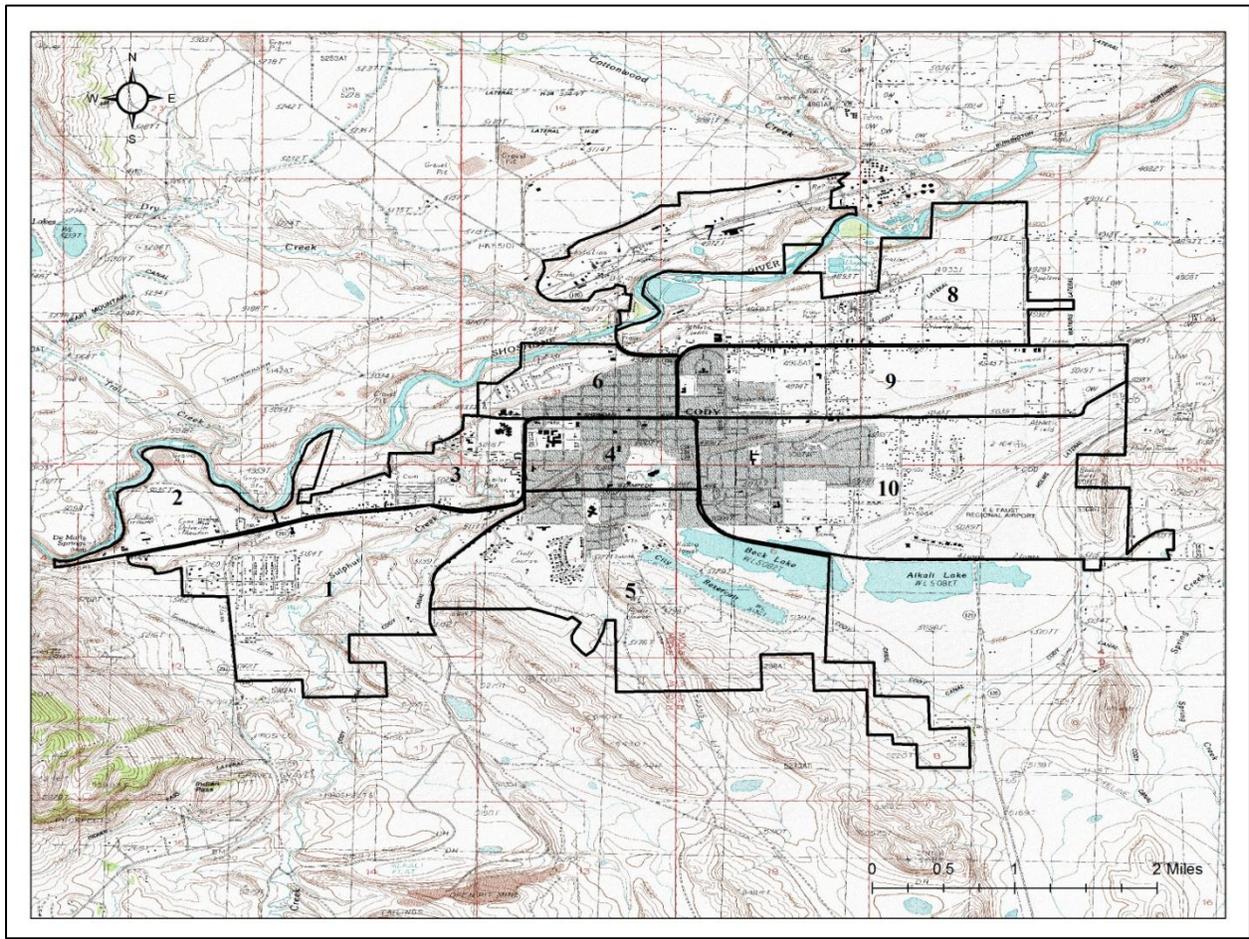


CODY URBAN DEER CLASSIFICATION/TREND SURVEY – 2018

Summary of 2018 Efforts

On 12/10/2018 13 WGF D personnel and one city police officer (Trap Heydenberg) conducted a classification/trend survey of deer within the city limits of Cody. The city was broken out into 10 Count Blocks (Figure 1), and all deer encountered were classified into sex/age categories (adult buck, yearling buck, doe, fawn). Surveys were initiated at approximately 2:00 pm and continued until dark, approximately 5:00 pm. Areas out of, but adjacent to the City Limits of Cody were surveyed soon after, it is unknown the influence of these areas on the number of deer in town. These areas included the County Road 2ABN area immediately north of Cody, and the Cooper Lane and Sage Creek areas immediately to the east of Cody.

