



University of California Cooperative Extension

# Livestock, Range & Watershed

Division of Agriculture & Natural Resources

County of San Luis Obispo

2156 Sierra Way, Suite C  
San Luis Obispo, CA 93401  
(805) 781-5940 PHONE  
(805) 781-4316 FAX

1734 Paso Robles Street  
Paso Robles, CA 93446  
(805) 237-3100 PHONE  
(805) 237-3088 FAX

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about 7 miles toward Huasna to the Tar Springs Ranch where there will be driveways on both sides of the road (you can see a house on the top right). Take the left driveway up the hill to the old west village.

## UPCOMING EVENTS

### SLO RIA Annual Meeting, March 28, 2001

**The SLO RIA annual meeting will be Wednesday, March 28, 2001, at the historic Loomis Family Tar Springs Ranch off Huasna Road in rural Arroyo Grande at 6:00 pm.**

The program will include a talk on the Rangeland Trust by Steve Sinton, an update on the Firesafe Council of San Luis Obispo County. Also an update on the National Forest Plan. The dinner is \$6.00 and the annual membership is \$2.00. Attendance and/or membership is open to all interested persons. For more information contact Skip Dyke at 489-1832.

### PLEASE RSVP

If you have not already done so, Please RSVP the UCCE office at 805-781-5940 by Friday, March 23 so the cooks will know how many to prepare for.

### Directions:

To get to Tar Springs Ranch, go east from Arroyo Grande toward Lopez Lake, about 1 ½ miles to Huasna Area sign. Turn right and go

### Forest Plan Revision

The USFS is looking for public input at their planning meetings for the Forest Plan Revision. There will be a meeting at the Regional Center in Arroyo Grande on March 6<sup>th</sup>. For more information, contact Kathleen Phelps, Santa Maria USFS, Los Padres Forest Headquarters. (805) 925-9538.

### A Grazing Study on Intermittent Streams

Most of California's surface water flows through the state's 16.8 million acres of annual rangelands. Sediment is the most prevalent non-point source pollutant in these surface waters. Alteration of stream channel morphology by cattle and associated stream bank erosion is a concern on these rangelands.

Studies of livestock impacts on stream channels have focused largely on perennial streams. Several of these research or assessment studies have reported livestock induced stream bank erosion that leads to channel down cutting or widening. Only a few studies have documented impacts on intermittent or ephemeral streams

that are extensive throughout California Rangelands.

A study just nearing completion was begun in 1994 at the San Joaquin Experimental Range (SJER) to determine changes in stream channel morphology in response to two seasons (wet and dry) and three intensities (no grazing, moderate, and concentrated) of grazing. Channel cross sections were used to measure the grazing effects. The morphological parameters cross-section area (A), channel width at bankfull (W), channel average depth (A/W), width to depth ratio (W/(A/W)), and distance from left permanent stake to right (R) and left (L) bank at bankfull height were calculated. There were three streams, with 5 reaches each, where the treatments were applied. There were 10 permanent cross sections at each stream reach.

There were no detectable differences due to grazing treatment when morphological responses were averaged across all years. Year and year x grazing effects were significant for A, W/R, D, and A/W. The strong year effect was most likely due to differences in amount and intensity of rainfall resulting in runoff differences between years. Maximum and mean channel depth resulted in more detectable differences than any other parameter. This not surprising because most of the sediment moves in these channels as bedload. There were two of the years that had higher than normal rainfall and runoff resulting in high flows carrying large amounts of bedload sediment.

We found that it was difficult to separate grazing from other effects in this study. Results indicate that each stream, or stream reach, responded differently to grazing treatments and year effects such as stream flow. The morphological responses from grazing may be small or masked by stream flow, especially during years with above normal rainfall. This research has been submitted to the Journal of Range Management for publication.

