

Managing for Naturalness at Mt. Diablo State Park

by

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Abstract

The 1989 General Plan for California's Mt. Diablo State Park recommended ending a long tradition of livestock grazing in the Park based on the assertion of a policy of managing for "natural processes." Controversy associated with the removal of grazing delayed implementation of the General Plan for almost five years. At Mt. Diablo grazing supporters were largely suburban homeowners concerned about fire risk, many of them quite vocal and wealthy. We argue that the ecological and legislative mandates for removing grazing do not fully explain the Park Staff's firm stance. A shift of professional norms from a recreation-oriented to a preservation outlook similar to that described for the National Park Service helps explain the decision. Further, as has been argued for "Ecosystem Management," setting the goal of managing for natural processes, managing for a means rather than an end, may be one way the Parks and other land management agencies can cope with diverse constituencies over the long run.

Keywords

natural processes, professional norms, livestock grazing, fire management

Introduction

In 1989, as part of the completion of a Park General Plan, staff of the California State Park System brought to an end a 100 year tradition of livestock grazing at Mt. Diablo State Park in an explicit effort to restore natural conditions and processes. Although local communities in this grazing dispute were suburban, and not dependent on a resource-based economy, a feared increase in fire hazard predicted from a build-up of dead plant matter as a by product of the cessation of grazing brought wide-spread community opposition. Because so many prominent local community members sought to retain grazing, one park staff member called it "the most hard-fought decision in recent State Park history." This paper presents a history of the decision and offers two possible explanations for the endurance of park staff in the face of ten years of community opposition: 1) professional norms in California's State Parks have changed along a path similar to those of the National Park Service (Chase, 1987), and 2) managing for "naturalness" is used by State Park managers to grapple with diverse public interests in a manner analogous to the U.S. Forest Service's reliance on multiple use or "ecosystem management" to achieve comparable ends (Jones et al. 1995;

Nelson, 1995; Culhane, 1981). We conclude by discussing possible consequences of this trend in natural resource management.

The influence and evolution of professional norms has been described for the National Park Service (Chase, 1987) and the Forest Service (Kaufmann, 1967; Fortmann and Fairfax 1989; Behan 1990; Brown and Harris, 1992), and for more local land management agencies (Fortmann, 1990). It has been argued that the National Parks' emphasis has shifted over the past few decades from managing primarily for recreation opportunities and visitor services to managing for “naturalness” and ecological integrity (Burch, 1988). The Mt. Diablo decision suggests a similar shift in the California State Parks. The transition in Forest Service norms might be viewed as enhancing organizational scope through a broadening of its mandate and clientele (Behan, 1990), or as increasing organizational sensitivity to a fuller range of forest values (Jones *et al.* 1995, Bengston 1994). Given the relatively greater strength of value orientations compared with knowledge (Steel *et al.*, 1990; Richards and Huntsinger, 1994), a change in professional norms in the California State Parks could well account at least partially for decisions made at Mt. Diablo.

It has also been observed that multiple use (Culhane 1981) and ecosystem management (Jones *et al.* 1995) mandates have helped the USFS manage its diverse constituencies. Defining management decisions as seeking after “naturalness”--and thereby in effect attributing management decisions to a “higher authority”-- could play a similar role for parks. A hands-off management approach may also be attractive in a time of shrinking budgets and increasingly complex responsibilities.

Although parks do not have as many mandated consumptive uses as multiple-use oriented public lands, the two primary goals, provision of recreational opportunity and preservation of the integrity of a park ecosystems, can conflict. In California, the addition of legislative mandates to preserve cultural resources, and an assortment of ecological stresses imposed by external forces beyond the sphere of park influence (Freemuth 1991), only increases the likelihood of conflict among management objectives, making formidable the challenge of managing parks. In fact, the relatively small size of State Parks makes them inherently more vulnerable to external impacts.