Figure 1. Cody urban deer survey count blocks.



Results of 2018 Survey

Date: 12/11/2018

Observers: Maichak, Hodges, S. Olson, Lassetter, D. Smith, Swanson, Class, Mong, Gerharter, Sorensen, Winter, Bendzinski, Altermatt, Heydenberg (Cody PD).

Total Deer Observations (includes white-tailed deer)

Table 1. 2018 observation data for all count blocks.

Location	Ad Bucks	Yrl Bucks	Does	Fawns	Unknown	Total
CB1	4	3	9	8	0	24
CB2	0	0	0	0	0	0
CB3	0	0	8	6	0	14
CB4	1	1	3	4	0	9
CB5	5	1	12	13	0	31
CB6	0	0	8	5	0	13
CB7	6	2	9	7	0	24
CB8	1	0	5	7	0	13
CB9	2	0	10	8	0	20
CB10	11	3	20	10	0	44
TOTAL	30	10	84	68	0	192
48 bucks:100 does, 81 fawns:100 does						
Other Areas Adjacent to Cody City Limits						
2ABN	0	0	9	9	0	18
Cooper Lane	0	0	0	0	14	14
Lower Sage Creek	0	0	0	0	0	0
Upper Sage Creek	4	1	15	13	0	33
TOTAL	4	1	24	22	14	65
21 bucks:100 does, 92 fawns:100 does						

A total of 192 mule deer were observed within the City Limits of Cody, and an additional 65 deer (mule deer and white-tailed deer) were observed in adjacent areas. Deer fawn:doe ratios were 81:100 in the City Limits and 92:100 outside the city limits. Total buck ratios were 49:100 in the city limits and 21:100 out of the city limits. Yearling buck ratios were 12:100 in the city limits and 4:100 out of the city limits.

Summary of Historical Data

The total number of deer observed in the city limits from 2011 to 2018 overall has been showing a decreasing trend (Table 2, Figure 2). The 2018 count was down from the 2017 count of 242 and the average of 263. Within each count block we saw a decrease in total deer counted in 7 count blocks compared to increases in 2 count blocks and no change in 1 count block (Figure 3). We have seen a continual decrease in total number of deer counted in the city limits; however, we continued to see a high buck ratio at 49:100 does and a very high fawn ratio of 81:100 does in 2018. Based on a simple population estimate model that assumes a closed town population, meaning no deer leave town or no new deer come into town, removing no deer out of the population would result in an estimated increase of 20-30 deer. Table 3 shows different removal scenarios with estimated population results.

Deer Counts

Table 2. Historical total count data (including white-tailed deer) within each Cody count block from 2011 to 2018.

Count Block	2011	2012	2013	2014	2015	2016	2017	2018
1	35	42	59	57	60	19	28	24
2	0	0	0	24	9	0	9	0
3	68	41	49	0	26	32	14	14
4	25	16	12	11	15	5	8	9
5	56	46	43	32	43	29	37	31
6	10	18	9	22	33	25	8	13
7	42	25	27	0	0	49	29	24
8	1	8	18	31	34	17	22	13
9	20	33	26	7	22	31	30	20
10	50	30	49	84	41	51	57	44
Total	307	259	292	268	283	258	242	192
Other Areas Adjacent to Cody City Limits								
2ABN	55	55	4	33	55	48	0	18
Cooper Lane	114	93	96	78	78	100	2	14
Lower Sage Cr	43	28	10	38	25	11	10	0
Upper Sage Cr	52	58	52	37	79	52	19	33
Total	264	234	162	186	237	211	31	65

Figure 2. Total numbers of deer (including white-tailed deer) counted in all Cody city count blocks from 2011 to 2018. This figure shows overall change in deer numbers between years. The line denotes the polynomial trend line over the course of the last 8 years.

