



2008

# VCNP Livestock Grazing Report



Photo: Molly Padgett

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Valles Caldera National Preserve

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## **2008 Livestock Grazing Report**

### **Valles Caldera National Preserve**

#### **Executive Summary**

The Valles Caldera Trust manages for the multiple use and sustained yield of renewable resources including timber and forage. In FY 2008, the Trust ran the largest cattle operation since federal acquisition, with 1,960 yearling steers grazing on the Preserve from June through September. The program returned \$58,172 to the Trust. This return included a grazing fee and a bonus for a weight gain of more than 2.3 pounds per day.

During the grazing season, the steers were rotated on a regular basis between various pastures based on available forage and the grazing capacities that were determined earlier in the year. This was considered a high intensity management grazing strategy implemented in an attempt to minimize long-term ecological impacts. The livestock contractor was careful in following the guidance and recommendations of Preserve staff and did an excellent job at managing the steers as best as possible. Weaknesses in the location and condition of infrastructure (fences and water sources) became more apparent with the larger herd (more than double of previous years). Cattle had a larger impact on the recreation program than was anticipated because of the intensive grazing method employed during the grazing season.

Besides providing revenue, the FY 2008 program also provided information important in completing the EA for the comprehensive plan for the Multiple Use and Sustained Yield of Forage. This information will be useful in moving forward with future grazing programs. The Trust will need to decide which type of livestock program and which grazing techniques will be most beneficial to the long-term sustainability of the goals and objectives of the Preserve.

## Introduction

The lands of the Valles Caldera National Preserve (VCNP) have been grazed for as long as man has tended domestic livestock. The name "Valles Caldera" comes from a geologic term for the unique collapsed volcanic dome. The ranch was long known as Baca Location 1. The common name for the largest mountain valley, viewed from NM State Highway 4, is the Valle Grande.

The 89,000+ acre Valles Caldera National Preserve was created by the federal government in 2000. A wholly-owned federal corporation, guided by a Board of Trustees, the Preserve represents a new approach for managing public lands. The Valles Caldera Preservation Act of 2000 directs the Trust to operate as a working ranch, while protecting and preserving the health of the land and its resources. Multiple use and sustained yield of the renewable resources and public use of and access to the Preserve for recreation are also among the mandates in the Act.

Before each livestock grazing season, "range readiness" is assessed to determine the number of cattle that will be allowed to graze at the Preserve. A range readiness report was prepared and presented to the public for the 2008 grazing season. A multi-disciplinary team of resource managers (Trust biologists, BLM range specialists, USDA ARS range scientists, university scientists, private consultants and the public) assessed rangeland conditions in the spring, prior to livestock entering the Preserve. The assessments included current and forecasted climate conditions (especially precipitation and temperature), soil moisture, hydrologic data from stream gauges on the Jemez River, standing crop biomass (available forage) and stubble height of various grass species (an indication of recent/current grazing pressure from elk). Livestock carrying capacity was calculated in animal units (AUs) and animal unit months (AUMs) based on the assessment data. 2008 range conditions on the Preserve were good; plant cover exceeded 98% in the valles.

Cattle stocking rates on the Preserve are adjusted upward or downward depending on resource conditions. For example, the 2007 and 2008 range readiness reports found excellent range conditions that would support the maximum allowable numbers of steers (2,000) under the existing environmental assessment. In contrast, the drought of 2005-2006 resulted in a very poor range conditions in the spring of 2006, which resulted in the decision to suspend livestock grazing for the summer of 2006. The process of formal, multi-disciplinary range readiness assessments each spring provide a science-based adaptive management tool for the livestock operations program.

The Trust's 2008 grazing program was awarded through a competitive process. For the 2008 grazing season, 1,960 yearling steers were brought onto the Preserve on a four

month grazing schedule. The Trust received \$58,172 in grazing fees. For the second time since federal acquisition, the Trust made a profit from livestock grazing, with this year's profits being a substantial increase from last year's profits.

### **Determining Range Conditions and Grazing Capacities**

The initial number of head allowed on the Preserve is determined using data intensive field assessments. The purpose of this type of range assessment is to determine the potential ecological outcome of the proposed livestock grazing program on the VCNP. The 2008 report was based on the analyses of field data collected in May 2008 by VCT staff, volunteer citizens from the Sierra Club, and University of New Mexico climatology scientist Douglas Moore, and provides an evaluation of the condition of the pastures, including amounts of available forage, potential for continued forage growth in terms of soil moisture, and water availability in streams and stock tanks. In addition, a report on projected climate conditions for the summer of 2008 was provided for the purpose of anticipating possible temperature levels and precipitation amounts in regard to sustained production of forage for livestock and wildlife.

