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General Comments:
Draft Land Use Plan (LUP), Proposed Mitigated Negative Declaration (MND) for the Sunol-Ohlone Regional Wilderness Preserves (SORWP) -- September 2003

It is clear that considerable effort was put into this LUP and *Friends of Sycamore Valley* (FSV) commends all District staff for their efforts in its production. The LUP document offers the public a well prepared historical document on the SORWP and information on its present infrastructure. Unfortunately this well-prepared report is overshadowed by serious deficiencies from environmental and public safety perspectives. The lack of ecological objectivity displayed throughout the LUP and the associated *Proposed Mitigated Negative Declara*tion (MND) raises serious concerns about the district's true intentions with regard to this public process.

Perhaps the most important omission by EBRPD planners is related to public safety in the parks, which should be a paramount consideration in all park operations. The District is well aware of the personal testimony of two women at the public meeting in Sunol on October 8, 2003 as well as information in its own public record that people are being seriously injured by unsupervised "free-roaming" cattle. The District's continued insistence on ignoring this problem is very disturbing to park users and difficult to understand how commercial cattle grazing can take priority over the potential loss of life or bodily injury.

The 2002 FSV report[1] submitted to the General Manager gave testimonials from individuals as well as data from the British government stating the lethal hazards of allowing free-roaming cattle in open space areas where the public has access. FSV legal counsel also obtained additional records from the district through a Public Records Act Request that further confirmed that incidents are occurring almost monthly where humans are being threatened by the actions of cattle. This fact cannot continue to be ignored by planners and must be addressed in the LUP.

The District needs to remind itself that all of the parks in the District are public lands. Public tax dollars provide over 70% of the District's annual operating budget. In light of this fact, to place such a high emphasis on commercial cattle grazing operations in this plan and ignore the public's desire to preserve natural resources with the hope of giving future generations the opportunity to appreciate and enjoy the beauty of nature in our public parks, is betraying the public trust.

[1] An Assault on Biodiversity in the Name of Wildlands & Habitat Preservation (Feb 2002)

The Master Plan 1997 states:

> *The following vision statement will guide the District:*
>
> *The East Bay Regional Parks will preserve a priceless heritage of natural and cultural resources, open space, parks, and trails for the future…An environmental ethic guides us in all we do.*

The LUP & MND, as did the Grazing Review Task Force process in 2001, reflect a loss of this vision. Clearly the ethics of the District are in the hands of those who wish to serve the interests of commercial businesses rather than serving the public's interests, which is purportedly the primary function of the EBRPD as stated in Master Plan 1997.

Rather than focusing on the preservation of a wilderness, the district has chosen to focus on defending and promoting its livestock grazing program. The most important objective of this LUP should have been the protection of this valuable natural resource. Instead the district has once again chosen to put commercial cattle ranching operations as the principal land use for these wilderness lands. This is blatantly apparent throughout the LUP & MND as the District, at every turn, attempts to justify with praise its cattle grazing program, making the loftiest of claims regarding its past achievements.

The 2002 FSV report submitted to the District's General Manager, on the extensive damage caused by cattle grazing at the *Sycamore Valley Open Space* in Danville. The report documents the lack of monitoring of the grazing program and the lack of enforcement of the terms of its grazing leases, which are both key elements necessary to assure that parklands are protected from damage by cattle.

As an absolute minimum, this report provides sufficient information to trigger an EIR for the LUP. The FSV report certainly provides ample data to invalidate the assertion being made by the District that there are no environmental impacts to this LUP.

Furthermore, the Mt. Diablo EIR completed by California State Parks (CSP) validates the findings in FSV's reports with regard to the environmental impacts of cattle grazing. This EIR concluded that cattle grazing is harmful to the environment and inconsistent with its strong dedication to the preservation of natural values in the park system.

Mr. Harry Batlin, a retired State Park Superintendent of the 67,000 acre Henry Coe Wilderness area, commented to the *Alameda Creek Alliance* that "*… there are significant known adverse impacts in allowing grazing and there ought to be a complete EIR and most certainly the [land use] plan should not be allowed to slip through with only a Negative Declaration.*"

Supplemental Information on Public Safety

The EBRPD has a fiducial responsibility to protect the public from harm while they are recreating in the regional parks – the District's Ordinance 38 Section 801.7 states that:

> *801.7 Dangerous Animals. No person shall bring into or permit any dangerous animal to enter or remain on District parklands or any part thereof. For purposes of this subsection, a dangerous animal is defined as any animal which is declared a dangerous animal by a County or City, an exotic animal, or an animal which demonstrates any of the following behavior:*
>
> *a). An attack which requires a defensive action by any person to prevent bodily injury and/or property damage.*
> *b). An attack on another animal, domestic or wild, or livestock.*
> *c). An attack that results in a injury to a person.*

d). Any behavior that constitutes a physical threat of bodily harm to a person.

Clearly cows that attack and cause bodily harm to members of the public violates every one of the conditions a) through d) stated in that ordinance defining a "*dangerous animal*".

While the District has had lawsuits filed against them for cow attacks to park users, it continues to allow cattle to roam free and attack unsuspecting park users. The General Manager and the Board are also in receipt of the data provided by *Friends of Sycamore Valley* (FSV) which was obtained from the British government stating the hazards to the public from free-roaming cattle. This data documents nearly a dozen deaths over a 10 year period from unsupervised "free-roaming" cattle in areas of public access.

The public has brought this concern for safety to the attention of the District numerous times in public meetings and by letter over the last 5 years, yet it refuses to acknowledge that there is any problem whatsoever. This raises many questions about the lack of concern the District has for the public's well-being in the parks.

The following is information that describes how the EBRPD is handling incident reporting as well as a chronological summary of incidents in recent years.

Chronological History of Public Records Obtained Documenting Injuries to the Public

On 5/13/01 Mr. Greg Schneider submitted a formal incident report to the EBRPD complaining about being chased by cattle during four consecutive visits to the Sycamore Valley Open Space in Danville, CA. Ms. Debra Fassler, clerk for the EBRPD Board, forwarded the report to the park district's Public Safety Department, General Manager and Board of Directors. Not one of those individuals ever responded with concern or apology to that report.