The grazing controversy at Mt. Diablo State Park

Mt. Diablo's 18,000 acres of uninhabited mountain and foothill terrain in central Contra Costa County is adjoined by San Francisco Bay Area suburbs and urban communities like Walnut Creek and Concord (Figure 1). A variety of local and statewide endemic plant species are found on the

mountain, almost exclusively on the unusual soils and in the unique climatic conditions near the summit. Large grazing ungulates such as tule elk and pronghorn antelope, which once roamed California in great herds (McCullough 1971), disappeared from this area and from most of the state under pressure from the commercial and sport hunting that boomed about the San Francisco Bay Area during the Gold Rush.

Mt. Diablo's summit was not used for cattle grazing due to extreme slopes and lack of suitable forage, but the annual grasslands and oak woodlands of the lower southwestern slopes have been grazed by the livestock brought by Euro-Americans in the 1830s. Through the latter half of the nineteenth century, a combination of changes in fire frequencies, excessive livestock numbers, severe drought, and the superior competitiveness of drought and grazing-adapted Mediterranean region annual grasses inadvertently introduced by European settlers led to the replacement of native perennial grasses with exotic annual grasses in most of California. In 1921, when the park was established on 630 acres at Mt. Diablo's summit, it was established not to preserve an ecosystem, but "for the purpose of preserving the spacious, scenic character of the natural features of Mt. Diablo" (Olmsted, 1927).

In the late 1960s and 1970s, with the support of Save Mt. Diablo, a non-profit, friend-of-the-park organization, the Park purchased adjoining cattle ranches, typically with a proviso which permitted owners to lease forage for some years after the transaction. In 1967, Mrs. Angel Kerley, the owner of the 2,000 acre Diablo Ranch, initiated discussions with the California Department of Parks and Recreation (DPR) to effect a donation and sale of all but 80 acres in return for the continued right to graze these lands and to carry out an interpretive ranching program for school groups and the general public. A complex acquisition agreement including these provisions was signed in 1979 for a term of ten years and according to the heirs of Mrs. Kerley, verbal assurances were made by the DPR, and implicitly corroborated by a contemporary article in the State Park Foundation's Park News, of their intent to renew the agreement thereafter.

A 1984 amendment to the grazing "concession" contract provided for its extension through 1990, contained language implying an automatic renewal, and permitted the grazing of additional, newly-acquired Park lands. Within a month of its signing, the amendment was criticized by DPR staff as contrary to the provisions of the California Environmental Quality Act (CDPR, 1988). Park professional staff felt that the amendment was approved without their consultation, a "deal" done by

the politically-appointed Director without adequate input from park ecologists and resource managers. Shortly thereafter, the amendment was declared by the State Parks Director “to be a nullity.” However, the Department took no further action, opting instead to wait for the Park’s General Plan, scheduled for completion in 1989, to set long range policies for management of the park’s resources (CDPR, 1988).

Other than the summit observation station and museum, the Civilian Conservation Corps (CCC) vintage campgrounds, and administration buildings, the park remains essentially undeveloped today (CDPR, 1989). More than 95% of the park’s 500,000 annual visits are confined to the relatively small summit area and the picnic areas and campgrounds adjacent to the summit access road. Until 1995, grazing was confined to pastures totaling approximately 6,000 park acres grazed by livestock belonging to Angel Kerley’s daughter and son-in-law, the current owners of the Diablo Ranch. The ranch itself is a 60 acre inholding.

Fire hazard is a serious issue throughout most of California and the Mt. Diablo area is no exception. A major fire burned on Mt. Diablo itself in the 1970s; the disastrous fire in the nearby Oakland Hills in 1993 is the kind of conflagration feared by homeowners in the area. Local water districts and the East Bay Regional Parks lease land for livestock grazing as part of fire management programs.

