Grazing and Water Quality

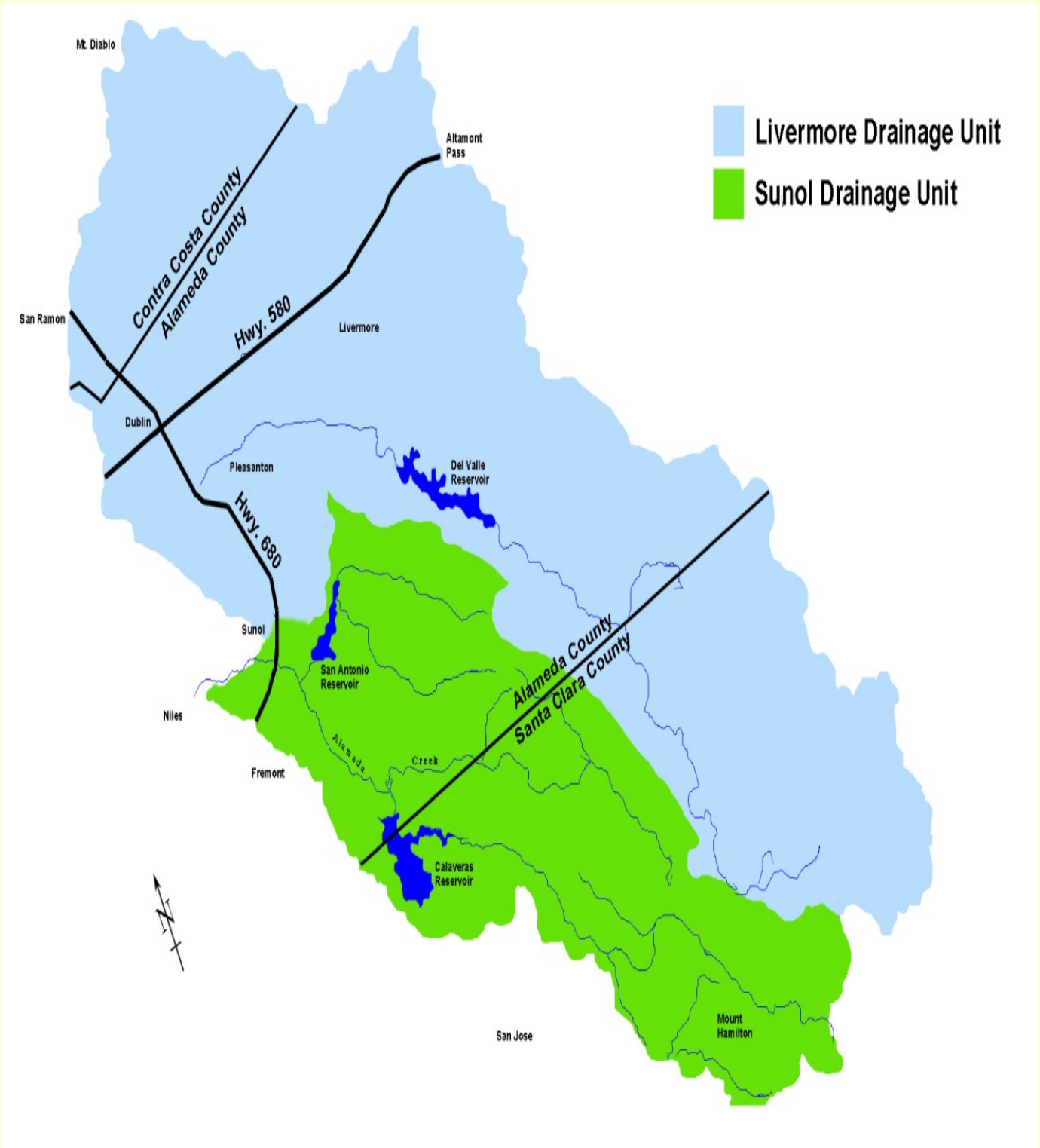
(The SFPUC Crypto War of 1997)

