Creating Opportunities for Community Involvement to Address Common Urban Stream Management Issues

A Concurrent Session at the 39th Annual Salmonid Restoration Conference held in Santa Cruz, California from April 19 – 22, 2022.

- **Session Coordinator:**
  - Jessica Hall, *California Urban Streams Partnership*

This session will focus on addressing community involvement in some of the most pressing issues facing urban streams, highlighting why community engagement in urban areas is crucial to successful long-term restoration and management. Speakers will focus on engaging diverse communities in stream stewardship, including homeless populations, landowners, the urban and rural divide, and under-served urban populations. How can we forge and maintain collaborative relationships to steward our shared resources? How can we learn from our past mistakes in urban stream management to create more inclusive and comprehensive collaborations? We will examine how urban stream management can benefit both human populations and stream ecosystems through holistic flood management, steelhead recovery, trash management and more.

Presentations

Slide 4- **Addressing Property Owner Fears of Creeks**, Jessica Hall, Project Manager, *California Urban Streams Partnership*

Slide 15- **Restoring in Urban and Rural Settings: Motivating Communities to Get on Board with Restoration in Their Backyards and Lessons Learned**, Sarah Phillips, Urban Streams Program Manager, *Marin Resource Conservation District*

Slide 36- **Fish Passage and Bridge Replacement Project: Santa Margarita River**, Sandra Jacobson, PhD, *California Trout, Director- South Coast Region*

Slide 58- **Community-involved Creek Restoration in the Walnut Creek Watershed,** Heather Rosmarin, Co-Founder, *Friends of Pleasant Hill Creeks*

Slide 88- **Planting a Dream: A Community Designed Urban Park Connects People and Nature**, Chelsea Neill, PG, *Balance Hydrologics*

Slide 111- **Engaging Community to Protect the Pinole Creek Watershed: Assessment of Trash Impacts to Promote a Thriving Ecosystem**, Ann Moriarty, *Board Member, Friends of Pinole Creek Watershed*

Addressing Property Owner Fears of Creeks

CALIFORNIA URBAN STREAMS PARTNERSHIP

Addressing Property Owner Fears of Creeks

what's to fear?

When streams meet engineered structures

Addressing Property Owner Fears of Creeks

what's to fear?

Common instruments of ~~control~~ horror

To the rescue!

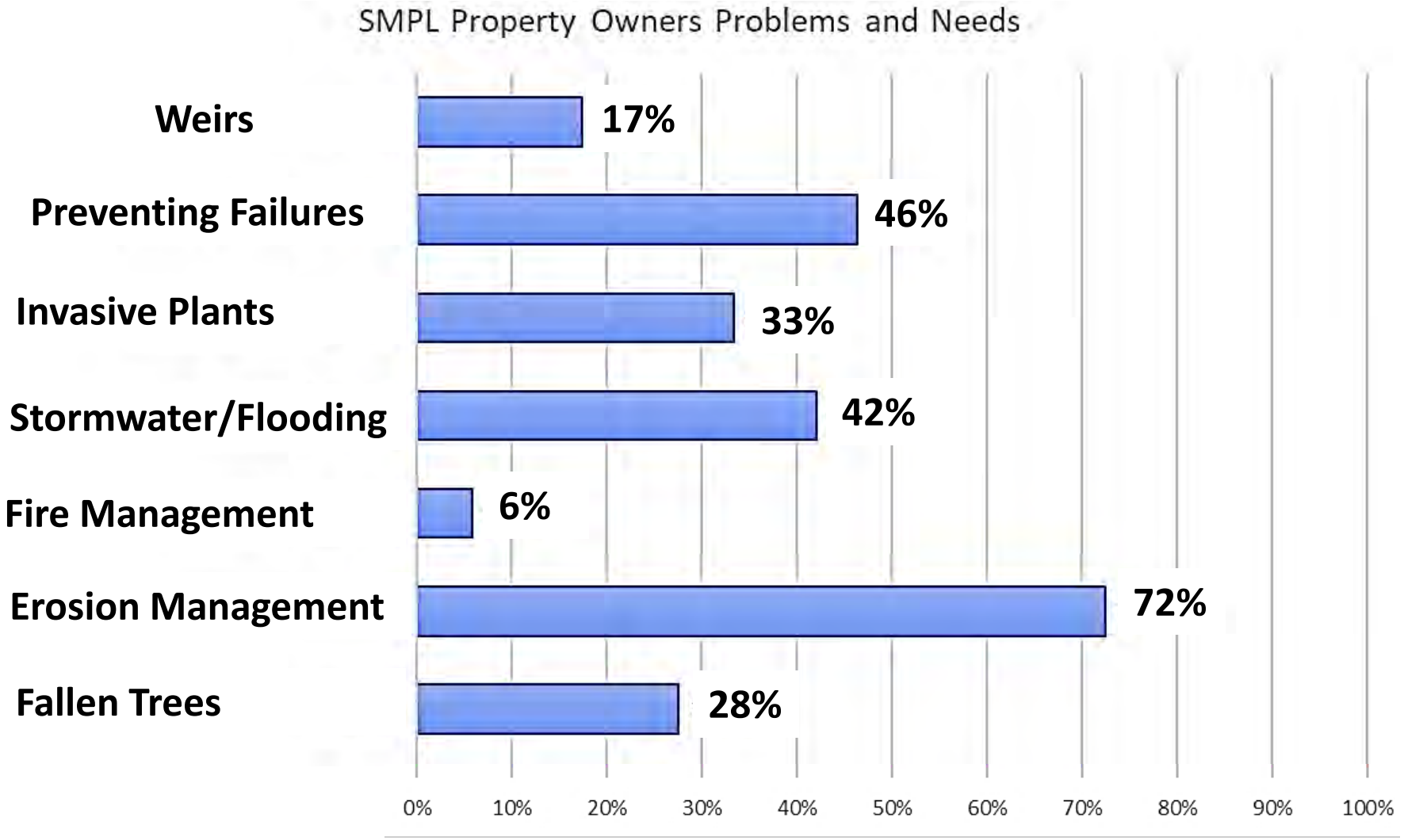
AKA The Streamside Management Program for Landowners: SMPL!

