ALAMEDA COUNTY RESOURCE CONSERVATION DISTRICT

CREEKS & LIVESTOCK: CLIMATE SMART RESTORATION IN ALAMEDA COUNTY

For farmers, ranchers, conservation planners, and practitioners

The Alameda County Resource Conservation District invites you to a discussion of Climate Smart Restoration solutions with Point Blue Conservation Science's STRAW (Students and Teachers Restoring a Watershed) program and Copper Moon Ranch. We will discuss restoration in the context of Carbon Farming, the importance of planning for future conditions, and student engagement in hands-on restoration of working lands.

RSVP:
Click here to register.
Link: https://www.eventbrite.com/e/creeks-and-livestock-climate-smart-restoration-in-alameda-county-tickets-157990131737

This event will be held on Zoom. Details will be sent upon registration.

Questions?
allison.rodacker@acrcd.org | 925-453-3862

JUNE 29, 2021
12:30-1:30PM PST
Virtual event

ORGANIZER

CONSERVATION PARTNERSHIP
ACRCD • NRCS

PRESENTERS

Point Blue
Conservation science for a healthy planet.

Copper Moon Boer Goats

ALAMEDA COUNTY RESOURCE CONSERVATION DISTRICT

FUNDED BY

California Climate Investments — Cap and Trade Dollars at Work

Coastal Conservancy — State of California

CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE

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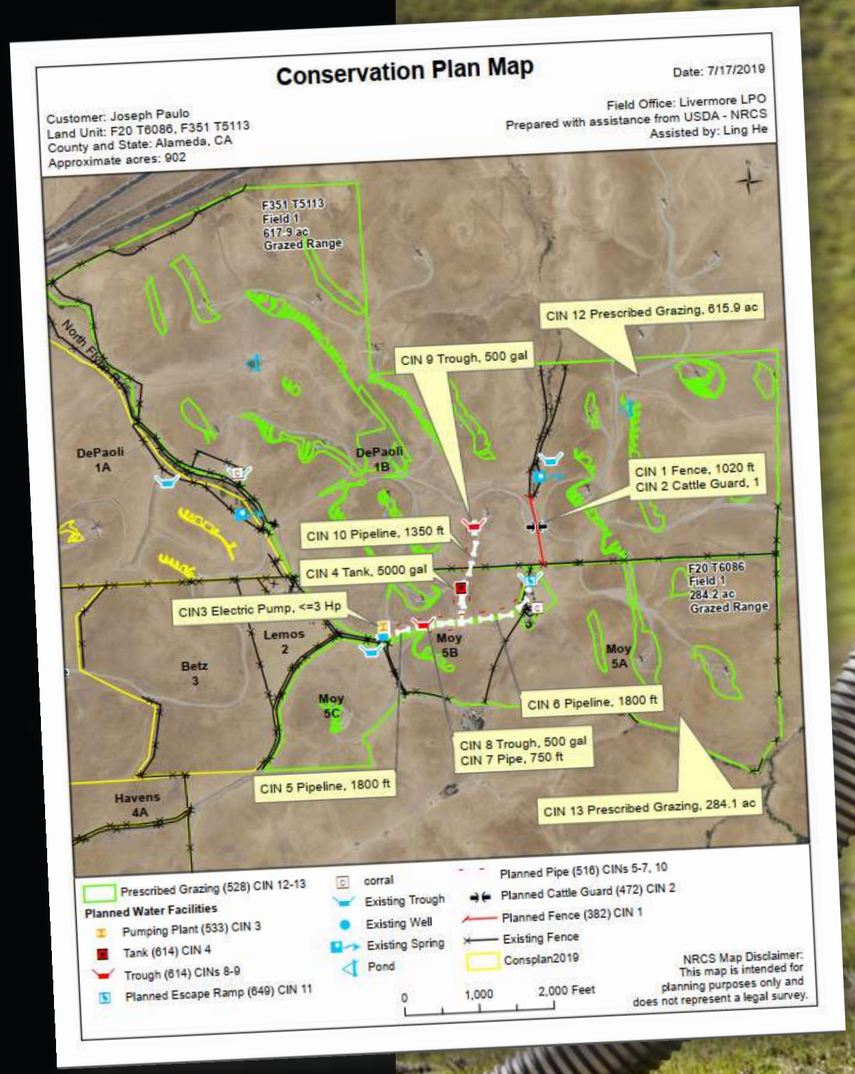
acrcd.org/projects/carbon-farming/
Conservation Plan Map
Date: 7/17/2019
Customer: Joseph Paulo
Land Unit: F20 T6086, F351 T5113
County and State: Alameda, CA
Approximate acres: 902
Field Office: Livermore LPO
Prepared with assistance from USDA - NRCS
Assisted by: Ling He
F351 T5113
Field 1
617.9 ac
Grazed Range
CIN 12 Prescribed Grazing, 615.9 ac
CIN 9 Trough, 500 gal
CIN 1 Fence, 1020 ft
CIN 2 Cattle Guard, 1
DePaoli
1A
DePaoli
1B
CIN 10 Pipeline, 1350 ft
CIN 4 Tank, 5000 gal
F20 T6086
Field 1
284.2 ac
Grazed Range
CIN3 Electric Pump, <=3 Hp
Lemos
2
Moy
5B
Moy
5A
Betz
3
Moy
5C
CIN 6 Pipeline, 1800 ft
CIN 8 Trough, 500 gal
CIN 7 Pipe, 750 ft
CIN 5 Pipeline, 1800 ft
Havens
4A
CIN 13 Prescribed Grazing, 284.1 ac
Prescribed Grazing (528) CIN 12-13
Planned Water Facilities
Pumping Plant (533) CIN 3
Tank (614) CIN 4
Trough (614) CINs 8-9
Planned Escape Ramp (649) CIN 11
corral
Existing Trough
Existing Well
Existing Spring
Pond
Planned Pipe (516) CINs 5-7, 10
Planned Cattle Guard (472) CIN 2
Planned Fence (382) CIN 1
Existing Fence
Consplan2019
0
1,000
2,000 Feet
NRCS Map Disclaimer:
This map is intended for
planning purposes only and
does not represent a legal survey.

