Livestock, Range, & Watershed

San Luis Obispo and Monterey Counties Winter, 2014

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Ranching Sustainability Analysis Program
Bill Tietje and Royce Larsen, UC Cooperative Extension; George Work, Work Ranch; Steve Sinton, Avenales Ranch; Aaron Lazanoff, Beef Manager, Cal Poly; Chuck Pritchard, Bar B6 Cattle Ranch

Background
Ranchers continue to come under intense pressure and scrutiny from environmentalists, government agencies, and the public in general to demonstrate their stewardship of the land and natural resources they manage. However, ranchers feel that the solution often chosen to address the public’s natural resource concerns is simply more regulations, which impose a financial and philosophical burden on ranchers—in fact, they threaten their very existence. As one rancher put it:

“Eventually the pinpricks (regulations) to the elephant (ranching) will bring it down. If we can teach the public what ranchers do, why they do it, and how ranching benefits the larger community, we can increase public acceptance of ranching. Ranchers own 80% of the oak woodland in San Luis Obispo County. If the Ranch Sustainability Analysis System can assist in enhancing the social, economic, and natural resource sustainability of ranches such that the ranches can stay in the family, so will the oaks stay on the land.”

---Jack Varian, V6 Ranch, Parkfield, California

It is vital for ranchers to be able to demonstrate that they are good stewards of the land and yet be able to earn a living from the land they own.

Ranching Sustainability Analysis (RSA)
A RSA system has been developed by the UC Cooperative Extension, Natural Resources Conservation Service, Cal Poly, and a Rancher Committee on the central coast as one way to show that ranchers are managing properly and to encourage ranchers to think more about what they are doing on the range, and why. The Rancher Committee believes that the RSA can be a powerful tool to guide private landowners through everyday decision-making processes and long range improvements in rangeland practices. The Committee is working to get this effort adopted for use throughout California. To help accomplish the objectives of the RSA, the UC Cooperative Extension holds Workshops to stimulate interest and discussion in sustainable ranching. We feel that a win-win is in the making. That is, if ranching is sustained, so also will working landscapes continue to provide a diversity of services, such as livestock and other agricultural products,
high quality water supplies, cleaner air; wildlife habitat, recreational opportunities, and aesthetic values.

How Does it Work?
The RSA is a self-assessment process that guides the rancher through a series of questions within 11 subject categories about the Social, Economic, and Natural Resource management practices that are being used.

Ranching does not lend itself easily to a “one size fits all” approach, so the expertise of the ranchers—their in-depth and long-term knowledge of their own lands—is vital to this process. Ranchers score their practices from 1 to 7 (poor to excellent) for each question. The following are selected examples:

**Environmental**
Category: Wildlife/Biodiversity
RSA Question: Do you provide wildlife with their basic needs: food, water, cover, space, and protection?

<table>
<thead>
<tr>
<th>Poor wildlife: Score = 2</th>
<th>Good wildlife habitat: Score = 6</th>
</tr>
</thead>
</table>

**Social**
Category: People Management
RSA Question: Have you established written goals for ranch and family?

<table>
<thead>
<tr>
<th>No written goals: Score = 0</th>
<th>Established written goals: Score = 6</th>
</tr>
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**Economic**
Category: Economics
RSA Question: Do you have a diverse income?

| Cattle only: Score = 3 | Cattle, hunting, recreation: Score = 5 |
Cooperative Extension Advisors, local ranchers, and experts in the industry will define RSA (where it originated and how it works) and talk about its importance, not only for achieving and maintaining a prosperous ranch, but for preserving family values as well.

Featuring a video by Alan Savory:
“How to Fight Desertification and Reverse climate Change.”

The RSA panel and discussion topics include:
- Steve Sinton: RSA Confidentiality & Rangeland Monitoring
- George Work: People Relationships
- Aaron Lazanoff: Ranch Management
- Chuck Pritchard: Statewide Perspective

Speakers and Activities include:
- Bill Tietje, Natural Resource Specialist-UC Berkeley: RSA 101
- Steve McIntyre, McIntyre Vineyards: How RSA Benefits Ranchers
- Royce Larsen, Natural Resource Watershed Advisor, UCCE: Drought & Climate Change
- Opportunity to fill out RSA questionnaire

On line registration: [http://ucanr.edu/rsa2014](http://ucanr.edu/rsa2014)

Or call 805-781-5940

Cost: $20.00 (Includes Handouts, Continental Breakfast and Lunch!)