The Mt. Diablo State Park General Plan, the final version of which was released in 1990 after considerable public debate, included a recommendation that grazing be removed from all but 600 acres of the park. The plan included a proposal that grazing be part of a “demonstration ranch” designed to simulate a Spanish rancho. Volunteers dressed in traditional 19th century Spanish costume would interpret ranch activities for the public, thereby maintaining the cultural values of ranching for the park. The plan also specified closing the gift shop and cafeteria near the summit

The Plan generated hundreds of letters and a series of editorials in the local paper. Public hearings were held at the behest of various local governments over the course of four years. More than 90 percent of the public response in the form of statements at planning meetings and written comments on the draft General Plan concerned the “grazing issue,” the majority supportive of continuing the ranching operations at Diablo Ranch. Much of the General Plan consisted of arguments for a termination of grazing on the basis of its impacts on hydrologic and riparian systems, vegetation, hikers and wildlife. Public comments, including many from natural resource professionals

working in universities and public agencies, and many more from homeowners living adjacent to the Park, attempted to refute the assumptions underlying Park Staff decisions and expressed concerns about the loss of a “natural” wildfire prevention mechanism and a cultural and educational resource. Although the upscale suburban communities around the Park have a negligible stake in agricultural or natural resource enterprises, the *Contra Costa Times* officially protested the grazing decision.

For every “scientifically supported” argument put forth to call for an end to grazing in the General Plan, it seemed there was an equally “scientifically supported” argument that supported continued grazing in the letters and editorials. At one public hearing, grazing proponents included a wealthy suburban homeowner in Italian loafers who twisted his rolex watch in agitation as he spoke of the value of livestock grazing and the ugliness and destructiveness of prescribed burning. Another speaker, a woman who believed that roadside herbicide spraying had killed off a lot of the native grasses and herbs remaining in the park, wept and showed pictures of the dead plants — in fact many natives are plentiful on disturbed sites like road cuts. Another grazing proponent talked about the value of the special ranch tours offered for handicapped children by the ranch owner. In short, the Park staff resolutely defended their position as being in the best interests of the ecosystem, while a notable proportion of the local community argued that grazing protected the expensive homes near the park, provided a public service in the form of ranch tours and pastoral views, and was less harmful to the ecosystem than the management alternatives.

Staff Interpretation of Park Mandates for Natural Management

California State Park objectives have evolved since Mt. Diablo State Park was established. Initially, parks were established to protect significant natural or historic features. Following World War II, the state legislature recognized the provision of recreational facilities as a legitimate objective and expanded the System to achieve it. In 1971, a time of intense public interest in “ecology,” the Public Resources Code (§ 5019.53) concerning the state parks was amended to include a purpose, “...to preserve outstanding natural, scenic, and cultural values, indigenous aquatic and terrestrial fauna and flora, and the most significant examples of such ecological regions of California as [geographically diverse list]...”, and the declaration “Each State Park shall be managed as a composite whole in order to restore, protect, and maintain its native environmental complexes to the extent compatible with the primary purpose for which the Park was established.”

The DPR's handbook of Resource Management Directives (Calif. DPR, 1979), based on the policies of the State Parks Commission, includes several that recognize the need for a relatively aggressive management strategy in order to pursue the goal of maintaining native environmental complexes. For example, Directive #29 acknowledges the need to "...purposefully guide dynamic ecological factors that are constantly undergoing a successional trend through the interaction of natural and extraneous forces" and that "this guidance may not always involve simply static protection of the features or elements that happen to be a part of the existing environment in any particular period of time." Directive #30 offers up three possible management program themes for preserving resource values in state parks: active management for a sub-climax successional stage; long-term programs to ensure perpetuation of a climax stage, or "hands-off" management to permit natural successional changes to take place.

By 1989, the drafters of the Mt. Diablo General Plan interpreted these directives and their legislative mandates as a charge to "...actively manage natural resources in order to restore and maintain native environmental complexes using natural ecological processes" (Calif. DPR, 1989); however, the stated management objectives and recommendations emphasized managing for "natural processes" almost to the exclusion of "active management." As a result, a point argued forcefully in the Mt. Diablo General Plan is that livestock grazing must be removed from most of the park. The stated rationale was the need to "restore natural processes," a restoration that required removal of the unnatural cow.

