

Livestock Grazing Management & Research Activities

Beginning in November 2006, a new livestock grazing management scheme was implemented on the Santa Rita Experimental Range (Santa Rita) under the supervision of Dr. George Ruyle, School of Natural Resources and the Environment and in cooperation with Andrew McGibbon who owns the livestock. This new management replaces the “Santa Rita Grazing System” experiment that was in place since 1972 (Martin and Severson. 1988. *J. Range. Man.* 41:291-295, and Mashiri et al. 2008. *Rangeland Ecol. Manage.* 61:368-379).

The new scheme applies adaptive grazing management principles to establish expected dormant season grazing capacity based on summer forage production, and summer grazing periods of only 10 days to avoid the re-grazing of plants in the summer growing season (Noelle et al. 2021. *Frontiers in Veterinary Science*, section Animal Behavior and Welfare. 7, 1023. <https://doi.org/10.3389/fvets.2020.600734>). The adaptive management elements include 1) use of summer production values to re-adjust stocking rates each fall, 2) start and duration of the summer growing season to determine when livestock should be moved between pastures, and 3) flexible pasture use to support the variety of research projects being performed on the Santa Rita.

Currently, there are two herds moving through multiple pastures to consolidate livestock handling activities and more precisely manage grazing use. The large herd of ~400 animals will move through a combination of 21 pastures, 15 are located on the Santa Rita, and 3 on the Coronado National Forest, and 3 on Arizona State Lands. The small herd, ~80 animals, will move through 11 pastures all but two are on the Santa Rita. Brett Blum and associates are measuring forage production and utilization, livestock movement patterns, and developing methods to forecast forage availability and likelihood of re-grazing plants in the summer growing season.

Researchers, instructors, and other interested parties are advised to consult the accompanying tables and maps to learn the specific location, timing and number of livestock expected in each pasture; as well as the actual use in those areas. Be aware that 1) some animals may appear in pastures outside these expected periods because of handling problems, 2) livestock use of unintended pastures is not shown in the report below, and 3) adjustment to timing and numbers can be made to accommodate research and instruction needs.

Since November 2008, a new practice has been implemented by opening pasture gates 1-2 days before the official start date for grazing in the new pasture. Typically, the gates will open 1 day earlier, but the 2-day window will be common when there are frequent moves (every 10 days) during the summer growing season. This practice is being adopted to reduce the separation of calves from cows during the move between pastures.

Planned Livestock Grazing on the Santa Rita Experimental Range

01 November 2023 - 31 October 2024

Below are the projected livestock grazing days for the “large herd” and “small herd” of livestock on the Santa Rita Experimental Range for the grazing year 01 November 2023 - 31 October 2024 and extended beyond October 2024 for planning purposes. Projected grazing use is based on our current best estimates of available forage and the commencement of summer rains. The projected dates and herd size may change as forage conditions change and monitoring data are analyzed.

Both large and small herd plans are followed by a figure comparing the cumulative projected and actual grazing days on the SRER throughout the grazing season. Grazing Days for a month is the sum of the number of cattle present each day for that month, and Cumulative Grazing Days is the sum of all months before and including the current month. Projected Grazing Days are based on the grazing plan starting on November 1st. Actual Grazing Days are reported monthly by the Santa Rita Ranch. Cumulative grazing days consider only pastures on the SRER. Private, Forest Service, and State pastures outside the SRER are not included.

Significant changes in the grazing schedule will be announced on the list serve srer@list.cals.arizona.edu. Assume accuracy of projected dates to increase as those dates get closer. See the Grazing Management Map (below) for spatial details. Direct questions to Brett Blum (bcb@arizona.edu) or Mitch McClaran (mcclaran@u.arizona.edu).

