

Stewardship from
the Ground Up:

Whirlwind Tour

Land Trust of Napa County

Mike Palladini

Serpentine Prairie Restoration

Land Trust of Napa County

Photos: Mike Palladini



Pre-restoration, invasive barbed goatgrass



Prescribed burning, CALFIRE partnership



Untreated, neighbor

Treated, LTNC

Fenceline comparison, 2016



Native forbs in restored area, 2017

- Shift from invasive exotic grass dominance to native forb dominance
- 65-acre restoration area: 77% of all forbs/grasses in Napa County (226 of 293 species, seven strict serpentine endemics)
- Restoring native biodiversity can increase climate change resilience

Photo: Mike Palladini



Snell Valley Restoration Area, April 2019

City of Napa

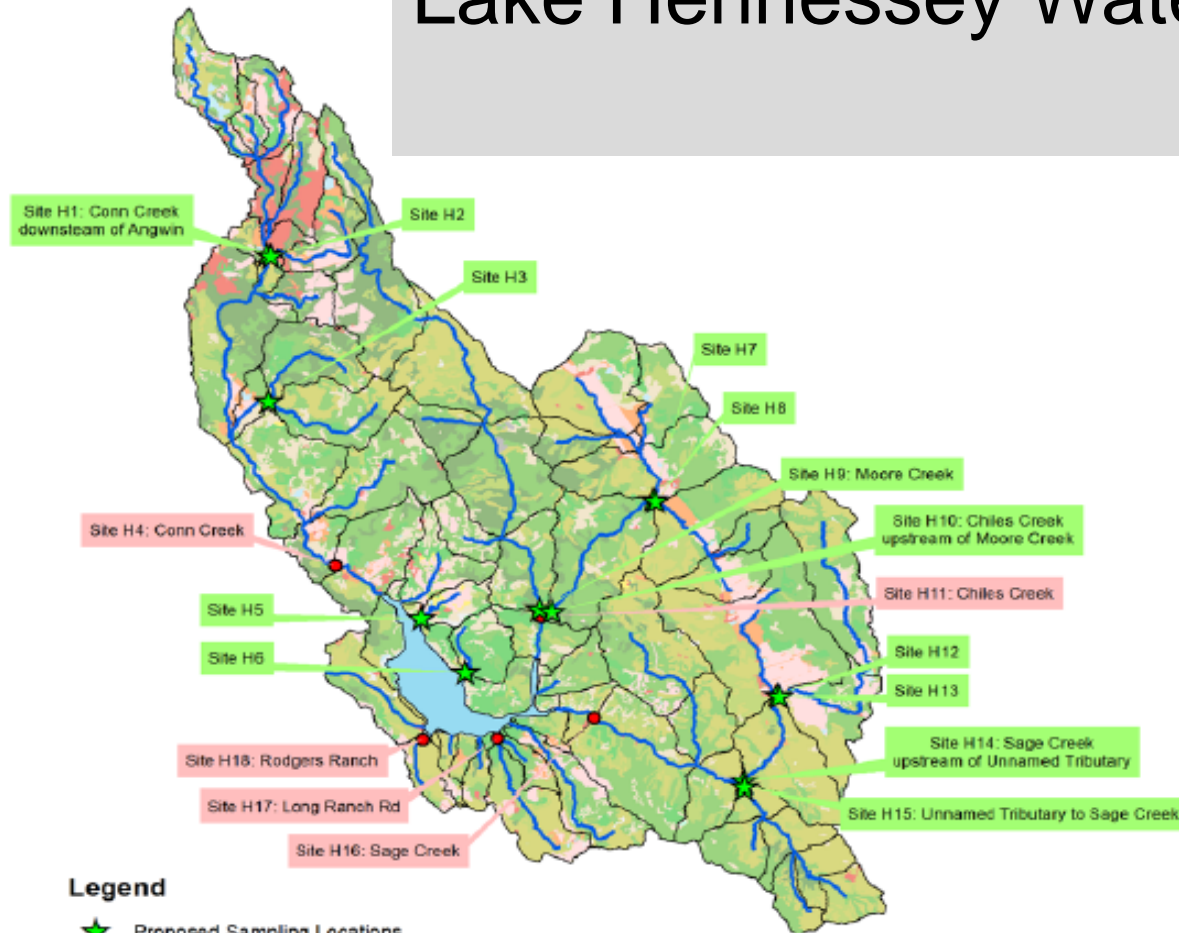
Joy Eldredge

Lake Hennessey and Milliken Reservoir Watershed Study

- City and County have shared interests in the Hennessey and Milliken watersheds
- Watershed Analysis and Risk Management Framework (**WARMF**) software
- Calibrate Models with Water Quality Sampling and Analyses



Lake Hennessey Watershed



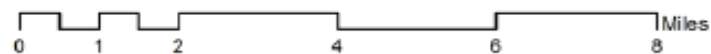
Legend

- ★ Proposed Sampling Locations
- Existing Sampling Locations

- WARMF Streams
- WARMF Catchments

Landuse

- | | | |
|----------------------------|------------------|--------------------------|
| Vineyard | Deciduous Forest | Vacant / Unknown / Other |
| Orchard | Mixed Forest | Barren |
| Hay/Pasture | Developed | Rock Outcrop |
| Broadleaf Evergreen Forest | Grassland | Marsh |
| Coniferous Forest | Scrub / Brush | Water |



Protect Napa Watersheds

Jim Wilson



USDA Natural Resources Conservation Service

Kelly Gin

Proper Grazing Management Restores Contra Costa Goldfields in Napa County



Proper Grazing Management Restores Contra Costa Goldfields in Napa County



Napa Climate NOW!

Lori Stelling

Climate Emergency Resolutions

Declared by:

San Francisco **Oakland**

Freemont HAYWARD Alameda *Davis*

Chico Richmond Berkeley *Santa Cruz*

United Kingdom *Vancouver, B. C.*

Halifax, Nova Scotia **Basel, Switzerland**

Napa's Countywide Commitment To Fight Climate Change

- Forms countywide group for climate action projects
- Agrees on climate pollutant reduction goals and timeline
- Develops programs to improve resiliency

Napa San

Andrew Damron

NapaSan's Recycled Water Distribution Expansion



Why?

NapaSan's recycled water is a drought-resistant water supply that reduces demand on groundwater and saves potable for its highest use.

Who?

Partnership with Napa County, the Los Carneros Water District, and landowners in the Milliken-Sarco-Tulocay (MST) area.

How?

Distribution via the 9-mile Los Carneros pipeline and the 6.4-mile MST pipeline. Paid for by state and federal grants and recycled water customers.