On 7/31/01 Mr. Schneider made a personal public records request to the EBRPD for all safety incident reports relating to cattle. On 8/1/01 Mr. Lapera, Assistant General Manager of Public Safety, responded to this request by passing it on to Mr. Steven Crudo at the park district to research any such records. On 8/7/01 Mr. Lapera responded with the results of Mr. Crudo's research by indicating how many incidents were found and that Mr. Schneider would receive the information after submitting a check for copying costs. Mr. Lapera also claimed that the park district data base only went back to November 1999 due to changing over to a new records management system. This claim is later proven to be a false statement. After sending my payment, Mr. Schneider received the data from the EBRPD Public Safety department and found that his reports of personal incidents with cattle were not included.

This illustrates that even though cattle incidents are reported, the park district is not necessarily logging them into the EBRPD data base. Nor does the District responsibly respond to individuals who have had such encounters and explain why this is allowed to happen.

On 4/19/02 Greg Schneider was chased by six different cows at different times over about a 20-minute period at the EBRPD's Sycamore Valley Open Space. There were at least 120 cattle within a 100 yard radius of where this incident occurred. He was extremely angry after having this experience and upon returning home he immediately submitted a formal report to the EBRPD Public Safety Department, General Manager and Board of Directors describing the entire incident in detail.

On 4/30/03 legal counsel for FSV, Law Offices of Brian Gaffney, submitted a formal Public Records Act request to the EBRPD for numerous types of records. Some items in this request were related to any reported attacks by cows or human injuries from livestock. The EBRPD responded with the following information:

1. EBRPD history of bodily injury incidents involving cattle. Claim records search: 1/1/83 through 5/1/03. Previously Mr. Lapera indicated no records existed prior to November 1999, a patently false statement. The following four incidents were noted on this claim search summary:
    a. 10/12/91 Martin Glen was stepped on by a grazing cow. No further information available per the park district.
    b. 3/15/98 Gwen Barton and her dog were attacked by cows at Wildcat Canyon. Packet containing more details is described in item 2 below. Ms. Barton's dog later died from complications relating to the injuries sustained in this incident.
    c. 11/25/99 Wen Jin Lee, a 74 year old woman, was attacked by a cow while hiking at Mission Peak. Her daughter and grand daughter narrowly escaped harm. Wen Jin Lee sustained injuries because she was unable to run quickly enough to escape the attack. Lawsuit filed.
    d. 10/23/02 Kevin Fox, a resident EBRPD employee at Mission Peak, was thrown by a cow while walking his dogs off duty at Mission Peak. No claim filed.
2. Packet of information relating to the 3/15/98 incident and injuries of Gwyneth Barton and her dog. Ms. Barton and her dog Lucy were out for a run at Wildcat Canyon. The dog was leashed. They came upon a herd of about 20 cows and calves. She slowed to a walk and attempted to circumvent the cows. As she passed the herd became agitated and charged her and the dog. They head butted her to the ground and her leash got tangled in her hand causing the dog to get trampled as well. After the cows dispersed her dog was bleeding from the mouth. The dog lost strength before she could get back to her car and so she had to carry her 50+ lb. dog for the last 10 minutes. She spent thousands of dollars on veterinary expenses to no avail, her dog eventually died from complications related to the cattle-inflicted injuries. Ms. Barton also sustained serious injuries to her arms and legs.
3. Packet of information relating to the 11/25/99 incident and injuries of Wen Jin Lee.
4. Packet of information relating to the 10/09/00 incident and injuries of Lyn Chambers.
5. Packet of information relating to the 7/27/02 incident and injuries of Linda Henderson.
6. An EBRPD police log of phone calls received relating to 10 cattle incidents. The list includes the following reported incidents:
    a. 01/20/00 [Wildcat Canyon] brown cow charged a person and her 2 leashed dogs. Cow head butted both dogs into the air.
    b. 08/18/00 [Garin] cows escaped into residential area, residents were irate.
    c. 10/09/00 [Sunol] a woman was hiking with her husband and dog on the Flag Hill Road trail. She had come upon several cows and calves on the trail and stopped to decide how to get around them. While standing there another cow she was unaware of blind-sided her causing her to fall on her face and break her glasses. The cow proceeded to head butt and kick for a couple of minutes until her husband arrived and chased them away. She was transported to the Palo Alto Medical Center for treatment for severe back and leg injuries. This is same incident as item 4 above.
    d. 08/28/01 [Tilden Nature Area] a child's collar bone was broken after being head butted by cow in the feeding nature area [*NOTE: this illustrates the precarious*

situations the public can be put in as a result of the unpredictable behavior of cows, even in controlled circumstances.]

e. 09/02/01 [Contra Loma] people wanted to file a complaint because the bull was loose in this park and almost hit them. Requested police officer.

f. 10/18/01 [Wildcat Canyon] person was attacked by a cow and received a cut to his eye. He was treated at Kaiser Richmond with stitches.

g. 02/16/02 [Briones] cows chased person and her dog into the fenced picnic area. She couldn't get back out because cows were blocking the gate and trail. Fire staff had to come and rescue her and her dog.

h. 07/27/02 [Sibley] a woman and her 8 year old niece were walking the Volcano Trail on a foggy morning. As she was walking she lost sight of her dog, Lucky. She went off trail momentarily to find the dog. While looking for Lucky a cow came out of the fog and attacked her. She received serious injuries to her legs. The Oakland Fire Department had to be called, treated her on the scene and then transported her to Kaiser Hospital. This is same incident as item 5 above.

i. 11/05/02 [Sibley] incident on the Havey Canyon trail, cow charged and attacked her then stepped on her injuring her ankle.

j. 12/30/02 [Mission Peak] woman was charged and then kept trapped by a bull. Called for help using cell phone. Cows were ahead of her and the bull wouldn't let her pass.

The following letter was submitted to the EBRPD Board of Directors on May 7, 2003:

Dear Board Members;

The East Bay Regional Parks are among the finest assets of our Bay Area. I have enjoyed horseback riding in several of them for many years. Unfortunately, today I had a very dangerous experience.