For more information on Ranching Sustainability Analysis go to: [http://ucanr.edu/rsa](http://ucanr.edu/rsa)
Scores can be submitted to a confidential database under the control of the San Luis Obispo County Cattlemen. Although the numbers are subjective, individual ranch and summary scores will allow ranchers to compare their operation to their peers and to track sustainability progress over time. The process will help individuals identify specific “action items” that they wish to pursue to enhance their operations. Providing a means of documenting good practices, as well as their efforts to improve, will help the rancher and the industry meet both current and future regulatory requirements, and perhaps reduce the pressure for new regulations. We believe that this voluntary non-regulatory tool can help to guide rangeland owners through everyday decision-making processes, and be a means for ranchers to shape the future of California ranching on their own terms.

Future Directions
The RSA will continue to be shared locally and statewide through workshops, symposia, websites, and among rancher colleagues. The Grazing Lands Conservation Initiative (GLCI) is supporting our current efforts to implement the RSA statewide.

The Drought Continues
Royce Larsen, UC Cooperative Extension

Drought has been the huge concern for us on the Central Coast starting with below average rainfall during the 2011 – 2012 water year. This concern certainly escalated last year, 2012-2013 water year, and we only received about half of the average precipitation. Not only was last year a low rainfall year, the timing was also difficult for our rangelands, it mostly came in December and then was very dry January through April (see figure 1). The normal growth cycle of forage on annual rangelands consists of having enough rainfall during October/November to start germination and growth of the annual grasses and forbs. Then, there is usually a slow growing period from December through February, i.e. the colder months. Then as spring approaches and temperatures warm, there is usually a rapid growing period during March and April, sometimes into May. Last year’s growing season started well, we had germination by November. We also had a very wet December. It appeared forage production on our rangelands was going to be a very productive year. However, rainfall for January – April 2013 was exceptionally low (Fig 1), and when the temperatures finally warmed sufficiently for the normal rapid growth period, the soil moisture was gone, and forage production was severely stunted. This left producers with a minimal amount feed for their livestock. To make matters worse, there was also “below average forage production” 2 years ago and the “old feed that is usually available” was also limited. Many producers had to sale a large part of their cattle, just to make it through last year.

So far this year (July - January) we have not had enough rainfall (figure, 1) to even germinate the annual grasses and forbs, and there is a dismal outlook for the remainder of this year. Because of the severity of last year, there is essentially no “old feed” left to utilize, and no “new feed” coming thus far. This means ranchers have to buy feed for their livestock or sale what is left of their herd.

The rainy season in not over though and we have had poor starts like this one in the past that brought relief in the spring. The 1990 – 1991 year began very dry, (figure 2). It was not until late February, and especially in March, when the rains finally came. This is often referred to as the year with the “Miracle March.” Even though there is still hope this season, the prediction for the remainder of this year does not look favorable. Most of the models used to predict precipitation show that it will be below normal for spring. There may be a little more hope for next year though, the January 2014 Time Magazine has an article stating that an El Niño may develop bringing more precipitation by the 2014-2015 water year. However, they also predict it will be a hot year, perhaps the hottest on record.

For more information on the drought, please look at this website:

Figure 1. Monthly Rainfall (1948 – 2013) totals showing the average, and the last two years for Paso Robles, CA. Note that the 2013/14 water year is not complete yet.
Drought Effects on Native Oaks
Bill Tietje and Royce Larsen, UC Cooperative Extension

Master Gardeners have received many calls during the past months concerning the poor condition of many of our native oak trees, in both urban and rural landscapes. Many evergreen oaks (coast live oak) have brown leaves and thin foliage. Adding to the bad look, a deciduous oak, the blue oak, lost its leaves “ahead of schedule”. Early leaf fall is a deciduous tree’s adaptation for conserving water that it otherwise would lose through transpiration from its leaves. More recently, another deciduous oak, the valley oak, kept its brown, dead leaves “longer than usual”. This could be due to the virtual lack of rainfall and wind last fall, both of which typically contribute to an earlier leaf fall. So what is causing this problem?

The situation
As you know, it’s dry out there! In fact, the past 12 months have been the driest on record, going back to 1870. Not surprisingly, many oaks are under water stress—and, they show it. This situation reminds one of the conditions during the drought of 1988-1990, one of the most widespread and severe droughts in the state’s history. Coincidentally during that time in three counties on the central coast, Cooperative Extension was conducting a study that included the monitoring of coast live oak, blue oak, and valley oak trees on study plots scattered throughout the three counties. Many of the oaks looked stressed. Some of them succumbed to the drought. Small, oak trees in the undergrowth and on steep terrain with southern exposure, and shallow, infertile soil, were most vulnerable. Such sites are typically drier than other slopes and orientations. However, large, mature trees—or large branches on these trees—on more gentle slopes, also died. Usually there is not only a single factor that causes the decline and mortality of oak trees. Drought stress lowers the trees’ defense, making the trees more susceptible to mortality factors such as decay fungi and boring beetles. Most likely the drought caused early death of some oak trees that would have persisted otherwise.