acrcd.org/projects/carbon-farming/

CARBON FARMING

Alameda County
Resource Conservation District



What is Carbon Farming?

Carbon Farming is the use of farming, ranching and ecological practices to capture and **retain carbon dioxide** in vegetation and soils. Carbon Farming is not new; it is simply a different way of planning and prioritizing on-farm management.

Compost addition, cover cropping, riparian planting, and prescribed grazing are a few practices that effectively improve soils and capture carbon.


Compost application
© Dave Fenton, courtesy of StopWaste

Why is Carbon Farming important?

There are environmental and economic benefits. Certain practices **improve production while enhancing soil health**. For example, compost addition increases soil organic matter, which allows soils to absorb and hold more water, nourish plants, extend the green season, and reduce erosion, all of which provide economic benefits.


Riparian plantings
ACRCD


StopWaste Altamont Property
Riparian Restoration Sites
N
W
E
S
Riparian site 1
Riparian site 2
Riparian site 3
Riparian site 4
Riparian site 5
Property Boundaries
Miles
0 0.1 0.2 0.4 0.6 0.8
Riparian Areas

StopWaste Altamo
Riparian Restora

Riparian Forest Buffer (CPS 391)

Replace a Strip of Grassland Near Watercourses or Water Bodies with Woody Plants

NRCS Conservation Practice Standard Summary

DEFINITION: An area predominantly trees and/or shrubs located adjacent to and up-gradient from watercourses or water bodies.