In Pleasanton Ridge Park, I was chased by a group of steers. My horse was a complete runaway, and it was very difficult to get him under control. As I rode through a field to avoid the steers, I saw them menacing a hiker. After warning him of the danger, I left the area. A mile further I again had to ride past another group of steers, and they too ran at us and bellowed. I was forced to ride cross-country and down a dangerous hill to avoid them.

While this was a frightening experience for me, I shudder to think what could have happened if there had been a family of hikers with small children, or a woman with a baby stroller, several of whom I have seen on the trails. Does the district have enough liability insurance to cover such a dangerous situation?

I have always been in favor of the grazing program in the parks, but you can now count me in the opposition group. I am angry that I can no longer use Pleasanton Ridge Park with safety.

Yours truly,

William Coburn

Even equestrians like Mr. Coburn are being put into unsafe situations. He also makes good points regarding the dangers to families. There are other incidents like this that are not recorded in EBRPD files that FSV is aware of.

There are intentionally no notices in the parks to report non-contact or bodily injury cattle incidents that occur in the park. The park district knows that there is a serious liability issue associated with acknowledging that cattle are a serious hazard so it chooses not to inform the public in this regard.

Supplemental Information on Cattle Grazing to Consider in an EIR

The remaining information in this letter is provided by FSV as additional information for the district planners to justify the request that the district do a full EIR. This information also provides a context for investigating the impacts of grazing identified in the FSV 2002 report.

George Wuerthner Commentary on the EBRPD Response to Alternative W

The following comments on the park district's response to *Alternative W*[2] were submitted to FSV by George Wuerthner, FDE Ecological Projects Director. Mr. Wuerthner is one of the leading experts in the United States on the environmental impacts of cattle grazing and was the editor and a contributing author to *Welfare Ranching, The Subsidized Destruction of the American West*.

> *The EBRPD seems to be more devoted to maintaining and defending livestock production than seeking to restore native ecological processes and species to the greatest degree possible. It is as if they use every excuse they can fabricate or find to negate wildlands restoration and seek every reason to continue current livestock production.*
>
> *The EBRPD seems to dwell on the fact that native plants and animals have as they say "existed in this area for 200 years in the presence of livestock grazing." Such a statement demonstrates a bias inherent in their document. The fact that some species persist in the presence of livestock doesn't mean that livestock grazing is an appropriate or even beneficial use of the land. Many species have suffered serious declines, at least in part, due to the presence of livestock. While livestock may not be the sole reason for species extirpation or decline, in many, many instances, livestock production has contributed to the species plight.*
>
> *What about the extirpation of large predators like grizzlies and wolves that are gone due the presence of livestock? What about the livestock impacts on various endangered amphibians which is documented to be at least somewhat responsible for their decline. What about bird species, butterflies, snails, and a host of other species that have suffered a decline in their numbers to the point that they are either listed as endangered or may soon be listed, at least in part, due to the continued and on-going presence of livestock and the ecological changes wrought by livestock production? These species and declines are conveniently ignored by the EBRPD.*
>
> *And nothing is known or acknowledged about changes in soil, hydrology, and other physical environment parameters wrought by the presence of livestock.*
>
> *The EBRPD goes on to say that livestock have "essentially replaced" native grazing animals. This statement, in particular, demonstrates a failure to understand that herbivory pressure is not uniform from species to species. It even goes further mixing up geological time periods by arguing that mammoths, bison, musk ox and other species once grazed upon the native plant communities and infers that present plant communities are thus adapted to large animal herbivory pressure. This ignores the fact that climatic conditions were vastly different when these species were present. There was greater*

[2] Cattle Grazing As a Resource Management Tool in the Sunol-Ohlone Wilderness (Sep 2003)

moisture and differences in annual precipitation from current conditions. Current plant distribution and association are vastly different from the ones that exist when these extinct species grazed upon them. One would imagine that the EBRPD is aware of these differences and choose to ignore them to mislead the public or perhaps is simply so ignorant of plant biogeography, ecology and paleobotany that they believe their own rhetoric. In any case, suggesting that the past presence of mammoths somehow justifies the presence of an exotic animal that evolved in moist woodlands in Eurasia is grossly misleading.

Furthermore, even historically present native species like elk and antelope used the landscape differently from domestic animals. The EBRPD says they are "unaware of any differences in how elk use the lands" compared to cattle. This is the height of ignorance and demonstrates an almost elementary failure to understand the ecological and behavior differences between species. Elk, antelope, ground squirrels, grasshoppers, and all the other native herbivores that once grazed these landscapes selected different plants from today's domestic animals. They ate them at different times and seasons. And the combined herbivory pressure of multitude species is far different from the herbivory pressure exerted by one large exotic herbivore. Trying to equate domestic animal herbivory with native herbivory is analogous to saying that one could substitute a Norway pine plantation for a native redwood forest by arguing that both pine and redwood have the same effects upon soils, water, fire regimes, etc. because both are conifers.

The EBRPD blows off consultation with Point Reyes NS about elk. My understanding is that the elk have had a vastly different and more positive effect upon soils and riparian areas. At least this is what I have been told by geologists studying the park. Yet in blowing off the suggestion that elk may be appropriate, the EBRPD does not even discuss how elk may utilize riparian areas differently from domestic livestock.

It also discounts the elk situation in Pt Reyes by asserting the entire herd is infected with Johne's disease—a disease transmitted from domestic livestock. And simply one more reason to eliminate domestic livestock from the East Bay parks. Their presence is a threat to the native wildlife through disease transmission.

Even worse the EBRPD even suggests domestic livestock grazing is a substitute for fire, exerting the same ecological evolutionary pressures. This is even more far-fetched than arguing that cows are a substitute for elk and antelope. Fire, for instance, is non-selective in the plants it "crops", plus other factors like the smoke and heat associated with fire can kill various pathogens, sometimes open seeds, and have other effects not emulated by domestic livestock grazing pressure.

