

Backgrounder for Kootenay Guide Allocation & Quota spreadsheet 2013

This document describes the process for calculating 2012-16 allocations and 2013 quotas for guide outfitters in the Kootenay Region. Calculations are performed in the **ALL quotas** spreadsheet.

Step 1: Calculate the 2012-16 allocation under full implementation of the harvest allocation policy.

- a. Determine the **2013 population estimate** for each species/class (e.g., bull moose) within each guide outfitter territory. These estimates are based on inventory data, anecdotal information, hunter success rates, etc.
- b. Apply a **harvest rate** for each species in each guide outfitter territory. These are typically based on provincial harvest procedures and align with the harvest rates used to determine Annual Allowable Harvest for resident hunters. Variations to these rates may be applied based on local population trends or management objectives. For example, the harvest rate may be reduced to recover a particular population, or if a population is shared with another jurisdiction.
- c. Calculate the **Annual Allowable Harvest (AAH)** for each territory. This is the harvest rate multiplied by the population estimate.
- d. Determine the **guide share** within each territory. This was set by headquarters staff using the allocation calculator.
- e. Calculate the **annual guide AAH**, which is the portion of the AAH within the guide territory that is available to the guide to harvest each year over the 5-year allocation period. This is calculated by multiplying the guide share by the AAH in the territory.
- f. Calculate the **2012-16 allocation under full implementation** of the harvest allocation policy. This is the annual guide AAH multiplied by 5 to derive the 5-year allocation.

Step 2: Adjust the 2012-16 allocation to ensure guides are not “substantially impacted”. In accordance with the December 14 2012 letter sent to guide outfitters from the director of Fish, Wildlife and Habitat Management, guides are “substantially impacted” if their 2012-16 allocation is more than 30% down from their 2007-11 harvest. However, this 30% decrease must exclude any changes in allocation not attributable to the allocation policy (e.g., changes in population size or harvest rate, and hence changes in AAH).

- a. Determine **2007-11 harvest** in each guide outfitter territory, using guide declaration and/or compulsory inspection data.
- b. Determine the number of **years** that the territory was active in the 2007-11 allocation period. If a territory was inactive for one or more years, the number of active years was reduced accordingly.
- c. Calculate the corrected **2007-11 harvest for 5 years** by dividing the number of years by the 2007-11 harvest, and multiplying by 5.
- d. Determine the **2007 AAH in territories**, which is the AAH within the territory from the last allocation period.

- e. Calculate the **change in allocation between 2007 and 2012**. This is the 2012 AAH minus the 2007 AAH, divided by the 2007 AAH, to determine percent change.
- f. Determine the **component of harvest not attributable to a drop in AAH**. If the AAH increased between 2007 and 2012, the 2007-11 harvest was used. If the AAH declined between 2007 and 2012, the 2007-11 harvest was decreased by this amount. For example, if the 2007-11 harvest was 10, and the AAH between 2007 and 2012 declined by 50%, the component of harvest not attributable to a drop in AAH would be 5 (50% of 10). This is the 2007-11 harvest that must be compared to the 2012-16 allocation to determine whether guides are “substantially impacted”, in order to exclude changes attributed to a decline in AAH.
- g. Calculate the **30% hardship** impact by multiplying the corrected 2007-11 harvest (i.e., the component of harvest not attributable to a drop in AAH) by 70%. This represents the minimum allocation that can be assigned to each guide outfitter to ensure they are not “substantially impacted”.
- h. Determine whether the **30% hardship should be considered** when setting each guide outfitter allocation for 2012-16. If the 30% hardship impact was greater than the allocation under full implementation, the Regional Manager considered increasing the 2012-16 allocation to ensure guides were not “substantially impacted”.
- i. Establish the **2012-16 allocation considering hardship**. This represents the 2012-16 allocation as stated in quota letters. If there was no hardship consideration, then this is simply the 2012-16 allocation under full implementation. However, if there was hardship consideration, then this is typically the 30% hardship value. If there were no conservation concerns for moose, sheep and goats, the Regional Manager generally rounded the hardship value up (e.g., 6.09 bumped up to 7). However if some of the 2012 harvest did not count towards the guide’s allocation (see below), then the true rounded value was used (e.g., 6.09 rounded to 6). The true rounded value was also generally used for grizzly bears because of higher conservation concerns.

Step 3: Determine the 2013 quota based on 2012-16 allocation.

