry L FLNR:EX  
**Cc:** Kriese, Kevin FLNR:EX  
**Subject:** Moose - Follow up from Minister Roundtable this morning

Deputy/Minister want us to be ready to communicate publicly on our strategy by days end Wednesday this week. We need to get together today to discuss, however, we know you have been doing work on this already.

**This note as a heads up and ask where we are on communication, independent scientific expertise approach, etc.**

Rodger, all this with the initial expectation that you are coordinating the DRM's on this.

**Rick Manwaring, RPF**

**Assistant Deputy Minister**

**South Area**

**Ministry of Forests, Lands and Natural Resource Operations**

**ph:1-250-828-4449 (Corri Ann) - Kamloops**

## **Stewart, Rodger W FLNR:EX**

---

**From:** Hatter, Ian FLNR:EX  
**Sent:** Monday, May 7, 2012 9:32 AM  
**To:** Stewart, Rodger W FLNR:EX; Wilson, Andrew S FLNR:EX  
**Cc:** Wenham, Logan GCPE:EX  
**Subject:** RE: URGENT: Moose - Follow up from Minister Roundtable this morning

Hi Rodger. We have a conference this afternoon with Mike Ramsay on this, and a provincial conference call tomorrow morning at 9 am. We have also talked to GCPE, and they will be following up on communications, once they have some briefing material from us.

If you are having a conference call this afternoon (in advance of our call tomorrow), then please ensure Gerry Kuzyk and I are invited.

**Ian Hatter, RPBio**

**Wildlife Manager** | Fish, Wildlife and Habitat Management Branch | Ministry of Natural Resource Operations | **T:** 250-387-9792 | **E:** [Ian.Hatter@gov.bc.ca](mailto:Ian.Hatter@gov.bc.ca)

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Monday, May 7, 2012 9:26 AM  
**To:** Wilson, Andrew S FLNR:EX  
**Cc:** Hatter, Ian FLNR:EX  
**Subject:** FW: URGENT: Moose - Follow up from Minister Roundtable this morning

FYI

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell s.17 , desk (250) 398 4549  
fax (250) 398 4214

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Monday, May 7, 2012 9:21 AM  
**To:** Bilodeau, Normand G FLNR:EX; Diemert, Karen FLNR:EX; Peterson, Dan FLNR:EX  
**Cc:** Atagi, Dana FLNR:EX; Zimmerman, Ted FLNR:EX; Ramsay, Mike K FLNR:EX; Burwash, Michael FLNR:EX  
**Subject:** URGENT: Moose - Follow up from Minister Roundtable this morning

**Dan and Mike B ....** I am including Thompson Okanagan in this as while you did not get your SRB moose survey off this year, one could expect your results to mirror what we see in MU 5-02 just to the north of you.

**DRM and SH,** please see below. There is a pressing urgency to communicate moose survey results and preliminary scan of implications during this week.

Due to the fact we all have interesting survey results, and that the implications for government are considerable, we have need to coordinate across all affected regions.

We should be prepared to build and implement a similar communications strategy for stakeholders and FN.

Please see my invite to a conference call for this afternoon. Please ensure that we have at least one representative from each region attending this call.

We will need to work together to develop the strategy on Tuesday, in preparation for Wednesday's action.

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell s.17 desk (250) 398 4549  
fax (250) 398 4214

---

**From:** Manwaring, Richard G FLNR:EX  
**Sent:** Monday, May 7, 2012 9:05 AM  
**To:** Stewart, Rodger W FLNR:EX; MacDougall, Gerry L FLNR:EX  
**Cc:** Kriese, Kevin FLNR:EX  
**Subject:** Moose - Follow up from Minister Roundtable this morning

Deputy/Minister want us to be ready to communicate publicly on our strategy by days end Wednesday this week. We need to get together today to discuss, however, we know you have been doing work on this already.

This note as a heads up and ask where we are on communication, independent scientific expertise approach, etc.

Rodger, all this with the initial expectation that you are coordinating the DRM's on this.

**Rick Manwaring, RPF**

**Assistant Deputy Minister**  
**South Area**  
**Ministry of Forests, Lands and Natural Resource Operations**  
ph:1-250-828-4449 (Corri Ann) - Kamloops

## **Stewart, Rodger W FLNR:EX**

---

**From:** Kriese, Kevin FLNR:EX  
**Sent:** Monday, May 7, 2012 9:37 AM  
**To:** Stewart, Rodger W FLNR:EX  
**Cc:** Bilodeau, Normand G FLNR:EX; Diemert, Karen FLNR:EX; Peterson, Dan FLNR:EX; Addison, Christopher FLNR:EX; Manwaring, Richard G FLNR:EX; Thomas, Vivian P GCPE:EX  
**Subject:** RE: Moose Strategy

Agreed; concept is for all three directly affected regions to work up a short factual paper (2 to 3 pages) that describes:

- Results found in last winter surveys; should include MU's where we didn't find problems
- Steps we propose to take
  - Revised LEH
  - Convene expert review to assess the causal factors
  - Further inventories/monitoring planned for the coming year
  - Any other assessments (potential review of habitat supply situation)

We separately need to identify a communication strategy that describes how we will propose to get this message out pro-actively including:

- DRM's and Sections Heads directly communicating results through Regional Wildlife Management Committees
- Provincial briefing of BCWF exec and GOABC exec
- Post summary and results to provincial website (same site used for reg changes, plus potentially posted on Ministry Internet)

The call on Tuesday is to review what you all come up (draft document) with and hopefully land on a package we can present to the Deputy by mid-day on Wednesday. If possible we release widely on Thursday

Rodger; I understand you volunteered to coordinate the regions to prepare these documents. Others need to pitch in.

-----Original Appointment-----

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Monday, May 7, 2012 9:27 AM  
**To:** Kriese, Kevin FLNR:EX  
**Cc:** Bilodeau, Normand G FLNR:EX; Diemert, Karen FLNR:EX; Peterson, Dan FLNR:EX  
**Subject:** Declined: Moose Strategy  
**When:** Tuesday, May 8, 2012 3:00 PM-4:00 PM (GMT-08:00) Pacific Time (US & Canada).  
**Where:** Dial: 1 877 353 9184 ID: 6997599#

This needs to be held no later than this afternoon if we are to get proper traction for a Wednesday communications action.

Kevin, I could undertake to report progress to you Tuesday afternoon, but I must state that we need the section heads working on this across affected regions no later this Tuesday first thing.

Rodger

## Stewart, Rodger W FLNR:EX

---

**From:** Wenham, Logan GCPE:EX  
**Sent:** Monday, May 7, 2012 9:45 AM  
**To:** Stewart, Rodger W FLNR:EX; Hatter, Ian FLNR:EX; Wilson, Andrew S FLNR:EX  
**Subject:** RE: URGENT: Moose - Follow up from Minister Roundtable this morning

I will also hopefully know more in about an hour, and will be back in touch at that time. Please continue to keep me in the loop – thanks!

Cheers,

Logan Wenham  
Public Affairs Officer  
Ministry of Forests, Lands and Natural Resource Operations  
Phone: 250-953-3675

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Monday, May 7, 2012 9:42 AM  
**To:** Hatter, Ian FLNR:EX; Wilson, Andrew S FLNR:EX  
**Cc:** Wenham, Logan GCPE:EX  
**Subject:** Re: URGENT: Moose - Follow up from Minister Roundtable this morning

Ian, I shall call you in half hour just to make certain I know what you have going. Then will fit with this work requested by Doug.

Rodger

---

**From:** Hatter, Ian FLNR:EX  
**Sent:** Monday, May 07, 2012 09:32 AM  
**To:** Stewart, Rodger W FLNR:EX; Wilson, Andrew S FLNR:EX  
**Cc:** Wenham, Logan GCPE:EX  
**Subject:** RE: URGENT: Moose - Follow up from Minister Roundtable this morning

Hi Rodger. We have a conference this afternoon with Mike Ramsay on this, and a provincial conference call tomorrow morning at 9 am. We have also talked to GCPE, and they will be following up on communications, once they have some briefing material from us.

If you are having a conference call this afternoon (in advance of our call tomorrow), then please ensure Gerry Kuzyk and I are invited.

Ian Hatter, RPBio

Wildlife Manager | Fish, Wildlife and Habitat Management Branch | Ministry of Natural Resource Operations | T: 250-387-9792 | E: [Ian.Hatter@gov.bc.ca](mailto:Ian.Hatter@gov.bc.ca)

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Monday, May 7, 2012 9:26 AM  
**To:** Wilson, Andrew S FLNR:EX  
**Cc:** Hatter, Ian FLNR:EX  
**Subject:** FW: URGENT: Moose - Follow up from Minister Roundtable this morning

FYI



Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations

Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell s.17 desk (250) 398 4549  
fax (250) 398 4214

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Monday, May 7, 2012 9:21 AM  
**To:** Bilodeau, Normand G FLNR:EX; Diemert, Karen FLNR:EX; Peterson, Dan FLNR:EX  
**Cc:** Atagi, Dana FLNR:EX; Zimmerman, Ted FLNR:EX; Ramsay, Mike K FLNR:EX; Burwash, Michael FLNR:EX  
**Subject:** URGENT: Moose - Follow up from Minister Roundtable this morning

**Dan and Mike B ....** I am including Thompson Okanagan in this as while you did not get your SRB moose survey off this year, one could expect your results to mirror what we see in MU 5-02 just to the north of you.

**DRM and SH,** please see below. There is a pressing urgency to communicate moose survey results and preliminary scan of implications during this week.

Due to the fact we all have interesting survey results, and that the implications for government are considerable, we have need to coordinate across all affected regions.

We should be prepared to build and implement a similar communications strategy for stakeholders and FN.

Please see my invite to a conference call for this afternoon. Please ensure that we have at least one representative from each region attending this call.

We will need to work together to develop the strategy on Tuesday, in preparation for Wednesday's action.

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations

Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell s.17 desk (250) 398 4549  
fax (250) 398 4214

---

**From:** Manwaring, Richard G FLNR:EX  
**Sent:** Monday, May 7, 2012 9:05 AM  
**To:** Stewart, Rodger W FLNR:EX; MacDougall, Gerry L FLNR:EX  
**Cc:** Kriese, Kevin FLNR:EX  
**Subject:** Moose - Follow up from Minister Roundtable this morning

Deputy/Minister want us to be ready to communicate publicly on our strategy by days end Wednesday this week.

We need to get together today to discuss, however, we know you have been doing work on this already.

This note as a heads up and ask where we are on communication, independent scientific expertise approach, etc.

Rodger, all this with the initial expectation that you are coordinating the DRM's on this.

**Rick Manwaring, RPF**

**Assistant Deputy Minister**

**South Area**

**Ministry of Forests, Lands and Natural Resource Operations**

ph:1-250-828-4449 (Corri Ann) - Kamloops

## Stewart, Rodger W FLNR:EX

---

**From:** Zimmerman, Ted FLNR:EX  
**Sent:** Monday, May 7, 2012 10:09 AM  
**To:** Stewart, Rodger W FLNR:EX  
**Subject:** FW: Moose survey results

Rodger, here's our position on the moose issue.

I don't have a calendar invite for a call this afternoon so if you could send it out that would be great.

Thanks, Ted

---

**From:** Zimmerman, Ted FLNR:EX  
**Sent:** Thursday, May 3, 2012 2:47 PM  
**To:** Kriese, Kevin FLNR:EX; Atagi, Dana FLNR:EX; Bilodeau, Normand G FLNR:EX; Heard, Douglas FLNR:EX; Watts, Glen FLNR:EX; Warner, Bill FLNR:EX  
**Subject:** RE: Moose survey results

Kevin, here's where things are at with the moose situation for the Omineca.

### Status of Moose

#### Moose per Square Km

Year / Zone	Prince George	Parsnip	Ft. St. James
2011/12	0.61	0.63	0.42
2005/06	1.35	1.18	Not Surveyed
1998/99	1.33	1.14	Not surveyed

- Moose densities have declined by 50% since 2005
- Our findings corroborate anecdotal observations from the hunting community over the last few years
- There is no obvious cause for the decline, however we don't believe it is hunting related (i.e. not a result of overharvest)
- Our results are similar to those observed in the Skeena and Cariboo, so we see this reduction as a broad landscape level effect
- Although the trend is declining, current moose densities in the Omineca are still on par with those in other parts of N. America

### Communications and Dialogue

- We met with GOABC and BCWF on Monday April 30 to establish cow LEH numbers for 2012, and to begin dialogue on the moose density issue
- All parties stayed focused on solutions and next steps, and agreed to work collaboratively on developing harvest strategies in light of the results
- Norm has brought the issue to the DRMs and Andrew Wilson to consider how we should action this provincially

### Proposed Actions

- We will be meeting with the Omineca Wildlife Management Committee in June to establish moose management objectives and to consider various management alternatives and strategies
- We will use our moose management model, developed this winter, to support setting objectives

- We have already discussed the density trend issue with our colleagues in HQ and will be marshalling other provincial staff and academics to evaluate the causal mechanisms for declines
- We still need to work out HQ vs regional roles in responding to this issue, both for the public and internally
- We do not anticipate any immediate restrictions to bull harvests or other seasons besides cows

## Resource Needs

- We could use clarification on inventory fund availability for 2012/13, including the barriers fund envelope
- Our assumption is that the Omineca is on target to receive s.17  
s17 for composition surveys
- We also anticipate inventory funding from the LBIP but the mechanism for distribution is still being worked out
- Once these funds are confirmed, we will develop a study design for next winter to confirm if our results are accurate and to establish population monitoring zones
- The modeling work is well under way, if we receive the funds noted above we will use them to support further analysis

## Recommendations

- Apply a methodical and diagnostic approach to the problem – ie. conduct more analysis to see if we can establish causal links
- Advise our stakeholders that while the decline is surprising, it is not a conservation crisis at this stage
- No need to invoke large scale regulatory reforms at this time
- Continue to work with our partners to better understand the problem and develop possible solutions
- Coordinate a provincial response ASAP

## Ted Zimmerman

**Deputy Regional Manager, Omineca Fish and Wildlife**  
 Ministry of Forests, Lands and Natural Resource Operations  
 Government of British Columbia  
 1051 18<sup>th</sup> Ave. PRINCE GEORGE BC V2N 1B3  
 250.614.9904  
 ted.zimmerman@gov.bc.ca

---

**From:** Kriese, Kevin FLNR:EX  
**Sent:** Thursday, May 3, 2012 6:34 AM  
**To:** Zimmerman, Ted FLNR:EX; Atagi, Dana FLNR:EX; Lloyd-Smith, Jane FLNR:EX; Bilodeau, Normand G FLNR:EX  
**Cc:** Manwaring, Richard G FLNR:EX; MacDougall, Gerry L FLNR:EX; Stewart, Rodger W FLNR:EX; Warner, Bill FLNR:EX  
**Subject:** Moose survey results

Ted gave me a quick heads up about moose numbers last week and I got a note from Wayne Salewski about the meeting Omineca held this week to brief the Regional Wildlife Management Committee on results; suffice it to say results are pretty bad. Rumour is that Skeena is also bad news and maybe cariboo.

It sounds like this will heat up and I realize you are already talking about responses. Suggest that we need three things:

1. Quick note by Friday to me on what we know, what we don't know, what are going to do (LEH cow reductions?) and what we are thinking about doing

2. Can we do something "strategic" to assess the drivers for declines and potential responses. Rumour of a review by esteemed person(s). Done cooperatively with the wildlife committees involved.? I support a short term, thorough, and credible assessment of what is causing it. Even if it doesn't change what we "know" we need to get rid of the rumours about what is going on and try to develop a consensus before we act.
3. Do we need funds for such a review/study. Do we need more information from elsewhere, such as information from ecosystems on habitat condition changes (i.e. retrospective habitat supply analysis would be pretty easy to do as part of MPB response analysis)
4. Other actions we can take?

We will also need a communications plan around this

s.13

Strategy

should include use of some kind of pro-active summary of the results (electronic discussion paper?).

I'll set up a briefing to discuss further next week.

thanks

## Stewart, Rodger W FLNR:EX

---

**From:** Manwaring, Richard G FLNR:EX  
**Sent:** Monday, May 7, 2012 12:35 PM  
**To:** Stewart, Rodger W FLNR:EX  
**Subject:** RE: NOTE: Moose

Thanks Rodger. I knew you would be doing that stuff.

I am going to try to walk in the door in Williams Lake tomorrow (on my way to Quesnel!) around 10 am. If you are free, I would favour an overview of progress if you are available.

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Monday, May 7, 2012 12:33 PM  
**To:** Manwaring, Richard G FLNR:EX  
**Subject:** NOTE: Moose

Already linked with HQ and with GPCE and have spoken with Kevin Kriese. Have plan for preparation of required products roughed out.

Trying to call Clark to bring him up to speed.

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell (250) 398 4549  
fax (250) 398 4214

---

**From:** Manwaring, Richard G FLNR:EX  
**Sent:** Monday, May 7, 2012 12:16 PM  
**To:** Clark, Brian J FLNR:EX; Kriese, Kevin FLNR:EX; Sutherland, Craig FLNR:EX; MacDougall, Gerry L FLNR:EX; Stewart, Rodger W FLNR:EX  
**Cc:** Laaksonen-Craig, Susanna FLNR:EX  
**Subject:** RE: Moose and other urgent things

Hi Brian. Yes, we need to coordinate, and after the Ministers Roundtable this morning, things have become a bit more urgent, hence probably the increased activity. Kevin and I have spoken and Rodger Stewart is going to coordinate regional ops on this item, and he will link to HQ on the work we are putting together.

I left you a phone message this morning. Give me a ring when you are able. Thanks.

---

**From:** Clark, Brian J FLNR:EX  
**Sent:** Monday, May 7, 2012 10:59 AM  
**To:** Kriese, Kevin FLNR:EX; Manwaring, Richard G FLNR:EX; Sutherland, Craig FLNR:EX  
**Cc:** Laaksonen-Craig, Susanna FLNR:EX  
**Subject:** Moose and other urgent things

Gentlemen: There are a few calls being planned this week regarding the moose inventories and a strategy to move forward. It's great that everyone is mobilizing on this but it's not all coordinated and we are duplicating efforts. As a result we have several folks contacting the DMO, the media folk, etc. Please ensure that regional actions are coordinated with HQ wildlife staff to ensure the best use of our resources.

Craig: You don't have many moose but the concept of open communication and keeping program staff informed of regional actions is a good idea for all our work.

**Brian J. Clark, R.P. Bio.**

Executive Director, Resource Stewardship Division

Ministry of Forests, Lands and Natural Resource Operations

Telephone: 604-220-6953

Email: [Brian.J.Clark@gov.bc.ca](mailto:Brian.J.Clark@gov.bc.ca)

## Stewart, Rodger W FLNR:EX

---

**From:** Hatter, Ian FLNR:EX  
**Sent:** Monday, May 7, 2012 1:39 PM  
**To:** Wenham, Logan GCPE:EX; Stewart, Rodger W FLNR:EX  
**Subject:** RE: NOTE: Preparing for communication of moose survey results including scan of management implications

You bet.

When: Tuesday, May 8, 2012 9:00 AM-10:00 AM (GMT-08:00) Pacific Time (US & Canada).

Where: conference call: s.17 Participant ID: s.17

### Ian Hatter, RPBio

Wildlife Manager | Fish, Wildlife and Habitat Management Branch | Ministry of Natural Resource Operations | T: 250-387-9792 | E: [Ian.Hatter@gov.bc.ca](mailto:Ian.Hatter@gov.bc.ca)

---

**From:** Wenham, Logan GCPE:EX  
**Sent:** Monday, May 7, 2012 1:37 PM  
**To:** Hatter, Ian FLNR:EX; Stewart, Rodger W FLNR:EX  
**Subject:** RE: NOTE: Preparing for communication of moose survey results including scan of management implications

Ian – is there a value for me being on the morning call as well? Seems like it...

If so, do you have the call in # and code?

Cheers,

Logan Wenham  
Public Affairs Officer  
Ministry of Forests, Lands and Natural Resource Operations  
Phone: 250-953-3675

---

**From:** Hatter, Ian FLNR:EX  
**Sent:** Monday, May 7, 2012 1:33 PM  
**To:** Wenham, Logan GCPE:EX  
**Cc:** Stewart, Rodger W FLNR:EX  
**Subject:** FW: NOTE: Preparing for communication of moose survey results including scan of management implications

Hi Logan. There will be 2 calls tomorrow – see note below.

### Ian Hatter, RPBio

Wildlife Manager | Fish, Wildlife and Habitat Management Branch | Ministry of Natural Resource Operations | T: 250-387-9792 | E: [Ian.Hatter@gov.bc.ca](mailto:Ian.Hatter@gov.bc.ca)

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Monday, May 7, 2012 12:42 PM  
**To:** Peterson, Dan FLNR:EX; Rasmussen, Paul FLNR:EX; Bilodeau, Normand G FLNR:EX; Diemert, Karen FLNR:EX; Addison, Christopher FLNR:EX; Wilson, Andrew S FLNR:EX; Clark, Brian J FLNR:EX  
**Cc:** Burwash, Michael FLNR:EX; Chirico, Albert ENV:EX; Zimmerman, Ted FLNR:EX; Atagi, Dana FLNR:EX; Ramsay, Mike K FLNR:EX; Hatter, Ian FLNR:EX; Kuzyk, Gerald FLNR:EX  
**Subject:** NOTE: Preparing for communication of moose survey results including scan of management implications



This morning we received direction from our Deputy Minister to prepare for government communication of moose survey results and a scan of the management implications. The timeline for this communication initiative is Wednesday afternoon. I have been asked to coordinate preparations in support of government's communications initiative. I have been in contact with GPCE (Government Communications and Public Engagement) to learn about their work on this file, in relation to the instructions we have from executive.

We had started some initial conversations in the north central regions, where estimations of moose standing crop have gone sharply downward (parts of Skeena, Omineca, across the Cariboo). We are aware that other regions report stability or even improvement of moose populations, news of which needs to be included in government communications. There are substantive vulnerabilities for government in the results across the north central regions, which requires specific attention in how it is that government communicates with stakeholders and FN. And the timeline has been pushed up .....

Having considered notes from the ADMs, and after a talk with Ian Hatter and GPCE, the following sequence of actions appears appropriate. Refer to e-mail from ADM Kevin Kriese that I circulated this morning..... and see further e-mail coming from me later today.

- **This afternoon:** Rodger will share an outline of what each region should be compiling:
  - Technical information summary to support both local and regional engagement with stakeholders, and GPCE's preparation of a strategic communications package.
  - Your region's plan for engagement with First Nations, local and regional stakeholders, the timing of which will depend on government's decisions respecting communications on this file.
- **Today:** Regions may wish to get in front of this task by starting work on the above points .....
- **Tuesday, 0900 to 1000:** Ian and Gerry will convene a conference call with participation from all moose producing regions.
  - Share information on the status of moose populations across regions – 5 to 10 minute summary from each region on survey results and scan of implications
  - Mike Ramsay and Doug Heard to speak on two key topics respecting assessment of factors which may be driving moose population dynamics
  - Rodger Stewart to lead conversation on preparation of the information package for Wednesday per this morning's executive direction on communications.
- **Tuesday afternoon:** Rodger and any other affected DRM and SH to attend conference call with ADM Kriese. See invite from ADM Kriese office. Purpose of call is for regions to report progress on communications package and to calibrate with executive direction on this file.
- **Wednesday, before 11 am:** regions to forward their briefing materials to Cariboo Region (Rodger). Regional submissions will be collated by Cariboo and sent onward through ADM contacts to Deputy and Minister's offices.
- Expect that **late Wednesday or early Thursday** we will receive executive direction on the roll out of government communications per regional plans endorsed by executive. We should expect direction to undertake regional engagement with First Nations and key regional stakeholders on a set time table.

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell s.17 desk (250) 398 4549  
fax (250) 398 4214

## Stewart, Rodger W FLNR:EX

---

**From:** Wilson, Andrew S FLNR:EX  
**Sent:** Monday, May 7, 2012 3:29 PM  
**To:** Stewart, Rodger W FLNR:EX  
**Cc:** Hatter, Ian FLNR:EX; Clark, Brian J FLNR:EX; Ramsay, Mike K FLNR:EX  
**Subject:** Re: regional summary content - moose survey results including scan of management implications

Hi Rodger,

I appreciate you putting this together. Let's not try to step on each others toes on this. I understand you had a conversation with Ian on this earlier. The FWH branch is working on this as well and is coordinating with regions in terms of summarizing and messaging.

One question though, who is currently asking for this information external to FLNRO? I have had no questions from BCWF, GOABC, or any other stakeholders, and from conversations I've had with region staff, I haven't heard of instances of questions coming to them either.

Yes, I we need to get this together and out there, but we need to make sure we get the message right.

I am out of the office this week and not properly plugged in. Am I missing something?

Thanks,  
Andrew

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Monday, May 07, 2012 01:42 PM  
**To:** Burwash, Michael FLNR:EX; Chirico, Albert ENV:EX; Zimmerman, Ted FLNR:EX; Atagi, Dana FLNR:EX; Ramsay, Mike K FLNR:EX  
**Cc:** Hatter, Ian FLNR:EX; Kuzyk, Gerald FLNR:EX; Peterson, Dan FLNR:EX; Rasmussen, Paul FLNR:EX; Bilodeau, Normand G FLNR:EX; Diemert, Karen FLNR:EX; Addison, Christopher FLNR:EX; Wilson, Andrew S FLNR:EX; Clark, Brian J FLNR:EX  
**Subject:** RE: regional summary content - moose survey results including scan of management implications

NOTE that timing on this might advance. Best to plan to have this material into Cariboo Region by 0900 on Wednesday.

Per my e-mail during lunch hour, here are the core content considerations for regional submissions:

- Moose survey results from recent surveys, if any. For those regions who have not carried out SRB surveys in the past two years, summarise what has been done to estimate trends in the moose population.
- Trend in status of moose population in the region. Might require some commentary specific to certain management units or aggregates of management units.
- What is the cause of the trends.... lets avoid speculation. Unless we have specifics, we do not know with certainty. Several factors are at play, and we should state what we may be doing to find out the causes.
- What are the management implications – for allocation and harvest regulation?
- What might we be doing to effect population recovery?

Then, and of critical importance:

- Provide a summary of how it is that the region would carry out communication of this information to First Nations and stakeholders.
- Plan should include details on engagement through regional wildlife advisory committees, posting of information and reports on the ministry web site.
- Outline means by which information will be shared with First Nations, including any particulars respecting strategic engagement agreements or consultation protocols.

**Andrew:** Regions will need to know what enterprise might be built by your team to engage with senior lead reps for the guide communities, the BCWF and other hunter groups like the Resident Hunters Association of BC.

For our reference, here is the guts of what we received as suggested comment from ADM Kriese:

Results found in last winter surveys; should include MU's where we didn't find problems.

Steps we propose to take:

- Revised LEH
- Convene expert review to assess the causal factors
- Further inventories/monitoring planned for the coming year
- Any other assessments (potential review of habitat supply situation)

We separately need to identify a communication strategy that describes how we will propose to get this message out pro-actively including:

- DRM's and Sections Heads directly communicating results through Regional Wildlife Management Committees
- Provincial briefing of BCWF exec and GOABC exec
- Post summary and results to provincial website (same site used for reg changes, plus potentially posted on Ministry Internet)

The call on Tuesday afternoon is to review what you all come up (draft document) with and hopefully land on a package we can present to the Deputy by mid-day on Wednesday. If possible we release widely on Thursday

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cel: s.17 desk (250) 398 4549  
fax (250) 398 4214

---

**From:** Stewart, Rodger W FLNR:EX

**Sent:** Monday, May 7, 2012 12:42 PM

**To:** Peterson, Dan FLNR:EX; Rasmussen, Paul FLNR:EX; Bilodeau, Normand G FLNR:EX; Diemert, Karen FLNR:EX; Addison, Christopher FLNR:EX; Wilson, Andrew S FLNR:EX; Clark, Brian J FLNR:EX

**Cc:** Burwash, Michael FLNR:EX; Chirico, Albert ENV:EX; Zimmerman, Ted FLNR:EX; Atagi, Dana FLNR:EX; Ramsay, Mike K FLNR:EX; Hatter, Ian FLNR:EX; Kuzyk, Gerald FLNR:EX

**Subject:** NOTE: Preparing for communication of moose survey results including scan of management implications

This morning we received direction from our Deputy Minister to prepare for government communication of moose survey results and a scan of the management implications. The timeline for this communication initiative is Wednesday afternoon. I have been asked to coordinate preparations in support of government's communications initiative. I have been in contact with GPCE (Government Communications and Public Engagement) to learn about their work on this file, in relation to the instructions we have from executive.

We had started some initial conversations in the north central regions, where estimations of moose standing crop have gone sharply downward (parts of Skeena, Omineca, across the Cariboo). We are aware that other regions report stability or even improvement of moose populations, news of which needs to be included in government communications. There are substantive vulnerabilities for government in the results across the north central regions, which requires specific attention in how it is that government communicates with stakeholders and FN. And the timeline has been pushed up .....

Having considered notes from the ADMs, and after a talk with Ian Hatter and GPCE, the following sequence of actions appears appropriate. Refer to e-mail from ADM Kevin Kriese that I circulated this morning..... and see further e-mail coming from me later today.

- **This afternoon:** Rodger will share an outline of what each region should be compiling:
  - Technical information summary to support both local and regional engagement with stakeholders, and GPCE's preparation of a strategic communications package.
  - Your region's plan for engagement with First Nations, local and regional stakeholders, the timing of which will depend on government's decisions respecting communications on this file.
- **Today:** Regions may wish to get in front of this task by starting work on the above points .....
- **Tuesday, 0900 to 1000:** Ian and Gerry will convene a conference call with participation from all moose producing regions.
  - Share information on the status of moose populations across regions – 5 to 10 minute summary from each region on survey results and scan of implications
  - Mike Ramsay and Doug Heard to speak on two key topics respecting assessment of factors which may be driving moose population dynamics
  - Rodger Stewart to lead conversation on preparation of the information package for Wednesday per this morning's executive direction on communications.
- **Tuesday afternoon:** Rodger and any other affected DRM and SH to attend conference call with ADM Kriese. See invite from ADM Kriese office. Purpose of call is for regions to report progress on communications package and to calibrate with executive direction on this file.
- **Wednesday, before 11 am:** regions to forward their briefing materials to Cariboo Region (Rodger). Regional submissions will be collated by Cariboo and sent onward through ADM contacts to Deputy and Minister's offices.
- Expect that **late Wednesday or early Thursday** we will receive executive direction on the roll out of government communications per regional plans endorsed by executive. We should expect direction to undertake regional engagement with First Nations and key regional stakeholders on a set time table.

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell . s.17 desk (250) 398 4549  
fax (250) 398 4214

## **Stewart, Rodger W FLNR:EX**

---

**From:** Ramsay, Mike K FLNR:EX  
**Sent:** Monday, May 7, 2012 9:17 PM  
**To:** Stewart, Rodger W FLNR:EX  
**Subject:** Re: Moose package for Deputy.

I have talked to the TNG. Through Chad of the JRC. He is meeting with the chiefs on Friday to give us instruction as to who to meet and how.

----- Original Message -----

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Monday, May 07, 2012 08:30 PM  
**To:** Ramsay, Mike K FLNR:EX  
**Subject:** Re: Moose package for Deputy.

Yeah, I think the summary work is all done. We just need to pick out the key points so people do not have a read through all of Dan's work.

What we need to work on is the second part. That being our regional communications strategy - getting the info to stakeholders and FN, quickly and efficiently.

Rodger

----- Original Message -----

**From:** Ramsay, Mike K FLNR:EX  
**Sent:** Monday, May 07, 2012 08:26 PM  
**To:** Stewart, Rodger W FLNR:EX  
**Subject:** RE: Moose package for Deputy.

...I will be in I cancelled my other stuff.....I think we have gone a long way to answer your questions for this region....I do not know if the other regions biologists can be ready this quick....

-----Original Message-----

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Monday, May 7, 2012 8:24 PM  
**To:** Ramsay, Mike K FLNR:EX  
**Subject:** Moose package for Deputy.

Mike, I hope you will be in tomorrow for the conference calls on the moose issue, and to work up the info package that the Deputy wants by noon Wednesday.

Let me know what space you need to work on this.

Rodger

## Stewart, Rodger W FLNR:EX

---

**From:** Hatter, Ian FLNR:EX  
**Sent:** Tuesday, May 8, 2012 8:17 AM  
**To:** Stewart, Rodger W FLNR:EX; Wenham, Logan GCPE:EX; Kuzyk, Gerald FLNR:EX  
**Subject:** Re: Omineca - Moose survey results

Yes. Gerry Kuzyk has compiled the survey results including R5. And we have Dan's summary.

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Tuesday, May 08, 2012 08:13 AM  
**To:** Wenham, Logan GCPE:EX  
**Cc:** Hatter, Ian FLNR:EX  
**Subject:** FW: Omineca - Moose survey results

..... and the summary from Omineca. I note that Ted has not yet indicated how Omineca intends to share this information with First Nations.

Ian, I believe that Mike Ramsay sent you the survey results and technical summary by Dan Lirette for the Cariboo.

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations

Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell (250) 398 4549, desk (250) 398 4549  
fax (250) 398 4214

---

**From:** Zimmerman, Ted FLNR:EX  
**Sent:** Thursday, May 3, 2012 2:47 PM  
**To:** Kriese, Kevin FLNR:EX; Atagi, Dana FLNR:EX; Bilodeau, Normand G FLNR:EX; Heard, Douglas FLNR:EX; Watts, Glen FLNR:EX; Warner, Bill FLNR:EX  
**Subject:** RE: Moose survey results

Kevin, here's where things are at with the moose situation for the Omineca.

### Status of Moose

Moose per Square Km

Year / Zone	Prince George	Parsnip	Ft. St. James
2011/12	0.61	0.63	0.42
2005/06	1.35	1.18	Not Surveyed
1998/99	1.33	1.14	Not surveyed

- Moose densities have declined by 50% since 2005
- Our findings corroborate anecdotal observations from the hunting community over the last few years

- There is no obvious cause for the decline, however we don't believe it is hunting related (i.e. not a result of overharvest)
- Our results are similar to those observed in the Skeena and Cariboo, so we see this reduction as a broad landscape level effect
- Although the trend is declining, current moose densities in the Omineca are still on par with those in other parts of N. America

### **Communications and Dialogue**

- We met with GOABC and BCWF on Monday April 30 to establish cow LEH numbers for 2012, and to begin dialogue on the moose density issue
- All parties stayed focused on solutions and next steps, and agreed to work collaboratively on developing harvest strategies in light of the results
- Norm has brought the issue to the DRMs and Andrew Wilson to consider how we should action this provincially

### **Proposed Actions**

- We will be meeting with the Omineca Wildlife Management Committee in June to establish moose management objectives and to consider various management alternatives and strategies
- We will use our moose management model, developed this winter, to support setting objectives
- We have already discussed the density trend issue with our colleagues in HQ and will be marshalling other provincial staff and academics to evaluate the causal mechanisms for declines
- We still need to work out HQ vs regional roles in responding to this issue, both for the public and internally
- We do not anticipate any immediate restrictions to bull harvests or other seasons besides cows

### **Resource Needs**

- We could use clarification on inventory fund availability for 2012/13, including the barriers fund envelope
- Our assumption is that the Omineca is on target to receive s.17  
S17 for composition surveys
- We also anticipate inventory funding from the LBIP but the mechanism for distribution is still being worked out
- Once these funds are confirmed, we will develop a study design for next winter to confirm if our results are accurate and to establish population monitoring zones
- The modeling work is well under way, if we receive the funds noted above we will use them to support further analysis

## Recommendations

- Apply a methodical and diagnostic approach to the problem – ie. conduct more analysis to see if we can establish causal links
- Advise our stakeholders that while the decline is surprising, it is not a conservation crisis at this stage
- No need to invoke large scale regulatory reforms at this time
- Continue to work with our partners to better understand the problem and develop possible solutions
- Coordinate a provincial response ASAP

## Ted Zimmerman

**Deputy Regional Manager, Omineca Fish and Wildlife**  
Ministry of Forests, Lands and Natural Resource Operations  
Government of British Columbia  
4051 18<sup>th</sup> Ave. PRINCE GEORGE BC V2N 1B3  
250.614.9904  
ted.zimmerman@gov.bc.ca

---

**From:** Kriese, Kevin FLNR:EX

**Sent:** Thursday, May 3, 2012 6:34 AM

**To:** Zimmerman, Ted FLNR:EX; Atagi, Dana FLNR:EX; Lloyd-Smith, Jane FLNR:EX; Bilodeau, Normand G FLNR:EX

**Cc:** Manwaring, Richard G FLNR:EX; MacDougall, Gerry L FLNR:EX; Stewart, Rodger W FLNR:EX; Warner, Bill FLNR:EX

**Subject:** Moose survey results

Ted gave me a quick heads up about moose numbers last week and I got a note from Wayne Salewski about the meeting Omineca held this week to brief the Regional Wildlife Management Committee on results; suffice it to say results are pretty bad. Rumour is that Skeena is also bad news and maybe cariboo.

It sounds like this will heat up and I realize you are already talking about responses. Suggest that we need three things:

1. Quick note by Friday to me on what we know, what we don't know, what are going to do (LEH cow reductions?) and what we are thinking about doing
2. Can we do something "strategic" to assess the drivers for declines and potential responses. Rumour of a review by esteemed person(s). Done cooperatively with the wildlife committees involved.? I support a short term, thorough, and credible assessment of what is causing it. Even if it doesn't change what we "know" we need to get rid of the rumours about what is going on and try to develop a consensus before we act.
3. Do we need funds for such a review/study. Do we need more information from elsewhere, such as information from ecosystems on habitat condition changes (i.e. retrospective habitat supply analysis would be pretty easy to do as part of MPB response analysis)
4. Other actions we can take?



We will also need a communications plan around this.

Strategy should include use of some kind of pro-active summary of the results (electronic discussion paper?).

I'll set up a briefing to discuss further next week.

thanks

## **Stewart, Rodger W FLNR:EX**

---

**From:** Kuzyk, Gerald FLNR:EX  
**Sent:** Tuesday, May 8, 2012 8:28 AM  
**To:** Hatter, Ian FLNR:EX; Stewart, Rodger W FLNR:EX; Wenham, Logan GCPE:EX  
**Subject:** RE: Omineca - Moose survey results  
**Attachments:** Provincial moose population estimates\_2012.xlsx

Here's Table – I'll circulate to all on the call.

---

**From:** Hatter, Ian FLNR:EX  
**Sent:** Tuesday, May 8, 2012 8:17 AM  
**To:** Stewart, Rodger W FLNR:EX; Wenham, Logan GCPE:EX; Kuzyk, Gerald FLNR:EX  
**Subject:** Re: Omineca - Moose survey results

Yes. Gerry Kuzyk has compiled the survey results including R5. And we have Dan's summary.

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Tuesday, May 08, 2012 08:13 AM  
**To:** Wenham, Logan GCPE:EX  
**Cc:** Hatter, Ian FLNR:EX  
**Subject:** FW: Omineca - Moose survey results

..... and the summary from Omineca. I note that Ted has not yet indicated how Omineca intends to share this information with First Nations.

Ian, I believe that Mike Ramsay sent you the survey results and technical summary by Dan Lirette for the Cariboo.

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations

Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell s.17 desk (250) 398 4549  
fax (250) 398 4214

---

**From:** Zimmerman, Ted FLNR:EX  
**Sent:** Thursday, May 3, 2012 2:47 PM  
**To:** Kriese, Kevin FLNR:EX; Atagi, Dana FLNR:EX; Bilodeau, Normand G FLNR:EX; Heard, Douglas FLNR:EX; Watts, Glen FLNR:EX; Warner, Bill FLNR:EX  
**Subject:** RE: Moose survey results

Kevin, here's where things are at with the moose situation for the Omineca.

### **Status of Moose**

Moose per Square Km

- Moose densities have declined by 50% since 2005
- Our findings corroborate anecdotal observations from the hunting community over the last few years
- There is no obvious cause for the decline, however we don't believe it is hunting related (i.e. not a result of overharvest)
- Our results are similar to those observed in the Skeena and Cariboo, so we see this reduction as a broad landscape level effect
- Although the trend is declining, current moose densities in the Omineca are still on par with those in other parts of N. America

### Communications and Dialogue

- We met with GOABC and BCWF on Monday April 30 to establish cow LEH numbers for 2012, and to begin dialogue on the moose density issue
- All parties stayed focused on solutions and next steps, and agreed to work collaboratively on developing harvest strategies in light of the results
- Norm has brought the issue to the DRMs and Andrew Wilson to consider how we should action this provincially

### Proposed Actions

- We will be meeting with the Omineca Wildlife Management Committee in June to establish moose management objectives and to consider various management alternatives and strategies
- We will use our moose management model, developed this winter, to support setting objectives
- We have already discussed the density trend issue with our colleagues in HQ and will be marshalling other provincial staff and academics to evaluate the causal mechanisms for declines
- We still need to work out HQ vs regional roles in responding to this issue, both for the public and internally
- We do not anticipate any immediate restrictions to bull harvests or other seasons besides cows

### Resource Needs

- We could use clarification on inventory fund availability for 2012/13, including the barriers fund envelope

- Our assumption is that the Omineca is on target to receive  
S17 for composition surveys s.17
- We also anticipate inventory funding from the LBIP but the mechanism for distribution is still being worked out
- Once these funds are confirmed, we will develop a study design for next winter to confirm if our results are accurate and to establish population monitoring zones
- The modeling work is well under way, if we receive the funds noted above we will use them to support further analysis

## Recommendations

- Apply a methodical and diagnostic approach to the problem – ie. conduct more analysis to see if we can establish causal links
- Advise our stakeholders that while the decline is surprising, it is not a conservation crisis at this stage
- No need to invoke large scale regulatory reforms at this time
- Continue to work with our partners to better understand the problem and develop possible solutions
- Coordinate a provincial response ASAP

## Ted Zimmerman

Deputy Regional Manager, Omineca Fish and Wildlife  
Ministry of Forests, Lands and Natural Resource Operations  
Government of British Columbia  
4051 18<sup>th</sup> Ave. PRINCE GEORGE BC V2N 1B3  
250.614.9904  
ted.zimmerman@gov.bc.ca

**From:** Kriese, Kevin FLNR:EX

**Sent:** Thursday, May 3, 2012 6:34 AM

**To:** Zimmerman, Ted FLNR:EX; Atagi, Dana FLNR:EX; Lloyd-Smith, Jane FLNR:EX; Bilodeau, Normand G FLNR:EX

**Cc:** Manwaring, Richard G FLNR:EX; MacDougall, Gerry L FLNR:EX; Stewart, Rodger W FLNR:EX; Warner, Bill FLNR:EX

**Subject:** Moose survey results

Ted gave me a quick heads up about moose numbers last week and I got a note from Wayne Salewski about the meeting Omineca held this week to brief the Regional Wildlife Management Committee on results; suffice it to say results are pretty bad. Rumour is that Skeena is also bad news and maybe cariboo.

