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Paul C. Ringgold

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FREE-RANGE CATTLE ON THE BAY AREA'S RURAL FRINGE

*PAUL C. RINGGOLD**

I. INTRODUCTION

As the population of the San Francisco Bay Area continues to increase, added pressures are placed on public land uses in the rural fringe. These uses include natural-resource conservation, scenic value, recreation, and historic activities, including agriculture and grazing. This Article will explore the use of public and nonprofit open space land for grazing, and the unique opportunities and challenges that this use presents in relation to the other public benefits that these lands provide. Key opportunities include the use of carefully managed grazing to restore and maintain California's native grasslands and to reduce the threat of catastrophic wildfire along the urban/rural interface. Key challenges include the need to manage cattle to avoid significant adverse impacts to the environment and conflicts with recreational and other open-space uses, and the need to identify mechanisms by which nonprofit organizations can pursue conservation-oriented grazing activities on their lands without the prospect of a resulting loss of tax-exempt status.

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* Paul Ringgold is Director of Land Stewardship with Peninsula Open Space Trust (POST), a nonprofit land conservation organization that works to give permanent protection to the beauty, character, and diversity of the San Francisco Peninsula and Santa Cruz Mountain Range. Prior to his career with POST, he was a policy research associate at the Pinchot Institute of Conservation in Washington, D.C., and served as a land manager and ecosystem research program director with the University of Washington. Mr. Ringgold holds a Master of Forest Science degree from Yale University.

II. BACKGROUND: THE EVOLVING BAY AREA LANDSCAPE

The San Francisco Bay Area landscape has long been influenced by direct and indirect effects of grazing. There is evidence that a variety of native mammals roamed the region in grazing herds as much as 12,000 years ago and that elk have been in the region for the past 10,000 years.[1] European cattle were introduced to California in 1770, and following the Gold Rush, grazing cattle rapidly became a significant feature of the Bay Area landscape.[2]

Although it has been suggested that native grasslands have evolved with grazing over such a long period of time,[3] it is clear that in the later part of the period, there have been significant disruptions to this natural cycle as a direct result of the introduction of non-native plant and animal species.[4] With cattle came the gradual introduction of a variety of exotic grass species (primarily European annual grasses to which introduced cattle were best adapted).[5] This, along with differences in grazing preferences between native and non-native grazing animals,[6] has resulted in grassland communities that are dramatically different from those that existed prior to European settlement of the area.[7]

Compounding the changes brought by introduced animal and plant species has been the effect of rapid population growth and associated de-

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[1] Stephen W. Edwards, *Observations on the Prehistory and Ecology of Grazing in California*, 20 FREMONTIA 3, 3-4 (1992).

[2] CONTRA COSTA COUNTY DEP'T OF AGRIC., RANCHING AND GRASSLANDS MANAGEMENT IN CONTRA COSTA COUNTY 1 (2005), *available at* www.co.contra-costa.ca.us/depart/agriculture/files/CropRpta2005.pdf.

[3] Jaymee T. Marty, *Effects of Cattle Grazing on Diversity in Ephemeral Wetlands*, 19 CONSERVATION BIOLOGY 1626, 1631 (2005), *available at* http://cesantaclara.ucdavis.edu/files/33081.pdf.

[4] Tom L. Fleischner, *Ecological Costs of Livestock Grazing in Western North America,* 8 CONSERVATION BIOLOGY 629, 631, 633 (1994), *available at* www.prescott.edu/faculty_staff/faculty/tfleischner/documents/Ecol.CostsofLivestockGrazing.pdf.

[5] Jerome E. Freilich et al., *Ecological Effects of Ranching: a Six-Point Critique*, 53 BIOSCIENCE 760 (2003), *available at* www.rangenet.org/directory/freilichj/6%20Points.pdf; *see, e.g.*, GEORGE W. COX, ALIEN SPECIES AND EVOLUTION: THE EVOLUTIONARY ECOLOGY OF EXOTIC PLANTS, ANIMALS, MICROBES AND INTERACTING NATIVE SPECIES 21 (2004); CONG. RESEARCH SERV., HARMFUL NON-NATIVE SPECIES: ISSUES FOR CONGRESS III (1999), *available at* www.cnie.org/NLE/CRSreports/ Biodiversity/biodv-26b.cfm (showing that some of these introductions were intentional, such as seed imported to grow feed for cattle, while other introductions were inadvertent, such as the seeds of non-feed species that were stuck in imported hay bales).

[6] John D. Parker et al., *Opposing Effects of Native and Exotic Herbivores on Plant Invasions*, 311 SCIENCE 1459, 1460 (2006), *available at* www.serc.si.edu/labs/terrestrial_ecology/pdf/Parker%20et%20al%20SCIENCE%202006.pdf.

[7] *See* UNIV. OF CAL. AGRIC. & NATURAL RES., UC COOPERATIVE EXTENSION HELPS BRING CATTLE GRAZING BACK TO BAY AREA GRASSLAND (Feb. 2007), *available at* http://ucanr.org/spotlight/grazing.shtml.

velopment in the Bay Area, which has gradually pushed undeveloped space outward toward the fringe.[8] As a direct result of this development, the amount of land available for sustaining wildlife habitat and other resource values (including water, recreation, and scenic) has shrunk, with concomitant growth in conflicts among the various uses and user groups supported by these open spaces.[9] Not least among these conflicts has been the growing controversy surrounding the use of these lands for open-range cattle grazing—a controversy that has arisen in relation to the impact of grazing uses on both natural resources and recreation.[10]

III. THE IMPACTS OF GRAZING ON CALIFORNIA RANGELANDS

The subject of grazing on open rangeland has long been a lightning rod for public controversy. Such controversy is frequently sparked by a powerful image of herds of cattle wreaking devastation on federal open lands in the arid intermountain west.[11] This issue of the "capture"[12] and exploitation of public lands in the West by a long-standing and powerful grazing lobby has been explored in great depth by a number of scholars;[13] it has also frequently been brought to the forefront in legislative

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[8] *See* BILL EISENSTEIN & ELIZABETH STAMPE, GREENBELT ALLIANCE, AT RISK: THE BAY AREA GREENBELT 2 (2006), *available at* www.greenbelt.org/ downloads/resources/atrisk2006_ report/atrisk2006.pdf.

