

EBRPD Grazing Policy Violations Report

Overgrazing & Erosion at Sycamore Valley Open Space - North

Friends of Sycamore Valley

January 20, 2003

8 Hydrologic Erosion Damage at SVOS-N

The hydrologic erosion damage that occurred at SVOS-N after the heavy December 2002 rains was a culmination of years of bad grazing practices. It is the opinion of FSV that there are few if any grazing regimes that would not cause harm to the land. At SVOS-N the worst of all possible grazing regimes was practiced: allowing grazing to continue for the last four years with virtually no controls. There are numerous elements of cattle behavior while grazing that contribute to the erosion problem here in the San Francisco Bay Area:

- Wet season causes:
 - Deep hoof impressions in hillsides perforate the soil and create pockets as deep as 24" where water collects. This combination loosens the soil making it more prone to breaking loose and eroding away when saturated with water.
 - Wet hillsides are easily ripped up by hoofing action. Large sections of soil are broken loose by hoof shear. The steeper the hillside, the worse the effect. The weakened soil composition becomes a prime candidate for a slide under saturated conditions.
 - One of the most common occurrences of erosion occurs as the result of cattle entering or leaving established trails in the parks. The related hoof shear diminishes soil integrity causing very frequent occurrences of erosion under both wet and dry conditions.
 - When erosion has already occurred and cattle are allowed to trample the already sensitive eroded areas the probability of hydrologic erosion increases.
 - Terracing occurs because cattle are naturally lazy animals. They will go around a hill before they will go up or down one. Terracing occurs because the cattle most often walk on lines of constant altitude. As they walk the hillsides they push soil down until it flattens out underneath them and creates a tier. This phenomenon is always found on grazed land. During the wet season these large masses of displaced soil create long lines of weakened soil conditions that become prime candidates for hydrologic erosion.
- Dry season causes:
 - The impacts of trampling and hoof shear during the dry season are very similar. When cattle constantly enter and leave the trails or move along inclines, they pulverize the soil until it gets transformed into a powder. As more and more cattle traverse the same area, the soil integrity is compromised. Allowing grazing during the very dry season increases the severity of this problem because the topsoil becomes very brittle and is very susceptible to disintegration. At SVOS-N there are places where a bird landing on the soil causes dry landslides.
 - Terracing effects are slightly different in the dry season in that the soil on hillsides often completely breaks loose from the clay base and slides down the hill until it reaches the next flat surface such as the trail. This is frequently seen at SVOS-N

FSV surveyed all of the areas shown on the map in the previous section for hydrologic erosion damage that resulted from early December storms. A count was made of the number of landslides that had occurred as of December 21, 2002 on the open space that surrounds the park as well as inside the park. This survey found approximately 62 slides on the 690 acres of the surrounding ungrazed open space and 237 slides on the 357 acres of SVOS-N. **This represents a**

EBRPD Grazing Policy Violations Report

Overgrazing & Erosion at Sycamore Valley Open Space - North

Friends of Sycamore Valley

January 20, 2003

739% higher incidence of landslides and erosion damage per acre inside the park.

The remaining photographs in this report illustrate the frequency and severity of the erosion problem at SVOS-N. In some cases comparisons are made between dry season conditions and the resulting erosion.

8.1 Trampling and Terracing Induced Open Field Erosion

The following photographs illustrate the erosion that occurred in open areas away from the trails. The erosion found in these areas is most likely due to trampling and terracing during both the wet and dry seasons.



This photograph shows multiple slide activity over a 50 foot stretch of hillside. Careful examination will show numerous hoof imprints in the remaining turf. The depth of soil loss here approaches 3 feet in some places.

The photograph on the next page shows an open field slide that occurred on a very shallow slope. The unevenness of the remaining turf and the hoof imprints are indicative of frequent grazing activity. The dry matter that is shown in the foreground in front of the cattle is predominantly dried out remnants of yellow-star thistle. This is frequently found in the parks and not consumed by the cattle.

EBRPD Grazing Policy Violations Report

Overgrazing & Erosion at Sycamore Valley Open Space - North

Friends of Sycamore Valley

January 20, 2003



This was a massive slide in an area that is adjacent to a watering trough and incurs a significant amount of grazing activity.



EBRPD Grazing Policy Violations Report
Overgrazing & Erosion at Sycamore Valley Open Space - North
Friends of Sycamore Valley *January 20, 2003*