The results of the forage assessments indicated that standing crop biomass had improved considerably since the spring of 2006, and were comparable to the record amount observed in 2007. The results of the May, 2008, sampling was as follows:

Pasture habitat type	Standing Crop Biomass (pounds/acre)		
	2006	2007	2008
Grazeable Woodland	547	1,088	698
Mountain Meadow	894	1,892	1,364
Mountain Valley	1,010	1,332	833
Riparian	988	1,840	1,300

#### *Steer/heifer Stocking Quantity Calculations:*

Based on the original Environmental Assessment (E.A.) for the Interim Grazing Strategy (13 August, 2002), under which VCNP livestock grazing activities have been conducted since 2002, and incorporating the Amendment to the E.A. (March 2003), the calculations for estimating the maximum number of steers to be supported on the VCNP in 2008 were derived as follows:

1. An Animal Unit Month (AUM) is equivalent to 900 pounds air-dry forage consumed per month.
2. Harvest of forage should remain below 40% of annual forage production so as not to inhibit forage plant root growth.
3. As stated in the 2002 E.A., the analysis allocates 35% of available forage towards livestock in Mountain Valley (upland) habitat, and 15% in Mountain Meadow habitats (in or near wetlands and riparian zones).
4. Grazing capacities (AUMs) for Mountain Valley are obtained by multiplying acres assigned for livestock capacity times forage production (pounds/acre) estimates, and multiplying this total by 0.35 (35% livestock utilization allowed), and dividing by 900 pounds/month for an AUM. Grazing capacities for Mountain Meadow sites are obtained by multiplying assigned acres times forage production (pounds/acre) estimates, and multiplying this total by 0.15 (15% livestock utilization allowed), and dividing by 900 pounds/month for an AUM. The two capacity estimates are then added together to yield the total VCNP stocking AUM number.

The total acres assigned for livestock were 14,227 acres of open grasslands in the three major valles (Valle Grande, Valle San Antonio, and Valle Toledo; *ref.* E.A. Amendment, March 2003, Table 1-2, p. 5).

Based on the VCNP vegetation map, Mountain Valley habitat constitutes 61% of the grassland habitat on the VCNP, while Mountain Meadow/Riparian habitat (wet meadows, wetlands and riparian zones) constitutes 39%.

Therefore, the total pounds of forage available in spring, 2008, in the Mountain Valley habitat was computed as:

*14,227 acres X 0.61 (proportion of MV habitat type) X 833 pounds/acre = 7,229,165 pounds.*

In the Mountain Meadow habitat, the available forage was:

*14,227 acres X 0.39 (proportion of MM habitat type) X 1,364 pounds/acre = 7,568,195 pounds.*

A utilization rate of 35% was assigned to livestock in the Mountain Valley habitat, and 15% in the Mountain Meadow habitat, giving the following for available forage assignable to livestock:

*Mountain Valley: 7,229,165 pounds X 0.35 = 2,530,208 pounds forage*

*Mt. Meadow/Riparian: 7,568,195 pounds X 0.15 = 1,135,229 pounds forage*

*Total = 3,665,437 pounds forage available*

The total forage available (3,665,437 pounds) divided by 900 pounds/AUM yields a total of 4,073 AUMs.

The VCNP livestock grazing program is set for 4 months (1 June through 30 September; *ref.* 2002 E.A., p. 33), and therefore the total number of Animal Units (AU) was 1,018 (derived from 4,073 AUMs divided by 4 months).

As defined in the 2002 E.A. (*ref.* p. 30), 1-year old steers/heifers are equivalent to 0.7 Animal Unit (due to their smaller body weights and forage consumption amounts relative to a full-grown cow or bull) and therefore the total steer/heifer capacity estimated for 2008 was:

*1,018 Animal Units / 0.7 = 1,455 steers/heifers.*

This herd size could be supported if no new production of forage occurred during the summer months. However, since 2008 soil moisture was excellent, it was anticipated that several more weeks of new forage would occur after the end of the original field studies. The contractor was therefore allowed to bring in a herd of up to 2,000 head. It was estimated that a herd size of 2,000 could be supported until August 27<sup>th</sup>, again assuming no new growth. The Trust monitored the range conditions and available forage in July and August to ensure that the utilization rates did not exceed prescribed limits. The contractor chose to bring in 1,960 head of steers.