It sounds like this will heat up and I realize you are already talking about responses. Suggest that we need three things:

1. Quick note by Friday to me on what we know, what we don't know, what are going to do (LEH cow reductions?) and what we are thinking about doing

2. Can we do something “strategic” to assess the drivers for declines and potential responses. Rumour of a review by esteemed person(s). Done cooperatively with the wildlife committees involved.? I support a short term, thorough, and credible assessment of what is causing it. Even if it doesn’t change what we “know” we need to get rid of the rumours about what is going on and try to develop a consensus before we act.

3. Do we need funds for such a review/study. Do we need more information from elsewhere, such as information from ecosystems on habitat condition changes (i.e. retrospective habitat supply analysis would be pretty easy to do as part of MPB response analysis)

4. Other actions we can take?

We will also need a communications plan around this.

s.13

Strategy should include use of some kind of pro-active summary of the results (electronic discussion paper?).

I’ll set up a briefing to discuss further next week.

thanks

**From:** Kuzyk, Gerald FLNR:EX  
**Sent:** Tuesday, May 8, 2012 8:31 AM  
**To:** Braund, Ramona L FLNR:EX; Heard, Douglas FLNR:EX; Thiessen, Conrad D FLNR:EX; Harris, Brian S FLNR:EX; Williams, Mark FLNR:EX; Freeman, Nicola L ENV:EX; Ramsay, Mike K FLNR:EX; Mowat, Garth FLNR:EX; Szkorupa, Tara D FLNR:EX; Stent, Patrick FLNR:EX; Procter, Chris FLNR:EX; Hatter, Ian FLNR:EX; Reid, Aaron FLNR:EX; Jex, Bill A FLNR:EX; Iredale, Francis FLNR:EX  
**Cc:** Addison, Christopher FLNR:EX; Barr, Larry FLNR:EX; Bilodeau, Normand G FLNR:EX; Lloyd-Smith, Jane FLNR:EX; Peterson, Dan FLNR:EX; Rasmussen, Paul FLNR:EX; Stewart, Rodger W FLNR:EX; Wilson, Andrew S FLNR:EX; Atagi, Dana FLNR:EX; Baccante, Nick FLNR:EX; Burwash, Michael FLNR:EX; Chirico, Albert ENV:EX; Stalberg, Mike X FLNR:EX; Van Hove, John FLNR:EX; White, Tara FLNR:EX; Zimmerman, Ted FLNR:EX  
**Subject:** RE: Current Population Trends of Moose in BC

Here's the Table recently compiled by Regional Biologists.



Provincial moose  
population es...

-----Original Appointment-----

**From:** Braund, Ramona L FLNR:EX

**Sent:** Friday, May 4, 2012 4:34 PM

**To:** Braund, Ramona L FLNR:EX; Heard, Douglas FLNR:EX; Thiessen, Conrad D FLNR:EX; Harris, Brian S FLNR:EX; Williams, Mark FLNR:EX; Freeman, Nicola L ENV:EX; Ramsay, Mike K FLNR:EX; Mowat, Garth FLNR:EX; Szkorupa, Tara D FLNR:EX; Stent, Patrick FLNR:EX; Procter, Chris FLNR:EX; Hatter, Ian FLNR:EX; Kuzyk, Gerald FLNR:EX

**Cc:** Addison, Christopher FLNR:EX; Barr, Larry FLNR:EX; Bilodeau, Normand G FLNR:EX; Lloyd-Smith, Jane FLNR:EX; Peterson, Dan FLNR:EX; Rasmussen, Paul FLNR:EX; Stewart, Rodger W FLNR:EX; Wilson, Andrew S FLNR:EX; Atagi, Dana FLNR:EX; Baccante, Nick FLNR:EX; Burwash, Michael FLNR:EX; Chirico, Albert ENV:EX; Stalberg, Mike X FLNR:EX; Van Hove, John FLNR:EX; White, Tara FLNR:EX; Zimmerman, Ted FLNR:EX

**Subject:** Current Population Trends of Moose in BC

**When:** Tuesday, May 8, 2012 9:00 AM-10:00 AM (GMT-08:00) Pacific Time (US & Canada).

**Where:** conference call: s.17 Participant ID: s.17

When: Tuesday, May 8, 2012 9:00 AM-10:00 AM (GMT-08:00) Pacific Time (US & Canada).

Where: conference call: s.17 Participant ID: s.17

Note: The GMT offset above does not reflect daylight saving time adjustments.

\*~\*~\*~\*~\*~\*~\*~\*~\*~\*

Ian Hatter will be the moderator.

---

Hi Ramona. Can you please find a time next week (Tuesday through Friday) for a 1 hour conference call with the following? Presenters need to be available for the call – the cc list is optional attendance. Please send out the meeting invite below:

Thanks  
Ian

To: Heard, Douglas FLNR:EX; Thiessen, Conrad D FLNR:EX; Harris, Brian S FLNR:EX; Williams, Mark FLNR:EX; Freeman, Nicola L ENV:EX; Ramsay, Mike K FLNR:EX; Mowat, Garth FLNR:EX; Szkorupa, Tara D FLNR:EX; Stent, Patrick FLNR:EX; Procter, Chris FLNR:EX; Ian Hatter; Gerry Kuzyk

CC: F&W Section Heads; FLNRO DRMs; Wilson, Andrew S FLNR:EX

Subject: Current Population Trends of Moose in BC

Information collected from several moose inventories last year have indicated substantial moose declines in several areas of the province, which are going to pose some significant challenges for moose management. I am proposing that we have a 1 hour conference call to discuss this issue.

Chair: Ian Hatter

Agenda:

1. Purpose – to develop a common understanding of the current trends in moose population density and possible next steps – Ian Hatter, Gerry Kuzyk
2. Regional Moose Inventory/Status Updates (5 mins max) – Reg 8-Brian Harris; Reg 7B-Conrad Thiessen; Reg 7A-Doug Heard; Reg 6-Mark Williams; Reg 5-Nicola Freeman; Reg 4-Pat Stent; Reg 3-Chris Procter;
3. Thoughts from the Cariboo (Reg 5) – Mike Ramsay
4. Omineca Moose Model – Doug Heard
5. Next Steps – Ian, others

**Ian Hatter, RPBio**

Wildlife Manager | Fish, Wildlife and Habitat Management Branch | Ministry of Natural Resource Operations | T: 250-387-9792 | E: [Ian.Hatter@gov.bc.ca](mailto:Ian.Hatter@gov.bc.ca)

Moose density surveys 2005 and 2012																					Change (% decline)	
areas	MU's	previous estimate	survey area (km2)	density estimate	SE	CV	reference	Sex ratio	Calf:cow ratio	winter 2011-2012	survey area (km2)	density estimate	SE	CV	reference	Sex ratio	Calf:cow ratio					
Region 8	West Kluwana	6-11	1999	0.44	198		Poole et al 1995	50	53	2011	448.5	0.85	879		Poole and Gygis	26	32	+92				
Region 7A	Prince George	7-07 to 7-13, 7-15	2005-2006	1.35	23300	2550	0.11 Walker et al 2006	26	33		16003	0.61	9831		0.08 Heard in prep	30	28	-8				
Region 7A	Parms.p	7-16, 7-23	2005-2006	2501	1.18	3000	440	0.15 Walker et al 2006	59	30		2157	0.63	1352		0.15 Heard in prep	66	25	-67			
Region 7B	Pine/Moberly	MU 7-32	2004	3683	0.9316	34.3	Rowe 2004	59	37	2011	3683	0.72	2656		0.14 Thiesen in prep	23	37	-43			* Our data shows a 23% decline	
Region 6	BVLD	5-04 to 6-05, 6-08, 6-09	2004	9195	1.72	15794	Marshall 2012				9195	1.37	12037		Marshall 2012	32	37	-20				
Region 5	MU 5-34	5-04	2005-2008	5194	0.29	1503	0.08 Davis 2012	54	34		5194	0.17	889		0.11 Davis 2012	40	28	-41				
Region 5	MU 5-12	5-12	2001-2002	2672	0.58	1546	0.07 Mackay 2012	44	48		2672	0.23	622		0.19 Mackay 2012	66	43	-60				
Region 4	Whitman Lake	4-32	1997	397	0.27	126	0.2 Halko and Hebert: 1	78	N/A	2011	862	0.30	296		0.2 Reid et al 2011	116	41	+10				
Region 3	No comparable 3R6's																	Not Available			* Repeat Survey last year cancelled	



since 2004, however it's important to put that in a longer-term perspective. 2004 appears to be a high year (with high variance) with previous surveys being similar to 2011													
due to weather													

## Stewart, Rodger W FLNR:EX

**From:** Lirette, Daniel FLNR:EX  
**Sent:** Tuesday, May 8, 2012 8:59 AM  
**To:** Kuzyk, Gerald FLNR:EX; Stewart, Rodger W FLNR:EX; Hatter, Ian FLNR:EX; Wenham, Logan GCPE:EX  
**Cc:** Ramsay, Mike K FLNR:EX  
**Subject:** RE: REQUEST: Provincial - Moose survey results

### MU 5-02C Survey History

Year	Survey Area(km <sup>2</sup> )	Estimated Density	Total Moose Estimate (90% CI)	Bulls/100 Cows	Calves/100 Cows	Statistical Change in Moose Population Detected
1994	960	0.50±0.096	479±92.0 (19.2%)	12.3±9.5	36.4±11.4	N/A – initial survey in zone
1997	960	0.28±0.041	273±39.8 (14.6%)	31.4±9.1	48.7±11.1	Not statistically tested
2001	3,152	0.62±0.088	1943±275 (14.2%)	20.9±5.6	44.8±9.6	Not tested due to differences in survey area
2011	3,152	0.51±0.079	1619±249 (15.4%)	43.4±11.6	35.3±8.9	No; the decrease in density from 2001 to 2011 was not found to be statistically significant

**From:** Kuzyk, Gerald FLNR:EX  
**Sent:** Tuesday, May 8, 2012 8:46 AM  
**To:** Stewart, Rodger W FLNR:EX; Hatter, Ian FLNR:EX; Wenham, Logan GCPE:EX  
**Cc:** Ramsay, Mike K FLNR:EX; Lirette, Daniel FLNR:EX  
**Subject:** RE: REQUEST: Provincial - Moose survey results

Ok Rodger -- will do.

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Tuesday, May 8, 2012 8:42 AM  
**To:** Kuzyk, Gerald FLNR:EX; Hatter, Ian FLNR:EX; Wenham, Logan GCPE:EX  
**Cc:** Ramsay, Mike K FLNR:EX; Lirette, Daniel FLNR:EX  
**Subject:** REQUEST: Provincial - Moose survey results

Gerry. We might add into this table the survey results and population trend implications for MU 5-02B winter 10/11.

Dan or Mike, please send the technical summary for the 2010/11 SRB moose survey to Gerry.

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell s.17 desk (250) 398 4549  
fax (250) 398 4214

**From:** Kuzyk, Gerald FLNR:EX  
**Sent:** Tuesday, May 8, 2012 8:28 AM  
**To:** Hatter, Ian FLNR:EX; Stewart, Rodger W FLNR:EX; Wenham, Logan GCPE:EX  
**Subject:** RE: Omineca - Moose survey results

Here's Table – I'll circulate to all on the call.

---

**From:** Hatter, Ian FLNR:EX  
**Sent:** Tuesday, May 8, 2012 8:17 AM  
**To:** Stewart, Rodger W FLNR:EX; Wenham, Logan GCPE:EX; Kuzyk, Gerald FLNR:EX  
**Subject:** Re: Omineca - Moose survey results

Yes. Gerry Kuzyk has compiled the survey results including R5. And we have Dan's summary.

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Tuesday, May 08, 2012 08:13 AM  
**To:** Wenham, Logan GCPE:EX  
**Cc:** Hatter, Ian FLNR:EX  
**Subject:** FW: Omineca - Moose survey results

..... and the summary from Omineca. I note that Ted has not yet indicated how Omineca intends to share this information with First Nations.

Ian, I believe that Mike Ramsay sent you the survey results and technical summary by Dan Lirette for the Cariboo.

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations

Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell s.17 desk (250) 398 4549  
fax (250) 398 4214

---

**From:** Zimmerman, Ted FLNR:EX  
**Sent:** Thursday, May 3, 2012 2:47 PM  
**To:** Kriese, Kevin FLNR:EX; Atagi, Dana FLNR:EX; Bilodeau, Normand G FLNR:EX; Heard, Douglas FLNR:EX; Watts, Glen FLNR:EX; Warner, Bill FLNR:EX  
**Subject:** RE: Moose survey results

Kevin, here's where things are at with the moose situation for the Omineca.

### Status of Moose

Moose per Square Km

Year / Zone	Prince George	Parsnip	Ft. St. James
2011/12	0.61	0.63	0.42
2005/06	1.35	1.18	Not Surveyed
1998/99	1.33	1.14	Not surveyed

- Moose densities have declined by 50% since 2005

- Our findings corroborate anecdotal observations from the hunting community over the last few years
- There is no obvious cause for the decline, however we don't believe it is hunting related (i.e. not a result of overharvest)
- Our results are similar to those observed in the Skeena and Cariboo, so we see this reduction as a broad landscape level effect
- Although the trend is declining, current moose densities in the Omineca are still on par with those in other parts of N. America

### **Communications and Dialogue**

- We met with GOABC and BCWF on Monday April 30 to establish cow LEH numbers for 2012, and to begin dialogue on the moose density issue
- All parties stayed focused on solutions and next steps, and agreed to work collaboratively on developing harvest strategies in light of the results
- Norm has brought the issue to the DRMs and Andrew Wilson to consider how we should action this provincially

### **Proposed Actions**

- We will be meeting with the Omineca Wildlife Management Committee in June to establish moose management objectives and to consider various management alternatives and strategies
- We will use our moose management model, developed this winter, to support setting objectives
- We have already discussed the density trend issue with our colleagues in HQ and will be marshalling other provincial staff and academics to evaluate the causal mechanisms for declines
- We still need to work out HQ vs regional roles in responding to this issue, both for the public and internally
- We do not anticipate any immediate restrictions to bull harvests or other seasons besides cows

### **Resource Needs**

- We could use clarification on inventory fund availability for 2012/13, including the barriers fund envelope
- Our assumption is that the Omineca is on target to receive s.17  
s.17 for composition surveys
- We also anticipate inventory funding from the LBIP but the mechanism for distribution is still being worked out
- Once these funds are confirmed, we will develop a study design for next winter to confirm if our results are accurate and to establish population monitoring zones

- The modeling work is well under way, if we receive the funds noted above we will use them to support further analysis

## Recommendations

- Apply a methodical and diagnostic approach to the problem – ie. conduct more analysis to see if we can establish causal links
- Advise our stakeholders that while the decline is surprising, it is not a conservation crisis at this stage
- No need to invoke large scale regulatory reforms at this time
- Continue to work with our partners to better understand the problem and develop possible solutions
- Coordinate a provincial response ASAP

## Ted Zimmerman

**Deputy Regional Manager, Omineca Fish and Wildlife**  
 Ministry of Forests, Lands and Natural Resource Operations  
 Government of British Columbia  
 4051 18<sup>th</sup> Ave. PRINCE GEORGE BC V2N 1B3  
 250.614.9904  
 ted.zimmerman@gov.bc.ca

---

**From:** Kriese, Kevin FLNR:EX  
**Sent:** Thursday, May 3, 2012 6:34 AM  
**To:** Zimmerman, Ted FLNR:EX; Atagi, Dana FLNR:EX; Lloyd-Smith, Jane FLNR:EX; Bilodeau, Normand G FLNR:EX  
**Cc:** Manwaring, Richard G FLNR:EX; MacDougall, Gerry L FLNR:EX; Stewart, Rodger W FLNR:EX; Warner, Bill FLNR:EX  
**Subject:** Moose survey results

Ted gave me a quick heads up about moose numbers last week and I got a note from Wayne Salewski about the meeting Omineca held this week to brief the Regional Wildlife Management Committee on results; suffice it to say results are pretty bad. Rumour is that Skeena is also bad news and maybe cariboo.

It sounds like this will heat up and I realize you are already talking about responses. Suggest that we need three things:

1. Quick note by Friday to me on what we know, what we don't know, what are going to do (LEH cow reductions?) and what we are thinking about doing
2. Can we do something "strategic" to assess the drivers for declines and potential responses. Rumour of a review by esteemed person(s). Done cooperatively with the wildlife committees involved.? I support a short term, thorough, and credible assessment of what is causing it. Even if it doesn't change what we "know" we need to get rid of the rumours about what is going on and try to develop a consensus before we act.
3. Do we need funds for such a review/study. Do we need more information from elsewhere, such as information from ecosystems on habitat condition changes (i.e. retrospective habitat supply analysis would be pretty easy to do as part of MPB response analysis)

4. Other actions we can take?

We will also need a communications plan around this.

s.13

Strategy should include use of some kind of pro-active summary of the results (electronic discussion paper?).

I'll set up a briefing to discuss further next week.

thanks

## Stewart, Rodger W FLNR:EX

---

**From:** Zimmerman, Ted FLNR:EX  
**Sent:** Tuesday, May 8, 2012 1:33 PM  
**To:** Stewart, Rodger W FLNR:EX  
**Cc:** Giles, Wayne FLNR:EX; Bilodeau, Normand G FLNR:EX; Heard, Douglas FLNR:EX; Watts, Glen FLNR:EX  
**Subject:** RE: NOTE - Moose survey results

Rodger,

We've been discussing next steps with respect to First Nations engagement and while we haven't landed on a specific strategy, we think we should adopt the following principles:

- We will work with our regional First Nations Relations team to develop an engagement plan
- First Nations will be invited to the table to develop objectives for moose management, and to be involved in regional modeling work
- We are not recommending any immediate regulatory measures at this time to accommodate FN needs, as we think this would be premature
- We will continue to work with First Nations in developing our sampling plan for 2012/13 survey work

Cheers, Ted

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Tuesday, May 8, 2012 8:03 AM  
**To:** Zimmerman, Ted FLNR:EX  
**Subject:** RE: NOTE - Moose survey results

Ted, as you stated yesterday, this is pretty much all we need as technical information and a regional communications outline. Other questions might arise from today's calls, in which case I will be in direct contact with you.

Good work on staying out in front of this. One question that is not yet addressed by your notes is the required sharing of the information with FN. Could you comment?

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cel (250) 398 4549, desk (250) 398 4549  
fax (250) 398 4214

---

**From:** Zimmerman, Ted FLNR:EX  
**Sent:** Monday, May 7, 2012 10:09 AM  
**To:** Stewart, Rodger W FLNR:EX  
**Subject:** FW: Moose survey results

Rodger, here's our position on the moose issue.

I don't have a calendar invite for a call this afternoon so if you could send it out that would be great.

Thanks, Ted

---

**From:** Zimmerman, Ted FLNR:EX

**Sent:** Thursday, May 3, 2012 2:47 PM

**To:** Kriese, Kevin FLNR:EX; Atagi, Dana FLNR:EX; Bilodeau, Normand G FLNR:EX; Heard, Douglas FLNR:EX; Watts, Glen FLNR:EX; Warner, Bill FLNR:EX

**Subject:** RE: Moose survey results

Kevin, here's where things are at with the moose situation for the Omineca.

#### Status of Moose

##### Moose per Square Km

Year / Zone	Prince George	Parsnip	Ft. St. James
2011/12	0.61	0.63	0.42
2005/06	1.35	1.18	Not Surveyed
1998/99	1.33	1.14	Not surveyed

- Moose densities have declined by 50% since 2005
- Our findings corroborate anecdotal observations from the hunting community over the last few years
- There is no obvious cause for the decline, however we don't believe it is hunting related (i.e. not a result of overharvest)
- Our results are similar to those observed in the Skeena and Cariboo, so we see this reduction as a broad landscape level effect
- Although the trend is declining, current moose densities in the Omineca are still on par with those in other parts of N. America

#### Communications and Dialogue

- We met with GOABC and BCWF on Monday April 30 to establish cow LEH numbers for 2012, and to begin dialogue on the moose density issue
- All parties stayed focused on solutions and next steps, and agreed to work collaboratively on developing harvest strategies in light of the results
- Norm has brought the issue to the DRMs and Andrew Wilson to consider how we should action this provincially

#### Proposed Actions

- We will be meeting with the Omineca Wildlife Management Committee in June to establish moose management objectives and to consider various management alternatives and strategies
- We will use our moose management model, developed this winter, to support setting objectives
- We have already discussed the density trend issue with our colleagues in HQ and will be marshalling other provincial staff and academics to evaluate the causal mechanisms for declines
- We still need to work out HQ vs regional roles in responding to this issue, both for the public and internally
- We do not anticipate any immediate restrictions to bull harvests or other seasons besides cows

#### Resource Needs

- We could use clarification on inventory fund availability for 2012/13, including the barriers fund envelope
- Our assumption is that the Omineca is on target to receive  
S17 for composition surveys

s.17



- We also anticipate inventory funding from the LBIP but the mechanism for distribution is still being worked out
- Once these funds are confirmed, we will develop a study design for next winter to confirm if our results are accurate and to establish population monitoring zones
- The modeling work is well under way, if we receive the funds noted above we will use them to support further analysis

## Recommendations

- Apply a methodical and diagnostic approach to the problem – ie. conduct more analysis to see if we can establish causal links
- Advise our stakeholders that while the decline is surprising, it is not a conservation crisis at this stage
- No need to invoke large scale regulatory reforms at this time
- Continue to work with our partners to better understand the problem and develop possible solutions
- Coordinate a provincial response ASAP

## Ted Zimmerman

**Deputy Regional Manager, Omineca Fish and Wildlife**  
 Ministry of Forests, Lands and Natural Resource Operations  
 Government of British Columbia  
 4051 18<sup>th</sup> Ave. PRINCE GEORGE BC V2N 1B3  
 250.614.9904  
 ted.zimmerman@gov.bc.ca

---

**From:** Kriese, Kevin FLNR:EX

**Sent:** Thursday, May 3, 2012 6:34 AM

**To:** Zimmerman, Ted FLNR:EX; Atagi, Dana FLNR:EX; Lloyd-Smith, Jane FLNR:EX; Bilodeau, Normand G FLNR:EX

**Cc:** Manwaring, Richard G FLNR:EX; MacDougall, Gerry L FLNR:EX; Stewart, Rodger W FLNR:EX; Warner, Bill FLNR:EX

**Subject:** Moose survey results

Ted gave me a quick heads up about moose numbers last week and I got a note from Wayne Salewski about the meeting Omineca held this week to brief the Regional Wildlife Management Committee on results; suffice it to say results are pretty bad. Rumour is that Skeena is also bad news and maybe cariboo.

It sounds like this will heat up and I realize you are already talking about responses. Suggest that we need three things:

1. Quick note by Friday to me on what we know, what we don't know, what are going to do (LEH cow reductions?) and what we are thinking about doing
2. Can we do something "strategic" to assess the drivers for declines and potential responses. Rumour of a review by esteemed person(s). Done cooperatively with the wildlife committees involved.? I support a short term, thorough, and credible assessment of what is causing it. Even if it doesn't change what we "know" we need to get rid of the rumours about what is going on and try to develop a consensus before we act.
3. Do we need funds for such a review/study. Do we need more information from elsewhere, such as information from ecosystems on habitat condition changes (i.e. retrospective habitat supply analysis would be pretty easy to do as part of MPB response analysis)
4. Other actions we can take?

We will also need a communications plan around this.

s.13

Strategy

should include use of some kind of pro-active summary of the results (electronic discussion paper?).

I'll set up a briefing to discuss further next week.

thanks

## Stewart, Rodger W FLNR:EX

**From:** Lirette, Daniel FLNR:EX  
**Sent:** Tuesday, May 8, 2012 1:47 PM  
**To:** Stewart, Rodger W FLNR:EX; Kuzyk, Gerald FLNR:EX; Hatter, Ian FLNR:EX; Wenham, Logan GCPE:EX  
**Cc:** Ramsay, Mike K FLNR:EX  
**Subject:** RE: MORE: REQUEST: MU 5-02C - Moose survey results  
**Attachments:** GMZ 5B Alternative Harvest Strategy Review Oct 7 -FINAL.docx

The 2011 GMZ 5B moose estimate of 6265 moose is a decrease of 7% from the 2008 5B moose estimate of 6727 moose. The resident/non-resident AAH for 2012 was decreased 16% from 2008 (396 from 493) following the modelling conducted during the alternative harvest strategy evaluation. I've attached the write up of the alternative harvest strategy review for reference. Page 6&7 explain how the 2012 population estimate was calculated.

Dan

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Tuesday, May 8, 2012 1:32 PM  
**To:** Lirette, Daniel FLNR:EX; Kuzyk, Gerald FLNR:EX; Hatter, Ian FLNR:EX; Wenham, Logan GCPE:EX  
**Cc:** Ramsay, Mike K FLNR:EX  
**Subject:** MORE: REQUEST: MU 5-02C - Moose survey results

Dan, could you please let us know what the trend is for the population estimate in GMZ 5B, as compared to the previous population estimate? I know that it's in the information sheet we circulated to stakeholders last year, just can't put my hand on it at the moment.

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell s.17 , desk (250) 398 4549  
fax (250) 398 4214

---

**From:** Lirette, Daniel FLNR:EX  
**Sent:** Tuesday, May 8, 2012 8:59 AM  
**To:** Kuzyk, Gerald FLNR:EX; Stewart, Rodger W FLNR:EX; Hatter, Ian FLNR:EX; Wenham, Logan GCPE:EX  
**Cc:** Ramsay, Mike K FLNR:EX  
**Subject:** RE: REQUEST: Provincial - Moose survey results

MU 5-02C Survey History

Year	Survey Area(km <sup>2</sup> )	Estimated Density	Total Moose Estimate (90% CI)	Bulls/100 Cows	Calves/100 Cows	Statistical Change in Moose Population Detected
1994	960	0.50±0.096	479±92.0 (19.2%)	12.3±9.5	36.4±11.4	N/A – initial survey in zone
1997	960	0.28±0.041	273±39.8 (14.6%)	31.4±9.1	48.7±11.1	Not statistically tested
2001	3,152	0.62±0.088	1943±275 (14.2%)	20.9±5.6	44.8±9.6	Not tested due to differences in survey area
2011	3,152	0.51±0.079	1619±249 (15.4%)	43.4±11.6	35.3±8.9	No; the decrease in density from 2001 to 2011 was not found to be statistically

**From:** Kuzyk, Gerald FLNR:EX  
**Sent:** Tuesday, May 8, 2012 8:46 AM  
**To:** Stewart, Rodger W FLNR:EX; Hatter, Ian FLNR:EX; Wenham, Logan GCPE:EX  
**Cc:** Ramsay, Mike K FLNR:EX; Lirette, Daniel FLNR:EX  
**Subject:** RE: REQUEST: Provincial - Moose survey results

Ok Rodger – will do.

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Tuesday, May 8, 2012 8:42 AM  
**To:** Kuzyk, Gerald FLNR:EX; Hatter, Ian FLNR:EX; Wenham, Logan GCPE:EX  
**Cc:** Ramsay, Mike K FLNR:EX; Lirette, Daniel FLNR:EX  
**Subject:** REQUEST: Provincial - Moose survey results

Gerry. We might add into this table the survey results and population trend implications for MU 5-02B winter 10/11.

Dan or Mike, please send the technical summary for the 2010/11 SRB moose survey to Gerry.

Rodger Stewart  
 Director, Resource Management  
 Ministry of Forests, Lands and Natural Resource Operations  
 Cariboo Region  
 400 - 640 Borland Street  
 Williams Lake, BC  
 V2G 4T1  
 cell (250) 398 4549  
 fax (250) 398 4214

**From:** Kuzyk, Gerald FLNR:EX  
**Sent:** Tuesday, May 8, 2012 8:28 AM  
**To:** Hatter, Ian FLNR:EX; Stewart, Rodger W FLNR:EX; Wenham, Logan GCPE:EX  
**Subject:** RE: Omineca - Moose survey results

Here's Table – I'll circulate to all on the call.

**From:** Hatter, Ian FLNR:EX  
**Sent:** Tuesday, May 8, 2012 8:17 AM  
**To:** Stewart, Rodger W FLNR:EX; Wenham, Logan GCPE:EX; Kuzyk, Gerald FLNR:EX  
**Subject:** Re: Omineca - Moose survey results

Yes. Gerry Kuzyk has compiled the survey results including R5. And we have Dan's summary.

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Tuesday, May 08, 2012 08:13 AM  
**To:** Wenham, Logan GCPE:EX  
**Cc:** Hatter, Ian FLNR:EX  
**Subject:** FW: Omineca - Moose survey results

..... and the summary from Omineca. I note that Ted has not yet indicated how Omineca intends to share this information with First Nations.

Ian, I believe that Mike Ramsay sent you the survey results and technical summary by Dan Lirette for the Cariboo.

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations

Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell s.17 desk (250) 398 4549  
fax (250) 398 4214

---

**From:** Zimmerman, Ted FLNR:EX  
**Sent:** Thursday, May 3, 2012 2:47 PM  
**To:** Kriese, Kevin FLNR:EX; Atagi, Dana FLNR:EX; Bilodeau, Normand G FLNR:EX; Heard, Douglas FLNR:EX; Watts, Glen FLNR:EX; Warner, Bill FLNR:EX  
**Subject:** RE: Moose survey results

Kevin, here's where things are at with the moose situation for the Omineca.

### Status of Moose

#### Moose per Square Km

Year / Zone	Prince George	Parsnip	Ft. St. James
2011/12	0.61	0.63	0.42
2005/06	1.35	1.18	Not Surveyed
1998/99	1.33	1.14	Not surveyed

- Moose densities have declined by 50% since 2005
- Our findings corroborate anecdotal observations from the hunting community over the last few years
- There is no obvious cause for the decline, however we don't believe it is hunting related (i.e. not a result of overharvest)
- Our results are similar to those observed in the Skeena and Cariboo, so we see this reduction as a broad landscape level effect
- Although the trend is declining, current moose densities in the Omineca are still on par with those in other parts of N. America

### Communications and Dialogue

- We met with GOABC and BCWF on Monday April 30 to establish cow LEH numbers for 2012, and to begin dialogue on the moose density issue
- All parties stayed focused on solutions and next steps, and agreed to work collaboratively on developing harvest strategies in light of the results

- Norm has brought the issue to the DRMs and Andrew Wilson to consider how we should action this provincially

### **Proposed Actions**

- We will be meeting with the Omineca Wildlife Management Committee in June to establish moose management objectives and to consider various management alternatives and strategies
- We will use our moose management model, developed this winter, to support setting objectives
- We have already discussed the density trend issue with our colleagues in HQ and will be marshalling other provincial staff and academics to evaluate the causal mechanisms for declines
- We still need to work out HQ vs regional roles in responding to this issue, both for the public and internally
- We do not anticipate any immediate restrictions to bull harvests or other seasons besides cows

### **Resource Needs**

- We could use clarification on inventory fund availability for 2012/13, including the barriers fund envelope
- Our assumption is that the Omineca is on target to receive s.17  
s17 for composition surveys
- We also anticipate inventory funding from the LBIP but the mechanism for distribution is still being worked out
- Once these funds are confirmed, we will develop a study design for next winter to confirm if our results are accurate and to establish population monitoring zones
- The modeling work is well under way, if we receive the funds noted above we will use them to support further analysis

### **Recommendations**

- Apply a methodical and diagnostic approach to the problem – ie. conduct more analysis to see if we can establish causal links
- Advise our stakeholders that while the decline is surprising, it is not a conservation crisis at this stage
- No need to invoke large scale regulatory reforms at this time
- Continue to work with our partners to better understand the problem and develop possible solutions
- Coordinate a provincial response ASAP

## Ted Zimmerman

Deputy Regional Manager, Omineca Fish and Wildlife  
Ministry of Forests, Lands and Natural Resource Operations  
Government of British Columbia  
4031 16<sup>th</sup> Ave, PRINCE GEORGE BC V2N 1B3  
250.614.9904  
ted.zimmerman@gov.bc.ca

---

**From:** Kriese, Kevin FLNR:EX

**Sent:** Thursday, May 3, 2012 6:34 AM

**To:** Zimmerman, Ted FLNR:EX; Atagi, Dana FLNR:EX; Lloyd-Smith, Jane FLNR:EX; Bilodeau, Normand G FLNR:EX

**Cc:** Manwaring, Richard G FLNR:EX; MacDougall, Gerry L FLNR:EX; Stewart, Rodger W FLNR:EX; Warner, Bill FLNR:EX

**Subject:** Moose survey results

Ted gave me a quick heads up about moose numbers last week and I got a note from Wayne Salewski about the meeting Omineca held this week to brief the Regional Wildlife Management Committee on results; suffice it to say results are pretty bad. Rumour is that Skeena is also bad news and maybe cariboo.

It sounds like this will heat up and I realize you are already talking about responses. Suggest that we need three things:

1. Quick note by Friday to me on what we know, what we don't know, what are going to do (LEH cow reductions?) and what we are thinking about doing
2. Can we do something "strategic" to assess the drivers for declines and potential responses. Rumour of a review by esteemed person(s). Done cooperatively with the wildlife committees involved.? I support a short term, thorough, and credible assessment of what is causing it. Even if it doesn't change what we "know" we need to get rid of the rumours about what is going on and try to develop a consensus before we act.
3. Do we need funds for such a review/study. Do we need more information from elsewhere, such as information from ecosystems on habitat condition changes (i.e. retrospective habitat supply analysis would be pretty easy to do as part of MPB response analysis)
4. Other actions we can take?

We will also need a communications plan around this.

s.13

Strategy should include use of some kind of pro-active summary of the results (electronic discussion paper?).

I'll set up a briefing to discuss further next week.

thanks

**From:** Harris, Brian S FLNR:EX  
**Sent:** Tuesday, May 8, 2012 3:07 PM  
**To:** Stewart, Rodger W FLNR:EX  
**Subject:** RE: REQUEST: PLease review and report back - moose survey results

Good job Roger. Some suggested text.

Cheers!

Brian Harris  
Wildlife Biologist  
Ministry of Forests Lands and Natural Resource Operations  
102 Industrial Place  
Penticton, B.C. V2A 7C8  
250-490-8254 Fax 250-490-2231  
[brian.s.harris@gov.bc.ca](mailto:brian.s.harris@gov.bc.ca)

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Tuesday, May 8, 2012 2:58 PM  
**To:** Procter, Chris FLNR:EX; Harris, Brian S FLNR:EX  
**Cc:** Peterson, Dan FLNR:EX  
**Subject:** REQUEST: PLease review and report back - moose survey results

Guys, to aid in our compilation of moose population information per executive direction, please have a look at the following and vet for accuracy. Please revise and needed and send back to me as soon as you can. I must have this all done by noon tomorrow....

## **5.0 Thompson Okanagan Region**

### **5.1 Population trends:**

- 2011 Survey results in MU 8-11 doubled the moose population estimate in that MU. Surveys elsewhere in 2012 in the Region found moose numbers stable or increasing.
- Bull/cow ratios are comparatively low, possibly an indication of elevated harvesting success given high resource road densities.
- Calf recruitment is meeting objectives, but may be at risk due to anecdotes of increased wolf predation.
- There are no survey results for the Thompson sub-region, as weather prevented standard surveys from being carried out last winter.
- Anecdotes and harvest information suggest that moose densities are likely in decline in area of the North Thompson, in the Bonaparte, and on the Nehalliston Plateau.

### **5.2 Communications:**

- Okanagan sub-region maintains regular engagement with sectoral stakeholders and First Nations.
- The Thompson sub-region is deeply engaged with communities of the Secwepemc Nation respecting game management issues across the northern areas of the region. A partnership was developed to support a telemetry project examining moose survival and habitat use north of Savona.

### **5.3 Proposed management actions and initiatives:**

- There are no grounds for substantive alteration of the current harvest regulations in the Okanagan, or as yet in the Thompson.
- Thompson sub-region is seeking stable funding to carry out population surveys to confirm trends, and to sustain the telemetry project partnership.



- Okanagan is seeking funding to complete moose population surveys, some Management Units have never been surveyed.

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell s.17 desk (250) 398 4549  
fax (250) 398 4214

## **Stewart, Rodger W FLNR:EX**

---

**From:** Addison, Christopher FLNR:EX  
**Sent:** Tuesday, May 8, 2012 3:12 PM  
**To:** Stewart, Rodger W FLNR:EX  
**Subject:** RE: REQUEST: summary of moose situation for Peace Region

Thanks Rodger. Some additions. I would hate to lose an opportunity to address some legacy management issues I have regardless of whether we have an immediate population level concern.



Chris Addison, R.P. Bio  
Director of Resource Management, Northeast

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Tuesday, May 8, 2012 2:24 PM  
**To:** Addison, Christopher FLNR:EX  
**Subject:** REQUEST: summary of moose situation for Peace Region

Please let me know as soon as possible if this is accurate. Revise as needed.

### **1. Peace Region**

#### **1.1 Population trends**

- Population surveys in MU 7-32 indicate a small decline in moose density since a 2004 survey. However the population trend is stable over the long term, considering surveys previous to 2004.
- Surveys in the areas of the far northeast indicate a stable, low density population typical of that land area.
- The population is stable in agriculture zones.
- Many northern populations are surveyed rarely and there are stakeholder and First Nations concerns around population levels. There may be demographic or mortality concerns that are masked by stable population levels.

#### **1.2 Communications**

- The region maintains engagement with sectoral stakeholders on a scheduled basis.
- Engagement with First Nations is carried out consistent with established protocols of the region.

#### **1.3 Proposed management actions and initiatives:**

- Population levels present no grounds to materially alter the harvest management regime for moose in the Peace Region. However, regional staff support investigating opportunities to improve management of moose.

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell s.17 desk (250) 398 4549  
fax (250) 398 4214

**From:** Addison, Christopher FLNR:EX  
**Sent:** Tuesday, May 8, 2012 1:00 PM

**To:** Stewart, Rodger W FLNR:EX  
**Subject:** t

Hi Rodger. Just wanted to check if you had what you needed from us in advance of our call tomorrow?

---



Chris Addison, R.P. Bio

Director of Resource Management, Northeast | Ministry of Forests, Lands and Natural Resource Operations

Suite 400, 10003 110th Ave | Fort St. John, BC, V1J 6M7 | Phone - 250.787.3285 | Email:

[Christopher.Addison@gov.bc.ca](mailto:Christopher.Addison@gov.bc.ca)

---

**From:** Procter, Chris FLNR:EX  
**Sent:** Tuesday, May 8, 2012 4:19 PM  
**To:** Harris, Brian S FLNR:EX; Burwash, Michael FLNR:EX  
**Cc:** Stewart, Rodger W FLNR:EX  
**Subject:** RE: REQUEST: PLease review and report back - moose survey results

Rodger, some additional suggestions and edits on top of Brian's. Otherwise, looks good.

**From:** Harris, Brian S FLNR:EX  
**Sent:** Tuesday, May 8, 2012 3:07 PM  
**To:** Stewart, Rodger W FLNR:EX  
**Subject:** RE: REQUEST: PLease review and report back - moose survey results

Good job Roger. Some suggested text.

Cheers!

Brian Harris  
Wildlife Biologist  
Ministry of Forests Landis and Natural Resource Operations  
102 Industrial Place  
Penticton, B.C. V2A 7C8  
250-490-8254 Fax 250-490-2231  
[brian.s.harris@gov.bc.ca](mailto:brian.s.harris@gov.bc.ca)

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Tuesday, May 8, 2012 2:58 PM  
**To:** Procter, Chris FLNR:EX; Harris, Brian S FLNR:EX  
**Cc:** Peterson, Dan FLNR:EX  
**Subject:** REQUEST: PLease review and report back - moose survey results

Guys, to aid in our compilation of moose population information per executive direction, please have a look at the following and vet for accuracy. Please revise and needed and send back to me as soon as you can. I must have this all done by noon tomorrow....

## **5.0 Thompson Okanagan Region**

### **5.1 Population trends:**

- 2011 Survey results in MU 8-11 doubled the moose population estimate in that MU. Surveys elsewhere in 2012 in the Region found moose numbers stable or increasing.
- Bull/cow ratios are comparatively low, possibly an indication of elevated harvesting success given high resource road densities.
- Calf recruitment is meeting objectives, but may be at risk due to anecdotes of increased wolf predation.
- There are no recent stratified random block survey results for the Thompson sub-region, as weather prevented standard surveys from being carried out last winter. However, composition surveys are completed on a regular basis and results generally indicate that moose populations are healthy with good bull ratios and sufficient levels of recruitment.
- Anecdotes and other indicators suggest that moose densities may be in decline in areas of the North Thompson and on the Bonaparte plateau.

### **5.2 Communications:**

- Okanagan sub-region maintains regular engagement with sectoral stakeholders and First Nations.

- The Thompson sub-region is deeply engaged with communities of the Secwepemc Nation respecting game management issues across the northern areas of the region. A partnership was developed to support a telemetry project examining moose survival relative to habitat use and infrastructure associated with timber salvage operations (roads and blocks) north of Savona.

### 5.3 Proposed management actions and initiatives:

- There are no grounds for substantive alteration of the current harvest regulations in the Thompson Okanagan Region
- Thompson sub-region is seeking stable funding to carry out population surveys to confirm trends, and to sustain the telemetry project partnership.
- Okanagan is seeking funding to complete moose population surveys, some Management Units have never been surveyed.

Rodger Stewart  
 Director, Resource Management  
 Ministry of Forests, Lands and Natural Resource Operations  
 Cariboo Region  
 400 - 640 Borland Street  
 Williams Lake, BC  
 V2G 4T1  
 cell (250) 398 4549  
 fax (250) 398 4214

## Stewart, Rodger W FLNR:EX

---

**From:** Hatter, Ian FLNR:EX  
**Sent:** Tuesday, May 8, 2012 4:36 PM  
**To:** Stewart, Rodger W FLNR:EX  
**Cc:** Wilson, Andrew S FLNR:EX; Wenham, Logan GCPE:EX  
**Subject:** FW: draft moose document so far.....  
**Attachments:** Compiled 2012 moose surveys.docx

Hi Rodger. Not much to add at this point. The final product (posted on the web) will need to have considerable work to get the information at a consistent level (note that sometimes there are references to GMZ's, others to MU's, some to "areas."). With a bit of work we should be able to make the information flow better, especially with some maps and tables. I think there should also be a provincial piece at the end that provides some provincial level messaging. We can provide some support for this, but it will also take some time.