Plan Update 31 October 2024

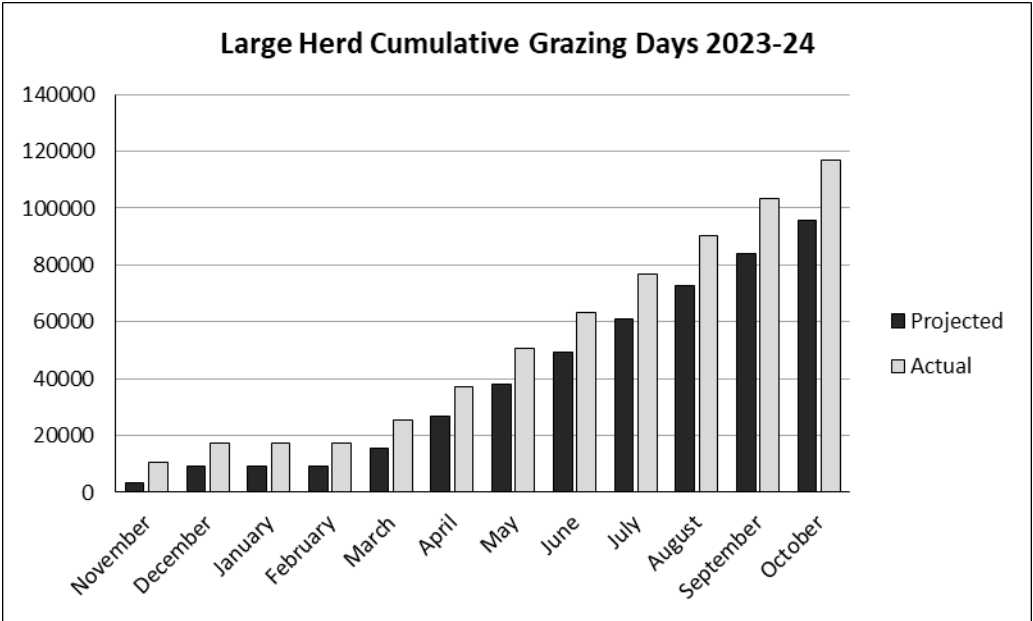
SRER Large Herd (Herd 1 on map)

Plan Update:

31-Oct-2024

Year	Pasture (acres)	Projected					Actual				
		Herd Size (AU's)	Start Date	End Date	Days	Animal Days per Acre	Herd Size (AU's)	Start Date	End Date	Days	Animal Days per Acre
2023	2S (1389)						350	01-Nov	08-Nov	8	1.9
	12B (1610)	375	22-Nov	01-Dec	10	2.3	350	18-Nov	05-Dec	18	3.9
	12E (2562)	375	02-Dec	16-Dec	15	2.2	350	06-Dec	20-Dec	15	2.0
2024	Canoa N/S* (5513)	375	17-Dec	14-Feb	60	4.1	350	21-Dec	08-Mar	79	5.0
	State* (2778)	375	15-Feb	15-Mar	30	4.0					
	12C (1886)	375	16-Mar	14-Apr	30	6.0	350	09-Mar	27-Mar	19	3.5
	12A (995)	375	15-Apr	19-Apr	5	1.9	311	28-Mar	01-Apr	5	1.6
	140 Trap (209)	375	20-Apr	22-Apr	3	5.4	350	09-Nov	17-Nov	9	15.1
							153	01-Apr	02-Apr	2	1.5
	3 (4104)	375	23-Apr	12-May	20	1.8	416	17-Apr	16-May	30	3.0
	5S (4699)	375	13-May	11-Jun	30	2.4	404	16-May	24-Jun	40	3.4
	5M (3448)	375	12-Jun	26-Jun	15	1.6	396	21-Jun	08-Jul	18	2.1
	5N (2025)	375	27-Jun	20-Jul	24	4.4	433	09-Jul	05-Aug	28	6.0
	15 (4217)	375	21-Jul	30-Jul	10	0.9	390	06-Aug	03-Sep	29	2.7
	6D (1978)	375	31-Jul	19-Aug	20	3.8	409	31-Aug	28-Sep	29	6.0
	6B (1677)	375	20-Aug	29-Aug	10	2.2	196	28-Sep	31-Oct	34	4.0
	6A (2686)	375	30-Aug	18-Sep	20	2.8	374	19-Oct	31-Oct	13	1.8
	6E (910)	375	19-Sep	28-Sep	10	4.1					
	2N (4585)	375	29-Sep	07-Nov	40	3.3					
	2S (1389)	375	08-Nov	27-Nov	20	5.4	323	09-Apr	16-Apr	8	1.9
	140 Trap (209)	375	28-Nov	30-Nov	3	5.4					
	12A (995)	375	01-Dec	05-Dec	5	1.9					
	12B (1610)	375	06-Dec	15-Dec	10	2.3					

* These pastures are not part of the Santa Rita Experimental Range; and Canoa pastures not yet split.



Comparison of Projected and Actual Cumulative Grazing Days for the Large Herd in 2023-24. In this grazing year, cattle were Projected to be on the Santa Rita pastures for 255 days, and through October 2024, they have been on for 287 days.