Third, the EBRPD selects a few species like the golden eagle claiming it benefits from the presence of livestock as a way to justify continued livestock grazing. Such single species approaches again demonstrate a linear and narrowly focused response that ignores the vast interrelationships between many species. Management, particularly in wildlands, should approximate as closely as possible historical natural processes and functions.

It argues that removal of livestock has lead to "a biological desert" full of weeds. Without seeing the specific example, and knowing more of its history, I can not provide a critique of their conclusions that livestock removal leads to ecological degradation. However, removal of livestock in the absence of fire and other herbivore influences is not

a valid experiment. It does not emulate the natural processes under which these ecosystems evolved or were shaped. Furthermore, in other areas where livestock were removed, weedy species initially expanded before gradually being replaced by native species. This transition may take decades and a few years rest or exclusion from livestock influences is insufficient. Finally, the area under exclusion may have limited seed sources for native plant reestablishment. Again it seems like the EBRPD has a preconceived conclusion to justify livestock production and seeks to find any thin straw of "evidence" to support its already made decision.

Fourth, the EBRPD seems to discount restoring of fires under an active and expanded prescribed burn program as impractical due to economic considerations. We don't get a fair estimate of the real costs—in part because the real costs of livestock production are ignored (such as water quality issues, spread of exotic weeds, effects on ecological processes, and so on) vs. the benefits of restoring fire to the landscape.

Firth, instead of addressing the real concerns about impacts to riparian habitat, the EBRPD appears to do consciously deceive people with its argument that concern about riparian areas is misplaced by trying to assert that all "riparian" habitat is nothing more than livestock stock ponds. Long before there were stock ponds constructed, there were still streams, seeps, and springs. These natural riparian areas—many of them degraded by the construction of stock ponds—are still being impacted by livestock production.

Sixth the EBRPD argues that grazing is profitable to the district. Again without a thorough review of the real costs it is difficult to know whether grazing is profitable at all if all costs were internalized. Nevertheless, judging from economic analysis done by other pro-grazing agencies, such economic assertions vastly under estimate the true cost of a grazing program.

Seventh, the EBRPD blows off the concern for steelhead trout restoration in Alameda Creek. While many other factors are contributing to the decline of steelhead throughout its range, livestock production is still a major contributor to the degradation of spawning and rearing habitat. Plus soil compaction from hooves can reduce late season flows thereby negatively impacting rearing habitat for these fish. Whether other factors are contributing to steelhead decline or not is no excuse for the EBRPD to ignore the contribution of livestock production in the decline throughout much of its range and to do what it can to remove at least this one negative impact.

Eighth, the low grass that the ground squirrel requires can be maintained through fire, and the ground squirrels own herbivory pressure. In times past, historic droughts, combined with fire, likely contributed to conditions that allowed expansion of ground squirrels, while wet conditions and taller grasses inhibited ground squirrel population growth. This kind of oscillation is documented for prairie dogs on the plains. And in the same vein as the EBRPD, livestock proponents argue that cows are essential to the maintenance of prairie dog populations. Yet prairie dog towns have expanded in the absence of cows, and this is conveniently ignored by livestock proponents. And there are other alternatives to livestock including the use of fire.

Suggested Grazing Management Guidelines to Enhance the EBRPD Grazing Program

The general impacts of cattle grazing are universal. The only thing that changes from one geographic area to another is the degree to which the damage occurs and the plant and animal species affected. The information that follows is offered for two purposes, first to provide additional insight to park district staff regarding important elements for an effective cattle grazing program and secondly, to help staff identify areas of potential weakness in the management of the park district's cattle grazing program. The park district's *Wildlands Management Policies & Guidelines (Aug 1992)* document is significantly lacking in implementation details and monitoring requirements. While this program has been in effect for over 10 years, the district has no recorded monitoring data for any of its parks. Such implementation deficiencies and suggestions for improvement should be included in the recommendations put forth in an EIR.

The concepts and grazing management guidelines that follow were derived from *Multiple Use Grazing Management in the Grand Staircase Escalante National Monument (September 2003; Catlin, Walker, et al* staff of the *Southern Utah Land Restoration Project)*. While this information was developed for the Escalante National Monument's range staff, the specific grazing management concepts excerpted and conveyed here apply to any well-managed grazing program. With permission of the authors, FSV has adapted the excerpted information from the original document and modified it as necessary to provide commentary and suggestions for the SORWP LUP.

Maintaining Healthy Ecosystems

Maintaining the health and productivity of (and where needed, restoring) rangelands draws on common values we all share. The health of the land is a fundamental "endowment" to which all human endeavors are linked. Even in a time when we are becoming more dependent on a global economy, the foundation for communities still relies on working ecosystems.

Consistent with rangeland health, the guidance recommended here provides methods that will help make range management decisions transparent, gather key ecological data efficiently, and use analysis techniques based on the best scientific knowledge we have today.

The other underlying legal obligation owed to the public is that, where the EBRPD allows grazing to occur, it must manage this use so that public land values are protected. The relevant statutes and regulations together require the EBRPD to conserve and restore soils, water, ecosystems, wildlife habitat, and cultural, recreation and scenic resources. Where livestock grazing has an unacceptable impact on these values, management of livestock must change accordingly.

Because of excessive livestock grazing, ecosystems are not properly functioning, the beneficial uses of streams are not being met, cultural resources are being destroyed and delicate soils are being irreparably lost. In response, this document presents a system of livestock grazing, assessment and monitoring that, if implemented, will allow the EBRPD to comply with its legal obligations – or at least will allow it to make great strides in that direction. A system of grazing that does not recognize the science and the analysis presented here and does not address the significant failures of current grazing practices in the SORWP will not meet the EBRPD's legal obligations and will fall hopelessly short of the law.

Federal Policies & Regulations Provide Valuable Multiple-Use Guidelines for EBRPD

The Federal Land Policy and Management Act (FLPMA) multiple-use provision cites "recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historic values" as those values required to incorporate into its examination of harms and benefits. Elsewhere FLPMA establishes the policy that "public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use." 43 USC § 1701(a)(8). Thus, what is clear is that livestock is one among many uses and values that the agency should consider in making decisions about grazing management.

