

2018 Spring Desert Bighorn Helicopter Surveys

Synopsis: Between May 5-11, 2018 surveys were flown in 5 populations: Sierra Ladron, Pelonillos, Big Hatchets, San Francisco River, and Turkey Creek. The Little Hatchet survey was scratched to allow for Turkey Creek survey after the poor helicopter survey in San Francisco River. The pilot was E. Watters and observers were E. Rominger and C. Ruhl.

Sierra Ladron

We flew the longest bighorn sheep helicopter survey ever (11.9 hours of observation time) during a 2 day survey interrupted by one day to repair a transmission failure. The survey was flown between Redonda Mesa on the Laguna Reservation to about 6 miles south of highway 60. This is a straight-line distance of about 70 miles which is only slightly shorter than the area flown during the San Andres survey between Black Mountain and Capitol Peak. We saw more than twice as many bighorn sheep than had ever been observed on this survey (n=121). These bighorn were in 27 groups for an average group size of 4.5. The largest group was 13. The lamb:ewe ratio was 46:100.

Sightability methods were conducted for a portion of the survey time on Days 1 and 2. In these predetermined areas, 12 GPS radiocollars were available and nine were observed for a recapture proportion of 75%. One such missed radiocollar was in with the final group seen so either the collar was not spotted on a counted animal, or she split from the majority of the group. Other radiocollared individuals that were not observed occurred in the mountainous stretch just south of Chicken Mountain and on the southern end of the Chupadera Hills.

Table 4. Bighorn sheep observed or accounted for in the Sierra Ladron, 2008-2018.

Year	Total	Ewes	Y. Ewe	Lambs	L:E	CI	CII	CIII	CIV	Total rams
2008	21	10	2	4	40:100	1		2	2	5
2009	23	11		5	46:100	1	1	2	3	7
2010	29	9	1	7	78:100	2	3	4	3	12
2011	3	1	1	1						0
2012	48	23	1	8	35:100	1	4	6	5	16
2013	57*	18		11	61:100	3	5	10	7	25
2014s	43	12+1	1	11	92:100	4	1	6 +1	5+1	18
2018s	121	58	7	30	46:100	9	3	5	9	27

*Three bighorn were not classified

**Three collars (1 ewe and 2 rams) were not seen

Big Hatchet Mountains

The Big Hatchets were flown for 5.25 hours of observation time. A total of 84 bighorn was observed in 16 groups for an average group size of 5.2. This included a group of 8 observed in the Sierra Rico mountains, north of the Big Hatchets. This was the third time bighorn have been found in the Sierra Ricas. The largest group size was 19. This is the second year of decline in the number of observed bighorn since the 116 seen in 2016. The lamb:ewe ratio was 50:100.

Table 3. Big Hatchet desert bighorn sheep surveys 2010-2018.

Year	Total	Ewes	Y. Ewes	Lambs	CI	CII	CIII	CIV	Total Rams	Lamb:ewe ratio
Jun10	57	22		11	2	4	7	12	25	50:100
May11	47	12	4	9	6	1	9	6	22	56:100
Oct12	71	27		13	4	8	6	13	31	48:100
Oct13	51	21	2	1	9	5	6	7	27	4:100
Oct14	47	18	1	6	3	9	4	6	22	32:100
Nov14	113	46	1	6					58	math
Oct15	99*	47	3	15	2	7	6	19	34	30:100
Apr16	116	47	10	21	7	9	10	12	38	37:100
May17	112	45	6	17	4	16	9	15	44	33:100
May18	84	34	2	18	6	5	8	11	30	50:100

*99 observed+20 missed collars—some may have been Little Hatchets

Peloncillo Mountains

We intended to fly a 2-day survey in the Peloncillo Mountains but the day lost to the transmission failure allowed for just a single day. We searched the area north of I-10 for 29 minutes. Calm winds allowed us to fly a complete survey to Highway 9, with a high-grade to about Burro Canyon.

We saw a total of 98 bighorn in 25 groups (mean=3.9) in 4 hours and 29 minutes of observation time (time of high-grade portion was not included). The largest group was 22 and the lamb:ewe ratio was 36:100. Although multiple of lions were documented in this range, only one lion has been harvested since June 2017.