**Ian Hatter, RPBio**

**Wildlife Manager** | Fish, Wildlife and Habitat Management Branch | Ministry of Natural Resource Operations | **T:** 250-387-9792 | **E:** [Ian.Hatter@gov.bc.ca](mailto:Ian.Hatter@gov.bc.ca)

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Tuesday, May 8, 2012 3:49 PM  
**To:** Kriese, Kevin FLNR:EX; Manwaring, Richard G FLNR:EX; Wenham, Logan GCPE:EX  
**Cc:** Hatter, Ian FLNR:EX  
**Subject:** draft moose document so far.....

This does not include all of the Kootenay information (limited in any case), nor have I had time to knit together the common engagement principles nor have I reflected on what Branch might be undertaking with lead sectoral representatives. That's all to come

- 3 regions are vetting what I have written for them, 2 have just gotten back to me.

I will be picking this up again this evening. Please send any commentary as available.

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell s.17 desk (250) 398 4549  
fax (250) 398 4214

## **Compilation of moose survey results, population trends and stakeholder engagement tactics, by region; Spring 2012.**

Regions undertook to share the results of moose surveys conducted during the past two winters. Survey results indicate that certain areas of the province are experiencing alarming trends in population status. Considering that First Nations and wildlife stakeholders will be deeply concerned about the moose population trends. Public deliberations respecting this information may result in vulnerabilities for government. As survey results became known in late April 2012, regional staff and Branch experts initiated actions to share information and coordinate communications with First Nations and stakeholders while informing government of the situation and its implications in certain regions.

This document:

- summarises the moose population situation by region,
- reflects on proposed management actions, and
- outlines measures being implemented to engage First Nations and stakeholders.

### **1. Peace Region**

#### **1.1 Population trends**

- Population surveys in MU 7-32 indicate a small decline in moose density since a 2004 survey. However the population trend is stable over the long term, considering surveys previous to 2004.
- Surveys in the areas of the far northeast indicate a stable, low density population typical of that land area.
- The population is stable in agriculture zones.

#### **1.2 Communications**

- The region maintains engagement with sectoral stakeholders on a scheduled basis.
- Engagement with First Nations is carried out consistent with established protocols of the region.

#### **1.3 Proposed management actions and initiatives:**

- There are no grounds to materially alter the harvest management regime for moose in the Peace Region.

### **2. Omineca Region**

#### **2.1 Population trend:**

- Moose densities have declined by 50% since 2005 within the central portion of the region.
- The findings corroborate anecdotal observations from the hunting community over the last few years, meaning there are no material surprises among stakeholders.
- There is no obvious cause for the decline, and is not believed to be related to regulated hunting.

- The similarity to trends observed in the ~~Skeena-Omineca~~ and Cariboo suggest this reduction may be an indication of a broad landscape level effect on moose populations.
- Although the trend is declining, current moose densities in the Omineca remain consistent with healthy populations in other parts of N. America.

## 2.2 Communications:

- The region met with the guide and resident hunter sectors on April 30 to establish cow LEH numbers for the 2012 season, and to begin dialogue on the moose issue.
- All parties have remained focused on solutions and have agreed to work collaboratively on developing harvest strategies in light of survey results.
- Messages shared in the Omineca:
  - While the depth of the decline is surprising, it is no conservation concern.
  - There is no need to carry out large scale regulatory reforms.
  - The region is conducting diagnostic analyses to determine possible causal factors contributing to the declining population trend.
  - A regional moose management plan is being developed.
- The region's First Nations Relations team is developing an engagement plan
- First Nations will be invited to assist in developing moose management objectives through involvement in regional modeling work
- No regulatory measures are expected to be required to accommodate FN needs.
- First Nations be asked to assist in development of the sampling plan for 2012/13 surveys.

## 2.3 Proposed actions and initiatives:

- Meeting to be scheduled with the Omineca Wildlife Management Committee in June 2012 to consider moose management objectives and various management alternatives.
- The regional moose management ~~model~~ plan being developed will inform deliberations on population objectives and any potential changes to harvest regimes.

s.17, S13

- An application will be submitted for funding from the LBIS allocation held by Branch.
- As funding is confirmed, the region will develop a study design for winter 12/13 to confirm survey results and establish moose population monitoring zones
- Development of a model to assess possible causes of the declining population trend is underway, with further analysis to be supported by available inventory funding.

## 3. Skeena Region

### 3.1 Population trends

#### a) Skeena (Bulkley Valley Lakes District) moose stratified random block survey, 2012:

- Moose population has declined from the 2004 by 20% (15,800 in 2004 to 12,600 in 2012)
- All herd components (bulls, cows and calves) have declined.
- No significant changes in either bull:cow or calf:cow ratios (32 +/- 5 bulls:100 cows and 37.5 calves:100 cows) however there is a decline in the bull:cow ratio in the Lakes District



- Suspected causes for observed population decline:
  - Cumulative impacts from environmental conditions, human caused mortality and/or predation
  - Mortality experienced during the severe winter of 2006/07
- The BVLD moose population is considered to be healthy compared to reported from other 2012 surveys, evidence being good calf recruitment and bull:cow ratios with regulated harvests averaging 725 bull moose/year (less than the AAH). Under these conditions, regional moose models predict a stable to increasing population.

b) Nass Wildlife Area (Nisga'a Final Agreement), 2011

- Significant declines observed in the moose population over the period 1997 to 2011.
  - Results from SRB surveys indicate a 70% reduction since 1997 over the 5000 km<sup>2</sup> area.

### 3.2 Communications

- All stakeholders who participate in the Skeena Hunter Advisory Committee are aware of the moose population information and management actions.
- Staff member Mark Williams engaged in an interview with Andrew Hudson (Smithers Interior News) on the results of the BVLD moose survey on May 2, 2012.
- 

s.16, s.17, S13

### 3.3 Proposed management actions and initiatives.

a) BVLD unit:

- During 2010, the Skeena Allocation Committee (representing guided and resident sectors) opted to use a moose population estimate of 12,000 moose for the BVLD unit. This was a response to the consensus observation that the severe winter of 2006/2007 had caused a substantial decline in the moose population. Model runs determined an AAH of 900 bull moose for the 2010-2011 allocation period.
- As a result, there are no proposed changes to the AAH in the BVLD unit for the 2012/2013 license year and the upcoming allocation period (2012-2016) in spite of a 20% decline in population;
  - Status quo AAH is 900 bull moose/year is still appropriate given the 2012 estimate of 12,600 moose.
  - Guide quotas not impacted due to AAH changes (but some due to Allocation Policy)
  - Resident LEH numbers will change only as a result of changes in annual success rates (not changes in AAH)

b) Nass Wildlife Area unit

- Management actions for have included reductions in the Total Allowable Harvest, reductions in the annual Nisga'a Allocation as per the treaty, restriction of the Nisga'a hunting season, restriction to a bull-only harvest by Nisga'a hunters, and in 2007

significant restrictions to the licensed hunt (reduction in GO quota and LEH authorizations) were imposed to promote moose recovery

- For 2012/13, the very limited licensed moose hunt has been closed as anticipated population recovery has not been achieved.

#### **4.0 Cariboo Region**

##### **4.1 Population trends:**

###### **a) MU 5-02C: Rose Lake-Miocene, 2011**

- The moose population in MU 5-02C has decreased by an estimated 17% from 2001 to 2011.
- In 2011, the density was estimated at 0.51 moose/km<sup>2</sup>, as compared to 0.62 moose/km<sup>2</sup> in the 2001 survey.
- The bull/cow ratio in 2011 was 43/100, which is above the regional objective, while the cow/calf ratio was 35/100, meeting the regional objective.
- The 2011 GMZ 5B (Cariboo) moose estimate of 6265 moose is a decrease of 7% from the 2008 estimate of 6727.

###### **b) MU 5-04: Big Creek – Taseko, 2012**

- The moose population in 5-04 has decreased by approximately 40% from 2005 to 2012.
- The density of 0.17 moose/km<sup>2</sup> is well below the regional target of 0.4 moose/km<sup>2</sup>.
- The bull/cow ratio has decreased from 2005 but is still above the Provincial minimum target of 30 bulls/100 cows.
- The calf/cow ratio is well below the regional target of 40 calves/100 cows.
- The available survey data indicates that the GMZ 5D (South Chilcotin) moose population has decreased by 51% from the 2008 estimate.

###### **c) MU 5-12b: Anahim Lake – Dean River East, 2012**

- The moose population estimate in 5-12B has decreased by approximately 60% from 2002.
- The estimated density of 0.23 moose/km<sup>2</sup> is well below the regional target of 0.4 moose/km<sup>2</sup>.
- The bull/cow ratio has increased from 2002 and is well above the provincial minimum target of 30 bulls/100 cows.
- The calf/cow ratio is above the regional target of 40 calves/100 cows.
- The 2012 GMZ 5C (North Chilcotin) moose population estimate has decreased by 32% from the 2008 estimate.

##### **4.2 Communications**

- Information derived from the 2011 estimates was shared with First Nations and stakeholders through meetings, web postings and letter communications through Spring and Summer 2011.
- Sharing of the 2012 results, population estimates and management implications has started through initial engagement with the Tsilhqot'in National Government, following

upon our SEA with that Nation. Engagement procedures will evolve based on deliberations of Chiefs with senior managers.

- The region is seeking engagement with the Ulkatcho, and other communities of the Southern Carrier group (Nazko, Kluskus, Red Bluff).
- Meetings with guided and resident hunter sectors are being scheduled, and will be augmented by letter communications with lead representatives for the separate stakeholder groups in each sector.
- As with 2011 information, web posting of 2012 survey results and management implications will be undertaken.

#### 4.3 Proposed management actions and initiatives:

- The resident/non-resident AAH GMZ 5B was decreased by 16% from the 2008 harvest rate (to 396 from 493). The decrease in AAH has been incorporated into decisions on allocation and quota for the guided sector, and has resulted in decrease of Limited Entry Hunting authorisations for the resident sector.
- The AAH for GMZ 5C and 5D will be revised using updated population estimates. The decrease in population estimates will lead to a proportional decrease in AAH.
- The substantive reduction in AAH for both Game Management Zones will result in significant reduction of LEH authorisations for resident hunters, and will severely impact allocation and quota for the guided sector.
- The fact that the bull/cow ratios in both GMZ 5C and 5D are well above the provincial minimum target of 30/100 suggests that it has not been licensed harvest of bull moose which has been driving the declines to the moose populations.
- Factors that could be contributing to the declining moose populations include:
  - increased predation mortality,
  - increased unregulated harvest of antlerless animals S13
  - reduction in natural survival due to habitat changes from mountain pine beetle and intensive timber salvaging, and S13
  - S13

The guided sector will experience the full impact of the allocation policy in 2013. For some Guides have been forecast to experience up to a 75% reduction to allocation as a result of policy. A reduction in AAH will dramatically exacerbate 5 year allocation and annual quotas, particularly in the Chilcotin where allocations for many guides are at risk of variance to zero.

The region is seeking the services of an independent moose expert to assess the influence of factors driving moose population dynamics in the Cariboo Region. This information will support informed dialogue and decision making respecting habitat management and moose harvest regulation.

## 5.0 Thompson Okanagan Region

### 5.1 Population trends:

- Survey results in MU 8-11 indicate a strong moose population in the Okanagan sub-region, with recruitment doubling the population compared to previous surveys.

- Bull/cow ratios are comparatively low, possibly an indication of elevated harvesting success given high resource road densities.
- Calf recruitment is meeting objectives, but may be at risk due to anecdotes of increased wolf predation.
- There are no survey results for the Thompson sub-region, as weather prevented standard surveys from being carried out last winter.
- Anecdotes and harvest information suggest that moose densities are likely in decline in area of the North Thompson, in the Bonaparte, and on the Nehalliston Plateau.

#### 5.2 Communications:

- Okanagan sub-region maintains regular engagement with sectoral stakeholders and First Nations.
- The Thompson sub-region is deeply engaged with communities of the Secwepemc Nation respecting game management issues across the northern areas of the region. A partnership was developed to support a telemetry project examining moose survival and habitat use north of Savona.

#### 5.3 Proposed management actions and initiatives:

- There are no grounds for substantive alteration of the current harvest regulations in the Okanagan, or as yet in the Thompson.
- Thompson sub-region is seeking stable funding to carry out population surveys to confirm trends, and to sustain the telemetry project partnership.

### 6.0 Kootenay Region

#### 6.1 Population trends:

- A survey of MU 4-32 indicates a stable to increasing moose population in the West Kootenay.

- 

#### 6.2 Communications:

#### 6.3 Proposed management actions and initiatives:

### 7. Common response tactics

## **Stewart, Rodger W FLNR:EX**

---

**From:** Kriese, Kevin FLNR:EX  
**Sent:** Tuesday, May 8, 2012 5:01 PM  
**To:** Stewart, Rodger W FLNR:EX; Manwaring, Richard G FLNR:EX; Wenham, Logan GCPE:EX  
**Cc:** Hatter, Ian FLNR:EX  
**Subject:** RE: draft moose document so far.....  
**Attachments:** Compiled 2012 moose surveys.docx

s.13

So, I think the next step is for Logan to edit into a shorter and less technical document that is suitable for external release. If you have a revised version that includes more complete details please forward to him.

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Tuesday, May 8, 2012 3:49 PM  
**To:** Kriese, Kevin FLNR:EX; Manwaring, Richard G FLNR:EX; Wenham, Logan GCPE:EX  
**Cc:** Hatter, Ian FLNR:EX  
**Subject:** draft moose document so far.....

This does not include all of the Kootenay information (limited in any case), nor have I had time to knit together the common engagement principles nor have I reflected on what Branch might be undertaking with lead sectoral representatives. That's all to come

- 3 regions are vetting what I have written for them, 2 have just gotten back to me.

I will be picking this up again this evening. Please send any commentary as available.

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell s.17 desk (250) 398 4549  
fax (250) 398 4214

Pages 86 through 91 redacted for the following reasons:

-----

sec. 13

sec. 13, 17

## Stewart, Rodger W FLNR:EX

---

**From:** Kriese, Kevin FLNR:EX  
**Sent:** Wednesday, May 9, 2012 8:20 AM  
**To:** Hatter, Ian FLNR:EX; Stewart, Rodger W FLNR:EX; Manwaring, Richard G FLNR:EX; Wenham, Logan GCPE:EX  
**Cc:** Wilson, Andrew S FLNR:EX  
**Subject:** Re: draft moose document so far.....

Not sure. Let's see what logan produces and see if there is a gap.  
Kevin Kriese, ADM  
North Area

---

**From:** Hatter, Ian FLNR:EX  
**Sent:** Tuesday, May 08, 2012 05:11 PM  
**To:** Kriese, Kevin FLNR:EX; Stewart, Rodger W FLNR:EX; Manwaring, Richard G FLNR:EX; Wenham, Logan GCPE:EX  
**Cc:** Wilson, Andrew S FLNR:EX  
**Subject:** RE: draft moose document so far.....

So, we are looking at 2 products then both being led by GCPE?  
1. Shorter and less technical document to be posted on website  
2. Q & A's

Did we also want to post the more technical piece to the website as well (e.g. "Wildlife Management Issues" on the FWH website)?

**Ian Hatter, RPBio**

Wildlife Manager | Fish, Wildlife and Habitat Management Branch | Ministry of Natural Resource Operations | T: 250-387-9792 | E: [Ian.Hatter@gov.bc.ca](mailto:Ian.Hatter@gov.bc.ca)

---

**From:** Kriese, Kevin FLNR:EX  
**Sent:** Tuesday, May 8, 2012 5:01 PM  
**To:** Stewart, Rodger W FLNR:EX; Manwaring, Richard G FLNR:EX; Wenham, Logan GCPE:EX  
**Cc:** Hatter, Ian FLNR:EX  
**Subject:** RE: draft moose document so far.....

S13

So, I think the next step is for Logan to edit into a shorter and less technical document that is suitable for external release. If you have a revised version that includes more complete details please forward to him.

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Tuesday, May 8, 2012 3:49 PM  
**To:** Kriese, Kevin FLNR:EX; Manwaring, Richard G FLNR:EX; Wenham, Logan GCPE:EX  
**Cc:** Hatter, Ian FLNR:EX  
**Subject:** draft moose document so far.....

This does not include all of the Kootenay information (limited in any case), nor have I had time to knit together the common engagement principles nor have I reflected on what Branch might be undertaking with lead sectoral representatives. That's all to come

- 3 regions are vetting what I have written for them, 2 have just gotten back to me.

I will be picking this up again this evening. Please send any commentary as available.

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell s.17 desk (250) 398 4549  
fax (250) 398 4214



## **Stewart, Rodger W FLNR:EX**

---

**From:** Chirico, Albert ENV:EX  
**Sent:** Wednesday, May 9, 2012 9:07 AM  
**To:** Stewart, Rodger W FLNR:EX  
**Cc:** Rasmussen, Paul FLNR:EX  
**Subject:** RE: URGENT: please comment - moose population summary for executive

I made modifications below.

AC

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** May 9, 2012 8:12 AM  
**To:** Chirico, Albert ENV:EX  
**Cc:** Rasmussen, Paul FLNR:EX  
**Subject:** URGENT: please comment - moose population summary for executive

Albert, I need this back right away. Please review, and revise as needed.

### **6.0 Kootenay Region**

#### **6.1 Population trends:**

- A survey of MU's 4-07, 4-08 and 4-32 indicates a stable to increasing moose population in the West Kootenay.
- Recent survey information is not currently available to assess moose population changes in the East Kootenay.
- Composition surveys have been conducted over the past 3 winters and have shown bull/cow ratios above the regional objectives of 30/100 throughout the region.
- There were population declines in 3 drainages in both the West and East Kootenay over the last 2 decades that have resulted in reduction of bull tags or closure of the spike-fork GOS. One of those areas has recovered sufficiently to re-open both units. The other 2 areas have not been re-inventoried.

#### **6.2 Communications:**

- The Kootenay region undertakes regularly scheduled engagements with wildlife stakeholders and First Nations.

#### **6.3 Proposed management actions and initiatives:**

- There are no grounds for material alternation of moose harvest regulations in the Kootenay Region.

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell s.17 desk (250) 398 4549  
fax (250) 398 4214

## **Stewart, Rodger W FLNR:EX**

---

**From:** Chirico, Albert ENV:EX  
**Sent:** Wednesday, May 9, 2012 10:12 AM  
**To:** Stewart, Rodger W FLNR:EX  
**Cc:** Rasmussen, Paul FLNR:EX  
**Subject:** RE: URGENT: please review - Compilation of moose survey results, communications and management initiatives

Looks fine for the Kootenays.

AC

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** May 9, 2012 10:07 AM  
**To:** FLNR DRMs; Hatter, Ian FLNR:EX  
**Cc:** Procter, Chris FLNR:EX; Harris, Brian S FLNR:EX; Chirico, Albert ENV:EX; Ramsay, Mike K FLNR:EX; Zimmerman, Ted FLNR:EX; Atagi, Dana FLNR:EX; Baccante, Nick FLNR:EX; Thiessen, Conrad D FLNR:EX  
**Subject:** URGENT: please review - Compilation of moose survey results, communications and management initiatives

In the short time assigned to complete this task, I have distilled all inputs into the attached document.

GPCE (Wenham) is parsing it down to a size and scope applicable to a broad public audience.

If there is something materially incorrect respecting the summarised content for your region, **get back to me right away.**

I must have this to our ADMs before noon today. Best I have feedback before 1100.....

We should expect further direction from our ADMs sometime Thursday.

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell (250) 398 4549 s.17  
fax (250) 398 4214

## Stewart, Rodger W FLNR:EX

---

**From:** Bilodeau, Normand G FLNR:EX  
**Sent:** Wednesday, May 9, 2012 10:39 AM  
**To:** Stewart, Rodger W FLNR:EX; Zimmerman, Ted FLNR:EX  
**Subject:** RE: URGENT: please review - Compilation of moose survey results, communications and management initiatives

Rodger this looks quite good...one comment is

s.13

S13, S16

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** May 9, 2012 10:07 AM  
**To:** FLNR DRMs; Hatter, Ian FLNR:EX  
**Cc:** Procter, Chris FLNR:EX; Harris, Brian S FLNR:EX; Chirico, Albert ENV:EX; Ramsay, Mike K FLNR:EX; Zimmerman, Ted FLNR:EX; Atagi, Dana FLNR:EX; Baccante, Nick FLNR:EX; Thiessen, Conrad D FLNR:EX  
**Subject:** URGENT: please review - Compilation of moose survey results, communications and management initiatives

In the short time assigned to complete this task, I have distilled all inputs into the attached document.

GPCE (Wenham) is parsing it down to a size and scope applicable to a broad public audience.

If there is something materially incorrect respecting the summarised content for your region, **get back to me right away.**

I must have this to our ADMs before noon today. Best I have feedback before 1100.....

We should expect further direction from our ADMs sometime Thursday.

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell s.17 desk (250) 398 4549  
fax (250) 398 4214

## Stewart, Rodger W FLNR:EX

---

**From:** Wenham, Logan GCPE:EX  
**Sent:** Wednesday, May 9, 2012 11:56 AM  
**To:** Hatter, Ian FLNR:EX; Stewart, Rodger W FLNR:EX  
**Cc:** Thomas, Vivian P GCPE:EX  
**Subject:** URGENT: Moose backgrounder for your review/fact check  
**Attachments:** FS\_Moose Pop\_ May\_12\_draft4.doc

**Importance:** High

Hi Ian, Rodger:

Attached is the backgrounder Kevin requested, a boil-down of Rodger's more comprehensive version, with an introductory summary.

Can you review and fact check ASAP, please? Also, where there are comments/questions can you address those if possible?

As this is urgent to get something in the hands of Doug soon, I'm hoping just the two of you can handle the review. Once I have your feedback, I will move it up to Kevin, as ADM lead.

Key Messages and Q&A documents to follow shortly.

Logan Wenham  
Public Affairs Officer  
Ministry of Forests, Lands and Natural Resource Operations  
Phone: 250-953-3675

## FACTSHEET

May 9, 2012

Ministry of Forests, Lands and Natural Resource Operations

### Moose population estimates down in Cariboo, Omineca

#### Summary

Over the past two winters, Ministry of Forests, Lands and Natural Resource Operations regional staff have undertaken moose inventory surveys. Results indicate that certain areas of the province are experiencing a decline in moose population in the Cariboo, parts of the Omineca and in the Nass River Valley.

The Ministry is reaching out to key stakeholders, wildlife experts and First Nations to assist in investigating the cause for the declines. Analysis of existing data is underway. As well, additional survey work will be done in target areas

s.13

s.13

s.13

All possibilities for the decline will be investigated. Ministry staff have compiled a list of potential factors, including; unregulated hunting s.13 predator populations, s.13 changing environmental conditions, habitat changes resulting from the mountain pine beetle infestation and timber salvaging, and cumulative impacts of one or more of these factors.

At present, there is no obvious cause for the decline, although initial findings show healthy bull to cow ratios, indicating that the decline is not attributable to regulated hunting. Nevertheless, moose hunting in the affected regions will be reduced immediately.

The decline in some moose populations is not considered to be an immediate conservation concern. However, in the interests of conservation, the new population numbers mean that the Limited Entry Hunt (LEH) for moose will be reduced in s.13

This backgrounder summarizes findings so far by region.

#### Peace Region

##### Population trends

- Population surveys in MU 7-32 indicate a small decline in moose density since a 2004 survey. However the population trend is stable over the long term, considering surveys previous to 2004.
- Surveys in the areas of the far northeast indicate a stable, low density population typical of that land area.
- The population is stable in agriculture zones.

**Comment [L2]:** Short description of area would be good.

##### Response

- Ministry staff will continue to monitor the population and assess results. No specific changes to the harvest management regime for moose in the Peace Region are anticipated as a result of the survey.
- Further surveys are planned for the coming year in...

Comment [L3]: Where?

## Omineca Region

### Population trend:

- Moose densities have declined by 50 per cent since 2005, supporting anecdotal observations from the hunting community in recent years.
- Although the trend is declining, current moose densities in the Omineca remain consistent with healthy populations in other parts of North America.

### Response:

- Guide and resident hunters have agreed to work collaboratively in developing harvest strategies in light of the survey results.
- First Nations will be invited to assist in developing moose management objectives through involvement in regional modelling work.
- The multiple stakeholder Omineca Wildlife Management Committee will also meet to consider moose management objectives and various management alternatives.
- The ministry will invest over s.17 to fund additional composition surveys, and develop a study design for winter 2012/13 to confirm survey results and establish moose population monitoring zones.
- Development of a model to assess possible causes of the declining population trend is underway, with further analysis to be supported by available inventory funding.

s.13

## Skeena Region – Bulkley Valley Lakes District, 2012

Comment [v5]: Is this the name of the management unit?

### Population trend:

- Moose population has declined from 2004 by 20 per cent s.13
- There are no significant changes in either bull to cow or calf to cow ratios overall, but there is a decline in the bull to cow ratio in the Lakes District.
- The population is considered to be comparatively healthy, with good calf recruitment and bull to cow ratios, and the current annual allowable harvest is considered sustainable.
- Under current conditions, regional moose models predict a stable to increasing population.

s.13

### Response:

- In 2010, the Skeena Allocation Committee (representing guided and resident sectors) opted to use a moose population estimate of 12,000 moose for the area. This was in response to the consensus observation that the severe winter of 2006/2007 had caused a substantial decline in the moose population.

•  
s.13

#### **Skeena Region – Nass Wildlife Area (Nisga'a Final Agreement), 2011**

##### Population trend:

- Results from surveys indicate a 70 per cent reduction in the moose population from 1997 to 2011 over the 5,000 km<sup>2</sup> area.

##### Response:

- For 2012/13, the very limited licensed moose hunt has been closed as anticipated population recovery has not been achieved.

•  
s.16, s.17

- Management actions have included reductions in the Total Allowable Harvest, reductions in the annual Nisga'a Allocation as per the treaty, restriction of the Nisga'a hunting season, and restriction to a bull-only harvest by Nisga'a hunters.
- In 2007 significant restrictions to the licensed hunt through both guide outfitter quota and LEH authorizations were imposed to promote moose recovery.

#### **Cariboo Region**

##### Population trends:

- The moose population has decreased considerably from the last available surveys, ranging from a low of 17 per cent in the Rose Lake-Miocene area to a high of 60 per cent in the Anahim Lake/Dean River area.
- Bull to cow ratios are stable and within regional objectives, suggesting that the licensed harvest of bull moose has not been responsible for the declines in population.
- Calf to cow ratios are generally acceptable, although below regional targets in selected areas (Big Creek-Taseko).

##### Response:

- Ministry staff have shared the survey results, population estimates and management implications with the Tsilhqot'in National Government. Ministry staff also hope to meet with the Ulkatcho, and other communities of the Southern Carrier group (Nazko, Kluskus, Red Bluff).
- Meetings with guided and resident hunter sectors are also being scheduled to discuss management implications.
- The allowable annual hunt will be decreased based on revised population estimates, resulting in significant reductions of LEH authorizations for resident hunters, and quota restrictions for guide outfitters.
- The ministry is seeking the services of an independent moose expert to assess the influence of factors driving moose population dynamics in the Cariboo Region.

## Thompson Okanagan Region

### Population trends:

- Initial survey results in the MU 8-11 S13 with recruitment doubling the population compared to previous surveys.
- Bull to cow ratios are comparatively low, possibly an indication of elevated harvesting success given high resource road densities.
- Calf to cow ratios are meeting objectives, but anecdotal evidence suggests there may be increased risk of wolf predation.
- There are no current survey results for the Thompson, as weather prevented standard surveys from being carried out last winter.
- Anecdotal evidence and harvest information suggest that moose densities are likely in decline in area of the North Thompson, the Bonaparte, and on the Nehalliston Plateau.

Comment [L8]: Need a geographical description of this area.

### Response:

- Continue regular engagement with stakeholders and First Nations.
- A partnership with the Secwepemc Nation is underway in support of a radio-collaring initiative in the Thompson to examine moose survival and habitat use north of Savona.
- No changes to the regulation are anticipated at this time.

Comment [L9]: Please confirm accuracy – this was me removing the word "telemetry"

## Kootenay Region

### Population trends:

- Initial survey findings indicate a stable to increasing moose population in the West Kootenay.
- Recent survey information is not available for moose population changes in the East Kootenay.
- Surveys conducted over the past three winters show bull to cow ratios are above regional objectives throughout the region.

### Response:

- Continue regular engagement with stakeholders and First Nations.
- Population declines in three drainages in both the West and East Kootenay over the last two decades resulted in reducing bull hunting opportunity, or closure of the spike-fork season. One area has since recovered and re-opened, and the remaining two are still closed, pending further inventory work.
- No changes to the regulation are anticipated at this time.



## Stewart, Rodger W FLNR:EX

---

**From:** Wenham, Logan GCPE:EX  
**Sent:** Wednesday, May 9, 2012 11:58 AM  
**To:** Hatter, Ian FLNR:EX; Stewart, Rodger W FLNR:EX  
**Cc:** Thomas, Vivian P GCPE:EX  
**Subject:** URGENT: Q&A on moose pop  
**Attachments:** QA\_Moose Population\_May\_9\_2012 draft3.docx

Hi Ian, Rodger:

Just like the last one, attached is the Q&A document. I welcome any Q I may have missed, but an accompanying A would be welcome in that case.

Can you review and fact check ASAP, please? Also, where there are comments/questions can you address those if possible?

As this is urgent to get something in the hands of Doug soon, I'm hoping just the two of you can handle the review. Once I have your feedback, I will move it up to Kevin, as ADM lead.

Key Messages still to follow.

Logan Wenham  
Public Affairs Officer  
Ministry of Forests, Lands and Natural Resource Operations  
Phone: 250-953-3675

## ADVICE TO MINISTER

### QUESTIONS AND ANSWERS

#### Moose population

Ministry of Forests, Lands and Natural Resource Operations

May 9, 2012

**1. How widespread is the moose population reduction? Is it limited to one area, or is it province wide?**

- The population declines are most severe in the north central area of the province (particularly the Cariboo, Omineca and in the Nass River Valley in Skeena) with reductions of 40-70 per cent.
- There are also smaller reductions (20 per cent) reported in the Bulkley Valley/Lakes District part of Skeena, but these are well within expected numbers. Conservation planning in Skeena was already working from an assumption of reduced moose numbers, and should not require any adjustment.
- In other areas of the province, moose populations are reported as stable, and in some parts of the Okanagan, are even double previous surveys.

**2. How did you find out about the problem?**

- The province undertakes ongoing survey work of moose, tracking total numbers, bull to cow ratio and calf to cow ratios.
- Data collected over the last few months indicated a much sharper decline than expected in certain regions.

**Comment [v1]:** How often are surveys done?

**3. What methods are used to collect data and how accurate are they?**

- Methods include...
- Taken together, the data is considered accurate and scientifically sound.

**4. What is being done to respond to the decline?**

- Because the decline is not uniform across the province, strategies are focused on those areas with significant declines, specifically the Cariboo, Omineca and Nass River Valley.
- In those areas, additional survey work is being proposed for target areas that may include the establishment of moose population monitoring zones.
- Analysis of existing data is underway to determine possible causes for the decline.
- The province is also reaching out to First Nations, external wildlife experts and other stakeholders for additional perspective on what the inventory results mean.

**5. What are the reductions comparable to? How long ago was the last survey done?**

- Inventory work is done by Management Unit (MU) and not every MU is reviewed in any given year. Previous survey work varies considerably.
- In 2011/12 considerably more resources were made available for inventory work. As an example, from 2008-2010, government averaged \$120,000 per year in inventory work. In 2011/12 alone, we spent almost \$2 million on inventory work.

**Comment [L2]:** Can we get the moose specific numbers for these?

**6. What assurances can you provide that there will be stable wildlife inventory funding not just for the current fiscal year, but for years to come?**

## ADVICE TO MINISTER

- Bringing Fish, Wildlife and Habitat Management into a larger Natural Resources Ministry has significantly increased available inventory funding.
  - In 2012/13 we have \$400,000 committed, with an additional \$400,000 through the Land Based Investment Strategy.
- 7. What caused the decline in moose population?**
- We are not certain, and that is why we are actively investigating.
  - In the coming weeks, ministry biologists will be carefully examining the available data to see what conclusions can be made.
- 8. What are the possible causes? What types of things will be investigated?**
- It would be a mistake to prejudge the results of the investigation.
  - Affected regions have compiled a list of potential factors, including: unregulated harvest, s.13 predator populations, s.13 changing environmental conditions, habitat changes resulting from the mountain pine beetle infestation and timber salvaging, and cumulative impacts of one or more of these factors.
- 9. Isn't it true that the area where moose populations are most in decline mirrors the areas that suffered extensive clearcuts as a result of the mountain pine beetle infestation and subsequent logging?**
- We are not certain of the cause, and that is why we are actively investigating. It would be a mistake to prejudge the results of that work.
  - The effects of the mountain pine beetle will form part of that investigation.
- 10. Is this the result of the failure of government to adhere to the 2009 recommendations of the Forest Practices Board that warned salvage harvest of pine beetle wood could have conservation impacts?**
- We are not certain of the cause, and that is why we are actively investigating. It would be a mistake to prejudge the results of that work.
  - The effects of the mountain pine beetle will form part of that investigation.
  - The mountain pine beetle epidemic was unprecedented, and created additional management pressures on forest practices.
- 11. How will the reduced moose numbers impact LEH hunting for resident hunters in the affected regions?**
- The province takes a 'conservation first' approach to wildlife management. In areas where moose numbers are significantly down, the LEH will have to be adjusted accordingly.
- 12. How will the reduced moose numbers impact LEH hunting for guide outfitters in the affected regions?**
- The province takes a 'conservation first' approach to wildlife management. In areas where moose numbers are significantly down, the LEH will have to be adjusted accordingly.
  - s.13
- 13. Will First Nations hunters also have their hunt reduced?**

## ADVICE TO MINISTER

- The Ministry consults with First Nations on hunting regulations that may impact First Nations ability to harvest wildlife for food, social or ceremonial purposes.
- Government sets annual allowable hunt levels through the Harvest Allocation Policy only after First Nation needs have been accommodated.
- The ministry's regional wildlife managers are the statutory decision makers on the need for hunting closures and to resolve allocation issues.

**14. If regulated hunters aren't suspected as the cause for the decline, why are they having their allocations reduced?**

- We are not certain of the cause, and that is why we are actively investigating. It would be a mistake to prejudice the results of that work.
- Regardless of the cause, conservation must take priority in wildlife management. In areas where moose numbers are significantly down, the LEH will have to be adjusted accordingly.
- We appreciate the efforts of both guide hunters and resident hunters in working with the province to find reasonable solutions.

**15. Will the reduction in moose populations affect the government's review of the mid-term timber supply issue, and the possible opening up of Old Growth Management Areas (OGMAs) or Ungulate Winter Range (UWR) to logging?**

- The economic impact of the mountain pine beetle to B.C.'s forest industry has been severe, and government is looking at all options to address the fall-down in the mid-term timber supply.
- Some of the possible options include harvesting some areas that have been set aside for biodiversity, wildlife habitat and scenic values. A draft technical analysis report has been completed. What still needs to be completed is an analysis of the impact of harvesting in some of those areas.
- However, no decisions have been made yet. Wildlife habitat values and conservation-based principles will be part of the discussion, and moose populations will form part of that discussion.

**16. What is the province doing about predator management, particularly regarding wolf populations?**

- This government is committed to ensuring sustainable wildlife populations and healthy predator-prey relationships throughout B.C.
- Government is also committed to helping stakeholders, ranchers and First Nations manage the impacts of wolves on their livestock in the Cariboo region.
- We are creating sustainable opportunities to deal with wolf impacts in the Cariboo region by providing additional trapping opportunities on private land and implementing no closed season for livestock areas, as well as a "no bag limit" in management areas of concern.
- I can confirm the ministry is still working on a draft wolf management plan for British Columbia. The draft will be shared with stakeholders for feedback and suggestions.

**17. Isn't it about time we just put a stop to moose hunting?**

## ADVICE TO MINISTER

- The province supports a sustainable moose hunt, which is an activity enjoyed by many B.C. families and supports rural economies in a number of ways.
  - While we recognize that not everyone supports hunting, a large number of British Columbians do and as long as moose populations can be sustainably harvested, hunting will be allowed – the moment it isn't – we won't allow it.
  - It is also important to acknowledge that the hunting industry contributes approximately \$350 million annually to the province - comprised of resident hunters and guide outfitters.
  - The recent survey information confirms that while overall numbers are down, bull to cow ratios are stable, indicating the decline in population is not likely the result of regulated hunting.
18. Information from the Nass River valley indicate survey results showing a decline go back to 1997. Why didn't we act sooner?

s.13

## Stewart, Rodger W FLNR:EX

---

**From:** Ramsay, Mike K FLNR:EX  
**Sent:** Wednesday, May 9, 2012 11:59 AM  
**To:** Stewart, Rodger W FLNR:EX  
**Subject:** RE: URGENT: please review - Compilation of moose survey results, communications and management initiatives

Read the Cariboo portion:

2 Updates Chad is meeting Chiefs Friday and informed me we will be able to attend a stewardship meeting with the Chief and Counsel late this month or early June he is designing the consultation process

Kristy has moose as an agenda item at the next NSTC meetings

Kristy is arranging meetings with the Carrier as required

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Wednesday, May 9, 2012 10:08 AM  
**To:** FLNR DRMs; Hatter, Ian FLNR:EX  
**Cc:** Procter, Chris FLNR:EX; Harris, Brian S FLNR:EX; Chirico, Albert ENV:EX; Ramsay, Mike K FLNR:EX; Zimmerman, Ted FLNR:EX; Atagi, Dana FLNR:EX; Baccante, Nick FLNR:EX; Thiessen, Conrad D FLNR:EX  
**Subject:** URGENT: please review - Compilation of moose survey results, communications and management initiatives

In the short time assigned to complete this task, I have distilled all inputs into the attached document.

GPCE (Wenham) is parsing it down to a size and scope applicable to a broad public audience.

If there is something materially incorrect respecting the summarised content for your region, **get back to me right away.**

I must have this to our ADMs before noon today. Best I have feedback before 1100.....

We should expect further direction from our ADMs sometime Thursday.

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell s.17 i, desk (250) 398 4549  
fax (250) 398 4214

## Stewart, Rodger W FLNR:EX

---

**From:** Wenham, Logan GCPE:EX  
**Sent:** Wednesday, May 9, 2012 11:59 AM  
**To:** Hatter, Ian FLNR:EX; Stewart, Rodger W FLNR:EX  
**Cc:** Thomas, Vivian P GCPE:EX  
**Subject:** URGENT: review and fact check of Key Messages on moose pop  
**Attachments:** KM\_Moose population\_May\_2012\_draft2.docx

Hi Ian, Rodger:

Last but not least, a Key Messages document for use in messaging. This is deliberately very high level.

Can you review and fact check ASAP, please? Also, where there are comments/questions can you address those if possible?

As this is urgent to get something in the hands of Doug soon, I'm hoping just the two of you can handle the review. Once I have your feedback, I will move it up to Kevin, as ADM lead.

Logan Wenham  
Public Affairs Officer  
Ministry of Forests, Lands and Natural Resource Operations  
Phone: 250-953-3675

## **Moose Population Key Messages**

### **May 9, 2012**

Over the past two winters, regions have undertaken moose inventory surveys. Results indicate that certain areas of the province are experiencing a decline in moose population in the Cariboo, parts of the Omineca and in the Nass River Valley.

Recent inventory work conducted by wildlife biologists indicates that in moose densities have declined since 2005 between 40-60% in North Central British Columbia, particularly the Cariboo, parts of the Omineca and in the Nass River Valley in Skeena. The cause for the decline is being investigated.

#### **Key Messages:**

- The Government of British Columbia is committed to sustainable wildlife management, and takes a 'conservation first' approach.
- Recent survey data shows that moose populations are declining in three regions of the province – the Cariboo, parts of the Omineca, and the Nass River Valley.
- The Ministry is reaching out to key stakeholders, wildlife experts and First Nations to assist in investigating the cause of the decline.
- Additional survey work will be undertaken, and analysis of the existing data is underway.
- At present, there is no obvious cause for the decline, although initial findings show healthy bull to cow ratios, indicating it is not expected to be regulated hunting.
- In the meantime, limited entry hunt for moose in the affected regions will be reduced immediately.
- Funding for wildlife inventory work hit record levels in 2011/12, and has helped us identify the situation.
- Other regions of the province with moose populations appear to be doing well.

**If asked to speculate on what caused the population decline:**



## Stewart, Rodger W FLNR:EX

---

**From:** Hatter, Ian FLNR:EX  
**Sent:** Wednesday, May 9, 2012 1:12 PM  
**To:** Stewart, Rodger W FLNR:EX; Wenham, Logan GCPE:EX  
**Cc:** Thomas, Vivian P GCPE:EX  
**Subject:** RE: URGENT: Moose backgrounder for your review/fact check  
**Attachments:** FS\_Moose Pop\_May\_12\_draft4\_IWH edits.doc

My edits/comments included.

**Ian Hatter, RPBio**

Wildlife Manager | Fish, Wildlife and Habitat Management Branch | Ministry of Natural Resource Operations | T: 250-387-9792 | E: [Ian.Hatter@gov.bc.ca](mailto:Ian.Hatter@gov.bc.ca)

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Wednesday, May 9, 2012 12:14 PM  
**To:** Wenham, Logan GCPE:EX  
**Cc:** Thomas, Vivian P GCPE:EX; Hatter, Ian FLNR:EX  
**Subject:** FW: URGENT: Moose backgrounder for your review/fact check  
**Importance:** High

Commentary is embedded, some being placed in your comment boxes.

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell s.17 desk (250) 398 4549  
fax (250) 398 4214

---

**From:** Wenham, Logan GCPE:EX  
**Sent:** Wednesday, May 9, 2012 11:56 AM  
**To:** Hatter, Ian FLNR:EX; Stewart, Rodger W FLNR:EX  
**Cc:** Thomas, Vivian P GCPE:EX  
**Subject:** URGENT: Moose backgrounder for your review/fact check  
**Importance:** High

Hi Ian, Rodger:

Attached is the backgrounder Kevin requested, a boil-down of Rodger's more comprehensive version, with an introductory summary.

Can you review and fact check ASAP, please? Also, where there are comments/questions can you address those if possible?