- a. Determine the **2012 harvest** from guide declaration data or regional Compulsory Inspection data.
- b. Calculate **1/5th of 2012-16 allocation**. This is simply the 2012-16 allocation considering hardship divided by 5.
- c. Determine the **corrected 2012 harvest**. According to the December 14 2012 letter sent to guide outfitters, the portion of a guide’s 2012 harvest that was greater than 1/5th of the new 2012-16 allocation should not count against the allocation available for 2013-16. For example, if a guide’s new allocation is 10 moose over 5 years, a maximum of 2 moose ($10 \div 5$) should count against the remaining allocation. If the guide harvested 3 moose in 2012, only 2 of these animals would count against the remaining allocation. Therefore, the minimum of either the 2012 harvest or 1/5th of the 2012-16 allocation was generally used for the corrected 2012 harvest. However, if there were potential conservation concerns or substantial impacts on resident hunting opportunity, the Regional Manager chose not to

- correct the 2012 harvest for sheep or grizzly bears. The corrected harvest was always applied for moose and goats.
- d. Indicate whether the **corrected harvest applies**. In this column, “Yes” indicates that a corrected harvest was applied in calculating remaining allocation. Blank cells indicate that the actual 2012 harvest was used.
 - e. Determine **remaining allocation** for 2013-16. This is simply the 2012-16 allocation considering hardship minus the corrected 2012 harvest.
 - f. Calculate the **2013 quota**. For moose, 2013 quotas were calculated in accordance with the Ministry’s response to the Trumpy report: guides allocated 3 or fewer moose over 5 years received their full allocation in 2013; guides allocated 4 or 5 moose received a quota of 3 in 2013 (less moose harvested in 2012). For goats and sheep, 2013 quotas were calculated using regional-specific administrative guidelines (0.41 for sheep and 0.31 for goats). For grizzly bears, 2013 quotas were calculated using an administrative guideline of 0.3 since higher guide success is anticipated with a longer season in 2013. Similar conservative measures were used to establish Limited Entry Hunt permits for grizzly bears in 2013, since resident hunter success will likely increase as well.

Step 4: Consider other tools to reduce the impact of the allocation policy on guide outfitters.

- a. The Regional Manager considered applying the **Quota Variance Principle (QVP)** for each species and each guide outfitter territory in the region. This principle allows for variance from established quota procedures to meet exceptional conditions (e.g., guiding in remote or inaccessible areas), and must not impact resident hunter priority. Moose, grizzly bears and sheep have high resident hunter demand and were generally not considered for QVP in the Kootenay Region. However goat Limited Entry Hunt permits are undersubscribed by resident hunters in some inaccessible areas. These areas were considered for QVP application.
- b. In future years, the flexible quota system will also be considered when calculating quotas. This allows an increase in quotas later in the allocation period to allow guides to more fully harvest their 5-year allocation.

Additional Information on Grizzly bear

Open and Closed Units

Region has requested the Minister reopen Management Units 4-21, 4-22, 4-24 for grizzly bear. A decision has not been made as of the writing of this document. Allocations and quota have been calculated based on these units being open for 2013, but are contingent on Minister decision.

A review of the current closure in MU 4-23 will be done following calculation of a new population estimate (based on DNA sampling over the past 3 years) for the entire South Rockies unit in 2013, in time to consider re-opening MU 4-23 in 2014. MU 4-20 remains closed for 2013, but will also be reviewed for consideration next year (2014).

Allocations and Quota

Grizzly bear harvest management includes consideration of all mortality sources which influences harvest opportunities for guides and residents. Where other mortality is significant, allocations are reduced. In relatively small territories within 4-21 & 4-22, this has pushed most guides' tentative allocations below 0.5 over 5 years which results in a quota of 0. Following a decision by the minister regarding opening these units, we are prepared to discuss options for some grizzly bear harvest allocation in these areas with affected guides.