A program established with Contra Costa County in 2018

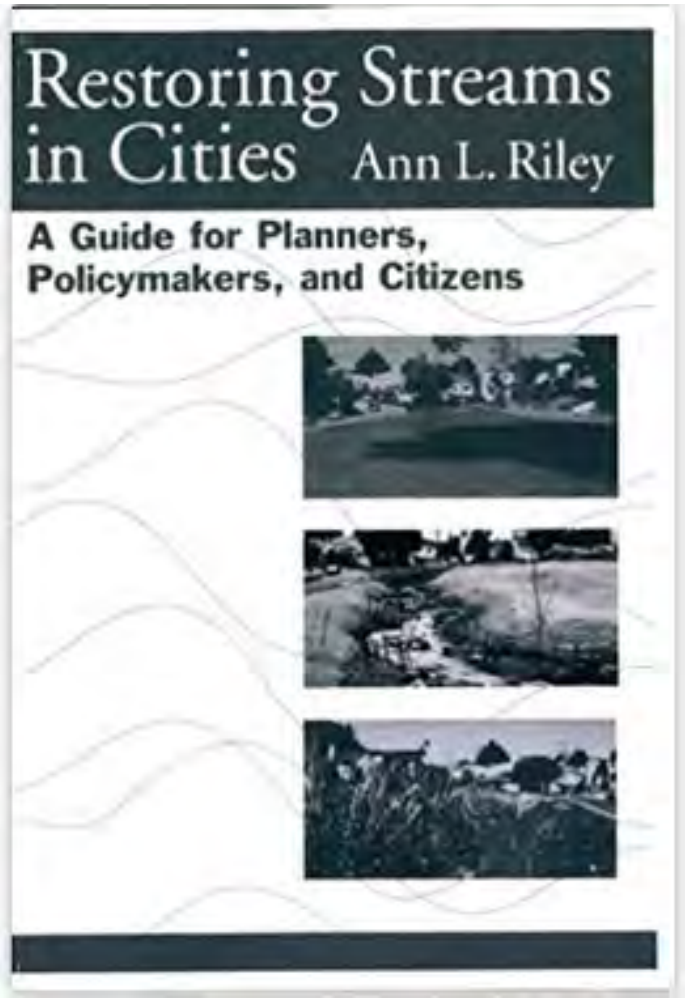
Over 75 residences served – plus workshops

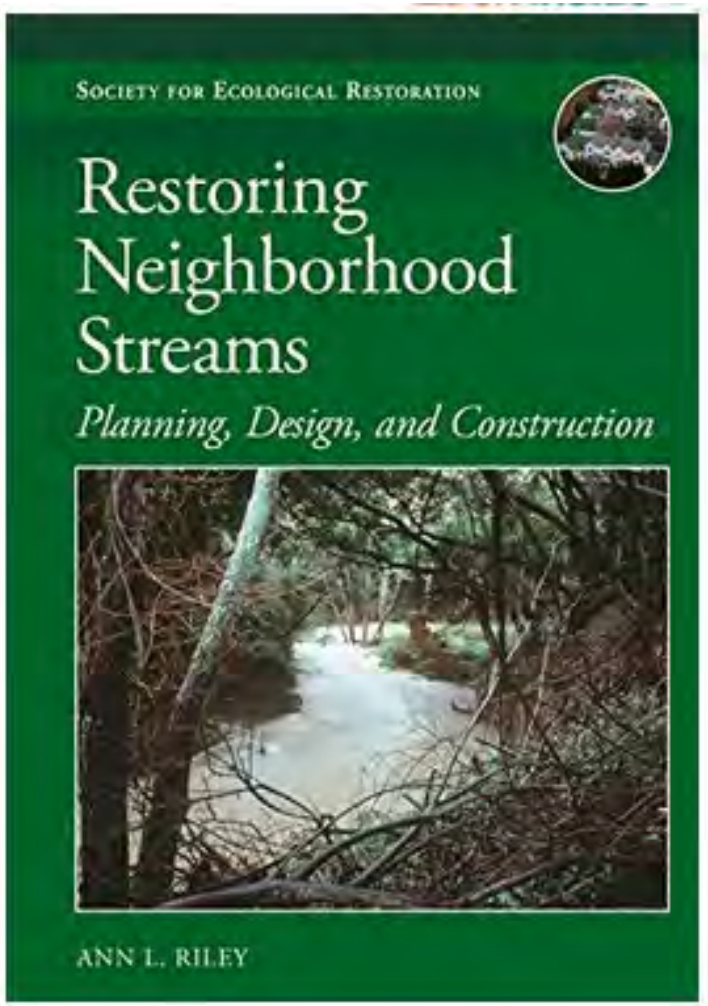
Addressing Property Owner Fears of Creeks

problems & needs



How we help





SMPL is grounded in Ann Riley's urban streams work.

CALIFORNIA URBAN STREAMS PARTNERSHIP

Demystifying streambank soil bioengineering

Simple solutions that protect property & reduce regulatory burdens

CALIFORNIA URBAN STREAMS PARTNERSHIP

And we make it fun

CALIFORNIA URBAN STREAMS PARTNERSHIP

Example: Property on Alhambra Creek, Martinez

Diagnosis

Example: Property on Alhambra Creek, Martinez

Diagnosis


Solution: Brush post system


Establishment

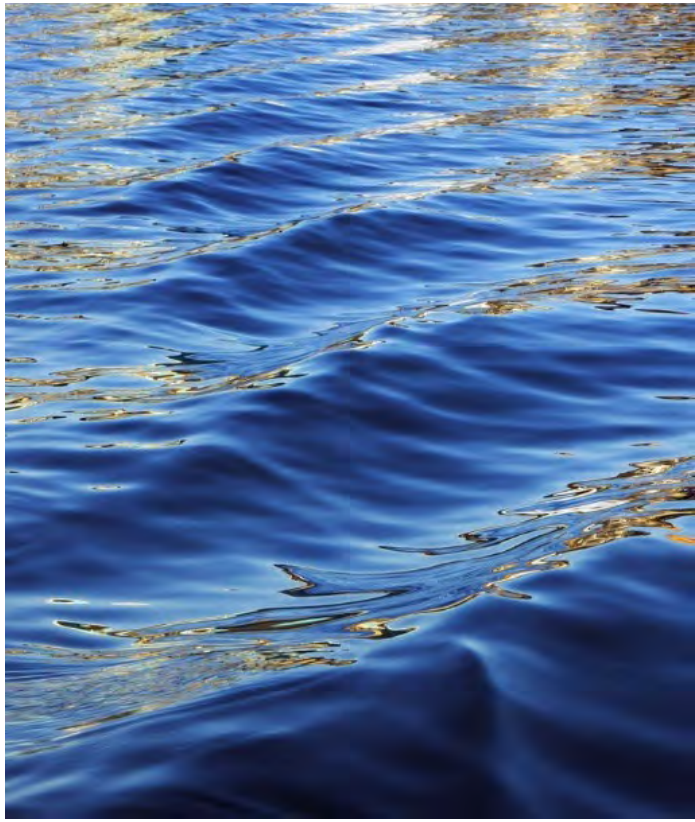

Monitoring

Restoring in Urban and Rural Settings:

Motivating Communities to Get on Board with Restoration in Their Backyards and Lessons Learned

Sarah Phillips, Urban Streams Program Manager
Marin Resource Conservation District (MRCD)

MARIN RESOURCE CONSERVATION DISTRICT



Presentation Outline

- Marin's Urban Streams Coordination Program
- Urban vs Rural
- Considerations & Hurdles
- Changing Behavior
- Project Examples
- Lessons Learned

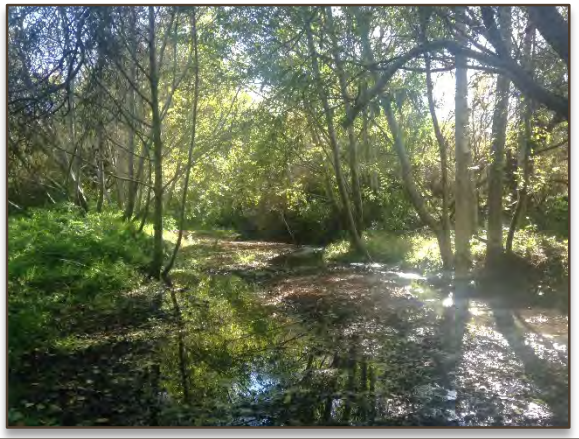
Urban Streams Coordination Program

- How was the Program created?
- How is it funded?
- How it's helped?
  - 739 Stakeholders Supported
  - 178Site Visits Conducted
  - 2,698 of People Educated

COUNTY OF MARIN

MARIN RESOURCE CONSERVATION DISTRICT

Restoration Considerations
URBAN vs RURAL

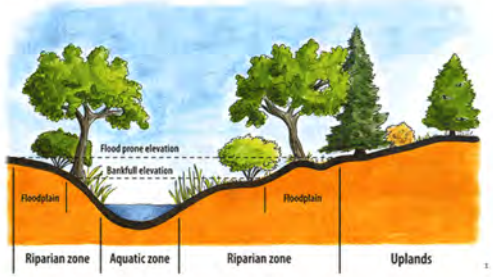


Stream Maintenance

Preparing Creeks before the Rainy Season

This document is intended to provide guidance to municipalities, Community Service Districts and private property owners that live along creeks. This document is for use in urban streams that are flood prone and fall within existing zones at the Marin County Flood Control District (see map titled '*Flood Control Zones in Marin County*').

'*Riparian Zone*' or '*Riparian Area*' or '*Riparian Corridor*' is the interface between a stream and the upland area of land that includes hydrophilic (water-loving) vegetation supporting an array of beneficial services. Some benefits include: pollutant filtration, creek bank stability, habitat and food for wildlife (i.e. hazelnuts, bay nuts, nectar, thimbleberries, etc.), stream channel complexity, heat refugia, protection from predators, erosion control, migratory corridors, input for nutrient cycling (leaf litter and insect-drop), air quality, and more.



The Law

It is a violation of Marin County Code and CA Department of Fish & Wildlife (CDFW) Code to remove native riparian vegetation without a permit (1602) or RMA (Routine Maintenance Agreement) in place from CDFW. Maintenance of a majority of the creeks in Marin is the responsibility of the neighbors whose properties border the creek and it is their responsibility to secure the necessary permits in advance of work in or around creeks. Start the permitting process early as permits can take at least 60-90 days to process and secure. While it may be

[1] Source: http://slco.org/watershed/streams-101/the-riparian-zone

Prepared January, 2018 by Marin RCD's Urban Streams Coordination Program

1 | Page

MEMORANDUM OF UNDERSTANDING
Among the
MARIN MUNICIPAL WATER DISTRICT,
COUNTY OF MARIN,
MARIN COUNTY OPEN SPACE DISTRICT,
CALIFORNIA DEPARTMENT OF PARKS AND RECREATION,
NATIONAL PARK SERVICE, and
MARIN COUNTY RESOURCE CONSERVATION DISTRICT
For
WOODY DEBRIS MANAGEMENT
In RIPARIAN AREAS of the LAGUNITAS CREEK WATERSHED

Final: February 1, 2007

This Memorandum of Understanding, dated February 1, 2007, is by and between the Marin Municipal Water District (MMWD); the County of Marin (County), acting through the Marin County Board of Supervisors (Supervisors); the Marin County Open Space District; the California Department of Parks and Recreation (State Parks); the National Park Service (NPS); and the Marin County Resource Conservation District (MCRCD).

RECITALS

WHEREAS, the parties to this Memorandum of Understanding (hereafter "Agreement") own, manage, or have an interest in the management of lands and waters within the 103-square mile Lagunitas Creek watershed, the largest watershed in Marin County; and

Restoration in Residential Backyards
~Considerations & Hurdles~

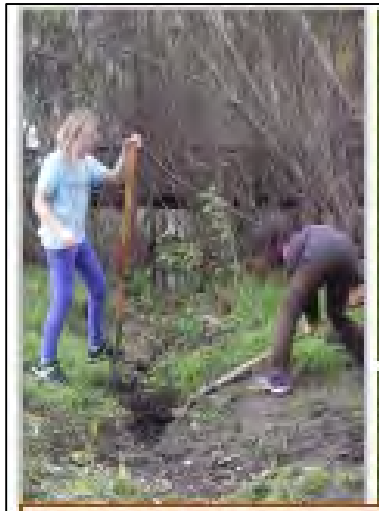
- Neighbors
- Property Lines
- Invasive Species
- ESA-Listed Species
- Timing of Year
- Liability/ies
- Technical or DIY
  $ Funding $

Changing Behavior

Engage, Educate, Empower

"Never ever depend on governments or institutions to solve any major problems. **All** social **change comes from** the **passion** of individuals." ---Margaret Mead

What's the result of *Engage, Educate, and Empower*?