As this is urgent to get something in the hands of Doug soon, I'm hoping just the two of you can handle the review. Once I have your feedback, I will move it up to Kevin, as ADM lead.

Key Messages and Q&A documents to follow shortly.

Logan Wenham



## FACTSHEET

May 9, 2012

Ministry of Forests, Lands and Natural Resource Operations

### Moose population estimates down in Cariboo, Omineca

#### Summary

Over the past two winters, Ministry of Forests, Lands and Natural Resource Operations regional staff have undertaken numerous moose inventory surveys. Results indicate that certain areas of the province are experiencing a decline in moose population including the Cariboo, ~~parts of the central~~ Omineca and in the Nass River Valley, the Bulkley Valley- Lakes District, and the Nass Wildlife Management Area.

The Ministry is reaching out to key stakeholders, wildlife experts and First Nations to assist in investigating the cause for the declines. Analysis of existing data is underway. As well, additional inventory work is being conducted to determine the status of moose in other areas of the province. As well, additional survey work will be done in target areas

s.13

s.13

s.13

All possibilities for the decline will be investigated. Ministry staff have compiled a list of potential factors, including; unregulated hunting, s.13 predator populations s.13 -changing environmental conditions (including, habitat changes resulting from the mountain pine beetle infestation and timber salvaging), and cumulative impacts of one or more of these factors.

At present, there is no obvious cause for the declines, although initial findings show healthy bull to cow ratios in most areas, indicating that these declines is are not attributable to regulated hunting. Nevertheless, moose hunting opportunities within some areas of the most heavily affected regions will be reduced immediately.

The decline in some moose populations is not considered to be an immediate conservation concern. However, in the interests of conservation, the new population numbers mean that the Limited Entry Hunt (LEH) for moose will be reduced in certain areas of s.13

This backgrounder summarizes findings so far by region.

#### Peace Region

##### Population trends

- Population surveys in MU 7-32 (Ft. St. John south) indicate a small decline in moose density since a 2004 survey. However the population trend is stable over the long term, considering surveys previous to 2004.
- Surveys in the areas of the far northeast indicate a stable, low density population typical of that land area.

**Comment [L3]:** Short description of area would be good.

- The population ~~is~~ appears to be stable in agriculture zones.

Response:

- Ministry staff will continue to monitor the population and assess results. No specific changes to the harvest management regime for moose in the Peace Region are anticipated as a result of the survey.
- Further surveys are planned for the coming year in select areas of potential management concern.

s.13

Comment [L5]: Where?

**Omineca Region**

Population trend:

- Moose densities in the central portion of the region around Prince George have declined by 50 per cent since 2005, supporting anecdotal observations from the hunting community in recent years.
- Although the trend is declining, current moose densities in the Omineca remain consistent with healthy populations in other parts of North America.

Response:

- Guide and resident hunters have agreed to work collaboratively in developing harvest strategies in light of the survey results.
- First Nations will be invited to assist in developing moose management objectives through involvement in regional modelling work.
- The multiple stakeholder Omineca Wildlife Management Committee will also meet to consider moose management objectives and various management alternatives.
- The ministry will invest over s.17 to fund additional composition surveys, and develop a study design for winter 2012/13 to confirm survey results and establish moose population monitoring zones.
- Development of a model to assess possible causes of the declining population trend is underway, with further analysis to be supported by available inventory funding.

Comment [L6]: Please confirm this is accurate – this is correct (RWJS)

**Skeena Region – Bulkley Valley Lakes District, 2012**

Population trend:

- The ~~the~~ moose population in this aras has declined from 2004 by 20 per cent s.13
- There are no significant changes in either bull to cow or calf to cow ratios overall, but there is a decline in the bull to cow ratio in the Lakes District.
- The population is considered to be comparatively healthy, with good calf recruitment and bull to cow ratios, and the current annual allowable harvest is considered sustainable.
- Under current conditions, regional moose models predict a stable to increasing population.

Comment [v7]: Is this the name of the management unit? – name of the land area in which the surveys were carried out. (RWJS)

s.13

Response:

- In 2010, the Skeena Allocation Committee (representing guided and resident sectors) opted to use a moose population estimate of 12,000 moose for the area. This was in response to the consensus observation that the severe winter of 2006/2007 had caused a substantial decline in the moose population.

S13

#### **Skeena Region – Nass Wildlife Area (Nisga'a Final Agreement), 2011**

##### Population trend:

- Results from surveys indicate a 70 per cent reduction in the moose population from 1997 to 2011 over the 5,000 km<sup>2</sup> area.

##### Response:

- For 2012/13, the very limited licensed moose hunt has been closed as anticipated population recovery has not been achieved.

s.16, s.17

- Management actions have included reductions in the Total Allowable Harvest, reductions in the annual Nisga'a Allocation as per the treaty, restriction of the Nisga'a hunting season, and restriction to a bull-only harvest by Nisga'a hunters.
- In 2007 significant restrictions to the licensed hunt through both guide outfitter quota and LEH authorizations were imposed to promote moose recovery.

#### **Cariboo Region**

##### Population trends:

- The moose population has decreased considerably from the last available surveys, ranging from a low of 17 per cent decline in the Rose Lake-Miocene area to a high of 60 per cent decline in the Anahim Lake/Dean River area.
- Bull to cow ratios are stable and within regional objectives, suggesting that the licensed harvest of bull moose has not been responsible for the declines in population.
- Calf to cow ratios are generally acceptable, although below regional targets in selected areas (Big Creek-Taseko).

##### Response:

- Ministry staff have shared the survey results, population estimates and management implications with the Tsilhqot'in National Government. Ministry staff also hope to meet with the Ulkatcho, and other communities of the Southern Carrier group (Nazko, Kluskus, Red Bluff).
- Meetings with guided and resident hunter sectors are also being scheduled to discuss management implications.

- The allowable annual hunt will be decreased based on revised population estimates, resulting in significant reductions of LEH authorizations for resident hunters, and quota restrictions for guide outfitters.
- The ministry is seeking the services of an independent moose expert to assess the influence of factors driving responsible for the moose population declined dynamics in the Cariboo Region.

### Thompson Okanagan Region

#### Population trends:

- Initial survey results in the MU 8-11 (West Kelowna) area <sup>s.13</sup> with recruitment doubling the population <sup>s.13</sup> compared to previous surveys.
- Bull to cow ratios are comparatively low, possibly an indication of elevated bull harvesting success given high resource road densities. <sup>s.13</sup>
- Calf to cow ratios are meeting objectives, but anecdotal evidence suggests there may be increased risk of wolf predation.
- There are no current survey results for the Thompson, as weather prevented standard surveys from being carried out last winter.
- Anecdotal evidence and harvest information suggest that moose densities are likely in decline in area of the North Thompson, the Bonaparte, and on the Nchalliston Plateau.

**Comment [L10]:** Need a geographical description of this area.

#### Response:

- Continue regular engagement with stakeholders and First Nations.
- A partnership with the Secwepemc Nation is underway in support of a radio-collaring initiative in the Thompson to examine moose survival and habitat use north of Savona.
- No changes to the regulations are anticipated at this time.

**Comment [L12]:** Please confirm accuracy – this was me removing the word 'telemetry' – this is OK (RWJS)

### Kootenay Region

#### Population trends:

- Initial survey findings indicate a stable to increasing moose population in the West Kootenay.
- Recent survey information is not available for moose population changes in the East Kootenay.
- Surveys conducted over the past three winters show bull to cow ratios are above regional objectives throughout the region.

#### Response:

- Continue regular engagement with stakeholders and First Nations.
- Population declines in three drainages in both the West and East Kootenay over the last two decades resulted in reducing bull hunting opportunity, or closure of the spike-fork season. One area has since recovered and re-opened, and the remaining two are still closed, pending further inventory work.
- No changes to the regulations are anticipated at this time.

**Comment [L13]:** This is unclear to me. I am not sure what is meant by "area". will try to verify.

## Stewart, Rodger W FLNR:EX

---

**From:** Hatter, Ian FLNR:EX  
**Sent:** Wednesday, May 9, 2012 1:22 PM  
**To:** Stewart, Rodger W FLNR:EX; Wenham, Logan GCPE:EX  
**Cc:** Thomas, Keith D FLNR:EX  
**Subject:** RE: RESPONSE: URGENT: review and fact check of Key Messages on moose pop  
**Attachments:** KM\_Moose population\_May\_2012\_draft2\_IWH edits.docx

My edits.

**Ian Hatter, RPBio**

Wildlife Manager | Fish, Wildlife and Habitat Management Branch | Ministry of Natural Resource Operations | T: 250-387-9792 | E: [Ian.Hatter@gov.bc.ca](mailto:Ian.Hatter@gov.bc.ca)

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Wednesday, May 9, 2012 12:40 PM  
**To:** Wenham, Logan GCPE:EX  
**Cc:** Thomas, Keith D FLNR:EX; Hatter, Ian FLNR:EX  
**Subject:** RESPONSE: URGENT: review and fact check of Key Messages on moose pop

..here you go.

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell s.17 desk (250) 398 4549  
fax (250) 398 4214

---

**From:** Wenham, Logan GCPE:EX  
**Sent:** Wednesday, May 9, 2012 11:59 AM  
**To:** Hatter, Ian FLNR:EX; Stewart, Rodger W FLNR:EX  
**Cc:** Thomas, Vivian P GCPE:EX  
**Subject:** URGENT: review and fact check of Key Messages on moose pop

Hi Ian, Rodger:

Last but not least, a Key Messages document for use in messaging. This is deliberately very high level.

Can you review and fact check ASAP, please? Also, where there are comments/questions can you address those if possible?

As this is urgent to get something in the hands of Doug soon, I'm hoping just the two of you can handle the review. Once I have your feedback, I will move it up to Kevin, as ADM lead.

Logan Wenham  
Public Affairs Officer  
Ministry of Forests, Lands and Natural Resource Operations  
Phone: 250-953-3675

Page 117 redacted for the following reason:

-----

S.13



## Stewart, Rodger W FLNR:EX

---

**From:** Atagi, Dana FLNR:EX  
**Sent:** Wednesday, May 9, 2012 1:38 PM  
**To:** Stewart, Rodger W FLNR:EX  
**Cc:** Diemert, Karen FLNR:EX; Williams, Mark FLNR:EX  
**Subject:** Re: URGENT: Question from GPCE

We have been taking management actions since 2007 when we observed the first significant decline in the NWA moose population. We reduced GO quota and LEH authorizations. The Nisga'a TAH was also reduced accordingly. In 2011, the most recent SRB survey indicated no recovery and further declines. This precipitated the full closure of the licensed hunt in 2012. In 2012, we partnered with Gitanyow FN to have the GFN conduct a moose harvest assessment to better understand this component of the FN harvest of Nass Area moose. Hopefully this is sufficient.

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Wednesday, May 09, 2012 12:33 PM  
**To:** Atagi, Dana FLNR:EX  
**Cc:** Diemert, Karen FLNR:EX  
**Subject:** URGENT: Question from GPCE

Dana, the communications folks need an answer to the following question right away:

1. **Information from the Nass River valley indicate survey results showing a decline go back to 1997. Why didn't we act sooner?**

What I said so far .....

s.13

s.13

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell , s.17 , desk (250) 398 4549  
fax (250) 398 4214

## **Stewart, Rodger W FLNR:EX**

---

**From:** Stalberg, Mike X FLNR:EX  
**Sent:** Wednesday, May 9, 2012 1:43 PM  
**To:** Stewart, Rodger W FLNR:EX  
**Cc:** Barr, Larry FLNR:EX  
**Subject:** FW: URGENT: please review - Compilation of moose survey results, communications and management initiatives  
**Attachments:** Compiled 2012 moose surveys.docx; ATT00001.htm

Hi Rodger,

While there aren't that many moose in the West Coast Region (WCR) there are three management units in the WCR with moose allocations (5-11; 5-10; and 5-06). Would you expect these MUs to generate social challenges?

Do you have any sense whether or not these management units (which are more remote) are experiencing the same declines in moose that been observed in other MUs in the Chilcotin?

These MUs have not been surveyed since the early 1990s; last year we received a cost estimate of \$80 to survey 5-11 and 5-10. Would it be worthwhile to survey these areas to update our baseline information? Could these areas act as a control?

Thanks,  
Mike

---

**From:** Barr, Larry FLNR:EX  
**Sent:** Wednesday, May 9, 2012 12:10 PM  
**To:** Stalberg, Mike X FLNR:EX  
**Subject:** Fwd: URGENT: please review - Compilation of moose survey results, communications and management initiatives

FYI

Sent from my iPhone

Begin forwarded message:

**From:** "Stewart, Rodger W FLNR:EX" <[Rodger.Stewart@gov.bc.ca](mailto:Rodger.Stewart@gov.bc.ca)>  
**Date:** 9 May, 2012 10:07:55 AM PDT  
**To:** FLNR DRMs <[FLNRDRMS@Victoria1.gov.bc.ca](mailto:FLNRDRMS@Victoria1.gov.bc.ca)>, "Hatter, Ian FLNR:EX" <[Ian.Hatter@gov.bc.ca](mailto:Ian.Hatter@gov.bc.ca)>  
**Cc:** "Procter, Chris FLNR:EX" <[Chris.Procter@gov.bc.ca](mailto:Chris.Procter@gov.bc.ca)>, "Harris, Brian S FLNR:EX" <[Brian.S.Harris@gov.bc.ca](mailto:Brian.S.Harris@gov.bc.ca)>, "Chirico, Albert ENV:EX" <[Albert.Chirico@gov.bc.ca](mailto:Albert.Chirico@gov.bc.ca)>, "Ramsay, Mike K FLNR:EX" <[Mike.Ramsay@gov.bc.ca](mailto:Mike.Ramsay@gov.bc.ca)>, "Zimmerman, Ted FLNR:EX" <[Ted.Zimmerman@gov.bc.ca](mailto:Ted.Zimmerman@gov.bc.ca)>, "Atagi, Dana FLNR:EX" <[Dana.Atagi@gov.bc.ca](mailto:Dana.Atagi@gov.bc.ca)>, "Baccante, Nick FLNR:EX" <[Nick.Baccante@gov.bc.ca](mailto:Nick.Baccante@gov.bc.ca)>, "Thiessen, Conrad D FLNR:EX" <[Conrad.Thiessen@gov.bc.ca](mailto:Conrad.Thiessen@gov.bc.ca)>  
**Subject:** URGENT: please review - Compilation of moose survey results, communications and management initiatives

In the short time assigned to complete this task, I have distilled all inputs into the attached document.

GPCE (Wenham) is parsing it down to a size and scope applicable to a broad public audience.

If there is something materially incorrect respecting the summarised content for your region, [get back to me right away.](#)

I must have this to our ADMs before noon today. Best I have feedback before 1100.....

We should expect further direction from our ADMs sometime Thursday.

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell s.17 desk (250) 398 4549  
fax (250) 398 4214

## **Compilation of moose survey results, population trends and stakeholder engagement tactics, by region; Spring 2012.**

Regions undertook to share the results of moose surveys conducted during the past two winters. Survey results indicate that certain areas of the province are experiencing alarming trends in population status. Considering that First Nations and wildlife stakeholders will be deeply concerned about the moose population trends. Public deliberations respecting this information may result in vulnerabilities for government. As survey results became known in late April 2012, regional staff and Branch experts initiated actions to share information and coordinate communications with First Nations and stakeholders while informing government of the situation and its implications in certain regions.

This document:

- summarises the moose population situation by region,
- outlines measures being implemented to engage First Nations and stakeholders, and
- reflects on proposed management actions or initiatives.

For the purposes of this document:

- **Management unit** means a unit of land area typically used for specifying the area of land to which hunting regulations apply. Often wildlife surveys are designed to examine populations within these specific land areas
- **Unit** as cited in the Skeena Region, means an area of land, which may be part of or an aggregate of management units within which specific management initiatives for game species is carried out.
- **Game Management Zone or GMZ**, as cited for the Cariboo Region, means an aggregate of management units within which the region carries out specific management initiative for moose.

### **1.0 Peace Region**

#### **1.1 Population trends**

- Population surveys in MU 7-32 indicate a small decline in moose density since a 2004 survey. However the population trend is stable over the long term, considering data from surveys previous to 2004.
- Surveys in the areas of the far northeast indicate a stable, low density population typical of that land area.
- The moose population is stable in agriculture zones.
- Many northern populations are surveyed rarely and there are stakeholder and First Nations concerns around population levels. There may be demographic or mortality concerns that are masked by stable population levels.

#### **1.2 Communications**

- The region maintains engagement with sectoral stakeholders on a scheduled basis.
- Engagement with First Nations is carried out consistent with established protocols of the region.

### 1.3 Proposed management actions and initiatives:

- At this time, population levels present no grounds to materially alter the harvest management regime for moose in the Peace Region.
- In collaboration with stakeholders and First Nations, the region intends to investigate opportunities to improve management of moose.

## 2.0 Omineca Region

### 2.1 Population trend:

- Moose densities have declined by 50% since 2005
- The findings corroborate anecdotal observations from the hunting community over the last few years, meaning there are no material surprises among stakeholders.
- There is no obvious cause for the decline, and is not believed to be related to regulated hunting.
- The similarity to trends observed in the Skeena and Cariboo suggest this reduction may be an indication of a broad landscape level effect on moose populations.
- Although the trend is declining, current moose densities in the Omineca remain consistent with healthy populations in other parts of N. America.

### 2.2 Communications:

- The region met with the guide and resident hunter sectors on April 30 to establish cow LEH numbers for the 2012 season, and to begin dialogue on the moose issue.
- All parties have remained focused on solutions and have agreed to work collaboratively on developing harvest strategies in light of survey results.
- Messages shared in the Omineca:
  - While the depth of the decline is surprising, it is no conservation concern.
  - There is no need to carry out large scale regulatory reforms.
  - The region is conducting diagnostic analyses to determine possible causal factors contributing to the declining population trend.
- The region's First Nations Relations team is developing an engagement plan
- First Nations will be invited to assist in developing moose management objectives through involvement in regional modeling work
- No regulatory measures are expected to be required to accommodate FN needs.
- First Nations be asked to assist in development of the sampling plan for 2012/13 surveys.

### 2.3 Proposed actions and initiatives:

- Meeting to be scheduled with the Omineca Wildlife Management Committee in June 2012 to consider moose management objectives and various management alternatives.
- The regional moose management model will inform deliberations on population objectives.
- 

s.17

- An application will be submitted for funding from the LBIS allocation held by Branch.

- As funding is confirmed, the region will develop a study design for winter 12/13 to confirm survey results and establish moose population monitoring zones
- Development of a model to assess possible causes of the declining population trend is underway, with further analysis to be supported by available inventory funding.

### 3.0 Skeena Region

#### 3.1 Population trends

- a) Skeena (Bulkley Valley Lakes District) moose stratified random block survey, 2012:
- Moose population has declined from the 2004 by 20% (15,800 in 2004 to 12,600 in 2012)
  - All herd components (bulls, cows and calves) have declined.
  - No significant changes in either bull/cow or calf/cow ratios (32 +/- 5 bulls:100 cows and 37.5 calves:100 cows) however there is a decline in the bull/cow ratio in the Lakes District
  - Suspected causes for observed population decline:
    - Cumulative impacts from environmental conditions, human caused mortality and/or predation
    - Mortality experienced during the severe winter of 2006/07
  - The BVLD moose population is considered to be healthy compared to reported from other 2012 surveys, evidence being good calf recruitment and bull/cow ratios with regulated harvests averaging 725 bull moose/year (less than the AAH). Under these conditions, regional moose models predict a stable to increasing population.
- b) Nass Wildlife Area (Nisga'a Final Agreement), 2011
- Significant declines observed in the moose population over the period 1997 to 2011.
    - Results from SRB surveys indicate a 70% reduction since 1997 over the 5000 km<sup>2</sup> area.

#### 3.2 Communications

- All stakeholders who participate in the Skeena Hunter Advisory Committee are aware of the moose population information and management actions.
- Staff member Mark Williams engaged in an interview with Andrew Hudson (Smithers Interior News) on the results of the BVLD moose survey on May 2, 2012.
- 

s.16, s.17, S13

#### 3.3 Proposed management actions and initiatives.

##### a) BVLD unit:

- During 2010, the Skeena Allocation Committee (representing guided and resident sectors) opted to use a moose population estimate of 12,000 moose for the BVLD unit. This was a response to the consensus observation that the severe winter of 2006/2007 had caused a substantial decline in the moose population. Model runs determined an AAH of 900 bull moose for the 2010-2011 allocation period.

- As a result, there are no proposed changes to the AAH in the BVLD unit for the 2012/2013 license year and the upcoming allocation period (2012-2016) in spite of a 20% decline in population;
  - Status quo AAH is 900 bull moose/year is still appropriate given the 2012 estimate of 12,600 moose.
  - Guide quotas not impacted due to AAH changes (but some due to Allocation Policy)
  - Resident LEH numbers will change only as a result of changes in annual success rates (not changes in AAH)

b) Nass Wildlife Area unit

- Management actions for have included reductions in the Total Allowable Harvest, reductions in the annual Nisga'a Allocation as per the treaty, restriction of the Nisga'a hunting season, restriction to a bull-only harvest by Nisga'a hunters, and in 2007 significant restrictions to the licensed hunt (reduction in GO quota and LEH authorizations) were imposed to promote moose recovery
- For 2012/13, the very limited licensed moose hunt has been closed as anticipated population recovery has not been achieved.

## 4.0 Cariboo Region

### 4.1 Population trends:

a) MU 5-02C: Rose Lake-Miocene, 2011

- The moose population in MU 5-02C has decreased by an estimated 17% from 2001 to 2011.
- In 2011, the density was estimated at 0.51 moose/km<sup>2</sup>, as compared to 0.62 moose/km<sup>2</sup> in the 2001 survey.
- The bull/cow ratio in 2011 was 43/100, which is above the regional objective, while the cow/calf ratio was 35/100, meeting the regional objective.
- The 2011 GMZ 5B (Cariboo, MUs 5-01, 5-02) moose estimate of 6265 moose is a decrease of 7% from the 2008 estimate of 6727.

b) MU 5-04: Big Creek – Taseko, 2012

- The moose population in 5-04 has decreased by approximately 40% from 2005 to 2012.
- The density of 0.17 moose/km<sup>2</sup> is well below the regional target of 0.4 moose/km<sup>2</sup>.
- The bull/cow ratio has decreased from 2005 but is still above the Provincial minimum target of 30 bulls/100 cows.
- The calf/cow ratio is well below the regional target of 40 calves/100 cows.
- The available survey data indicates that the moose population in GMZ 5D (South Chilcotin, MUs 5-03, 5-04, 5-05, 5-06) has decreased by 51% from the 2008 estimate.

c) MU 5-12b: Anahim Lake – Dean River East, 2012

- The moose population estimate in 5-12B has decreased by approximately 60% from 2002.

- The estimated density of 0.23 moose/km<sup>2</sup> is well below the regional target of 0.4 moose/km<sup>2</sup>.
- The bull/cow ratio has increased from 2002 and is well above the provincial minimum target of 30 bulls/100 cows.
- The calf/cow ratio is above the regional target of 40 calves/100 cows.
- The 2012 moose population estimate for GMZ 5C (North Chilcotin, MUs 5-10, 5-12, 5-13, 5-14) decreased by 32% from the 2008 estimate.

#### 4.2 Communications

- Information derived from the 2011 estimates was shared with First Nations and stakeholders through meetings, web postings and letter communications through Spring and Summer 2011.
- Sharing of the 2012 results, population estimates and management implications is proceeding through initial engagement with the 'Tsilhqot'in National Government, following upon our SEA with that Nation. Engagement procedures will evolve based on deliberations of Chiefs with senior managers.
- The region is seeking engagement with the Ulkatcho, and other communities of the Southern Carrier group (Nazko, Kluskus, Red Bluff).
- Meetings with guided and resident hunter sectors are being scheduled, and will be augmented by letter communication to lead representatives for the separate stakeholder groups in each sector.
- As with 2011 information, web posting of 2012 survey results and management implications will be undertaken.

#### 4.3 Proposed management actions and initiatives:

- The resident/non-resident AAH for GMZ 5B was decreased by 16% from the 2008 harvest rate (to 396 from 493). The decrease in AAH has been incorporated into decisions on allocation and quota for the guided sector, and has resulted in decrease of Limited Entry Hunting authorisations for the resident sector.
- The AAH for GMZ 5C and 5D will be revised using updated population estimates. The decrease in population estimates will lead to a proportional and substantive decrease in AAH.
- The reduction in AAH for both Game Management Zones in the Chilcotin will result in significant reduction of LEH authorisations for resident hunters, and will severely impact allocation and quota for the guided sector.
- The fact that the bull/cow ratios in both GMZ 5C and 5D are well above the provincial minimum target of 30/100 suggests that it has not been licensed harvest of bull moose which has been driving the declines to the moose populations.
- Factors that could be contributing to the declining moose populations include:
  - increased predation mortality,
  - increased unregulated harvest of antlerless animals S13
  - reduction in natural survival due to habitat changes from mountain pine beetle and intensive timber salvaging, and S13
  - S13



The guided sector will experience the full impact of the allocation policy in 2013. Some guides have been forecast to experience up to a 75% reduction to allocation as a result of policy. A reduction in AAI will dramatically exacerbate the decline in 5 year allocation and annual quotas, particularly in the Chilcotin where allocations for many guides are at risk of variance to zero.

The region is seeking the services of an independent moose expert to assess the influence of factors driving moose population dynamics in the Cariboo Region. The initiative will engage First Nations, wildlife stakeholders, resource sector managers and industrial sector representatives. This information will inform collaborative dialogue and durable decision making respecting habitat management, moose recovery and harvest regulation.

## **5.0 Thompson Okanagan Region**

### **Population trends:**

- 2011 Survey results in MU 8-11 doubled the moose population estimate in that MU. Surveys elsewhere in the region found stable or increasing populations.
- Bull/cow ratios are comparatively low, possibly an indication of elevated harvesting success given high resource road densities.
- Calf recruitment is meeting objectives, but may be at risk due to anecdotes of increased wolf predation.
- There are no recent stratified random block survey results for the Thompson sub-region, as weather prevented standard surveys from being carried out last winter. However, composition surveys are completed on a regular basis and results generally indicate that moose populations are healthy with good bull ratios and sufficient levels of recruitment.
- Anecdotes and other indicators suggest that moose densities may be in decline in areas of the North Thompson and on the Bonaparte plateau.

### **5.2 Communications:**

- Okanagan sub-region maintains regular engagement with sectoral stakeholders and First Nations.
- The Thompson sub-region is deeply engaged on game management issues with communities of the Secwepemc Nation across the northern areas of the region. A partnership was developed to support a telemetry project examining moose survival relative to habitat use and infrastructure associated with timber salvage operations (roads and blocks) north of Savona.

### **5.3 Proposed management actions and initiatives:**

- There are no grounds for substantive alteration of the current harvest regulations in the Thompson Okanagan Region
- Thompson sub-region is seeking stable funding to carry out population surveys to confirm trends, and to sustain the telemetry project partnership.
- Okanagan is seeking funding to complete moose population surveys, particularly as some management units have never been surveyed.

## **6.0 Kootenay Region**

#### 6.1 Population trends:

- Surveys of MUs 4-07, 4-08 and 4-32 indicate a stable to increasing moose population in the West Kootenay.
- Recent survey information is not available to assess moose population changes in the East Kootenay.
- ~~2012~~ Composition surveys have been conducted over the past 3 winters and have shown bull/cow ratios above the regional objectives of 30/100 throughout the region.

#### 6.2 Communications:

- The Kootenay region undertakes regularly scheduled engagements with wildlife stakeholders and First Nations.

#### 6.3 Proposed management actions and initiatives:

- Population declines in 3 drainages in both the West and East Kootenay over the last 2 decades resulted in reduction of bull hunting opportunity or closure of the spike-fork open season. One of the affected drainages has since recovered sufficiently to allow re-opening. The other 2 areas have not been re-inventoried and remain closed.
- There are no grounds for further alternation of moose harvest regulations in the Kootenay Region.

### **Consistent and integrated stakeholder engagement initiatives must be undertaken by regions and the Branch.**

The extent and gravity of challenges in management of moose populations across regions dictates that each business unit in our ministry undertake consistent and integrated initiatives to engage and collaborate with stakeholders and First Nations. The following points are intended to set out common expectations for such engagement to share information on moose population trends and management implications. It is understood and appreciated that certain of the expected undertakings are already in progress as a component of standard ministry operational practices.

Fish, Wildlife and Habitat Management Branch is expected to:

- Communicate with the lead representatives of the BC Wildlife Federation and Guide Outfitters Association of BC.
- Share information with provincial-level wildlife stakeholders through the Provincial Hunting and Trapping Advisory Team (PHTAT).
- Support regions in posting information to the ministry's wildlife regulations website.
- Support regions and ministry communications experts during engagement with MLAs.

Regional operations is expected to:

- Sustain lines of communication to Branch and ministry communications experts respecting the progress of First Nations and stakeholder engagement and any moose management initiatives, such as any requirement to alter regional moose harvest allocation or management regimes.
- Maintain documentation of engagement initiatives.

- Maintain documentation of any analyses or management actions, the reasons supporting such initiative, and the results or expected outcomes.
- Initiate and sustain deliberate collaborative engagement with stakeholders through regional wildlife advisory committees, to share information and discuss management implications.
- Sustain consultative engagement with First Nations.
- In collaboration with Branch, prepare information bulletins for posting on the wildlife regulations website.
- Manage any media enquiries in collaboration with lead representatives from our Government Communications and Public Engagement unit.
- Manage any communications with MLAs in collaboration with our ministry executive, our communications experts and Branch.

## Stewart, Rodger W FLNR:EX

---

**From:** Kriese, Kevin FLNR:EX  
**Sent:** Wednesday, May 9, 2012 1:47 PM  
**To:** Ricketts, Glenn ABR:EX; Clark, Brian J FLNR:EX  
**Cc:** Wenham, Logan GCPE:EX; Stewart, Rodger W FLNR:EX  
**Subject:** FS\_Moose Pop\_ May\_12\_draft5

Gentlemen; we have a good product here that needs a final check. I made a few minor edits (enclosed). Please add yours and by the end of day we need to let Logan know if it is good to go.



FS\_Moose Pop\_  
May\_12\_draft5.do..

## FACTSHEET

May 9, 2012

Ministry of Forests, Lands and Natural Resource Operations

### Moose population estimates down in Cariboo, Omineca

#### Summary

Over the past two winters, Ministry of Forests, Lands and Natural Resource Operations regional staff have undertaken numerous moose inventory surveys. Results indicate that certain areas of the province are experiencing a decline in moose population including the Cariboo, central Omineca and the Bulkley Valley- Lakes District, and the Nass Wildlife Management Area.

The Ministry is reaching out to key stakeholders, wildlife experts and First Nations to assist in investigating the cause for the declines. Analysis of existing data is underway. As well, additional inventory work is being conducted to determine the status of moose in other areas of the province.

All possibilities for the decline will be investigated. Ministry staff have compiled a list of potential factors, including; unregulated hunting, <sup>s.13</sup> predator populations, changing environmental conditions (including habitat changes resulting from the mountain pine beetle infestation and timber salvaging), and cumulative impacts of one or more of these factors.

At present, there is no obvious cause for the declines, although initial findings show healthy bull to cow ratios in most areas, indicating that these declines are not attributable to regulated hunting. Nevertheless, moose hunting opportunities within some areas of the most heavily affected ~~regions~~ Management Units will be reduced immediately.

The decline in some moose populations is not considered to be an immediate conservation concern. However, ~~in the interests of conservation, the new population numbers estimates~~ mean that the Limited Entry Hunt (LEH) for moose will be reduced in certain areas of <sup>s.13</sup>

<sup>s.13</sup>

This backgrounder summarizes findings ~~so far~~ by region.

#### Peace Region

##### Population trends

- Population surveys south of Ft. St. John indicate a small decline in moose density since a 2004 survey. However the population trend is stable over the long term, considering surveys previous to 2004.
- Surveys in the areas of the far northeast indicate a stable, low density population typical of that land area.
- The population appears to be stable in agriculture zones.

#### Response

- Ministry staff will continue to monitor the population and assess results. No specific changes to the harvest management regime for moose in the Peace Region are anticipated as a result of the survey.
- Further surveys are planned for the coming year in select areas of potential management concern.

### **Omineca Region**

#### Population trend:

- Moose densities in the central portion of the region around Prince George have declined by 50 per cent since 2005, supporting anecdotal observations from the hunting community in recent years.
- Although the trend is declining, current moose densities in the Omineca remain consistent with healthy populations in other parts of North America.

#### Response:

- Guide and resident hunters have agreed to work collaboratively in developing harvest strategies in light of the survey results.
- First Nations will be invited to assist in developing moose management objectives through involvement in regional modelling work.
- The multiple stakeholder Omineca Wildlife Management Committee will also meet to consider moose management objectives and various management alternatives.
- The ministry will invest over \$1.7 million to fund additional composition surveys, and develop a study design for winter 2012/13 to confirm survey results and establish moose population monitoring zones.
- Development of a model to assess possible causes of the declining population trend is underway, with further analysis to be supported by available inventory funding.

### **Skeena Region – Bulkley Valley Lakes District, 2012**

#### Population trend:

- The moose population in this area has declined from 2004 by 20 per cent.
- There are no significant changes in either bull to cow or calf to cow ratios overall, but there is a decline in the bull to cow ratio in the Lakes District.
- The population is considered to be comparatively healthy, with good calf recruitment and bull to cow ratios, and the current annual allowable harvest is considered sustainable.
- Under current conditions, regional moose models predict a stable to increasing population.

#### Response:

- In 2010, the Skeena Allocation Committee (representing guided and resident sectors) opted to use a moose population estimate of 12,000 moose for the area. This was in

response to the consensus observation that the severe winter of 2006/2007 had caused a substantial decline in the moose population.

- Because a potential population decline was taken into account in 2010

S13

S13

## **Skeena Region – Nass Wildlife Area (Nisga'a Final Agreement), 2011**

### Population trend:

- Results from surveys indicate a 70 per cent reduction in the moose population from 1997 to 2011 over the 5,000 km<sup>2</sup> area.

### Response:

- For 2012/13, the very limited licensed moose hunt has been closed as anticipated population recovery has not been achieved.

- 

s.16, s.17

- Management actions have included reductions in the Total Allowable Harvest, reductions in the annual Nisga'a Allocation as per the treaty, restriction of the Nisga'a hunting season, and restriction to a bull-only harvest by Nisga'a hunters.
- In 2007 significant restrictions to the licensed hunt through both guide outfitter quota and LEH authorizations were imposed to promote moose recovery.

## **Cariboo Region**

### Population trends:

- The moose population has decreased considerably from the last available surveys, ranging from a 17 per cent decline in the Rose Lake-Miocene area to 60 per cent decline in the Anahim Lake/Dean River area.
- Bull to cow ratios are stable and within regional objectives, suggesting that the licensed harvest of bull moose has not been responsible for the declines in population.
- Calf to cow ratios are generally acceptable, although below regional targets in selected areas (Big Creek-Taseko).

### Response:

- Ministry staff have shared the survey results, population estimates and management implications with the Tsilhqot'in National Government. Ministry staff also hope to meet with the Ulkatcho, and other communities of the Southern Carrier group (Nazko, Kluskus, Red Bluff).
- Meetings with guided and resident hunter sectors are also being scheduled to discuss management implications.

- The allowable annual hunt will be decreased based on revised population estimates, resulting in significant reductions of LEH authorizations for resident hunters, and quota restrictions for guide outfitters.
- The ministry is seeking the services of an independent moose expert to assess the influence of factors responsible for the moose population decline in the Cariboo Region.

### **Thompson Okanagan Region**

#### Population trends:

- Although the overall moose population in the Okanagan is comparatively low, initial survey results in the West Kelowna area were favourable, with recruitment doubling the population compared to previous surveys.
- Bull to cow ratios are fairly low, possibly an indication of elevated bull harvesting success given high resource road densities.
- Calf to cow ratios are meeting objectives, but anecdotal evidence suggests there may be increased risk of wolf predation.
- There are no current survey results for the Thompson, as weather prevented standard surveys from being carried out last winter.
- Anecdotal evidence and harvest information suggest that moose densities are likely in decline in area of the North Thompson, the Bonaparte, and on the Nehalliston Plateau.

#### Response:

- Continue regular engagement with stakeholders and First Nations.
- A partnership with the Secwepemc Nation is underway in support of a radio-collaring initiative in the Thompson to examine moose survival and habitat use north of Savona.
- No changes to the regulations are anticipated at this time.

### **Kootenay Region**

#### Population trends:

- Initial survey findings indicate a stable to increasing moose population in the West Kootenay.
- Recent survey information is not available for moose population changes in the East Kootenay.
- Surveys conducted over the past three winters show bull to cow ratios are above regional objectives throughout the region.

#### Response:

- Continue regular engagement with stakeholders and First Nations.
- Population declines in three drainages in both the West and East Kootenay over the last two decades resulted in reducing bull hunting opportunity, or closure of the spike-fork season. One area has since recovered and re-opened, and the remaining two are still closed, pending further inventory work.
- No changes to the regulations are anticipated at this time.





## Stewart, Rodger W FLNR:EX

---

**From:** Hatter, Ian FLNR:EX  
**Sent:** Wednesday, May 9, 2012 1:59 PM  
**To:** Stewart, Rodger W FLNR:EX; Wenham, Logan GCPE:EX  
**Cc:** Thomas, Keith D FLNR:EX  
**Subject:** RE: RESPONSE: URGENT: Q&A on moose pop  
**Attachments:** QA\_Moose Population\_May\_9\_2012\_draft3 (IWH edits).docx

My edits

Sorry for the delay – computer problems!

### Ian Hatter, RPBio

Wildlife Manager | Fish, Wildlife and Habitat Management Branch | Ministry of Natural Resource Operations | T: 250-387-9792 | E: [Ian.Hatter@gov.bc.ca](mailto:Ian.Hatter@gov.bc.ca)

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Wednesday, May 9, 2012 12:36 PM  
**To:** Wenham, Logan GCPE:EX  
**Cc:** Thomas, Keith D FLNR:EX; Hatter, Ian FLNR:EX  
**Subject:** RESPONSE: URGENT: Q&A on moose pop

I have used track changes.

Ian has the information on inventory funds.

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell s.17 desk (250) 398 4549  
fax (250) 398 4214

---

**From:** Wenham, Logan GCPE:EX  
**Sent:** Wednesday, May 9, 2012 11:58 AM  
**To:** Hatter, Ian FLNR:EX; Stewart, Rodger W FLNR:EX  
**Cc:** Thomas, Vivian P GCPE:EX  
**Subject:** URGENT: Q&A on moose pop

Hi Ian, Rodger:

Just like the last one, attached is the Q&A document. I welcome any Q I may have missed, but an accompanying A would be welcome in that case.

Can you review and fact check ASAP, please? Also, where there are comments/questions can you address those if possible?

As this is urgent to get something in the hands of Doug soon, I'm hoping just the two of you can handle the review. Once I have your feedback, I will move it up to Kevin, as ADM lead.

Key Messages still to follow.

Logan Wenham  
Public Affairs Officer  
Ministry of Forests, Lands and Natural Resource Operations  
Phone: 250-953-3675

# ADVICE TO MINISTER

## QUESTIONS AND ANSWERS

### Moose population

Ministry of Forests, Lands and Natural Resource Operations

May 9, 2012

**1. How widespread is the moose population reduction? Is it limited to one area, or is it province wide?**

- The population declines are most severe in the north central area of the province (particularly the Cariboo, Omineca and in the Nass River Valley in Skeena) with reductions of 40-70 per cent.
- There are also smaller reductions (20 per cent) reported in the Bulkley Valley/Lakes District part of Skeena, but these are consistent with management assumptions in expected numbers are within the range that moose populations can be considered to fluctuate in response to environmental conditions. Management Conservation planning in Skeena was already working from an assumption of reduced moose numbers within this area, and should not require any adjustment.
- In other areas of the province, moose populations are reported as stable, and in some parts of the Okanagan, are even double previous surveys.

**2. How did you find out about the problem?**

- Subject to funding, the province undertakes an ongoing annual schedule of survey work for moose, tracking total numbers, bull to cow ratio and calf to cow ratios.
- Data collected over the last few months indicated a much sharper decline than expected in certain regions.

Comment [v1]: How often are surveys done?

**3. What methods are used to collect data and how accurate are they?**

- Methods include Stratified Random Block surveys, population composition surveys and assessment of annual moose harvesting statistics.
- Taken together, the data are considered accurate to be reliable and scientifically sound.

**4. What is being done to respond to the decline?**

- Because the decline is not uniform across the province, strategies are focused on those areas with significant declines, specifically the Cariboo, Omineca and Nass River Valley.
- In those areas, additional survey work is being proposed for target areas that may include the establishment of moose population monitoring zones to more thoroughly assess population trends and determine outcomes of applied management initiatives.
- Analysis of existing data is underway to determine possible causes for the decline.
- The province is also reaching out to First Nations, external wildlife experts and other stakeholders for additional perspectives on what the inventory results mean.

**5. What are the reductions comparable to? How long ago was the last survey done?**

- Inventory work is done by Management Unit (MU) or groups of MU's and not every MU is reviewed in any given year. Previous survey work varies considerably.
- In 2011/12 considerably more resources were made available for inventory work. As an example, from 2008-2010, government averaged \$120,000 per year in inventory work. In 2011/12 alone, we spent almost \$2 million on inventory work.

Comment [i2]: Logan and I discussed by phone.

Comment [L3]: Can we get the moose specific numbers for these?

## ADVICE TO MINISTER

**6. What assurances can you provide that there will be stable wildlife inventory funding not just for the current fiscal year, but for years to come?**

- Bringing Fish, Wildlife and Habitat Management into a larger Natural Resources Ministry has significantly increased available inventory funding.
- In 2012/13 we have \$400,000 committed, with an additional \$400,000 through the Land Based Investment Strategy.

s.13

s.13

**7. What caused the decline in moose population?**

- We are not certain, and that is why we are actively investigating.
- ~~In the coming weeks, our~~ Ministry biologists ~~are~~ will be carefully examining the available data to see what conclusions can be made. A full understanding of the causes of decline, however, may require additional inventory, modelling and research.

s.13

**8. What are the possible causes? What types of things will be investigated?**

- It would be a mistake to prejudge the results of the investigation.
- Affected regions have compiled a list of potential factors, including: unregulated harvest, predator populations, changing environmental conditions ~~(including habitat changes resulting from the mountain pine beetle infestation and timber salvaging), and cumulative impacts of one or more of these factors.~~

s.13

s.13

Formatted: Font: Bold, Italic

Formatted: Indent: Left: 0.63 cm

**9. Isn't it true that the area where moose populations are most in decline mirrors the areas that suffered extensive clearcuts as a result of the mountain pine beetle infestation and subsequent logging?**

- We are not certain of the cause, and that is why we are actively investigating. It would be a mistake to prejudge the results of that work.
- The effects of the mountain pine beetle will form part of that investigation.

