

2015 Summer/Autumn Alpine Surveys (pre-Pecos Ground Survey)

Pecos

The 2015 survey was flown from first light July 14th through an entire fuel load, the helicopter was ‘topped-off’ at Santa Fe Airport and the Santa Fe Baldy/Lake Peak portion was just ‘high-graded’. A total of 252 bighorn was observed in 43 groups in 2.7 hours of observation time for a rate of 93 bighorn/hour. This is the greatest number of bighorn observed during the summer survey since 2000. The number of rams (n=88) is the greatest number since 1996. The lamb:’ewe’ ratio was 38:100. The population estimate is 260-290.

The number of ram permits was reduced from 6 to 4 for the 2012 season. All permits have been successful and helicopter surveys have documented more CIV rams than permits issued. Permits were increased this year by 1 permit. The low recruitment between 2007 and 2012 is expected to produce fewer trophy class rams between 2016 and 2021. This partially explains the fact that CIV rams are the largest ram cohort this year.

It may be prudent to open the ewe hunt that is currently on the ‘books’ for the 2017-18 hunt season if the population continues to increase based on a 2016 census. This would be prior to the quadrennial opening of the Big Game Rule and would require some lead-time relative to SGC Meetings. This may require about 20 permits, in 2 hunts, to stabilize this herd. The additional ram permit issued in 2015 seems to have been absorbed by the large percentage of CIV rams and can be considered again in 2016.

Table 1. Bighorn sheep observed in the Pecos Wilderness 2008-2015.

Year	No. Groups	Total	Adult ‘Ewe’	Yrlg. Ewe	Lambs	Class I	Class II	Class III	Class IV	Total Rams
2008s		121	53		16	4	10	19	19	52
2009s	19	98	47		14	5	4	15	11 (1)	36
2010w	12	85	39		5	1	9	19	12	41
2010s	14	103	48		17	4	7	11	16	38
2011f*		122	49	9	19	17 (7)	8	14	6	45
2012s	20	118	69		10	4	8	10	17	39
2013f*		126	51	6	38	10	4	6	4	24
2014s	23	218	118		47	7	17	9	20	53
2014f	11	122	51	8	29	13 (6)	4	6	6	29
2015s	43	252	119		45	13	22	18	31	88

*No helicopter survey this year; fall surveys (f) are ground surveys

Wheeler Peak

The survey was flown on July 15, 2015. Heavy fog/clouds delayed the start of this survey until 0805. Early high winds also contributed to a less than ideal survey. A total of 142 bighorn was observed in 24 groups in 1.4 hours of observation time. The

observation rate was 100 bighorn/hour. The lamb:'ewe' ratio was 27:100 (17:63) during the helicopter survey. In the in the non-Goldhill portion of the range the ratio was 32:100 (14:44) but declined to just 14:100 (5:37) during a partial ground survey on August 4, 2015. Nearly as many 'ewes' were observed during the ground survey as in the helicopter in the non-Goldhill range (37 vs 44) which suggests the decline in lambs was not a sampling artifact. The yearling:ewe ratio was just 9:100. These are the lowest values ever documented for the Wheeler population. The 2014-15 winter severity does not seem to be an explanation for these low numbers.

Based on the low yearling recruitment and the small lamb crop it appears this population has decreased since 2014. Anecdotally, A. Johnson feels like he has seen the fewest number of bighorn this year during his horse-riding business. Because the Goldhill population does not contribute demographically to the La Cal subpopulation that has been trapped, this subpopulation must be considered separately (see Discussion below). The population estimate is 215-260.

On Goldhill 19 'ewes' and 3 lambs were observed. These data suggest a small group of ewes and lambs may have been missed compared with 2010-2014 data (28:8, 26:10 and 28:9). No radiocollared bighorn, from the 2015 capture on the Questa Mine were observed. A fixed-wing flight on 7/9/15 determined that at least 15 of 21 radiocollars deployed on bighorn in the Red River Valley (RRV) were in the RRV. Low clouds on Goldhill prevented me from ascertaining that radiocollared bighorn were in fact above timberline.

The removal of 45 bighorn during the 2014 translocation partially explains the decline from 217 observed during the 2014 helicopter survey. There were 153 'ewes' and lambs in the 2014 survey and with 43 removed there should have been 100-110 'ewes'. Only 63 were observed. We did not fly the Taos Pueblo portion of the habitat and do not know if the 30-40 bighorn were missed, not alive, or on habitat that we did not survey.

The low number of lambs and yearlings suggest that recruitment of the 2014 and 2015 cohorts will NOT replace bighorn removed during the 2014 trap. It therefore appears that a 2016 trap to remove excess bighorn is probably not prudent.

Table 2. Bighorn sheep observed in the Wheeler Peak Wilderness 2008-2015.