PURPOSE:

- Increase carbon storage in plant biomass and soils
- Reduce excess amounts of sediment, organic material, nutrients and pesticides in surface runoff and reduce excess nutrients and other chemicals in shallow ground water flow
- Create or improve riparian habitat and provide a source of detritus and large woody debris
- Reduce pesticide drift entering the water body
- Restore riparian plant communities

CONDITIONS WHERE PRACTICE APPLIES: Riparian forest buffers are applied on areas adjacent to permanent or intermittent streams, lakes, ponds, and wetlands. They are not applied to stabilize stream banks or shorelines.

COMET-Planner Practice Implementation Information

COMET-Planner estimates for riparian forest buffer establishment assume replacing rangeland or managed pasture with unfertilized, woody plants. Impacts on greenhouse gases are largely driven by woody biomass carbon accumulation. Estimates apply only to the portion of the field where woody plants are established.

GHG Estimation Methods

Greenhouse gas emissions were estimated using a sample-based, metamodeling approach with COMET-Farm, which employs the USDA entity-scale inventory methods (Eve et al. 2014). GHG reduction estimates represent the average impact of a conservation practice compared to baseline conditions, over a range of soils, climate and cropland management within multi-county regions defined by Major Land Resource Areas (USDA-NRCS 2006). Woody biomass accumulation rate models were derived at the species and genus level from the USDA Forest Inventory and Analysis database. An example of the model development process is described in Ziegler et al. 2016.

Estimates are not meant to apply to any specific site conditions but rather represent the range of expected values to be found over the multi-county region and reflect the assumptions stated.