**10. Is this the result of the failure of government to adhere to the 2009 recommendations of the Forest Practices Board that warned salvage harvest of pine beetle wood could have conservation impacts?**

- We are not certain of the cause, and that is why we are actively investigating. It would be a mistake to prejudge the results of that work.
- The effects of the mountain pine beetle will form part of that investigation.
- The mountain pine beetle epidemic was unprecedented, and created additional management pressures on forest practices and resource values including wildlife and their habitat.

**11. How will the reduced moose numbers impact LEH hunting for resident hunters in the affected regions?**

- The province takes a 'conservation first' approach to wildlife management.

s.13

s.13

s.13

**12. How will the reduced moose numbers impact annual quotas LEH hunting for guide outfitters in the affected regions?**

- The province takes a 'conservation first' approach to wildlife management.

s.13

s.13

## ADVICE TO MINISTER

s.13

s.13

Formatted: Font: Bold, Italic

### 13. Will First Nations hunters also have their hunt reduced?

- The Ministry consults with First Nations on hunting regulations that may impact First Nations ability to harvest wildlife for food, social or ceremonial purposes.
- Government sets annual allowable hunt levels through the Harvest Allocation Policy only after First Nation needs have been accommodated.
- The ministry's regional wildlife managers are the statutory decision makers on the need for hunting closures and to resolve allocation issues.

### 14. If regulated hunters aren't suspected as the cause for the decline, why are they having their allocations reduced?

- We are not certain of the cause, and that is why we are actively investigating. It would be a mistake to prejudge the results of that work.
- Regardless of the cause, conservation must take priority in wildlife management. In areas where moose numbers are significantly down, some hunting opportunities the LEH will have to be adjusted accordingly.
- We appreciate the efforts of both guide hunters and resident hunters in working with the province to find reasonable solutions.

### 15. Will the reduction in moose populations affect the government's review of the mid-term timber supply issue, and the possible opening up of Old Growth Management Areas (OGMAs) or Ungulate Winter Range (UWR) to logging?

- The economic impact of the mountain pine beetle to B.C.'s forest industry has been severe, and government is looking at all options to address the fall-down in the mid-term timber supply.
- Some of the possible options include harvesting some areas that have been set aside for biodiversity, wildlife habitat and scenic values. A draft technical analysis report has been completed. What still needs to be completed is an analysis of the impact of harvesting on non-timber values in some of those areas.
- However, no decisions have been made yet. Wildlife habitat values and conservation-based principles including moose populations will be part of the discussion, ~~and moose populations will form part of that discussion.~~

### 16. What is the province doing about predator management, particularly regarding wolf populations?

- This government is committed to ensuring sustainable wildlife populations and healthy predator-prey relationships throughout B.C.
- Government is also committed to helping stakeholders, ranchers and First Nations manage the impacts of wolves on their livestock in the Cariboo Region.
- We are creating sustainable opportunities to deal with wolf impacts in the Cariboo Region by providing additional trapping opportunities on private land and implementing no closed season for livestock areas, as well as a "no bag limit" in management areas of concern.

## ADVICE TO MINISTER

- I can confirm the ministry is still working on a draft wolf management plan for British Columbia. The draft will be shared with stakeholders for feedback and suggestions.

### 17. Isn't it about time we just put a stop to moose hunting?

- The province supports a sustainable moose hunt, which is an activity enjoyed by many B.C. families and supports rural economies in a number of ways.
- While we recognize that not everyone supports hunting, a large number of British Columbians do and as long as moose populations can be sustainably harvested, hunting will be allowed – the moment that such hunting it isn't sustainable for a species in an area – we won't allow it.
- It is also important to acknowledge that the hunting industry contributes approximately \$350 million annually to the province - comprised of resident hunters and guide outfitters.
- The recent survey information confirms that while overall numbers are down, bull to cow ratios are stable, indicating the decline in population is not likely the result of regulated hunting.

### 18. ~~Information~~ Survey results from the Nass River valley indicate ~~survey results~~ showing a decline going back to 1997. Why didn't we act sooner

s.13

s.13

Formatted: Font: Not Bold

Formatted: Font: Not Bold

s.13

## **Stewart, Rodger W FLNR:EX**

---

**From:** Kriese, Kevin FLNR:EX  
**Sent:** Wednesday, May 9, 2012 2:08 PM  
**To:** Addison, Christopher FLNR:EX  
**Cc:** Morgan, Dale FLNR:EX; Stewart, Rodger W FLNR:EX; Wenham, Logan GCPE:EX  
**Subject:** RE: FS\_Moose Pop\_ May\_12\_draft5

Chris I hear your concern. Suggest one potential change in the pre-amble like:

From:

s.13

To:

s.13

Does that make it better? Rodger; your view on this?

---

**From:** Addison, Christopher FLNR:EX  
**Sent:** Wednesday, May 9, 2012 1:54 PM  
**To:** Kriese, Kevin FLNR:EX  
**Cc:** Morgan, Dale FLNR:EX  
**Subject:** RE: FS\_Moose Pop\_ May\_12\_draft5

Hi Kevin. The edits are OK with me although the version I saw this morning had (what I think is) more appropriate wording around the stability of our populations, such as what I sent you yesterday. Is this from an older version?

<< OLE Object: Picture (Device Independent Bitmap) >> Chris Addison, R.P. Bio  
Director of Resource Management, Northeast

---

---

**From:** Kriese, Kevin FLNR:EX  
**Sent:** Wednesday, May 9, 2012 1:48 PM  
**To:** Addison, Christopher FLNR:EX  
**Cc:** Morgan, Dale FLNR:EX  
**Subject:** FS\_Moose Pop\_ May\_12\_draft5

Check if you are OK with this? the edits in red are mine.

<< File: FS\_Moose Pop\_ May\_12\_draft5.doc >>



## Stewart, Rodger W FLNR:EX

---

**From:** Kriese, Kevin FLNR:EX  
**Sent:** Wednesday, May 9, 2012 2:12 PM  
**To:** Clark, Brian J FLNR:EX; Manwaring, Richard G FLNR:EX  
**Cc:** Stewart, Rodger W FLNR:EX; Wenham, Logan GCPE:EX  
**Subject:** KM\_Moose population May\_2012\_draft3

My minor edits.

Note the introduction of a statement about natural variable populations; Chris Addison picked that point up. It's important we get this point across. These are not rows of carrots.....



KM\_Moose  
ulation\_May\_2012

## **Moose Population Key Messages**

### **May 9, 2012**

Over the past two winters, regions have undertaken moose inventory surveys. Results indicate that certain areas of the province are experiencing a decline in moose population in particular, the Cariboo, central Omineca and in the Nass River Valley.

Recent inventory work conducted by wildlife biologists indicates that moose densities have declined between 40-70 per cent in North Central British Columbia since 2005, particularly within the Cariboo, parts of the Omineca and in the Nass River Valley in Skeena. The cause for the decline is being investigated.

#### **Key Messages:**

- The Government of British Columbia is committed to sustainable wildlife management, and takes a 'conservation first' approach.
- Recent survey data shows that moose populations have substantially declined in three regions of the province – the Cariboo, parts of the Omineca, and the Nass River Valley.
- The Ministry is reaching out to key stakeholders, wildlife experts and First Nations to assist in investigating the cause of the decline.
- Additional survey work will be undertaken, and analysis of the existing data is underway.
- At present, there is no obvious cause for the decline, although initial findings show healthy bull to cow ratios in most areas, indicating the declines are not expected to be a result of regulated hunting.
- In the meantime, hunting opportunities for moose in the most severely affected regions (Nass Wildlife Management Area, Cariboo and Omineca) will be reduced immediately.
- Funding for wildlife inventory work hit record levels in 2011/12, and has helped us identify the situation.
- Other regions of the province with moose populations appear to be doing well.
- Further moose inventory is planned for 2012/13

**If asked to speculate on what caused the population decline:**

## Stewart, Rodger W FLNR:EX

---

**From:** Stepaniuk, Daryl ENV:EX  
**Sent:** Wednesday, May 9, 2012 2:59 PM  
**To:** Stewart, Rodger W FLNR:EX  
**Subject:** RE: NOTES: S13, S16

Thanks for this Rodger. I have been sitting here in BC Parks hearing rumours of not supporting this and the work Bryan and I completed in the past. A well structured policy would go a long way, as you know, and assist us in managing wildlife populations while addressing the enforcement and allocation side of our enterprise.

There is much more rationale that can be provided if you ever need assistance along those lines – lots of thought went into this and some comfort for troops should go along way. I understand that Bryan is attending the Sec Head meeting next week, so it appears he may be able to assist there as well.

Thanks for the copy.

Take care.

**Daryl Stepaniuk** First Nations Senior Planner  
**BC Parks and Conservation Officer Service Division**  
**Ministry of Environment**

1259 Dalhousie Drive, Kamloops, BC V2C 5Z5  
Office: 250 371-6327 • Mobile: s.17 • Fax: 250 828-4000  
[Daryl.Stepaniuk@gov.bc.ca](mailto:Daryl.Stepaniuk@gov.bc.ca)

*"There are three constants in life... change, choice and principles." Stephen Covey*

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Wednesday, May 9, 2012 2:51 PM  
**To:** Atagi, Dana FLNR:EX; Lloyd, Penny FLNR:EX; Baccante, Nick FLNR:EX; Burwash, Michael FLNR:EX; Chirico, Albert ENV:EX; Ramsay, Mike K FLNR:EX; Stalberg, Mike X FLNR:EX; Van Hove, John FLNR:EX; White, Tara FLNR:EX; Williams, Mark FLNR:EX; Zimmerman, Ted FLNR:EX; Rasmussen, Paul FLNR:EX; Barr, Larry FLNR:EX; Barrett, Scott FLNR:EX; Berardinucci, Julia F FLNR:EX; Bilodeau, Normand G FLNR:EX; Lloyd-Smith, Jane FLNR:EX; Peterson, Dan FLNR:EX  
**Cc:** Wilson, Andrew S FLNR:EX; Smith, Jennifer FLNR:EX; Foott, Carol FLNR:EX; Hatter, Ian FLNR:EX; Williams, Bryan ENV:EX; Stepaniuk, Daryl ENV:EX; Palmantier, Kristy FLNR:EX  
**Subject:** NOTES: S13, S16

Penny asked me to wade into this S13, S16 Sorry for delay in doing so, as nose has been to other grindstones past few days. Some of this might rankle, and for that I apologise, but straight talk is often better than convolutions. And we have had lots of time to consider this matter in this region, s.16, S13  
s.16, S13

During a recent conference call briefly raised this matter, I mentioned that the regional managers for Environmental Stewardship Division in the former MOE has endorsed an initiative to carry out further policy work S13, S16  
That was February 2008 I think, and it was at a meeting we held in Penticton. Brian Clark should remember, he and I likely the only previous RMs in the org from that time who remain active in FLNRO. We RMs heard from Bryan Williams, and Daryl Stepaniuk, with notes from Kristy Palmantier and if I am not mistaken a MAG rep. The MAG rep contributed to this discussion. Recall that we also had some notes in hand from senior reps of the COS (lead I recall by a senior CO in PG) indicating that there was corporate value in following up S13, S16 Bryan Williams, being leads for this matter back then, is most likely the curator of all record pertaining to this matter from that time, likely being the only remaining common denominator from that day.

We must take real care to not break the china as we throw out the dish washings. And there are some real issues with trying to defend non-action on this front. Let be pointedly mindful of what we can get from this, as compared to the issues we will need to manage.

In terms of value (china in the bottom of the wash bin), I shall offer something from TNG and NSTQ Chiefs of this region:

s.13, s.16, s.17

s.13, s.16

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cel (250) 398 4549  
fax (250) 398 4214

---

**From:** Atagi, Dana FLNR:EX

**Sent:** Tuesday, May 1, 2012 5:46 PM

**To:** Lloyd, Penny FLNR:EX; Baccante, Nick FLNR:EX; Burwash, Michael FLNR:EX; Chirico, Albert ENV:EX; Ramsay, Mike K FLNR:EX; Stalberg, Mike X FLNR:EX; Van Hove, John FLNR:EX; White, Tara FLNR:EX; Williams, Mark FLNR:EX; Zimmerman, Ted FLNR:EX; Rasmussen, Paul FLNR:EX; Barr, Larry FLNR:EX; Barrett, Scott FLNR:EX; Berardinucci, Julia F FLNR:EX; Bilodeau, Normand G FLNR:EX; Lloyd-Smith, Jane FLNR:EX; Peterson, Dan FLNR:EX; Stewart, Rodger FLNR:EX

Rodger W FLNR:EX

**Cc:** Wilson, Andrew S FLNR:EX; Smith, Jennifer FLNR:EX; Foott, Carol FLNR:EX; Hatter, Ian FLNR:EX

**Subject:** RE:

S13, S16

Penny,

I have taken a quick look at this proposal and provide you with some of my comments in advance of our SH meeting this month.

S13, S16, S17

s.16, s.17, S13

All for now. Dana

---

**From:** Lloyd, Penny FLNR:EX

**Sent:** Thursday, April 26, 2012 1:31 PM

**To:** Atagi, Dana FLNR:EX; Baccante, Nick FLNR:EX; Burwash, Michael FLNR:EX; Chirico, Albert ENV:EX; Ramsay, Mike K FLNR:EX; Stalberg, Mike X FLNR:EX; Van Hove, John FLNR:EX; White, Tara FLNR:EX; Williams, Mark FLNR:EX; Zimmerman, Ted FLNR:EX; Rasmussen, Paul FLNR:EX; Barr, Larry FLNR:EX; Barrett, Scott FLNR:EX; Berardinucci, Julia F FLNR:EX; Bilodeau, Normand G FLNR:EX; Lloyd-Smith, Jane FLNR:EX; Peterson, Dan FLNR:EX; Stewart, Rodger W FLNR:EX

**Cc:** Wilson, Andrew S FLNR:EX; Smith, Jennifer FLNR:EX; Foott, Carol FLNR:EX; Hatter, Ian FLNR:EX

**Subject:**

S13, S16, S17

Hello all:

s.16, s.17, S13

s.14, s.15

s.14, s.15

s.16, s.17, S13

**Will you please provide me with any comments by Friday, May 4<sup>th</sup>?**

Thank-you in advance.

Sincerely,

Penny Lloyd  
Tel: 250.356.0830  
Cell s.17

Manager  
Legislative and Regulatory Reform  
Fish, Wildlife and Habitat Management Branch  
Ministry of Forests, Lands and Natural Resource Operations  
Government of British Columbia

Email: penny.lloyd@gov.bc.ca  
*Please consider the environment prior to printing.*

**Stewart, Rodger W FLNR:EX**

---

**From:** Manwaring, Richard G FLNR:EX  
**Sent:** Wednesday, May 9, 2012 5:18 PM  
**To:** Stewart, Rodger W FLNR:EX  
**Cc:** MacDougall, Gerry L FLNR:EX  
**Subject:** Fwd: FS\_Moose Pop\_ May\_12\_draft8  
**Attachments:** FS\_Moose Pop\_ May\_12\_draft8.doc; ATT00001.htm

Nice work Rodger.

Rick Manwaring, RPF  
Assistant Deputy Minister  
South Area, Regional Operations  
Forests, Lands, and Natural Resource Operations  
250-828-4449

Begin forwarded message:

**From:** "Wenham, Logan GCPE:EX" <[Logan.Wenham@gov.bc.ca](mailto:Logan.Wenham@gov.bc.ca)>  
**To:** "Wenham, Logan GCPE:EX" <[Logan.Wenham@gov.bc.ca](mailto:Logan.Wenham@gov.bc.ca)>, "Manwaring, Richard G FLNR:EX" <[Richard.Manwaring@gov.bc.ca](mailto:Richard.Manwaring@gov.bc.ca)>  
**Cc:** "Thomas, Vivian P GCPE:EX" <[Vivian.Thomas@gov.bc.ca](mailto:Vivian.Thomas@gov.bc.ca)>, "Kriese, Kevin FLNR:EX" <[Kevin.Kriese@gov.bc.ca](mailto:Kevin.Kriese@gov.bc.ca)>  
**Subject:** RE: FS\_Moose Pop\_ May\_12\_draft8

Rick:

With minor changes from my manager, Vivian – please disregard my earlier version, and sorry for any resulting confusion.

Logan Wenham  
Public Affairs Officer  
Ministry of Forests, Lands and Natural Resource Operations  
Phone: 250-953-3675

---

**From:** Wenham, Logan GCPE:EX  
**Sent:** Wednesday, May 9, 2012 3:38 PM  
**To:** Manwaring, Richard G FLNR:EX  
**Cc:** Thomas, Vivian P GCPE:EX; Kriese, Kevin FLNR:EX  
**Subject:** FW: FS\_Moose Pop\_ May\_12\_draft6

Hi Rick:

Kevin wanted your OK on this before we clean it up and make it final. Please review/approve.

Logan Wenham  
Public Affairs Officer  
Ministry of Forests, Lands and Natural Resource Operations



---

From: Kriese, Kevin FLNR:EX  
Sent: Wednesday, May 9, 2012 3:22 PM  
To: Wenham, Logan GCPE:EX  
Subject: FS\_Moose Pop\_ May\_12\_draft6

Minor changes. Looks awesome. I've approved but would like Rick to approve before it goes out.

<< File: FS\_Moose Pop\_ May\_12\_draft6.doc >>

---

## FACTSHEET

May 9, 2012

Ministry of Forests, Lands and Natural Resource Operations

### **Moose population estimates down in Cariboo, Omineca**

#### **Summary**

Over the past two winters, Ministry of Forests, Lands and Natural Resource Operations regional staff have undertaken numerous moose inventory surveys. Results indicate that certain areas of the province are experiencing a decline in moose population including the Cariboo, central Omineca and the Bulkley Valley- Lakes District, and the Nass Wildlife Management Area.

The Ministry is reaching out to key stakeholders, wildlife experts and First Nations to assist in investigating the cause for the declines. Analysis of existing data is underway. As well, additional inventory work is being conducted to determine the status of moose in other areas of the province.

All possibilities for the decline will be investigated. Ministry staff have compiled a list of potential factors, including; unregulated hunting, increased access, predator populations, changing environmental conditions (including habitat changes resulting from the mountain pine beetle infestation and timber salvaging), and cumulative impacts of one or more of these factors.

At present, there is no obvious cause for the declines, although initial findings show healthy bull to cow ratios in most areas, indicating that these declines are not attributable to regulated hunting. Nevertheless, moose hunting opportunities within some areas of the most heavily affected Management Units will be reduced immediately.

The decline in some moose populations is not considered to be an immediate conservation concern. However, the new population estimates mean that the Limited Entry Hunt (LEH) for moose will be reduced in certain areas.

This backgrounder summarizes findings by region.

#### **Peace Region**

##### Population trend:

- Population surveys south of Fort St. John indicate a small decline in moose density since a 2004 survey. However the population trend is stable over the long term, considering surveys previous to 2004.
- Surveys in the areas of the far northeast indicate a stable, low density population typical of that land area.
- The population appears to be stable in agriculture zones.

Response:

- Ministry staff will continue to monitor the population and assess results. No specific changes to the harvest management regime for moose in the Peace Region are anticipated as a result of the survey.
- Further surveys are planned for the coming year in select areas of potential management concern.

**Omineca Region**

Population trend:

- Moose densities in the central portion of the region around Prince George have declined by 50 per cent since 2005, supporting anecdotal observations from the hunting community in recent years.
- Although the trend is declining, current moose densities in the Omineca remain consistent with healthy populations in other parts of North America.

Response:

- Guide and resident hunters have agreed to work collaboratively in developing harvest strategies in light of the survey results.
- First Nations will be invited to assist in developing moose management objectives through involvement in regional modelling work.
- The multi-stakeholder Omineca Wildlife Management Committee will also meet to consider moose management objectives and various management alternatives.
- The ministry will invest over \$1.7 million to fund additional composition surveys, and develop a study design for winter 2012/13 to confirm survey results and establish moose population monitoring zones.
- Development of a model to assess possible causes of the declining population trend is underway, with further analysis to be supported by available inventory funding.

**Skeena Region – Bulkley Valley Lakes District, 2012**

Population trend:

- The moose population in this area has declined from 2004 by 20 per cent.
- There are no significant changes in either bull to cow or calf to cow ratios overall, but there is a decline in the bull to cow ratio in the Lakes District.
- The population is considered to be comparatively healthy, with good calf recruitment and bull to cow ratios, and the current annual allowable harvest is considered sustainable.
- Under current conditions, regional moose models predict a stable to increasing population.

Response:

- In 2010, the Skeena Allocation Committee (representing guided and resident hunters) opted to use a moose population estimate of 12,000 moose for the area. This was in

response to the consensus observation that the severe winter of 2006/2007 had caused a substantial decline in the moose population.

- Because a potential population decline was taken into account in 2010, there are no proposed changes to the AAH for the 2012/2013 licence year and the upcoming allocation period (2012-2016) due to the results of this survey.

#### **Skeena Region – Nass Wildlife Area (Nisga'a Final Agreement), 2011**

##### Population trend:

- Results from surveys indicate a 70 per cent reduction in the moose population from 1997 to 2011 over the 5,000 km<sup>2</sup> area.

##### Response:

- For 2012/13, the very limited licensed moose hunt has been closed as anticipated population recovery has not been achieved.
- The province is collaborating with the Gitanyow First Nation and Nisga'a Lisims Government to implement a "managed" First Nations hunt designed to recover the moose population in the Nass Wildlife Area.
- Management actions have included reductions in the Total Allowable Harvest, reductions in the annual Nisga'a Allocation as per the treaty, restriction of the Nisga'a hunting season. The Nisga'a have adopted a bull-only harvest which supports moose conservation efforts.
- In 2007 significant restrictions to the licensed hunt through both guide outfitter quota and LEH authorizations were imposed to promote moose recovery.

#### **Cariboo Region**

##### Population trend:

- The moose population has decreased considerably from the last available surveys, ranging from a 17 per cent decline in the Rose Lake-Miocene area to 60 per cent decline in the Anahim Lake/Dean River area.
- Bull to cow ratios are stable and within regional objectives, suggesting that the licensed harvest of bull moose has not been responsible for the declines in population.
- Calf to cow ratios are generally acceptable, although below regional targets in selected areas (Big Creek-Taseko).

##### Response:

- Ministry staff have shared the survey results, population estimates and management implications with the Tsilhqot'in National Government. Ministry staff also plan to meet with the Ulkatcho, and other communities of the Southern Carrier group (Nazko, Kluskus, Red Bluff).
- Meetings with guided and resident hunter sectors are also being scheduled to discuss management implications.

- The allowable annual hunt will be decreased based on revised population estimates, resulting in significant reductions of LEH authorizations for resident hunters, and quota restrictions for guide outfitters.
- The ministry is seeking the services of an independent moose expert to assess the influence of factors responsible for the moose population decline in the Cariboo Region.

### **Thompson Okanagan Region**

#### Population trend:

- Although the overall moose population in the Okanagan is comparatively low, initial survey results west of Kelowna were favourable, with recruitment doubling the population compared to previous surveys.
- Bull to cow ratios are fairly low, possibly an indication of elevated bull harvesting success given high resource road densities.
- Calf to cow ratios are meeting objectives, but anecdotal evidence suggests there may be increased risk of wolf predation.
- There are no current survey results for the Thompson, as weather prevented standard surveys from being carried out last winter.
- Anecdotal evidence and harvest information suggest that moose densities are likely in decline in area of the North Thompson, the Bonaparte, and on the Nehalliston Plateau.

#### Response:

- Continue regular engagement with stakeholders and First Nations.
- A partnership with the Secwepemc Nation is underway in support of a radio-collaring initiative in the Thompson to examine moose survival and habitat use north of Savona.
- No changes to the regulations are anticipated at this time.

### **Kootenay Region**

#### Population trend:

- Initial survey findings indicate a stable to increasing moose population in the West Kootenay.
- Recent survey information is not available for moose population changes in the East Kootenay.
- Surveys conducted over the past three winters show bull to cow ratios are above regional objectives throughout the region.

#### Response:

- Continue regular engagement with stakeholders and First Nations.
- Population declines in three drainages in both the West and East Kootenay over the last two decades resulted in reducing bull hunting opportunity, or closure of the spike-fork season. One area has since recovered and re-opened, and the remaining two are still closed, pending further inventory work.
- No changes to the regulations are anticipated at this time.



## Stewart, Rodger W FLNR:EX

---

**From:** MacDougall, Gerry L FLNR:EX  
**Sent:** Thursday, May 10, 2012 12:59 PM  
**To:** Stewart, Rodger W FLNR:EX  
**Subject:** Fw: Fwd: update on moose backgrounder

---

**From:** Manwaring, Richard G FLNR:EX  
**Sent:** Thursday, May 10, 2012 12:00 PM  
**To:** MacDougall, Gerry L FLNR:EX; Dickenson, Kevin FLNR:EX; Wideski, Tony FLNR:EX  
**Subject:** Fwd: update on moose backgrounder

Rick Manwaring, RPF  
Assistant Deputy Minister  
South Area, Regional Operations  
Forests, Lands, and Natural Resource Operations  
250-828-4449

Begin forwarded message:

---

**From:** "Wenham, Logan GCPE:EX" <[Logan.Wenham@gov.bc.ca](mailto:Logan.Wenham@gov.bc.ca)>  
**Date:** 10 May, 2012 11:15:36 AM PDT  
**To:** "Kriese, Kevin FLNR:EX" <[Kevin.Kriese@gov.bc.ca](mailto:Kevin.Kriese@gov.bc.ca)>, "Manwaring, Richard G FLNR:EX" <[Richard.Manwaring@gov.bc.ca](mailto:Richard.Manwaring@gov.bc.ca)>  
**Cc:** "Clark, Brian J FLNR:EX" <[Brian.J.Clark@gov.bc.ca](mailto:Brian.J.Clark@gov.bc.ca)>, "Thomas, Vivian P GCPE:EX" <[Vivian.Thomas@gov.bc.ca](mailto:Vivian.Thomas@gov.bc.ca)>, "Atagi, Dana FLNR:EX" <[Dana.Atagi@gov.bc.ca](mailto:Dana.Atagi@gov.bc.ca)>, "Diemert, Karen FLNR:EX" <[Karen.Diemert@gov.bc.ca](mailto:Karen.Diemert@gov.bc.ca)>, "Addison, Christopher FLNR:EX" <[Christopher.Addison@gov.bc.ca](mailto:Christopher.Addison@gov.bc.ca)>, "Zimmerman, Ted FLNR:EX" <[Ted.Zimmerman@gov.bc.ca](mailto:Ted.Zimmerman@gov.bc.ca)>, "Bilodeau, Normand G FLNR:EX" <[Normand.Bilodeau@gov.bc.ca](mailto:Normand.Bilodeau@gov.bc.ca)>, "Warner, Bill FLNR:EX" <[Bill.Warner@gov.bc.ca](mailto:Bill.Warner@gov.bc.ca)>, "Morgan, Dale FLNR:EX" <[Dale.Morgan@gov.bc.ca](mailto:Dale.Morgan@gov.bc.ca)>, "Lloyd-Smith, Jane FLNR:EX" <[Jane.LloydSmith@gov.bc.ca](mailto:Jane.LloydSmith@gov.bc.ca)>, "Crebo, David GCPE:EX" <[David.Crebo@gov.bc.ca](mailto:David.Crebo@gov.bc.ca)>, "Hatter, Ian FLNR:EX" <[Ian.Hatter@gov.bc.ca](mailto:Ian.Hatter@gov.bc.ca)>  
**Subject:** update on moose backgrounder

Hi everyone:

I recently received an email from someone who was waiting for approvals on the moose document. There are a few documents out there, each with a different purpose, and hopefully this will clear that up.

The backgrounder (with prefix FS) is the document that will be going to stakeholders, but it is not yet approved – Dave Crebo, my director, is working on that right now. I'll send you final in pdf when ready (soon).

If you have seen the Q&A or the Key Messages (prefixes QA or KM), these are internal, responsive documents not intended for wide distribution. Drafts may have hit your desk of these as well, but not what you're looking for.

Cheers,

Logan Wenham

Public Affairs Officer

Ministry of Forests, Lands and Natural Resource Operations

Phone: 250-953-3675

---

**From:** Kriese, Kevin FLNR:EX  
**Sent:** Wednesday, May 9, 2012 6:07 PM  
**To:** Manwaring, Richard G FLNR:EX  
**Cc:** Wenham, Logan GCPE:EX; Clark, Brian J FLNR:EX; Thomas, Vivian P GCPE:EX; Atagi, Dana FLNR:EX; Diemert, Karen FLNR:EX; Addison, Christopher FLNR:EX; Zimmerman, Ted FLNR:EX; Bilodeau, Normand G FLNR:EX; Warner, Bill FLNR:EX; Morgan, Dale FLNR:EX; Lloyd-Smith, Jane FLNR:EX  
**Subject:** Re: Key Messages on moose

By way of cc ill ask each of the regions in the north to circulate the backgrounder as outlined below.  
Logan to forward final version.

Rick ill let you advise staff in your region. There may be some differences in how it is circulated between regions but I think that is fine.

Kevin Kriese, ADM

North Area



## Stewart, Rodger W FLNR:EX

---

**From:** Thomas, Vivian P GCPE:EX  
**Sent:** Friday, May 11, 2012 8:16 AM  
**To:** Stewart, Rodger W FLNR:EX; Wenham, Logan GCPE:EX; Hatter, Ian FLNR:EX  
**Cc:** Clark, Brian J FLNR:EX; Zimmerman, Ted FLNR:EX; Crebo, David GCPE:EX  
**Subject:** RE: Moose Population Fact Sheet

Will likely be mid-morning. Logan will send final, once we have the go-ahead.

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Friday, May 11, 2012 8:15 AM  
**To:** Wenham, Logan GCPE:EX; Hatter, Ian FLNR:EX  
**Cc:** Clark, Brian J FLNR:EX; Zimmerman, Ted FLNR:EX; Crebo, David GCPE:EX; Thomas, Vivian P GCPE:EX  
**Subject:** RE: Moose Population Fact Sheet

Logan, where might we be on this sheet? I could use it before 2 pm today.

Further, as previously noted to yourself and Brennan, we have Angie Mindus of the Cariboo Advisor seeking an interview on the topic of game inventory results..... her timing for publication is Monday pm

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell (250) 398 4549  
desk (250) 398 4549  
fax (250) 398 4214

---

**From:** Wenham, Logan GCPE:EX  
**Sent:** Thursday, May 10, 2012 1:06 PM  
**To:** Hatter, Ian FLNR:EX  
**Cc:** Clark, Brian J FLNR:EX; Stewart, Rodger W FLNR:EX; Zimmerman, Ted FLNR:EX; Crebo, David GCPE:EX; Thomas, Vivian P GCPE:EX  
**Subject:** RE: Moose Population Fact Sheet

OK – I have checked and can make that change S13 t will be in the final, when I send it out.

Logan Wenham  
Public Affairs Officer  
Ministry of Forests, Lands and Natural Resource Operations  
Phone: 250-953-3675

---

**From:** Hatter, Ian FLNR:EX  
**Sent:** Thursday, May 10, 2012 12:59 PM  
**To:** Wenham, Logan GCPE:EX  
**Cc:** Clark, Brian J FLNR:EX; Stewart, Rodger W FLNR:EX; Zimmerman, Ted FLNR:EX  
**Subject:** Moose Population Fact Sheet  
**Importance:** High

Hi Logan. We would like to change the 3<sup>rd</sup> bullet S13

from

We are having a conference call with provincial stakeholders at 5 pm. Will you have the final (approved) Fact Sheet by 4 pm for distribution to participants in advance of the call?

**Ian Hatter, RPBio**

**Wildlife Manager** | Fish, Wildlife and Habitat Management Branch | Ministry of Natural Resource Operations | **T:** 250-387-9792 | E: [Ian.Hatter@gov.bc.ca](mailto:Ian.Hatter@gov.bc.ca)

## **Stewart, Rodger W FLNR:EX**

---

**From:** Wenham, Logan GCPE:EX  
**Sent:** Friday, May 11, 2012 10:05 AM  
**To:** Kriese, Kevin FLNR:EX; Manwaring, Richard G FLNR:EX; Hatter, Ian FLNR:EX; Clark, Brian J FLNR:EX; Wilson, Andrew S FLNR:EX; Stewart, Rodger W FLNR:EX; Zimmerman, Ted FLNR:EX; Warner, Bill FLNR:EX; Atagi, Dana FLNR:EX; Addison, Christopher FLNR:EX; Bilodeau, Normand G FLNR:EX; Morgan, Dale FLNR:EX; Lloyd-Smith, Jane FLNR:EX; Diemert, Karen FLNR:EX; Laaksonen-Craig, Susanna FLNR:EX  
**Cc:** Thomas, Vivian P GCPE:EX; Crebo, David GCPE:EX; Clarke, Brennan GCPE:EX  
**Subject:** Final Moose Backgrounder  
**Attachments:** Factsheet\_Provincial Moose Population\_May2012\_final.pdf

Hello all:

Attached is the final and approved version of the Moose Population Fact Sheet (backgrounder), in pdf format that you can circulate as part of your stakeholder engagement.

Ian – I recall you will be having this posted to an appropriate website. Can we use this byline/language for the link?

“Update on provincial moose population estimates, May 2012”

Once up, let me know where I can find it.

I’ve basically used the distribution list Kevin provided on Wednesday (see note below) with a few additional people. Please take a good look and if I’ve missed anyone, please include them.

Thanks to everyone who helped put this together and approve it over the last few days. Much appreciated!

Logan Wenham  
Public Affairs Officer  
Ministry of Forests, Lands and Natural Resource Operations  
Phone: 250-953-3675

**From:** Kriese, Kevin FLNR:EX  
**Sent:** Wednesday, May 9, 2012 6:07 PM  
**To:** Manwaring, Richard G FLNR:EX  
**Cc:** Wenham, Logan GCPE:EX; Clark, Brian J FLNR:EX; Thomas, Vivian P GCPE:EX; Atagi, Dana FLNR:EX; Diemert, Karen FLNR:EX; Addison, Christopher FLNR:EX; Zimmerman, Ted FLNR:EX; Bilodeau, Normand G FLNR:EX; Warner, Bill FLNR:EX; Morgan, Dale FLNR:EX; Lloyd-Smith, Jane FLNR:EX  
**Subject:** Re: Key Messages on moose

By way of cc ill ask each of the regions in the north to circulate the backgrounder as outlined below. Logan to forward final version.

Rick ill let you advise staff in your region. There may be some differences in how it is circulated between regions but I think that is fine.

Kevin Kriese, ADM  
North Area

---

## FACTSHEET

May 11, 2012

Ministry of Forests, Lands and Natural Resource Operations

### **Moose population estimates down in Cariboo, Omineca**

#### **Summary**

Over the past two winters, Ministry of Forests, Lands and Natural Resource Operations regional staff have undertaken numerous moose inventory surveys. Results indicate that certain areas of the province are experiencing a decline in moose population including the Cariboo, central Omineca and the Bulkley Valley- Lakes District, and the Nass Wildlife Management Area.

The Ministry is reaching out to key stakeholders, wildlife experts and First Nations to assist in investigating the cause for the declines. Analysis of existing data is underway. As well, additional inventory work is being conducted to determine the status of moose in other areas of the province.

All possibilities for the decline will be investigated. Ministry staff have compiled a list of potential factors, including; unregulated hunting, increased access, predator populations, changing environmental conditions (including habitat changes resulting from the mountain pine beetle infestation and timber salvaging), and cumulative impacts of one or more of these factors.

At present, there is no obvious cause for the declines, although initial findings show healthy bull to cow ratios in most areas, indicating that these declines are not attributable to regulated hunting. Nevertheless, moose hunting opportunities within some areas of the most heavily affected Management Units will be reduced immediately.

The decline in some moose populations is not considered to be an immediate conservation concern. However, the new population estimates mean that the Limited Entry Hunt (LEH) for moose will be reduced in certain areas.

This backgrounder summarizes findings by region.

#### **Peace Region**

##### Population trend:

- Population surveys south of Fort St. John indicate a small decline in moose density since a 2004 survey. However the population trend is stable over the long term, considering surveys previous to 2004.
- Surveys in the areas of the far northeast indicate a stable, low density population typical of that land area.
- The population appears to be stable in agriculture zones.

Response:

- Ministry staff will continue to monitor the population and assess results. No specific changes to the harvest management regime for moose in the Peace Region are anticipated as a result of the survey.
- Further surveys are planned for the coming year in select areas of potential management concern.

**Omineca Region**

Population trend:

- Moose densities in the central portion of the region around Prince George have declined by 50 per cent since 2005, supporting anecdotal observations from the hunting community in recent years.
- Although the trend is declining, current moose densities in the Omineca remain consistent with healthy populations in other parts of North America.

Response:

- Guide and resident hunters have agreed to work collaboratively in developing harvest strategies in light of the survey results.
- First Nations will be invited to assist in developing moose management objectives through involvement in regional modelling work.
- The multi-stakeholder Omineca Wildlife Management Committee will also meet to consider moose management objectives and various management alternatives.
- The ministry will invest over \$100,000 to fund additional composition surveys, and develop a study design for winter 2012/13 to confirm survey results and establish moose population monitoring zones.
- Development of a model to assess possible causes of the declining population trend is underway, with further analysis to be supported by available inventory funding.

**Skeena Region – Bulkley Valley Lakes District, 2012**

Population trend:

- The moose population in this area has declined from 2004 by 20 per cent.
- There are no significant changes in either bull to cow or calf to cow ratios overall, but there is a decline in the bull to cow ratio in the Lakes District.
- The population is considered to be comparatively healthy, with good calf recruitment and bull to cow ratios, and the current annual allowable harvest is considered sustainable.
- Under current conditions, regional moose models predict a stable to increasing population.

Response:

- In 2010, the Skeena Allocation Committee (representing guided and resident hunters) opted to use a moose population estimate of 12,000 moose for the area. This was in

response to the consensus observation that the severe winter of 2006/2007 had caused a substantial decline in the moose population.

- Because a potential population decline was taken into account in 2010, there are no proposed changes to the AAH for the 2012/2013 licence year and the upcoming allocation period (2012-2016) due to the results of this survey.

#### **Skeena Region – Nass Wildlife Area (Nisga’a Final Agreement), 2011**

##### Population trend:

- Results from surveys indicate a 70 per cent reduction in the moose population from 1997 to 2011 over the 5,000 km<sup>2</sup> area.

##### Response:

- For 2012/13, the very limited licensed moose hunt has been closed as anticipated population recovery has not been achieved.
- The province is collaborating with the Gitanyow First Nation and Nisga’a Lisims Government to implement a “managed” First Nations hunt designed to recover the moose population in the Nass Wildlife Area.
- Management actions have included reductions in the Total Allowable Harvest, reductions in the annual Nisga’a Allocation as per the treaty, restriction of the Nisga’a hunting season. The Nisga’a have adopted a bull-only harvest which supports moose conservation efforts.
- In 2007 significant restrictions to the licensed hunt through both guide outfitter quota and LEH authorizations were imposed to promote moose recovery.

#### **Cariboo Region**

##### Population trend:

- The moose population has decreased considerably from the last available surveys, ranging from a 17 per cent decline in the Rose Lake-Miocene area to 60 per cent decline in the Anahim Lake/Dean River area.
- Bull to cow ratios are stable and within regional objectives, suggesting that the licensed harvest of bull moose has not been responsible for the declines in population.
- Calf to cow ratios are generally acceptable, although below regional targets in selected areas (Big Creek-Taseko).

##### Response:

- Ministry staff have shared the survey results, population estimates and management implications with the Tsilhqot’in National Government. Ministry staff also plan to meet with the Utkatcho, and other communities of the Southern Carrier group (Nazko, Kluskus, Red Bluff).
- Meetings with guided and resident hunter sectors are also being scheduled to discuss management implications.

- The allowable annual hunt will be decreased based on revised population estimates, resulting in reductions of LEH authorizations for resident hunters, and quota restrictions for guide outfitters.
- The ministry is seeking the services of an independent moose expert to assess the influence of factors responsible for the moose population decline in the Cariboo Region.

### **Thompson Okanagan Region**

#### Population trend:

- Although the overall moose population in the Okanagan is comparatively low, initial survey results west of Kelowna were favourable, with recruitment doubling the population compared to previous surveys.
- Bull to cow ratios are fairly low, possibly an indication of elevated bull harvesting success given high resource road densities.
- Calf to cow ratios are meeting objectives, but anecdotal evidence suggests there may be increased risk of wolf predation.
- There are no current survey results for the Thompson, as weather prevented standard surveys from being carried out last winter.
- Anecdotal evidence and harvest information suggest that moose densities are likely in decline in area of the North Thompson, the Bonaparte, and on the Nehalliston Plateau.

#### Response:

- Continue regular engagement with stakeholders and First Nations.
- A partnership with the Secwepemc Nation is underway in support of a radio-collaring initiative in the Thompson to examine moose survival and habitat use north of Savona.
- No changes to the regulations are anticipated at this time.

### **Kootenay Region**

#### Population trend:

- Initial survey findings indicate a stable to increasing moose population in the West Kootenay.
- Recent survey information is not available for moose population changes in the East Kootenay.
- Surveys conducted over the past three winters show bull to cow ratios are above regional objectives throughout the region.

#### Response:

- Continue regular engagement with stakeholders and First Nations.
- Population declines in three drainages in both the West and East Kootenay over the last two decades resulted in reducing bull hunting opportunity, or closure of the spike-fork season. One area has since recovered and re-opened, and the remaining two are still closed, pending further inventory work.
- No changes to the regulations are anticipated at this time.

## **Stewart, Rodger W FLNR:EX**

---

**From:** Clarke, Brennan GCPE:EX  
**Sent:** Friday, May 11, 2012 11:20 AM  
**To:** Stewart, Rodger W FLNR:EX  
**Cc:** GCPE FLNR Media Requests GCPE:EX  
**Subject:** Media Request: Cariboo Advisor, moose count

Hi Rodger, see below, Angie is at 250 398 5516 / s.17

Point her to the Fact sheet is she asks.

Tx.