MST Pipeline Expansion and Truck Fill Station



- In summer 2017, MST pipeline was expanded from 5 miles to 6.4 miles
- Pipeline serves vineyards, a golf course, Silverado Middle, Mt. George Elementary, and Tulocay Cemetery
- In partnership with Napa County, truck fill station at Silverado Middle School added in 2019

Institute for Conservation
Advocacy, Research, and
Education (ICARE)

Chris Malan

THE INSTITUTE FOR CONSERVATION
ADVOCACY RESEARCH AND EDUCATION

PRESENTS:

THE 15TH 2020 BENTHIC MACRO
INVERTEBRATE BIOASSESSMENT
SAMPLING PROGRAM TO DETERMINE THE
HEALTH OF THE NAPA RIVER

IN COLLABORATION WITH THE SAN
FRANCISCO WATER QUALITY
CONTROL AGENCY AND THE LOCAL





California Land Stewardship Institute

Chloe Hood

Fish Friendly Farming -Napa County Sites-

The Fish Friendly Farming Program began 2002 in the Napa Valley

FFF incorporates regulations + requirements of:

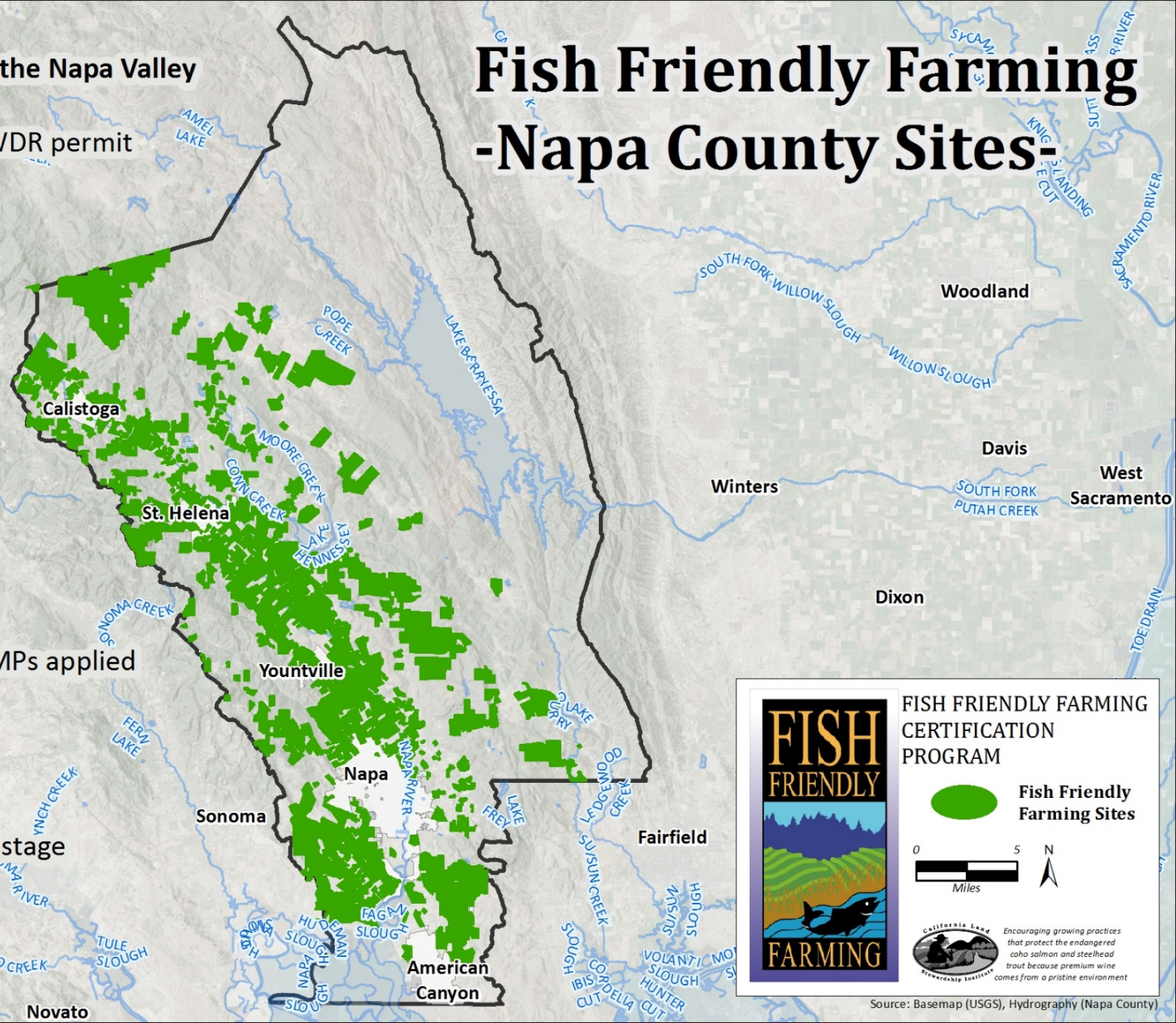
- Clean Water Act/Ca. Porter Cologne Act and the WDR permit
- Endangered Species Act (primarily salmonids)
- State Water rights laws
- Fish and Game Code
- Pesticide regulations
- Ca. climate laws (with new climate certification)

Napa County Totals:

- 920 Farms
- 92,045 Total acres
- 50,410 Total certified acres
- 35,755 Acres vineyard
- 25,460 Certified acres vineyard
- 415 Miles of dirt roads assessed + BMPs applied
- 183 Miles of blue-line creeks + rivers assessed + BMPs applied

FFF Napa River Restoration Projects:

- Oakville to Oak Knoll** - created original plan + gained buy-in from landowners
- Upper Napa River Plan** - currently in CEQA/permit stage
- + numerous revegetation and erosion control projects on private land using ecologically driven analysis and design



FISH FRIENDLY FARMING
FISH FRIENDLY FARMING CERTIFICATION PROGRAM

Fish Friendly Farming Sites

0 5 Miles

California Land Stewardship Institute

Encouraging growing practices that protect the endangered coho salmon and steelhead trout because premium wine comes from a pristine environment

We assess the entire farm parcel and apply Best Management Practices for:

Soil Conservation in the Vineyard

- No tilling in the vineyard between Oct 15 – Apr 1
- Winterization of turnarounds, roads and other areas in the vineyard by Oct 15

Drainage System

- Revegetation of swales and ephemeral streams completed
- All outlets have adequate energy dissipaters or basins

Pest & Disease Control

- An integrated pest management system is used
- No use of pre-emergent, persistent herbicides/pesticides
- Mixing/loading sites and rinse/wash practices are protective of surface and groundwater
- Well head protection is in place

Water Supply & Conservation

- Water conserving irrigation and frost practices are used
- Soil moisture/plant condition is monitored to determine irrigation needs
- Water right permit/license obtained

Roads

- Completion of road survey and identification of road problems
- Development of road repair and improvement program

Alluvial Creek/River Channels

- Current management practices are reviewed and needed revisions identified
- For highly or moderately altered corridors, restoration and management strategy are developed

Photo-monitoring

- Complete annual photo-monitoring of different features

Workforce & Community

Business Practices

Green Initiatives

- Air quality, waste management, energy efficiency and carbon emissions reduction

New Climate Adaptation

- **First climate certification in California for farms**

Save Rural Angwin

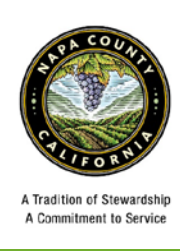
Mike Hackett



Napa County

Deborah Elliott

Napa County Green Business Program



Our Goal

The goal of the Green Business Program is to help local businesses conserve energy, water, minimize waste, prevent pollution, & shrink their carbon footprint.