[9] Interestingly, increased urbanization in the Bay Area has not had as significant a direct impact on rangeland as it has on farmland, based on the tendency of rangeland to be in locations that are more difficult to develop (due to terrain and other factors). Larry Forero, Lynn Huntsinger & W. James Clawson, *Land Use Change in Three San Francisco Bay Area Counties: Implications for Ranching at the Urban Fringe*, 47 J. OF SOIL & WATER CONSERVATION 475, 475 (Nov.-Dec.1992).

[10] *See* Rone Tempest, *Hikers in East Bay Parks Have a Beef with Cows*, L.A. TIMES, Sept. 6, 2004, at B1, *available at* http://articles.latimes.com/2004/ sep/06/local/me-cows6.

[11] *See, e.g.,* Pima-Maricopa Irrigation Project, Loss of the Gila River Waters 33, www.gilariver.com/waterloss.htm (follow "Lesson 9" hyperlink) (last visited Aug. 17, 2009).

> In 1891, army veteran John Bourke observed that the 'wild grasses of Arizona always seemed to me to have but slight root in the soil, and . . . the presence of herds of cattle soon tears them up and leaves the land bare.' Cattle tended to concentrate 'in the stream bottoms . . . devouring succulent aquatics and emergent vegetation as well as saplings of the riparian trees such as cottonwoods and willows. Their hooves . . . trampled more vegetation, churning the stream banks into mud holes. Elsewhere they cut trails in dry, newly exposed soils, setting up more erosional (sic) processes.' There were so many cattle grazing in southern Arizona, by 1891, that the area 'looked like one huge cattle ranch.' There was 'no single land use [in southern Arizona that] had a greater effect on the vegetation . . . or has led to more changes in the landscape than livestock grazing.' *Id.*

[12] The rule of capture is based on the legal maxim that "first possession is the root of title." Carol M. Rose, *Possession as the Origin of Property*, 52 U. CHI. L. REV. 73, 75 (1985).

[13] *See, e.g.,* Debra L. Donahue, *Western Grazing: the Capture of Grass, Ground, and Government*, 35 ENVTL. L. 721 (2005).

debates over the appropriate uses of federal lands.[14] Information from these studies and from debates related to the significant resource damage caused by grazing in arid regions is often used in support of arguments to reduce or remove grazing from all public lands.[15]

The negative image of grazing on public lands in the west carries plenty of truth, but it is subject to misinterpretation when used out of context. For example, the Bay Area's mesic (wet-climate) grasslands have different responses and resiliency to grazing impacts than do arid grasslands.[16] Among the key differences between mesic and arid grasslands are 1) higher productivity rates in mesic grasslands, which lead to accumulations of greater amounts of biomass;[17] 2) higher tendencies for shrub and tree invasion into undisturbed mesic grasslands;[18] and 3) greater resilience of mesic grassland species to—and perhaps dependence on—grazing disturbance.[19]

Before discussing the potential benefits that grazing can provide for California grasslands, it is useful to review the negative impacts of grazing, which are equally applicable to both arid and mesic grassland systems. Chief among these is the damage to riparian habitats and wetlands due to the congregation of cattle around these areas for water and forage.[20] Grazing also can have direct negative impacts on sensitive plants and animals as a result of pulling and trampling,[21] along with negative

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[14] Bruce M. Pendery, *Reforming Livestock Grazing on the Public Domain: Ecosystem Management-Based Standards and Guidelines Blaze a New Path for Range Management*, 27 ENVTL. L. 513, 513-14 (1997).

[15] *See id.* at 514-17.

[16] Grey F. Hayes & Karen D. Holl, *Cattle Grazing Impacts on Annual Forbs and Vegetation Composition on Mesic Grasslands in California*, 17 CONSERVATION BIOLOGY 1694, 1700 (2003), *available at* http://cesantaclara.ucdavis.edu/files/33080.pdf.

[17] *Id.* at 1695.

[18] *See* Ragan M. Callaway & Frank W. Davis, *Vegetation Dynamics, Fire, and the Physical Environment in Coastal Central California*, 74 ECOLOGY 1567 (1993), *partially available at* www2.bren.ucsb.edu/~fd/fd/pubs/callaway_davis_93.pdf.

[19] Hayes & Holl, *supra* note 16, at 1695.

[20] The cited article provides a thorough review of literature that has documented degradation of riparian habitat by cattle grazing. Damage by cattle to riparian habitats and wetlands is caused by: trampling-related impacts, such as soil compaction; increased erosion and direct mortality to individual plants and animals; grazing-related impacts, such as de-vegetation of sensitive soils; and impacts of feces and urine on water quality. The authors go so far as to say that "[l]ivestock do not benefit stream and riparian communities, water quality, or hydrologic function in any way."). A. J. Belsky et al., *Survey of Livestock Influences on Stream and Riparian Ecosystems in the Western United States*, 54 J. OF SOIL & WATER CONSERVATION 419, 420 (1999), *available at* www.sou.edu/Biology/Courses/Bi523/BelskyGrazing.pdf.

