

Bighorn Sheep Foraging Data

collected by Christine Hunter
and Ray Geese

3/92 to 4/92

Collected for Jim Peek, used by Edgar vanderGriff
in his report on carrying capacity on Big Creek
for bighorn sheep.

Bites/min Data

	time sec	no. of bites	
1.	5 min 300	71	lamb
2	4:42 282	57	ewe
3	5 min 300	72	lamb
4	6:20 380	84	lamb
5	4:30 270	49	ewe
6	6:48 408	81	ewe
7			

Date: 2/26/92
 Weather: clear
 Location: above 3rd bench
 No. of sheep: > 18
 Time of day: 1230 - 1600

Comments: Sheep were aware of observers presence. The sheep were feeding in the edge of the timber. Timer recorded were less than 10 min because sheep moved out of sight behind trees.

All times recorded for this and subsequent observations do not include any time when the focal sheep was obviously disturbed by the observer or when the focal sheep stopped feeding for more than 20 seconds.

Bites/min Data

	time	sec	no. of bites	
1	10:00	600	342	lamb
2	10:00	600	326	lamb
3	4:56	296	137	ewe
4	7:30	4 ⁵⁰	247	ewe
5	4:15	255	166	ewe
6	10:00	600	354	ewe
7	9:00	540	302	lamb
8	10:00	600	328	ewe
9	10:00	600	322	ewe
10	7:20	440	223	ewe

Date: 3/2/92

Weather: overcast

Location: 1st bench

No. of sheep: 24

Time of day: 0930 - 1400

Comments: Sheep were not aware of observers presence.
Some green growth was present on Birk,
Poa, & Agsp.

Bites/min Data

	time	sec	no. of bites	
1	10:00	600	375	ewe
2	6:49	409	182	ewe
3	7:20	440	193	lamb.

Date: 3/3/92

location: slope East of 2nd bench

weather: broken overcast.

no. of sheep: 12

time of day:

	time	sec	no. of bites	
1	6:10	370	203	ewe
2	10:00	600	224	ewe
3	10:00	600	238	ewe
4	10:00	600	263	ewe
5	4:42	282	135	ram.

Date: 3/5/92

Location: slope East of 2nd bench

weather: scattered clouds.

no. of sheep: 27

time of day: 1430 - 1600

Comments: For both observations sheep were aware of observers ~~pres~~ presence and subsequently, moved out of the area.

Bites/min Data.

	time		no. of bites			actual		
		sec		bites/min		time		bites/min.
1	5:50	350	211	36.2	ewe	5:50	350	36.2
2	10:00	600	318	31.8	ewe	10:42	642	29.7
3	10:00	600	389	38.9	ewe	10:50	650	35.9
4	10:00	600	418	41.8	ewe	10:22	622	40.3
5	4:40	280	176 176	37.7	ewe	4:42	282	37.5
6	5:00	300	198	39.6	ewe			
7	10:00	600	384	38.4	ewe	10:23	623	37.0

↑
head
down.

Date: 3/20/92

Location: above 3rd bench

Weather:

no. of sheep: 22

time of day: 1200 - 1630

Comments: Sheep were aware of observers presence. Moved back into trees.

These times are based on the definition of feeding as head down only. Actual times are for feeding without standing or moving for more than 20 seconds. Any times for which the sheep were obviously disturbed by the observer are not included.

Feeding Bout Data:

Date: 3/19/92

location: East side above
3rd bench.

10 sheep.

ewe	4:02
mam	3:40

Date: 3/20/92

location: above 3rd bench.

time: 0900 - 1300

14 sheep.

all sheep bedded	0900 - 1000
disturbed by observer	fed 10:05 - 11:10
moved	11:10 - 11:25
bedded.	

2 ewes feeding	11:40 - 11:47
and	11:40 - 11:45

feeding times	65:00
	5:00
	7:00

Feeding bout data.

all-day observation to determine amount of time spent feeding throughout the day.

Date: 4/2/92

Weather: clear

Observed from Horse Mtn.

Group 1

4 sheep

slope above cliff ck.

fed from 0830-0930

bedded until 15:50

time	feeding	bedded	moving	standing
1530		4		
1535		4		
1540		4		
1545		4		
1550	4			
1555	4			
1560 1600	4			
1605	4			
1610	4			
1615	4			
1620	4			
1625	4			
1630	4			
1635	4			
1640	4			
1645	4			
1650	4			
1655	4			
1700	4			
1705	4			
1710	4			
1715	4			
1720	4			
1725	4			
1730	4			
1735	4			
1740	4			
1745	4			
1750	4			
1755	4			
1800	4			

Observation from Horse mtn cont'd.

4/2/92

Group 2: 30 sheep.