## **Grazing Proposals**

In 2008, the Trust awarded grazing through a competitive process. A request for proposals was issued and ranchers and organizations submitted proposals for an “ecological and economically sustainable” program. The winning 2008 proposal was awarded to Gary Morton of Las Vegas, New Mexico. Mr. Morton’s proposal was selected based on criteria that considered economical, ecological, and social benefits, and evaluated the soundness of the proposed management plan. Mr. Morton’s proposal was selected from a total of six proposals submitted to the Valles Caldera Trust for consideration. A panel composed of members of the Trust board and staff reviewed the proposals. A copy of the winning proposal can be found at:

<http://www.vallescaldera.gov/ranching/grazing/2008%20Selected%20Proposal.pdf>

## 2008 Grazing Season

This year's cattle were owned by Rick Paul from Oregon and managed by Gary Morton an operator from Las Vegas, New Mexico. The cattle were originally purchased in Mexico, transported to Arizona and then to the Preserve, and lastly sold to a feed lot in Texas at the end of the grazing season.

The 1,960 steers arrived at the Preserve on May 27<sup>th</sup> through May 29<sup>th</sup>. 1,953 steers were shipped out of the Preserve on Sept 30<sup>th</sup> and Oct 1<sup>st</sup>. There were six confirmed steer deaths and one missing steer. The steers weighed an average of 460 lbs coming onto the Preserve and weighed an average of 764 lbs coming off the Preserve; therefore, the average weight gain was 304 lbs per steer. This represented an average daily weight gain of 2.5 lbs per head.

During the grazing season, the steers were rotated on a regular basis between various pastures based on available forage and the grazing capacities that were determined earlier in the year. This was considered a high intensity management grazing strategy implemented in an attempt to minimize long-term ecological impacts. Gary Morton, and his crew, Cody Lewis and B.J. Browning, were careful in following the guidance and recommendations of Preserve staff and did an excellent job at managing the steers as best as possible. Mr. Morton and his crew were considerate of the recreation activities at the Preserve and attempted to move the cattle whenever possible to avoid conflicts. Weaknesses in the location and condition of this infrastructure (fences and water sources) became more apparent with the larger herd (more than double of previous years). Cattle had a larger impact on the recreation program than was anticipated because of the intensive grazing method employed during the grazing season. This issue is discussed in greater detail under the Public Comments section of this report.

In addition to running cattle, Gary Morton (a well known cowboy Artist) donated a painting for fund raising purposes to be used for restoration of the Bond Cabin, a historic building, on the Preserve. Mr. Morton also hosted a community based education field trip from the Santa Fe Indian School and discussed art and agrosience. Students attending the field trip were from the following pueblos: Cochiti, Santo Domingo, San Felipe, Oke Owingeh, Santa Clara, Taos, and Laguna.

As mentioned earlier, grazing capacities for the Valles Caldera Mountain Valley areas are obtained by multiplying acres assigned for livestock capacity times forage production (pounds/acre) estimates, and multiplying this total by 0.35 (35% livestock utilization allowed), and dividing by 900 pounds/month for an AUM. Grazing capacities for Mountain Meadow sites are obtained by multiplying assigned acres times forage

production (pounds/acre) estimates, and multiplying this total by 0.15 (15% livestock utilization allowed), and dividing by 900 pounds/month for an AUM. The two capacity estimates are then added together to yield the total VCNP stocking AUM number. The allocations for both livestock and wildlife are aimed at remaining below a 40% total utilization. Field data collected at the end of the 2008 grazing season indicate that the 40% allocation goal was met. Table 1 Shows the VCNP forage utilization data, all of 2008 data indicate utilization below the goal of 40%. As expected, not all areas were grazed equally. Table 2 lists the average forage left standing after the livestock were removed for 2002-2008. The 2008 data indicate a notable decrease in the forage in riparian and mountain meadow habitats compared to 2006 and 2007.

*Table 1. VCNP forage utilization (based on ratios of biomass outside vs. inside exclosures from autumn sampling, after livestock have left the VCNP).*

<b><u>Average Forage Utilization (%)</u></b>	<b><u>2002</u></b>	<b><u>2003</u></b>	<b><u>2004</u></b>	<b><u>2005</u></b>	<b><u>2006</u></b>	<b><u>2007</u></b>	<b><u>2008</u></b>
Grazeable Woodland (GW)	54.2	37.9	34.5	29.1	24.0	29.3	13.4
Mountain Valley (MV)	27.1	22.7	18.4	17.6	15.6	14.8	15.7
Mountain Meadow (MM)	19.1	30.2	41.0	19.8	14.3	20.8	26.9
Riparian (RR)	29.3	41.7	45.3	33.2	23.6	22.8	29.6
<b>Overall Average Utilization:</b>	<b>32.4</b>	<b>33.1</b>	<b>34.8</b>	<b>24.9</b>	<b>19.4</b>	<b>21.9</b>	<b>21.4</b>

*Table 2. Average amount of forage (dead and live) left standing in autumn after livestock have left the VCNP. Units are lb/acre.*