[21] *See* SOTOYOME RESOURCE CONSERVATION DIST., GRAZING HANDBOOK: A GUIDE FOR RESOURCE MANAGERS IN COASTAL CALIFORNIA 7-8 (2006), *available at* http://sotoyomercd.org/GrazingHandbook.pdf; *see, e.g.*, U.S. FISH & WILDLIFE SERV., ENDANGERED SPECIES BULLETIN 43 (Mar./June 2002), *available at* www.fws.gov/endangered/bulletin/ 2002/03-

disturbances to the composition of plant communities.[22] It has also been found that invasive exotic species that are introduced to sites as a result of grazing can produce potentially irreversible changes.[23] Indirect negative impacts associated with grazing operations include fencing, which can impede normal movement of large mammals,[24] and periodic elimination of "problem" animals (including mountain lion and coyote) that prey on cattle.[25]

In addition to these ecological impacts, grazing can often conflict with recreational uses on public lands. Such conflicts include aesthetic impacts to recreational users who come into contact with the odors and waste produced by cattle, the nuisance of flies that are attracted to cattle manure,[26] and occasional scares and rare direct injuries as a result of charging animals.[27]

The potential benefits of properly managed grazing to California grasslands (including the Bay Area in particular) have been chronicled in a variety of research findings and other literature.[28] The majority of these benefits are related to vegetation management and include 1) control of fuels to reduce risk of wildfire,[29] 2) prevention of the conversion of grassland mosaic to brush through succession that had previously been controlled by natural disturbance such as native animal grazing and wild

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06/2002_03-06.pdf.

[22] Fleischner, *supra* note 4, at 636.

[23] *Id.* at 633-34.

[24] *Id.* at 636.

[25] Freilich et al., *supra* note 5, at 760.

[26] Julia Scott, *Cows Will Help Park Fight Weeds, Wildfire*, OAKLAND TRIB., Oct. 30, 2007, *available at* http://findarticles.com/p/articles/mi_qn4176/is_20071030/ai_n21074032/.

[27] Tempest, *supra* note 10. Written documentation of conflicts between recreation and grazing in the Bay Area has been difficult to find. However, based on the fact that remedies to this issue are briefly discussed in the public agency policies on grazing that are described in this article (*see infra* Part IV), the issue warrants further investigation. Among the examples of tools used to resolve recreational/grazing conflicts on public land are 1) exclusion of grazing from prime recreational sites, *see* SANTA CLARA COUNTY PLANNING OFFICE, GRAZING SOLUTIONS: GRAZING AS A POSITIVE TOOL FOR NATURAL RESOURCE MANAGEMENT 9 (Apr. 2000), *available at* www.sccgov.org/SCC/docs%2FPlanning,%20Office%20of%20(DEP)%2Fattachments%2F616655pl_5_2_9GRASSReport.pdf; 2) timing of recreational activities and grazing operations to avoid contact between recreational users and cattle during periods of high use by recreational users or periods of high sensitivity of cattle to disturbance (i.e., calving season), *see* SOTOYOME, *supra* note 21, at 15-20; and 3) informational campaigns to heighten awareness of recreational users to the use of areas that contain grazing operations, *see* E. BAY REG'L PARK DIST., WILDLAND MANAGEMENT POLICIES AND GUIDELINES 19 (2001), *available at* www.ebparks.org/files/wildland_mgt_policies.pdf.

[28] *See, e.g.*, SOTOYOME, *supra* note 21, at 15-20.

[29] *See* Forero et al., *supra* note 9, at 478.

fire;[30] and 3) aid in restoration of perennial grasslands[31] through competition with invasive annual grasses.[32] Among additional benefits not associated with vegetation and habitat management are the maintenance of rural community economies and ranching lifestyles[33] and the continued availability of local sources of free-range, grass-fed beef in the Bay Area.[34]

Finally, several recent studies have determined that grazing can be effectively used to maintain unique habitats that are either adapted to regular grazing disturbance or that need grazing or other similar disturbance to mitigate environmental change such as increased air pollution and invasion by non-native grasses. Following are two examples of such projects.

A. PROTECTING BUTTERFLY HABITAT IN THE SOUTH BAY

In the Coyote Hills, southeast of San Jose, a study found that the removal of cattle grazing resulted in a crash in populations of federally endangered Bay checkerspot butterfly (*Euphydryas editha bayensis*).[35]

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[30] Joe R. McBride, *Plant Succession in the Berkeley Hills, California*, 22 MADROÑO 317, 322, 328 (1974); *see also* Edwards, *supra* note 1, at 7; Callaway & Davis, *supra* note 18.

[31] California grasslands are incredibly diverse and complex plant communities. In addition to their complement of native perennial grasses, they are often dominated by native annual grasses and also have a large number of native forbs. Species composition is often different from year to year, depending on levels and timing of rainfall and temperature. *See, e.g.*, M. W. Talbot et al., *Fluctuations in the Annual Vegetation of California*, 20 ECOLOGY 394, 394-402 (1939), *available at* www.lib.montana.edu/digital/objects/coll2451/pdf/B18F005.pdf. These complexities are compounded by the presence of non-native grasses and forbs, and make it very difficult to accurately predict the results of various management treatments on species composition. *See* Susan Harrison et al., *Ecological Heterogeneity in the Effects of Grazing and Fire on Grassland Diversity*, 17 CONSERVATION BIOLOGY 837, 838 (2003), *available at* www.des.ucdavis.edu/faculty/Harrison/people/sue/papers/grassland_CB_6-03.pdf.

[32] CARLA D'ANTONIO ET AL., ECOLOGY AND RESTORATION OF CALIFORNIA GRASSLANDS WITH SPECIAL EMPHASIS ON THE INFLUENCE OF FIRE AND GRAZING ON NATIVE GRASSLAND SPECIES 15-16 (2000) (unpublished report for David and Lucille Packard Foundation of Univ. of Cal. Berkeley Dep't of Integrative Biology, on file with author) (stating that, "once established, native perennial grasses in California appear to be successful competitors and can survive in a diverse grassland community for many years"), *available at* www.cnga.org/library/DAntonioGrassReviewArticle.pdf; *see also* Edwards, *supra* note 1, at 7 (suggesting that grazing as a tool for certain grassland restoration activities may be needed only on a periodic basis, as necessary to knock back invasive exotic competitors).

