

A large herd of cattle, including brown, black, and white cows, is grazing on a lush green hillside. The background features a dense forest of green trees under a clear sky. The text is overlaid on the top half of the image.

The 3rd Rustici Rangeland Science Symposium

Resource Conservation Districts

Resource Conservation Districts

Who Are We?

What We Do?

Why It Matters?

**A May 11, 1934 Dust Storm
Attracted National Attention
Wind eroded soil from the
Great Plains fell on Washington DC**



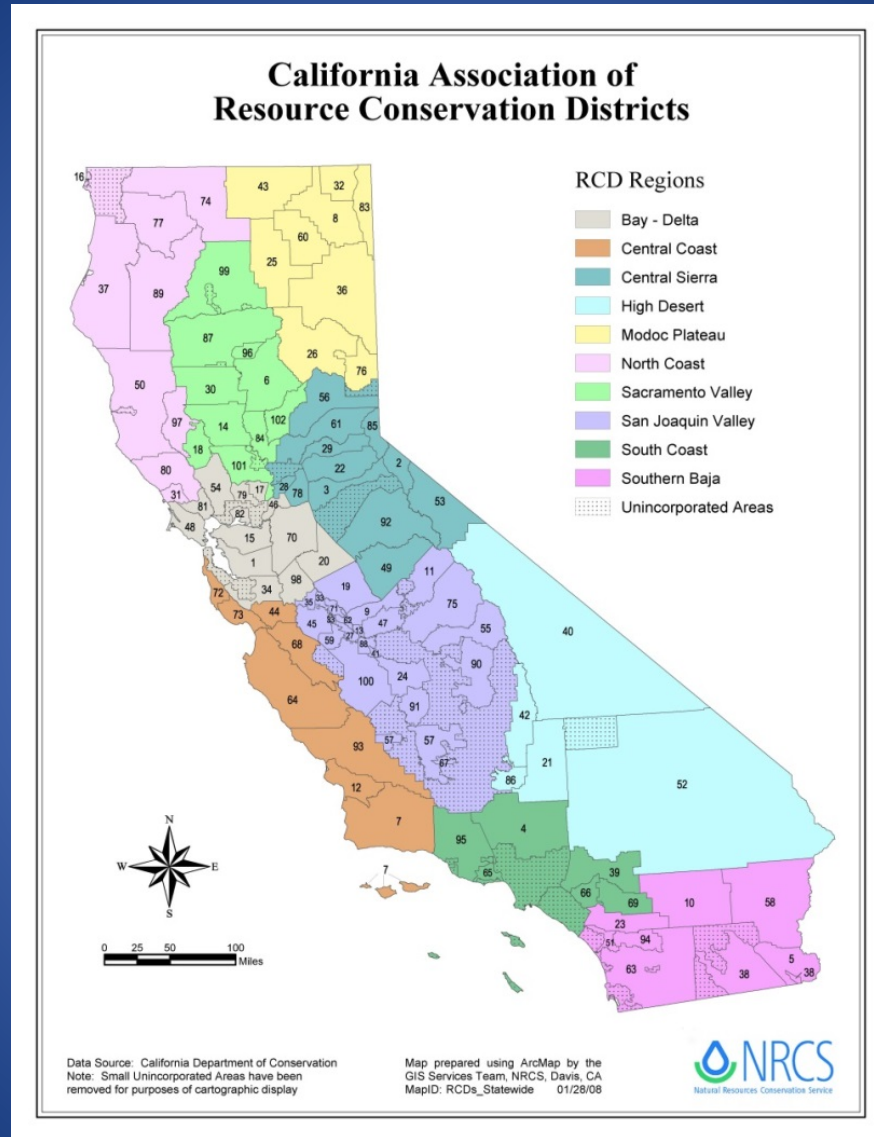


PUT YOUR
Soil Conservation
DISTRICT
ON THE MAP

**RCDS are
Legislated by
Division 9 of the
California Public Resources Code.**



98 RCDs - Statewide



California Association of RCDs 1945

Who Are We Today?

- Certified Conservation Planners
- Cultural Resources Technician (CRT)
 - Engineers
 - Environmental Scientists
- Agronomist and Certified Crop Advisors (CCA)
- Certified Professional Erosion & Sediment Control (CPESC)
- Water, Climate and Energy Specialists
 - Biologists
- Rangeland Management Specialists

Who Are We Today?

Foundation from Federal Govt.

Legislated by The State of California

Operate Locally

What Do We Do?