Taken as a whole, the statutes do not directly ban livestock grazing in State Parks, but do convey an intent that grazing be allowed only where it achieves a park purpose (Calif. Code of Regulations Title 14 § 4315) and/or where grazing occurred immediately prior to land acquisition (Calif. Public Resources Code § 5069.1). One statute bars improvements (defined in the General Plan as structures, water developments, fencing and leasing for grazing) "...which do not directly enhance the public's enjoyment of the natural, scenic, cultural, or ecological values of the resource, which are attractions in themselves, or which are otherwise available within a reasonable distance..." (Calif. Public Resources Code §5019.53). The General Plan describes grazing and its accoutrements as "attractions in themselves" that do not contribute to the natural, scenic, cultural, or ecological values of the resource.

The decision

Despite the considerable latitude allowed by the park's history and mandates, and in the face of well-organized and vociferous local opposition galvanized by the fears of park neighbors about increased fire hazard from accumulations of ungrazed dry grass, DPR staff stood by their decision to remove grazing from the park, finally accomplishing their goal in 1994. Although responses to the General Plan indicated that much of the public regarded grazing as "beneficial," either as a component of the park's fuels management and vegetation manipulation efforts or as a replacement for the ecological role played by pre-historic elk and antelope grazing in ecosystem dynamics, park staff did not agree.

Substantial evidence over the past decade (staff memos, informational papers, and the General Plan) suggests that DPR staff long sought to end grazing. This desire was shared by the Sierra Club, which lobbied for an end to grazing even before development of the General Plan. However, before the publication of the Mt. Diablo General Plan, the San Francisco Bay Area Chapter of the Sierra Club, in its monthly newsletter, *The Yodeler*, deemed designation of one or more wilderness areas at Mt. Diablo as its top priority and advocated continued grazing on the 1800 acres of the original Diablo Ranch, rather than the 600 acres suggested in the final General Plan. Ultimately, the fundamental argument used to remove grazing from the Park was the DPR staff's development and interpretation of the "natural processes" mandate.

There is room for personal or professional judgment to play a role in decisions about the compatibility of grazing with a "natural" landscape. We would suggest that livestock grazing as an influence on vegetation falls somewhere in the middle of a continuum connecting wildfire (on the natural extreme) and herbicide treatments or plowing (on the managed extreme). Vegetation is removed with grazing, but soil disturbance is less than under crop production or tillage for firebreaks, and tends to be more localized than in the case of either wildfire or crop production. The scientific salvos hurled back and forth in the argument over the plan also indicate that given that the area of grazing was limited to a third of the park, and that the ecological evidence is equivocal, the overall harmfulness of the grazing program was at least debatable.

Whether or not the grazing at Mt. Diablo could be seen as a cultural resource is of course also subjective. Grazing at Mt. Diablo is viewed by some as too "recent" to be regarded as a cultural resource; for others, it bespeaks the history of settlement that defined the region. But for many park

neighbors, the most compelling reason to retain grazing was their perception that the practice reduces the likelihood of wildfires spreading from the park by reducing the build-up of dried grass and suppressing the encroachment of flammable shrubs.

Implications of decision-making under a natural processes paradigm

A natural processes mandate in parks is neither new nor uncontroversial. It has been argued that our limited knowledge of ecosystems is reason to wait, watch and learn from the operation of “natural processes” in “living laboratories” (Graber, 1985). Further, because of our lack of knowledge, some argue that it is inappropriate to target any desired state or ecosystem as a management goal except in historic or developed areas (Parsons et al. 1986). Schiff (1966) traces a trend to leaving ecosystems alone to the overwhelming influence of Clementsian ideas about plant communities during the early stages of both the conservation movement and the discipline of ecology (Clements, 1909). Clements placed the highest value on a theorized stable plant community that would inevitably arise in the absence of disturbing forces: a climax plant community that to many in the conservation and environmental movements has become synonymous with a “pristine” or “natural” environment. As a result, the tendency is to regard other plant communities as comprising a “lower,” less natural, stage of development. Yet in the disturbance-dominated landscapes common in California, stable climax communities are all but absent.