The 3rd Rustici Rangeland Science Symposium

March 3rd and 4th, 2015

Alameda Creek

The Watershed

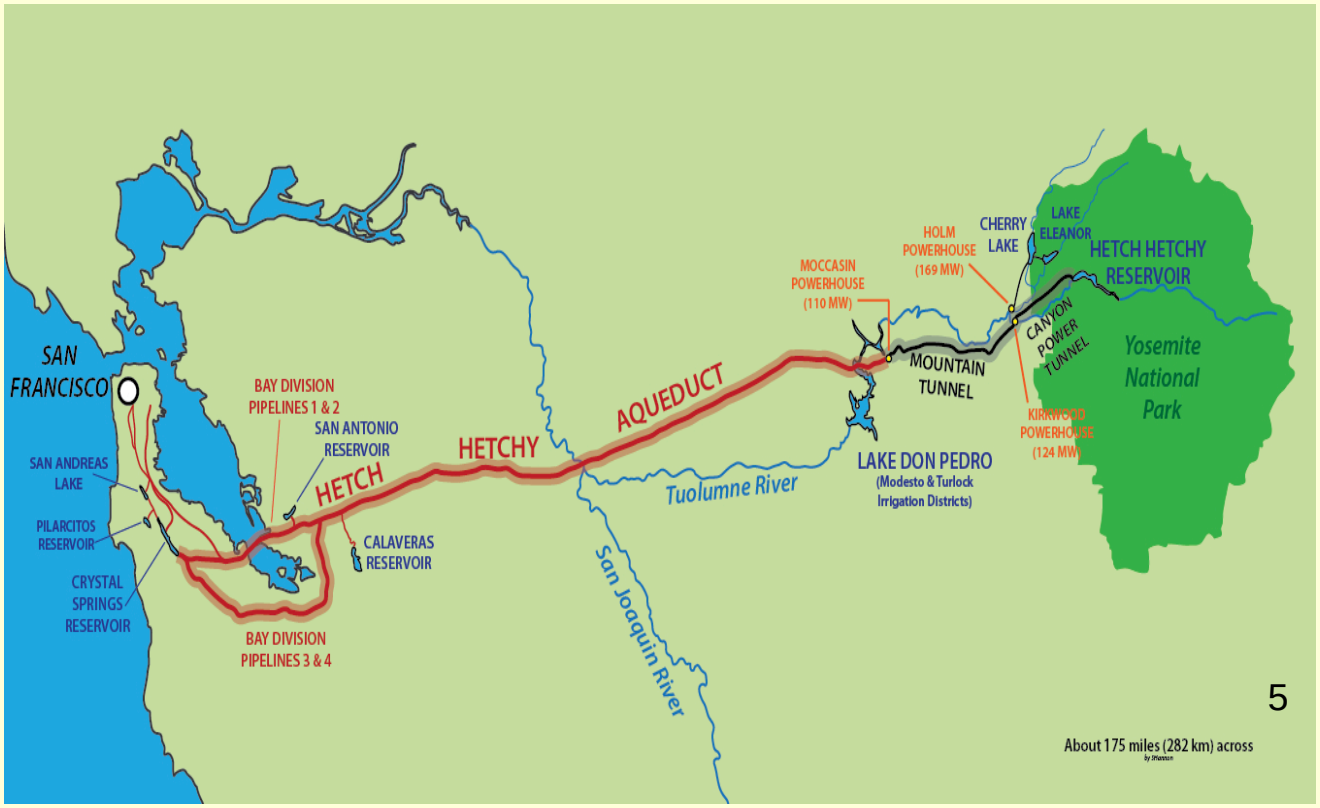


The Watershed

The Watershed

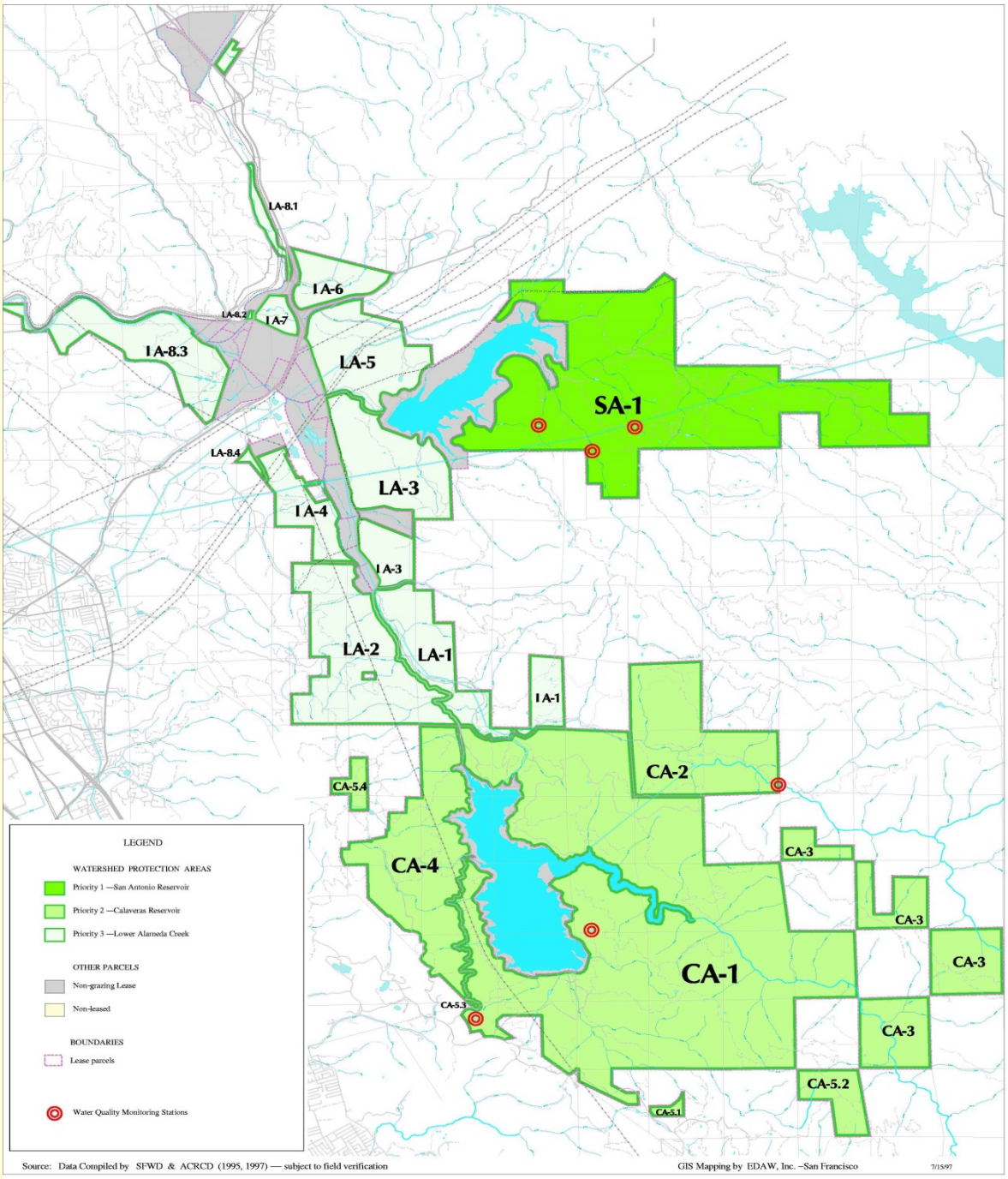
Alameda and Hetch Hetchy

- 38,000 +\- Acres
- About 1\3 of the entire Alameda Creek watershed
- Turner Dam \ San Antonio Reservoir – 50,500 AF
- Calaveras Dam and Reservoir – 96,850 AF
- With HH (85%) provides water for 2.6 million consumers



SFPUC Grazing Units

Southern Alameda Creek Watershed



A Little History

- Spring Valley Water Company
  - Land acquisitions
  - Long term lease arrangements
- SFPUC 1930 – 1970
  - Business as usual
- New Policy – 1970