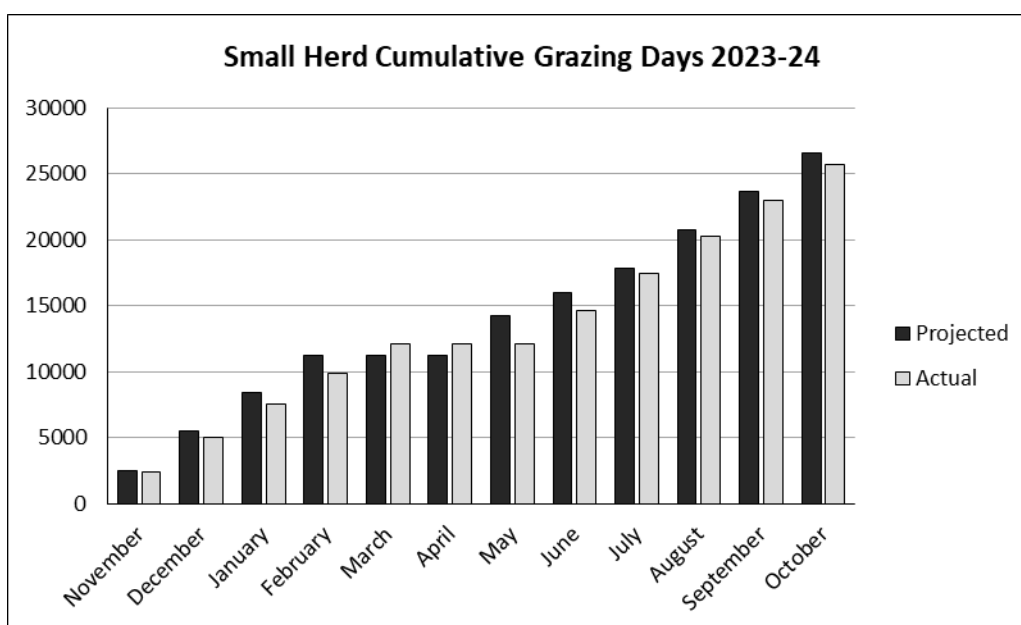
SRER Small Herd (Herd 2 on map)

Plan Update:

31-Oct-2024

Year	Pasture (acres)	Projected					Actual				
		Herd Size (AU's)	Start Date	End Date	Days	Animal Days per Acre	Herd Size (AU's)	Start Date	End Date	Days	Animal Days per Acre
2023	UA-E (156)						82	01-Nov	02-Nov	2	1.1
	UA-F (336)						82	03-Nov	13-Nov	11	2.7
	1 (782)	95	24-Nov	02-Jan	40	4.9	82	14-Nov	31-Jan	79	8.3
2024	8 (815)	95	03-Jan	16-Feb	45	5.2	82	01-Feb	13-Mar	42	4.2
	11C (214)	95	17-Feb	01-Mar	14	6.2	90	14-Mar	26-Mar	13	5.5
	FS Ranger Pasture	95	02-Mar	30-Apr	60						
	4 (670)	95	01-May	19-Jun	50	7.1	90	03-Jun	12-Jul	40	5.4
	Private Pasture	95	20-Jun	12-Jul	23		90	27-Mar	02-Jun	68	
	11B (212)	95	13-Jul	26-Jul	14	6.3	90	13-Jul	21-Jul	9	3.8
	UA-A (549)	95	27-Jul	08-Aug	13	2.2	90	22-Jul	04-Aug	14	2.3
	UA-C (365)	95	09-Aug	28-Aug	20	5.2	90	05-Aug	28-Aug	24	5.9
	UA-H (453)	95	29-Aug	17-Sep	20	4.2	90	29-Aug	16-Sep	19	3.8
	UA-G (441)	95	18-Sep	07-Oct	20	4.3	90	20-Oct	31-Oct	12	2.4
	UA-D (357)	95	08-Oct	27-Oct	20	5.3	90	17-Sep	30-Sep	14	3.5
	UA-E (156)	95	28-Oct	04-Nov	8	4.9	90	01-Oct	19-Oct	19	11.0
	UA-F (336)	95	05-Nov	24-Nov	20	5.7					

*These pastures are not part of the Santa Rita Experimental Range. Forest Service Pastures include Ranger and Florida pastures.



Comparison of Projected and Actual Cumulative Grazing Days for the Small Herd in 2023-24. In this grazing year, cattle were Projected to be on the Santa Rita pastures for 283 days, and through October 2024, they have been on for 298 days.

SRER Pastures

Plan Update:

31-Oct-2024

Pasture (acres) Use		Projected				Actual			
		Herd Size (AU's)	Start Date	End Date	Grazing Days	Herd Size (AU's)	Start Date	End Date	Grazing Days
UA-E (156)	Bull calves								
6C (427)	temporary					374	11-Oct	18-Oct	8
Huerfano Trap	temporary								
11A (204)	temporary								
Madera Trap	Bull calves					14			18
16 (636)	temporary								
9 (955)	TBD								
10 (603)	TBD								
12D (1079)	temporary					40	15-Nov	17-Nov	3
302 (132)	temporary								

Map of Livestock Grazing Patterns for Two Herds on Santa Rita Experimental Range