RCD Programs and Services

Water Conservation

Habitat Restoration

Water Quality

Erosion Control

Pollinator Services

Carbon Sequestration

**Biological Consulting and
Monitoring**

Rangeland Management

Coordinating Permitting

Ecosystem Services

Watershed Management Planning

Stream Management

Conservation Easements

Energy Use Rainwater Harvesting

Watershed Education

Stormwater Management

Fire Management Planning

Sediment Management

Climate Adaptability Readiness

Nutrient Management

Mitigation and Monitoring

Rural Road Assessment and Design

Technical Partners

UC DAVIS

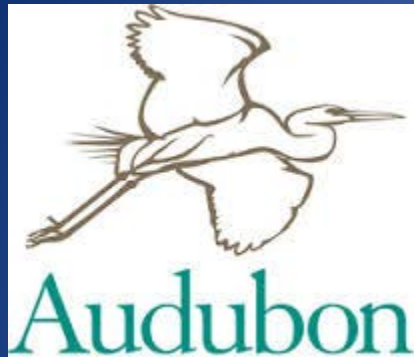
DEPARTMENT OF PLANT SCIENCES



Work Collaboratively



Work Collaboratively



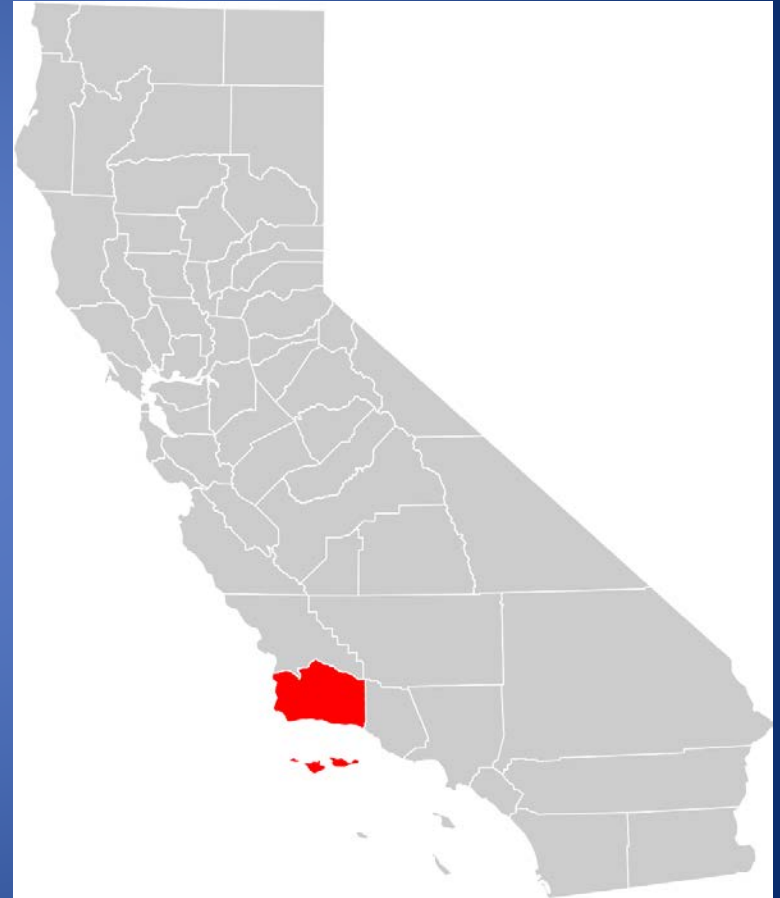
Why it Matters

- Do Not Operate in Silos – Ecosystem Focused
- Work with our Partners
- Experts from the Scientific Fields
- Embrace Collaboration
- Action Oriented
- Federal and State Goals
- On the Ground Results - Locally

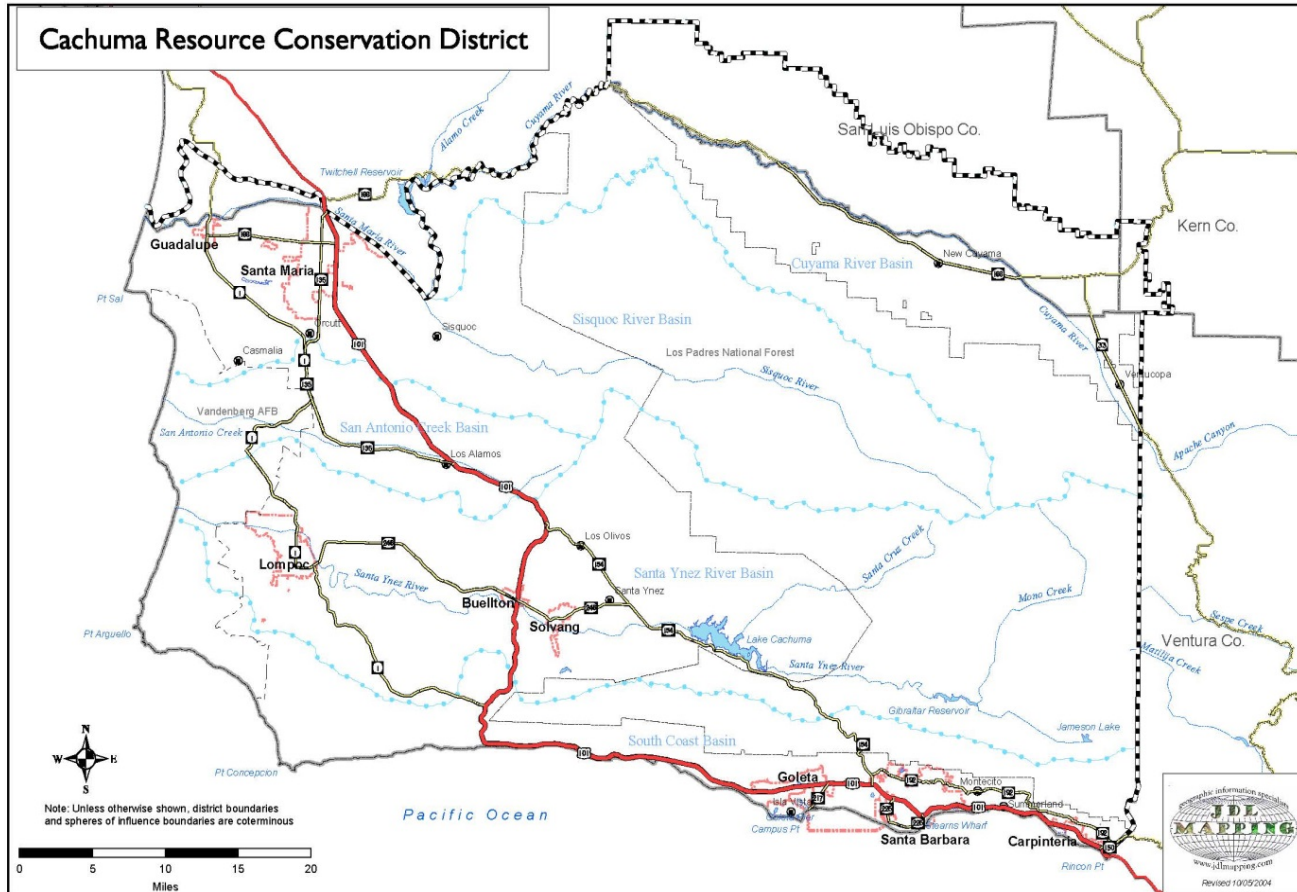
The first RCD in Santa Barbara was formed in 1944.