Broken down further, FLPMA requires determination of the condition and consider the impacts of grazing on the components that makeup the multiple-use values. Thus, in weighing the benefits and harms of grazing under FLPMA, consideration must be given to the effects of grazing on loss of native vegetation, soil erosion, reduced water infiltration and increased surface runoff, trampling of streambanks, degradation of stream channels, trampling and contamination of archaeological sites, degradation of wildlife habitat, scenic and recreational values. Ultimately, the question EBRPD must answer is whether the benefits of grazing an area outweigh the harms caused by livestock to other resource values. Moreover, if, after the requisite analysis, EBRPD determines grazing is an appropriate use of an area, the EBRPD must consider the harms and benefits of grazing in determining stocking rates, or the level at which grazing can occur.

Finally, if the EBRPD determines that grazing is an appropriate use of an area, its consideration of multiple use values does not end. FLPMA further suggests that the EBRPD determine how that area should be grazed. Therefore, in managing livestock, such as establishing stocking rates and utilization levels, the EBRPD should "protect the full spectrum of environmental, ecological, cultural, and recreational values." This means that the EBRPD should take into consideration, when determining the details of grazing management, the impacts of grazing on scenery, water quality, cultural resources – values that are not measured by forage utilization measurements. Therefore, in setting a stocking rate, EBRPD should base its grazing management on more than forage utilization, and EBRPD should monitor grazing impacts to assess harms to multiple use resources by assessing more than utilization levels or stubble heights. By the same token, assessing for compliance with rangeland health standards does not reflect impacts to resource values such as recreation, scenic and cultural resources, and again, grazing management cannot be based on or expressed and monitored solely in terms of rangeland health standards.

Where adverse impacts occur, grazing practices must be altered to eliminate these impacts. If the impacts cannot be eliminated, then grazing should be prohibited.

Current grazing practices in the SORWP are permanently impairing the environment. For example, resource damage such as soil erosion and the crushing of biological crusts constitute permanent impairment to the resource. Grazing of marginal areas which cannot recover from livestock use also violates the District's protective mandate. Damage to and destruction of cultural resources is permanent. Repeated conflicts with recreational values and damage and destruction to the scenic resource also constitute permanent impairment. Moreover, by allowing inappropriately high utilization levels, which are often also not properly adjusted for season of use, and by allowing stocking rates that are permanently impairing the SORWP resources, EBRPD is also impermissibly allowing permanent impairment of the resources under its management.

The 2002 FSV report shows that the damage livestock grazing perpetuates on parkland resources is both unnecessary and undue. This is because, where grazing is appropriate, EBRPD can and must take steps such as reducing utilization and stocking rates, changing seasons of use, and closing areas to grazing to avoid degradation to the land and permanent impairment of the environment and the productivity of the land.

Protection of Cultural Resources

FSV is in receipt of a letter dated September 16, 2003 that was submitted by Dr. Steve Shackley, Research Professor at UC Berkeley, to the park district in response to the SORWP LUP. He has over 25 years of experience in cultural resource management and archeology in Western North America and has raised serious concerns about how the district is handling cultural resources in the SORWP and generally throughout the EBRPD system. Dr. Shackley's comment letter supplements the information that follows. There is significant concern by Professor Shackley that the EBRPD has not adequately surveyed the majority of its parks in which it allows cattle to graze.

Livestock grazing has the potential to impact archaeological and historic resources directly by trampling artifacts, mixing cultural materials, pushing over standing structures, rubbing on rock art panels, concentrating use in alcoves, and surface disturbance from construction of range facilities. Indirectly, livestock use has potential to impact archaeological and historic resources by accelerating erosion, leading to destruction of standing structures and uncovering buried artifacts, which may subsequently be trampled. Additionally, concentrating use around range facilities has the potential to impact sites in close proximity to these facilities.

The National Park Service recognized that cattle trampling quickly affects masonry structures, perhaps the most vulnerable sites, by displacing masonry elements, toppling walls, churning fill, undermining walls and foundations, and destroying interior features. It also notes that the stirring and churning of soils caused by livestock use can also obscure subterranean and semi-subterranean structures.

The National Park Service also specifies that artifact concentrations and caches are "extremely susceptible to dispersal and destruction as a result of trampling," resulting in broken and damaged pieces, decreased visibility and the complete loss of critical scientific information. Construction features and information on their use and diversity "are also easily lost or destroyed by grazing livestock." Livestock trailing across midden concentrations can cause severe impacts and "valuable deposits containing perishable baskets and sandals, as well as vegetal and organic remains are often completely destroyed as a result." Cattle even destroy rock art when they rub themselves on cliff faces.

Not surprisingly, the National Park Service has documented that of 130 sites regularly assessed at the Escalante National Monument, 25 percent have been impacted by cattle. It is common to find sites where structures are visible only as chunks of mortar scattered among the piles of cow feces. Wherever livestock have access, surface artifacts are rare. The integrity of artifact concentrations is lost, and the artifacts themselves are not visible. Midden deposits containing perishable items are actually torn up or churned by livestock.

The impacts of livestock are compounded because livestock congregate in riparian areas, the very places where "some of the richest archeological deposits in this nation" are located. Indeed, the National Park Service estimates that between 9 and 43 percent of riparian cultural sites have been adversely impacted by livestock.

Thus, grazing management on the SORWP must include immediate steps to protect the vulnerable and irreplaceable cultural resources there. Wherever the EBRPD knows of livestock damage to resources or the potential of this damage, it must close the area to grazing. In regions that have been inventoried for cultural resources, grazing should also be eliminated wherever cultural resources exist in areas where livestock normally congregate: e.g., near fences and water sources, in alcoves, and under shade trees. In regions that have not been inventoried, EBRPD should immediately undertake Class III inventories to ensure that cultural resources are not impacted.

Resource Degradation Assessment Baselines Needed in the SORWP

Based on the current conditions in the SORWP in which parklands fail to meet the rangeland health standards, an initial assessment of the various causes of degradation should be made, before the formal process of determinations in undertaken. In general, most of the biotic resource degradation evident in the SORWP can be tied in one way or another to livestock grazing. However, the problems with monitoring, data collection and even the rangeland health assessment methods themselves and how they are performed and results analyzed can further cloud the issue of what exactly is leading to resource degradation. Similarly, various problems with District grazing management in the SORWP compounds impacts caused by livestock grazing.