BANK STABILIZATION WORKSHOP for Marin Streamside Residents!

Saturday January 28th, 2017
10:00 AM – 1:30 PM

Sir Francis Drake High School
1327 Sir Francis Drake Blvd. San Anselmo
At the southeast corner at Saunders Bridge

Learn Best Management Practices (BMPs) for bank stabilization **HANDS-ON!**

Learn how to use nature-based solutions to enhance water quality for salmonids right in your own neighborhood!

Hear from restoration expert
Dr. Ann L. Riley
(California Urban Streams Partnership)

Dress for the weather, wear closed-toed shoes, and bring water and work gloves!

MARIN RESOURCE CONSERVATION DISTRICT

California Water Boards

SPACE IS LIMITED!

You must RSVP online at: [illegible]

OR by calling:
Marin Resource Conservation District
Sarah Phillips, Urban Streams Program Manager
415-663-1170 (ext. 302)

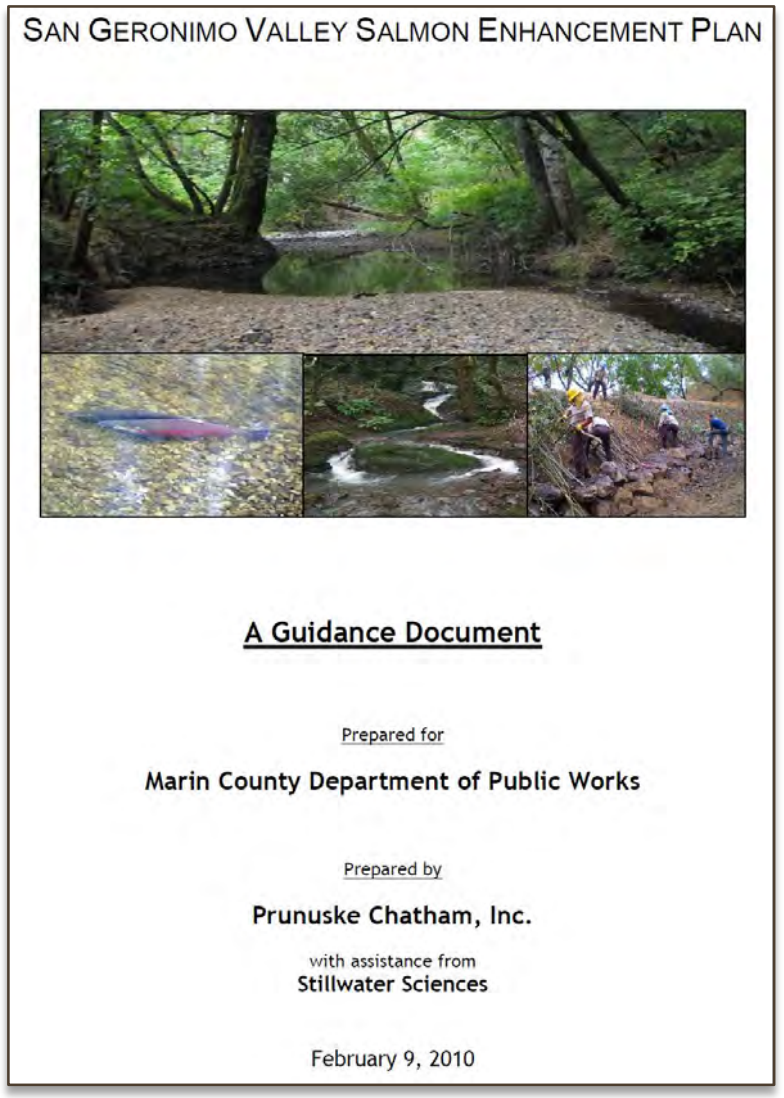
Light refreshments will be provided. Please bring a refillable water bottle

Sir Francis Drake HIGH SCHOOL

repurpose

"My wife & I feel lucky to have learned about this method from your workshop. I attached a picture showing how it looks after my bank's first larger rain. Looks like it caught about 2-3 yards of soil. Yay! I attached a picture of the tools I used to plant the willows. I knew I could not get all this done myself with the metal stake method we used in the workshop…"

San Geronimo Valley Landowner Assistance Program



Sites	# Plants	PLS (lbs live seed)	# Pieces of Wood
Site 1	161	7.5	18
Site 2	134	7.5	18
TOTAL	**295**	**15**	**36**

*"Never doubt that a small group of thoughtful, **committed**, **citizens can change the world**. Indeed, it is the only thing that ever has." -- Margaret Mead*

Site 1: Funded by CA Department Fish & Wildlife

Funder: CDFW's FRGP (Fisheries Restoration Grant Program)
Amount Requested: $164,568
Amount Spent: $131,557.50
Matching Contributions: $55,579
Total Amount: $187,136.50 (includes match)
Engineering: Stillwater Sciences
Construction Company: Glissman Excavating, Inc.
Constructed: 2019
Project Support: Marin County DPW
Regulatory Compliance Insp.: Yours Truly
BioMonitor: Yours Truly
Project Manager: Yours Truly


CAT


Marin Independent Journal
marinij.com
Saturday, September 7, 2019
MILL VALLEY
Protest alters fire prevention plan
'Hardscape' requirement becomes voluntary after public opposition
By Adrian Rodriguez
SAN GERONIMO VALLEY
FISH HABITAT REVIVED
Homeowners open their land to salmon restoration
By Will Houston
LUNG INJURIES
Officials implore public: no vaping
Marin joins nation in issuing warning
By Richard Halstead
DORIAN
By Kirk Semple