OUR IMPACT 2018

Businesses that join our network conserve precious resources, prevent harmful pollution, and enhance their bottom-line.



Napa County

Green Business Program



A Tradition of Stewardship
A Commitment to Service



Reduce Water Use

Low flow toilets and auto-off faucets



Conserve Energy

Upgrade lighting and equipment to save energy



Commute Sustainably

Promote and incentivize alternative transportation for employees



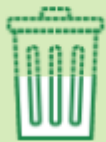
Prevent Pollution

Eliminate and/or properly dispose of harmful chemicals



Use Non-Toxic Cleaners

Use safer, environmentally preferable cleaning chemicals



Avoid Waste

Eliminate unnecessary packaging, printing, and purchasing



Recycle Materials

Divert waste from the landfill through reuse, recycling and composting



Hire Local Vendors

Working locally means less vehicle use

Napa Vision 2050

Charlotte Williams



Presented by **Charlotte Williams, President, Napa Vision 2050**

Regenerative Agriculture and Holistic Management

Restores a natural and ancient synergy between animals, land and people.

- **Builds watershed resilience**
- **Helps soils capture and retain carbon and rain**
- **Increases fire resistance**
- **Reduces toxic chemical use**
- **Encourages healthy forest canopy**
- **De-escalates climate change**





- **Ignite excitement and participation throughout Napa County.**
- Teach in the field, bring speakers to the valley to share success stories.
- **With the use of carefully managed domestic herds we can reduce understory growth converting it to on-site fertilizer.**
- Through RA/HM watersheds are unburdened of excess vegetation and allowed to more easily accept and retain rainfall.
- **Each subsequent year the larger trees are able to take up a greater share of water and natural fertilizer making them more resilient to fire while allowing development of a healthy canopy for the whole forest.**

Contact:

napavision2050@gmail.com

For participation and more information



Treasury Wine Estates

Bob Coleman

Fluidized Bed Cold Stabilization

Innovative Tool

- Efficiently cold stabilizes wine
- 'In-place' process crystallizing potassium-bitartrate
 - eliminates a tank to tank wine movement
 - eliminates a tank cleaning
 - reduces water usage
 - less cleaning chemicals/salts to wastewater
- Recaptures refrigeration energy
 - reduces energy usage
- Focal point for winery refrigeration evolution



Friends of the Napa River

Bernhard Krevet

River Trail: Veterans Park to Oxbow Commons

Dead End at First Street Bridge?

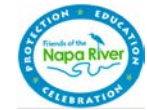


*Proposed
Cantilevered Trail
underneath
First Street Bridge*

- Design avoids interfering of pedestrians and bicyclists with car traffic
- Creates a true River Trail from
 - Cantilevered trail around Hatt Mill
 - Undercrossing Third Street Bridge
 - River Side of Veterans Park
- Underneath First Street Bridge
- Along Napa Creek at Opera House Plaza
- To Oxbow Commons



Design by Bottomley Urban Design



ESA

Jorgen Blomberg



Napa River Restoration Project Rutherford and Oakville to Oak Knoll Projects



Project

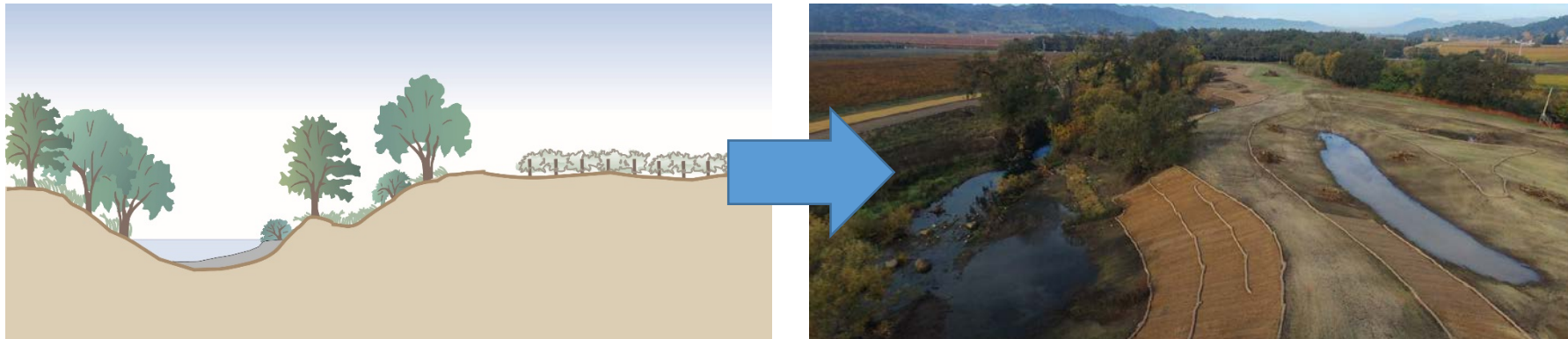
ESA is collaborating with the Napa County Flood Control and Water Conservation District to design 13.5 miles of new Napa River floodplain habitat from Rutherford to Yountville

Project Goals:

- Increase access to floodplain habitat for salmon and steelhead
- Reduce fine sediment from eroding banks
- Increase resiliency of riparian corridor

Project Approach:

Through public-private partnership, rededicate vineyard lands to support floodplain creation and riparian expansion





Napa River Restoration Project Rutherford and Oakville to Oak Knoll Projects



Accomplished

2009 - 2018: 9.5 miles constructed

Lessons Learned

Improved hydrologic connectivity for floodplain ecosystem function

- Floodplains under water for a longer duration when it matters most for the fish