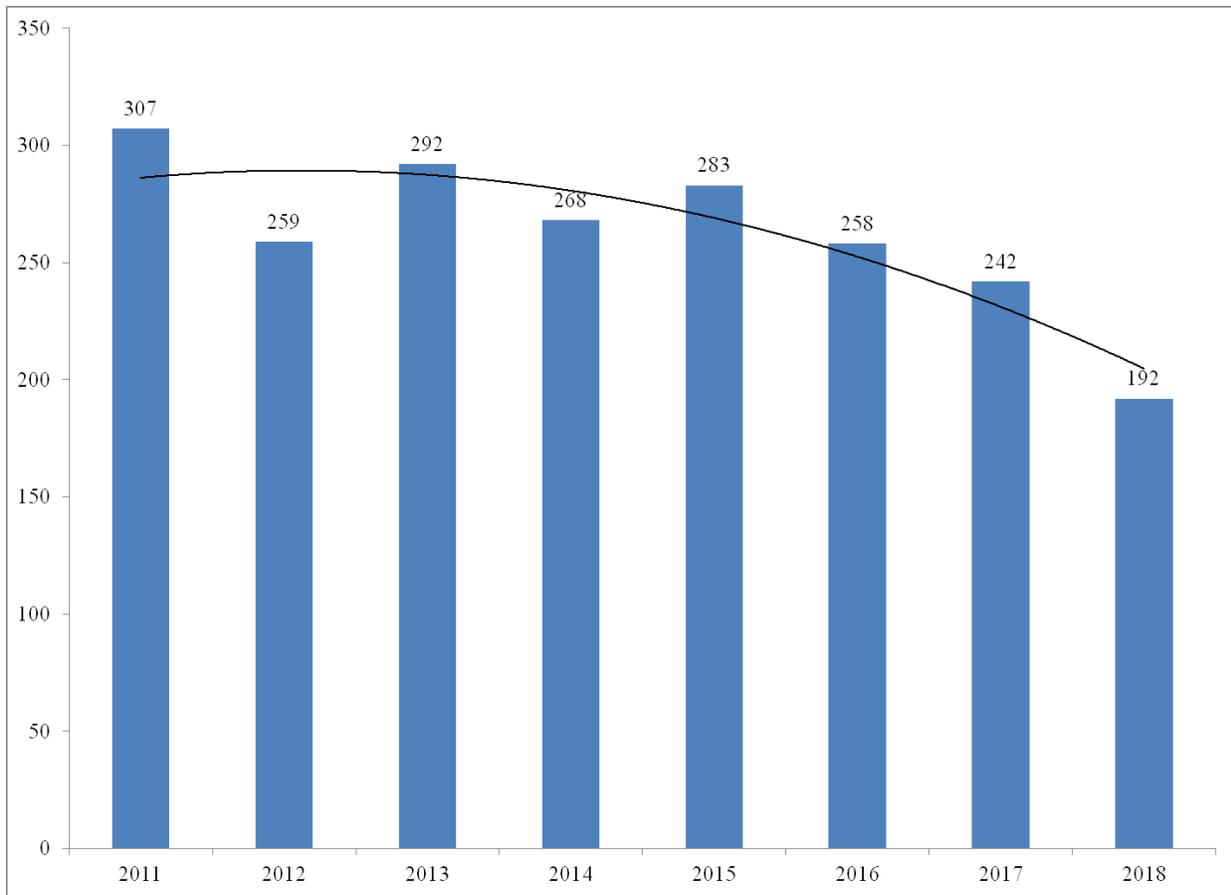


Figure 3. Count block data from 2017 to 2018. This figure shows change in deer numbers within each count block from 2017 to 2018. Shown above each set of bars is the change between years (black = increase or no change in numbers, red = decrease in numbers).