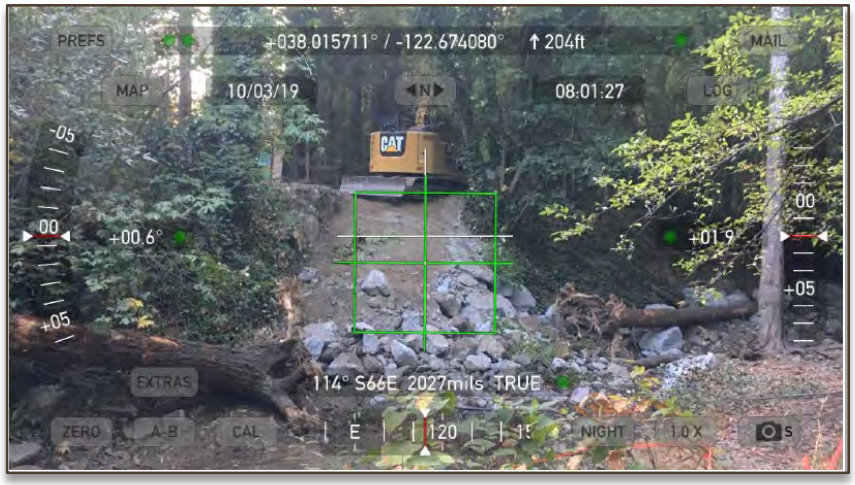
Photo Point #3: Standing instream of Cintura Creek, facing upstream. Left (2020), center (2021), & right (2022).

Photo Point #1: Facing downstream of San Geronimo Creek, standing on left bank of Cintura Creek, at confluence. Left (2020), center (2021), & right (2022).

Site 2: Funded by State Coastal Conservancy

Funder: SCC (Proposition 1)
Amount Requested: $199,385
Amount Spent: $199,385
Matching Contributions: $127,715.85
Total Amount: $327,100.85 (includes match)
Engineering: Stillwater Sciences
Construction Co.: Glissman Excavating, Inc.
Construction Monitoring: Gold Ridge RCD
Constructed: 2019
Biological Support: WRA, Inc.
Project Support: Marin County DPW
Regulatory Compliance Insp.: Yours Truly
BioMonitor: Yours Truly
Project Manager: Yours Truly

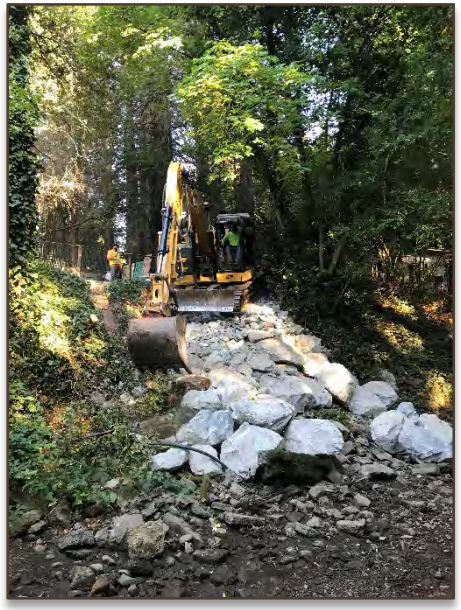
Fall 2019



Spring 2021


robrussellflyfishing
San Geronimo, California
Liked by redwoodempiretrout and 116 others
robrussellflyfishing The fate of our fisheries is in good hands. 🙌 Another great day volunteering with the fish-loving peoples. Thanks @redwoodempiretrout for the opportunity to participate! #volunteer #lagunitascreek #marincounty @troutunlimited

