



Keeping Landscapes Working

A Newsletter for Managers of Bay Area Rangelands

Volume 2, Issue 2

University of California Cooperative Extension

Fall 2005

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A newsletter provided by UC Cooperative Extension Natural Resources Program in the San Francisco Bay Area. This newsletter provides information to managers of both public and private rangelands. RANGELAND, which is land characterized by natural vegetation i.e., grass, forbs and shrubs and managed as a natural ecosystem, is the predominate source of OPEN SPACE in the San Francisco Bay Area.

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is published through the cooperative efforts of the University of California Cooperative Extension and Contra Costa and the Santa Clara Counties.

East Bay ~~Grasslands~~ Shrublands

A landscape of rolling hills that glows green in the spring and shines golden brown in the summer defines the East Bay. It is well known that this grassland landscape is largely dominated by annual non-native species that invaded and spread in the late 18th and 19th century with Spanish settlement of California. It has been the assumption that these grasslands like others in the valleys and foothills of California were once dominated by perennial bunchgrasses such as Purple needlegrass. This assumption was originally a theory suggested by Clements in 1934. He made this conclusion based on observing nearly pure stands of Purple needlegrass along railway right-of-ways.

Two recent studies (Keeley 2005; Hopkinson and Huntsinger 2005) challenge that assumption. (Abstracts of the two studies are included in this newsletter). Both of these studies provide evidence that prior to European settlement the East Bay hills weren't grasslands dominated by perennial bunchgrasses, but scrub or shrublands.

What does this mean for restoration objectives often framed to return landscapes to pre-European condition? What does this mean for the numerous grassland-dependent species that are listed as threatened or endangered? What does this mean for Bay Area watersheds and fire fuel management? What does it mean to our communities who identify the East Bay Hills with rolling green hills that evoke feelings of living in Ireland during the spring?

Our desire to protect threatened and endangered species, maintain watershed function, prevent catastrophic fire, and preserve our visual landscapes may mean we are vested in maintaining the East Bay Hills as grasslands, regardless of what it was in pre-European times. What we can learn from these recent studies is that our grasslands need management, i.e., disturbance from grazing or prescribed fire so that they do not succeed to shrublands.

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Fire history of the San Francisco Bay region and implications for landscape patterns

By J.E. Keeley, 2005.

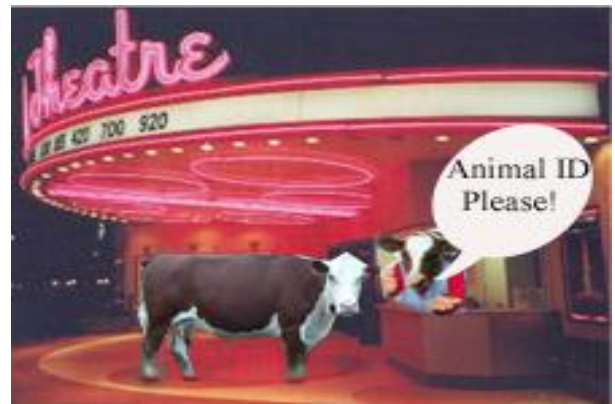
Published in the *International Journal of Wildland Fire* 14:285-296.

Abstract. The San Francisco East Bay landscape is a rich mosaic of grasslands, shrublands and woodlands that is experiencing losses of grassland due to colonization by shrubs and succession towards woodland associations. The instability of these grasslands is apparently due to their disturbance-dependent nature coupled with 20th century changes in fire and grazing activity. This study uses fire history records to determine the potential for fire in this region and for evidence of changes in the second half of the 20th century that would account for shrubland expansion. This region has a largely anthropogenic fire regime with no lightning-ignited fires in most years. Fire suppression policy has not excluded fire from this region; however, it has been effective at maintaining roughly similar burning levels in the face of increasing anthropogenic fires, and effective at decreasing the size of fires. Fire frequency parallels increasing population growth until the latter part of the 20th century, when it reached a plateau. Fire does not appear to have been a major factor in the shrub colonization of grasslands, and cessation of grazing is a more likely immediate cause. Because grasslands are not under strong edaphic control, rather their distribution appears to be disturbance-dependent, and natural lightning ignitions are rare in the region, I hypothesize that, before the entrance of people into the region, grasslands were of limited extent. Native Americans played a major role in creation of grasslands through repeated burning and these disturbance-dependent grasslands were maintained by early European settlers through overstocking of these rangelands with cattle and sheep. Twentieth century reduction in grazing, coupled with a lack of natural fires and effective suppression of anthropogenic fires, have acted in concert to favor shrubland expansion.