**Cachuma Resource
Conservation
District**



Watershed Based District Boundaries

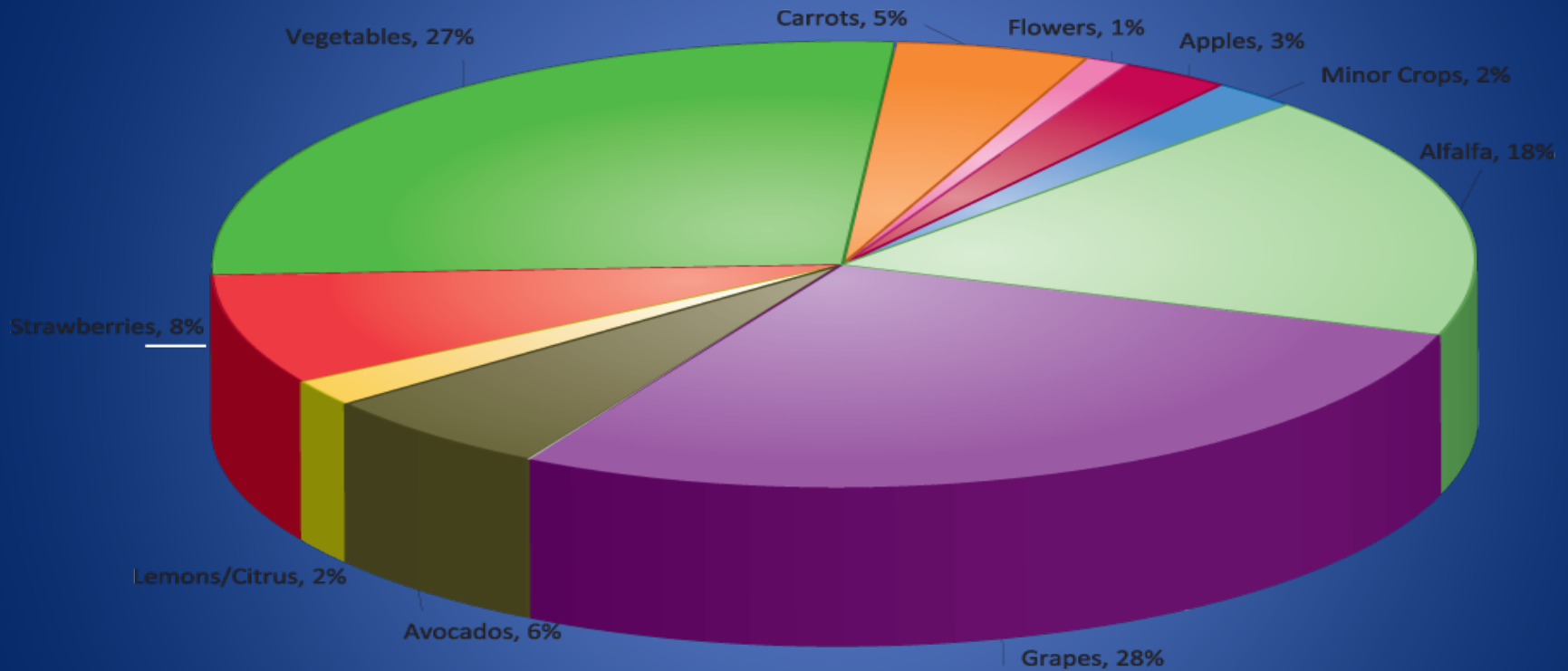


The collective area is **1,941,700 acres**, 1,775,360 acres of which are in Santa Barbara County, 157,380 acres in San Luis Obispo County, and 8,960 acres in Kern County.

Santa Maria Watershed Plan 1959



Water Quality and Conservation



54,772 acres

Special Status Species

Deinandra increscens ssp. villosa

Gaviota tarplant

Status and Range

Deinandra (= *Hemizonia*) *increscens ssp. villosa* (Gaviota tarplant) is state and federally listed as endangered. In addition, it is on the California Native Plant Society (CNPS) list 1B (plants considered rare, threatened, or endangered in California and elsewhere).