[33] *See* Forero et al., *supra* note 9, at 479.

[34] Carolyn Jung, *Beef Goes Green: Traditional Growing Methods May Be More Humane, Better for Ecology Too*, SAN JOSE MERCURY NEWS, July 29, 2002, *available at* www.accessmylibrary.com/coms2/summary_0286-6892888_ITM.

[35] Stuart B. Weiss, *Cars, Cows, and Checkerspot Butterflies: Nitrogen Deposition and Management of Nutrient-Poor Grasslands for a Threatened Species*, 13 CONSERVATION BIOLOGY 1476, 1483 (1999), *available at* http://repositories.cdlib.org/cgi/viewcontent.cgi?article=1205&context=

The life cycle of this species is adapted to a very narrow range of host plants that exist only in the unique and nutrient-poor serpentine soils of the Bay Area.[36] The study determined that increased deposition of atmospheric nitrogen due to air pollution had enriched these soils, resulting in heavy competition by non-native annual grasses at the expense of the native host plants.[37] The ongoing presence of grazing on these sites had masked this phenomenon by the selective preference of cattle for exotic annual grasses over the native forbs that serve as host plants, thereby allowing for continued thriving populations of both the host plants and the butterfly in the face of the air-pollution threat.[38] The study noted that competition from annual grasses could also be reduced through the use of prescribed fire or mowing, but that the use of these tools raised other management challenges.[39]

B. PROTECTING VERNAL POOL HABITAT IN THE CENTRAL VALLEY

Research in the Central Valley indicated that removal of cattle grazing from vernal pool[40] grasslands has resulted in both a decline in overall species diversity and an increase in non-native species abundance.[41] This was attributed to a lack of reduction of exotic grass cover by cattle grazing, leading to conditions that crowd out growing space for native plant species.[42] A secondary effect of the removal of cattle grazing was a dramatic reduction of the length of the vernal pools' wet season.[43] This was attributed to increased evapotranspiration rates associated with the more

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[36] DIANE R. ELAM ET AL., U.S. FISH & WILDLIFE SERV., RECOVERY PLAN FOR SERPENTINE SOIL SPECIES OF THE SAN FRANCISCO BAY AREA 181-82 (1998), *available at* http://ecos.fws.gov/docs/recovery_plans/1998/980930c.pdf.

[37] Weiss, *supra* note 35.

[38] *Id.* at 1484 (suggesting that in addition to selective grazing preferences, the presence of cattle on these sites changes the distribution of deposited nitrogen from relatively even to a mosaic of more and less concentrated patches, based on the fact that cattle "eat globally and deposit locally.") *Id.* This mosaic is believed to provide for additional competitive advantage of native host plants in those areas of reduced concentration of nitrogen.

[39] *Id.* (suggesting that the seasonal timing requirements for effective fire control may lead to extensive mortality of butterfly larvae, and that mowing would be difficult or impossible on the site due to the rugged topography).

[40] Vernal pools are seasonal wetlands that fill with water in the winter rainy season and are subsequently dry in the summer. These annually fluctuating conditions result in a unique, highly diverse ecosystem that harbors many endemic species. J. L. King et al., *Species Richness, Endemism and Ecology of Crustacean Assemblages in Northern California Vernal Pools*, 328 HYDROBIOLOGIA 85, 85-86 (1996).

[41] Marty, *supra* note 3, at 1630.

[42] *Id.*

[43] *Id.*

abundant vegetation around the pools in the absence of grazing.[44] The author of the study explains the counterintuitive nature of the results of her study by pointing out the long-term adaptation of vernal pool species to extensive grazing since well before the introduction of livestock to the region.[45] In combination with the presence of highly invasive introduced European annual grasses, this results in a system that is both adapted to changes brought about by the presence of grazing and susceptible to rapid degradation when the cattle are removed.[46]

These two studies support the argument that well-managed grazing regimes can benefit native plants and associated wildlife. It is also clear, however, that these benefits are focused on a narrow range of habitats and sites, and the studies cannot be used to support generalized views of grazing as a positive impact on native grasslands of other habitats.

This last point is substantiated by a number of studies that have detailed the highly variable, and sometimes unpredictable, nature of grassland response to grazing.[47] The highly variable impacts of grazing and other disturbance regimes (such as fire) on California grassland systems is due in large part to the highly variable nature of biotic[48] and abiotic[49] conditions across fairly small areas. This is particularly true in the Bay Area, as evidenced by the high level of species diversity and narrow ranges of many habitats.[50] In addition to spatial conditions, wide fluctuations in composition of California grasslands have been demonstrated over short periods of time.[51] The findings of these studies and similar research suggest that these systems are exceptionally complex and that generalized predictions about overall benefits or detrimental impacts of grazing on native grassland composition are extremely difficult to make.[52]

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[44] *Id.*

[45] *Id.* at 1631. (citing Stephen W. Edwards, *A Rancholabrean-Age, Latest-Pleistocene Bestiary for California Botanists*, 10 FOUR SEASONS 5 (1996) (chronicling the history of extensive grazing in California since the Pleistocene Era, and more recently by herds of native tule elk and pronghorns)).

[46] *Id.*

[47] D'ANTONIO ET AL., *supra* note 32.

[48] "Biotic" refers to plants, microbes, fungi, animals, etc.

[49] "Abiotic" refers to light, soil composition, climate, geology, etc.

[50] *See* ELAM ET AL., *supra* note 36 (depicting a specific example of the narrow habit ranges preferred by the checkerspot butterfly).

[51] Talbot et al., *supra* note 31, at 398-402.

[52] Harrison et al., *supra* note 31, at 844.

