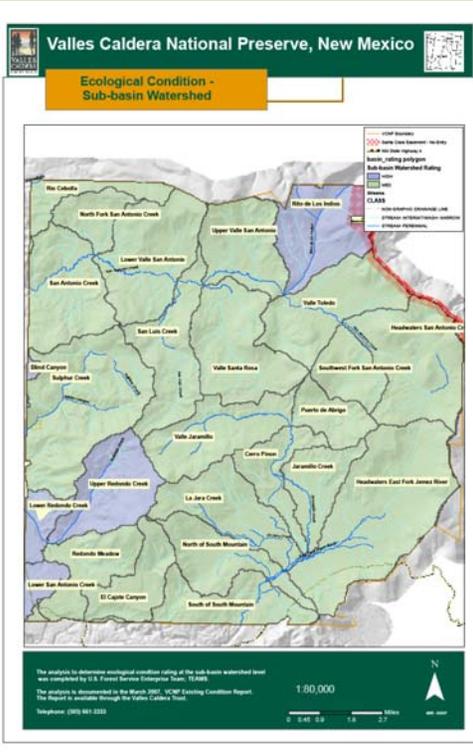
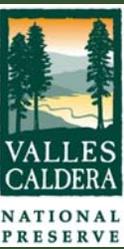


# MUSY Forage

## Ecological Condition and Forage Production



The Preserve's ecological condition and forage production are key to allocating forage, developing annual programs for domestic grazing, selecting monitored outcomes for systematic review, and measuring cumulative effects.

The ecological condition of the Preserve has been assessed at a sub-basin watershed level.

Each sub-basin is rated as 'Low', 'Medium', or 'High'.

The rating was based on a comparison of field sampled values to the values expected for the represented ecological site.

Characteristics measured included vegetative cover, and composition, percent cover by bare ground and litter, water quality, streambank function and stream morphology; benthic diversity, and the presence of active erosion or erosive features.



In the photo above, erosion and bare ground occurring as a cumulative effect from a variety of sources is visible.

Estimated capacity in a typical moisture year after allocating 60% of the forage from suitable grazing areas to ecosystem services.

**10550 AUM\*s (0-30% slope)**  
**400 AUMs (30-60% slope)**

- > 2500 elk 6 months, 6000 AUMs
- > 2500 elk 9 months, 9000 AUMs
- > 3000 elk 6 months, 7200 AUMs
- > 3000 elk 9 months, 10,800 AUMs

As indicated by the numbers above, increasing our knowledge about the number of elk on the Preserve and their use of forage is important for managing the allocation of forage.

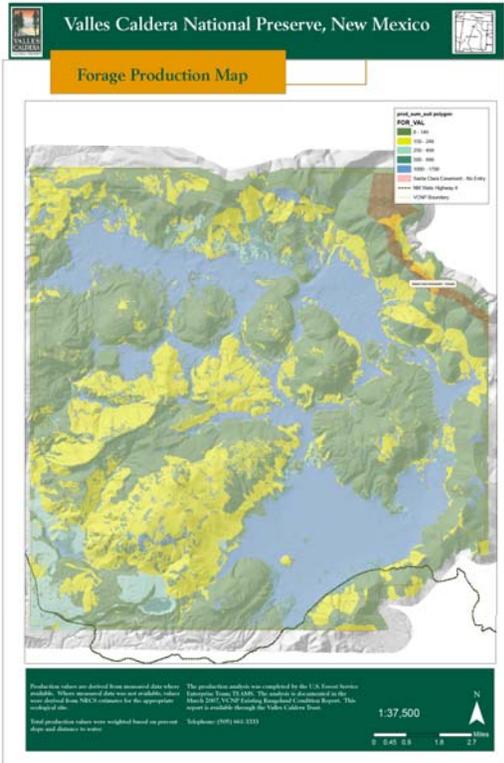
\* AUM – Animal Unit Month; indicates the amount of forage required to sustain a cow and calf for one month. An elk is valued at .6 AUM's.

Lands considered suitable for allocating forage for grazing by elk and domestic livestock:

- > Produce at least 250 pounds of forage per acre
- > Are on slopes ≤ 30% (elk and cattle) or 30 – 60% (elk only)
- > Are within 1 mile of water

\*Within acceptable slopes and distance to water, production values are weighted based on actual slope and distance to water (see table below).

Grazing may occur on areas not considered in the calculation of forage for allocation.



The major streams through the Preserve have been identified as "impaired" by EPA standards.

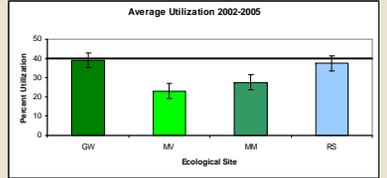
By protecting the streams from over grazing, and allowing plants to establish, water quality can be expected to improve over time



The Trust has seen improvements in sensitive riparian areas as a result of reducing cattle numbers (from historic) and limiting the amount of time the herd spends along streams.

To avoid overgrazing the Trust has subtracted the forage needed to support the estimated 2500 - 3000 elk that graze on the Preserve before determining the capacity for cattle.

Production Weighting Factors			
Distance to Water	Weight Factor	% Slope	Weight Factor
0 - .5 Miles	1.0	0 – 10%	1.0
.5 – 1 Mile	.7	11% - 30%	.7
> 1 Mile	Not Suitable	31% - 60%	.4
		>60%	Not Suitable



In 2006, with only 200 yearlings grazing on the on the Preserve for 60 days, utilization averaged 20% over all and exceeded 40% in 6 of the 40 plots measured.