Are East Bay Hills grasslands a historical artifact? Phytolith evidence and a potential candidate for the true East Bay vegetation type.

By Peter Hopkinson, P. and Lynn Huntsinger
Published in *Grasslands*. Winter 2005.

A soil-phytolith analysis casts doubt on the widely-held belief that fragments of grassland in the East Bay hills of San Francisco Bay Area are the relic remnants of formerly continuous perennial grasslands, dominated by such species as Purple needlegrass and California oatgrass. These two species produce a phytolith morphotype not produced by the exotic annual grasses which now dominate California's Coast Range grasslands. For 13 sites in the East Bay hills, soil samples were analyzed for the presence of this phytolith morphotype; few were found, suggesting that bunchgrasses have not been dominant in the hills for centuries. Several lines of evidence are presented to support the proposition that coyote brush may have been the primary vegetation type in the East Bay hills prior to Spanish settlement.



Animal Identification, Please ... Why livestock producers may need a Premises ID

An effort to develop and implement a national animal identification program has gained momentum. The animal disease outbreaks reported worldwide as such foot and mouth disease, avian influenza and the cow in the

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United States that tested positive for Bovine Spongiform Encephalopathy in December 2003 have made the case for a standard national animal identification program.

Currently this program is voluntary; however the US Department of Agriculture (USDA) plans to make the program mandatory in the next few years. In the meantime, there is growing interest among local cattle producers and buyers in the program, because cash premiums are available for source and/or age verified cattle. One auction yard on the central coast expects to sell 35,000 to 40,000 source verified cattle this year. Livestock producers selling source verified cattle in California are capturing an average \$18/head premium, which requires an investment of \$2.50 to \$3.00/head in an electronic ID tag.

The first step to qualifying for these premiums is to become part of the national animal identification program by getting a premises identification number. The California Department of Food and Agriculture (CDFA) is responsible for issuing National Premises Identification Numbers (PINs) for premises involved in livestock production or commerce in California. The USDA assigns one unique, permanent PIN to each premises (location) involved in animal agriculture. The PIN does not change when a property is sold. Obtaining a premises number is free.

Since most ranchers in the San Francisco Bay Area run cattle on multiple sites, including public land, there may be some confusion about how many premises numbers a producer needs and for which locations.

The following questions and answers may be helpful:

Q: How is a premises defined?

A: A premises is a physical location that is associated with a livestock operation. Sometimes a livestock producer's operation includes several locations. At a minimum, the "home ranch" needs to be registered for the operator to obtain a unique premises ID. Additional locations are not required to be registered at this time, including public land leases. It is possible to include more than one

location as separate operations under one PIN. The advantage of this is that there are fewer premises IDs to manage; however, the disadvantage is that if quarantine is needed, it will likely involve all locations. However, registering multiple PINs may not eliminate the need to quarantine all locations as movement of personnel or equipment can spread disease.

Q: If each location within the ranch has a different PIN, what happens if the owner moves cows from one location to another, such as for breeding purposes?

A: Although the locations within the ranch can have separate premises IDs (PINs), it will not be necessary for producers to report animal movements that occur for typical management purposes within the overall operation. If a producer maintains truly separate cattle operations, however, it may be of merit to have the animals link to separate, specific PINs—for example, if a producer owns both a purebred herd and a commercial herd that are managed at different locations and that are not commingled.

Q: Is the cattle owner or the landowner responsible for obtaining the premises identification number?