Climate Change Resiliency

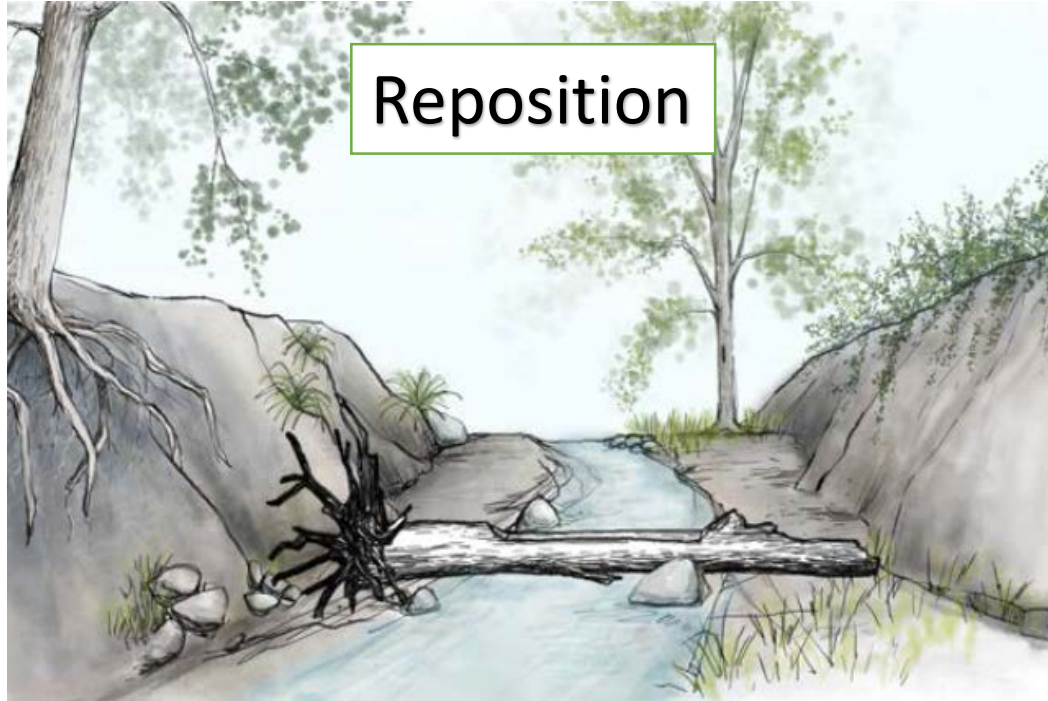
- Floodplain Ecosystem: 13.5 miles of new highly connected floodplain habitat
- Streamside Properties: 13.5 miles of improved streamside protection

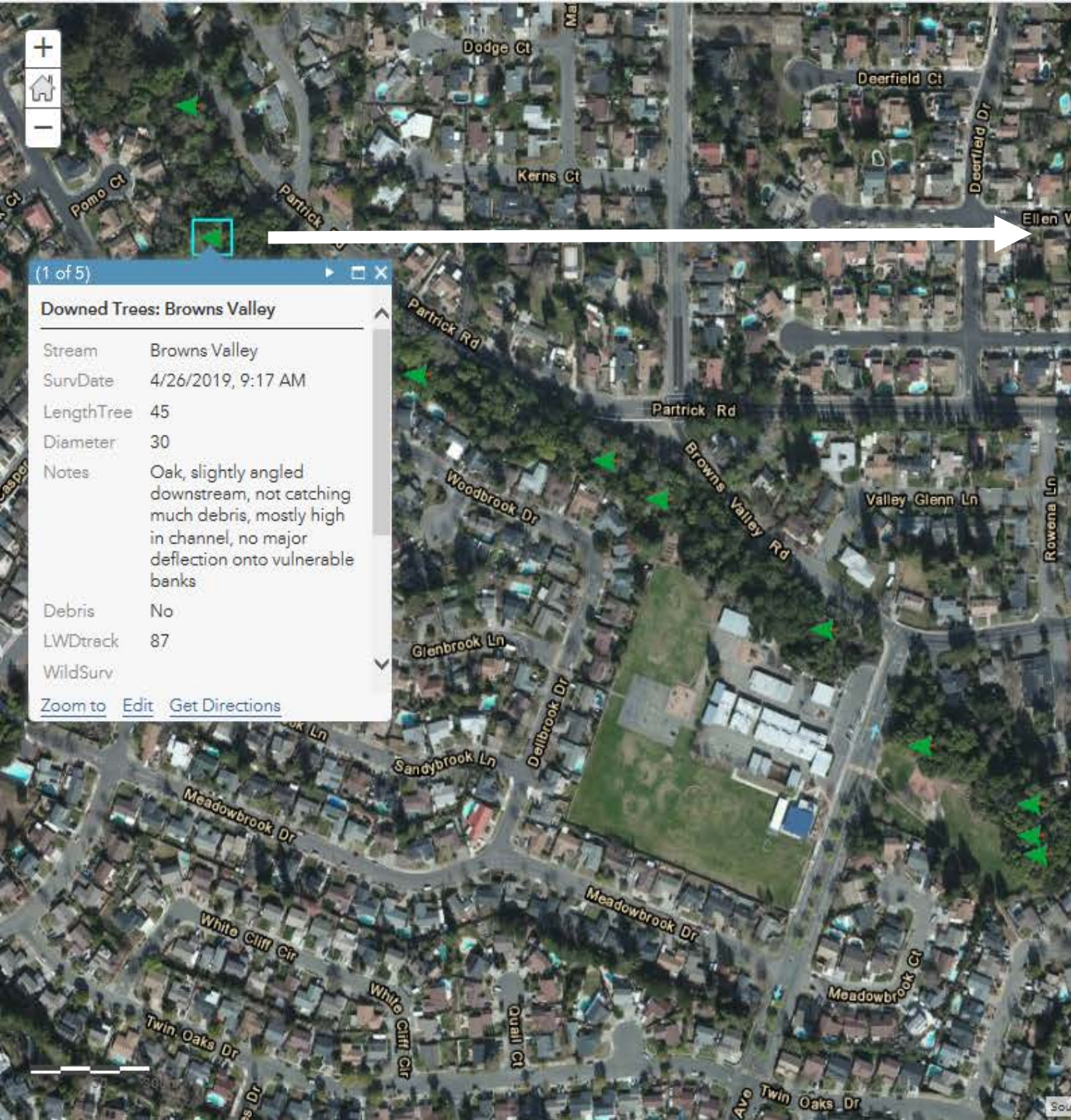
Napa Stream Maintenance Program

Mike Gordon

In-stream Large Woody Debris ...

- ... increases geomorphic complexity
- ... provides fish refugia
- ... improves streambank stability





Napa Count Flood Control & Water Conservation District

Jeremy Sarrow

Before



Greenwood Avenue Culvert Fish Passage Project

After



- Completed Fall 2015
- Located in Calistoga
- Restored access to 3 miles of spawning and rearing habitat for Chinook and steelhead salmon