The emphasis on pre-Euro-American scene restoration underlying the objectives at Mt. Diablo as well as countless other state and national parks can be traced to the “Leopold Report” (Leopold, 1963) and implications derived from the U.S. National Park mandate to conserve scenery and natural objects (Parsons *et al.* 1986; Lopoukhine, 1983). Unfortunately, all the evidence suggests that “hands off” management which allows nature to take its course at Mt. Diablo will not achieve the park’s legal mandate to restore native, pre-European, environmental complexes. The dense brush cover common on ungrazed park lands where fire and grazing have been excluded is a twentieth century phenomenon resulting from widespread fire suppression and is unlikely to change without active management. Although DPR contends that livestock removal will restore native perennial grasses, research conducted nearby suggests that even after decades of protection from grazing by livestock, perennial abundance rarely increases after mere cessation of livestock grazing (Bartolome and Gemmill, 1981).

As early as 1983 the Chief of the California State Parks' Resource Protection Division described the natural processes management goal of California's State Parks as similar to that of the National Parks, yet differentiated it as tempered by consideration of visitor aesthetics and a commitment to minimizing deleterious impacts on adjacent property owners (Getty, 1983). He also emphasized a theme that recurs in conversations with Department of Parks and Recreation staff: program objectives are “process oriented,” to the exclusion of concern about how vegetation and wildlife are ultimately affected. For example, except as a means of eliminating exotic vegetation, fire is viewed not as a tool for managing vegetation but as a process to be perpetuated to create a “natural” environment that will theoretically be favorable to the balance of species that evolved under the influence of natural fires. Given the substantial ecosystem changes that have resulted from a century of fuels build-up coinciding with aggressive fire control, this chain of logic necessitates a substantial leap of faith, and represents a departure from both pre-Euro-American scene restoration and protecting native environmental complexes.

Credible, ecologically-based arguments can be made for the removal of grazing from a park. But under the auspices of managing for natural processes, the Mt. Diablo General Plan proposes both natural and unnatural, intrusive and hands-off methods for achieving various aims in a manner that only makes sense if Park staff share norms that include a distaste for livestock grazing — an agricultural use traditionally banned from National Parks. For example, the park continues to deploy herbicides along Park roads and to maintain fuel breaks, and in fact must increase these efforts in the absence of grazing. Whenever a government entity takes a significant action affecting the environment, a mitigation plan is required under California’s Environmental Quality Act (CEQA). The DPR has prepared such a plan to mitigate the increase in fire hazard brought about by the removal of grazing (CDPR, 1987). This plan entails the bulldozing and annual maintenance of over 100 miles of fuel breaks -- 20-50' wide strips cleared of all vegetation -- which are unsightly to many and notorious for instigating erosion. It is difficult to understand how such mitigation could be construed as less compromising to naturalness than the grazing it replaces. The General Plan acknowledges that the planned construction of fire roads and fuel breaks makes the entire Park ineligible for wilderness designation. Park managers propose to substitute prescribed burning for directed grazing. However, it is well known that to reduce risks, prescribed burning cannot take place at the most “natural” time of year, but instead must be done when fuel moistures are higher, pushing

it into spring or after the start of fall rains. Furthermore, urban air quality concerns, high implementation costs, and heightened risks to residential areas on the park perimeter pose tremendous and expensive obstacles to full implementation of this proposal. Thus, the compensatory management actions required under CEQA and other fire hazard reduction efforts may result in a greater degree of intervention in “natural processes” and considerable ecological impact. Because the Park is surrounded by housing subdivisions, the "no action" alternative is not available.