<b><u>Fall Standing Crop Biomass (lb/acre)</u></b>	<b><u>2002</u></b>	<b><u>2003</u></b>	<b><u>2004</u></b>	<b><u>2005</u></b>	<b><u>2006</u></b>	<b><u>2007</u></b>	<b><u>2008</u></b>
Grazeable Woodland (GW)	368	773	507	1076	1127	1674	1513
Mountain Valley (MV)	767	914	906	1642	1577	1928	1952
Mountain Meadow (MM)	1236	1484	845	1433	2216	2368	1874
Riparian (RR)	1105	1093	946	1587	2249	2691	1646
<b>Overall Average Standing Biomass:</b>	<b>869</b>	<b>1066</b>	<b>801</b>	<b>1435</b>	<b>1792</b>	<b>2165</b>	<b>1746</b>

As has been the case in years past, trespass cattle continue to be a problem on the Preserve, mostly on the northern part of the Preserve. During the 120 grazing season, Mr. Morton encountered roughly 20 head of trespass cattle that were grazing amongst his steers. However, once Mr. Morton shipped his cattle out of the preserve, the northern boundary fence was cut in at least two places and several dozen cattle

appeared to have been allowed to graze near the Hilton Cabin for the month of October.

## Financial

Trust grazing programs from 2002 through 2006 cost more to operate than the Trust realized in revenues. From 2003 through 2005, annual revenues from livestock operations averaged \$37,000 while operating costs averaged \$137,000, resulting in an average annual loss of \$100,000. In 2006, the Board of Trustees entered into a contract with New Mexico State University to graze 200 head of cattle in a research project and that cost about \$51,000 with no revenue to the Trust. In 2007, the Trust received \$5,800 in grazing fees while expending no money towards operations.

In 2008, the Trust received a little over \$58,000 in grazing fees. Mr. Morton paid the Trust \$7 per head a month (\$28 total per head for the 4 month grazing season). In his original proposal, Mr. Morton offered a bonus to the Trust should his steers have seasonal gains exceeding 275 lbs per animal. The average gain per animal was 304 lbs per steer; therefore Mr. Morton paid a bonus of \$1.68 per head.

In summary:

- \$7.00 per head a month (\$28.00 per head for 4 month season)
- Additional \$1.68 per head bonus for gains exceeding 275 lbs per animal
- A total 1,960 head grazed
- $\$28.00 \times 1,960 = \$54,880$
- $\$1.68 \times 1,960 = \$3,292$
- **TOTAL:  $\$54,880 + \$3,292 = \$58,172$**

## Public Comments

Of the over 30 written public comments received by VCNP personnel concerning the livestock program, 20 were negative comments and 11 were positive or neutral. An example of some of the negative comments:

*"My fishing experience today was terrible and my assessment of VC ecology was unacceptable."*

*"There is a lot of cow dung along the side of the stream. My shoes took a new color on."*

*"It is my view that a National Preserve should benefit the public, all of the public and not just a few cattle ranchers."*

An example of some of the positive comments:

*"The Preserve is hardly a pristine wilderness. It's been logged, grazed, mined, drilled, carved up by roads and dotted structures- for centuries. What difference could a few cows make?"*

*"No problem, watched cows drink water and cross stream. Didn't affect fishing."*

*"Why don't you kick out the movie people? They're a lot more obnoxious than the cattle, and not as good to eat."*

Other public comments included concerns expressed by local ranchers. The 2008 grazing program, while meeting the Trust's ecological and economical objectives, did not benefit local producers. Small producers in the communities that surround the Preserve expressed disappointed at not having an opportunity to graze their cattle on the Preserve.

## Conclusion

During 2008 grazing season, the Valles Caldera Trust successfully reached their goal to manage for the multiple use and sustained yield of renewable resources including forage. The 2008 livestock grazing program was the largest cattle operation since federal acquisition, with 1,960 yearling steers. The program returned \$58,172 to the Trust.

The steers were rotated on a regular basis between various pastures based on available forage and the grazing capacities that were determined earlier in the year. This method is considered a high intensity management grazing strategy implemented in an attempt to minimize long-term ecological impacts. One goal of the Trust is to implement adaptive management techniques for the livestock program. The livestock contractor was careful in following the guidance and recommendations of Preserve staff and did an excellent job at managing the steers. Weaknesses in infrastructure, including fences and water sources, became apparent with the larger herd. Furthermore, the cattle had a larger impact on the recreation program than was anticipated because of the intensive grazing method employed during the grazing season.

The experiences of the FY 2008 program provided information important in completing the upcoming EA for the comprehensive plan for the Multiple Use and Sustained Yield of Forage. In addition, the experiences from this year will be useful in moving forward with future grazing programs. The Trust will need to decide which type of livestock program and which grazing techniques will be most beneficial to the long-term sustainability of the goals and objectives of the Preserve.