IV. GRAZING ON BAY AREA PUBLIC OPEN-SPACE LANDS

Evolving research on the benefits of grazing for maintaining native grasslands and associated habitats has led several public agencies in the Bay Area to implement grazing as a management tool on their lands.[53] The following sections describe the approaches of two public park districts in the Bay Area to the use of grazing as a grassland-management tool. The first section describes the East Bay Regional Parks District (an agency that has long included grazing among the uses on its lands) and how its policies have been reviewed and revised in response to heightened public concerns about negative impacts of grazing. The second section describes the Midpeninsula Regional Open Space District (an agency that has more recently introduced grazing as a management tool) and how that agency's use of grazing evolved as its boundaries expanded to include western San Mateo County, much of which is agricultural.[54]

A. EAST BAY REGIONAL PARK DISTRICT

The East Bay Regional Park District (EBRPD) is a public agency that has existed since 1934 and has grown to be the largest park district in the nation, with over 98,000 acres of permanently protected park land.[55] The EBRPD has used grazing as a grassland-management tool for more than forty years.[56] Grazing operations currently occur on approximately half of EBRPD's sixty-five parks, range from seasonal to year-round, and include the use of cattle, sheep, and goats.[57] The primary resource-management objectives of these grazing operations are to maintain existing native grasslands and associated habitat, to reduce brush fuels in areas of high fire danger (in particular, those areas that are adjacent to residential development), and to minimize the encroachment of brush into grassland communities.[58]

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[53] Lisa M. Krieger, *Peninsula Cows Get Second Chance,* SAN JOSE MERCURY NEWS, Nov. 13, 2006, *available at* www.accessmylibrary.com/coms2/summary_0286-25469809_ITM; Erin Hallissy, *Cow Controversy in Regional Parks: East Bay Task Force Recommends Grazing*, S.F. CHRON., June 5, 2001, at A19, *available at* www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2001/06/05/MNE104070.DTL.

[54] SAN MATEO COUNTY DEP'T. OF AGRIC./WEIGHTS & MEASURES DIV., 2007 AGRICULTURAL CROP REPORT 3-7 (2007), *available at* www.co.sanmateo.ca.us/vgn/images/portal/CIT_609/51/51/1326358957CROP%20REPORT%202007%20Final.pdf.

[55] E. Bay Reg'l Park Dist., Welcome, www.ebparks.org/ (last visited Feb. 4, 2009).

[56] E. Bay Reg'l Park Dist., Grazing, www.ebparks.org/node/643 (last visited Apr. 1, 2009).

[57] *Id.*

[58] E. BAY REG'L PARK DIST., WILDLAND MANAGEMENT POLICIES AND GUIDELINES 5 (2001), *available at* www.ebparks.org/files/wildland_mgt_policies.pdf.

The presence of grazing operations on EBRPD lands has been subject to occasional controversy surrounding both natural-resource impact and recreational-user conflicts.[59] A highly publicized example of controversy regarding natural resource impacts is a lawsuit that was brought against the EBRPD in 1998 by the Alameda Creek Alliance, a local environmental advocacy group, and the Southwest Center for Biological Diversity, a national environmental organization.[60] In their lawsuit, the petitioners claimed that the EBRPD had improperly determined that its grazing program was exempt from environmental review in its approval of eleven grazing leases in April 1998. On March 9, 1999, the judge issued a written ruling that the EBRPD grazing program did not violate the California Environmental Quality Act (CEQA).[61] The ruling supported the EBRPD claim that pre-existing land use plans that had been developed for the lease areas were compliant with CEQA and that no additional CEQA review of individual leases was therefore necessary.[62] The claimants did not appeal the judge's ruling.

The EBRPD had earlier addressed grazing in its 1992 *Wildland Management Policies and Guidelines*[63] and in 2001 undertook a review of these policies, in part as a response to concerns about impacts on endangered species that were listed after the policies were developed.[64] The review task force[65] found that grazing is an appropriate management tool

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[59] Tempest, *supra* note 10; Bernadette Tansey, *Suit Says Cattle Destroying East Bay Habitat: Group Sues To Halt Grazing on Park Grassland*, S.F. CHRON., Oct. 3, 1998, at A15, *available at* www.sfgate.com/cgi-bin/article.cgi?f=/c/a/1998/10/03/MN89266.DTL.

[60] Bernadette Tansey, *Suit Says Cattle Destroying East Bay Habitat: Group Sues to Halt Grazing on Park Grassland*, S.F. CHRON., Oct. 3, 1998, at A15, *available at* www.sfgate.com/cgi-bin/article.cgi?f=/c/a/1998/10/03/MN89266.DTL.

[61] Stacy Finz, *Home on Range Still Open for Cattle: Alameda County Judge Upholds Park Grazing*, S.F. CHRON., Mar. 10, 1999, at A17, *available at* www.sfgate.com/cgi-bin/article.cgi?f=/c/a/1999/03/10/MN48448.DTL.

[62] *Id.* This ruling appears to rely on CEQA Guidelines, § 15378(c), which states: "The term 'project' refers to the activity which is being approved and which may be subject to several discretionary approvals by government agencies. The term 'project' does not mean each separate governmental approval." CAL. CODE REGS. tit. 14, § 15378(c) (Westlaw 2009). The ruling may also have basis in concerns that too broad an application of the concept of "project" would unduly burden agencies with time-consuming procedures required to follow the CEQA process for virtually every action they take. *See* Simi Valley Recreation & Park Dist. v. Local Agency Formation Comm'n, 124 Cal. Rptr. 635, 645 (Cal. Ct. App. 1975).

[63] E. BAY REG'L PARK DIST., *supra* note 58, at 1. The 1992 Wildland Management Policies and Guidelines were also incorporated into the 1997 Master Plan. *See* E. BAY REG'L PARK DIST., MASTER PLAN 18 (1997), *available at* www.ebparks.org/files/RPM_Plan97.pdf.