  - Revenue generation – the driving force
  - National advertising
  - Capabilities overstated
  - Open oral auction bidding – Cash rent per acre
  - Many lease rates increased by 2x – tenants were replaced

When Revenue Generation Ruled

Class of livestock and grazing use were sometimes inappropriate

No monitoring and\or compliance w\lease conditions apparent

Infrastructure construction and maintenance was ignored

When Revenue Generation Ruled

Management plans were inconsistently applied and enforced

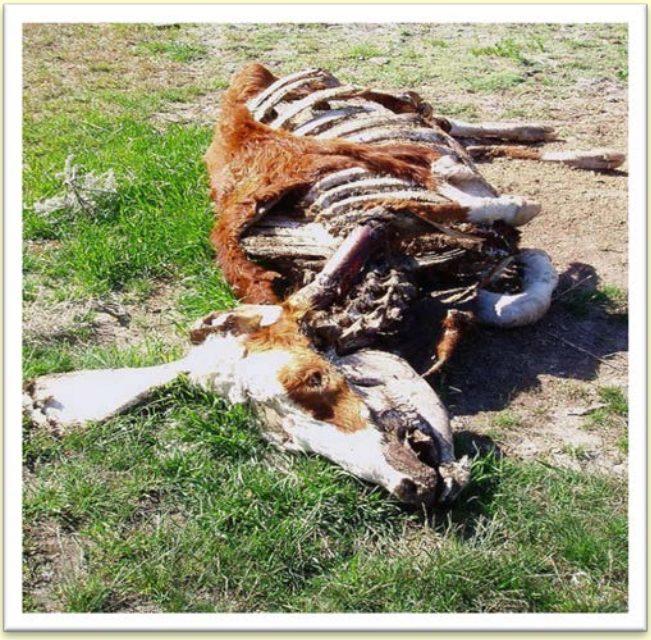
Drought

1975-77

1987-91

Residual Dry Matter was observed to be 100 lbs \ acre or less in some areas (UCCE)