A: It is preferred that the premises landowner or its agent makes the request. However, if the landowner is not able or willing to register the premises, someone else may request a number. In either case, the landowners contact information should be provided.

Q: What about permits or leases on public land – Is the producer responsible for getting a premises ID?

A: If the operation on public land is already covered by a producer's home ranch premises number, an additional premises number may not be required. If a premises number is needed, the producer or public agency can provide the information associated with the location such as permit number/lease name, agency issuing the permit/lease, etc. to request a PIN.

Q: If a landowner doesn't own livestock, do they need to get a premises identification number?

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A: A premises identification number is only needed if the premises is participating in animal agriculture. If someone else is leasing or using any part of the property to raise or house livestock, they may need a premises number if that is their entire operation or if part of their operation isn't already covered under another premises number.

Q: If a livestock producer doesn't own land, do they need to get a premises identification number?

A: All individuals who own or lease livestock should have a PIN. They may obtain a premises number for the location they identify as the "home ranch" or for multiple locations.

Q: Can more premises be added at a later date?

A: Yes. This can be done via the web by logging into an account or by contacting CDFA's premises identification personnel.

Q: Is there a need for latitude and longitude coordinates?

A: In situations where a valid "911" physical address doesn't exist, the USDA requires latitude and longitude coordinates to issue a premises ID. Coordinates can be obtained from all County Assessor's offices. Additionally, brand inspectors can assist you with determining your coordinates. The allocation of a premises ID for locations that do not have a recognized physical address will usually be delayed by a couple of days.

Q: Can two premises be merged together?

A: If two adjacent premises are merged and a new physical address is generated, the two old premises addresses will be retired and a new premises number will be issued for the merged address. If a farm is divided, the premises number stays with the piece of the property that retains the physical location address and a new premises number would be issued for the new location.

Q: If property changes ownership, what happens to the premises identification number?

A: Once a premises number is entered into the databank the PIN remains with that physical location, even following a change of ownership. A premises (property) will be retired only if its land

use changes from animal agriculture to another use such as retail development, etc.

Q: What happens if a livestock producer chooses not to get a premises ID?

A: Currently the program is voluntary and there are no penalties in effect. Some other states already have instituted mandatory premises registration and USDA has proposed January 2008 for mandatory national premises registration. Several producers, including markets processors, and feedyards are asking their suppliers to obtain a premises identification number to help establish source verification. When mandatory, a premises number will be needed to move livestock into commerce, and to order official identification devices (tags).

How to get a Premise Identification Number (PIN)

As of September 2005, the CDFA had issued over 2,000 PINs; while nationwide the USDA had allocated over 100,000 PINs.

By Mail or FAX: You can obtain a PIN application form by calling the CDFA at the following toll free number: (866) 325-5681, by contacting your local brand inspector, or by downloading it from following site:

http://www.cdfa.ca.gov/ahfss/ah/pdfs/animal_identification_CA_premid_form08-05.pdf.

You can then mail or fax (916) 653-2215 the completed form to:

California Department of Food and Agriculture
Animal Health Branch, CA Premises Registration Program

1220 N Street, Room A-107

Sacramento, CA 95814

Phone number: (916) 657-4789; (866) 325-5681

FAX: (916) 653-2215

On-line: You can also enter the information electronically on the CDFA Web site. The following screen shots walk you through this simple process. Type the following URL into the address line of your web browser:

<http://www.californiaid.org>.

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Information Resources

- California Department of Food and Agriculture Animal Identification Website
http://www.cdfa.ca.gov/ahfss/ah/id_info.htm
- USDA Questions and Answers about Cattle and the National Animal Identification System (NAIS)
http://animalid.aphis.usda.gov/nais/audiences/cattle_and_bison/cattle_qa_factsheet.shtml
- USDA National Animal Identification System: Premises Registration fact sheet
<http://animalid.aphis.usda.gov/nais/downloads/print/Factsheet-Premises%20ID.pdf>