It is known to occur in extreme coastal Santa Barbara County from Guadalupe to Gaviota, in a narrow band between the crest of the Santa Ynez Mountains and the Pacific Ocean. The presence of appropriate soils severely restricts its distribution within its range. The original population (type locality) for this species was located on and around the Gaviota area in proximity to



Tamara Klug



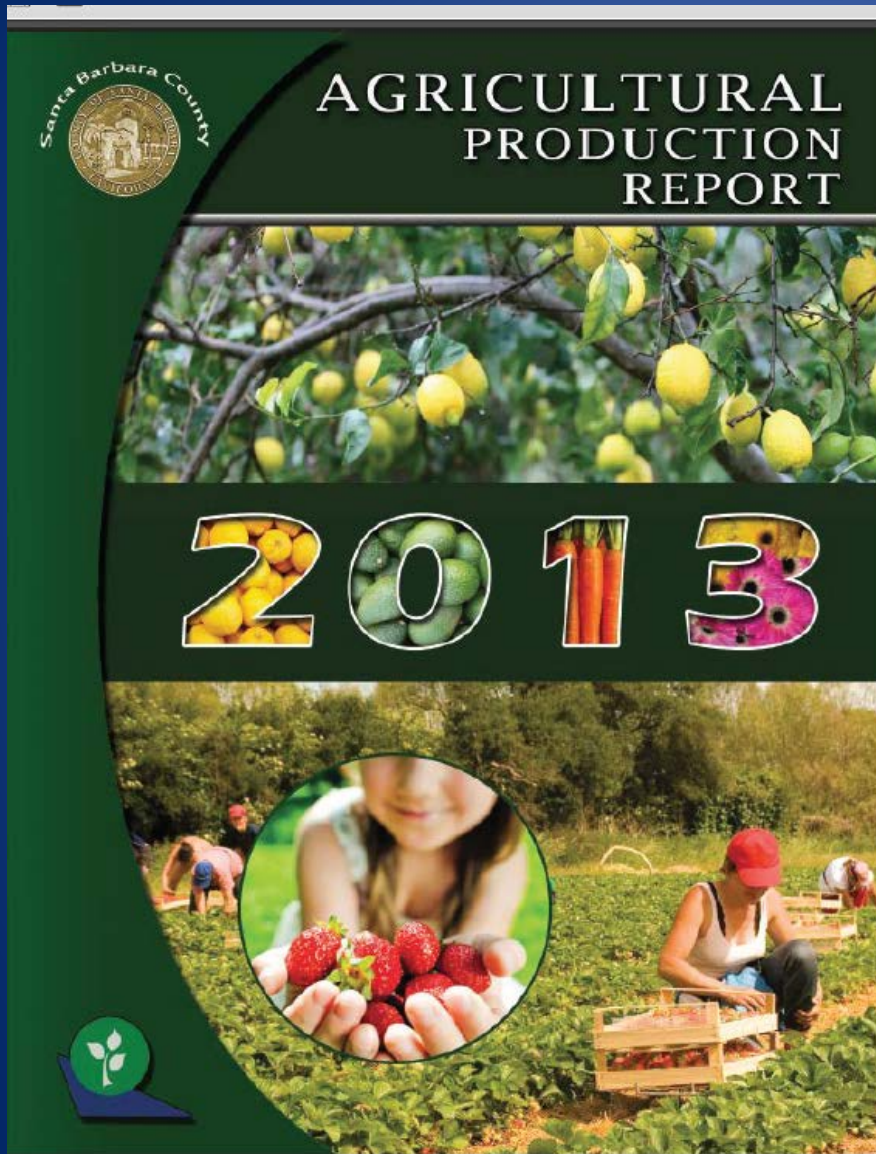
Tamara Klug



Ranch Programs



2013 Crop Report



585,450 Acres

33,000
Cattle/Calves

Animal Keeping Facility Design and Management



Stormwater Runoff Management at High Use Areas

This fact sheet is part of a series prepared and published by the Council of Bay Area Resource Conservation Districts in cooperation with the USDA Natural Resources Conservation Service and the University of California Cooperative Extension.



Conservation Practices for Horse Owners

Rainfall runoff managed use areas areas pollute clean at areas sm

A conservat prot

To implement conserv

1. Identify the sou
2. Determine how
3. Select a conserv
4. Monitor and ev
5. Make any need

1. Keep "Clean"

"Clean" stormwater flows across bare s

Capture "clean" ro water" away from is especially impor drainageways. Siz Seek professional l by animals. Pipe o manure storage are underground pipe, energy dissipaters.

Divert "clean" hill areas and other hig concrete. Convey filter strips or othe flow and infiltrate sure to protect the "energy dissipater.

2. Manage "Cont

Stormwater that flo addition, high-use areas with bare soil, as well as active



Horse Manure Management

This fact sheet is part of a series prepared and published by the Council of Bay Area Resource Conservation Districts in cooperation with the USDA Natural Resources Conservation Service and the University of California Cooperative Extension.

Horses are a valued part of California's suburban and rural environment. Just as horse owners plan the (feed) for horses, they need to plan for the output (manure). Horse facility owners should develop a waste management plan to ensure clean and safe facilities, protect creeks and ground water and reduce odors and insect breeding opportunities. The plan can be functional - not an elaboration creation. Document the use or disposal options you plan on using, such as utilizing manure as a soil amendment or hauling manure to a disposal site. Consider visual impact, odor, health and safety implications, as well as economic costs and benefits when developing and implementing the waste management plan. Effective horse manure management helps protect water quality.