Through the entirety of the survey we observed 6 of 10 GPS collars. Observed sheep include: PE179, PE176, PE173, PE180, and PE174, PE150, PE169, PE171. Three of the four misses were rams. Only one missed collar was tracked down post survey, a singleton ram.

Table 3. Bighorn sheep observed or accounted for in the Peloncillo Mountains, 2009-2018.

Year	Total	Ewes	Y. Ewe	Lambs	L:E	CI	CII	CIII	CIV	Total rams
2009	44	20	2	10	50:100	2	2	7	1	12
2010	49	17	3	10	59:100	3	3	5	8	19
2011	54	20	4	12	60:100		1	11	7	19
2012	56	26	2	18	69:100	1	1	3	5	10
2013	62	34	5	7	21:100	5	1	8	2	16
2014	46	24	2	10	42:100	5	1	2	2	10
2015	79 (86)	36	6	12	29:100	12	4	2 (+7)*	7	25
2016	103	51	1	38	73:100	3	6	1	3	13
2017	99	42	5	21	45:100	4	5	11	9	29
2018	98	51	2	19	36:100	1	6	12	7	26

*9 CIII rams seen by guide T. Hatch

San Francisco River

This survey was flown with 2.8hr of observation time. Only 29 bighorn sheep were observed for an observation rate of 10.4/hr. There were 11 groups observed and the largest group was 4. The lamb:ewe ratio was just 24:100, however the survey appeared to overlap the peak of lambing as evidenced by very young lambs and a ewe in the act of parturition.

This was the first survey in 23 years where mature rams were not observed, however this survey had never before been flown in May. A survey in June 2006 found 29 bighorn with 6 rams however during a second survey in October 2006, 67 bighorn sheep were observed including 35 rams. In the last 3 surveys, flown in October, the number of rams observed has ranged from 15-27. We did not fly the Mule Creek drainage and subsequent to the survey, outfitter G.T. Nunn told me that he has seen rams in that area during May. In addition, for the first time bighorn sheep were not observed in the ‘state-line’ subpopulation.

Table 6. San Francisco River surveys 2010-2018.

Year	Total	Ewes	Y. Ewes	Lambs	I	II	III	IV	Unk	Total Rams	Type/Time (hr)
Oct 10	44	16	1	2	6	4	4	10	1	24	A (1.6)
Dec 11	17	6		2		1	5	3		9	A (2.1)
Oct 12	11	4		3			1	2		3	A (2.2)
Oct 13	25	8		8	2		5	3		10	A (3.7)
Oct 14	72	27	2	16		1	12	6	8	27	A(2.2)
Oct 15	47	21	2	4	2	1	10	7		19	A(3.2)
Oct 16	58	34		9	1	2	7	4		15	A(3.5)
May 18	29	18	3	5	2		1			3	A (2.8)

Turkey Creek

Because so few rams were observed during the SFR survey, the Little Hatchet survey was cancelled so that we could survey the Turkey Creek herd. This habitat was flown for exactly 2 hours and a single ewe was observed just before the end of the survey in Hell’s Half Acre. In a telephone conversation with one of the adjacent landowners I learned that the maximum number of bighorn seen in recent memory is <15. There has not been a ram harvested from this herd since 2011 and the best ram present could be a very decent ram. In the last year bighorn have been reported and photographed in Silver City as well as the Tyrone Mine.

Table 4. Spring population estimates for desert bighorn sheep populations in New Mexico, 2018. Minimum number of lambs in parentheses.

Herd	L:E (lambs/100 ewes)	Population Estimate
Fra Cristobals *disease outbreak—15% decline estimated	Not flown	280-320*
Caballos	Not flown*	205-230*
Peloncillo	36:100 (19)	130-150
Little Hatchets	Not flown*	85-105*
Big Hatchets	50:100 (18)	120-150
Sierra Ladron	46:100 (30)	125-150*
San Andres	Not flown*	250-290*
Totals		1195-1395 Midpoint=1295

*did not survey—added 40 lambs:100 ewes to fall 2017 estimates