Group on East side above 3rd bench - halfway to ridge.

	feeding	bedded	moving	standing
9:45	3			
9:50	3			
9:55	3			
10:00	3	5		
10:05	2	6		
10:10	2	6		
10:15	2	7		
10:20	2	8		
10:25	2	8		
10:30	0	11		
10:35	2	9		
10:40	0	11		
10:45	0	11		
10:50	0	11		
10:55	0	11		
11:00		8		3
11:05		11		
11:10	1	10		
11:15		11		
11:20		11		
11:25		12		
11:30		13		
11:35		15		
11:40		15		
11:45		15		
11:50		15		
11:55		15		1
12:00		16		
12:05		16		
12:10		16		
12:15	4	15		
12:20	4	12		
12:25		9		
12:30		5		
12:35		4		
12:40		5		
12:45		4	1	
12:50		3		2
12:55		4		1
13:00		4		1
13:05		4		
13:10	3	4		
13:15	2	2		
13:20		4	1	
13:25		5		2
13:30		6		1
13:35		7		1
13:40		4		2
13:45		6		
13:50		5		1
13:55		5		1
14:00		6		

This observation data was an attempt to find a better way to determine the amount of time the sheep spend feeding. From our observations this winter it appears that the sheep spent more time feeding during January and February when it was not uncommon for them to feed all day. This may have been because it was harder for the sheep to find food ~~at~~ when there is ~~so~~ snow on the ground or because they need more energy to keep warm. As the weather has warmed up the sheep seem to feed primarily in the morning and evening and spend much of the day bedded.

A day-long observation done once a week or once every two weeks could be used instead of the one-hour observations. I recorded the activity of all visible sheep every five minutes. This data may be difficult to analyze but perhaps some way of determining the percentage of sheep feeding at any given time can be worked out, or an average number of sheep and the time spent feeding for the day.

This data does point out some of the problems with any observations i.e. the sheep spend a lot of time along the edge of the timber where they can only be seen for part of the observation regardless of where the observation is being done from.

Supplementary measurements for plot 3A

cover values on grass map

4/00/92

Plot	Agsp			Rosa			Bark			Field		
	% cover	% cover	% cover	% cover	% cover	% cover	% cover	% cover	% cover	% cover	% cover	
1	—	—	—	0.5	0.5	0.5	—	—	—	—	—	
2	—	0.5	0.5	0.5	0.5	0.5	—	—	—	—	—	
3	—	0.5	0.5	0.5	0.5	10.25	—	—	—	—	—	
4	—	10.25	—	5.10	5.10	5.10	—	—	—	—	—	
5	—	5.10	—	0.5	0.5	0.5	—	—	—	—	—	
6	—	10.25	—	5.10	5.10	5.10	—	—	—	—	—	
7	—	5.10	5.10	0.5	0.5	0.5	—	—	—	—	—	
8	—	10.25	25.50	0.5	10.25	10.25	—	—	—	—	—	
9	—	0.5	10.25	—	0.5	0.5	—	—	—	—	—	
10	—	—	—	0.5	0.5	5.10	—	—	—	—	—	
11	—	—	—	—	—	—	—	—	—	—	—	
12	—	5.10	5.10	0.5	0.5	0.5	—	—	—	—	—	
13	—	—	—	5.10	0.5	5.10	—	—	—	—	—	
14	—	5.10	5.10	5.10	5.10	0.5	—	—	—	—	—	
15	—	5.10	5.10	0.5	0.5	—	—	—	—	—	—	
16	—	5.10	—	0.5	0.5	—	—	—	—	—	—	
17	—	10.25	10.25	0.5	0.5	0.5	—	—	—	—	—	
18	—	0.5	10.25	0.5	0.5	0.5	—	—	—	—	—	
19	—	10.25	—	—	—	0.5	—	—	—	—	—	
20	—	0.5	—	0.5	0.5	—	—	—	—	—	—	
21	—	5.10	—	0.5	0.5	—	—	—	—	—	—	
22	—	—	—	—	—	0.5	—	—	—	—	—	
23	—	10.25	25.50	5.10	5.10	10.25	—	—	—	—	—	
24	—	0.5	—	0.5	—	25.50	—	—	—	—	—	
25	—	0.5	—	0.5	0.5	0.5	—	—	—	—	—	
26	—	10.25	25.50	—	—	5.10	—	—	—	—	—	
27	—	5.10	—	—	—	5.10	—	—	—	—	—	
28	—	—	—	0.5	0.5	5.10	—	—	—	—	—	
29	—	25.50	10.25	5.10	5.10	0.5	—	—	—	—	—	
30	—	—	—	10.25	0.5	0.5	—	—	—	—	—	

Combined percentages (for 90 plots)
 Agsp Rosa Bark Field
 7.1% 4.4% 0.2% 14.0%

Calculated percentages from Daubenmire plots.
 Agsp Rosa Bark Field
 5.5% 4.4% 25% 12.3%

cover for plot 3A