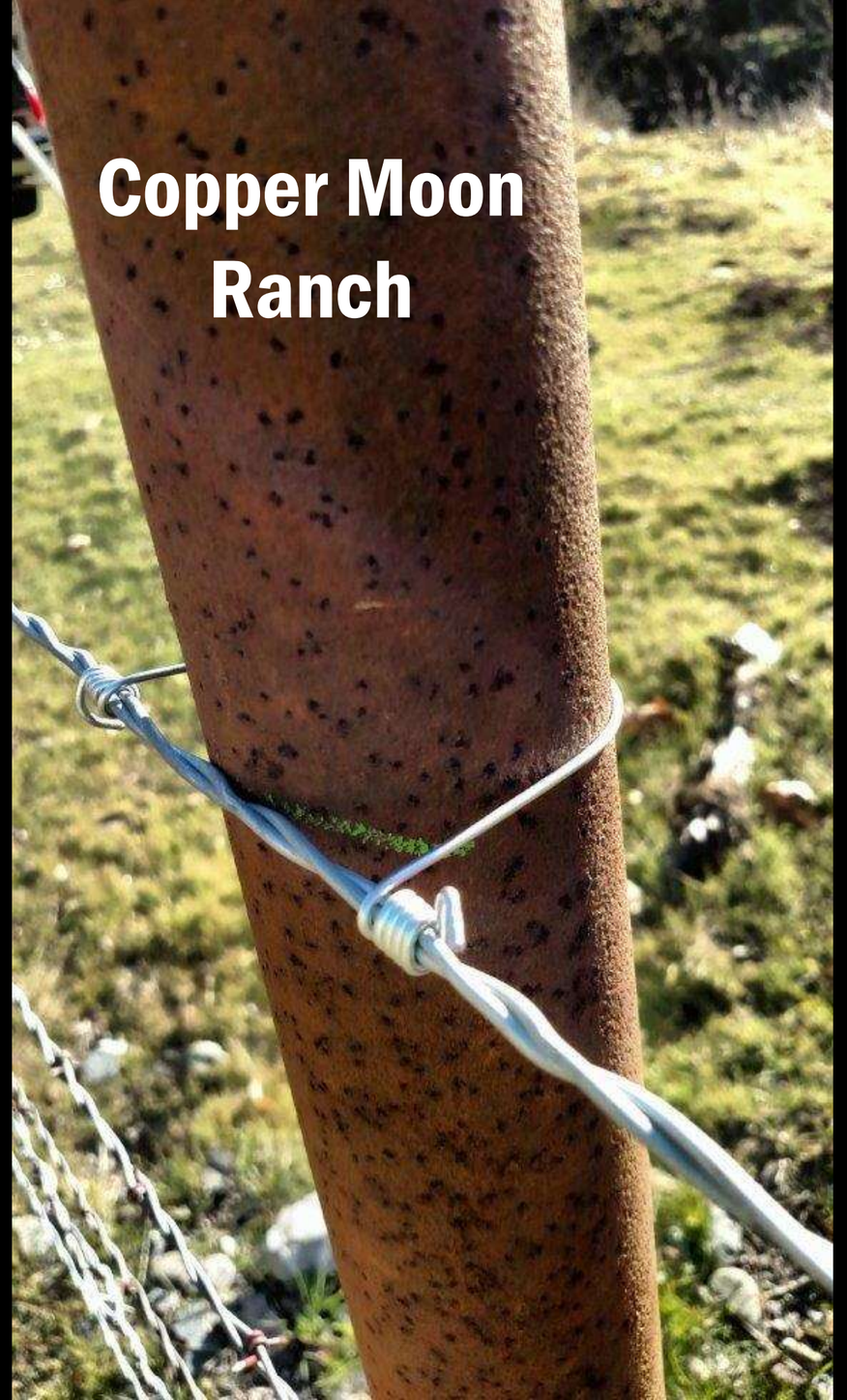
Creek Carbon

Mitigating Greenhouse Gas Emissions through Riparian Revegetation

University of California Cooperative Extension

UC CE

Copper Moon Ranch



2015

Copper Moon Ranch

2017

2015

Copper Moon Ranch

2017

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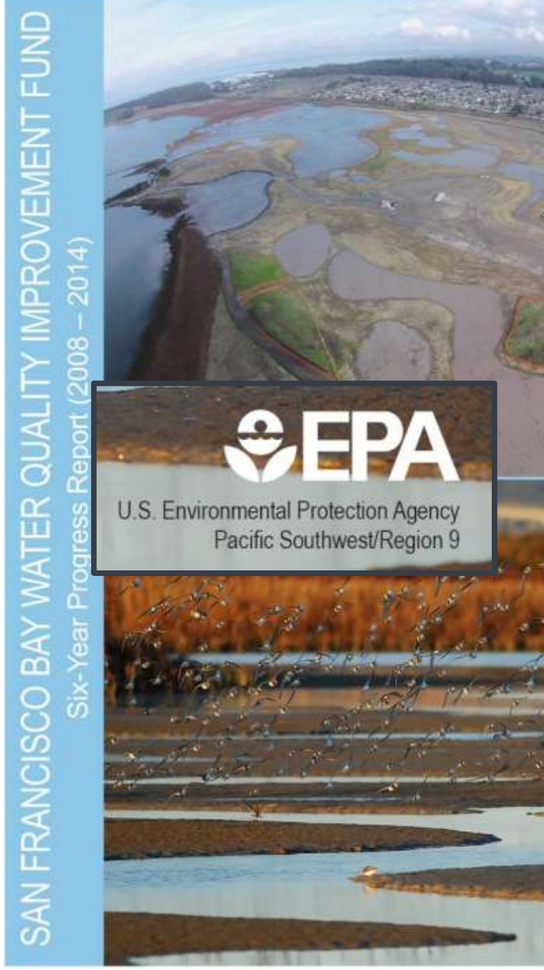
STATE of CALIFORNIA

CALIFORNIA CLIMATE INVESTMENTS
Cap and Trade Dollars at Work



Point Blue
Conservation science for a healthy planet.

