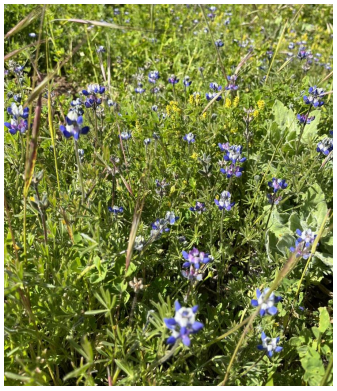
Fall 2023

Cal Poly Students Support CSLRCD Oceano Dunes Restoration

Students from California Polytechnic State University San Luis Obispo (Cal Poly) are helping Coastal San Luis Resource Conservation District (CSLRCD) staff with their ongoing native plant restoration efforts at the Oceano Dunes State Vehicular Recreation Area (ODSVRA).

Throughout summer and early fall, the team—including individuals from CSLRCD, ODSVRA and Cal Poly—have been collecting seed onsite and growing approximately 120,000 plants that will be used for restoring bare areas of the dunes this winter. Working regularly alongside the students has boosted efficiency and allows staff to share their knowledge and experience with emerging environmental scientists soon to join the field.

Article by Alanna Kiefer, Restoration Specialist I

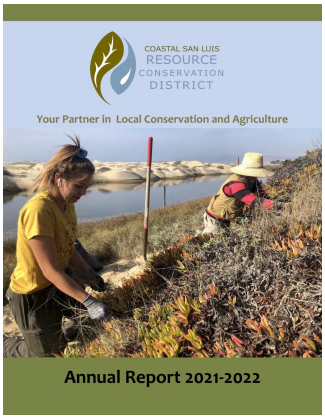


Upcoming Events

Friday, November 24
Meeting Canceled

Friday, December 8, noon
Board of Directors Meeting
UCCE Auditorium
2156 Sierra Way
San Luis Obispo, CA

2021–2022 Annual Report



Healthy Soils Demonstration Project Wraps Up

In 2020, CSLRCD and Cal Poly partnered to take a deep dive into effects of reduced tillage and compost application on dry-farm hay production in San Luis Obispo County.

Soil conservation practices, such as reduced tillage and compost application, are known to be important for long-term soil health and sustainability of farmland. Funded by the California Department of Food and Agriculture Healthy Soils Program, the project aimed to assess the impacts of compost application along with reduced tillage practices on soil health, yield and forage quality at Cal Poly's Chorro Creek Ranch. After three years, the results are in!

Why Compost?
Compost application can improve soil structure, which increases root establishment. Compost can also increase nutrient availability and improve plant-microbe relationships. Both compost application and reduced tillage can increase soil organic matter and aggregate formation.

Why Reduced Tillage?
Reduced tillage can decrease the number of passes over the field, which reduces greenhouse gas emissions, heavy equipment compacting the soil, labor cost and time to prepare the field for the next planting.

What We Did
This project had two experimental factors (compost or no compost and conventional tillage or reduced tillage) and evaluated their individual and combined effects on soil and plant health as well as agronomic factors such as biomass and feed quality. Reducing tillage intensity was accomplished by the use of the OPTIMIZER provided by Tillage Management, an implement that completes multiple tillage activities in one pass. Compost from Cal Poly was applied at a rate of five tons/acre. Soil samples, field observations and forage samples were taken by CSLRCD and Cal Poly throughout the project to assess chemical, biological and physical impacts to the soil, impacts to yield and forage quality.

Board of Directors

Neil Havlik
President
Expertise: botany and natural resource management

Jean-Pierre Wolff
Vice President
Expertise: vineyard management and engineering

Dan Chesini
Expertise: agricultural and natural resources management

Linda Chipping
Expertise: community development

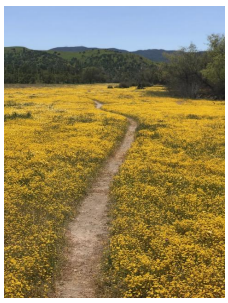
Ron Munds
Expertise: water

Dominic Roques
Expertise: environmental and water quality management

Chris Bersbach
Associate Director
Expertise: environmental science

Jeana Cadby
Associate Director
Expertise: sustainable agriculture and natural resources conservation

Learn More About CSLRCD at www.coastalrcd.org



Staff

Jennifer Szeliga
Executive Director

Hallie Richard
Conservation Programs Manager

Top: Foggy morning soil sampling with Principal Investigator Dr. Charlotte Decock, Cal Poly student assistant Zander Brant, and RCD Conservation Coordinator Megan Widle.

Photo Credit: Hayley Barnes

Above: Forage sampling, with a little help from a friend. Cal Poly's Kenny Bridgman, right, and RCD Project Manager Hayley Barnes.

Photo Credit: Megan Widle

Dr. Charlotte Decock presented a workshop featuring the Optimizer at Chorro Ranch in October 2022.