---

**From:** Thomas, Vivian P GCPE:EX  
**Sent:** Friday, May 11, 2012 11:05 AM  
**To:** Clarke, Brennan GCPE:EX  
**Cc:** Wenham, Logan GCPE:EX; GCPE FLNR Media Requests GCPE:EX  
**Subject:** RE: Media Request: Cariboo Advisor, moose count

I'd prefer if Rodger did interview first. If reporter wants fact sheet, then send her a copy of the fact sheet as opposed to the link.

Thx,

---

**From:** Clarke, Brennan GCPE:EX  
**Sent:** Friday, May 11, 2012 11:03 AM  
**To:** Thomas, Vivian P GCPE:EX  
**Cc:** Wenham, Logan GCPE:EX; GCPE FLNR Media Requests GCPE:EX  
**Subject:** Media Request: Cariboo Advisor, moose count

Angie Mindus of the Cariboo Observer would like to interview Rodger Stewart about the moose counts. Can I send her the link to the fact sheet and green light the interview?

**Brennan Clarke**  
Public Affairs Officer  
Ministry of Forests, Lands and Natural Resource Operations  
Office: 250 356-5261  
Cell: s.17  
Fax: 250 387-8684  
[Brennan.Clarke@gov.bc.ca](mailto:Brennan.Clarke@gov.bc.ca)



## Stewart, Rodger W FLNR:EX

---

**From:** Procter, Chris FLNR:EX  
**Sent:** Friday, May 11, 2012 1:51 PM  
**To:** Stewart, Rodger W FLNR:EX  
**Cc:** Burwash, Michael FLNR:EX; Iredale, Francis FLNR:EX; Peterson, Dan FLNR:EX  
**Subject:** RE: Final Moose Backgrounder - survey results, population status

Bit odd that not a single edit I made is in this backgrounder – it reads exactly word for word like the initial version you sent me, prior to my suggestions/edits. GPCE must have had multiple versions of this thing then?

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Friday, May 11, 2012 1:35 PM  
**To:** Procter, Chris FLNR:EX  
**Cc:** Burwash, Michael FLNR:EX; Iredale, Francis FLNR:EX; Peterson, Dan FLNR:EX  
**Subject:** RE: Final Moose Backgrounder - survey results, population status

I put everything you provided me into the documents I sent to GCPE – exactly as you had written. I sent down about 8 pages of information. But I do not have authority to manage the messaging developed by GPCE – they decide what's to be said.

Sorry about any element of the outcome that rankles, but I did my part to accurately represent all regions per their inputs to me.

I hope you understand.....

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell s.17 desk (250) 398 4549  
fax (250) 398 4214

---

**From:** Procter, Chris FLNR:EX  
**Sent:** Friday, May 11, 2012 12:12 PM  
**To:** Stewart, Rodger W FLNR:EX  
**Cc:** Burwash, Michael FLNR:EX; Iredale, Francis FLNR:EX  
**Subject:** RE: Final Moose Backgrounder - survey results, population status

I am disappointed that our edits did not get made Rodger.

Chris Procter  
Wildlife Biologist  
Fish & Wildlife Branch  
Ministry of Forests, Lands & Natural Resource Operations  
1259 Dalhousie Dr.  
Kamloops, BC  
V2C 5Z5

**From:** Stewart, Rodger W FLNR:EX

**Sent:** Friday, May 11, 2012 10:39 AM

**To:** Chirico, Albert ENV:EX; Stalberg, Mike X FLNR:EX; Procter, Chris FLNR:EX; Harris, Brian S FLNR:EX; Ramsay, Mike K FLNR:EX; Baccante, Nick FLNR:EX; Thiessen, Conrad D FLNR:EX

**Cc:** MacDougall, Gerry L FLNR:EX; Dickenson, Kevin FLNR:EX; Wideski, Tony FLNR:EX

**Subject:** FW: Final Moose Backgrounder - survey results, population status

Please consider the notes from Logan below as you undertake further engagement with stakeholders and First Nations.

Rodger Stewart

Director, Resource Management

Ministry of Forests, Lands and Natural Resource Operations

Cariboo Region

400 - 640 Borland Street

Williams Lake, BC

V2G 4T1

cell (250) 398 4549

fax (250) 398 4214

**From:** Wenham, Logan GCPE:EX

**Sent:** Friday, May 11, 2012 10:05 AM

**To:** Kriese, Kevin FLNR:EX; Manwaring, Richard G FLNR:EX; Hatter, Ian FLNR:EX; Clark, Brian J FLNR:EX; Wilson, Andrew S FLNR:EX; Stewart, Rodger W FLNR:EX; Zimmerman, Ted FLNR:EX; Warner, Bill FLNR:EX; Atagi, Dana FLNR:EX; Addison, Christopher FLNR:EX; Bilodeau, Normand G FLNR:EX; Morgan, Dale FLNR:EX; Lloyd-Smith, Jane FLNR:EX; Diemert, Karen FLNR:EX; Laaksonen-Craig, Susanna FLNR:EX

**Cc:** Thomas, Vivian P GCPE:EX; Crebo, David GCPE:EX; Clarke, Brennan GCPE:EX

**Subject:** Final Moose Backgrounder

Hello all:

Attached is the final and approved version of the Moose Population Fact Sheet (backgrounder), in pdf format that you can circulate as part of your stakeholder engagement.

Ian – I recall you will be having this posted to an appropriate website. Can we use this byline/language for the link?

“Update on provincial moose population estimates, May 2012”

Once up, let me know where I can find it.

I’ve basically used the distribution list Kevin provided on Wednesday (see note below) with a few additional people. Please take a good look and if I’ve missed anyone, please include them.

Thanks to everyone who helped put this together and approve it over the last few days. Much appreciated!

Logan Wenham

Public Affairs Officer

Ministry of Forests, Lands and Natural Resource Operations

Phone: 250-953-3675

**From:** Kriese, Kevin FLNR:EX

**Sent:** Wednesday, May 9, 2012 6:07 PM

**To:** Manwaring, Richard G FLNR:EX

**Cc:** Wenham, Logan GCPE:EX; Clark, Brian J FLNR:EX; Thomas, Vivian P GCPE:EX; Atagi, Dana FLNR:EX; Diemert, Karen FLNR:EX; Addison, Christopher FLNR:EX; Zimmerman, Ted FLNR:EX; Bilodeau, Normand G FLNR:EX; Warner, Bill FLNR:EX; Morgan, Dale FLNR:EX; Lloyd-Smith, Jane FLNR:EX

**Subject:** Re: Key Messages on moose

By way of cc ill ask each of the regions in the north to circulate the backgrounder as outlined below. Logan to forward final version.

Rick ill let you advise staff in your region. There may be some differences in how it is circulated between regions but I think that is fine.

Kevin Kriese, ADM

North Area

## Stewart, Rodger W FLNR:EX

---

**From:** McNeill, Diana A FLNR:EX on behalf of Clark, Brian J FLNR:EX  
**Sent:** Friday, May 11, 2012 1:55 PM  
**To:** FLNR ALL ADMs; FLNR DRMs; ENV ESRO F&W Section Heads  
**Subject:** Moose Population

Please see below. Thank you.

---

**From:** McNeill, Diana A FLNR:EX **On Behalf Of** Clark, Brian J FLNR:EX  
**Sent:** Friday, May 11, 2012 1:22 PM  
**To:** 'Mark Werner'; 'Scott Ellis'; s.22 'officeinfo@bcwf.bc.ca'; s.22 ;  
s.22 'Richard.Christiansen@dfo-mpo.gc.ca'; 'btozer@vantagepoint-outfitters.com';  
'Jim.Glaicar@gov.bc.ca.'; s.22 'Darlene Clark'; 'packhorsecrk@elkvalley.net'  
**Subject:** Follow Up from Moose Population Call on May 10/2012

As discussed on the call yesterday regarding Moose Population, please see the link below to the Factsheet that was referenced.

[http://www.env.gov.bc.ca/fw/wildlife/management-issues/docs/factsheet\\_provincial\\_moose\\_population\\_may2012.pdf](http://www.env.gov.bc.ca/fw/wildlife/management-issues/docs/factsheet_provincial_moose_population_may2012.pdf)

I have also included some rough notes/bullets of issues that were raised. Please let me know if I have missed anything.

- A sense of disappointment that government has not listened to the anecdotal information that has been offered from hunters, guides and First Nations regarding decreasing moose populations.
- This is the result in the lack of proper investment (inventory \$\$) in Wildlife Management. It was noted this was not just about moose, but all the other game also.
- The response needs to be provincial in nature and not region by region.
- Stakeholders are expecting a Moose Herd Recovery Plan to come out of this with proper resourcing.
- Conservation was the primary concern.
- Anxious to learn about next steps and want to be involved as we move forward.
- Concerns that the general public (i.e. the anti-hunting community) may not appreciate the economic reasons for investing in herd recovery.

Brian Clark, RPBio  
Executive Director  
Resource Stewardship Division  
Ministry of Forests, Lands and Natural Resource Operations  
(604) 220-6953

## Stewart, Rodger W FLNR:EX

---

**From:** Judy Banas s.22  
**Sent:** Friday, May 11, 2012 8:17 PM  
**To:** Stewart, Rodger W FLNR:EX  
**Cc:** Ramsay, Mike K FLNR:EX  
**Subject:** Re: Background information on moose surveys in province.

Thank you Rodger,  
Thats fine.  
Judy

----- Original Message -----

**From:** Stewart, Rodger W FLNR:EX  
**To:** Judy Banas  
**Cc:** Ramsay, Mike K FLNR:EX  
**Sent:** Friday, May 11, 2012 11:48 AM  
**Subject:** NOTE: Background information on moose surveys in province.

Judy, we have to seek your counsel as on how best to communicate the technical information we have from 2012 moose surveys to your association members. The attached is an outline, and we have key underlying technical material in hand, it just having been accuracy checked etc very recently. We would prefer to work through yourself on such matters, with the association regional executive managing the outgoing messaging.

Mike Ramsay and I will be working with you on this matter. Mike is considering how to best package the tech information we have, likely something like what we circulated to you last year on the 2011 surveys.

We are a long ways from sorting what this all means, what it means to hunting opportunity, what the causes are and how we accelerate recovery. Focussed work expected on this through the summer.

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell s.17 desk (250) 398 4549  
fax (250) 398 4214

## Stewart, Rodger W FLNR:EX

---

**From:** Griffiths, Felice FLNR:EX  
**Sent:** Monday, May 14, 2012 2:26 PM  
**To:** Heard, Douglas FLNR:EX; Thiessen, Conrad D FLNR:EX; Harris, Brian S FLNR:EX; Williams, Mark FLNR:EX; Freeman, Nicola L ENV:EX; Ramsay, Mike K FLNR:EX; Mowat, Garth FLNR:EX; Szkorupa, Tara D FLNR:EX; Stent, Patrick FLNR:EX; Procter, Chris FLNR:EX; Hatter, Ian FLNR:EX; Kuzyk, Gerald FLNR:EX; Clark, Brian J FLNR:EX  
**Cc:** Addison, Christopher FLNR:EX; Barr, Larry FLNR:EX; Bilodeau, Normand G FLNR:EX; Lloyd-Smith, Jane FLNR:EX; Peterson, Dan FLNR:EX; Rasmussen, Paul FLNR:EX; Stewart, Rodger W FLNR:EX; Wilson, Andrew S FLNR:EX; Atagi, Dana FLNR:EX; Baccante, Nick FLNR:EX; Burwash, Michael FLNR:EX; Chirico, Albert ENV:EX; Stalberg, Mike X FLNR:EX; Van Hove, John FLNR:EX; White, Tara FLNR:EX; Zimmerman, Ted FLNR:EX; Button, Tony ENV:EX  
**Subject:** RE: Current Population Trends of Moose in BC

Hi all,

At last week's meeting on moose trends in BC the topic of mountain pine beetle influence on moose habitat came up. It was mentioned that Tony Button, with Ecosystem Information Section was working on a habitat analysis for moose. Here is a very brief summary of that project.

The analysis is to inform decisions around the mid-term timber supply review. Habitat suitability and capability for 10 indicator species are being determined at a 1:20 000 scale in 7 forest districts in the central interior. Moose is one of those species (also includes elk, caribou, WT and mule deer and grizzly bears). The goal is to use those habitat ratings to conduct a habitat supply analysis into the future to evaluate the impact of logging on the indicator species.

The project is looking at current habitat conditions and scenarios into the future. While it is not looking at past conditions (i.e. the progress of the mtn pine beetle kill across the landscape and how that changed moose habitat) that is something that is possible to do, building on the work that is being done now.

You will likely hear more about this in the near future as there will be an expert review of the habitat ratings involving the regional biologists.

Cheers,  
Felice

-----Original Appointment-----

**From:** Braund, Ramona L FLNR:EX  
**Sent:** Friday, May 4, 2012 4:34 PM  
**To:** Braund, Ramona L FLNR:EX; Heard, Douglas FLNR:EX; Thiessen, Conrad D FLNR:EX; Harris, Brian S FLNR:EX; Williams, Mark FLNR:EX; Freeman, Nicola L ENV:EX; Ramsay, Mike K FLNR:EX; Mowat, Garth FLNR:EX; Szkorupa, Tara D FLNR:EX; Stent, Patrick FLNR:EX; Procter, Chris FLNR:EX; Hatter, Ian FLNR:EX; Kuzyk, Gerald FLNR:EX  
**Cc:** Addison, Christopher FLNR:EX; Barr, Larry FLNR:EX; Bilodeau, Normand G FLNR:EX; Lloyd-Smith, Jane FLNR:EX; Peterson, Dan FLNR:EX; Rasmussen, Paul FLNR:EX; Stewart, Rodger W FLNR:EX; Wilson, Andrew S FLNR:EX; Atagi, Dana FLNR:EX; Baccante, Nick FLNR:EX; Burwash, Michael FLNR:EX; Chirico, Albert ENV:EX; Stalberg, Mike X FLNR:EX; Van Hove, John FLNR:EX; White, Tara FLNR:EX; Zimmerman, Ted FLNR:EX  
**Subject:** Current Population Trends of Moose in BC  
**When:** Tuesday, May 8, 2012 9:00 AM-10:00 AM (GMT-08:00) Pacific Time (US & Canada).  
**Where:** conference call: s.17 Participant ID: s.17

When: Tuesday, May 8, 2012 9:00 AM-10:00 AM (GMT-08:00) Pacific Time (US & Canada).

Where: conference call: s.17 Participant ID: s.17

Note: The GMT offset above does not reflect daylight saving time adjustments.

\*~\*~\*~\*~\*~\*~\*~\*~\*~\*

Ian Hatter will be the moderator.

---

Hi Ramona. Can you please find a time next week (Tuesday through Friday) for a 1 hour conference call with the following? Presenters need to be available for the call – the cc list is optional attendance. Please send out the meeting invite below:

Thanks  
Ian

To: Heard, Douglas FLNR:EX; Thiessen, Conrad D FLNR:EX; Harris, Brian S FLNR:EX; Williams, Mark FLNR:EX; Freeman, Nicola L ENV:EX; Ramsay, Mike K FLNR:EX; Mowat, Garth FLNR:EX; Szkorupa, Tara D FLNR:EX; Stent, Patrick FLNR:EX; Procter, Chris FLNR:EX; Ian Hatter; Gerry Kuzyk

CC: F&W Section Heads; FLNRO DRMs; Wilson, Andrew S FLNR:EX

Subject: Current Population Trends of Moose in BC

Information collected from several moose inventories last year have indicated substantial moose declines in several areas of the province, which are going to pose some significant challenges for moose management. I am proposing that we have a 1 hour conference call to discuss this issue.

Chair: Ian Hatter

Agenda:

1. Purpose – to develop a common understanding of the current trends in moose population density and possible next steps – Ian Hatter, Gerry Kuzyk
2. Regional Moose Inventory/Status Updates (5 mins max) – Reg 8-Brian Harris; Reg 7B-Conrad Thiessen; Reg 7A-Doug Heard; Reg 6-Mark Williams; Reg 5-Nicola Freeman; Reg 4-Pat Stent; Reg 3-Chris Procter;
3. Thoughts from the Cariboo (Reg 5) – Mike Ramsay
4. Omineca Moose Model – Doug Heard
5. Next Steps – Ian, others

**Ian Hatter, RPBio**

Wildlife Manager | Fish, Wildlife and Habitat Management Branch | Ministry of Natural Resource Operations | T: 250-387-9792 | E: [Ian.Hatter@gov.bc.ca](mailto:Ian.Hatter@gov.bc.ca)

## Stewart, Rodger W FLNR:EX

---

**From:** Tony Koett [ s.22]  
**Sent:** Tuesday, May 15, 2012 4:00 PM  
**To:** Stewart, Rodger W FLNR:EX  
**Cc:** Ramsay, Mike K FLNR:EX; Billy Mottershead; Roger Gysel  
**Subject:** RE: NOTE: Back ground information on moose surveys in province.

Hi Rodger,

I am requesting that you work the Region 5 Allocation Committee directly. I would be forwarding them the info and seeking their input any way. For Region 5 I have Billy Mottershead out of 100 Mile and Roger Gysel (whom you already know) in Williams Lake. I hope this is an option that you find acceptable. They have both been cc'd on this E-Mail so you will have their E-Mail addresses. Please let me know if this is not an option you would like to follow. s.22

s.22

Tony Koett

---

**From:** [Rodger.Stewart@gov.bc.ca](mailto:Rodger.Stewart@gov.bc.ca)  
**To:** s.22  
**CC:** [Mike.Ramsay@gov.bc.ca](mailto:Mike.Ramsay@gov.bc.ca)  
**Date:** Fri, 11 May 2012 11:44:37 -0700  
**Subject:** NOTE: Back ground information on moose surveys in province.

Tony, we have to seek your counsel as BCWF Regional President on how best to communicate the technical information we have from 2012 moose surveys to BCWF chapters in this region. The attached is an outline, and we have key underlying technical material in hand, it just having been accuracy checked etc very recently. We would prefer to work through yourself on such matters, with the regional executive managing the outgoing messaging to chapters.

Mike Ramsay and I will be working with you on this matter. Mike is considering how to best package the tech information we have, likely something like what we circulated last year through Jacques on the 2011 surveys.

We are a long ways from sorting what this all means, what it means to hunting opportunity, what the causes are and how we accelerate recovery. Focussed work expected on this through the summer.

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell s.17 desk (250) 398 4549  
fax (250) 398 4214



## **Stewart, Rodger W FLNR:EX**

---

**From:** Ramsay, Mike K FLNR:EX  
**Sent:** Tuesday, May 22, 2012 4:41 PM  
**To:** Hatter, Ian FLNR:EX; Wilson, Andrew S FLNR:EX; Kuzyk, Gerald FLNR:EX  
**Cc:** Stewart, Rodger W FLNR:EX  
**Subject:** A Visual Representation of our Moose population Status...

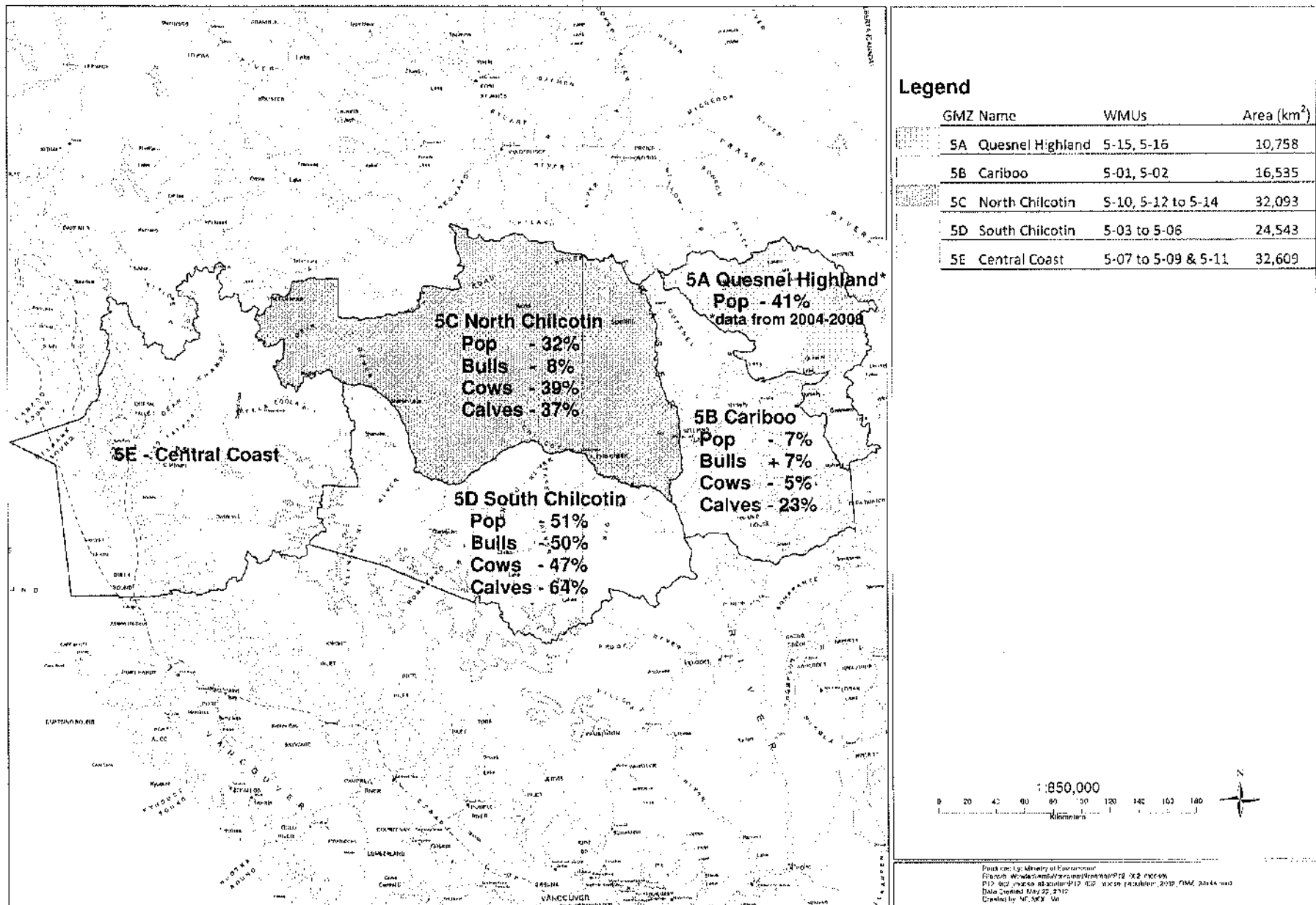
FYI....thanks to Nicola Freeman...



P12\_002\_Moose\_P  
opulation\_2012\_...

**Mike Ramsay**  
**Fish and Wildlife Section Head**  
**Resource Management Division**  
**Forests, Lands and Natural Resource Operations**  
**Cariboo Region**  
**Phone: 250.398.4546**  
**Fax: 250.398.4214**

# Moose Game Management Zones, Region 5 : Population Trends 2008 - 2012



## Stewart, Rodger W FLNR:EX

---

**From:** Ramsay, Mike K FLNR:EX  
**Sent:** Monday, June 4, 2012 12:36 PM  
**To:** Stewart, Rodger W FLNR:EX  
**Subject:** FW: Moose Situation In Cariboo

We also need to express the gravity of this issue to RMT or CMC or who ever....

---

**From:** Ramsay, Mike K FLNR:EX  
**Sent:** Monday, June 4, 2012 12:33 PM  
**To:** Stewart, Rodger W FLNR:EX  
**Cc:** Scott-Zowty, Barb CSNR:EX; Lirette, Daniel FLNR:EX; Hatter, Ian FLNR:EX; Kuzyk, Gerald FLNR:EX  
**Subject:** Moose Situation In Cariboo

Rodger:

Around the moose thing on 2 fronts:

1. Contracting an independent expert to do an analysis of what is driving the moose population. Dan and I talked to Ian for about a half hour today about terms of reference and either going expression of interest or request for proposal. We agreed to have Dan take a rough shot at the Terms of Reference and to look at our options for contracting out. Ian will review the terms and identify alternate persons who may be interested but is convinced Scott may be the only readily available person who can pull this off. If you want this in any near amount of time we will need contract support from CSNR as to what to do and how to get this through the administrative process as quickly as possible. If not you will not get your desired results in time.
2. We need to meet, hopefully, this afternoon to start going over some of modelling results

s.13

s.13

**Mike Ramsay**  
**Fish and Wildlife Section Head**  
**Resource Management Division**  
**Forests, Lands and Natural Resource Operations**  
**Cariboo Region**  
**Phone: 250.398.4546**  
**Fax: 250.398.4214**

## Stewart, Rodger W FLNR:EX

---

**From:** Ramsay, Mike K FLNR:EX  
**Sent:** Tuesday, June 5, 2012 12:31 PM  
**To:** Hatter, Ian FLNR:EX; 'Ethier, Tom FLNR:EX'; Wilson, Andrew S FLNR:EX  
**Cc:** Lirette, Daniel FLNR:EX; Stewart, Rodger W FLNR:EX  
**Subject:** Cariboo Moose Update

Hey guys.....just to let you know we are continuing to run harvest models and nothing looks that good. s.13, s.16  
s.13, s.16 I just

want to let you know what's up as this promises to be a contentious issue....

1. Modeling.....looks like the MINIMUM we can reduce the LEH and GUIDE harvest will be 30%, this along with Allocation Policy impacts will put most guides down to incredibly low numbers. Dan is working on 2 things for you: an extension of the SDM chart to look at options around non-FN harvest options, and a spreadsheet outlining the potential impacts to guides with the compound affects of the decrease in AAH and the Allocation Policy implementation
2. Dan is working on the Terms of Reference for hiring an expert to tell us how we got here and how we might get back to better. Ian and Gerry will review this. I will administer the contract with their technical assistance.
3. I am engaging with First Nations to explain the extent of the problem and look for solutions. I am working with Kristy Palmantier to get a list of recommendation from the bands of where to go from here. As a positive many bands acknowledge over harvest as ONE of the main problems.
4. I have met with the Forest Service and forest companies to explain how their operations affect moose densities by increasing road densities and increasing moose sight ability. I am providing them with critical habitat mapping in an attempt to help them change their deactivation practices around spur and secondary roads. Their response was very positive and they are discussing options with their silvaculture counter parts.

5.

s.13

6.

s.13, s.14, s.16

7. Predators. We know and everyone else knows also the numbers of wolves in the Cariboo has increased significantly in the last 10 years. We have been challenged to deal with this and have done so within the tools at our disposal ( increased hunting and trapping opportunities, increased bag limits). However, we are going to come under intense scrutiny regarding what we have done and will do to manage predators (wolves in particular) in this region.

s.13

s.13

8.

s.13, s.16

Anyway.....not really wanting anything from anyone right now.....just wanted to keep you guys updated of the challenges....

Mike Ramsay  
Fish and Wildlife Section Head  
Resource Management Division  
Forests, Lands and Natural Resource Operations



## Stewart, Rodger W FLNR:EX

---

**From:** Hatter, Ian FLNR:EX  
**Sent:** Tuesday, June 5, 2012 2:01 PM  
**To:** Ramsay, Mike K FLNR:EX  
**Cc:** Lirette, Daniel FLNR:EX; Stewart, Rodger W FLNR:EX; Griffiths, Felice FLNR:EX; Kuzyk, Gerald FLNR:EX  
**Subject:** RE: Cariboo Moose Update

Hi Mike. Can you please share the modelling spreadsheets with us? I would like Felice to look it over and Gerry and I would like to look at the results as well. One thing that has always been in our favour to manage the moose populations has been relatively good calf recruitment. I know you have surveys that are showing low recruitment (< 30 calves/100 cows) but I thought there were also survey areas with >40 calves/100 cows. It would seem at in at least those areas with good recruitment, management of the adult female hunting mortality should allow for some population increase.

Thanks

Ian Hatter, RPBio

Wildlife Manager | Fish, Wildlife and Habitat Management Branch | Ministry of Natural Resource Operations | T: 250-387-9792 | E: [Ian.Hatter@gov.bc.ca](mailto:Ian.Hatter@gov.bc.ca)

---

**From:** Ramsay, Mike K FLNR:EX  
**Sent:** Tuesday, June 5, 2012 12:31 PM  
**To:** Hatter, Ian FLNR:EX; 'Ethier, Tom FLNR:EX'; Wilson, Andrew S FLNR:EX  
**Cc:** Lirette, Daniel FLNR:EX; Stewart, Rodger W FLNR:EX  
**Subject:** Cariboo Moose Update

Hev guvs.....just to let you know we are continuing to run harvest models and nothing looks that good. s.13, s.16  
s.13, s.16 I just  
want to let you know what's up as this promises to be a contentious issue....

1. Modeling.....looks like the MINIMUM we can reduce the LEH and GUIDE harvest will be 30%, this along with Allocation Policy impacts will put most guides down to incredibly low numbers. Dan is working on 2 things for you: an extension of the SDM chart to look at options around non-FN harvest options, and a spreadsheet outlining the potential impacts to guides with the compound affects of the decrease in AAH and the Allocation Policy implementation
2. Dan is working on the Terms of Reference for hiring an expert to tell us how we got here and how we might get back to better. Ian and Gerry will review this. I will administer the contract with their technical assistance.
3. I am engaging with First Nations to explain the extent of the problem and look for solutions. I am working with Kristy Palmantier to get a list of recommendation from the bands of where to go from here. As a positive many bands acknowledge over harvest as ONE of the main problems.
4. I have met with the Forest Service and forest companies to explain how their operations affect moose densities by increasing road densities and increasing moose sight ability. I am providing them with critical habitat mapping in an attempt to help them change their deactivation practices around spur and secondary roads. Their response was very positive and they are discussing options with their silvaculture counter parts.
- 5.

s.13

6.

s.13, s.14, s.16

7. Predators. We know and everyone else knows also the numbers of wolves in the Cariboo has increased significantly in the last 10 years. We have been challenged to deal with this and have done so within the tools at our disposal ( increased hunting and trapping opportunities, increased bag limits). However, we are going to come under intense scrutiny regarding what we have done and will do to manage predators (wolves in particular) in this region.

s.13

s.13

8.

s.13, s.16

Anyway....not really wanting anything from anyone right now....just wanted to keep you guys updated of the challenges....

**Mike Ramsay**  
**Fish and Wildlife Section Head**  
**Resource Management Division**  
**Forests, Lands and Natural Resource Operations**  
**Cariboo Region**  
**Phone: 250.398.4546**  
**Fax: 250.398.4214**

## Stewart, Rodger W FLNR:EX

---

**From:** Lirette, Daniel FLNR:EX  
**Sent:** Tuesday, June 5, 2012 2:42 PM  
**To:** Hatter, Ian FLNR:EX; Kuzyk, Gerald FLNR:EX; Griffiths, Felice FLNR:EX; Stewart, Rodger W FLNR:EX; Ramsay, Mike K FLNR:EX  
**Subject:** RE: Cariboo Moose Update

Hi everyone,

For those who haven't seen it, here is the summary of the 2012 survey results and updated 2012 GMZ 5C and 5D population estimates.



Sum of 2012  
Survey Results and.

Here are the GMZ 5C and 5D models updated to 2012.



Moose

el\_SRB 5C 2012 DI



Moose

el\_SRB 5D 2012 DI

I have ran a few experimental harvest scenarios at the bottom of each model tab. Any input would be greatly appreciated.

The GMZ 5C estimated calf/cow ratio is 39, while the GMZ 5D estimated calf/cow ratio is 28.

The estimated moose density in the South Chilcotin (5D) has decreased from 0.35 moose/km<sup>2</sup> in 2009 to 0.17 moose/km<sup>2</sup> in 2012. Given that our regional density target is 0.40, at what density should we be considering a moratorium on moose harvest?

Thanks,

Dan

---

**From:** Hatter, Ian FLNR:EX  
**Sent:** Tuesday, June 5, 2012 2:01 PM  
**To:** Ramsay, Mike K FLNR:EX  
**Cc:** Lirette, Daniel FLNR:EX; Stewart, Rodger W FLNR:EX; Griffiths, Felice FLNR:EX; Kuzyk, Gerald FLNR:EX  
**Subject:** RE: Cariboo Moose Update

Hi Mike. Can you please share the modelling spreadsheets with us? I would like Felice to look it over and Gerry and I would like to look at the results as well. One thing that has always been in our favour to manage the moose populations has been relatively good calf recruitment. I know you have surveys that are showing low recruitment (< 30 calves/100 cows) but I thought there were also survey areas with >40 calves/100 cows. It would seem at in at least those areas with good recruitment, management of the adult female hunting mortality should allow for some population increase.

Thanks

Ian Hatter, RPBio

Wildlife Manager | Fish, Wildlife and Habitat Management Branch | Ministry of Natural Resource Operations | T: 250-387-9792 | E: [Ian.Hatter@gov.bc.ca](mailto:Ian.Hatter@gov.bc.ca)



---

**From:** Ramsay, Mike K FLNR:EX  
**Sent:** Tuesday, June 5, 2012 12:31 PM  
**To:** Hatter, Ian FLNR:EX; 'Ethier, Tom FLNR:EX'; Wilson, Andrew S FLNR:EX  
**Cc:** Lirette, Daniel FLNR:EX; Stewart, Rodger W FLNR:EX  
**Subject:** Cariboo Moose Update

Hey guys.....just to let you know we are continuing to run harvest models and nothing looks that good. s.13, s.16  
s.13, s.16 I just  
want to let you know what's up as this promises to be a contentious issue....

1. Modeling.....looks like the MINIMUM we can reduce the LEH and GUIDE harvest will be 30%, this along with Allocation Policy impacts will put most guides down to incredibly low numbers. Dan is working on 2 things for you: an extension of the SDM chart to look at options around non-FN harvest options, and a spreadsheet outlining the potential impacts to guides with the compound affects of the decrease in AAH and the Allocation Policy implementation
2. Dan is working on the Terms of Reference for hiring an expert to tell us how we got here and how we might get back to better. Ian and Gerry will review this. I will administer the contract with their technical assistance.
3. I am engaging with First Nations to explain the extent of the problem and look for solutions. I am working with Kristy Palmantier to get a list of recommendation from the bands of where to go from here. As a positive many bands acknowledge over harvest as ONE of the main problems.
4. I have met with the Forest Service and forest companies to explain how their operations affect moose densities by increasing road densities and increasing moose sight ability. I am providing them with critical habitat mapping in an attempt to help them change their deactivation practices around spur and secondary roads. Their response was very positive and they are discussing options with their silvaculture counter parts.

5.

s.13

6.

s.13, s.14, s.16

7. Predators. We know and everyone else knows also the numbers of wolves in the Cariboo has increased significantly in the last 10 years. We have been challenged to deal with this and have done so within the tools at our disposal ( increased hunting and trapping opportunities, increased bag limits). However, we are going to come under intense scrutiny regarding what we have done and will do to manage predators (wolves in particular) in this region.

s.13

s.13

8.

s.13, s.16

Anyway....not really wanting anything from anyone right now....just wanted to keep you guys updated of the challenges....

**Mike Ramsay**  
**Fish and Wildlife Section Head**  
**Resource Management Division**

Forests, Lands and Natural Resource Operations

Cariboo Region

Phone: 250.398.4546

Fax: 250.398.4214

## Summary of 2012 MU 5-12B and 5-04 Moose Survey Results and Game Management Zone 5C and 5D Population Estimates

In 2012 two Stratified Random Block (SRB) aerial surveys for moose were conducted in the Chilcotin to update population estimates and provide necessary biological information to conduct the resident and non-resident moose allocations. In general, survey results were down from previous surveys 40-60%.

### 1) 2012 Moose Survey Results

#### a) Management Unit 5-04 (South Chilcotin)

Table 1: 2012 and 2005 MU 5-04 Survey Results

	Survey Area	Total Population Estimate (MU)	Estimated Bulls/100 Cows	Estimated Calves/ 100 Cows	Estimated Density (moose/km <sup>2</sup> )	Sightability Correction Factor
Previous Survey (2005)	5152km <sup>2</sup>	1503 ±251	54	34	0.29	1.31
2012 Survey	5152km <sup>2</sup>	883 ±200	40	28	0.17	1.40*

\*2012 SCF of 1.4 was arbitrarily assigned due to poor survey snow conditions. Actual Aerial Survey® calculated SCF was 1.17.

Data entry errors were discovered in the 2005 analysis when the 2012 contractor was reanalyzing the 2005 data. The table above outlines the corrected 2005 estimates, although the 2008 GMZ 5D population estimate utilized the erroneous data. Considering the corrected 2005 data, the moose population in 5-04 has decreased by approximately 40% from 2005 to 2012. The moose density of 0.17 moose/km<sup>2</sup> is well below the regional target of 0.4 moose/km<sup>2</sup>. The bull/Cow ratio has decreased from 2005 but is still above the Provincial minimum target of 30 bulls/100 cows. The calf/cow ratio is well below the regional target of 40 calves/100 cows.

#### b) Management Unit 5-12B (North Chilcotin)

Table 2: 2012 and 2002 MU 5-12B Survey Results

	Survey Area	Total Population Estimate (MU)	Estimated Bulls/100 Cows	Estimated Calves/ 100 Cows	Estimated Density (moose/km <sup>2</sup> )	Sightability Correction Factor
Previous Survey (2002)	2672km <sup>2</sup>	1546 ±201	44	48	.58	1.4*
2012 Survey	2672km <sup>2</sup>	622 ±116	66	43	.23	1.21

\*2002 SCF was arbitrarily assigned.

The moose population estimate in 5-12B has decreased by approximately 60% from 2002. The estimated density of 0.23 moose/km<sup>2</sup> is well below the regional target of 0.4 moose/km<sup>2</sup>. The bull cow ratio has increased from 2002 and is well above the provincial minimum target of 30 bulls/100 cows. The calf/cow ratio is above the regional target of 40calves/100 cows.

## Moose Population Estimates GMZ 5C&5D

### a) Game Management Zone 5D (South Chilcotin)

Table 3: GMZ 5D SRB Survey Density Estimates, 1994-2012

Year	5-03	5-04	5-05	5-06
1994		0.71*		
1995		0.39		0.18*
1996				
1997	0.35			
1998		0.41		
1999				
2000				
2001				
2002				
2003				
2004				
2005		0.35†		
2006				
2007				
2008				
2009				
2010				
2011				
2012		0.17		

\*1994 5-04 and 1995 5-06 survey areas were under 1,000km<sup>2</sup>

†The 2005 density estimate has now been corrected to 0.29

Table 4: 2012 and 2008 GMZ 5D Moose Population Estimate

Year	Estimated Density	Suitable Moose Habitat (km <sup>2</sup> )	Estimated Moose Population
2008	0.35	16837.5	5893
2012	0.172	16837.5	2896
Percentage Change (%)			-50.86%

The 2008 GMZ population estimate was based on the erroneous 2005 survey data. The 2012 GMZ 5D moose population estimate is based on the 2012 GMZ estimated density (taken from the 2012 5-04 survey) extrapolated to the total suitable moose habitat area in the GMZ. The 2012 GMZ 5D population estimate has decreased by 51% from the 2008 estimate. The 2012 GMZ 5D estimated Bull/Cow and Calf/Cow ratios are taken from the 2012 MU 5-04 Survey (Table 1).

b) Game Management Zone 5C (North Chilcotin)

Table 5: GMZ 5C SRB Survey Density Estimates, 1994-2012

Year	5-14	5-10	5-12A	5-12B	5-13A	5-13B	5-13C
1994	0.33*						
1995			0.38 <sup>†</sup>		0.31		
1996							
1997			0.34 <sup>†</sup>				0.40
1998					0.44		
1999						0.31	
2000							
2001	0.46						
2002				0.58			
2003					0.30		
2004							
2005							
2006							
2007							
2008							0.485
2009							
2010							
2011							
2012				0.233			

<sup>†</sup>5-12A density taken as average of the Anahim East and Dean River surveys conducted in 1995, same procedure used for 1997

\*1994 5-14 survey area was under 1,000km<sup>2</sup>

Table 6: 2012 GMZ 5C Moose Population Estimate and Bull/Cow and Calf/Cow Ratio Estimates

Survey	5-12B	5-13C
Year	2012	2008
Area	2,672	4,688
Survey Estimated Density	0.233	0.485
Survey Estimated Bulls/100 Cows	65.9	34.6
Survey Estimated Calves/100 Cows	42.5	30.5
Weighting due to survey age	100.00%	20.00%
GMZ Estimated Density*	<b>0.30</b>	
GMZ Estimated Bulls/100 Cows*	<b>57.8</b>	
GMZ Estimated Calves/100 Cows*	<b>39.4</b>	

\*GMZ 5C estimates were calculated from the 2012 5-12B and 2008 5-13C SRB surveys weighted by survey area, and survey age.

The 2012 GMZ 5C moose population and composition estimates were based on the 2012 5-12B SRB survey and the 2008 5-13C SRB survey. The surveys were weighted by survey area and by survey age, where the weighting of the surveys were reduced by 20% per year. The older 2008 survey results were included in the population assessment because of dead-side harvest data analysis suggesting that the moose density in MU 5-12 is likely lower than in other MUs in the GMZ. The hunter days/kill has spike dramatically in MU 5-12 when compared to the GMZ 5C average. See Appendix 1 for more information.

Table 7: 2012 and 2008 GMZ 5C Moose Population Estimate

Year	Estimated Density	Suitable Moose Habitat (km <sup>2</sup> )	Estimated Moose Population
2008	0.44	30,088	13,193
2012	0.30	30,088	8966
Percentage Change (%)			-32%

The 2012 GMZ 5C moose population estimate has decreased by 32% from the 2008 estimate.

## Next Steps and Discussion

The next step is to model the GMZ 5C&D moose populations using the updated population estimates to revise the Annual Allowable Harvest (AAH) for each of the GMZs. In general the decrease in population estimates will likely lead to a roughly proportional decrease in AAH.

The fact that the bull/cow ratios in both GMZ 5C and 5D are well above the provincial minimum target of 30/100 suggests that it has not been licenced harvest of bull moose which has been driving the declines to the moose populations. Other possible factors that could be contributing to the declining moose populations include: an increase in predation mortality, an increase in unlicensed harvest of antlerless animals, a reduction in natural survival due to habitat changes, and forest fire related mortality or emigration.