Before



Milliken Creek Flood Reduction and Fish Passage Project

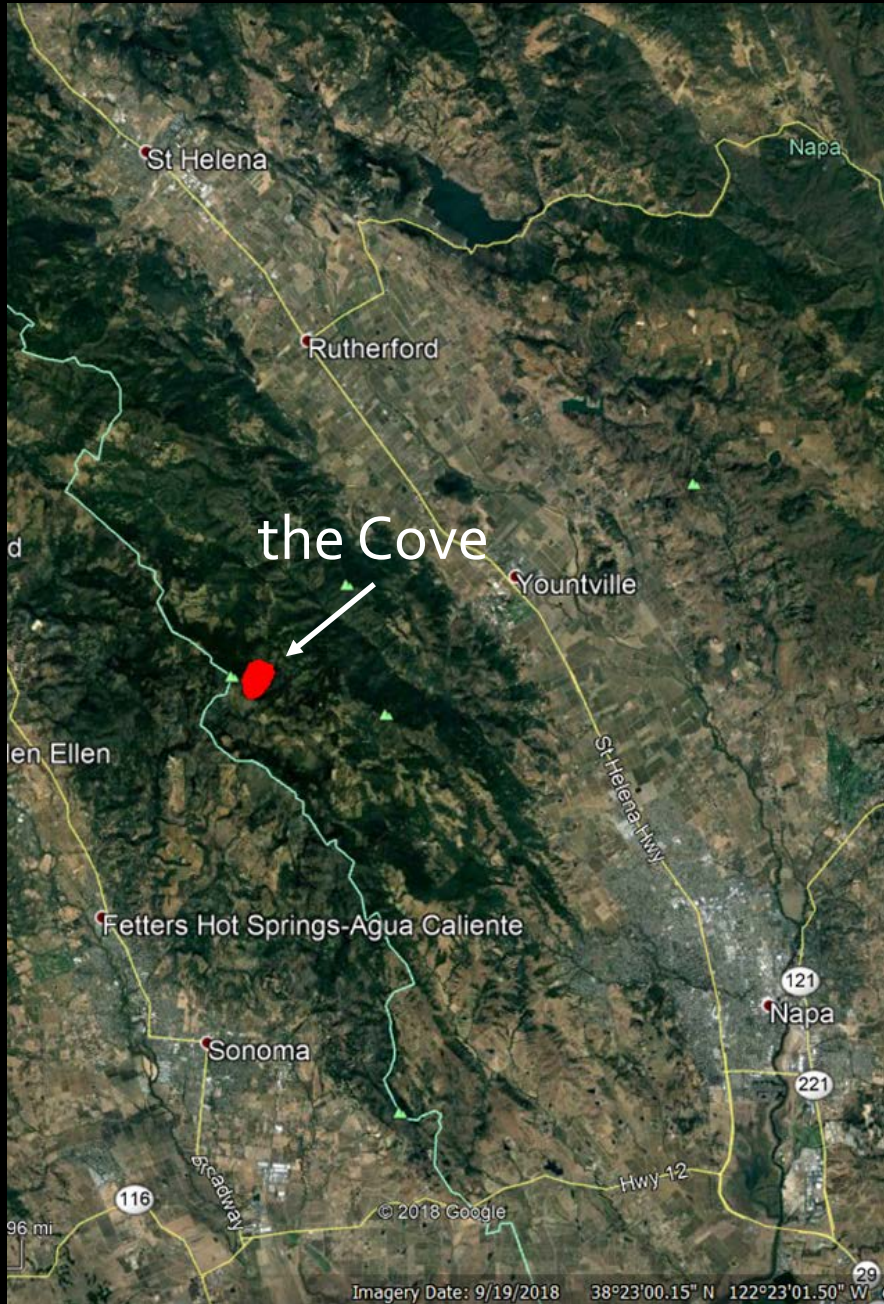
After



- Completed Fall 2017
- Located in Napa County
- Restored access to 2.5 miles of spawning and rearing habitat for Chinook and steelhead salmon and provides flood relief for residents

Napa County Regional Park & Open Space District

Tony Norris



Reforesting the Cove



NAPA COUNTY REGIONAL PARK &
OPEN SPACE DISTRICT

Project Goals:

Reforest the 160 acre The Cove property on Mount Veeder, which was almost totally destroyed by the October 2017 wildfires.

- Headwaters of Wing Creek, which flows into Dry Creek
- Stand-replacement fire, greater than 90% tree mortality
- Salvage logging of standing dead Douglas Firs completed fall 2018

Project Scope/ Outcomes:

Winter 2019, NOSD planted a mixed hardwood/coniferous forest of Douglas fir, redwood, Bigleaf maple, and mixed oaks.

- Many hundreds of hours of local volunteer time
- Trees all from local genetic stock

Climate Resilience:

Replace an overcrowded single-aged stand of Douglas fir with a healthy mixed forest at lower tree densities.

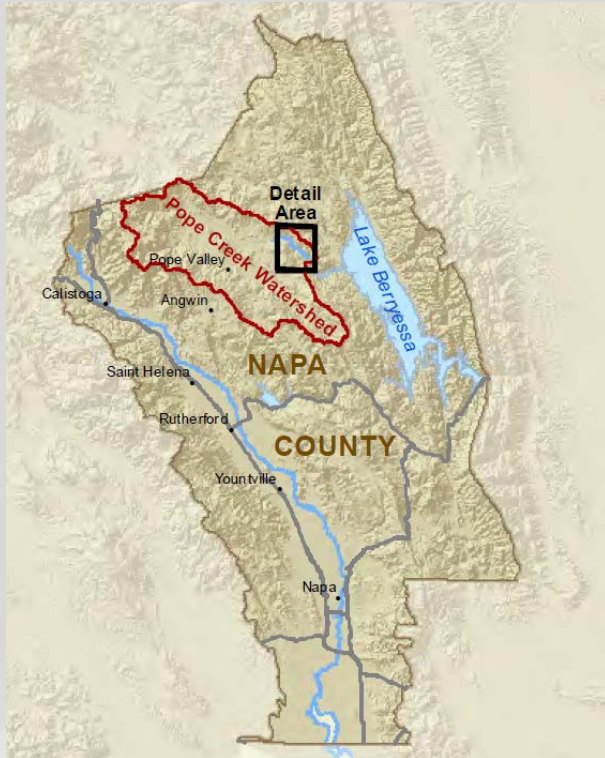
- Future forest should cope better with both a warming climate and fires

For more information: www.napaoutdoors.org/parks/the-cove/

Horizon Water & Environment

Ken Schwarz

Pope Creek Weed Management Project



Location: 2.7 mile reach of Pope Creek
Purpose: Invasive weed management
Project Proponent: Napa RCD