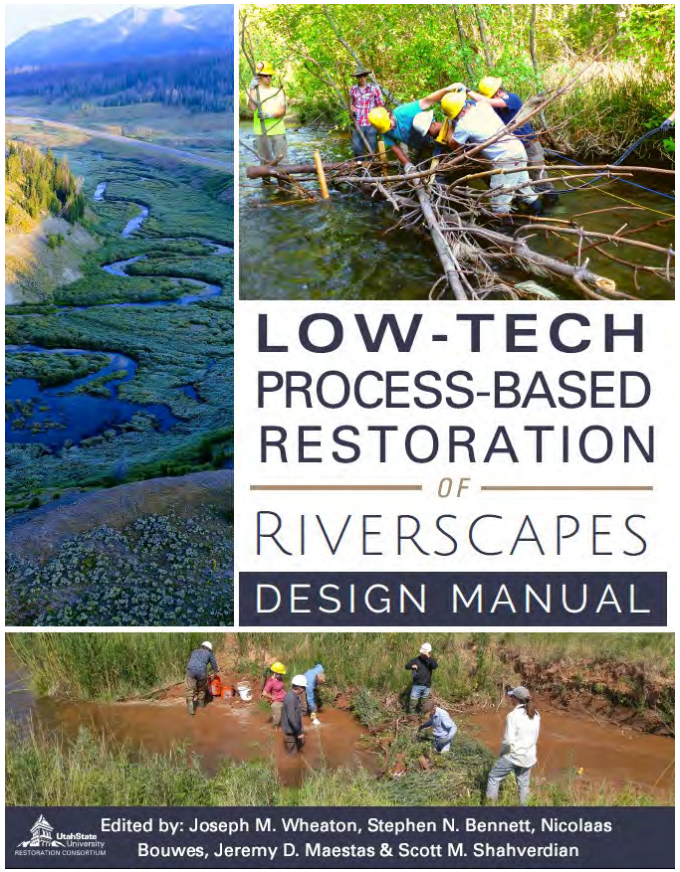
(So Many) Lessons Learned

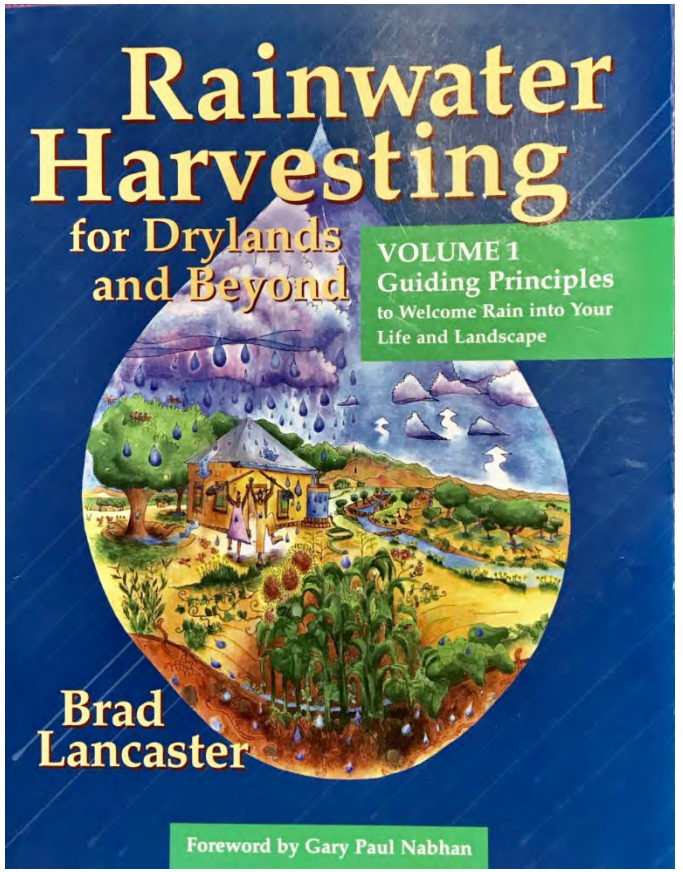




RESOURCES



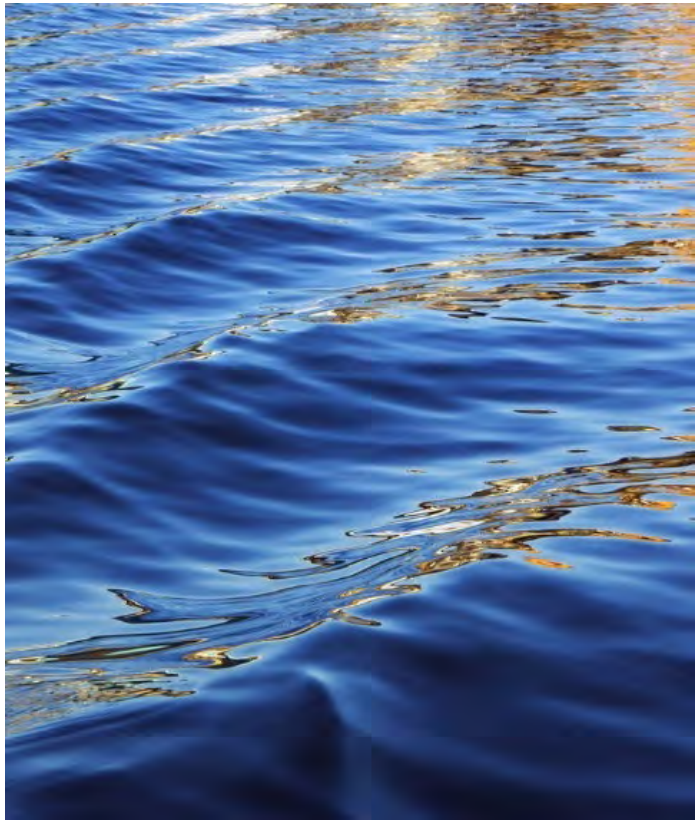
- Occidental Arts & Ecology's Water Institute https://oaec.org/our-work/projects-and-partnerships/water-institute/
- Salmonid Restoration Federation's website https://www.calsalmon.org/
- Home Ground Habitat Nursery https://www.homegroundhabitats.org/
- Beavers http://highdesertmuseum.org/beaver-interactive/



MARIN RESOURCE CONSERVATION DISTRICT

THANK YOU

Sarah Phillips
Urban Streams Prgm. Mngr.
Sarah@Marinrcd.org
www.marinrcd.org



Fish Passage and Bridge Replacement Project
Santa Margarita River – Urban Streams and Community

39th Annual Salmonid Restoration Conference

Sandra Jacobson, Ph.D.
Director, South Coast and Sierra Regions, California Trout

April 22, 2022

Fish Passage and Coastal Resiliency Project

Bridge replacement at Sandia Creek Drive - Santa Margarita River

Project Cost $18M funded, two-year construction period

This multi-benefit project will

- remove a total barrier for steelhead trout;
- protect public from flood impacts;
- improve safety for trail users;
- enhance quality of riparian habitat
- preserve a major wildlife corridor;
- alleviate traffic congestion;
- increase local jobs (employs >150);
- support local economy ($19M 1:1)

What started as a fish passage project evolved into a pressing community infrastructure solution

https://youtu.be/o7zaiu_pS8w

Removes last remaining barrier in mainstem river to provide access to 12 miles of historic spawning/rearing habitat

Southern California Steelhead - Endangered

Historically, steelhead runs were 10,000+ in Southern California rivers and streams.

Their population declined in the mid-1900s due to habitat loss and blocked access to upstream spawning and rearing areas.

There are critically few left and they are federally listed as an endangered species.

San Mateo Creek Steelhead – 1939.
NMFS Southern California Steelhead Recovery Plan

Santa Margarita River estuary
Camp Pendleton
Credit: H. Sarabia, SDRWB 6/12/2019

Santa Margarita River mainstem
near Sandia Creek confluence

Santa Margarita Ecological Reserve
Headwaters near Temecula

Santa Margarita River – endangered steelhead passage

Removal of one remaining barrier in the Santa Margarita River restores steelhead access to spawning and rearing area ★ US Marine Corps completed remediation of barrier at Lake O'Neill diversion on Camp Pendleton ○. Now, only Sandia Creek Drive remains ○.

Sandia Creek Drive – Existing Condition

Project funded through 100% design and permitting (CDFW, State Coastal Conservancy)
Design team: KPFF, River Focus, Leighton. Permitting: Dudek.
CalTrout lead on final design phase and implementation (Funders: CDFW, CNRA, WCB, Coastal Conservancy)

Sandia Creek Drive – Bridge Replacement

Steel bridge (574 ft length) - two piers and three spans designed to pass 100-yr flow

Sandia Creek Drive – Bridge Replacement

Bridge Project: Engineering, Permitting, Outreach

Stakeholder and Community Outreach

Classified Ads Business Directory Photos of the Day Contact Us Donate

VILLAGE NEWS

News Community Sports Lifestyles Regional National State Opinion Ent

California Trout receives new grants to support recovery of steelhead and native trout in Southern California

Share Tweet 0 Comments

Last updated 2/21/2020 at 1:05pm

SAN DIEGO – Nonprofit science, implementation and advocacy organization California Trout recently received significant grants to support regional efforts to recover steelhead and native trout populations in Southern California.

The grants will help recovery efforts for southern steelhead, an endangered fish that migrates between the ocean and freshwater; and will help protect native resident trout populations.