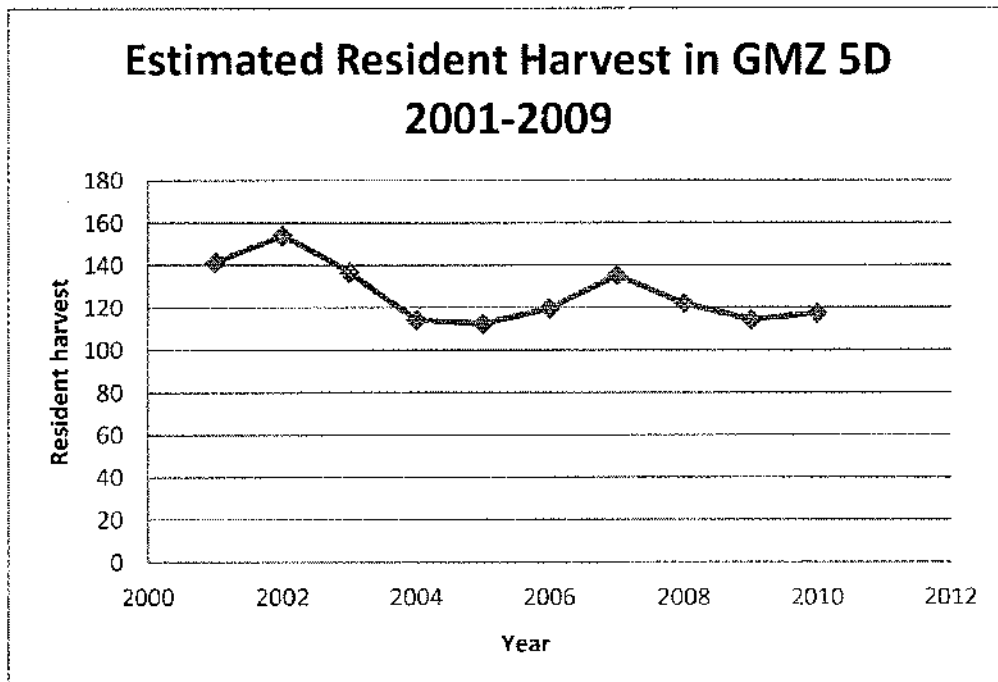
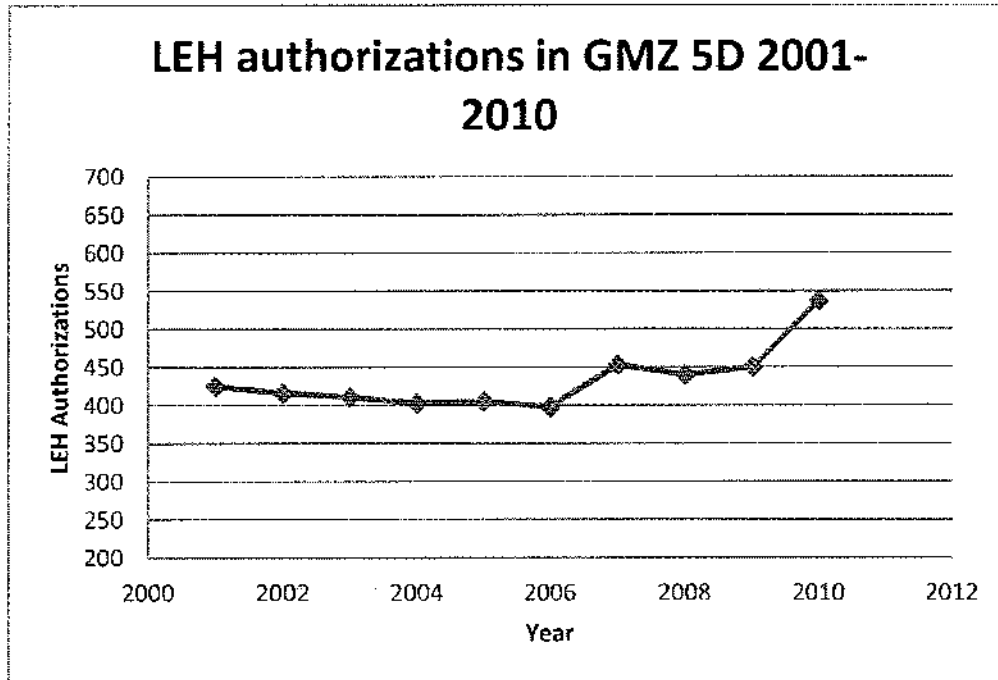
The Cariboo Region is looking into the possibility of bringing in an independent moose expert to evaluate the Cariboo Region moose population and identify factors influencing the population. This information would allow better informed decisions around habitat and moose harvest management. This information would be used as the basis for a regional moose recovery plan to reverse the declines in the moose populations and ensure a continued sustainable hunting opportunity for moose in the Cariboo.

## Potential Impact to Guide Outfitters

For the 2012 quota year, full impact of the new (2007) allocation policy was again deferred by implementation of the 30% hardship guideline. The 30% hardship guideline limited the decrease in individual allocation to 30%. A similar system was used in the 2009-2011 allocation period, where allocation decreases were limited to 20%. For 2013 the mitigation measures may be removed, whereby guides will be hit with the impact of full implementation of the allocation policy. For some guides that was forecasted to be up to a 75% reduction to allocation. When combined with a likely reduction to AAH due to decreased in the moose population estimate, many guides in the Chilcotin will see dramatic reductions to their multi-year allocations and quotas.

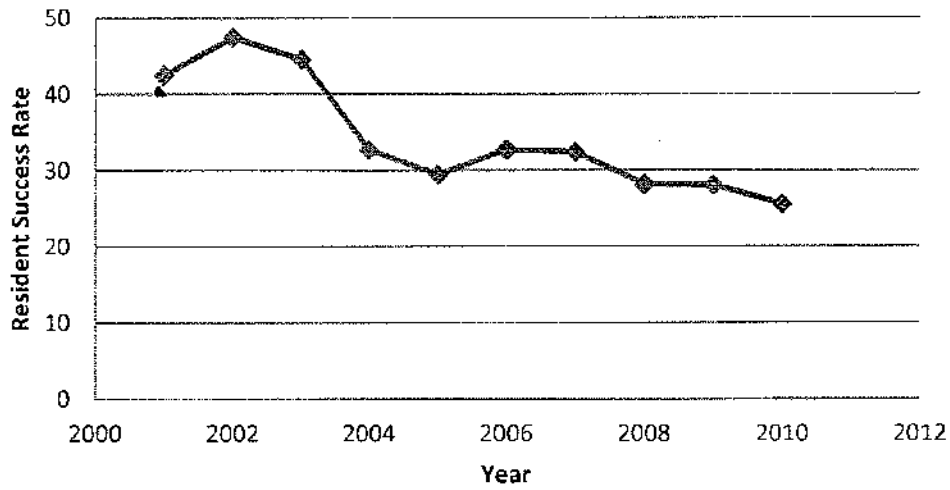
## Appendix 1: Resident Harvest Data Analysis 2001-2010

a) GMZ 5D

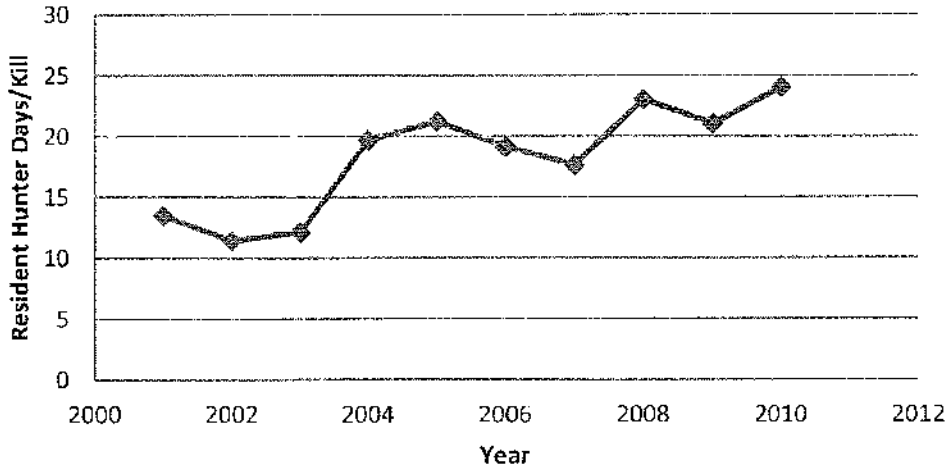




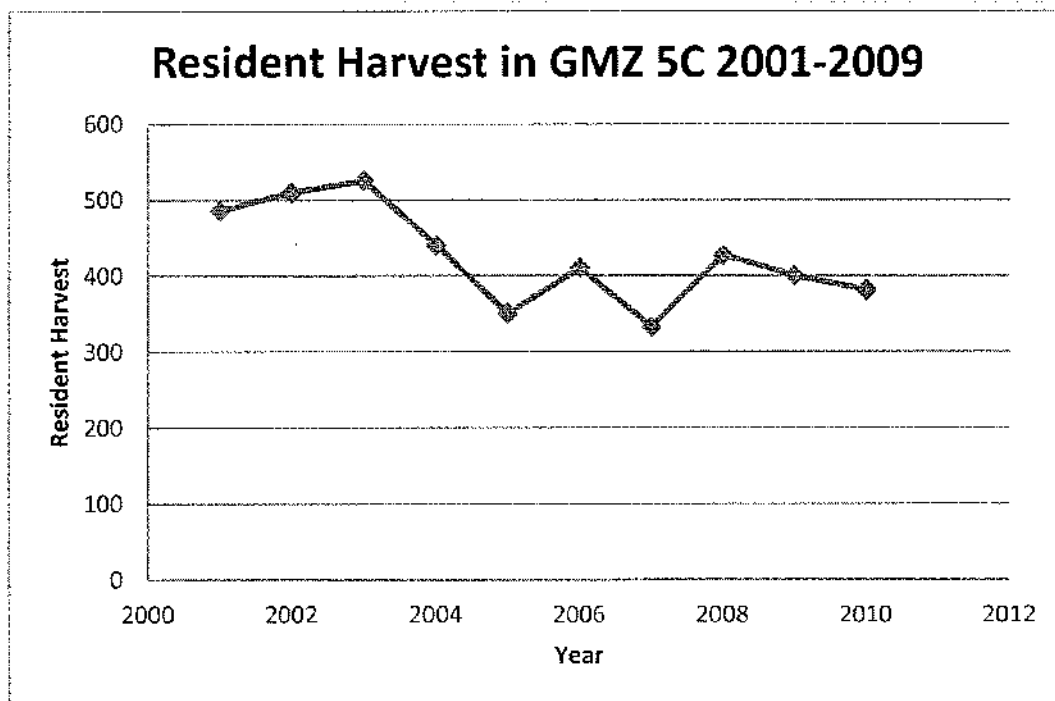
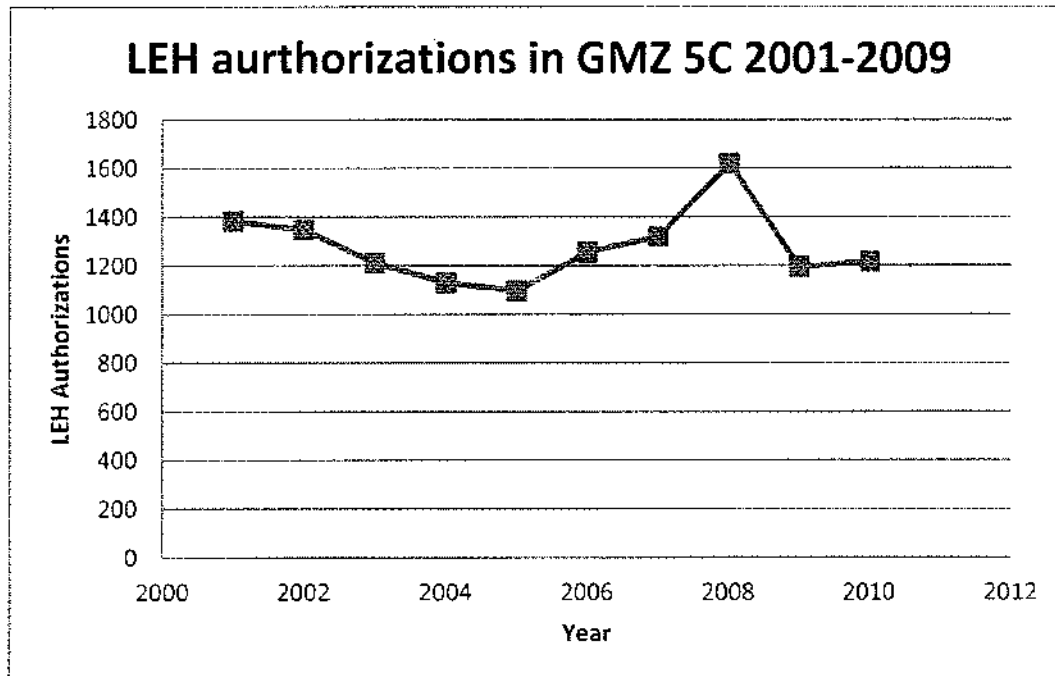
### Resident Success Rate in GMZ 5D 2001-2009



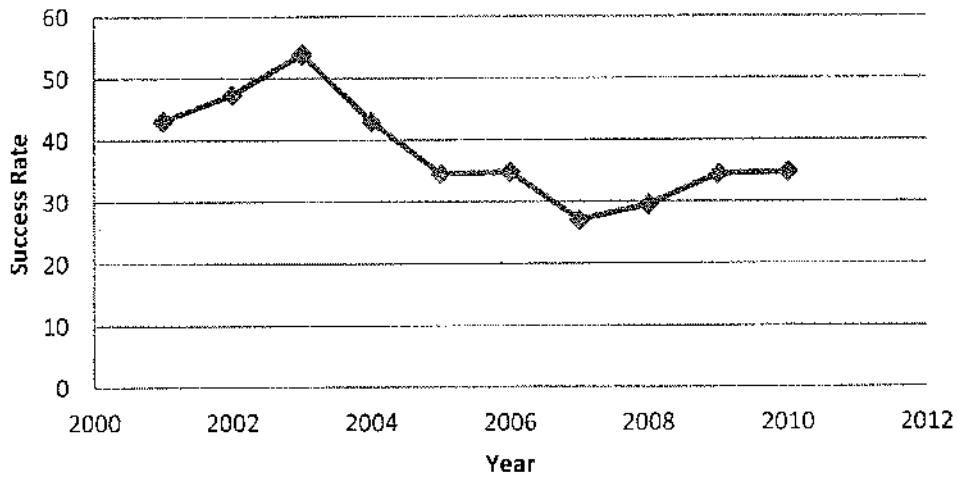
### Average Resident Hunter Days/Kill in GMZ 5D 2001-2009



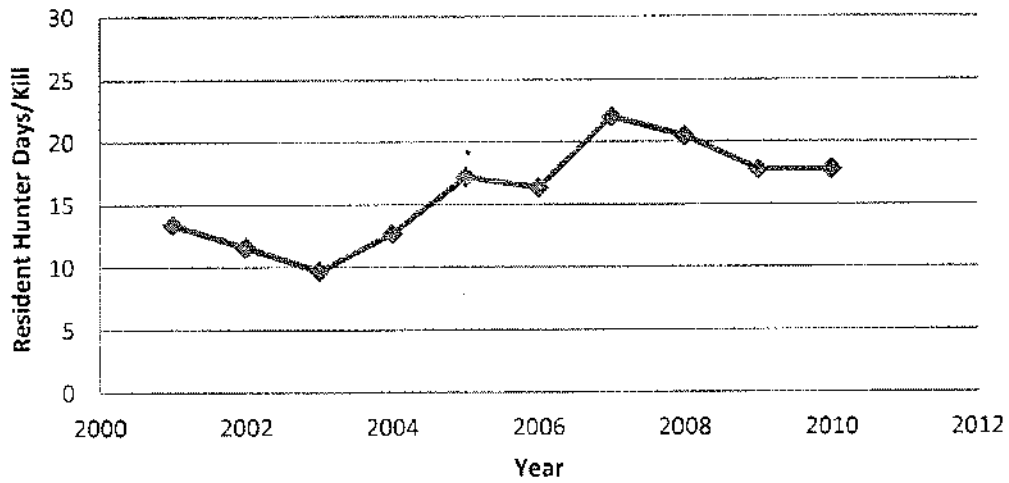
b) GMZ 5C



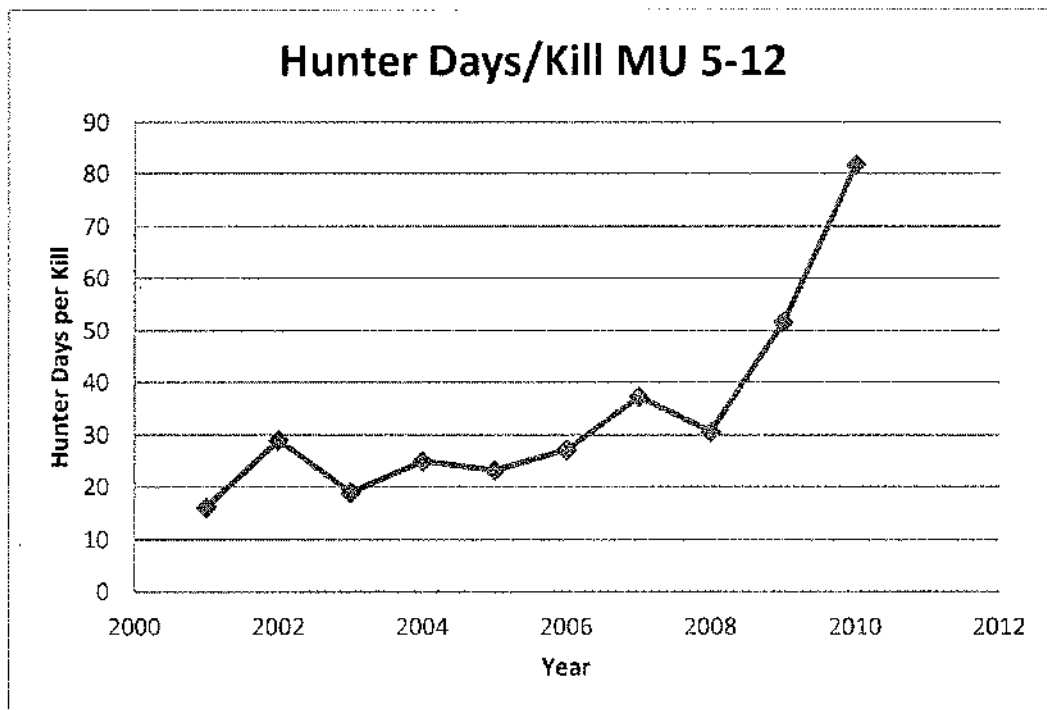
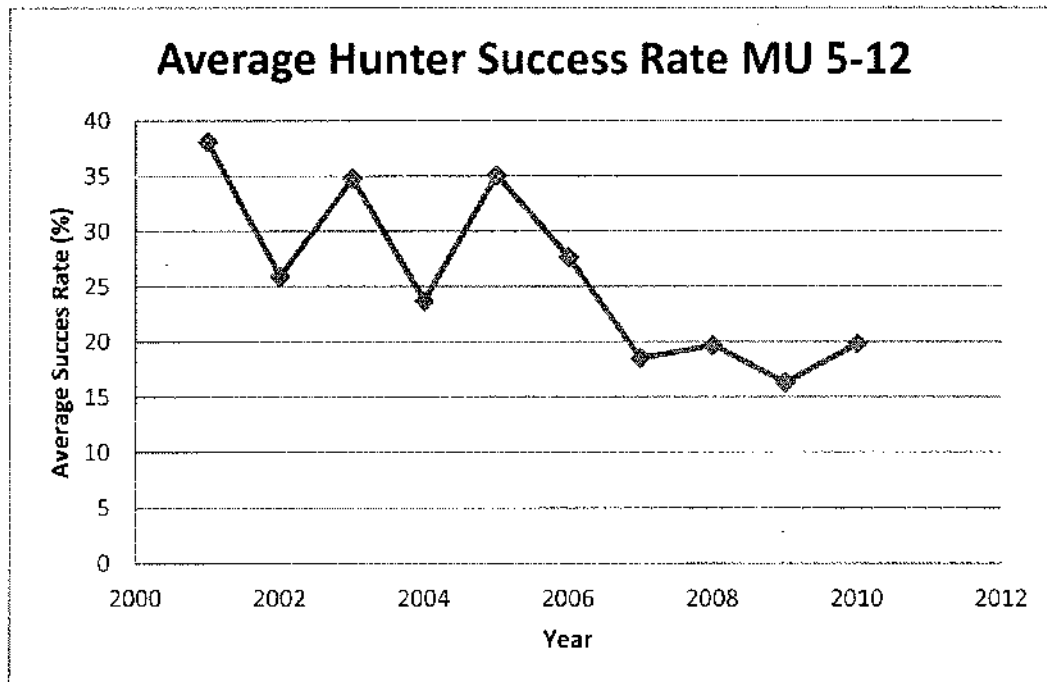
**Average Success Rate in GMZ 5C 2001-2009**



**Resident Hunter Days/Kill in GMZ 5C 2001-2009**



c) MU 5-12 ONLY



# Moose Harvest Management Model

GMZ 5C 2012 Modelling

## 370 Licenced Harest, 603 FNs, (2009 AAH -30%)

Evaluation Criteria	Value	Test	Mean	Variance	Lower CL	Upper CL	<Test1	alid iteration	Time taken	% < Test
probability that final bull/cow < 30/100	0.432479	0.3	0.481443	0.048962	0.103931	0.831113	1929.000	9994.000	9 sec	19.30%
probability that ave. calf:cow ratio < 40/100	0.385533	0.4	0.400406	0.000889	0.354251	0.451096	5164.000	9994.000		51.67%
probability that final pop < 80% of initial pop	0.799429	0.8	0.792822	0.053709	0.389124	1.155689	4945.000	10000.000		49.45%
expected ave. growth rate (lambda)	0.945837	1	<b>0.936151</b>	0.006057	0.792702	1.038135	8065.000	10000.000		80.65%
probability <0.4 moose/km2	0.21646	0.4	0.254289	0.021708	0.065436	0.532691	#####	10000		85.3%

## 264 Licenced harvest, 603 FNs (2009 AAH -50%)

Evaluation Criteria	Value	Test	Mean	Variance	Lower CL	Upper CL	<Test1	Valid iterati	Time taker	% < Test
probability that final bull/cow < 30/100	0.682651	0.3	0.604586	0.040945	0.27338	0.931168	604	9996	9 sec	6.04%
probability that ave. calf:cow ratio < 40/100	0.389176	0.4	0.400162	0.0009	0.353393	0.451812	5230	9996		52.32%
probability that final pop < 80% of initial pop	0.975124	0.8	0.854082	0.048297	0.479468	1.198802	3826	10000		38.26%
expected ave. growth rate (lambda)	0.995302	1	<b>0.955813</b>	0.004757	0.834052	1.047499	7372	10000		73.72%
probability <0.4 moose/km2	0.32591	0.4	0.271636	0.021234	0.082757	0.546238	8327	10000		83.27%

## 0 Licenced harvest, 603 FNs (2009 AAH -100%)

Evaluation Criteria	Value	Test	Mean	Variance	Lower CL	Upper CL	<Test1	Valid iterati	Time taker	% < Test
probability that final bull/cow < 30/100	0.987802	0.3	0.908431	0.035971	0.628036	1.247764	0	10000	9 sec	0.00%
probability that ave. calf:cow ratio < 40/100	0.428326	0.4	0.400022	0.000907	0.354225	0.452698	5272.000	10000.000		52.72%
probability that final pop < 80% of initial pop	0.943355	0.8	0.990909	0.03579	0.680423	1.306792	1554.000	10000.000		15.54%
expected ave. growth rate (lambda)	0.986211	1	<b>0.995496</b>	0.002436	0.90923	1.07009	5034.000	10000.000		50.34%
probability <0.4 moose/km2	0.270123	0.4	0.306842	0.020706	0.119853	0.579324	7864.000	10000.000		78.64%

## 0 Human Harvest

Evaluation Criteria	Value	Test	Mean	Variance	Lower CL	Upper CL	<Test1	alid iteration	Time taken	% < Test
probability that final bull/cow < 30/100	1.315607	0.3	0.911498	0.037385	0.628546	1.25145	0	10000	9 sec	0.00%
probability that ave. calf:cow ratio < 40/100	0.452487	0.4	0.399893	0.000899	0.353721	0.452549	5237	10000		52.37%
probability that final pop < 80% of initial pop	1.17125	0.8	1.348325	0.029674	1.069025	1.636745	4	10000		0.04%
expected ave. growth rate (lambda)	1.041777	1	<b>1.077521</b>	0.001176	1.019223	1.132332	158.000	10000.000		1.58%
probability <0.4 moose/km2	0.271204	0.4	0.401624	0.021063	0.211349	0.674546	5632.000	10000.000		56.32%

## 600 total Bull Harvest (Res&FNs)

Evaluation Criteria	Value	Test	Mean	Variance	Lower CL	Upper CL	<Test1	alid iteration	Time taken	% < Test
probability that final bull/cow < 30/100	0.434225	0.3	0.377087	0.040207	0.006515	0.701827	#####	10000	9 sec	34.9%
probability that ave. calf:cow ratio < 40/100	0.401964	0.4	0.400795	0.000912	0.354809	0.45373	#####	10000		51.7%
probability that final pop < 80% of initial pop	1.049341	0.8	1.043288	0.035476	0.736709	1.358794	995	10000		0.0995
expected ave. growth rate (lambda)	1.013781	1	<b>1.009299</b>	0.002115	0.9298	1.080769	3998	10000		0.3998
probability <0.4 moose/km2	0.338912	0.4	0.318334	0.020896	0.13312	0.586887	7633	10000		0.7633

# Moose Harvest Management Model

GMZ 5D 2013 Population Modelling

## 134 licenced Bulls, 239 FNs (2009 AAH -30%)

Evaluation Criteria	Value	Test	Mean	Variance	Lower CL	Upper CL	<Test1	alid iteration	Time taken	% < Test
probability that final bull/cow < 30/100	0.291534	0.3	0.269539	0.022396	0	0.49987	5467.000	9998.000	9 sec	54.68%
probability that ave. calf:cow ratio < 40/100	0.373636	0.4	0.409744	0.002094	0.339873	0.488872	4391.000	9998.000		43.92%
probability that final pop < 80% of initial pop	0.598362	0.8	0.745876	0.056238	0.368853	1.137955	5983.000	10000.000		59.83%
expected ave. growth rate (lambda)	0.881711	1	<b>0.92221</b>	0.006335	0.783044	1.036237	8468.000	10000.000		84.68%
probability <0.4 moose/km2	0.111814	0.4	0.135386	0.005139	0.041164	0.267877	#####	10000		99.6%

## 96 licenced Bulls, 239 FNs (2009 AAH -50%)

Evaluation Criteria	Value	Test	Mean	Variance	Lower CL	Upper CL	<Test1	Valid iterati	Time taker	% < Test
probability that final bull/cow < 30/100	0.256765	0.3	0.369083	0.018565	0.111392	0.573528	2694	9994	9 sec	26.96%
probability that ave. calf:cow ratio < 40/100	0.365005	0.4	0.40939	0.002026	0.338986	0.486706	4317	9994		43.20%
probability that final pop < 80% of initial pop	0.561909	0.8	0.795185	0.053475	0.416697	1.180133	5164	10000		51.64%
expected ave. growth rate (lambda)	0.869461	1	0.938489	0.005536	0.806419	1.045364	8049	10000		80.49%
probability <0.4 moose/km2	0.080059	0.4	0.142969	0.005211	0.046767	0.276405	9941	10000		99.41%

## 0 Licenced, 239 FNs (2009 AAH -100%)

Evaluation Criteria	Value	Test	Mean	Variance	Lower CL	Upper CL	<Test1	Valid iterati	Time taker	% < Test
probability that final bull/cow < 30/100	0.615908	0.3	0.645257	0.010081	0.491383	0.819545	0	9999	9 sec	0.00%
probability that ave. calf:cow ratio < 40/100	0.398798	0.4	0.40893	0.001964	0.340969	0.486345	4454.000	9999.000		44.54%
probability that final pop < 80% of initial pop	0.859115	0.8	0.933459	0.043703	0.604062	1.288144	2631.000	10000.000		26.31%
expected ave. growth rate (lambda)	0.963289	1	<b>0.980437</b>	0.003233	0.884497	1.067814	6256.000	10000.000		62.56%
probability <0.4 moose/km2	0.112335	0.4	0.165803	0.00509	0.06901	0.297328	9934.000	10000.000		99.34%

## 0 Human Harvest

Evaluation Criteria	Value	Test	Mean	Variance	Lower CL	Upper CL	<Test1	alid iteration	Time taken	% < Test
probability that final bull/cow < 30/100	0.71185	0.3	0.645517	0.010236	0.494244	0.823129	0	10000	10 sec	0.00%
probability that ave. calf:cow ratio < 40/100	0.408068	0.4	0.40951	0.002031	0.340969	0.488483	4399	10000		43.99%
probability that final pop < 80% of initial pop	1.256934	0.8	1.36274	0.046752	1.031286	1.743753	9	10000		0.09%
expected ave. growth rate (lambda)	1.059289	1	<b>1.080679</b>	0.00183	1.010517	1.152511	302.000	10000.000		3.02%
probability <0.4 moose/km2	0.495135	0.4	0.233146	0.005599	0.132698	0.369531	9708.000	10000.000		97.08%

## 300 total Bull Harvest (Res and FNs)

Evaluation Criteria	Value	Test	Mean	Variance	Lower CL	Upper CL	<Test1	alid iteration	Time taken	% < Test
probability that final bull/cow < 30/100	0	0.3	0.08735	0.010926	0	0.293127	#####	10000	9 sec	95.37%
probability that ave. calf:cow ratio < 40/100	0.372301	0.4	0.408746	0.002009	0.339443	0.485463	#####	10000		44.19%
probability that final pop < 80% of initial pop	0.931124	0.8	0.999462	0.041561	0.702689	1.362846	1583	10000		15.83%
expected ave. growth rate (lambda)	0.982771	1	<b>1.000173</b>	0.002522	0.920035	1.085363	5089	10000		50.89%
probability <0.4 moose/km2	0.141985	0.4	0.17437	0.004822	0.090029	0.306255	9899	10000		98.99%

## Stewart, Rodger W FLNR:EX

---

**From:** Byrne, Patrick FLNR:EX  
**Sent:** Monday, June 18, 2012 1:59 PM  
**To:** 'Doug.White@westfraser.com'; XT:Takagi, Rick FOR:IN; Sytsma, Kevin FOR:IN; McNeilly, Lorne FOR:IN; Seilis, Mark FLNR:EX; Boskovic, Zoran O FLNR:EX; Hunter, Erin N FLNR:EX; Raatz, Ray FLNR:EX  
**Cc:** Stewart, Rodger W FLNR:EX; MacDougall, Gerry L FLNR:EX  
**Subject:** FW: Brief information on moose population declines  
**Attachments:** 20120618111919.pdf

Please take a minute to read Rodgers note below as I think he raises some very salient points on what would appear to be a very relevant issue. I suspect we will see addition pressure to address declining moose populations from a number of fronts s.13 It would be timely to talk about what we can and need to do going forward.

I'd like to raise this topic at the next TSA planning meeting which we should try to schedule prior to everyone's summer plans taking effect.

Please share this with anyone I may have missed from the TSA planning distribution list Ray.

### ***Patrick Byrne***

*District Manager  
100 Mile House District  
Ministry of Forests, Lands and Natural Resource Operations  
Phone: 250-395-7804  
Fax: 250-395-7810  
Cell: s.17*

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Monday, June 18, 2012 12:07 PM  
**To:** Pedersen, Mike FLNR:EX; Byrne, Patrick FLNR:EX; Dodge, Steve J FLNR:EX; Vanderburgh, Ken FLNR:EX  
**Cc:** Ramsay, Mike K FLNR:EX; MacDougall, Gerry L FLNR:EX; Hoffos, Robin FLNR:EX  
**Subject:** Brief information on moose population declines

Mike advised me that he would make additional information available to our regional business leaders. s.13, s.16

s.13, s.16

Moose tend to do very well in a variety of land conditions if they are left alone, under "normal" predation regimes. Given access to suitable habitat including cover, natural production can sustain population recruitment in face of typical predation. However, we are experiencing circumstances where the disturbance and un-managed mortality of moose, particularly cows and calves are running at levels considerably beyond current production capacity. Land conditions are likely a significant contributor to this dynamic.

We have considerable confidence that it is not regulated hunting of bull moose that is causing the impacts we see, though sustaining the current AAH of bulls does have some impact on ability to recover the population given current low moose densities.

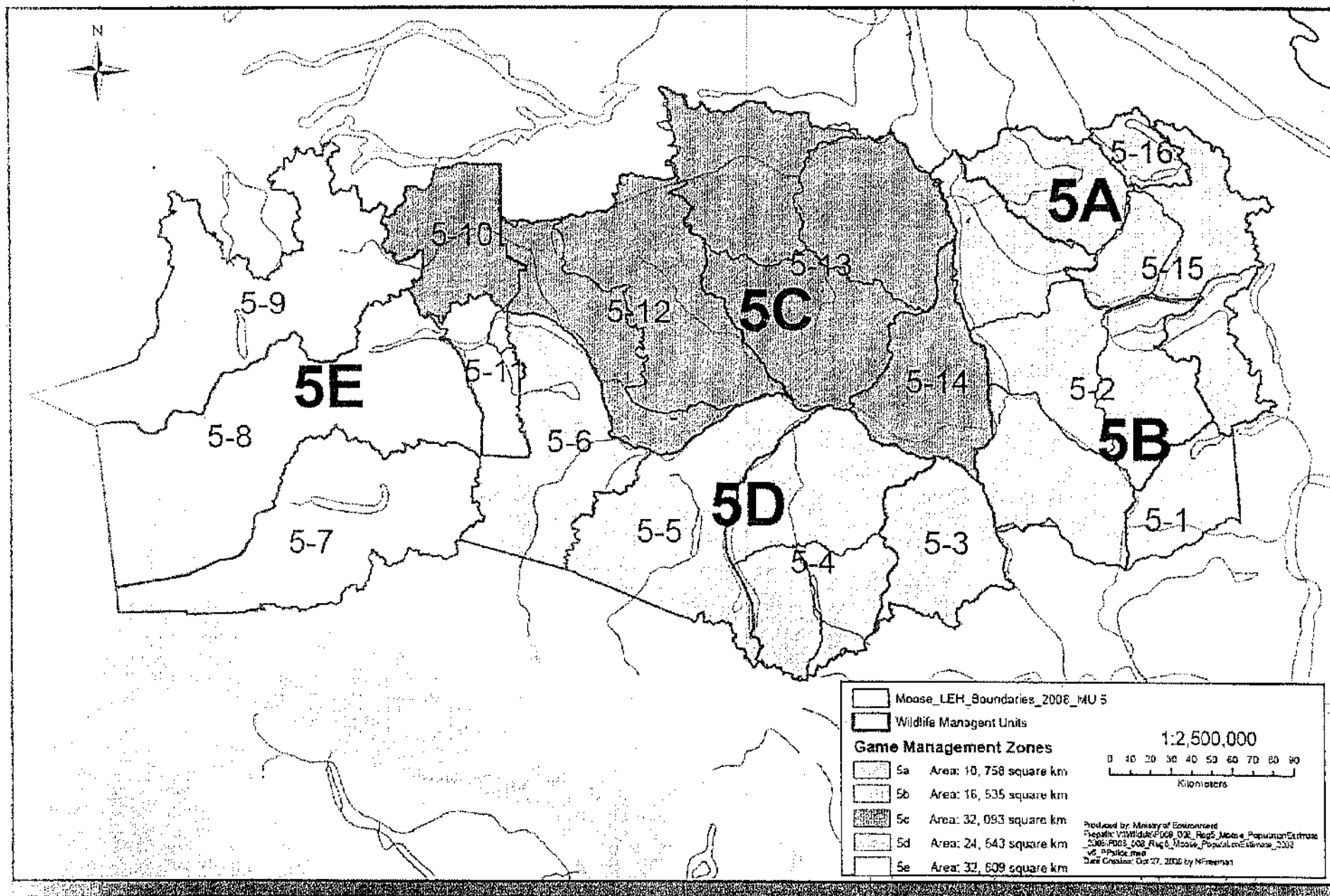
It could be most of this year before we obtain a report from our initiative to engage professional academic services in assessing the relative impact of vectors working on our moose population dynamics. Meantime, we will be called

to demonstrate that we are taking specific actions in respect of the problem, in a effort to meaningfully contribute to population recovery. Such measures will need to include tangible outcomes respecting patterns and rates of resource extraction.

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell s.13 , desk (250) 398 4549  
fax (250) 398 4214



# Moose Game Management Zones, Region 5



# 2011 Survey Results

- 1) 2011 MU 5-02C (Cariboo); last surveyed in 2001

	Survey Area	Total Population Estimate (MU)	Estimated Bulls/100 Cows	Estimated Calves/ 100 Cows	Estimated Density (moose/km <sup>2</sup> )
Previous Survey (2001)	3152km <sup>2</sup>	<b>1943</b> ±275	21	45	0.62
2012 Survey	3152km <sup>2</sup>	<b>1619</b> ±249	43	35	0.51

The moose population in 5-02C has decreased by 17% from the previous survey in 2001. The 2011 estimated density of 0.51 moose/km<sup>2</sup> is above the regional minimum target of 0.4. The bull/cow ratio has increased significantly from 2001 and is above the provincial minimum target of 30 bulls/100 cows. The calf/cow ratio of 35 is below the regional minimum target of 40.

# 2012 Moose Survey Results

1) 2012 MU 5-04 (South Chilcotin); last surveyed in 2005.

	Survey Area	Total Population Estimate (MU)	Estimated Bulls/100 Cows	Estimated Calves/ 100 Cows	Estimated Density (moose/km <sup>2</sup> )
Previous Survey (2005)	5152km <sup>2</sup>	<b>1503</b> ±251	54	34	0.29
2012 Survey	5152km <sup>2</sup>	<b>883</b> ±200	40	28	0.17

Considering corrected 2005 data, the moose population in 5-04 has decreased by approximately 40% from 2005 to 2012. The moose density of 0.17 moose/km<sup>2</sup> is well below the regional target of 0.4 moose/km<sup>2</sup>. The Bull/Cow ratio has decreased from 2005 but is still above the Provincial minimum target of 30 bulls/100 cows. The calf/cow ratio is well below the regional target of 40 calves/100 cows.



# 2012 Moose Survey Results

2) 2012 MU 5-12B (North Chilcotin); last surveyed in 2002.

	Survey Area	Total Population Estimate (MU)	Estimated Bulls/100 Cows	Estimated Calves/ 100 Cows	Estimated Density (moose/km <sup>2</sup> )
Previous Survey (2002)	2672km <sup>2</sup>	<b>1546 ±201</b>	44	48	0.58
2012 Survey	2672km <sup>2</sup>	<b>622 ±116</b>	66	43	0.23

The moose population estimate in 5-12B has decreased by approximately 60% from 2002. The estimated density of 0.23 moose/km<sup>2</sup> is well below the regional target of 0.4 moose/km<sup>2</sup>. The bull cow ratio has increased from 2002 and is well above the provincial minimum target of 30 bulls/100 cows. The calf/cow ratio is above the regional target of 40 calves/100 cows.

# Moose Population Estimates: 2009, and 2012

Game Managem ent Zone	2008	2012	% Change
GMZ 5A	1,687	1,687 <sup>o</sup>	0%
GMZ 5B	6,727	6,265	-7%
GMZ 5C	13,193	8,966	-32%
GMZ 5D	5,945	2,890	-51%

<sup>o</sup>No new survey data in GMZ 5A since 2008 population assessment



# Declining Moose Populations in the Cariboo

- Survey data indicates declining moose populations across the Cariboo particularly in the Chilcotin
- Bull to Cow ratios remain high in all GMZs suggesting declines are not due to licenced harvest (Licenced harvest is restricted to bull moose)
- Declines in number of cows and calves suggest the declines largely due to antlerless mortality
- Potential Causes:
  - Anecdotal reports of increase in number of predators (reduced calf/cow ratio)
  - Increased access due to pine beetle salvage (increased hunter success)
  - [REDACTED]
- What can we do? – Modeling suggests that even if we completely eliminate licenced harvest, moose populations will continue to decline
  - Reduce access to areas that were formerly inaccessible
  - Work with FNs to reduce the mortality of reproductive cows
  - Promote liberal management of predators

## Stewart, Rodger W FLNR:EX

---

**From:** O'Sullivan, Susan FLNR:EX  
**Sent:** Thursday, July 12, 2012 7:45 AM  
**To:** Cheverie, Desi FLNR:EX; Donahue, Sean FLNR:EX; Dunleavey, Krista FLNR:EX; Flinton, Jane FLNR:EX; Frittenburg, Bev A FLNR:EX; Holtom, Wendy E FLNR:EX; Jennings, Harry D FLNR:EX; Jungaro, Ray J FLNR:EX; Kerley, Jason F FLNR:EX; Moores, Karen J ENV:EX; Ofstie, Curtis FLNR:EX; Palmantier, Kristy FLNR:EX; Patterson, Roberta FLNR:EX; Raatz, Ray FLNR:EX; Rottluff, Kathleen FLNR:EX; Sheffield, Linda FLNR:EX; Speed, Murray FLNR:EX; Strand, Nicole L FLNR:EX; Sutherland, Monica A FLNR:EX; Tryon, Cordelia FLNR:EX; Woods, Marianne A FLNR:EX  
**Cc:** FLNR Cariboo RMT  
**Subject:** Important: Moose, Forestry and Road closures in Anaham territory  
**Attachments:** Moose\_Hunting.pdf

Although this notice is dated June 6, 2012, it was not received by the provincial government until July 6, 2012. It has also been released to the media.

There will be more messaging today on how to manage government activities in this area. The procedures will follow our Civil Disobedience process. **Who has active NRS decisions in this area?**



## TL'ETINQOX-T'IN GOVERNMENT OFFICE

P.O. Box 168, Alexis Creek, B.C. V0L 1A0  
Phone 250-394-4212 • Fax 250-394-4275  
Health Phone 250-394-4240 • Fax 250-394-4234

June 06, 2012

Attention: Non-Tsilhqot'in Hunters, Provincial Government and Third Party Industry.

Re: 2012 Ban on Non-Tsilhqot'in Moose Hunting, Tl'etinqox-t'in area (Anaham Range)

Leadership as well as community members met on May 15, 2012 at the Tl'etinqox-t'in Government Office to discuss the decline of moose populations.

After careful discussions, we as a community have decided that for the upcoming hunting season of 2012 there will be no hunting in the Tl'etinqox-t'in care taker area also known as the Anaham Range for non Tsilhqot'in hunters.