[64] *Public Meeting Planned to Discuss Grazing in Parks*, S.F. CHRON., Apr. 20, 2000 at A20, *available at* www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2000/04/20/MN4225.DTL.

[65] The review was conducted by an eight-member Grazing Review Task Force that was appointed by the EBRPD Board and was composed of resource-management professionals representing outside agencies, academia, environmentalists, and members of the ranching communi-

for use in grassland management and that the maintenance of healthy grassland communities is important to preserve scenic quality, reduce wildfire hazard, and maintain native plant communities and the wildlife for which they provide habitat.[66] The task force also stressed the importance of well-managed grazing, along with the negative effect that overgrazing and inadequate grazing-program management can have on parkland resources.[67]

This last finding is reflected in the revised policies and guidelines, in which grazing is described in more detail, both in terms of its use as a vegetation-management tool[68] and in terms of the proper implementation of the grazing program itself.[69] The final section of the guidelines and policies is titled "Grazing Management" and provides details on the specific need for grazing as a grassland-management tool.[70] It also contains guidance for the operation of a grazing program, including the use of monitoring and evaluation standards, creation of site-specific grazing-management plans, and a detailed description of managed-grazing techniques.[71]

The EBRPD philosophy regarding grazing as a vegetation-management tool is perhaps best summarized in this statement from its Wildland Management Policies and Guidelines:

> At present, a well-conceived, ecologically-sensitive program using grazing and other vegetation management alternatives as a substitute for lost native grazing animals and recurring fire, is the District's only recourse for achieving fire safety objectives and maintaining viable natural plant communities. The District, in addition to using domestic livestock grazing as a resource management tool, will investigate the cost-effectiveness, availability, and feasibility of employing native grazing animals to accomplish vegetation management objectives on park land.[72]

B. MIDPENINSULA REGIONAL OPEN SPACE DISTRICT GRAZING POLICY

The Midpeninsula Regional Open Space District (MROSD) is a

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ty. E. BAY REG'L PARK DIST., *supra* note 58, at 1.

[66] *See* E. BAY REG'L PARK DIST., *supra* note 58, at 1.

[67] *Id.*

[68] *Id.* at 9-19.

[69] *Id.* at 20-27.

[70] *Id.* at 20-21.

[71] *Id.* at 21-27.

[72] *Id* at 20.

public agency that, since its creation in 1972, has permanently preserved over 57,000 acres of open space in San Mateo and Santa Clara Counties. Twenty-four of its twenty-six open-space preserves are open to the public.[73] In 2007, the MROSD adopted a grazing policy; since that time it has begun to test the re-introduction of grazing on portions of its property.[74]

The MROSD's approach to the use of grazing as a grassland-management tool is summarized in the goal statement from its *Grazing Management Policy*:

> Manage District land with livestock grazing that is protective of natural resources and that is compatible with public access; to maintain and enhance the diversity of native plant and animal communities, manage vegetation fuel for fire protection, help sustain the local agricultural economy, and preserve and foster appreciation for the region's rural agricultural heritage.[75]

Note that, in addition to grassland habitat restoration and reduction of the risk of wildfire, the MROSD's goal includes elements related to sustenance of both the economy and rural heritage associated with agriculture.[76]

MROSD's grazing-management policy is intended to supplement and complement a set of agricultural policies that the District had developed through a prior process of annexing additional land area into its boundaries.[77] This process was governed by the requirements of the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000[78]

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[73] MIDPENINSULA REG'L OPEN SPACE DIST., ABOUT THE MIDPENINSULA REGIONAL OPEN SPACE DISTRICT, www.openspace.org/about_us/default.asp (last visited Feb. 4, 2009).

[74] Scott, *supra* note 26.

[75] MIDPENINSULA REG'L OPEN SPACE DIST., GRAZING MANAGEMENT POLICY 14-1 (2007), *available at* www.openspace.org/plans_projects/downloads/2007.02.GrazingPolicyFinal.pdf.

[76] Press Release, Midpeninsula Reg'l Open Space Dist., District Develops Grazing Policy for Native Plant Restoration, Fire Fuel Reduction (Oct. 23, 2006), *available at* www.openspace.org/CGI-BIN/press_releases/061023_Grazing%20Policy_Release.pdf.

[77] MIDPENINSULA REG'L, GRAZING, *supra* note 75, at 14-1. The San Mateo Coastal Annexation Area covers an area of approximately 220 square miles and generally extends the service boundary of the MROSD westward from along the crest of the Santa Cruz Mountains to the Pacific Coast, all within San Mateo County. *See generally* Midpeninsula Reg'l Open Space Dist., FAQs, www.openspace.org/plans_projects/cpp_faqs.asp (last visited Feb. 9, 2009).

[78] *See* Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000, CAL. GOV'T CODE § 56000 (2000); *see also* MIDPENINSULA REG'L OPEN SPACE DIST., SERVICE PLAN FOR THE SAN MATEO COASTAL ANNEXATION AREA 3 (2003), *available at* www.openspace.org/plans_projects/downloads/MROSD-FinalSP_6_06_03.pdf (contending that the purpose of the Cortese-Knox-Hertzberg Act is to promote orderly urban growth and development, and noting this has been typically related to traditional community services that support urban development, but

(Cortese-Knox-Hertzberg Act), which requires that agency plans for change of organization (which includes annexation of additional land) be reviewed by a Local Agency Formation Commission (LAFCo). The significance of this for purposes of the MROSD grazing policy is that the Cortese-Knox-Hertzberg Act requires that the LAFCo must consider, among other things, effects of agency plans on social and economic communities of interest in the area affected as well as the maintenance of the physical and economic integrity of agricultural lands.[79] The Service Plan that MROSD prepared for its Coastal Annexation Program stated that "the District Board believes that the continuation of active agricultural and ranching uses on the San Mateo County coast is very important in retaining the area's rural atmosphere and way of life."[80] Further, listed among the Service Plan's description of public sentiments expressed regarding the significance of the Coastal Annexation Area is "the importance of preservation of agricultural lands."[81]

It is clear that the main themes of both the MROSD and EBRPD grazing philosophies are the use of grazing to protect native grassland habitat and to reduce the risk of wildfire. Although the grazing policies and guidelines of both agencies are oriented primarily toward the need for grassland management to protect and enhance native species and habitat, the guidelines repeatedly highlight the importance of fuels management as well.