USDA NRCS
Natural Resources Conservation Service

EQIP
Environmental Quality Incentives Program

Copper Moon Boer Goats

Strategic Plan for the U.S. Fish & Wildlife Service

Partners for Fish and Wildlife Program
Pacific Southwest Region

FY 2017-2021

U.S. Fish & Wildlife Service
Partners for Fish & Wildlife

CONSERVATION PARTNERSHIP
ACRCD • NRCS

Coastal

CALIFORNIA CLIMATE INVESTMENTS

Point Blue
Conservation scien
for a healthy planet

NRCS
Natural Resources Conservation Service

QIP
nvironmental
Quality Incentives
Program

SAN FRANCISCO BAY WATER QUALITY IMPROVEMENT FUND
Six-Year Progress Report (2008 – 2014)

EPA
U.S. Environmental Protection Agency
Pacific Southwest/Region 9

Copper Moon
Boer Goats

Strategic Plan for the U.S. Fish & Wildlife Service

Partners for Fish and Wildlife Program
Pacific Southwest Region

FY 2017-2021

U.S. Fish & Wildlife Service
Partners for Fish & Wildlife

PRUNUSKE CHATHAM, INC.

MEMO

Date: October 9, 2017
To: Isaiah Thalmayer, STRAW Project Manager
From: Harold C Appleton, RPF, CPESC
Re: Gallagher Stear Family Trust Ranch

Revegetation along Arroyo Mocho, Livermore, CA

Purpose Of This Memo

This memo is to serve as guiding recommendations to be used by Point Blue Conservation Science's (Point Blue) Students and Teachers Restoring A Watershed (STRAW) program for the riparian tree/shrub plantings at the Gallagher Ranch. The Alameda County Resource Conservation District ("District") is the lead agency for the project. STRAW will assist the District with the implementation of the revegetation plan.

vation Plan Map

Grazed Ra

Field 1
192.9 acr

CIN6-8 Herbaceous Weed Treatment (315), competing vegetation control, 1.1 ac

CIN4 Irrigation System (441), Vegetation establishement, 1.1 ac

CIN5 Mulching (484), Tree and Shrub, 248

CIN3 Tree/Shrub Establishment (612), Native seed, hand plant, 0.5 ac

CIN1 Riparian Forest Buffer (391), Cuttings, small to med, 0.4 ac

CIN9-11 Brush Managem
0.6 ac

CIN2 Tree/Shrub Establishment (612), Conservation, 1 gal pots, hand planting, protected, 203 plants

- Existing Fence
- Consplan_master
- Herbaceous Weed Treatment (CINs6-8) and Irrigation System (CIN4)
- Mulching (CIN5)
- Tree/Shrub Establishment - Acorns (CIN3)
- Riparian Forest Buffer - cuttings (CIN1)
- Tree/Shrub Establishment - container stocks (CIN2)
- Brush Management (CINs9-11)