Territory	Population estimate 2013	Explanation
401G001	30	2012 inventory in Waterton; 48 sheep observed near BC border (within 10 km straightline distance); $(48 \times 0.5) / 0.8 = 30$; no hunting in AB; 2011 goat inventory observed 53 sheep in July along western portion of Park
401G002	55	2013 BC inventory = 54 sheep observed / 0.80 sightability = 68×0.5 (shared pop with AB) = $34 + 1/3$ of Barnaby pop (2005 estimate) 20 = 55
402G001	160	2012 estimate for Wigwam Flats = 215 using model; 160 for 402G001 + 60 to 402G003
402G002	100	2012 estimate for Galtons = 120; 100 to 402G002 + 20 to 402G003; Montana unit 101 closed to sheep hunting; 102 = 1 licence only any sex; reduced HR because shared
402G003	80	60 from Wigwam + 20 from Galtons
420G003	40	Estella and Premier herds; 2012 inventory = 60; 60% of population = 35 -40; shared with 421G001; reduced HR in attempt to recover
421G001	70	Wildhorse + Premier + North Diorite + Marmalade herds; 2012 inventory = 5 (100%)+ 25 (40%)+ 10 (50%)+30 (60%) =70; shared with unallocated area and 420G003
421G002	30	2012 estimate = 30; 80% = 25; 10% unallocation + 10% 422G002; used harvest data and inventory data;
422G001	30	2012 estimate for Bull River herd = 150; 20% to 422G002
422G002	125	2012 estimate for Bull River herd = 150; 80% to 422G002 + 10% from VanNostrand
422G003	20	50% of Lizard herd; estimated population is approximately 30; shared with unallocated
422G005	30	2012 estimate = 50; shared with Elk Valley unallocated
423G001	30	2011 AB inventory = Crowsnest pop 72 observed /0.80 sightability = 90×0.33 (1/3 of shared pop with residents and AB) = 30
423G002	100	2012 estimate = 40 (West side) + 60 (Tobermorey 2008 estimate)
424G001	60	2012 estimate = 60
425G001	150	2012 estimate = 150
425G003	20	Cross River unknown pop est = 20
425G004	80	2009 estimate = 80
435G001	60	2011 estimate = 150; 40% of Radium herd
TOTAL	1270	
Row 2 comments - ieteske: could increase pop est to 35		
Row 3 comments - ieteske: changed from 40-60 after 2013 inventory		

Guide Outfitter	Guide Territory	Calculations for allocation with full implementation						Calculations for allocation considering 30% hardship application										Calculations for 2013 quota		
		2013 sheep estimate	Harvest rate	AAH in territory	Guide share	Annual guide AAH	2012-16 allocation; full	Harvest 2007-11	Harvest over X years	Harvest 2007-11 for 5 yrs	2007 AAH in territory	Change in '07 to '12 AAH	Component of harvest not attributable to drop in AAH	30% hardship unrounded	30% hardship consideration	2012-16 allocation; hardship	2012-16 effective allocation	2012 harvest	1/5 of 2012-2016 allocation	Corrected 2012 harvest
Eider, D	0401G001	30	3.0%	0.9	32%	0.3	1	0	5	0	2	-40%	0			1	1	0	0	0
Beranek, D	0401G002	40	3.0%	1.2	32%	0.4	2	5	5	5	2	-40%	3	2.10	Yes	2	2	1	1	1
Leuenberger, H	0402G001	160	3.0%	4.8	32%	1.5	8	9	5	9	5	-4%	9	6.05		8	8	1	2	1
Ferrarelli, DJ	0402G002	100	2.0%	2.0	32%	0.6	3	5	4	6	3	-20%	5	3.50	Yes	4	4	0	1	0
Leuenberger, S	0402G003	80	3.0%	2.4	32%	0.8	4	8	5	8	3	-4%	8	5.38	Yes	6	6	1	1	1
Mostyn, V	0403G001	0							5											
Boardman, W	0405G001	0							5											
Park, W	0406G001	0							5											
Faiers, T	0407G001	0							5											
Zawada, C	0420G001	0							5											
Park, BW	0420G002	0							5											
Park, BW	0420G003	40	1.5%	0.6	32%	0.2	1	1	5	1	2	-70%	0	0.21		1	1	0	0	0
Roe, D	0420G004	0							5					0.00		0	0		0	
Schmidt, JD	0421G001	70	3.0%	2.1	32%	0.7	3	0	5	0	4	-44%	0	0.00		3	3	0	1	0
Smutny, AG	0421G002	30	3.0%	0.9	32%	0.3	1	0	5	0	1	-28%	0	0.00		1	2	1	0	0
Faiers, A	0422G001	30	3.0%	0.9	32%	0.3	1	1	5	1	1	-10%	1	0.63		1	1	0	0	0
Lightburn, M	0422G002	120	3.0%	3.6	32%	1.2	6	9	5	9	4	-4%	9	6.05	Yes	7	7	0	1	0
Crabbe, T	0422G003	20	3.0%	0.6	32%	0.2	1	1	5	1	2	-60%	0	0.28		1	1	0	0	0
Cocciolo, V	0422G004	0							5					0.00		0	0			
Cocciolo, V	0422G005	30	3.0%	0.9	32%	0.3	1	1	5	1	1	-10%	1	0.63		1	1	0	0	0
Cutts, RJ	0423G001	30	3.0%	0.9	32%	0.3	1	4	5	4	2	-40%	2	1.68	Yes	2	2	1	0	1
Damstrom, RL	0423G002	100	3.0%	3.0	32%	1.0	5	6	5	6	4	-20%	5	3.36		5	6	3	1	2
Sword, D	0424G001	60	3.0%	1.8	32%	0.6	3	3	5	3	4	-52%	1	1.01		3	3	0	1	0
Martin, G	0425G001	150	3.0%	4.5	32%	1.4	7	11	5	11	4	20%	11	7.70	Yes	8	8	1	2	1
Beswick, S	0425G002	0							5					0.00		0	0			
Parker, J	0425G003	20	3.0%	0.6	32%	0.2	1	0	5	0	1	-40%	0	0.00		1	1	0	0	0
Williams, GE	0425G004	80	3.0%	2.4	32%	0.8	4	6	5	6	2	1%	6	4.20	Yes	4	5	2	1	1
Christensen, M	0426G001	0							5					0.00		0	0			
Dubois, WD	0426G002	0							5					0.00		0	0			
In Transfer	0426G003	0							0					0.00		0	0			
Robins, K	0432G001	0							5					0.00		0	0			
Cochran, P	0434G001	0							1					0.00		0	0			
Fowler, DW	0434G002	0							4					0.00		0	0			
Goodwin, D	0435G001	60	3.0%	1.8	32%	0.6	3	1	5	1	2	20%	1	0.70		3	3	0	1	0
Wolfenden, DT	0436G001	0							5							0	0			
Schuck, B	0436G002	0							5							0	0			
Stephensen, TJ	0438G001	0							3							0	0			
Glaicar, B	0439G001	0							5							0	0			
TOTAL		1250		36		11	56	71		72	45		62			62		11	13	8