Two of the grants support construction of a new bridge on the Santa Margarita River, replacing the current aging structure that is a fish passage barrier.

Another grant funds the CalTrout-led South Coast Steelhead Coalition in San Diego, Orange and Riverside counties, whose mission is to implement the federal recovery plan for Southern steelhead. The fourth grant supports protection of at-risk native rainbow trout populations throughout Southern California

Southern California steelhead populations are in danger of extinction within the next 25-50 years due to human-caused threats such as major dams and fish passage barriers, urbanization, estuary alteration and the increasing frequency of wildfires and droughts.

Stakeholder Engagement

- Community Outreach
- Presentations
- Local Information Booths
- Video, Social Media, Print
- Funding Campaigns

Getting to Shovel Ready Takes a Village

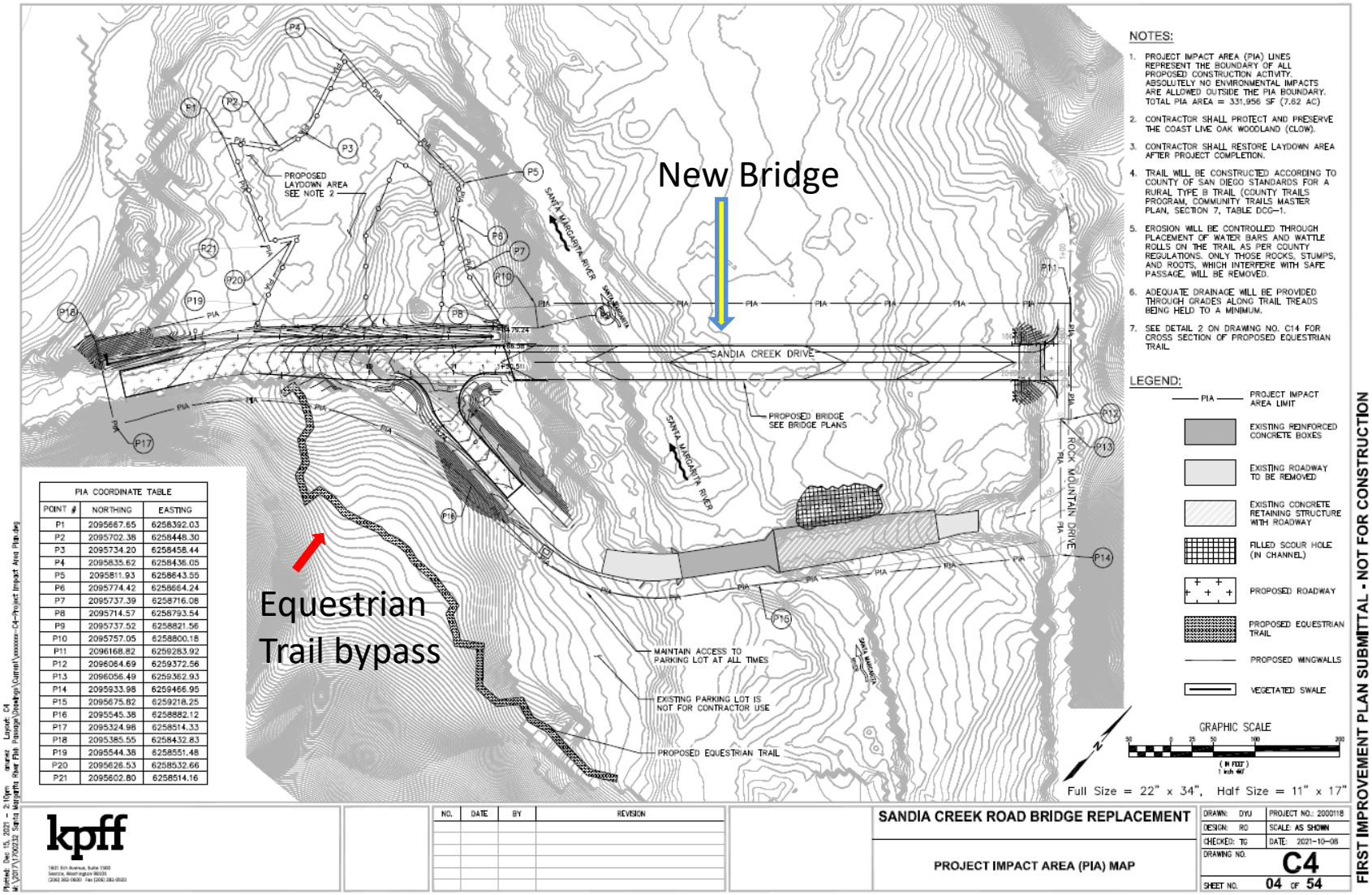
The Wildlands Conservancy (Landowner) and KPFF Engineers

Site visits and funder consortium meetings with stakeholders, County of San Diego

Watershed Education – Santa Margarita Ecological Reserve hosting local high school students for Water Quality Testing

Community Presentations on Project; annual articles in local newspaper

Listening to Stakeholders Essential for Success



PIA COORDINATE TABLE

POINT #	NORTHING	EASTING
P1	2095667.65	6258392.03
P2	2095702.38	6258448.30
P3	2095734.20	6258458.44
P4	2095835.62	6258436.05
P5	2095811.93	6258643.55
P6	2095774.42	6258664.24
P7	2095737.39	6258716.08
P8	2095714.57	6258793.54
P9	2095737.52	6258821.56
P10	2095757.05	6258800.18
P11	2096168.82	6259283.92
P12	2096084.69	6259372.56
P13	2096056.49	6259362.93
P14	2095933.98	6259466.95
P15	2095675.82	6259218.25
P16	2095545.38	6258882.12
P17	2095324.98	6258514.33
P18	2095385.55	6258432.83
P19	2095544.38	6258551.48
P20	2095626.53	6258532.66
P21	2095602.80	6258514.16

Project Design Team: KPFF, River Focus, Leighton, Dudek

Equestrian Trail – Connector to Main Trail System

CCC Lays out Trail with Landowner and Trails Group

Agency Coordination and Project Development

San Diego County: CEQA lead established, County Planning and Development Services; worked with the Project Team to incorporate the alternative equestrian trail – CEQA.

California Department of Fish and Wildlife: funder through 65% design and review; then through final design; generate bid-ready documents; construction fall 2022. Funding awarded for construction phase; programmatic permit for 404 through FRGP.