When Revenue Generation Ruled



Time for Change

(The Light Bulb Goes On)

Source Water Quality is Important

Natural Resources are Important

1990 - The SFPUC initiates development of a comprehensive watershed management plan

1992 – The SFPUC initiates development of a source water quality based grazing strategy

The New Grazing Strategy

(Things Sure are Going Well)

- Conversion to RFP Tenant Selection
- Conversion to AUM Pricing
- Establishment of resource based capacities utilizing soil class, slope, aspect and historical production
- Identification of critical water quality vulnerability areas
- Identification of critical special status species vulnerability areas
- Identification of infrastructure deficiencies, including management fences, corrals and stock water
- Agreement by the Commission to accept reduced revenue

The Bomb Drops

Milwaukie, Wisconsin

April 1993

Public potable water supply sickens 403,000 Milwaukie residents. Extreme hazard to immuno-compromised individuals.

Cryptosporidium parvum identified as causative organism.

Due to high river flows and increased turbidity, manure used to fertilize crop fields, the close proximity of dairy farms, and wastewater from a slaughter house are the assumed source of Milwaukie *C. parvum.*

CATTLE CAUSE CRYPTOSPORIDIOSIS

The Holy Grail

Who knows what lives in this evil goo

The Battle Begins

Grazing as an SFPUC watershed management tool is to be terminated ASAP

Determine the quickest legal means to vacate the watershed and void all leases

Collaboration

Five months of discussion revealed that zero *C. parvum* risk was not possible and could lead to additional watershed deficiencies

Clean Water Action

ACT UP Golden Gate

Alice B. Toklas Lesbian and Gay Democratic Club

The Commission

California Cattlemen's Association

Alameda County Resource Conservation District

University of California Cooperative Extension

Ranchers

Analysis for ***C. parvum*** is consistent, water quality standards are met

The goal is risk reduction

The Public Process

The Education Strategy

Listen – Share Goals

Be honest and truthful

If you have a hidden agenda – go home

Be Civil

Respect opposing opinions

Use facts to support your opinion

<u>Take Field Trips</u>

The Education Strategy

The Education Strategy

The Education Strategy

Terry Huff, NRCS, and I at UCB to address a class topic on “Building Environmental Collaborations”. Sproul Plaza after the OCCUPY demonstrations.

The Technical Strategy

Within 30 days, using the best available science, we were asked to develop waterborne pathogen risk reduction protocols to be included in the new SFPUC grazing

program.

Ranchers

AC RCD

UCCE

SFPUC

USDA-NRCS

Alameda Creek Watershed Grazing Resources Management Plan was submitted to the SFPUC for review on May 13, 1997

Application of Hazard Analysis of Critical Control Points (HACCP) and applied Best Management Practices (BMPs)

HACCP Protocols

- Establish and monitor RDM levels to provide vegetative filtering
- Develop off stream stock water to enhance distribution and reduce riparian impacts
- Use attractants, salt and supplements, to reduce riparian impacts
- Maintain fenced non-grazed buffers around reservoirs
- Develop riparian pastures for late season grazing in critical locations
- Calving to be completed by October 31st
- Application of rancher Best Management Practices (BMPs)
- Develop and implement feral pig control program

Feral Pig Management

- Feral Pigs are notorious pathogen carrier/shedders with less age specificity
- Feral pigs consume and damage native plants
- As omnivores, feral pigs may prey on ground nesting birds, amphibians, reptiles and other species
- Feral pigs are prolific – reaching sexual maturity at 6 months and able to produce 2 to 3 litters per year
- Feral pigs may contaminate and damage natural springs, ponds and constructed water systems
- Feral pigs are not constrained by standard livestock fences
- Feral pigs do well on the BBQ

Feral Pig Multi-Species Pastures are not a BMP

HACCP Protocols = BMPs

- The practices and protocols developed for pathogen risk reduction were publicized and spread by “word of mouth” throughout the grazing community

- Ranchers came forward to the SFPUC, UCCE and rangeland scientists with many questions as to how to apply similar BMPs.