0 250 500 Feet

N

Species	Quantities:						Total Quantities	Plant Type	Protection	Mulch	Flowering Time
		Area A	Area B	Area C right	Area C left	Area D	Area E			Type**		
	linear feet:	315	447	341	333	115	26	1577				
	Planting Area sq ft:	*9000*	*28000*	*3410*	*3330*	*1855*	*260*	45855				
	Overall acreage including canopy over channel (+ 15'):							1.05				
TREES												
Acer macrophyllum	big leaf maple	2	5					7	Treepot or larger	deer	coir mat	Spr/Win
Aesculus californica	buckeye	2	5					7	Treepot or larger	deer	coir mat	May, June
Juglans hindsii	black walnut	2	5					7	Treepot or larger	deer	coir mat	late spring
Platanus racemosa	sycamore	5	10					15	Treepot or larger	--	coir mat	Feb-May
Populus fremontii	cottonwood	8	10	5	5			28	3-foot sprig	deer		Feb/Mar
Populus trichocarpa	black cottonwood	7	10	5	5			27	3-foot sprig	deer		F/M/A
Quercus agrifolia	coast live oak	5	6			4		15	Acorn or Treepot	deer/gopher	coir mat	F/M/A
Quercus lobata	valley oak	10	12			6	2	30	Acorn or Treepot	deer/gopher	coir mat	early spring
Salix laevigata	red willow	30	40	20	20			110	3-foot sprig	deer		
	subtotals	*71*	*103*	*30*	*30*	*10*	2	*246*				
SHRUBS, VINES												
Ceanothus leucodermis	whitethorn	2	15					17	Dee pot or larger	deer	coir mat	spring/ winter
Cercis occidentalis	redbud	2	10					12	Dee pot or larger	--	coir mat	spring/ winter
Frangula californica	coffeeberry	2	20					22	Dee pot or larger	deer	coir mat	summer
Heteromeles arbutifolia	toyon	2	15					17	Dee pot or larger	deer	coir mat	summer
Hoita macrostachya	leather root	2	10					12	Dee pot or larger	vole/hare		summer
Lepidospartum squamatum	scalebroom	2	15					17	Dee pot or larger	--		summer fall
Mimulus cardinalis	scarlet monkey flower	2	10					12	Dee pot or larger	--		M/A/M
Prunus ilicifolia	hollyleaf cherry	2	10					12	Dee pot or larger	deer		Spr/Wi
Ribes malvaceum	chaparral current	2	10					12	Dee pot or larger	vole/hare		Spr/Wi
Salix exigua	gray willow			20	20			40	3-foot sprig	deer		spring winte
Salvia mellifera	black sage	2	15					17	Dee pot or larger	--		spr-su win
Sambucus nigra ssp caerulea	blue elderberry								Dee pot or larger	deer	coir mat	spr/su
	subto											
	Grand t											
	target quantities w/8-foot spac											
	target quantities w/10-foot spa											
	target quantities w/ 12-foot spa											
GRASS SEED MIX (pounds)												
Elymus triticoides	creeping wildrye											
Stipa pulchra	purple needlegras											
MULCH over seed (cu. Ft.)												
** Protection Type	**deer** - see"Typica											
	May also r											
	deer/gopher - se											
	vole/hare - use											

All plant clusters are placed in strategic locatio
Shrubs: Plants within clusters are typically on
Trees: Plants within clusters are typically on

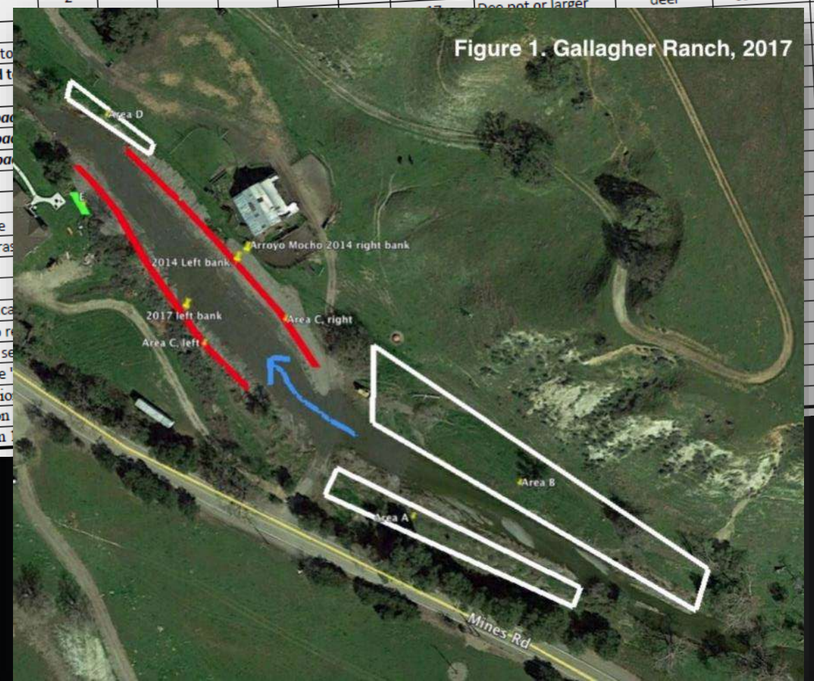


Figure 1. Gallagher Ranch, 2017