Grazing Impacts on Soils and Erosion in the SORWP

The LUP fails to address soil and erosion factors and conditions in the SORWP, especially in relation to cattle grazing. FSV provided the General Manager with a report[3] on the severe erosion damage from cattle that occurred in the Sycamore Valley Open Space (SVOS) in December 2002. This report found that the 357 acres of EBRPD parkland sustained a 739% higher incidence of landslides and erosion per acre than the 690 acres of open space that directly surrounds SVOS. This report also documents overgrazing at SVOS and Las Trampas. It also documented violations of District grazing policies which prohibit supplemental feeding of cattle if insufficient forage is not available. Every year the district introduces cattle to parklands district-wide that do not meet minimum forage levels for such introduction of cattle. This has also been documented at SORWP. The damage that can result from failure to follow overgrazing guidelines was clearly demonstrated in the FSV erosion report. FSV recommends the paper *Impact of Livestock Grazing on Soils and Recommendations for Management (Roberson, 11/20/96, CNPS)* to the district for additional information on soils as well as guidelines on livestock management and how to evaluate and monitor health of rangelands.

[3] Overgrazing & Hydrologic Erosion at Sycamore Valley Open Space – North (FSV 1/20/03)

At the most basic level, as slope increases, ground cover decreases, and thus soil loss increases. In Figure 1 the graph of soil erosion as a function of slope and ground cover provided in our forage capacity/stocking analysis clearly indicates the exponentially increasing nature of soil erosion as slope increases and cover decreases. For 30% slopes, which are at the upper limit for cattle capability given in the graph in Appendix B, it is clear that for that fine-grained soil, as ground cover declines below 100%, there is a linear decline to 80%. At that point, erosion rates accelerate following an exponential or geometric increase. For that soil type, it is evident that ground cover must be maintained above 80% to constrain erosion by water. This implies a trampling and ground disturbance standard of 20% or less for combined trampling of crusts and removal of plant, litter cover. Thus, it is clear that cattle grazing combined with naturally highly erodible soils (i.e. steep slopes) is a serious confounding factor when determining the true impacts of grazing to land and soil resources.

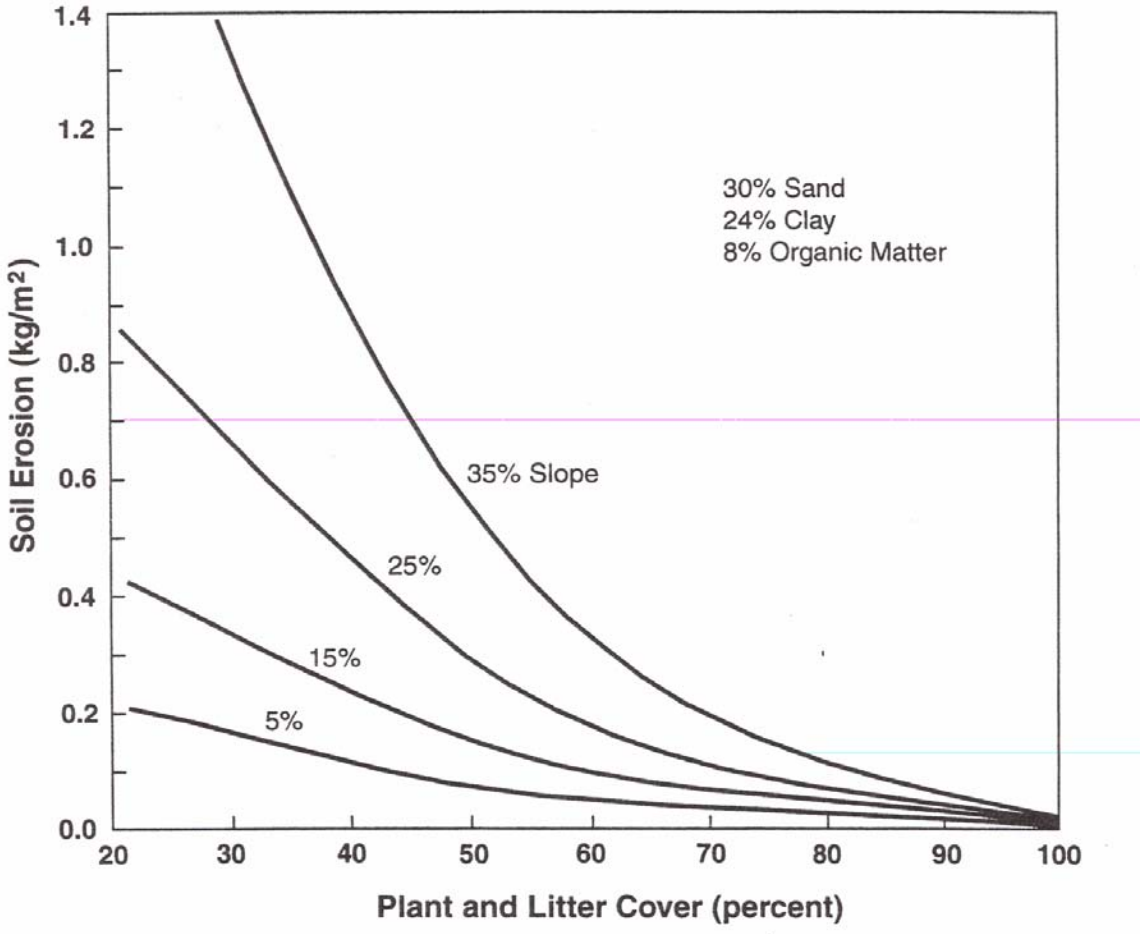

Figure 1. Relationship between vegetative cover, slope and soil erosion. [Reprinted from Packer (1998)].