### Rationale for Ban:

- The main reason for the closure is that moose in the region is at an all-time low.
- The guide outfitters from Tl'etinqox are not being treated fairly in having their areas protected from over harvesting of timber.
- The Tl'etinqox-t'in leadership and community are gravely concerned that moose populations and habitat are being compromised at a rate that jeopardizes the ability of Tsilhqot'in hunters to maintain their traditional hunting practices and to support Tsilhqot'in culture and communities.
- The Tl'etinqox-t'in assert Tsilhqot'in Aboriginal rights to hunt moose within the Anaham Range, as well as Aboriginal title over these lands, which includes the exclusive right to use these lands and the right to decide how these lands and resources will be used.
- We have occupied and cared for our Traditional Territories since well before European contact and indeed before the Crown assumed/"asserted" sovereignty over what they call British Columbia in 1846. Due to the fact that no treaty or agreement has ever been made between the Tsilhqot'in and the Crown in regards to these lands, waters and minerals, we as the Tl'etinqox-t'in maintain our unextinguished Tsilhqot'in Aboriginal rights and Aboriginal title and have the responsibility to protect these lands and resources for future generations.
- The Province has fiduciary duties and duties of consultation that demand the protection of the traditional resources, including moose, on which our Aboriginal rights depend. The Province has not taken the measures necessary to protect moose populations in the Anaham Range or the exercise of our Aboriginal hunting rights for future generations.

### Actions in support of the hunting closure:


- Moose hunting is banned for non-Tsilhqot'in hunters within the Anaham Range for the 2012 season, except with Tl'etinqox-t'in members who have guide hunting operations. Please see the attached map for the extent of this ban.



- Signs will be erected to warn of no moose hunting for non-Tsilhqot'in in the area due to low numbers, and any such activities whatsoever need to be reported to the Tl'etinqox Government Office.
- The roads north of Tl'etinqox-t'in will be deactivated coming from Quesnel, as well as road closures during hunting season on the Raven Lake Road also known as the 1300 rd. on the 46 km board and closure from the 67km on the Mackin Creek road.
- Non-Tsilhqot'in hunters in the Anaham Range will be kindly escorted out and reported to TGO Council.
- Harvesting of timber is prohibited until further notice in the areas of Tl'etinqox guide outfitters, especially in Lawrence Elkins guiding territory, due to loss of habitat for moose and other game.
- Tl'etinqox would like to work with the Conservation Officers in the Cariboo Region to help monitor as well as deal with predator problem.
- Tl'etinqox will educate members on the situation on low moose numbers, including during the summer cultural camps.

Please consider this formal written notice of the ban on hunting by non-Tsilhqot'in hunters within the Anaham Range, with the only exception of Tl'etinqox-t'in members who have guide hunting operations, pursuant to the terms set out above and hereby ratified by the TGO Council.

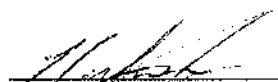
Sachanelyagh,



Chief Joe Alphonse



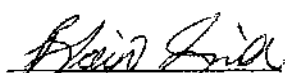
Councilor Ronnie Elkins



Councilor Herbie Jim



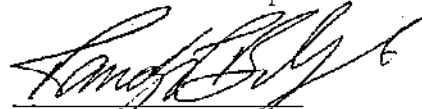
Councilor Eleanor Cooper



Councilor Blaine Grider



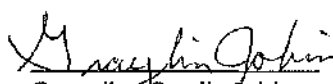
Councilor Paul Grider



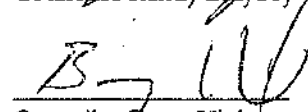
Councilor Randy Billyboy



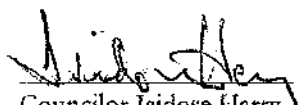
Councilor Emily Dick



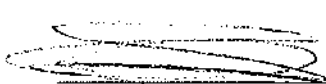
Councilor Graylin Jobin



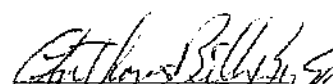
Councilor Barry Link



Councilor Isidore Harry



Councilor Leslie Stump



Councilor Anthony Billyboy



## Stewart, Rodger W FLNR:EX

---

**From:** O'Sullivan, Susan FLNR:EX  
**Sent:** Thursday, July 12, 2012 7:55 AM  
**To:** FLNR Cariboo RMT  
**Subject:** Question? Leadership Council mtg - new issue BN Tsilhqot'in moose hunting

Is the attached note shareable for staff who conduct consultation?

---

**From:** Wilkie, Maria ABR:EX  
**Sent:** Wednesday, July 11, 2012 9:38 AM  
**To:** Beak, Lynn ABR:EX; O'Sullivan, Susan FLNR:EX; Calof, Justin ABR:EX  
**Cc:** Caswell, Cassandra ABR:EX; Perry, Monica ABR:EX; Berg, Shane ABR:EX  
**Subject:** RE: Leadership Council mtg - new issue BN Tsilhqot'in moose hunting

GCPE has shared FLNRO's draft IN to assist with prepping bullets for the FNLC meeting; here it is



IN\_Tsilhqotlin  
Moose closure\_j...

Maria Wilkie  
Strategic Planning  
Ministry of Aboriginal Relations and Reconciliation  
Office tel. 250.953.3506  
Cell s.17  
[maria.wilkie@gov.bc.ca](mailto:maria.wilkie@gov.bc.ca)

Pages 209 through 210 redacted for the following reasons:

-----

s. 13, 16

## Stewart, Rodger W FLNR:EX

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Monday, July 16, 2012 6:37 PM  
**To:** Gash, Michael ABR:EX  
**Cc:** Calof, Justin ABR:EX  
**Subject:** QUESTION: NO MOOSE HUNTING IN REGION 5  
**Attachments:** MOOSE HUNTING BANNED.docx; Moose\_Hunting.pdf; 190151 IN Anaham Band Issues  
Moose Hunt Closure.docx

This issue is now attracting rapidly increasing attention. We have a pressing need to know how and when it might be that our joint agencies will determine tactics and initiatives to engage the TN and to ascertain options to address vulnerabilities to government and the broad public interest.

When might we meet to establish an action plan?

Rodger

---

**From:** Hatter, Ian FLNR:EX  
**Sent:** Monday, July 16, 2012 04:43 PM  
**To:** Stewart, Rodger W FLNR:EX  
**Cc:** Wilson, Andrew S FLNR:EX; Ramsay, Mike K FLNR:EX  
**Subject:** FW: Fwd: NO MOOSE HUNTING IN REGION 5

Hi Rodger. Here is the request that I work with Mike Ramsay on getting an Info Note together on this issue. The request comes from Tom Ethier with a follow-up note by Andrew Wilson that I work with Mike R on this. For now, we have just done the note, as it is not clear if a letter responding to the BCWF email is also required (the email from BCWF is also found below). I have attached the Info Note (190151) that is going forward

s.13

s.13

In future collaborative efforts between regional FWSH and myself on this file (or any other files), I will ensure to cc the DRM.

s.14

### Ian Hatter, RPBio

Wildlife Manager | Fish, Wildlife and Habitat Management Branch | Ministry of Natural Resource Operations | **T:** 250-387-9792 | **E:** [Ian.Hatter@gov.bc.ca](mailto:Ian.Hatter@gov.bc.ca)

---

**From:** Wilson, Andrew S FLNR:EX  
**Sent:** Saturday, July 14, 2012 12:18 PM  
**To:** Hatter, Ian FLNR:EX  
**Subject:** Fw: Fwd: NO MOOSE HUNTING IN REGION 5

Hi Ian,

Can you work with Mike R. on getting a note together on this?

Thanks,  
Andrew

---

**From:** Ethier, Tom FLNR:EX  
**Sent:** Saturday, July 14, 2012 10:19 AM  
**To:** Wilson, Andrew S FLNR:EX

**Subject:** Fw: Fwd: NO MOOSE HUNTING IN REGION 5

Please put together a response for the M.O. Asap -thx.

**From:** Alan Martin [mailto:[s.22](#)]  
**Sent:** Saturday, July 14, 2012 08:47 AM  
**To:** Ethier, Tom FLNR:EX; Wilson, Andrew S FLNR:EX  
**Cc:** Bill Bosch s.22 Rodney Wiebe s.22 ; Rick Mayor s.22 ; John  
Shepherd s.22 George Wilson s.22 Wilfred Pfeleiderer s.22  
'Jesse Zeman' s.22 ; Jacques Drisdelle s.22 Virginia and DAve  
s.22  
**Subject:** Fw: Fwd: NO MOOSE HUNTING IN REGION 5

If there is sufficient moose for First Nations FSC harvest and the LEH harvest , then the law of the land should apply will be the position of resident hunters.

(I understand the inventory data supporting the population estimates are poor ) .

The issues related to aboriginal hunting rights are clear but actions and responses by government related to exclusive use of all resources are based on assertion of title are not.

Has this initiative had the input of your ministry staff in the region and when will a Ministry response be ready?

The BCWF will raise this in a meeting with the minister scheduled at the end of next week in his constituency office.

---

Alan Martin  
Director,  
Strategic Initiatives  
BC Wildlife Federation  
250-480-9694

#### CONFIDENTIALITY WARNING

This message and any attachments are intended only for the use of the intended recipient(s), are confidential, and may be privileged. If you are not the intended recipient, you are hereby notified that any review, retransmission, conversion to hard copy, copying, circulation of or other use of this message and any attachments is strictly prohibited. If you are not the intended recipient, please notify the sender immediately and delete this message and any attachments from your system. Thank you.

# Moose hunting banned: Tl'etinqox-tin

**Monica Lamb-Yorski**  
*Tribune Staff Writer*

Copyright

Copyright



## TL'ETINQOX-T'IN GOVERNMENT OFFICE

P.O. Box 168, Alexis Creek, B.C. V0L 1A0  
Phone 250-394-4212 • Fax 250-394-4275  
Health Phone 250-394-4240 • Fax 250-394-4234

June 06, 2012

Attention: Non-Tsilhqot'in Hunters, Provincial Government and Third Party Industry.

Re: 2012 Ban on Non-Tsilhqot'in Moose Hunting, Tl'etinqox-t'in area (Anaham Range)

Leadership as well as community members met on May 15, 2012 at the Tl'etinqox-t'in Government Office to discuss the decline of moose populations.

After careful discussions, we as a community have decided that for the upcoming hunting season of 2012 there will be no hunting in the Tl'etinqox-t'in care taker area also known as the Anaham Range for non Tsilhqot'in hunters.

### Rationale for Ban:

- The main reason for the closure is that moose in the region is at an all-time low.
- The guide outfitters from Tl'etinqox are not being treated fairly in having their areas protected from over harvesting of timber.
- The Tl'etinqox-t'in leadership and community are gravely concerned that moose populations and habitat are being compromised at a rate that jeopardizes the ability of Tsilhqot'in hunters to maintain their traditional hunting practices and to support Tsilhqot'in culture and communities.
- The Tl'etinqox-t'in assert Tsilhqot'in Aboriginal rights to hunt moose within the Anaham Range, as well as Aboriginal title over these lands, which includes the exclusive right to use these lands and the right to decide how these lands and resources will be used.
- We have occupied and cared for our Traditional Territories since well before European contact and indeed before the Crown assumed/'asserted' sovereignty over what they call British Columbia in 1846. Due to the fact that no treaty or agreement has ever been made between the Tsilhqot'in and the Crown in regards to these lands, waters and minerals, we as the Tl'etinqox-t'in maintain our unextinguished Tsilhqot'in Aboriginal rights and Aboriginal title and have the responsibility to protect these lands and resources for future generations.
- The Province has fiduciary duties and duties of consultation that demand the protection of the traditional resources, including moose, on which our Aboriginal rights depend. The Province has not taken the measures necessary to protect moose populations in the Anaham Range or the exercise of our Aboriginal hunting rights for future generations.

### Actions in support of the hunting closure:


- Moose hunting is banned for non-Tsilhqot'in hunters within the Anaham Range for the 2012 season, except with Tl'etinqox-t'in members who have guide hunting operations. Please see the attached map for the extent of this ban.



- Signs will be erected to warn of no moose hunting for non-Tsilhqot'in in the area due to low numbers, and any such activities whatsoever need to be reported to the Tl'etinqox Government Office.
- The roads north of Tl'etinqox-t'in will be deactivated coming from Quesnel, as well as road closures during hunting season on the Raven Lake Road also known as the 1300 rd. on the 46 km board and closure from the 67km on the Mackin Creek road.
- Non-Tsilhqot'in hunters in the Anaham Range will be kindly escorted out and reported to TGO Council.
- Harvesting of timber is prohibited until further notice in the areas of Tl'etinqox guide outfitters, especially in Lawrence Elkins guiding territory, due to loss of habitat for moose and other game.
- Tl'etinqox would like to work with the Conservation Officers in the Cariboo Region to help monitor as well as deal with predator problem.
- Tl'etinqox will educate members on the situation on low moose numbers, including during the summer cultural camps.

Please consider this formal written notice of the ban on hunting by non-Tsilhqot'in hunters within the Anaham Range, with the only exception of Tl'etinqox-t'in members who have guide hunting operations, pursuant to the terms set out above and hereby ratified by the TGO Council.

Sachanelyagh,



Chief Joe Alphonse




Councilor Ronnie Elkins



Councilor Herbie Jim



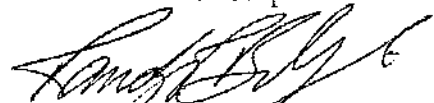
Councilor Eleanor Cooper



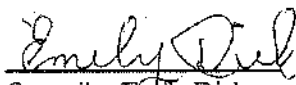
Councilor Blaine Grider



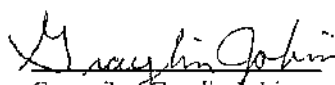
Councilor Paul Grider



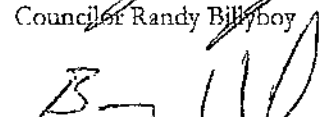
Councilor Randy Billyboy



Councilor Emily Dick



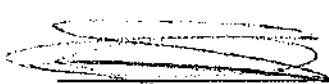
Councilor Graylin Jobin



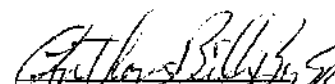
Councilor Barry Hink



Councilor Isidore Harry



Councilor Leslie Stump



Councilor Anthony Billyboy



**MINISTRY OF ENVIRONMENT  
INFORMATION NOTE**

July 16, 2012  
File: 280-20  
CLIFF/tracking #: 190151

**PREPARED FOR: Minister Steve Thomson**

**ISSUE: Tletinqox-t'in (Anaham Band) Issues Moose Hunt Closure for Non-First Nations in Traditional Territory**

**BACKGROUND:**

In winter of 2012 several Moose surveys were conducted in the North Tsilhqot'in area (Management Units 5-12 and 5-04) of the Cariboo Region. The areas surveyed were within the Tsilhqot'in (Chilcotin) First Nations traditional area (Appendix A). The surveys indicated a significant Moose population decline of between 40 to 60%, over the last 5-10 years. The largest declines occurred in the cow and calf component of the Moose population.

A public announcement has been released from the Anaham Band (Tletinqox-t'in) of the Tsilhqot'in First Nation indicating that they will be imposing a ban on non-Tsilhqot'in hunters from hunting Moose within a significant portion of the Anaham Band traditional territory (Appendix A) for the 2012 hunting season. The main reason they are imposing the Moose hunt closure (which may include posting signs, road deactivation and escorting non-FN hunters out of the area) is due to reduced Moose populations and their claim that the Province has not taken the measures necessary to protect Moose populations within their traditional territory. They are justifying these actions based on their claim that they have not extinguished Tsilhqot'in Aboriginal rights and Aboriginal title, nor their responsibility to protect these lands and resources.

The Moose declines in the Cariboo appear to be part of a broader Moose decline that has also occurred in the Omineca and Skeena regions. The extent of the Moose population appears to follow the area of pine beetle timber extraction. The reason for the declines are not known but may be associated with the increase

S13

S13

and the increased vulnerability of Moose due to lack of cover (i.e. increased visibility by hunters and poachers). Predators, such as wolves, have also increased significantly in the Cariboo Region.

**DISCUSSION:**

S13, S16

s.16, s.17, S13

**NEXT STEPS:**

S13, S16, S17

S13, S16, S17

**Attachments:**

S13, S16, S17

**Contact:**

*Tom Either, ADM  
Resource Stewardship  
Division  
250-]*

**Alternate Contact:**

*Andrew Wilson  
Fish, Wildlife and  
Habitat Mgmt Br.  
[Phone]*

**Prepared by:**

*Mike Ramsay and Ian Hatter  
Caribou Region and Fish, Wildlife  
and Habitat Management Br.  
250-387-9792*

Reviewed by	Initials	Date
DM		
DMO		
ADM		
Director		
Manager	III	July 16, 2012
Author	MR	July 16, 2012

## **Stewart, Rodger W FLNR:EX**

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Monday, July 16, 2012 11:29 AM  
**To:** Higgs, Karen E FLNR:EX  
**Cc:** Wilson, Andrew S FLNR:EX; Hatter, Ian FLNR:EX  
**Subject:** EWN: TNG moose hunt prohibition and LEH implications  
**Attachments:** Factsheet\_Provincial Moose Population\_May2012\_final.pdf; IN Tsilhqot'in Moose closure\_jul9\_draft4.doc; Moose Hunting.pdf; EWN (LEH in TNG closed area).docx

Karen, please CLIFF the new EWN (last in string) on this moose LEH issue, have Gerry endorse, then forward up the line and post to Groove.

s.13

Thanks!

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell s.17 desk (250) 398 4549  
fax (250) 398 4214

## Early Warning Note

Date: 16 July 1012

CLIFF:

Email to: **Vivian Thomas**  
Email to: **Rick Manwaring**

From: Cariboo Region  
Contact: Rodger Stewart

Ph: 250 398 4549

Issue: Limited Entry Hunting authorizations where Tl'etinqox-t'in First Nation (Tsilhqot'in Nation) is prohibiting hunting during the 2012 season

Briefing Note to follow: No. Three information documents accompany this note.

### **Background:**

- Refer to the Issues Note dated July 09, 2012 – "Tsilhqot'in Nation impose moose closure".
- Cariboo Region has received calls from hunters resident in the Cariboo Chilcotin asking about the fate of their LEH authorizations. Such authorizations are highly valuable to resident hunters, many often waiting a decade or more for the opportunity to hunt moose in the region.
- 
- The issue has not been carried in the media beyond the Cariboo Chilcotin land area, which may be limiting the public view of this issue. Many LEH authorizations for the affected land area are held by hunters from outside of the region.
- As new spreads, increased calls should be expected. Many hunters residing outside of Williams Lake may not know of the issue until confronted by TN representatives during hunting activities.

### **Suggested Response:**

S13, S16

## **Stewart, Rodger W FLNR:EX**

---

**From:** Higgs, Karen E FLNR:EX  
**Sent:** Tuesday, July 17, 2012 9:51 AM  
**To:** Thomas, Vivian P GCPE:EX; Crebo, David GCPE:EX; Goad, Jennifer FLNR:EX; Manwaring, Richard G FLNR:EX  
**Cc:** Stewart, Rodger W FLNR:EX  
**Subject:** Early Warning Note - Limited Entry Hunting Authorizations Where Tl'etinqox-t'in First Nation is Prohibiting Hunting During the 2012 Season  
**Attachments:** 190135 EWN.pdf; 190135 (supporting info).pdf

I am forwarding this on behalf of Rodger Stewart, Director of Resource Management in the Cariboo Region.

Karen Higgs  
Executive Assistant for  
Gerry MacDougall  
Regional Executive Director  
Cariboo Region  
Phone: 250-398-4327



## Early Warning Note

Date: July 16, 1012

CLIFF: 190135

Email to: Vivian Thomas, **Communications Manager, PAB**

Email to: Rick Manwaring, **Assistant Deputy Minister, FLNR, South Area**

CC to: Jennifer Goad, **Manager, Executive Issues**

From: Resource Management, Cariboo Region

Contact: Rodger Stewart, Director

Ph: 250 398 4549

Issue: Limited Entry Hunting authorizations where Tl'etinqox-t'in First Nation (Tsilhqot'in Nation) is prohibiting hunting during the 2012 season

Briefing Note to follow: No. Three information documents accompany this note.

### **Background:**

- Refer to the attached Issues Note dated July 9, 2012 – "Tsilhqot'in Nation impose moose closure".
- Cariboo Region has received calls from hunters resident in the Cariboo Chilcotin asking about the fate of their LEH authorizations. Such authorizations are highly valuable to resident hunters, many often waiting a decade or more for the opportunity to hunt moose in the region.

S13, S16

- The issue has not been carried in the media beyond the Cariboo Chilcotin land area, which may be limiting the public view of this issue. Many LEH authorizations for the affected land area are held by hunters from outside of the region.
- As new spreads, increased calls should be expected. Many hunters residing outside of Williams Lake may not know of the issue until confronted by TN representatives during hunting activities.

### **Suggested Response:**

S13, S16

---

## FACTSHEET

May 11, 2012

Ministry of Forests, Lands and Natural Resource Operations

### Moose population estimates down in Cariboo, Omineca

#### Summary

Over the past two winters, Ministry of Forests, Lands and Natural Resource Operations regional staff have undertaken numerous moose inventory surveys. Results indicate that certain areas of the province are experiencing a decline in moose population including the Cariboo, central Omineca and the Bulkley Valley- Lakes District, and the Nass Wildlife Management Area.

The Ministry is reaching out to key stakeholders, wildlife experts and First Nations to assist in investigating the cause for the declines. Analysis of existing data is underway. As well, additional inventory work is being conducted to determine the status of moose in other areas of the province.

All possibilities for the decline will be investigated. Ministry staff have compiled a list of potential factors, including; unregulated hunting, increased access, predator populations, changing environmental conditions (including habitat changes resulting from the mountain pine beetle infestation and timber salvaging), and cumulative impacts of one or more of these factors.

At present, there is no obvious cause for the declines, although initial findings show healthy bull to cow ratios in most areas, indicating that these declines are not attributable to regulated hunting. Nevertheless, moose hunting opportunities within some areas of the most heavily affected Management Units will be reduced immediately.

The decline in some moose populations is not considered to be an immediate conservation concern. However, the new population estimates mean that the Limited Entry Hunt (LEH) for moose will be reduced in certain areas.

This backgrounder summarizes findings by region.

#### Peace Region

##### Population trend:

- Population surveys south of Fort St. John indicate a small decline in moose density since a 2004 survey. However the population trend is stable over the long term, considering surveys previous to 2004.
- Surveys in the areas of the far northeast indicate a stable, low density population typical of that land area.
- The population appears to be stable in agriculture zones.

Response:

- Ministry staff will continue to monitor the population and assess results. No specific changes to the harvest management regime for moose in the Peace Region are anticipated as a result of the survey.
- Further surveys are planned for the coming year in select areas of potential management concern.

**Omineca Region**

Population trend:

- Moose densities in the central portion of the region around Prince George have declined by 50 per cent since 2005, supporting anecdotal observations from the hunting community in recent years.
- Although the trend is declining, current moose densities in the Omineca remain consistent with healthy populations in other parts of North America.

Response:

- Guide and resident hunters have agreed to work collaboratively in developing harvest strategies in light of the survey results.
- First Nations will be invited to assist in developing moose management objectives through involvement in regional modelling work.
- The multi-stakeholder Omineca Wildlife Management Committee will also meet to consider moose management objectives and various management alternatives.
- The ministry will invest over \$100,000 to fund additional composition surveys, and develop a study design for winter 2012/13 to confirm survey results and establish moose population monitoring zones.
- Development of a model to assess possible causes of the declining population trend is underway, with further analysis to be supported by available inventory funding.

**Skeena Region – Bulkley Valley Lakes District, 2012**

Population trend:

- The moose population in this area has declined from 2004 by 20 per cent.
- There are no significant changes in either bull to cow or calf to cow ratios overall, but there is a decline in the bull to cow ratio in the Lakes District.
- The population is considered to be comparatively healthy, with good calf recruitment and bull to cow ratios, and the current annual allowable harvest is considered sustainable.
- Under current conditions, regional moose models predict a stable to increasing population.

Response:

- In 2010, the Skeena Allocation Committee (representing guided and resident hunters) opted to use a moose population estimate of 12,000 moose for the area. This was in

response to the consensus observation that the severe winter of 2006/2007 had caused a substantial decline in the moose population.

- Because a potential population decline was taken into account in 2010, there are no proposed changes to the AAH for the 2012/2013 licence year and the upcoming allocation period (2012-2016) due to the results of this survey.

#### **Skeena Region – Nass Wildlife Area (Nisga'a Final Agreement), 2011**

##### Population trend:

- Results from surveys indicate a 70 per cent reduction in the moose population from 1997 to 2011 over the 5,000 km<sup>2</sup> area.

##### Response:

- For 2012/13, the very limited licensed moose hunt has been closed as anticipated population recovery has not been achieved.
- The province is collaborating with the Gitanyow First Nation and Nisga'a Lisims Government to implement a "managed" First Nations hunt designed to recover the moose population in the Nass Wildlife Area.
- Management actions have included reductions in the Total Allowable Harvest, reductions in the annual Nisga'a Allocation as per the treaty, restriction of the Nisga'a hunting season. The Nisga'a have adopted a bull-only harvest which supports moose conservation efforts.
- In 2007 significant restrictions to the licensed hunt through both guide outfitter quota and LEH authorizations were imposed to promote moose recovery.

#### **Cariboo Region**

##### Population trend:

- The moose population has decreased considerably from the last available surveys, ranging from a 17 per cent decline in the Rose Lake-Miocene area to 60 per cent decline in the Anahim Lake/Dean River area.
- Bull to cow ratios are stable and within regional objectives, suggesting that the licensed harvest of bull moose has not been responsible for the declines in population.
- Calf to cow ratios are generally acceptable, although below regional targets in selected areas (Big Creek-Taseko).

##### Response:

- Ministry staff have shared the survey results, population estimates and management implications with the Tsilhqot'in National Government. Ministry staff also plan to meet with the Ulkatcho, and other communities of the Southern Carrier group (Nazko, Kluskus, Red Bluff).
- Meetings with guided and resident hunter sectors are also being scheduled to discuss management implications.

- The allowable annual hunt will be decreased based on revised population estimates, resulting in reductions of LEH authorizations for resident hunters, and quota restrictions for guide outfitters.
- The ministry is seeking the services of an independent moose expert to assess the influence of factors responsible for the moose population decline in the Cariboo Region.

### **Thompson Okanagan Region**

#### Population trend:

- Although the overall moose population in the Okanagan is comparatively low, initial survey results west of Kelowna were favourable, with recruitment doubling the population compared to previous surveys.
- Bull to cow ratios are fairly low, possibly an indication of elevated bull harvesting success given high resource road densities.
- Calf to cow ratios are meeting objectives, but anecdotal evidence suggests there may be increased risk of wolf predation.
- There are no current survey results for the Thompson, as weather prevented standard surveys from being carried out last winter.
- Anecdotal evidence and harvest information suggest that moose densities are likely in decline in area of the North Thompson, the Bonaparte, and on the Nehalem Plateau.

#### Response:

- Continue regular engagement with stakeholders and First Nations.
- A partnership with the Secwepemc Nation is underway in support of a radio-collaring initiative in the Thompson to examine moose survival and habitat use north of Savona.
- No changes to the regulations are anticipated at this time.

### **Kootenay Region**

#### Population trend:

- Initial survey findings indicate a stable to increasing moose population in the West Kootenay.
- Recent survey information is not available for moose population changes in the East Kootenay.
- Surveys conducted over the past three winters show bull to cow ratios are above regional objectives throughout the region.

#### Response:

- Continue regular engagement with stakeholders and First Nations.
- Population declines in three drainages in both the West and East Kootenay over the last two decades resulted in reducing bull hunting opportunity, or closure of the spike-fork season. One area has since recovered and re-opened, and the remaining two are still closed, pending further inventory work.
- No changes to the regulations are anticipated at this time.



## TL'ETINQOX-T'IN GOVERNMENT OFFICE

P.O. Box 168, Alexis Creek, B.C. V0L 1A0  
Phone 250-394-4212 • Fax 250-394-4275  
Health Phone 250-394-4240 • Fax 250-394-4234

June 06, 2012

Attention: Non-Tsilhqot'in Hunters, Provincial Government and Third Party Industry.

Re: 2012 Ban on Non-Tsilhqot'in Moose Hunting, Tl'etinqox-t'in area (Anaham Range)

Leadership as well as community members met on May 15, 2012 at the Tl'etinqox-t'in Government Office to discuss the decline of moose populations.

After careful discussions, we as a community have decided that for the upcoming hunting season of 2012 there will be no hunting in the Tl'etinqox-t'in care taker area also known as the Anaham Range for non Tsilhqot'in hunters.

### Rationale for Ban:

- The main reason for the closure is that moose in the region is at an all-time low.
- The guide outfitters from Tl'etinqox are not being treated fairly in having their areas protected from over harvesting of timber.
- The Tl'etinqox-t'in leadership and community are gravely concerned that moose populations and habitat are being compromised at a rate that jeopardizes the ability of Tsilhqot'in hunters to maintain their traditional hunting practices and to support Tsilhqot'in culture and communities.
- The Tl'etinqox-t'in assert Tsilhqot'in Aboriginal rights to hunt moose within the Anaham Range, as well as Aboriginal title over these lands, which includes the exclusive right to use these lands and the right to decide how these lands and resources will be used.
- We have occupied and cared for our Traditional Territories since well before European contact and indeed before the Crown assumed/"asserted" sovereignty over what they call British Columbia in 1846. Due to the fact that no treaty or agreement has ever been made between the Tsilhqot'in and the Crown in regards to these lands, waters and minerals, we as the Tl'etinqox-t'in maintain our unextinguished Tsilhqot'in Aboriginal rights and Aboriginal title and have the responsibility to protect these lands and resources for future generations.
- The Province has fiduciary duties and duties of consultation that demand the protection of the traditional resources, including moose, on which our Aboriginal rights depend. The Province has not taken the measures necessary to protect moose populations in the Anaham Range or the exercise of our Aboriginal hunting rights for future generations.

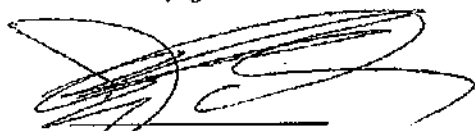
### Actions in support of the hunting closure:

- Moose hunting is banned for non-Tsilhqot'in hunters within the Anaham Range for the 2012 season, except with Tl'etinqox-t'in members who have guide hunting operations. Please see the attached map for the extent of this ban.

- Signs will be erected to warn of no moose hunting for non-Tsilhqot'in in the area due to low numbers, and any such activities whatsoever need to be reported to the Tl'etinqox Government Office.
- The roads north of Tl'etinqox-t'in will be deactivated coming from Quesnel, as well as road closures during hunting season on the Raven Lake Road also known as the 1300 rd. on the 46 km board and closure from the 67km on the Mackin Creek road.
- Non-Tsilhqot'in hunters in the Anaham Range will be kindly escorted out and reported to TGO Council.
- Harvesting of timber is prohibited until further notice in the areas of Tl'etinqox guide outfitters, especially in Lawrence Elkins guiding territory, due to loss of habitat for moose and other game.
- Tl'etinqox would like to work with the Conservation Officers in the Cariboo Region to help monitor as well as deal with predator problem.
- Tl'etinqox will educate members on the situation on low moose numbers, including during the summer cultural camps.

Please consider this formal written notice of the ban on hunting by non-Tsilhqot'in hunters within the Anaham Range, with the only exception of Tl'etinqox-t'in members who have guide hunting operations, pursuant to the terms set out above and hereby ratified by the TGO Council.

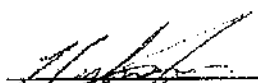
Sachanelyagh,



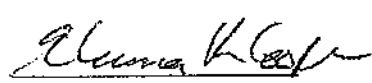
Chief Joe Alphonse



Councilor Ronnie Elkins



Councilor Herbie Jim



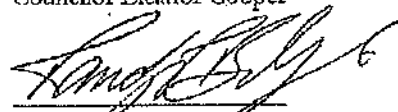
Councilor Eleanor Cooper



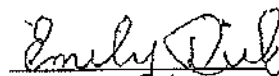
Councilor Blaine Grindet



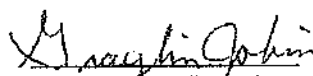
Councilor Paul Grindet



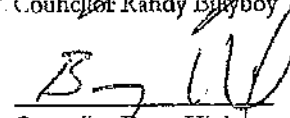
Councilor Randy Billyboy



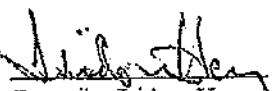
Councilor Emily Dick



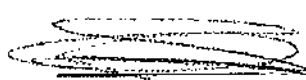
Councilor Graylin Jobin



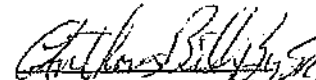
Councilor Barry Hink



Councilor Isidore Harry



Councilor Leslie Stump



Councilor Anthony Billyboy





## **Stewart, Rodger W FLNR:EX**

---

**From:** Ethier, Tom FLNR:EX  
**Sent:** Tuesday, July 17, 2012 4:42 PM  
**To:** Stewart, Rodger W FLNR:EX; Wilson, Andrew S FLNR:EX; Manwaring, Richard G FLNR:EX; Wilson, Andrew S FLNR:EX; MacDougall, Gerry L FLNR:EX  
**Cc:** Etherington, Barb FLNR:EX; Goad, Jennifer FLNR:EX; Gash, Michael ABR:EX; Calof, Justin ABR:EX; Wenham, Logan GCPE:EX; Pedersen, Mike FLNR:EX  
**Subject:** RE: Moose in the Chilcotin

Sounds good. Andreea can you include everyone who is on this email list? Thanks.

---

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Tuesday, July 17, 2012 4:31 PM  
**To:** Ethier, Tom FLNR:EX; Wilson, Andrew S FLNR:EX; Manwaring, Richard G FLNR:EX; Wilson, Andrew S FLNR:EX; MacDougall, Gerry L FLNR:EX  
**Cc:** Etherington, Barb FLNR:EX; Goad, Jennifer FLNR:EX; Gash, Michael ABR:EX; Calof, Justin ABR:EX; Wenham, Logan GCPE:EX; Pedersen, Mike FLNR:EX  
**Subject:** RE: Moose in the Chilcotin

Yes, a quick chat is needed. As this is not entirely a FLNRO issue, and not just about moose and hunting, we have need to ensure that other agencies and programs are also participating in the call.

There is need to ensure that **Justin Calof** and **Michael Gash** are invited – having at least one of these folk is critical to the conversation. Further, **Mike Pedersen**, Resource District Manager, Central Cariboo must be invited to join the call. **Logan Wenham** of GCPE should be offered notice of the call, so that he has opportunity to maintain a direct connection with this file.

Rodger Stewart  
Director, Resource Management  
Ministry of Forests, Lands and Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cell s.17 desk (250) 398 4549  
fax (250) 398 4214

---

**From:** Ethier, Tom FLNR:EX  
**Sent:** Tuesday, July 17, 2012 4:21 PM  
**To:** Wilson, Andrew S FLNR:EX; Manwaring, Richard G FLNR:EX; Stewart, Rodger W FLNR:EX; Wilson, Andrew S FLNR:EX; MacDougall, Gerry L FLNR:EX  
**Cc:** Etherington, Barb FLNR:EX; Goad, Jennifer FLNR:EX  
**Subject:** Moose

Hi Guys

s.13, s.16, s.17

s.13, s.16, s.17 If no one objects I  
will ask Andreea s.22 to find some time in our calendars for a half hour chat. Al Martin, exec director at BCWF, called me today and one of the BCWF Directors will be in the Minister's constituency office this Friday. Jennifer is there any ask from the MO to have staff present? Many thanks.

**Tom Ethier**  
Assistant Deputy Minister  
Resource Stewardship Division  
Ministry of Forests, Lands and Natural Resource Operations



Pages 233 through 236 redacted for the following reasons:

-----  
S.13, s. 14, s.16  
S.13, s.14, s.16  
S.13, s14, s16

## Stewart, Rodger W FLNR:EX

**From:** Stewart, Rodger W FLNR:EX  
**Sent:** Tuesday, July 24, 2012 4:35 PM  
**To:** Ethier, Tom FLNR:EX; Wilson, Andrew S FLNR:EX; Manwaring, Richard G FLNR:EX; MacDougall, Gerry L FLNR:EX; Calof, Justin ABR:EX; Gash, Michael ABR:EX; Pedersen, Mike FLNR:EX; Wenham, Logan GCPE:EX; Goad, Jennifer FLNR:EX  
**Cc:** Maley, Madeline L FLNR:EX; Crebo, David GCPE:EX; Berg, Shane ABR:EX  
**Subject:** For Discussion tomorrow. Bit of documentation on hunting/predation - Moose in the Chilcotin



Briefing Note  
(hunt imposition...)

This is a very rough draft and needs a lot more work to lay out the assessment of options. But it has been considered that we at least need to have some ditches to wander between for our talk tomorrow.

Rodger Stewart  
Director, Resource Management  
Ministry of Natural Resource Operations  
Cariboo Region  
400 - 640 Borland Street  
Williams Lake, BC  
V2G 4T1  
cel s.17 desk (250) 398 4549  
fax (250) 398 4214

-----Original Appointment-----

**From:** Etherington, Barb FLNR:EX  
**Sent:** Wednesday, July 18, 2012 1:55 PM  
**To:** Etherington, Barb FLNR:EX; Ethier, Tom FLNR:EX; Stewart, Rodger W FLNR:EX; Wilson, Andrew S FLNR:EX; Manwaring, Richard G FLNR:EX; MacDougall, Gerry L FLNR:EX; Calof, Justin ABR:EX; Gash, Michael ABR:EX; Pedersen, Mike FLNR:EX; Wenham, Logan GCPE:EX; Goad, Jennifer FLNR:EX  
**Cc:** Maley, Madeline L FLNR:EX; Crebo, David GCPE:EX; Berg, Shane ABR:EX  
**Subject:** Moose in the Chilcotin  
**When:** Wednesday, July 25, 2012 1:30 PM-2:00 PM (GMT-08:00) Pacific Time (US & Canada).  
**Where:** Room 313 - 780 Blanshard Street / DIAL IN: s.17 Participant ID s.17

When: Wednesday, July 25, 2012 1:30 PM-2:00 PM (GMT-08:00) Pacific Time (US & Canada).  
Where: Room 313 - 780 Blanshard Street / DIAL IN: s.17 Participant ID s.17

Note: The GMT offset above does not reflect daylight saving time adjustments.

\*~\*~\*~\*~\*~\*~\*~\*~\*~\*

s.13, s.16, s.17

s.13, s.16, s.17 I will ask Andreea s.22 to find some time in our calendars for a half hour chat. Al Martin, exec director at BCWF, called me today and one of the BCWF Directors will be in the Minister's constituency office this Friday. Jennifer is there any ask from the MO to have staff present? Many thanks.

Tom Ethier  
Assistant Deputy Minister  
Resource Stewardship Division



**MINISTRY OF FORESTS, LANDS AND NATURAL RESOURCE OPERATIONS  
INFORMATION NOTE**

Date: July 24, 2012

File:

CLIFF:

**I. PREPARED FOR:** Assistant Deputy Ministers Tom Ethier (Resource Stewardship), Rick Manwaring (Regional Operations, South Area) and Charles Porter (Negotiations and Regional Operations, Ministry of Aboriginal Relations and Reconciliation).

**II. ISSUE:**  
**TI'etinqox – T'in Government Office (Anaham First Nation, Tsilhqot'in National Government), located near Alexis Creek, intends to impose limitations on moose hunting, resource road access and timber harvesting in an area of the Cariboo Region starting September, 2012.**

Attachment to Inter-ministry note submitted by Cariboo Region MARR, dated July 19, CLIFF XXX

**III. BACKGROUND:**

- On July 05, 2012 the Cariboo Region received a copy of a notice being circulated to the public by the TI'etinqox – T'in Government Office which describes their intentions to close an area of the region to moose hunting. Notice also described intended deactivation and blockage of resource roads and prohibition of timber harvesting on 2 guide outfitter territories held by members of the TI'etinqox community.
- Moose hunting in the region is subject to Limited Entry Hunting for bull moose due to the substantive demand for hunting opportunity. The hunting closure would impact an estimated 1053 Limited Entry Hunting authorizations.
- The TI'etinqox community is a member of the Tsilhqot'in National Government (TNG), who are signatory to the Province to the 2009 Tsilhqot'in Framework Agreement (TFA).
- Under terms of the agreement, Cariboo Region staff has been engaged in sustained information sharing and dialogue with the TNG and member communities on matters of wildlife management, including wildlife allocation and harvest regulation.
- As part of the deliberations of the Wildlife Sub-Committee, which was established consistent with terms of the TFA, the TNG was advised of wildlife population surveys, has provided observers for these surveys, and has received detailed explanation of survey results.
- During deliberations at all levels of engagement, the TNG has constantly raised concerns respecting the current state of wildlife resources, predation effects on those populations (primarily wolves), and wildlife habitat impacts resulting from extractive land uses.
- The deliberations of the Wildlife Sub-Committee over the past year resulted in recommendations to government that were designed to address TNG concerns about wildlife management.
- Among other matters, the recommendations proposed measures to manage non-FN hunting within 400 meters of specific resource roads, reductions of the Annual Allowable Harvest (AAH) of moose, and a 25% reduction in the number of Limited Entry Hunting (LEH) authorizations granted to non-First Nations hunters each year.

- The Cariboo Region undertook stakeholder consultation on the proposed road regulations and submitted the proposal and an assessment of it to the Director. In consideration of impacts on stakeholders, no action was taken by government to specifically manage non-FN hunting along resource roads.
- In response to the Wildlife Committee recommendations, the moose AAH was reduced by 10% prior to the completion of moose population surveys in January and February, 2012. Further adjustment of the moose AAH is to be carried out for the 2013 hunting season considering the 2012 survey results.
- Due to declining hunter success rates relative to bull moose harvest targets, the reduction in AAH did not result in a reduction of the number of LEH authorisations granted to non-FN hunters for the 2012 hunting season.

#### **IV. DISCUSSION:**

s.16, s.17, S13

s.16, s.17, S13

## V. CONSIDERATIONS:

s.16, s.17, S13

### Option 1:

- 

S13, S16, S17

- 

s.13, s.15



•

s.16, s.17

**Option 2:**

S13, S16, S17

s.16, s.17, S13

**Option 3:**

S13, S16, S17

S13, S16, S17

**Option 4:**

s.16, s.17, S13

S13, S16, S17

L

**Option 5:**

S13, S16, S17

s.16, s.17, S13

**Contact:**

*Gerry MacDougall  
Regional Executive  
Director*

**Alternate Contact:**

*Rodger Stewart  
Director,  
Resource Management*