Park staff have expressed an intent to eventually repatriate tule elk, as grazing ungulates native to this area, to Mt. Diablo. While a lofty goal, formidable challenges to implementation, including construction and maintenance of 50-100 miles of elk-proof fencing, counteracting instinctive, downslope winter migrations into backyard gardens of park neighbors, and avoiding harmful interactions among elk, people, and automobiles, has so far doomed such plans.

Mt. Diablo is not the only park in the San Francisco Bay Area with a history of grazing. The East Bay Regional Parks and Point Reyes National Seashore, a part of the National Park System, both accommodate grazing within their mandates as parks. The goals of supporting local agricultural enterprises as a means of preserving surrounding open space and reduction in fire hazard were considered sufficient justification for continued grazing in substantial portions of the Regional Parks. At Point Reyes, the need to gain local support for federal land acquisition, and a sense of obligation to honor past contracts, were instrumental in the development of a grazing program, but the greatest long term benefit appears to be the preservation of the rural character of surrounding lands by contributing to the economic viability of the local dairy industry (Huntsinger and Hopkinson, 1996). The park land has acted as a catalyst for the development of the Marin Agricultural Land Trust, which has succeeded in preventing the development of thousands of acres of surrounding ranch land.

Naturalness as a Management Goal

The emergence of a managing for naturalness theme at Mt. Diablo suggests the extension of a trend begun in U.S. National Parks (e.g., Bonnicksen and Stone, 1982; Burch, 1988; Chase, 1987). However, planners at Mt. Diablo introduced a subtle variation in their interpretation. Their goal did not consist of any desired conditions, such as pre-European settlement vegetation. Instead, they decreed that only natural processes would occur, and that, in a biological fiat, these would result in a natural park. By specifying a goal of processes without defining probable outcomes, planners elected to manage for means rather than ends.

Implicit in the natural processes approach is a desire to return parks to a "natural" condition, but a precise definition of a "pristine" or "natural" environment is elusive. Some argue that Parks will always show the imprint of the previous actions of humans and will never achieve true "naturalness" because of our limited knowledge of the pristine structure and function of ecosystems (Bonnicksen and Stone, 1982). Others characterize parks as fragmented ecosystems that are no longer shaped by the extensive interactions and forces responsible for their creation (Chase, 1987). Scientists have long neglected the activities of indigenous people which have influenced the American landscape over millennia, often through active and intentional management of vegetation and game (Blackburn and Anderson, 1993). Using natural processes as a goal frees management from the need to define what a "natural" park might ultimately look like. If the right processes are allowed to function, the outcome, regardless of public opinion, will inherently be the "right" one.

Conclusions

The role of professional norms has been documented for the Forest Service and other land management agencies (Fortmann, 1990; Mazmanian and Sabatier, 1989) but has not yet been explored in a state parks agency. The State Parks staff has clearly allied itself with those who consider grazing to be inherently degrading to the environment, and "cultural resources" to be those of a distant, preferably foreign, past. These attitudes are similar to those described for other land management agencies, and are part of a general drift away from the oft-professed values of agriculturalists and traditional resource managers for "productive but healthy" ecosystems. Livestock grazing itself seems to have become emblematic of an exploitative use of land. Grazing at Mt. Diablo was seen as an exploitative local use, and the historical value of ranching confined to the Spanish period. It follows that local concerns could only be considered tainted by self-interest or ignorant of the "larger" resource values.

Managing for natural processes departs from the traditional, "rational-scientific" approach; it may, however, be a reasonable response to the difficulties faced by park management. The rational-scientific approach is goal definition followed by identification, selection, and implementation of management strategies. Professional resource managers are then expected to base decisions on the best available scientific information. Public input is solicited to meet the letter of the law, and sometimes to reduce conflict over management decisions. But again and again these efforts fail to avert controversy, and management initiatives stall. For example, public outcry nearly always follows

the decision to remove excess animals, exotic or native, through lethal means. The proposed removal of Australian eucalyptus trees from local and state parks caused a ruckus in the San Francisco Bay Area. Despite considerable opposition at Mt. Diablo from community leaders, DPR staff were able to support their decision using naturalness as an irrefutable justification.