One of the current problems with the EBRPD's grazing program (and the impacts to the resources that result) stem from problems in monitoring, data collection and range health assessment methods and how they are applied and results analyzed. One of the key issues in grazing management concerns stocking levels. In assessing the grazing impacts in an EIR, it is important to report the process that was used to establish today's level of grazing use. This may require presenting a history of adjustment dating back to when the stocking level was first determined. It must also provide information about how often stocking rates and seasons of use have been increased or decreased in the past, why they were changed, and what impact these changes had on utilization

and ecological condition. Livestock must be removed as soon as it is determined that minimum stubble heights/maximum utilization levels are being approached, regardless of calendar date or length of time on allotment. Any protocol that does not provide for frequent assessment of utilization and rapid adjustments of stocking rates is not designed to protect the habitats.

This protocol is clearly not being currently followed in the EBRPD grazing program. The Grazing Unit Management Plan (GUMP) for SORWP was done in 1993 and has never been updated. This is true of GUMPs throughout the district. Stocking rates are never reassessed by grazing managers at the district. Grazing management methods are "seat of the pants" rather than using best scientific practices.

Monitoring and Assessing Cattle Grazing in the SORWP

The EBRPD grazing program is critically deficient in monitoring and assessing the impacts of cattle grazing on all of its parklands. Claims by park staff to FSV that monitoring and long term assessments are possible without recording data and conditions at various times throughout the year are patently false. Such statements illustrate the unscientific and unprofessional approach the district has towards managing its cattle grazing program and the poor condition of grazed parks duly reflect this attitude. The information that follows provides this much needed professional and scientific approach to monitoring and assessment of rangeland health.

Range condition and trend concept: Range condition trend measurements should describe the changes in range condition over time. Range condition is defined by the Public Rangelands Improvement Act (PRIA) of 1978 (PRIA 43 USC 1901 et seq.) as "the ability in specific vegetative areas to support various levels of productivity in accordance with range management objectives and the land use planning process, and relates to soil quality, forage values (whether seasonal or year round), wildlife habitat, watershed and plant communities, the present state of vegetation of the range site in relation to potential plant community for that site, and the relative degree to which the kinds, proportions, and amounts of vegetation in a plant community resemble that of the desired community for that site" (Coggins, 1984).

FSV concluded in its 2002 report that there is a problem with the way the EBRPD carries out typical range condition assessments. FSV believes assessment methods can be improved but cautions the district on its approach. Often assessment of range condition is accomplished through an analysis of plant community composition expressed in the percent of each species of plant at a monitoring site, and a comparison of those values to potential community composition of the site is problematic. While this may seem to be a reasonable approach, it can give invalid results in communities which have naturally very low levels of grasses and forbs. If all grass and forbs are removed from the site, the condition assessment will still find that the shrub and tree component are well within expected range (say, comprising over 90% of all plants on the site, as one might expect) and so the site is considered in good or excellent condition. This type of range condition assessment method can seriously under-report impaired rangelands.

There are a number of different methods for measuring trend, but each depends on counting the number of plants of each species along a series of transects or in a series of sample quadrants. The BLM identifies "key" or "decreaser" plant species (desirable native forage species that are susceptible to depletion if grazed too heavily) and "increaser" or "invader" species (less palatable or toxic plants that increase in abundance in response to grazing). Range condition trend is considered "upward' or "improving" if key species are increasing in abundance relative to increaser or invader species, "downward" if key species are decreasing, and "stable" or "static" if the species composition of the rangeland is not changing significantly.

There are a number of problems inherent in the use of such trend measurements (Feller and Brown 2000). First, trend studies are designed only to detect changes in rangeland condition from the "status quo" at the beginning of the study period. They do not reflect the extent to which that status quo itself may be a result of drastic grazing-induced ecological changes that occurred before trend studies began. A "stable" trend may simply reflect a system that has reached rock-bottom. Second, such trend studies do not directly measure soil compaction, erosion, or loss of soil nutrients. These effects may be reflected in trend measurements only when they have progressed to an advanced stage, at which time it may be too late to take corrective action. Third, BLM trend studies typically utilize only a handful of sample sites to monitor trends on an allotment that may be tens or hundreds of thousands of acres in size. The use of such a limited number of sample locations presumes a degree of spatial uniformity, so that the trend at the monitoring station may be used to infer the trend over a much larger area. This presumption is generally not valid, as livestock grazing impacts typically vary dramatically across an allotment depending on distance to water, terrain features, slope, soil type and livestock movement (Feller and Brown 2000).

Utilization measurements: Utilization measurements are often based on forage species that represent the most dominant perennial grass. Unfortunately, species most at risk are not measured. Both the sample sizes used in measuring these variables, and the intervals of sampling, are usually inappropriate. Moreover, measuring utilization of key forage species does not tell you anything about the overall amount (biomass) of forage that is eaten, or left standing. As a result, utilization monitoring may not show changes in forage productivity over time.

Perhaps the most significant concern in assessing utilization rates is determining the rate that the forage can withstand. Range science literature shows that typical utilization levels of about 50% still result in significant resource damage. The Residual Dry Matter (RDM) index used by the park district establishes a utilization level that is closer to 75% and should be considered as an overgrazed condition in light of the comments regarding 50% utilization level data being discussed here. Actual utilization levels in the EBRPD routinely significantly exceed even the 75% levels.

The 50% utilization standard was developed from research on root-growth stoppage as a result of grazing (Crider 1955) and is sometimes known as the "take half and leave half" policy. Crider grew several Midwestern perennial grasses under ideal precipitation conditions and monitored root growth changes due to clipping over a period of two months. Crider concluded that root growth at the end of the growing season was not impaired when a single clipping removed 50% or less of the above ground biomass under these ideal conditions for these particularly robust Midwest perennial grasses.

The ecological needs of the land were not analyzed by Crider. Plant regeneration, wildlife habitat structural needs, soil nutrient generation, plant community composition change over the longer term, ecological events (e.g. drought) are a few of the factors not considered in the take half leave half policy. As a result, range scientists have concluded that there is no scientific basis behind using such levels of utilization (Caldwell 1984). Still, allowable utilization rates of 50% seem to dominate in the intermountain West.