Benefits of Implementing a Comprehensive Waste Management Plan:

- ★ Healthier Environment for Horses
- ★ Cleaner and Safer Work Area
- ★ Utilization of Manure as a Soil Amendment
- ★ Protect Creeks and Streams
- ★ Reduce Waste Volume
- ★ Reduce Odors
- ★ Reduce Insect Breeding Opportunities
- ★ Reduce Neighbor Complaints

Natural land features must be considered when developing a waste management plan. Evaluate soil, vegetation and proximity to creeks and drainage ways to avoid polluting water. With great concern about groundwater protection, land characteristics below the soil surface also need ev

A successful manure management plan involves collection, storage and disposal of

Collection

- Clean-up manure from stalls and paddocks daily. scrape (or otherwise clean out) turnout and corrals regularly.
- Horses on pastures generally disperse their manure where it is recycled naturally by the land. If horses deposit manure in one area, periodically spread it around.

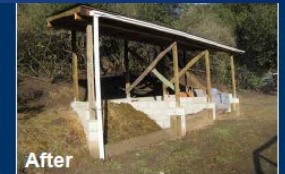
Storage

Manure must be properly stored to maintain good condition, be easy to handle and avoid leaching nutrients to ground or surface water. Management measures include:

- Locate the storage facility away from ponds and wells.
- Storage facilities may be covered with concrete or lumber, piles covered with dumpsters or covered garbage cans and size of the storage facility depends on how much manure will be stored and the disposal or utilization. Include the bedding when sizing a storage facility. Estimate of what a 1000 lb. horse produces per day of manure and bedding is approximately 10 cubic feet per day of manure and bedding.
- The storage facility may require a concrete base depending on the permeability of the soil.
- Be sure the area is convenient for loading and unloading.



Before



After

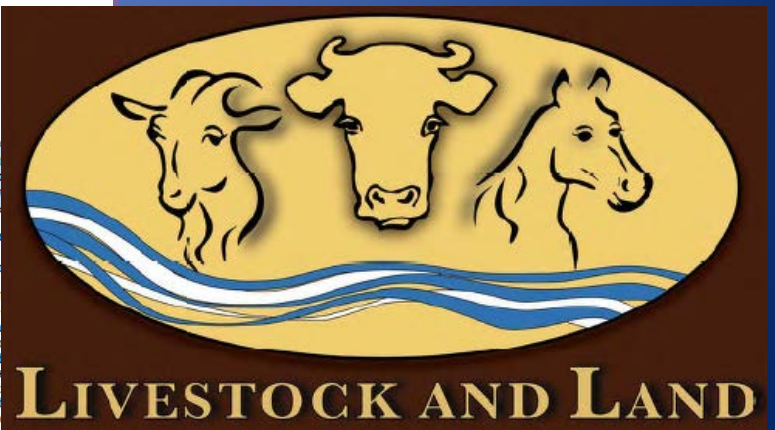


After



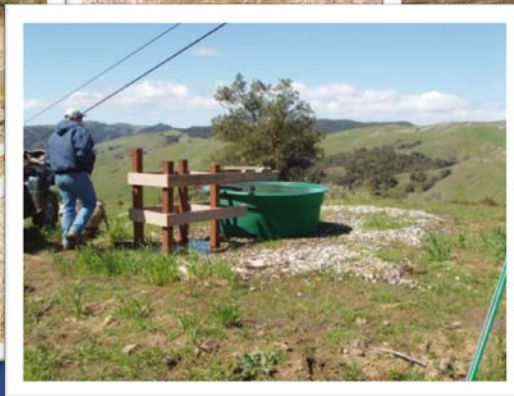
After

Pasture and Paddock Management



LIVESTOCK AND LAND

Rangeland Management Planning



Rancher to Rancher



Rancher to Rancher



Ranch Water Quality Program

Summary of Water Bodies Declared Impaired

Table 1. Santa Barbara County Water bodies Declared Impaired (2010) or Part of a TMDL for Nitrate, Sedimentation, Turbidity, or Fecal Indicator Bacteria