Pope Creek Weed Management Project

Current Status: CEQA document in preparation

Next Steps: Permitting and project implementation



Healing Walk Napa Valley

Julia Winiarski



Healing Walk
Napa Valley



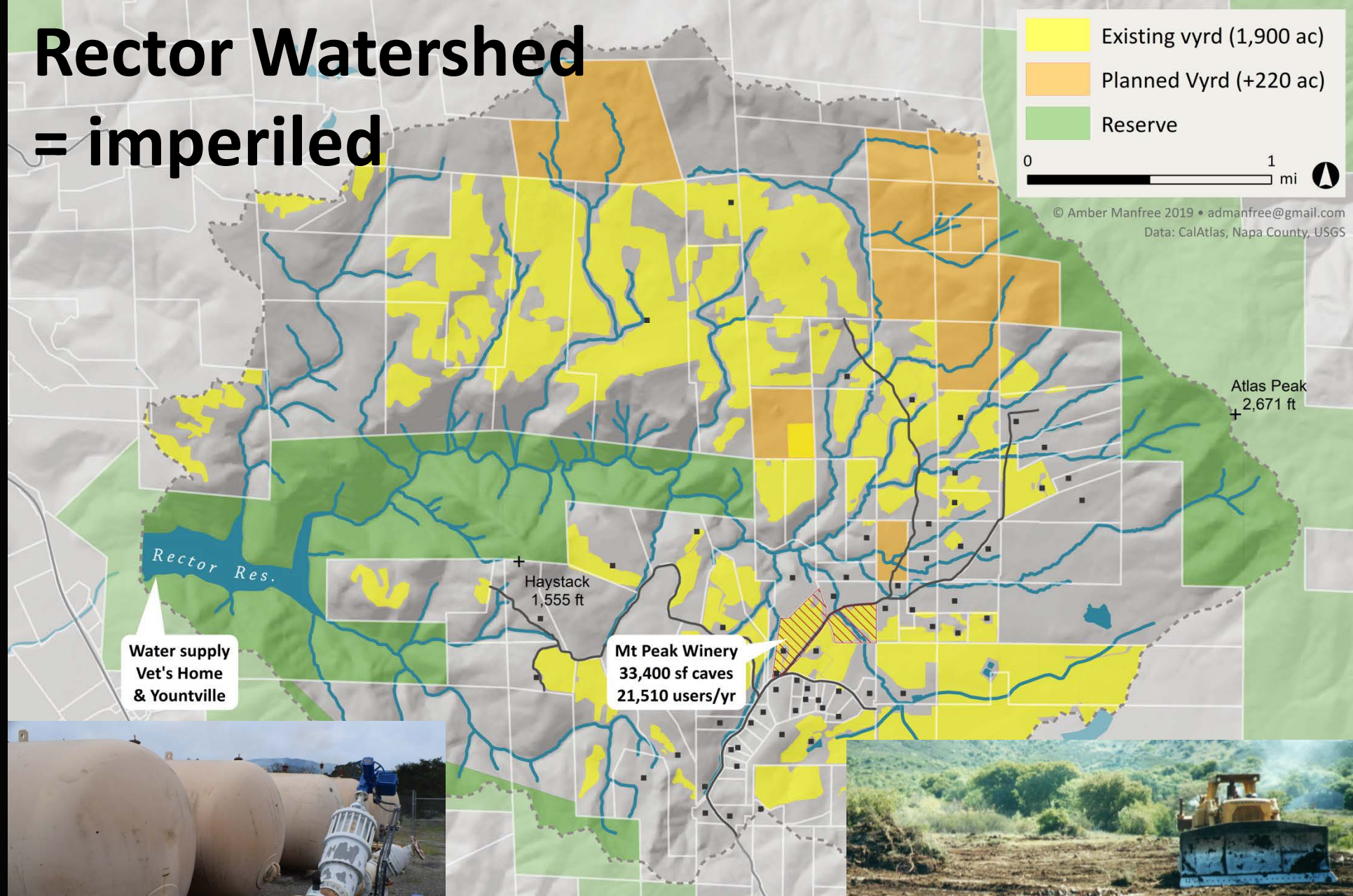


Protect Rural Napa

Rector Creek
= excellent habitat!



Rector Watershed = imperiled



Water supply
Vet's Home
& Yountville



Yountville Treatment Plant



Napa Countywide Stormwater Pollution Prevention Program

Jamison Crosby

Napa Countywide Stormwater Pollution Prevention Program



“Full Trash Capture” >5mm



Friends of Westwood Hills Park

Buck Kirtland

Friends of Westwood Hills Park

A Collaborative Effort of Community Agencies, Organizations, and
Individuals

MISSION

- Supplement the Efforts of Parks & Recreation Services
- Support the Sustainability of an Urban-Wildland Interface Park
- Establish a Model for Friends of the Park Program
- Involve All Members of the Napa Community
- Encourage Visitors to Enjoy the Park

Benefits

- Improved area visibility and personal security
- Disincentive for homeless encampments
- Reduced fuels and fire potential
- Trails named by members of the community
- Community pride and ownership
- Model for Friends of Parks program

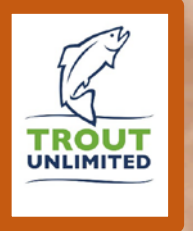
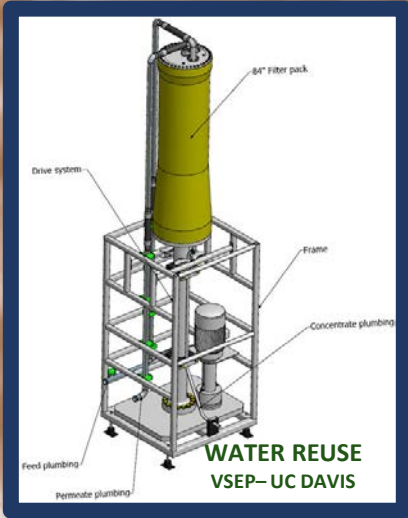
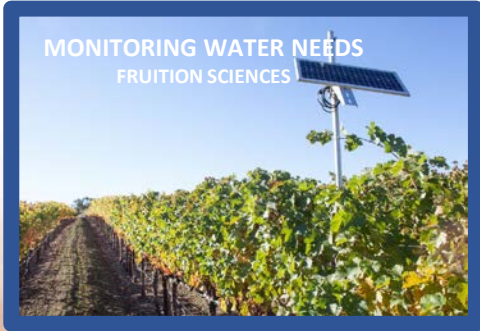
Jackson Family Wines

Aaron Schreiber-Stainthorpe



Napa River Restoration Project: JFW Oakville Site



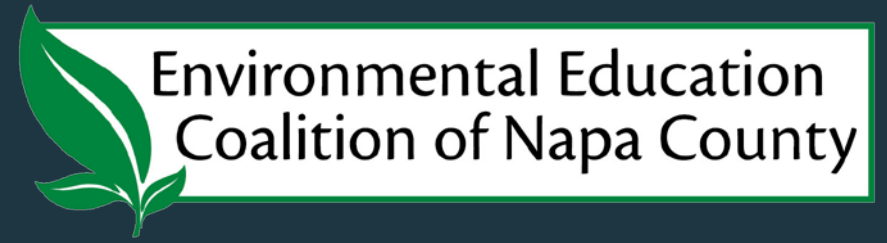


WATER CONSERVATION PARTNERS

Environmental Education Coalition of Napa County

Eric McKee

Napa County Environmental Field Trip Bus Grants



Since 2011 EECNC Field Trip Grants have:

- Connected 10,000 Napa County students with nature-based experiences
- Funded over 180 environmental field trips
- Awarded \$43,000 in field trip bus grants

NapaEnvironmentalEd.org



- EECNC Bus Grants are available to all Napa County Teachers and Students



- Climate adaptation and mitigation requires knowledge, skills and behavior change that education can provide.