That utilization levels of 50% will cause significant damage to ecosystem values is bourn out by the range science literature. For example, in their well-respected range management text, Holechek et al. (2001), summarize multiple long-term studies analyzing utilization, or grazing intensity, and its impact on forage production. Holechek and his colleagues determine, that while acceptable use ranged from 40% to 60% on productive rangelands, acceptable rates ranged from just 30% to 40% on more arid rangelands. Moreover, the authors caution that only arid and semi-arid "[r]anges in good condition and/or grazed during the dormant season can withstand the higher utilization level

[of 40%]" while those "in poor condition or grazed during active growth should received the lower utilization level [of 30%]. (Holechek et al. 1998, p. 206). In yet another meta-analysis of grazing studies, Holechek concludes that "moderate" utilization levels of 50% "results in rangeland deterioration in semi-arid grasslands, desert and coniferous forest rangelands" and heavy utilization rates of 57% "consistently cause a downward trend in ecological condition" in all areas. Holechek et al. (1999, p. 13).

Cook (1971) determined that, to maintain plant vigor and reproduction, utilization should be limited to 25% on plants grazed every spring. He found that 50% spring utilization is acceptable only every other year and only if the plants receive complete, year-long rest in the alternate years. And Galt et al. (1999) recommend a lower or utilization rate of 35% for arid areas. Importantly, they also point out that actual measured use is generally higher than the intended use. For example, on New Mexico rangelands, actual measured use was 10-15% higher than intended due to livestock trampling, wildlife use and weathering. Ultimately it is recommended that assigning 25% of forage to livestock, 25% to wildlife and natural disappearance and 50% to site protection, concluding that the 25% utilization rate is the "surest way to avoid chronic forage deficits and land degradation" for arid areas.

Grazing during the growing season: It is generally established by the scientific literature that livestock grazing during the growing season reduces net annual biomass production and thus increases the likelihood of compromised health of range ecosystems of the arid West (Holechek et al. 2001). Grazing up to the period of flowering may prevent plant recovery and seed generation (Heady 1984). The scientific literature generally concludes that allowing livestock to graze during the growing season is detrimental to the vegetation and soil communities of arid and semi-arid climes. Therefore, where grazing is allowed during the growing season, use levels or stocking levels must be reduced appropriately to account for the additional loss of annual biomass growth that is lost due to growing season grazing. However, in EBRPD parklands spring grazing is always allowed to occur without reducing use or stocking levels to take into account this loss of biomass growth.

By far the most compelling reason to foreclose grazing in the spring is the damage that livestock cause to moist and wet soils. The pressure from livestock hooves, especially cattle, easily compacts soil in the spring when the soil is wet and most vulnerable to compaction (Brady 1984, Warren 1987). Fine textured soils or those with inorganic crusts are particularly susceptible when wet (Webb and Wilshire 1983).

Spring grazing can also be deleterious for various soil-related variables such as streambank morphology and erosion potential. Grazing stream banks during spring when soils are wet or saturated can lead to hoof shear and compaction, resulting in greater stream bank erosion and sedimentation (Trimble and Mendel, 1995; Clary and Leininger 2000).

Despite consistent findings that grazing during the growing season degrades various ecosystem values, grazing practices in the EBRPD do not sufficiently curtail spring grazing. Currently all parklands are grazed during some part, or all, of the growing season. Moreover, as stressed above, the district does not predicate spring use on light utilization level, contrary to the recommendations of Holechek and others.

Rest - Rotational grazing effectiveness is questioned: Most commonly, rest rotation, as a standard grazing management prescription, typically implies a one or two year rest for a pasture. In some cases, rest can mean a reduction of the length of grazing or shift in the time of year of grazing. As described below, here is a growing knowledge that rest for such short periods,

especially for rangelands that fail to meet rangeland health standards, is not effective. Park district use of this technique typically consists of a one month rest period in spring months and perhaps several months in the dry season from August through October.

While many livestock growers advocate the use of special grazing management, such as rotational grazing, as a tool to moderate or ameliorate grazing impacts, the scientific literature is very divided regarding the benefits of these practices as traditionally practiced. In fact, there is evidence that the use of some of these management methods can actually worsen the condition of pastures. Holechek et al (1999) demonstrate the ineffectiveness of rotational grazing systems in improving rangeland conditions, as this paper reviews dozens of studies that show such systems are generally ineffective. In his range management text, Holechek and his colleagues explain that deferred-rotation and rest rotation grazing schemes have not been found to have an appreciable benefit to resource conditions when compared to continuous grazing. In analyzing the former grazing scheme, the authors note that on flat sage brush and shortgrass rangelands, the scheme results in no vegetation benefits when compared to continuous or season-long grazing.

Moreover, Clary and Webster (1989) report that numerous hydrologic studies have upheld the conclusions of Blackburn et al. (1982), who stated that little information supports claims for specialized grazing systems. In a review of recent studies, Pieper and Heitschmidt (1988) found no results to suggest that the application of short-duration grazing has a different effect on hydrologic performance and soil characteristics than does any other grazing system. They concluded that heavy stocking would result in long-term downward trend in hydrologic characteristics and that vegetation growth response in a short-duration grazing system is similar to that expected from any other grazing system. They suggested that stocking rate is and always will be the major factor affecting the degradation of rangeland resources.

Moreover, while rest periods arguably may allow the marginal recovery of individual plants, rotation schemes cannot mitigate the loss of vegetative cover that provides soil protection, thermal regulation, nor can these schemes mitigate water absorption and retention, or the alteration of plant competitive interactions that results from removal of biomass by grazing. These conclusions are echoed in a 1989 Forest Service paper that concludes that short duration livestock grazing has no different effect on hydrologic performance and soil characteristics than any other grazing system. "[H]eavy stocking would result in downward trend in hydrologic characteristics and vegetation growth response in a short-duration grazing system similar to that expected from any other grazing system" (Clary and Webster 1989, pg 6). In sum, they noted, "no grazing system can counteract the negative impacts of overstocking on a long-term basis."

In conclusion, we are asking the park district not to violate the public trust once more and do the right thing: perform a full EIR that includes thoroughly investigating cattle grazing as well as its potential impacts on public safety.

Respectfully yours,

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Director, Citizens for Safer Parks