Year	No. Groups	Total	Adult 'Ewe'	Yearl. Ewe	Lambs	Total Rams	Class I	Class II	Class III	Class IV	UNID Ram
2008		216									
2009	32	155	60		32	59	3	17	18	21	
2010*	17	136	49		18	69	1	9	22	26	11
2010**		221	72		27	122	9	24	39	37	13
2011***		252	82	10	44	122	20	33	39	24	
2012*	25	184	78		33	74	10	22	13	28	
2014*	28	217	114		37	66	8	13	24	15	
2015*	24	142	63		17	62	7	14	11	23	7
2015g	16	71	33	3	5	21	7	6	5	3	9

**USFS side helicopter only*

***Includes ground census data from Taos Pueblo and USFS/private lands.*

****No helicopter survey this year*

Latir

A total of just 48 bighorn sheep, 29 ‘ewes’, 14 lambs, and 5 rams was observed in 43 minutes for an observation rate of 67 bighorn sheep/hour. An early storm, precluded the completion of this survey. The lamb:’ewe’ ratio was 48:100 from the helicopter and 42:100 from the ground conducted June 29, 2015. The count on the ground survey was 84 total with 43 ewes, 18 lambs, 22 rams (21 classified) and 1 unknown sheep.

The ewe hunt has only removed an average of one-half of the 12 ewes for which licenses are issued during the first 4 seasons. To date, this does not appear to limit the population and the addition of 12 archery licenses in 2015 will be monitored closely to determine the efficacy of these hunters. There is no evidence for an increase or decrease in the population estimate. We think that 1 public ram hunter did not harvest in 2015 and despite this becoming a very difficult hunt because of the high percentage of time rams are using the trees, 4 permits can be issued for 2016. This herd may just have a lower success rate than the standard 95%+for bighorn sheep.

Table 3. Bighorn sheep observed in the Latir Wilderness, July 2009-2015.

Year	No. Grp.	Total	Adult ‘Ewe’	Lambs	Class I	Class II	Class III	Class IV	Unk
2009	7	62	43	19					
2010	10	84	39	21		2	15	3	
2011		108	53 (5)	23	13		13	6	
2012	10	70	41	17	1	4	2	5	
2014	9	73	43	11	2	4	5	8	
2015g	5	84	43	18		5	11	5	2
2015h	5	48	29	14		1	1	3	

Culebres

A helicopter survey was flown July 15, 2015. Just 17 bighorn were observed compared to 35 in 2014. A ground survey on July 30th added 6 immature rams, not seen in the helicopter survey. After 3 years of an increasing population the number observed did not increase (Table 4).

We do not know the proportion of bighorn that winter in Colorado and return to New Mexico each year versus the proportion that are year-round residents. NMDGF and VPR would be interested in deploying 3-5 GPS collars to attempt to answer that question and to ascertain the path between Colorado and New Mexico. If it is determined that most bighorn retreat to Colorado and seasonally move to New Mexico the creation of a high visibility corridor through the subalpine forest may enhance this movement.

Table 4. Bighorn sheep observed in the Culebres Mountains 2010-2015.

Year	Groups	Total	Adult 'Ewes'	Yearl. Ewes	Lambs	Class I	Class II	Class III	Class IV
2010	2	14					7	5	2
2011*	3	17	7		3	2	3		2
2012	2	15	8	2	2	3			
2013	1	27	19		7	1			
2014	2	35	25		8	1	1		
2015h	3	17	12		5				
2015g	3	12	5		1	1	5		

*helicopter survey on 9/28/11

Red River Valley

Following the deployment of 20 radiocollars in February 2015, it appears that a large proportion of the bighorn sheep observed in the RRV during winter, remain in the RRV year-round. Analysis of data from the GPS radiocollars in 2016 will increase our knowledge of this herd. This is the first time that the RRV population has been considered separately and the population estimate is just that. Future management of this herd will largely depend on the analysis of the spatial data and the potential for hunting on public land.

Table 5. Spring lamb:ewe ratios and population estimates for Rocky Mountain bighorn sheep populations in New Mexico, 2015.

Herd	L:E (lambs/100 ewes)	Population Estimate
Pecos	38:100	260-290
Wheeler Peak	30:100—15:100*	215-260
Latir	42:100	125-145
Culebres	42:100	20-25
Rio Grande Gorge	*no survey	250-280
Dry Cimarron	*no survey	105-130
San Francisco River	*no survey	75-90
Turkey Creek	*no survey	20-25
Manzanos	33:100	40-45
Jemez	*no survey	50-55
Red River Valley	*no survey	40-50
Totals		1200-1395 Midpoint=1297

- First ratio is from helicopter survey; 2nd from a ground survey 3 wks later