- Water quality enhancement through off stream attractants has become a common rancher BMP

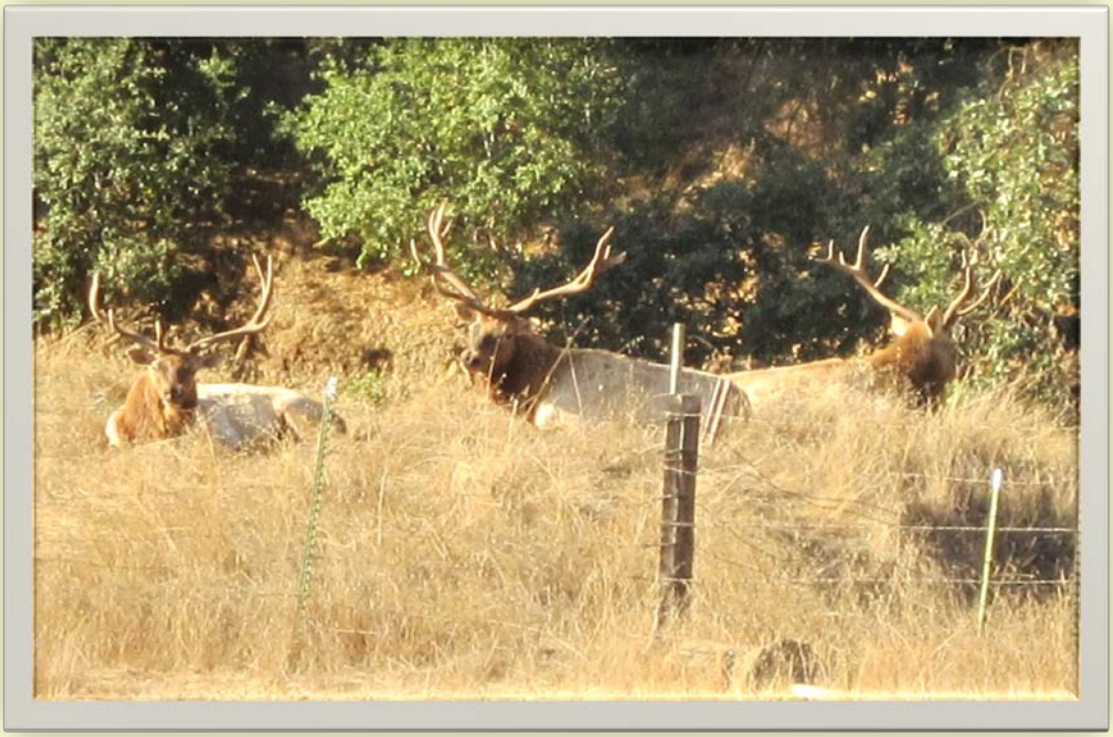
- RDM evaluation and photo point monitoring have become common rancher BMPs

- Off stream stock water development has become a common BMP as evidenced by the surge in NRCS EQIP applications

- Stock pond (critical habitat) repair and de-silting is a growing BMP and is becoming less bureaucratic via the VLP program.

Peace and Harmony

- The SFPUC grazing plan was recognized for innovative excellence by the Association of California Water Agencies
- Fine Fuel Reduction
- Control of woody vegetation conversion
- Open Space
- CESA\ESA Habitat Improvement
- Revenue generation for range improvements and maintenance



Best Management Strategies Applied

Best Management Practices Applied

New stock water sources have been developed using solar pumps, upland storage tanks and pipeline networks in order to provide more efficient grazing distribution

Best Management Practices Applied

- Riparian areas have been identified for site specific grazing\vegetation management protocols

- Fencing projects to control grazing intensity and timing within riparian zones have been installed.

Infrastructure Improvements

Ranchers + Knowledge = Results

Monitoring Documentation

- A formal RDM and Species Composition monitoring program was developed by the SFPUC, Alameda County Resource Conservation District and the NRCS

- 92 permanent photo points \ transect sites have been identified and recorded

- All sites are evaluated for RDM in the fall and species composition baseline was completed in the spring of 2008. Species composition is scheduled for spring 2015

- Day to day “windshield” evaluations are completed by tenants and Watershed Keepers

The End

(Or - That’s It From Soup to Nuts)

Questions / Comments