Corrected harvest applies?	Remaining allocation	Quota 2013; guideline 0.41	Other Tools															
			QVP potential	Comment 1														
	1	1	N	Your current allocation differs from your 2007-11 allocation because of full implementation of the harvest allocation policy, and because of a decline in Annual Allowable Harvest.														
	1	2	N	Your current allocation differs from your 2007-11 allocation because of full implementation of the harvest allocation policy, and because of a decline in Annual Allowable Harvest.														
	7	3	N	Your current allocation differs from your 2007-11 allocation because of full implementation of the harvest allocation policy, and because of a decline in Annual Allowable Harvest.														
	4	2	N	Your current allocation differs from your 2007-11 allocation because of full implementation of the harvest allocation policy, and because of a decline in Annual Allowable Harvest.														
	5	2	Y	Your current allocation differs from your 2007-11 allocation because of full implementation of the harvest allocation policy, and because of a decline in Annual Allowable Harvest.														
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	1	1	N	Your current allocation differs from your 2007-11 allocation because of full implementation of the harvest allocation policy, and because of a decline in Annual Allowable Harvest.														
		0																
	3	1	N	Your current allocation differs from your 2007-11 allocation because of full implementation of the harvest allocation policy, and because of a decline in Annual Allowable Harvest.														
Yes	1	1	N	Your current allocation differs from your 2007-11 allocation because of full implementation of the harvest allocation policy, and because of a decline in Annual Allowable Harvest.														
	1	1	N	Your current allocation differs from your 2007-11 allocation because of full implementation of the harvest allocation policy, and because of a decline in Annual Allowable Harvest.														
	7	3	N	Your current allocation differs from your 2007-11 allocation because of full implementation of the harvest allocation policy, and because of a decline in Annual Allowable Harvest.														
	1	1	N	Your current allocation differs from your 2007-11 allocation because of full implementation of the harvest allocation policy, and because of a decline in Annual Allowable Harvest.														
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	1	1	N	Your current allocation differs from your 2007-11 allocation because of full implementation of the harvest allocation policy, and because of a decline in Annual Allowable Harvest.														
Yes	1	1	N	Your current allocation differs from your 2007-11 allocation because of full implementation of the harvest allocation policy, and because of a decline in Annual Allowable Harvest.														
Yes	3	2	N	Your current allocation differs from your 2007-11 allocation because of full implementation of the harvest allocation policy, and because of a decline in Annual Allowable Harvest.														
	3	1	N	Your current allocation differs from your 2007-11 allocation because of full implementation of the harvest allocation policy, and because of a decline in Annual Allowable Harvest.														
	7	3	N	Your current allocation differs from your 2007-11 allocation because of full implementation of the harvest allocation policy, and because of a decline in Annual Allowable Harvest.														
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	1	1	N	Your current allocation differs from your 2007-11 allocation because of full implementation of the harvest allocation policy, and because of a decline in Annual Allowable Harvest.														
Yes	3	2	N	Your current allocation differs from your 2007-11 allocation because of full implementation of the harvest allocation policy.														
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