Water Body	Length (miles)	303(d) Listed Pollutants (2010)	Data Collection			Quality Control / Quality Assurance						
Alamo Creek	7.8	Bradley Channel	3.1	Fecal Coliform, Nitrate	CCAMP conducted monthly, every five years		All data was collected following the Standard Operating Procedures and Data Quality Objectives outlined in the SWAMP QAMP, (Puckett, 2002). QA data are included in submission.					
Bell Creek	1.1	Bradley Channel	3.1	N	Little Oso Flaco Creek	1.8	Nitrate	CMP as part of the Ag Waiver	All data was collected following the Standard Operating Procedures and Data Quality Objectives outlined in the Cooperative Monitoring Program QAPP, (Clark and Ogle 2006). QA data are included in submission			
Bell Creek	1.1	Cuyama River (Above Twitchell Reservoir until Hwy 33 Bridge)	80	Fecal	Main Street Canal	5.1	Ft	Nipomo Creek	9.3	Nitrate, Fecal Coliform	CCAMP conducted monthly, every five years	All data was collected following the Standard Operating Procedures and Data Quality Objectives outlined in the SWAMP QAMP, (Puckett, 2002). QA data are included in submission.
Blosser Channel	2							Orcutt Creek	10	Nitrate, Fecal Coliform	CCAMP conducted monthly, every five years	All data was collected following the Standard Operating Procedures and Data Quality Objectives outlined in the SWAMP QAMP, (Puckett, 2002). QA data are included in submission.
Bradley Canyon Creek	17	Gaviota Creek	7	E. coli	Main Street Canal	5.1	Ft	Oso Flaco Creek	6.3	Fecal Coliform, Nitrate,		
Bradley Canyon Creek	17	La Brea Creek	6.6		Main Street Canal	5.1	Ft	Oso Flaco Creek	6.3	Nitrate		
		Little Oso Flaco Creek	1.8	Nitrate	Main Street Canal	5.1		Oso Flaco Lake	56 acres	Nitrate		
					Main Street Canal	5.1		Refugio Creek	6.8	Fecal Coliform		
								San Antonio Creek	14	E. Coli, Fecal coliform, Nitrate		
								Santa Maria River Estuary	5.8 acres	E. Coli, Total Coliform, Fecal Coliform	CCAMP coastal confluence monitoring conducted monthly	All data was collected following the Standard Operating Procedures and Data Quality Objectives outlined in the SWAMP QAMP, (Puckett, 2002). QA data are included in submission.
								Santa Maria River	51	E. coli, Nitrate, Sediment	CCAMP coastal confluence monitoring conducted monthly	All data was collected following the Standard Operating Procedures and Data Quality Objectives outlined in the SWAMP QAMP, (Puckett, 2002). QA data are included in submission.
								Santa Ynez River (City of Lompoc to Ocean)	3.8	E.coli, Fecal coliform	CCAMP conducted monthly, every five years	All data was collected following the Standard Operating Procedures and Data Quality Objectives outlined in the SWAMP QAMP, (Puckett, 2002). QA data are included in submission.
								Santa Ynez River (City of Lompoc to Ocean)	3.8	Nitrate	CCAMP conducted monthly, every five years	All data was collected following the Standard Operating Procedures and Data Quality Objectives outlined in the SWAMP QAMP, (Puckett, 2002). QA data are included in submission.
								Santa Ynez River (City of Lompoc to Ocean)	3.8	Nitrate	CMP as part of the Ag Waiver	All data was collected following the Standard Operating Procedures and Data Quality Objectives outlined in the Cooperative Monitoring Program QAPP, (Clark and Ogle 2006). QA data are included in submission
								Santa Ynez River (Cachuma Lake to City of Lompoc)	43	Sedimentation	Data collected pre-2006 List of Water Quality Limited Segments, not available in the 2010 Integrated Report	Unknown.

¹City of Santa Maria and Channelkeeper data for the Fecal Coliform listing at the Main Street Canal is located here: http://www.waterboards.ca.gov/water_issues/programs/tmdl/records/region_3/2008/fe2591.xls

Ranch Water Quality Program

Santa Barbara Cattlemen's Association

2010-2012



SBCCA and RWQCB and CRCDD

Ranch Plan Development

- 1995 Ca Rangeland Water Quality Management Plan
- Tomales Bay
- Sotoyome RCD Grazing Handbook
- UCCEs Ranch Water Quality Planning Short Courses
- Peer Reviewed Scientific Literature
- NRCS Certified Conservation Planning Tools
- SBCCA Legal Counsel

March 2012

- 1) Adopted TMDL for FIB IN SM
- 2) Add SM Watershed to Domestic Animal Waste Discharge Prohibition

Central Coast Regional Water Quality Control Board

Memorandum

TO: Central Coast Water Board Staff

FROM: Ken Harris
Interim Acting Executive Officer
CENTRAL COAST WATER BOARD

DATE: October 10, 2012

SUBJECT: RANCH WATER QUALITY PLANNING, COMPLIANCE MONITORING & ANNUAL CERTIFICATION TEMPLATES FOR TMDLS AND OTHER REQUIREMENTS APPLICABLE TO GRAZING OPERATIONS IN SANTA BARBARA COUNTY

On March 15, 2012, the Central Coast Regional Water Quality Control Board (Central Coast Water Board) adopted an amendment to the Water Quality Control Plan for the Central Coastal Basin to (1) adopt a Total Maximum Daily Load (TMDL) for fecal indicator bacteria in the Santa Maria River watershed and (2) add the Santa Maria River Watershed (including Oso Pico Creek subwatershed) to the Domestic Animal Waste Discharge Prohibition. The Central Coast Water Board has forwarded the amendment to the State Water Resources Control Board for approval.

The requirements in the amendment raised questions with a number of regional stakeholders regarding affirmative steps that ranchers can voluntarily undertake to demonstrate compliance with these, and similar, waste discharge regulations. In response, through a cooperative effort between the Cachuma Resources Conservation District, local stakeholders in the Santa Barbara ranching community, and Central Coast Water Board staff, the attached *Ranch Water Quality Planning, Compliance Monitoring & Annual Certification Templates* (Ranch Water Quality Plan and Compliance Certification) dated June 25, 2012, was created.

The Ranch Water Quality Plan and Compliance Certification is a program that can be undertaken by interested landowners to help them track and plan water quality improvement efforts related to grazing operations on their property. The strategy set forth in the Ranch Water Quality Plan and Compliance Certification meets the requirements set forth in the TMDLs where grazing activities are identified as a source of impairment. Ranch water quality planning is a good way to become and keep aware of threats to water quality and a good first step toward

JENNIFER B. YOUNG, BOARD | ROBERT A. HARRIS, JR., INTERIM ACTING EXECUTIVE OFFICER
600 Avenida Pico, Suite 101, San Luis Obispo, CA 93401 | www.ccrwb.org/government

© 2012 CENTRAL COAST WATER BOARD

Prohibition to the Basin Plan

Ranch Plan Template

- Kept On Site
- Capitalize on Previous on Ongoing Efforts
- Landowner or Tenant/Lessee