What can be done?
Surely our native oaks have been through droughts before. So the oak trees, other than the very small or very old trees, should be okay. Nonetheless, given the very low rainfall this year it may be prudent to give a valued tree in the urban landscape a “deep watering”. A “deep watering” can be accomplished by moving a hose around under the tree’s canopy for a day or two at a flow such that the water percolates into the soil; i.e., the water does not simply run down the hill. Although watering an oak tree can encourage damaging root fungi by creating warm, moist conditions, a “deep watering” followed by soil drying for a month or two, should not harm the tree. In fact, a “deep watering” may be the best recommendation for invigorating your oak tree, thus providing some insurance that the tree will survive this current drought.

For more information:
California Ground Squirrels
Maria Murrietta, Agricultural Technician, UC Cooperative Extension, San Luis Obispo

If you manage pasture land or agricultural crops, chances are you also manage California ground squirrels (Spermophilus beecheyi). Successful management plans involve accurate identification, proper timing of control measures and understanding the laws and regulations associated with ground squirrel management.

Ground squirrels damage property and can transmit disease. They chew through drip lines, girdle trees and feed on a laundry list of fruit and nut crops. Their underground habitats cause above ground hazards for people, machinery, buildings and other structures. They are a known host for the flea that transmits the bacterium (Yersinia pestis) that causes bubonic plague. Additionally and more recently learned, the California ground squirrel is a host for Cryptosporidium, an environmentally transmitted parasite. Grounds squirrels infected with Cryptosporidium can release the parasite into the environment through shedding, meaning that the parasite is expelled with fecal matter. Male Juveniles are twice as likely as adults to be infected and they shed higher concentrations of this parasite. Cryptosporidium can have food safety implications when the microorganism is shed on or near agricultural commodities.

Accurate identification of the damaging pest is important. Be certain that it is the California ground squirrel damaging your land or crops and not a protected species. Certain relatives of the ground squirrel are protected by the California Department of Fish and Wildlife (CDFW). For example, there are four species of tree squirrels and they are all classified as game mammals. They cannot be trapped, but they do have a designated hunting season. The San Joaquin antelope squirrel (Ammospermophilus nelsoni) is classified as threatened species and cannot be hunted or trapped. Check with the CDFW for details on other protected species and hunting regulations.

Ground squirrel control strategies are most successful when they coincide with certain biological activities. Understanding the life cycle and eating habits of ground squirrels will help in the planning and implementation of your management program. Fumigants, for example, are better used after the hibernation period, but before the young are born. The respiration of a hibernating squirrel is very slow; therefore, they are less likely to inhale a sufficient amount of the gaseous fumes for the desired result. The hibernation period ends in late winter and, hoping for a typical weather pattern, the ground should be heavy and damp from winter rains. Damp, heavy soil and is the preferred soil condition for fumigants as it holds the gaseous fumes below ground for maximum effect.

Whether you choose fumigants, baits or traps, permits and/or licensing may be required to purchase or to apply rodenticides. Attend the Squirrel Bait Workshop on March 26, 2014 for information on the current laws and requirements regulating ground squirrel management.
HOW TO CONTROL GROUND SQUIRRELS
A Free Workshop for Commercial Agricultural Business Owners

Continuing Education Credits have been requested

March 26, 2014 8:30 am – 11:00 am

American Legion Hall- 805 S. Main Street, Templeton
Hosted by the University of California Cooperative Extension
and the San Luis Obispo County Agricultural Commissioner

TOPICS COVERED
• Squirrel biology and life cycle
• Developing an integrated pest management plan
• Squirrel control using bait, C02, etc.
• New pesticide label changes (certification required)
• Where and how to purchase bait

SPEAKERS
• Roger A. Baldwin Ph.D., Pest Management Specialist, UC Davis
• Bill Teitje, Ph.D. Wildlife Specialist, UC Berkeley
• Dale Donaghe, Inspector/Biologist, San Luis Obispo County AG Commissioner,

Click on the link to register for free
http://ucanr.edu/groundsquirrels2014
Or call Ingrid @ 805-781-5940

Squirrel baits are now restricted material, which means that applicators must be certified prior to purchase and use. To become certified, a written exam may be offered, (based on demand) at no charge, to San Luis Obispo County Commercial Agricultural owners/operators following the workshop.

Reservations for the exam are required and the deadline is March 14, 2014.
Call Dale @ 805-434-4897.

NOTE: The workshop alone will not prepare you to pass the exam. Study guides are available for purchase on the website http://anrcatalog.ucdavis.edu/ or at your local UC Cooperative Extension Office.