Unfortunately, State Park managers may have missed a rare opportunity to extend preservation influence in rapidly suburbanizing Contra Costa County. By at least appearing to violate a previous commitment to allow grazing, they run the risk of alienating ranchers who control tens of thousands of acres adjacent to Mt. Diablo State Park, and implicitly chose to confine their sphere of influence to the “island” of Mt. Diablo. The General Plan's repeated invocation of the image of Mt. Diablo as an undisturbed, relic island reflects the DPR's philosophy concerning the proper relationship between the park and its surrounding biophysical and social environment. Yet parks far larger than Mt. Diablo have experienced dire external threats, in part because no park is really an island, and ecosystem boundaries have a habit of encompassing far more area than can ever be feasibly set aside from all consumptive use.

Like the word “natural” on the outside of cereal boxes, using naturalness as the basis for park management decisions is not straightforward in meaning. Scholars have argued that “the key technical management doctrine of federal land management, multiple use, is also a political doctrine, a method for managing the agencies' political environments as well as physiographic jurisdictions” and that the multiple use principle can be viewed as a means of dealing with increasingly complicated pressures from interest groups on resource management agencies in the postwar period (Nelson, 1995; Culhane 1981). Managing for “naturalness” fulfills a similar function for the parks, helping them to manage their political environment. The larger the public the park attempts to serve, the more complex the demands, and the fewer specific objectives it can offer for management without arousing the ire of interest groups. Using naturalness as a justification deflects suggestions for management practices from almost any constituency, by attributing management decisions to nature itself. The fall-back position is that it is better to do nothing at all, minimizing human interference and risk to park managers. Managing for “natural processes” goes a step further, by eliminating any end by which the means might be judged.

Managing ecosystems towards a desired condition or to perpetuate processes implies at least a modicum of control, often via manipulation of vegetation. Yet the variety of tools for accomplishing

such ends continues to diminish. Manual control is prohibitively expensive. Chemical control may be cheaper, but is usually not acceptable to one or more participants in the decision process, and is certainly not a natural process. While prescribed fire looked promising in the late 20th century and is widely thought to be a “natural” process, the practical hurdles of air quality, threats to human settlements, liability costs, and the lack of selectivity have seriously hampered its potential. Directed grazing can be the best tool by virtue of selectivity, cost, and absence of off-site impacts. Further, grazing is not the “black box” process it is so often treated as, but a collection of effects that can be manipulated through a variety of management options.

Finally, the evolution of the California Department of Parks and Recreation identity from a locally-oriented recreation provider to ecosystem protector, similar to the evolution described for the National Park System, was illustrated on a recent trip to the park. Park properties are beginning to be labeled “California Park System,” or CPS, instead of the heretofore standard, “DPR.”

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MICHIGAN STATE

U N I V E R S I T Y

October 24, 1997

Donald Field
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Dear Dr. Field:

Enclosed are two copies of our final draft of "Managing for Naturalness at Mt. Diablo State Park" (UW-SNR-570). We have incorporated the suggestions of Reviewer #3 and included the requested figure.

At 42 characters, our title is less than the 50 character limit and therefore suitable as a running head. If a shorter running head is desired, "Managing for Naturalness at Mt. Diablo" could be used, though we would prefer the whole title. I would be happy to provide the manuscript in electronic form (Word 7) either on disk or as an e-mail attachment or ftp download if that would speed the publication process.

I will be the corresponding author for this manuscript. The extended address information for both authors is as follows:



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Thank you for this opportunity to publish in Society and Natural Resources.

Sincerely,

Jeremy S. Fried
Assistant Professor