Ranch Plan Template

- Form 1 - Property Information
- Form 2 - Pasture Assessment
 - Livestock Distribution
 - Location of Corrals in relation to areas prone to runoff
 - Manure Management

Ranch Plan Template

- Form 3 - Water Quality and Grazing
 - Alternative Water Sources
 - Water Trough Distribution
 - Seasonal Streams or Year Round
 - Opportunities for Rotational Grazing
 - Wildlife Presence
- Form 4 - Planned Current, and Completed Projects

Annual Certificate

- Mail In Once a Year
- July 15th
- Completed/Updated Ranch Plan
- Two Wet Seasons and One Dry Season

ANNUAL CERTIFICATION & COMPLIANCE MONITORING DOCUMENTATION
(Required and must be submitted)

Use these inspections to decide if further management practices are needed to improve water quality on the ranch. Start the yearly task of compliance monitoring on the ranch with at least one dry season visual inspection in September. If rain arrives, continue with at least one wet season visual inspection from October 1 through rain event where storm water runoff is generated.

Ranch Plan
A stated goal of the Ranch Water Quality Plan is to achieve and maintain water quality through and onto the ranch.

A Ranch Water Quality Plan was completed in _____(year) and will be updated Ranch Water Quality Plan.

A Ranch Plan was completed by the NRCS or RCD on _____(year).

A Ranch Plan is currently under preparation by the NRCS or RCD and is expected to be completed on _____(year) by the Ranch owner or tenant.

A Ranch Plan was prepared on _____(year) by the Ranch owner or tenant.

Compliance Monitoring Inspections (fill-in dates monitoring inspections were completed)

1) Wet season inspections conducted on: Oct. _____ Nov. _____ Dec. _____
March _____ April _____

2) Dry season inspections occurred on: Sept. _____ Other Add'l Dates: _____

Certification
Based on the actions certified to be true, the Central Coast Water Board presumes the Loads (TMLs) and water quality objectives where domestic animals are identified as property information, two checklists, and the Water Quality Project templates (Forms) to benefit from the presumption that they are in compliance, available for on-site RWQ.

I certify that the above is true and current to the best of my knowledge.

Completed by: Landowner Tenant Other _____

(Print name) _____

(Signature) _____ (Date) _____ (Phone) _____

Ranch Location		
Farm/Ranch Name: _____		
Mailing address or P.O. Box: _____	County: _____	
City, State and Zip Code: _____		
General description of the location of grazing operations. For example, provide addresses, parcel nos., lot/long, legal descriptions for all pastures grazed, or location on topographic map (add page if necessary). _____ _____		
Phone: _____	Total Size (acres): _____	
Owner		
Name(s): _____		
Mailing address or P.O. Box: _____	<input type="checkbox"/> same as ranch address	
City, State and Zip Code: _____		
Phone: _____	E-mail (optional): _____	
Tenant/Manager (if not owner)		
Name(s): _____		
Mailing address or P.O. Box: _____		
City, State and Zip Code: _____		
Phone: _____	E-mail (optional): _____	

Water Quality Testing Program

Cachuma Resource Conservation District

Your Local Partner in Conservation



Water Quality Monitoring & Ranch Water Quality Services



Data collected by CCAMP helps determine what areas are placed on the Water Board's 303(d) list of impaired waterbodies.

Ranchers who want to have their own confidential water quality data can utilize the Cachuma Resource Conservation District's (RCD) Ranch Water Quality Services for sample design and collection. Since it is more difficult to have a waterbody "de-listed" than it is to keep it off of the list in the first place, ranchers can also submit their data into the pool of information used to determine listings. See the RCD's contact details below to schedule sampling and for more information.

In 2013, the Water Board's Central Coast Ambient Monitoring Program (CCAMP) begins collecting water quality samples monthly at 30 sites in the Santa Maria River & Oso Flaco Watersheds, moving to Santa Ynez, San Antonio and South Coast Watersheds in 2014. Monitoring is done every five years in each area. If you would like to observe the sampling efforts, contact Mary Hamilton, CCAMP Program Manager at (805) 542-4768 or email: madams@waterboards.ca.gov. For a list of sampling locations and more details on the sampling process visit: http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/workplans/r3_5yr_wrkpln.pdf



In October 2012, the State Water Board approved the Santa Maria River Total Maximum Daily Load (TMDL) for Fecal Indicator Bacteria. The regulation will be finalized upon approval by the Office of Administrative Law. The SBCCA worked with legal counsel, the Regional Water Board, and the RCD to develop a template Ranch Plan that can be used as an option for compliance with this regulation. The RCD can provide assistance with completion of this Ranch Plan as well as comprehensive Ranch Planning services.

Cachuma Resource Conservation District
920 E. Stowell Rd. - Santa Maria, CA 93454 - Office: (805) 928-9269
Email: acoates@rcdsantabarbara.org
www.rcdsantabarbara.org

Landowner Agreement and Test Results

Ranch Water Quality Services Landowner Agreement

For more information about water quality testing services, please contact one of the following employees of the Cachuma Resource Conservation District (CRCD):

Anne Coates	John Bechtold
Executive Director	Rangeland Conservationist
acoates@rcdsantabarbara.org	Jbechtold@rcdsantabarbara.org
805.455.2820	805.928.9269

Ranch Water Quality Testing Services

The Cachuma Resource Conservation District (CRCD) is offering Ranch Water Quality Testing Services for the fecal indicator bacteria of *E. coli* to those who wish to determine their potential contribution to the Fecal Indicator Bacteria (FIB) Total Maximum Daily Load (TMDL) for the Santa Maria River Watershed as well as to those who wish to have their own water quality data for personal use and/or for submission into the Water Board uses to established its 303(d) lists.