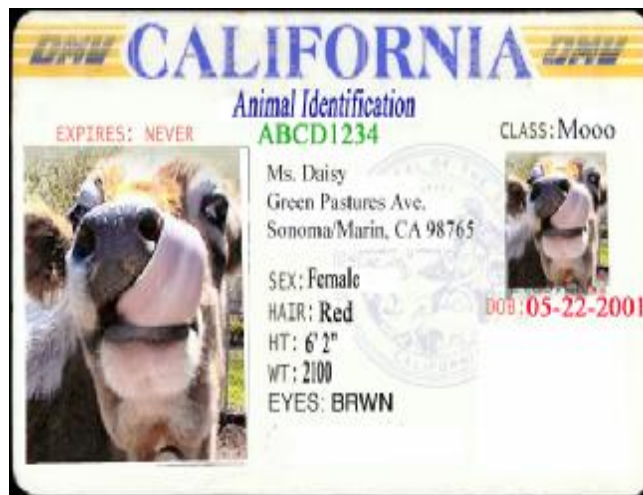
Additional Profit for Records

Age-verified cattle are also returning premiums to producers. Since producers can be audited, it is important to keep records from year to year. You may already be keeping these records in a calendar or red book. If not, be sure to record bull turn out dates, 1st date of calving, and last date of calving. The first date of calving can be sufficient because calves can be grouped by age, based on the oldest animal.

Cattle Identification: A modern approach to a historical practice

By Dr. John Mass, UC Vet Med Extension

California has a long history of cattle identification programs beginning with the establishment of the missions and Spanish land grants. Each mission and land grant was assigned unique brands that could be used on the cattle under their ownership. These brands were tied to the specific mission or land grant owner. The brands established ownership of the cattle and connected the ownership to a specific premises (mission or land grant property). Other means of identification such as ear notching have been used along with hot iron brands for over 200 years in California. Brands were originally used to designate ownership and to prevent cattle theft; however, when disease problems have occurred, the brands have been used to help control or eradicate disease.



In the 20th century various disease control and disease eradication programs were initiated. These programs required individual identification of cattle as well as premises identification. The individual animals were tested for diseases such as tuberculosis, so test results needed to be linked to a specific

animal. Additionally, when heifers were vaccinated for brucellosis, a unique ear tag was applied to identify that animal and this was also linked to ownership at the time of vaccination. Some of these tags fell out however, so this system has never been perfect.

Seed stock producers and cow/calf producers use individual animal identification to enhance decisions with regard to animal performance and genetic selection. A whole

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industry has grown up with regard to individual cattle identification. This type of identification facilitates better recordkeeping, thus enabling more informed management decisions. More recently it has become apparent that there is a need for a standardized identification system for all U.S. cattle. New requirements include source verification, age verification, and cattle tracking to help control diseases. Also, the use of ear tags for brucellosis vaccination—which is the identification system we have come to rely on—is being eliminated in many states. California still requires brucellosis vaccination by law; however, only about 40% of beef heifers are vaccinated while almost 100% of dairy heifers are still vaccinated and ear tagged.

The National Animal Identification System (NAIS) has evolved since 2002 when industry leaders developed the National Food Animal Identification Plan. The NAIS is the cooperative State-Federal-Industry program administered by USDA's Animal and Plant Health Inspection Service (APHIS) for the purpose of tracking all animal movements from birth to slaughter as part of the USDA's National Health Monitoring and Surveillance Program. The long-term goal of the NAIS is to trace back to all of the locations (premises) where a suspect animal has been during its life within 48 hours, and to provide information on all of the other animals that came in contact with the subject animal at each premises.

Success of the NAIS will be dependent upon the development of a system infrastructure capable of collecting and recording the movement of animals. Another major objective of the NAIS is to enable State and Federal animal health officials to promptly ascertain animal health status for the purpose of issuing both intrastate and interstate animal health movement certificates.

The NAIS is now voluntary, so producers and other stakeholders can participate in design, development and testing of the system to ensure that practical solutions are developed. However, to achieve the goal of 48-hour trace backs, all

producers and affected industry segments will eventually have to participate. In the fall of 2007 USDA plans to establish mandatory animal identification and premises registration requirements. In January 2008 the final rules requiring premises registration and animal identification as defined under the NAIS program standards are scheduled to become effective. By January 2009, USDA anticipates that the animal tracking component of the NAIS will become mandatory. USDA will continue to support field trials and implementation of successful data collection systems to collect animal movement records.