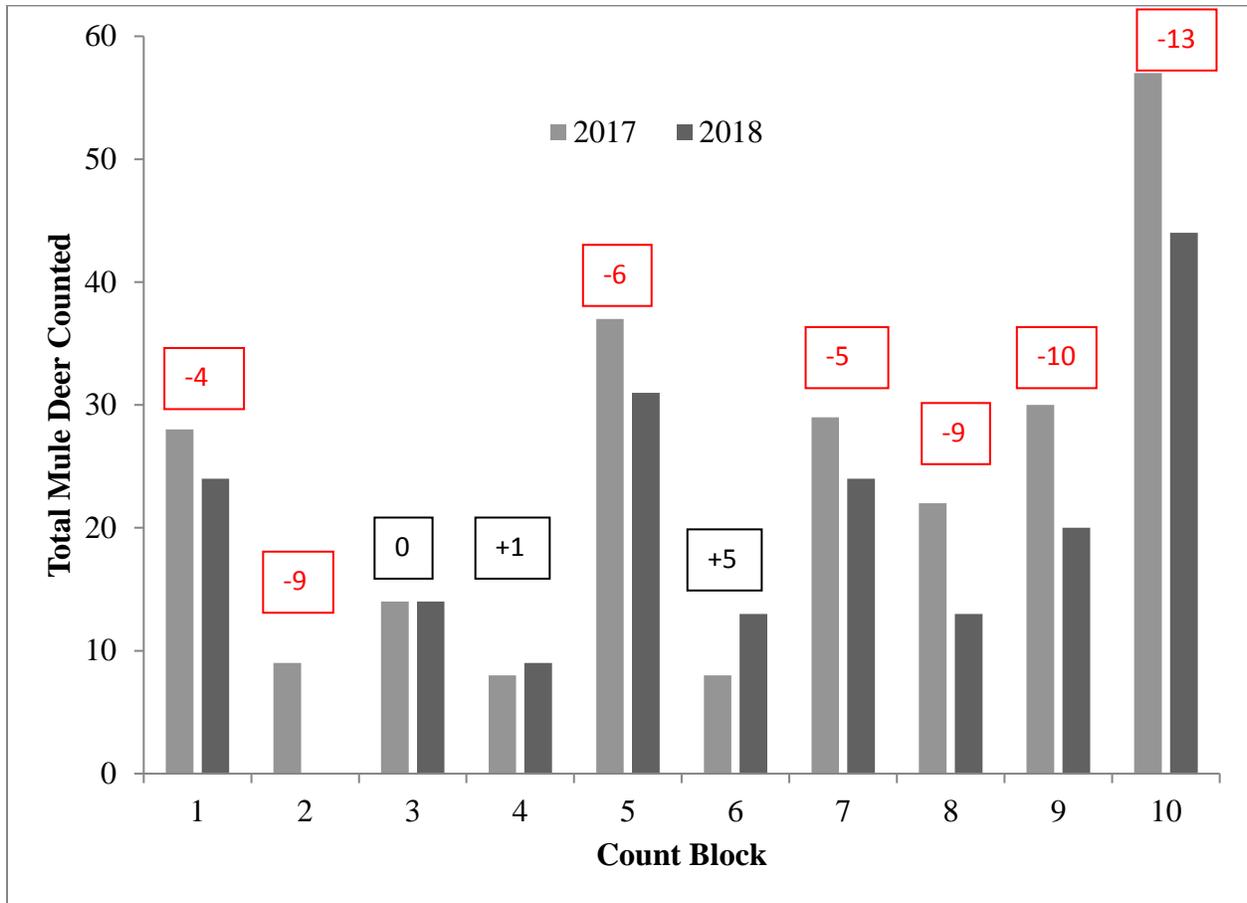


Table 3. Cody town deer estimated influence of different adult doe removal scenarios (0, 25 and 50) on the population. There are many assumptions made in this model that could have influences on the total number estimated for 2019. The estimates do not account for any movement of deer into or out of the town population. The estimates also use the 2018 count data which should be considered a minimum count because it is impossible to have 100% accuracy with a wildlife survey. Annual survival of deer (both adults and fawns) used in the estimates from one year to the next is lower than what we would see in the wild on a “normal” weather year. This lower survival estimate was used to account for the increased risks from car collisions and poor feed quality found in town. The number of potential fawns added to the population in 2019 is based on the average town fawn ratio of 70:100 adult does (2011-2018). Overall, this is a very conservative estimate and may be lower than what is actually found in town.

Zero Adult Doe Removals

Removal #						
0						
2018 Count Data					Annual Survival Rate	
	Does	Fawns	Bucks	Total	Adult Deer	Fawn Deer
	84	68	40	192	90%	75%
# of deer surviving into summer of 2019	76	51	36			
# of potential fawns that will add to total numbers in 2019	53					
			2019 Estimated Total	216		

25 Adult Doe Removals

Removal #						
25						
2018 Count Data					Annual Survival Rate	
	Does	Fawns	Bucks	Total	Adult Deer	Fawn Deer
	84	68	40	192	90%	75%
# of deer surviving into summer of 2019	51	51	36			
# of potential fawns that will add to total numbers in 2019	35					
			2019 Estimated Total	173		

50 Adult Doe Removals

Removal#						
50						
2018 Count Data					Annual Survival Rate	
	Does	Fawns	Bucks	Total	Adult Deer	Fawn Deer
	84	68	40	192	90%	75%
# of deer surviving into summer of 2019	26	51	36			
# of potential fawns that will add to total numbers in 2019	18					
			2019 Estimated Total			
				131		

2018 White-Tailed Deer Counts

Count Block	2011	2012	2013	2014	2015	2016	2017	2018
1	0	2	4	0	7	1	0	4
2	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0
7	0	0	0	0	0	2	0	0
8	0	0	0	4	0	0	0	0
9	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0
Total	0	2	4	4	7	3	0	4
2ABN	0	8	40	6	0	0	0	8
Cooper Lane	0	0	0	0	0	0	0	0
Lower Sage Cr	79	0	16	45	27	0	0	0
Upper Sage Cr	0	12	36	24	67	34	20	9
Total	79	20	92	75	94	34	20	17