Results

In a three-year study, the short-term impacts of compost application and reduced tillage on crop production and soil properties were somewhat limited. Compost didn't significantly affect crop yields but did increase available soil K and P concentrations, potentially allowing for reduced synthetic fertilizer use. However, excessive nutrient application should be avoided as this can have a negative impact on crop health, the environment and pocket books.

Reduced tillage, achieved with a single pass implement, led to significant labor and fuel cost savings and reduced greenhouse gas emissions compared to conventional multiple-pass methods (average of four passes). Although it did decrease yield in one of the three growing seasons, the overall benefits in terms of resource efficiency were notable. While the short-term impacts on soil health were minimal, long-term improvements in biological and physical indicators may be realized. This highlights the need to consider both short and long-term effects when adopting conservation practices.

Lastly, although total soil carbon content didn't increase after three years, further assessment is needed to confirm the effectiveness of these practices as climate mitigation strategies for Central Coast dryland forage systems. Despite limited short-term results, there is promise in compost application and reduced tillage for enhancing the sustainability of dryland crop farming, notably by reducing greenhouse gas emissions, labor and fuel costs, and reliance on synthetic inputs.

Special thank yous to the CDFA Healthy Soils Program, Cal Poly and Tillage Management!

Article by Hayley Barnes, Conservation Projects Manager

Camp SLO Project Updates

Hayley Barnes
Conservation Projects Manager

Niki Eschler
Conservation Projects Manager

Joe Murphy
District Engineer

Maurica Anderson
Vegetation Mapping Coordinator

Joshua Kouri
SCCCF Hub Regional Coordinator

Samantha Alvarez
Restoration Coordinator

Mark Skinner
Restoration Specialist II

Alanna Kiefer
Restoration Specialist I

Ramon Contreras IV
Conservation Intern

Shelly Rachels
Accounting Manager

Job Opening
Board Secretary

CSLRCD and our partners at Camp San Luis Obispo (Camp SLO) have been busy with construction of bioswales and other sediment reduction projects this summer and fall. Camp SLO is located along Chorro Creek in the Morro Bay Watershed.

The goal of the project is to implement management practices to improve habitat and water quality by reducing sedimentation. With grants from State Water Resource Control Board Nonpoint Source Pollution Program, U.S. Forest Service and the Wildlife Conservation Board, CSLRCD has constructed bioswales along three avenues on Camp SLO that are designed to slow the flow and capture sediment before it reaches Chorro Creek. Additionally, a large headcut was stabilized, reducing future potential sediment sources from entering the watershed that can have a negative impact on downstream species like steelhead trout.

Camp SLO is also located in the Priority 1 area in the Priority Actions Zones in California for Recovering Western Monarchs. As a part of this project, overwintering and early breeding habitat for monarch butterflies will be established along the bioswales to support this iconic species. Construction wrapped up in October, and planting in partnership with the California Conservation Corps will be ramping up, with more than 8,000 plants going in the ground this fall and winter! We may be done with the heavy equipment, but we are rolling up our sleeves and pulling on our gloves.

Article by Hayley Barnes, Conservation Projects Manager

Community Convenes at Creek Relief Workshop

The residents of Tally Ho Road in Arroyo Grande have experienced severe flooding in recent years, resulting in serious damage to property and well being. Their properties are situated adjacent to Tally Ho Creek, a tributary to Arroyo Grande Creek, which floods regularly.

CSLRCD has partnered with Creek Lands Conservation on a stream enhancement project that targets the repair of a headcut on Tally Ho Creek to enhance riparian habitat, reduce sedimentation and increase flood conveyance. The headcut was completed in October.

As part of this project, CSLRCD and Creek Lands have worked closely with the community to inform them about the project and educate them on creek maintenance. On September 16, Tally Ho residents gathered for a Creek Relief Workshop. The workshop focused on three key themes: explaining emergency permitting procedures from relevant agencies, teaching best management practices for protecting surface and groundwater, and hands-on vegetation management in the creek channel. The goal was to empower property owners to take proactive steps to manage their stream-side properties, safeguarding both themselves and the natural environment.

The workshop drew enthusiastic participation from residents who actively cleared invasive plants and

debris from the creek channel (above photo). We are excited for the next Creek Relief Workshop, which is scheduled after the construction of the Tally Ho Stream Enhancement Project.

Article by Megan Wilde, Conservation Coordinator

Welcome Joshua Kouri, SCCCF Hub Regional Coordinator

What Is SCCCF?