The relationship between the NAIS and the 2002 Farm Bill's Country-of-Origin Labeling (COOL) provision is often misunderstood. As outlined above, the NAIS is a live animal traceability program with the objective of improving surveillance and trace back of animal disease and health issues, whereas COOL is a food-labeling program providing consumers with information on the country-of-origin of certain food products at the retail level. While the goals of these two programs are different, the NAIS will likely be complementary to the COOL program. Neither COOL nor the NAIS is a food safety program. However, the NAIS will increase the U.S. government's ability to respond to animal health and disease outbreaks, and this will ultimately contribute towards the safety of animals and meat products that enter into the food supply chain. For more information on this topic see the Western Extension Marketing Committee's fact sheet "The National Animal Identification System and Country-of-Origin Labeling: How are they Related?" <http://lmic.info/memberspublic/animalID/fs04.pdf>

As we go forward with individual animal identification, premises identification, and cattle tracking systems it is important to remember that we have a long history of using animal identification tools to provide benefits to owners and to control and eradicate cattle diseases. It is also important for producers to demand that new identification systems optimize their management options and provide them with potential economic benefits above and beyond disease control.

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Information Resources

- California Department of Food and Agriculture, http://www.cdffa.ca.gov/ahfss/ah/id_info.htm
- USDA/APHIS National Animal ID, <http://animalid.aphis.usda.gov/nais/index.shtml>
- Beef Stocker USA, <http://www.beefstockerusa.org/>
- Livestock Marketing Info. Center, <http://lmic.info/memberspublic/animalID/AnimalID.htm>
- International Livestock Congress, <http://www.livestockcongress.com/>
- United States Animal ID Plan, <http://www.usaip.info/>
- BEEF Magazine, <http://www.beef-mag.com/>
- National Institute for Animal Agriculture, <http://animalagriculture.org/>
- NCBA Animal ID, <http://www.beefusa.org/AnimalID.aspx>

Weed Alert

Last year's rainfall benefited many native plants, including some not observed for several decades. It also benefited many invasive species. Some invasives, like stinkwort wasn't apparent until this summer and fall when the plants matured. In fact stinkwort showed up in several new locations this summer, leaving many people wondering what this sticky, smelly plant is.

A good image can be found at the following url: <http://herbarivirtual.uib.es/eng/especie/4448.html>
(See photo on right.)

Stinkwort or Stinkweed (*Dittrichia graveolens*)

Background: Stinkwort is from the Mediterranean region, but has become naturalized in many parts of southern Australia. It was first identified in California on a levee at the San Francisco Bay Wildlife Refuge in Alameda County in 1995. It is

now found on many sites in Alameda County, Contra Costa County, and Santa Clara County. There are also populations of it in San Mateo, Solano, and Yolo Counties. Although it is often the only green plant present during late summer it is unpalatable to livestock.

Identification: Stinkwort is a multi-branched, fall-blooming annual, which is superficially reminiscent of a tarweed. It can grow up to 3 ft high, although it is usually smaller and branched from the base. The whole plant has fine hairs, is sticky, and smells very strongly of camphor. It has alternate leaves, which are narrow and grayish green. Its ray flowers are small and yellow with tiny petals. Its seeds look like the typical spherical fluffy daisy seed heads.

Control: Hand-pulling before seed set may be appropriate to control small infestations of stinkwort. Contact a Pest Control Advisor for chemical options.

Ecological Concerns: Stinkwort can spread rapidly as an invasive weed. The fine hairs of the seeds help with wind dispersal. They also stick to clothing, wool, hair and machinery and spread in contaminated soil. There are reports that there are scattered individuals along most major highways leading inland to the Central Valley from the San Francisco Bay Area. It's been observed to form dense masses on disturbed sites. Since it is a relatively new invasive plant, its ability to colonize a range of sites is unknown.





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