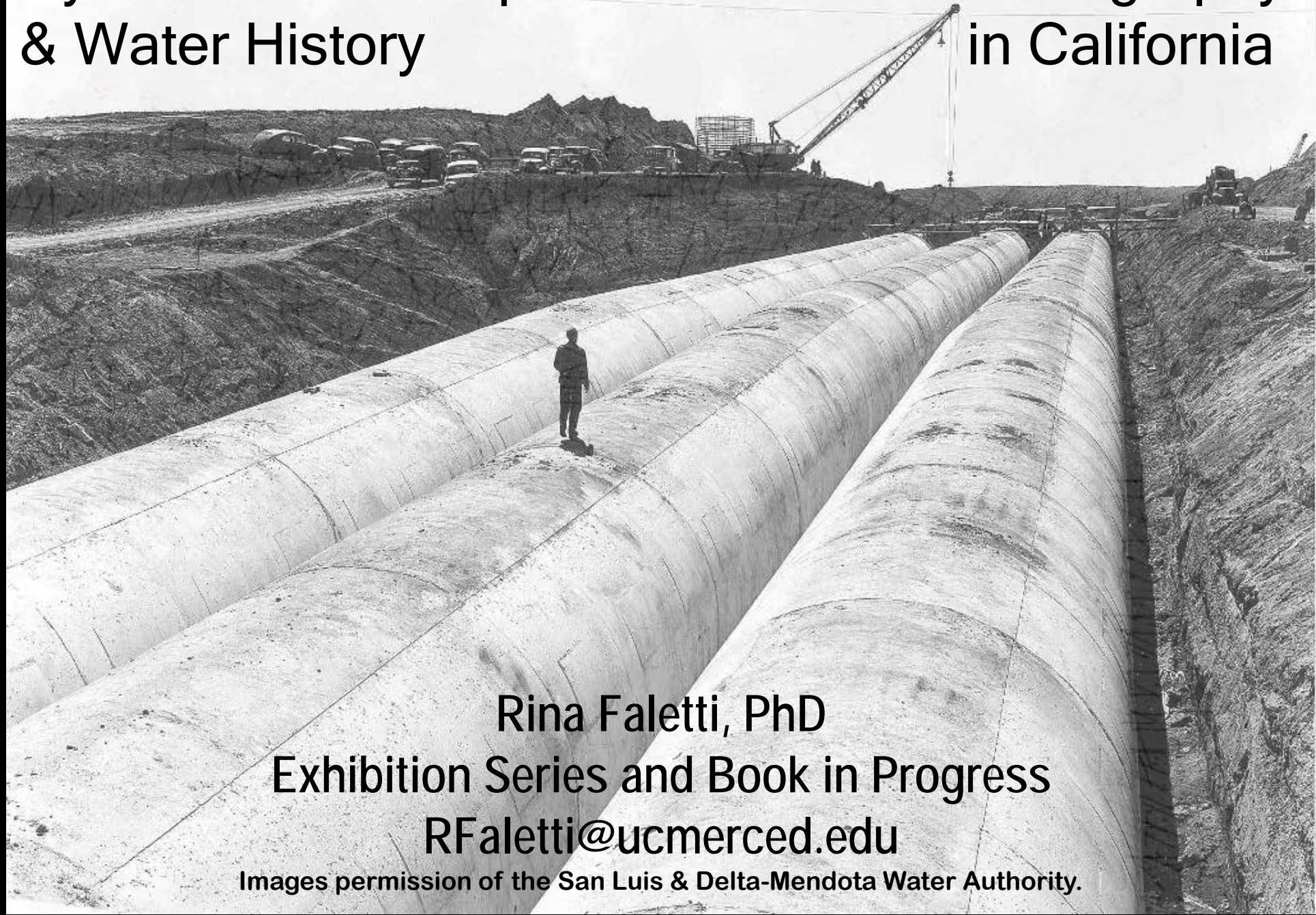
- Education can enable individuals and communities to make informed decisions and take action for climate resilient sustainable development.

Art Responds

Rina Faletti

Hydraulic Landscapes: & Water History

Industrial Photography in California



Rina Faletti, PhD

Exhibition Series and Book in Progress

RFaletti@ucmerced.edu

Images permission of the San Luis & Delta-Mendota Water Authority.

Delta-Mendota Canal, 1951

Precursor to State Water Project & California Aqueduct.

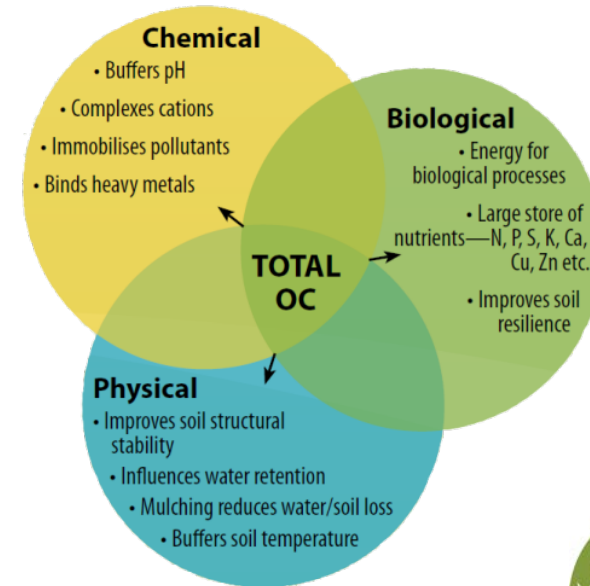
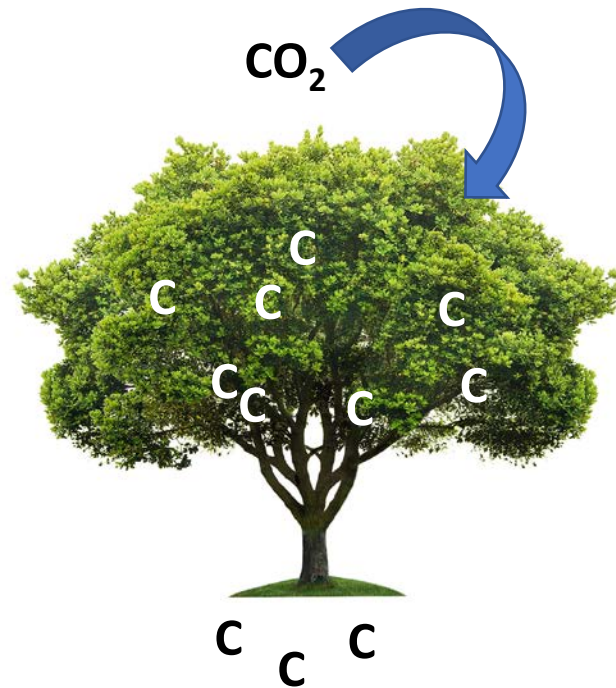


Napa County Resource Conservation District

Miguel Garcia

Carbon Farming: Is Good for the Soil and the Planet

- **Napa County Resource Conservation District provides assistance to farmers in developing carbon farm plans.**
- **Carbon farming involves implementing agricultural practices to improve the rate at which CO₂ is removed from the atmosphere and converted to plant material and soil organic matter.**