Fire safety has long been a concern in the Bay Area, in particular along the urban/rural interface where concentrated residential development is often found adjacent to densely vegetated forest and scrub habitat.[82] One grazing practice that has been very successful in helping to reduce fuel loads in these densely vegetated areas (many of which are located on steep slopes that limit the use of mechanical equipment) has been the use of goats, which are well known for their ability to graze and browse vegetation that other animals might find unpalatable.[83] In addition to the use of goats to reduce fuel loads in these densely vegetated

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more recently there has been growing recognition that "preservation of open space . . . is also an important community service [to consider]").

[79] MIDPENINSULA REG'L, SERVICE PLAN, *supra* note 78, at 4.

[80] *Id.* at 6.

[81] *Id.* This is the only text that is underlined in this section of the document.

[82] Forero et al., *supra* note 9, at 479.

[83] Christopher Ross, *Making Lunch out of a Fire Hazard*, AM. CITY & COUNTY, Oct. 1990, at 48, 49. Among the key benefits of the use of these animals to perform fuels reduction is their ability to operate quietly and cleanly on steep slopes in areas adjacent to residential communities where noise and the use of chemicals should ideally be minimized. Negative factors of the use of goats include the need for intensive management of the herds (which can completely denude an area of vegetation if left untended), which can be costly.

areas, the presence of cattle grazing on grasslands has been found to have muting effects on wildfire behavior,[84] as well as to slow the invasion of these areas by more flammable scrub vegetation.[85]

V. TAX IMPLICATIONS FOR NONPROFIT CONSERVATION ORGANIZATIONS

In addition to its use as a grassland-management tool on public lands, grazing is being used by many nonprofit land-conservation organizations that operate in the Bay Area. Among these are Peninsula Open Space Trust (POST)[86] and The Nature Conservancy (TNC).[87] These organizations face many of the same opportunities and challenges that exist for public agencies. However, one issue that is unique to these kinds of organizations is the structure of the California property-tax law and how this affects the viability of grazing on lands that have been purchased or transferred at highly assessed market values.

Since the passage of Proposition 13 in 1978, property owners in California have benefited from a legislatively controlled property-tax increase of no more than 2% per year.[88] This structure was intended to prevent the impacts of large increases in property values from becoming an undue burden on taxpayers.[89] Because the property tax is based on the assessed value at the time of change of ownership, the amount of property tax can increase significantly at the time that land is transferred and a new tax rate is established based on the reassessed value.

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[84] SOTOYOME, *supra* note 21, at 16. These behavioral effects include slowing the rate of spread, shortening of flame lengths, and reduction of fire intensity. In addition to grazing and other mechanical vegetation-management techniques in grasslands (such as mowing), regular prescribed fires can produce these effects. However, this technique, which mimics the natural disturbance regimes in which these grasslands evolved and thrived, is becoming more and more limited in its application due to concerns about escape of fire into developed areas, as well as health and nuisance concerns related to smoke in increasingly densely populated areas. *See* E. BAY REG'L PARK DIST., *supra* note 58, at 9.

[85] McBride, *supra* note 30, at 322.

[86] Penninsula Open Space Trust, Conservation Grazing (2009), www.openspacetrust.org/lands/stewardship_conservation.html (last visited Aug. 11, 2009) (describing Peninsula Open Space Trust's use of grazing as a management tool).

[87] D'ANTONIO ET AL., *supra* note 32, at 4; *see also* RICHARD J. REINER, THE NATURE CONSERVANCY, PROTECTING BIODIVERSITY ON GRAZED GRASSLANDS IN CALIFORNIA 5-8 (Jan. 24, 1999), *available at* www.carangeland.org/Research/Wildlife%20and%20Native%20Plants/Protecting%20Biodiversity%20on%20Grazed%20Grasslands%20in%20California.pdf (describing the Nature Conservancy's management of the Jepson Prairie Preserve, near Dixon, California, with grazing).

[88] CAL. CONST. art. XIIIA, § 2.

[89] CAL. SEC'Y OF STATE, CALIFORNIA VOTERS PAMPHLET, PRIMARY ELECTION 58-59, (June 6, 1978), *available at* http://library.uchastings.edu/ballot_pdf/1978p.pdf.

This significant increase in tax rate has long been a challenge associated with inter-generational transfers of lands that have extremely high market values (generally based on development potential), but on which the family property owners wish to continue uses, such as agriculture and grazing, that bring in relatively low revenues.[90] In these cases, the new property-tax rates are often too high to enable the landowners to continue economically sustainable agriculture and grazing operations, with the result that such lands are often sold for development.[91]

Nonprofit land trusts have been able to provide assistance to landowners faced with such situations through the land trusts' acquisition of conservation easements, which restrict development and allow for continued agricultural and grazing uses. When a conservation easement is recorded, the property is assessed at a value that reflects the restrictions contained in the conservation easement,[92] thereby reducing the property-tax burden on the landowner.