Resolution No. R3-2012-002 Attachment 1 from the Central Coast Regional Water Quality Control Board, promulgates numeric targets used to develop the FIB TMDL for the beneficial use of contact recreation (REC-1). Per the Resolution:

Based on a statistically significant number of samples (generally not less than five samples equally spaced over a 30-day period), the geometric mean of E. coli densities shall not exceed 126 per 100mL, and no sample shall exceed a one-sided confidence limit (C.L.) calculated using the following as guidance: lightly used for contact recreation (90% C.L.) = 409 per 100mL.

The CRCD has confirmed through meeting with Water Board staff on June 7, 2012 that it is not mandatory to collect five samples equally spaced within a 30-day period as the CCAMP program as well as historical sampling procedures do not sample at that frequency. In addition, the CRCD confirmed with Water Board staff that *E. coli* is the appropriate and most accurate measurement of fecal indicator bacteria to use with respect to the beneficial use of contact recreation.

If a landowner is located in an area outside of the Santa Maria Watershed, or if the landowner desires additional data, samples can be analyzed for additional water quality constituents.

COOPERATIVE CONSERVATION AGREEMENT

Landowner: _____

Address: _____

City: _____ Zip: _____

APN(s): _____

The Cachuma RCD Agrees to:

Participate in planning a water quality sampling program that will meet the needs of the landowner and generate statistically significant data; prepare a ranch plan containing recommendations to the Landowner/operator to improve water quality if so requested; assist in application of the Best Management Practices (BMPs).

Sampling Protocol:

Sampling frequency and location will be customized to the applicant's needs and budget. Preferably on at least two separate locations on the property. Sampling locations will generally be where the water body first enters the property and just before the water body leaves the property. It is also possible to sample just upstream and downstream of a high-use area, to see if bacterial loading from a specific location can be quantified. This sampling methodology aims to capture the property's contribution to downstream water quality issues. Duplicate samples will be taken at each sampling location for quality assurance purposes. Sampling will likely have to occur during the rainy season months when seasonal flows in water bodies are to be expected. The landowner/operator will keep a log of the location and amount of cattle and wildlife activity on the property in the vicinity of the sampling locations, for examination for possible correlation between animal activity and sample results.

Water quality sampling procedures will follow guidelines in the Surface Water Ambient Monitoring Program (SWAMP) Field Methods Course as well as the procedural requirements of the laboratory that will be analyzing the samples. Water quality testing will be comparable to the Water Board SWAMP as sampling will follow the guidance of the SWAMP Quality Assurance Program Plan (QAPP), version 1.0, September 1, 2008. Use of the QAPP is encouraged by the Water Boards' for sampling external to SWAMP. The U.S. Environmental Protection Agency (EPA) defines comparable as the measure of confidence with which one data set, element, or method can be considered as similar to another.

Chain of custody will be documented from sample collection through analysis. Sample analysis will be conducted by an accredited laboratory. Reports prepared by the RCD are generally subject to the Public Records Act. Sample results will be delivered directly to the landowner, with no record of sample results retained at the CRCD office. The CRCD will be available for assistance with interpretation of results and for making management practice recommendations to improve water quality.

Estimated costs for this sampling procedure will vary depending upon the number of samples taken and number of sampling locations. Cost estimates for creating and carrying out a sampling plan are estimated at \$1,000 - \$2,300 depending upon the number of sampling locations requested on a property and the number analytes tested.

Interpreting Sample Results



Cachuma Resource Conservation District

920 E. Stowell Rd. Santa Maria, CA 93454
Phone: (805) 928-9269

Interpreting Your Sampling Results

1. Results will be emailed to you directly from the processing laboratory, as a .pdf file, generally within 48 hours of the sampling event.
2. Results will include: source of water, sample data & time, and sample identifier, and sample results.
3. Samples are collected in "duplicate" with each sample labeled with the site location and duplicate A or B. Samples are collected in duplicate to test for consistency and repeatability of results. For example, if you have a monitoring site where a creek first enters your property, the unique sample identifiers for the duplicate samples might be: "Upstream_A" & "Upstream_B".
4. E. coli (fecal indicator bacteria) results are in Most Probable Number (MPN) per 100 milliliters (mL). See below for results interpretation:

0 – 50 MPN/100mL	Well below water quality concerns
51 – 126 MPN/100mL	Below threshold for concern
127 – 408 MPN/100mL	Above average concentration, potential water quality concerns, ranch planning recommended
409 MPN/100mL and up	Above water quality threshold, ranch planning highly recommended

Average E. coli concentrations should aim to be below 126 MPN/100mL, with no individual sample exceeding 409 MPN/100mL.
5. If samples were taken where water first enters the property and then again where it leaves the property, the results from each sampling site should be compared to determine the contribution of E. coli from the property's operations.
6. Feel free to contact the CRCD with any questions. Anne Coates, acoates@rcdsantabarbara.org, (805) 455-2820.

Take Away Points

- Reinvent the Wheel
- Easily Be Replicated in Other Parts of the State
- Its Not Meant to Be a One Size Fits All

Contact Local RCD

Benefits of Grazing

We are a Govt Agency And Truly Here Help