The South Central Coast Carbon Farming (SCCCF) Program covers San Luis Obispo, Santa Barbara and Ventura Counties and is represented by four regional RCDs: the Upper Salinas-Las Tablas RCD, Coastal San Luis RCD, Cachuma RCD and Ventura County RCD. The region includes nearly two million acres of working lands that serve as a primary economic driver and that are at risk due to drought and climate change. Carbon farming practices have been identified and used across the region as an important tool to help achieve CO2 emission reduction goals as well as improve on-farm productivity and viability, enhance ecosystem and landscape function, and mitigate climate change.
California's Resource Conservation Districts (RCDs) play a critical role in achieving California's ever-evolving goals to protect, conserve, restore and enhance natural resources and to mitigate and adapt to the impacts of climate change. RCDs in California are also essential partners to the USDA Natural Resources Conservation Service (USDA NRCS), California Natural Resources Agency (CNRA), California Department of Food and Agriculture (CDFA) and University of California Cooperative Extension (UCCE), directly engaging and supporting farmers, ranchers and land managers by leveraging state grant dollars for project implementation, targeted conservation activities, technical assistance and demonstration projects.

RCDs across the state are actively supported by the **Carbon Cycle Institute** (CCI) and **California Association of Resource Conservation Districts** (CARCD) in establishing carbon farming and soil health programs and seven Regional Carbon Farming Hubs through training and education, fund development, regional planning and other capacity building efforts.

The Regional Coordinator accelerates adoption of carbon farming practices in the region through stakeholder engagement and coordination, education and outreach, regional needs assessments, fund development and policy advocacy. He has a strong focus on helping build the technical capacity of RCDs in the region and expanding the Carbon Farming Network. The Regional Coordinator and representatives from each of the four RCDs meet quarterly to establish and assess strategic long-term goals and short-term objectives for the Coordinator and the Program.

Who Is Joshua Kouri?

Joshua, the Hub's new Regional Coordinator, joined us in October. He is a farmer, biologist and educator from Oklahoma City with a B.S. in biology and a M.S. in plant biology from the University of Oklahoma. During the past decade, he has pursued a wide variety of research projects in ecology and conservation biology, as well as hands-on work as a farmer applying the principles of regenerative agriculture. Most recently, he worked for the Oklahoma County Conservation District as part of the state's Soil Health Team, providing leadership and guidance to farmers and ranchers working to make their operations more resilient and sustainable.

With his move to San Luis Obispo, he is excited to connect with the local agricultural community and be a resource in their efforts to steward the abundant natural beauty of the Central Coast. When he's not at work, you can find him hiking, camping and kayaking with his wife, Kayla, or hitting the beach with his two pups, Moose and Penny.

Article by Jennifer Szeliga, Executive Director

Oso Flaco Creek Remediation Update

In August and September 2023, CSLRCD staff partnered with Teixeira

Farms and Crye Construction to remove more than 13,000 cubic yards of legacy pesticide-laden sediment from approximately 1.5 miles of Oso Flaco Creek.

Legacy Pesticides are persistent substances that, while no longer in use in agricultural production, continue to persist in soils and sediment, degrading water quality and posing risks to wildlife.

DDT, a pesticide banned in the 1970s, was the primary target of this remediation project. While pesticide remediation was the primary objective, removal of accumulated sediment also increased open water and circulation, resulting in habitat enhancement, improved water quality and increased flood capacity.

Initial sediment analysis results of samples of excavated materials collected three weeks following excavation, compared with samples collected prior to excavation, indicate that pesticide toxicity levels are quickly declining as a result of oxidation and incorporation of carbon. CSLRCD staff will work with Regional Water Quality Control Board staff to more fully understand the breakdown pathways in the coming weeks.

Next steps in this project include the installation of a sediment basin and other on-farm management practices to prevent future sediment mobilization into the stream channel. The project team views the effort as a successful 'Proof of Concept,' and are considering replicating the remediation process in Little Oso Flaco and Oso Flaco Lake in the future. Stay tuned!

Article by Hallie Richard, Conservation Programs Manager

Wrapping Up a Busy 2023 Construction Season

CSLRCD staff have been busy across the district implementing restoration projects before another anticipated rainy winter.

Efforts on Oso Flaco Creek were successfully buttoned up for the

year in mid-September by seeding all disturbed stream banks with a native grass seed mix designed to stabilize bare banks against winter rains.

The Tally Ho Stream Restoration project wrapped up in late October, just ahead of anticipated rains. Erosion control fabric made from jute will be placed on newly defined stream banks, and native riparian species will be planted to stabilize the banks.

Article by Hallie Richard, Conservation Programs Manager

RCD Services

Call us today at **(805) 772-4391** for help with all of the following:

- Irrigation Evaluations
- Engineer Design
- Alternative Agricultural Grading Review (ARP)
- Erosion & Stormwater Control
- Conservation Easements
- Conservation Planning
- Permit Coordination
- Watershed & Habitat Restoration

Conservation Clip List is a collection of articles distributed by NACD (National Association of Conservation Districts). This link discusses CDFA's Healthy Soils Program in all 10 California RCD regions.

The Coastal San Luis Resource Conservation District is committed to protecting and enhancing natural resources through education, restoration and collaboration with local stakeholders.