In addition to the use of conservation easements, land trusts acquire land directly in fee ownership for permanent protection. In these instances, a tax exemption is provided to nonprofit conservation organizations under California tax law, thereby providing an incentive for the acquisition of land for conservation. This exemption, however, does not apply to commercial lease areas, including those lands that are leased for grazing as a conservation purpose. These lands are disqualified for exemption due to three factors: 1) the fact that the property is not owned and operated exclusively by the qualifying nonprofit organization,[93] 2) the fact that the property is not used exclusively for an exempt purpose,[94] and 3) the fact that the property is not used for the "actual operation of exempt activities."[95]

Non-qualification for tax exemptions on intensively used agricultural lands (such as row-crop agriculture) is not generally a problem for nonprofit conservation organizations, based on the ability for the lease income from the agricultural operation to offset the cost of property taxes. This is not the case, however, on lands subject to extensive uses such as grazing,[96] which generate lower revenue on a per-acre basis.

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[90] ANTHONY ANELLA & JOHN B. WRIGHT, SAVING THE RANCH: CONSERVATION EASEMENT DESIGN IN THE AMERICAN WEST 7 (2004).

[91] Forero et al., *supra* note 9, at 478.

[92] CAL. REV. & TAX. CODE § 423 (Westlaw 2009).

[93] CAL. REV. & TAX. CODE § 214(a)(1) (Westlaw 2008).

[94] *Id.* at § 214(a)(2).

[95] *Id.* at § 214(a)(3).

[96] "Extensive uses" refers to those activities that are dispersed over large areas. As opposed to row-crop agriculture, where the entire leased area is used exclusively by the operator, grazing

Unlike row-crop agriculture, in which the land is used exclusively for the economic benefit of the operator, grazing presents a more complex set of objectives. There is certainly an economic objective on the part of the grazing operator to generate enough revenue to sustain the operation. However, conservation organizations are also expecting environmental benefits from these operations, which are conducted according to management plans developed specifically to help achieve conservation goals.[97]

Nonprofit organizations have explored a number of alternatives to leases in order to qualify for exemption. One such alternative is the use of a service contract format, in which grazing is characterized as a contractor service similar to mowing, prescribed fire, or other activity. However, this format has been reviewed and rejected by the State Board of Equalization, based on its finding that ability of the grazing tenant to use the land for its own purposes and activities (i.e., grazing of livestock for commercial gain) violated the "exclusive use" requirement of the California tax code.[98]

There is an alternate mechanism available to help reduce the tax burden on lands used for agriculture (including grazing). Known informally as the Williamson Act, the California Land Conservation Act of 1965[99] was created specifically to provide incentives for private landowners to maintain land in agricultural and open-space uses.[100] A significant portion of the tax burden for lands under such contracts is carried by the State of California, which provides subvention payments to participating local governments to partially offset reduced tax payments for those lands.[101] This tool, however, has come under threat of significant

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does not occur on every leased acre simultaneously, which enables the concurrent use of these lands for other activities (such as recreation). An example of an intensive grazing use would be a feedlot or dairy, where—similar to row-crop agriculture—there is no ability for other uses to occur concurrently.

[97] RANA CREEK HABITAT RESTORATION & ECOLOGIC, DRISCOLL RANCH: A RESOURCE MANAGEMENT PLAN (2005) (on file with author); MIDPENINSULA REG'L OPEN SPACE DIST., AGENDA ITEM 4, 5 (Jan. 12, 2006), *available at* www.openspace.org/CGIBIN/agendas_minutes/011206_b_Driscoll%20Purchase.pdf; *see also* Theodore Foin et al., *Improving Recovery Planning for Threatened and Endangered Species*, 48 BIOSCIENCE 3, 181 (1998).

[98] Letter from Cal. Bd. of Equalization to Peninsula Open Space Trust (Jan. 5, 2005) (on file with author).

[99] CAL. GOV'T CODE § 51200 et seq. (Westlaw 2009).

[100] CAL. DEP'T OF CONSERVATION, DIV. OF LAND RES. PROTECTION, WILLIAMSON ACT (2009), www.conservation.ca.gov/dlrp/lca/Documents/WA%20fact%20sheet%2006.pdf.

[101] Open Space Subvention Act of 1971, CAL. GOV'T CODE § 16140 (Westlaw 2009). A subvention payment is defined as a direct payment made by one entity (in this case, the State of California) to assume the burden of the tax losses of another entity (in this case, local governments). Under the Williamson Act program, participating local governments receive annual payment on the basis of

reduction or elimination in the past two budget cycles, and it will likely continue to be subject to the threat of elimination from future budgets.[102]

VI. CONCLUSION

The use of grazing as a management tool must be site-specific in its application and can be prone to unintended consequences. It is necessary for resource managers to indicate clearly the intended goals of grazing as a management tool, the potential negative impacts, and how these impacts will be mitigated. Most importantly, the benefits of grazing should not be generalized, and all grazing-management plans should include clear and measurable goals along with monitoring protocols that allow for adaptive management.[103]

There is also a clear need for continued efforts by public agencies and nonprofit land trusts to clarify the value of grazing as a conservation tool, both for the educational benefit of recreational users of open-space lands, and for support in arguments that tax exemptions for nonprofit conservation lands should be granted to those areas in which grazing is being used to protect, maintain, or enhance resource values.

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the quantity (number of acres), quality (soil type and agricultural productivity), and, under some contracts, location (proximity to a city) of land enrolled under eligible enforceable open space restrictions. *See also* Cal. Dep't of Conservation, Williamson Act Program—Open Space Subvention Payments, www.conservation.ca.gov/dlrp/lca/ossp/Pages/Index.aspx, (last visited Sept. 28, 2009).

[102] In his 2008-2009 and 2009-2010 proposed budgets, Governor Schwarzenegger has proposed elimination of the subvention program as part of his administration's effort to balance the state budget. Long Beach Press-Telegram, *More Environmental Hypocrisy*, Jan. 10, 2009.

[103] RANA CREEK, *supra* note 97.