Carbon Farming: Is Good for the Soil and the Planet

Vintage High School
Environmental Science Teacher

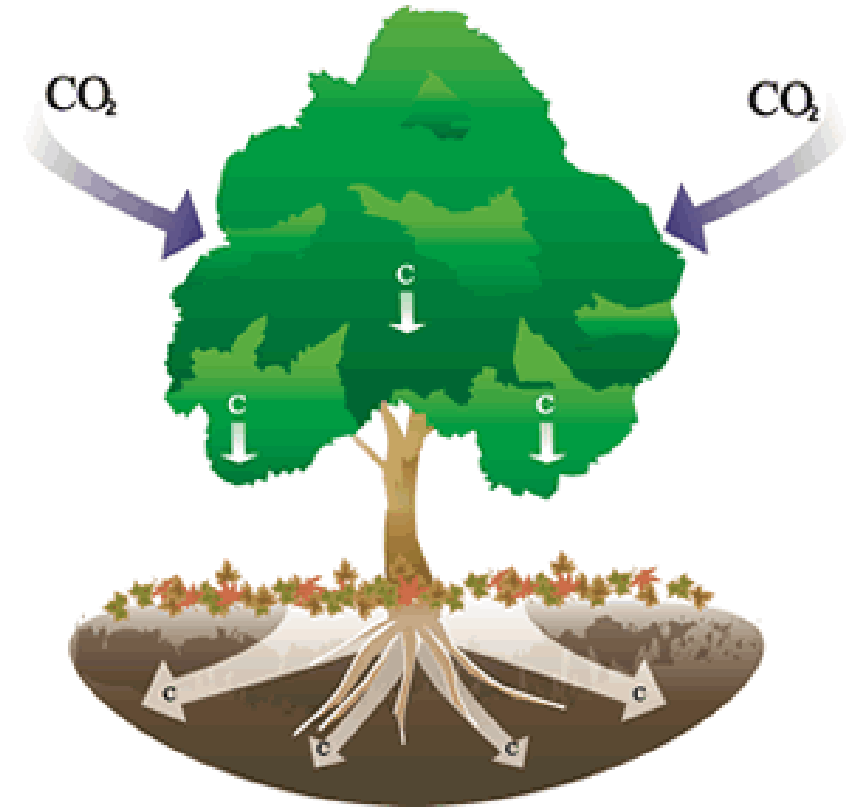
Dean Wagner

Acorns to Oaks

- Helping with oak collection
- Planting hundreds of oaks to re-oak Napa



Improving Resiliency to Climate Change



- Carbon Storage
- Provide vital resources for organisms stressed by climate change.
- Can help shade your property/home and lower energy

Napa Citizen's for Smart Planning

Eileen Pereira

Artistic Renderings: Proposed 17-acre Palm Drive Solar Site

Our Beautiful Neighborhood Today

Thankfully, We Were Able to STOP THIS



Proposed 17-acre Coombsville Commercial Solar Site

First Avenue, Coombsville – May 2018



Waterway Keepers

Anna Yip

Engage
Educate
Empower

Eliminate litter?



In 2018,
Waterway Keepers:

Imagine what we
can do in 2019.

Engaged
994 volunteers

to remove
1,400+ pounds
of trash from the river

across
4 events

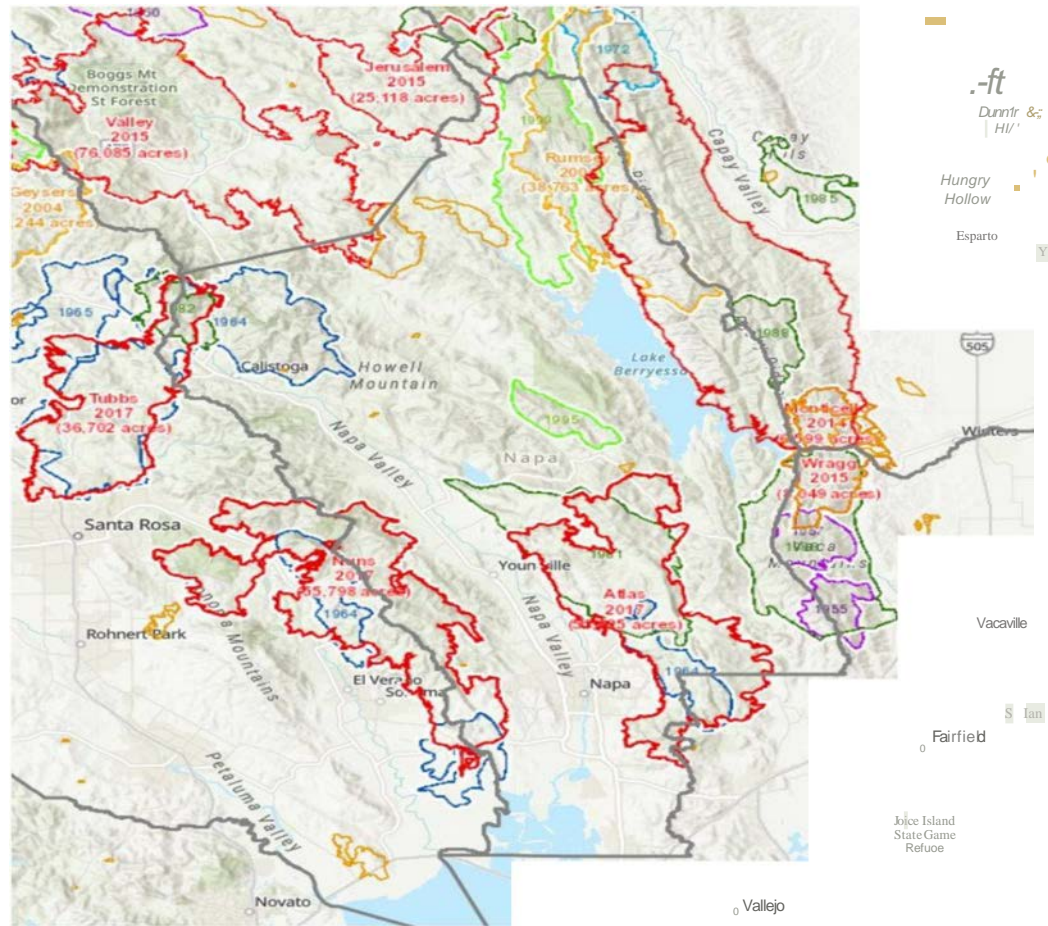


RCD – Napa Firewise Partnership

Lucas Patzek

Napa County Fire History

Fire Perimeters 1950 through 2018



Napa FireSmart Workshop

May 4, 2019-Yountville, CA



Lucas Patzek, Executive Director, Napa County Resource Conservation District

ReBuild North Bay

Jennifer Gray Thompson

Recover.

Rebuild.

Reimagine.

Jennifer Gray Thompson, MPA
Executive Director

rebuildnorthbay.org



REBUILD NORTHBAY

FOUNDATION

Serving Sonoma, Napa, Lake & Mendocino



VISION:

- To rebuild the North Bay better, safer, greener, and faster.

MISSION:

- Rebuild North Bay Foundation is committed to the long-term rebuilding of our region as a more sustainable and resilient community through Advocacy, Coordination, and Economic Development.

Organizational Objectives in Three Primary Areas:

- Advocacy, Coordination, Economic Development