

Proposed revisions to include in both the Rule and the Strategy

The number of bears available for discretionary mortality in a given year is based on the population estimate inside the DMA from the previous year, the total annual mortality rate (see Table 1), and the non-hunting mortality from the previous year. Total annual mortality numbers are calculated by multiplying the total annual mortality rate by the size for each sex/age cohort. The size of each sex/age cohort varies with population size. Total mortality includes documented known and probable grizzly bear mortalities from all causes including but not limited to: management removals, illegal kills, mistaken identity kills, self-defense kills, vehicle kills, natural mortalities, undetermined-cause mortalities, grizzly bear hunting, and a statistical estimate of the number of unknown/unreported mortalities. The number of non-hunting mortalities for independent females and males from the previous year will then be subtracted from the total number of allowable mortalities for the most recent population estimate resulting in the expected number of independent female and male bears available for hunting allocation. Two examples serve to demonstrate how the expected number of bears available for hunting mortality will be calculated: Examples of the number of independent female and male bears available for hunting inside the DMA based on the 2015 population estimate of 717 are shown in Table 3 and the 2002–2014 average population estimate of 674 are shown in Table 4. For each population estimate, examples are given for low non-hunting mortality in the previous year and high non-hunting mortality in the previous year.

Comment [FTvM1]: Replace with “hunting”? To be consistent with the description and tables

Comment [FTvM2]: Added this sentence to emphasize these are only examples with the purpose to demonstrate the process.

Table 3. Example calculations of allowable total annual mortality inside the DMA and expected number of independent female and male bears available for hunting inside the DMA at the 2015 estimated population size of 717. These are example calculations under 2 scenarios: (1) low non-hunting mortality in the previous year, as occurred in 2014; and (2) high non-hunting mortality in the previous year, as occurred in 2015.

	Estimated population size of 717			
	Low mortality in preceding year (as occurred in 2014)		High mortality in preceding year (as occurred in 2015)	
	Independent Females	Independent Males	Independent Females	Independent Males
Size of sex/age cohort at this population size	250	250	250	250
Total annual mortality rate	9%	20%	9%	20%

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<u>Allowable</u> Total annual mortality number	22	50	22	50
Non-hunting mortality for the previous year	20	29	25	32
Bears available for hunting inside the DMA	2	21	0	18

Comment [FTvM3]: Just want to make sure a term like this is included here; here, I matched the term used in the caption but, as I recall, Appendix C may be using the term "maximum"; either one is probably fine but might be good to be consistent throughout the PS and CS documents.

Mostly just trying to clarify that this would be a maximum number, not necessarily a 'target'.

Table 4. Example calculations of allowable total annual mortality inside the DMA and expected number of independent female and male bears available for hunting inside the DMA at the 2002–2014 average population size of 674. These are example calculations under 2 hypothetical scenarios: (1) low non-hunting mortality in the previous year, as occurred in 2014; and (2) high non-hunting mortality in the previous year, as occurred in 2015.

Comment [FTvM4]: Added these for consistency and not leave any room for misinterpretation....

	Estimated population size of 674			
	Low mortality in preceding year <u>(as occurred in 2014)</u>		High mortality in preceding year <u>(as occurred in 2015)</u>	
	Independent Females	Independent Males	Independent Females	Independent Males
Size of sex/age cohort at this population size	236	236	236	236
Total annual mortality rate	7.6%	15%	7.6%	15%
<u>Allowable</u> Total annual mortality number	18	35	18	35
Non-hunting mortality for the previous year	10	15	18	34
Bears available for hunting inside the DMA	8	20	0	1

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