Coastal Conservancy: funder through 65 and 90% design with permitting, implementation

National Marine Fisheries Service: NMFS Programmatic BiOp utilized for this project.

U.S. Fish and Wildlife Service: permitting for construction phase; consultation completed.

Regional Water Quality Control Board: 401 Permit for construction phase.

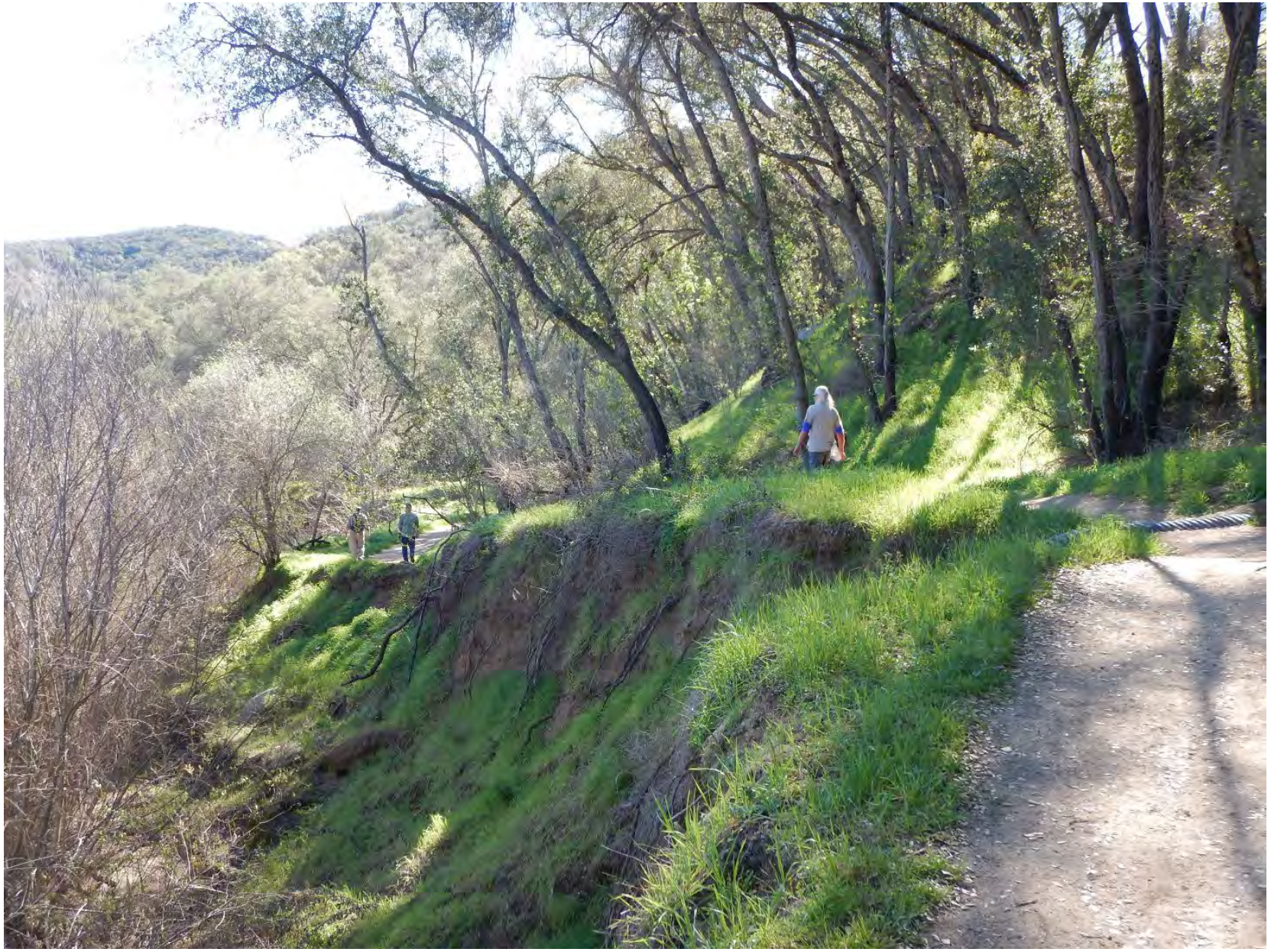
The Wildlands Conservancy: landowner and manager of the Santa Margarita Trail Preserve. Opportunities for public outreach/education, native plant nursery

Fallbrook Trails Council: lead recreational non-profit responsible for the development and maintenance of recreational infrastructure within the property since 1999. This group was consulted early during the alternatives analysis and design process for their important input into the bridge location and design.

Landowner for Preserve – The Wildlands Conservancy

https://wildlandsconservancy.org/preserves/santamargaritarivertrail/updates/return-off-steelhead-trout

Santa Margarita Trail Preserve – Recreation Benefits



Engagement of Pechanga Tribal Nation – Cultural History

Join a virtual walking tour of the Santa Margarita River preserve trail, located in Fallbrook, CA, led by Pechanga Band of Luiseño Indians Representative, Myra Masiel-Zamora, and CalTrout's San Diego Project Manager, Elise Ruiz.

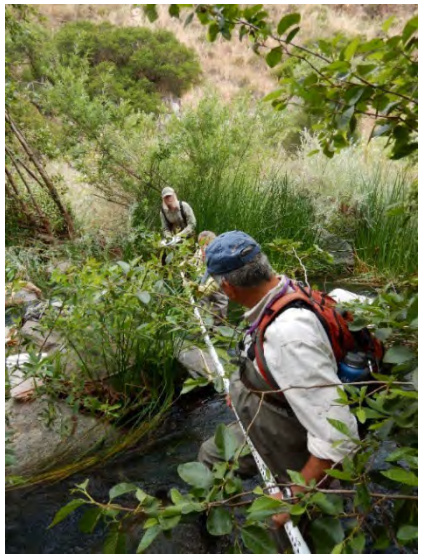
https://youtu.be/2qPMplefJMM

Steelhead Habitat Improvement: Invasive Aquatic Species Removal

Non-native fish removed over 5-day intensive effort with ACE crew and FWS (funder), CalTrout and Volunteers for habitat improvement

Santa Margarita River – Ecological Reserve

Steelhead Habitat Enhancement – Bioassessment Studies



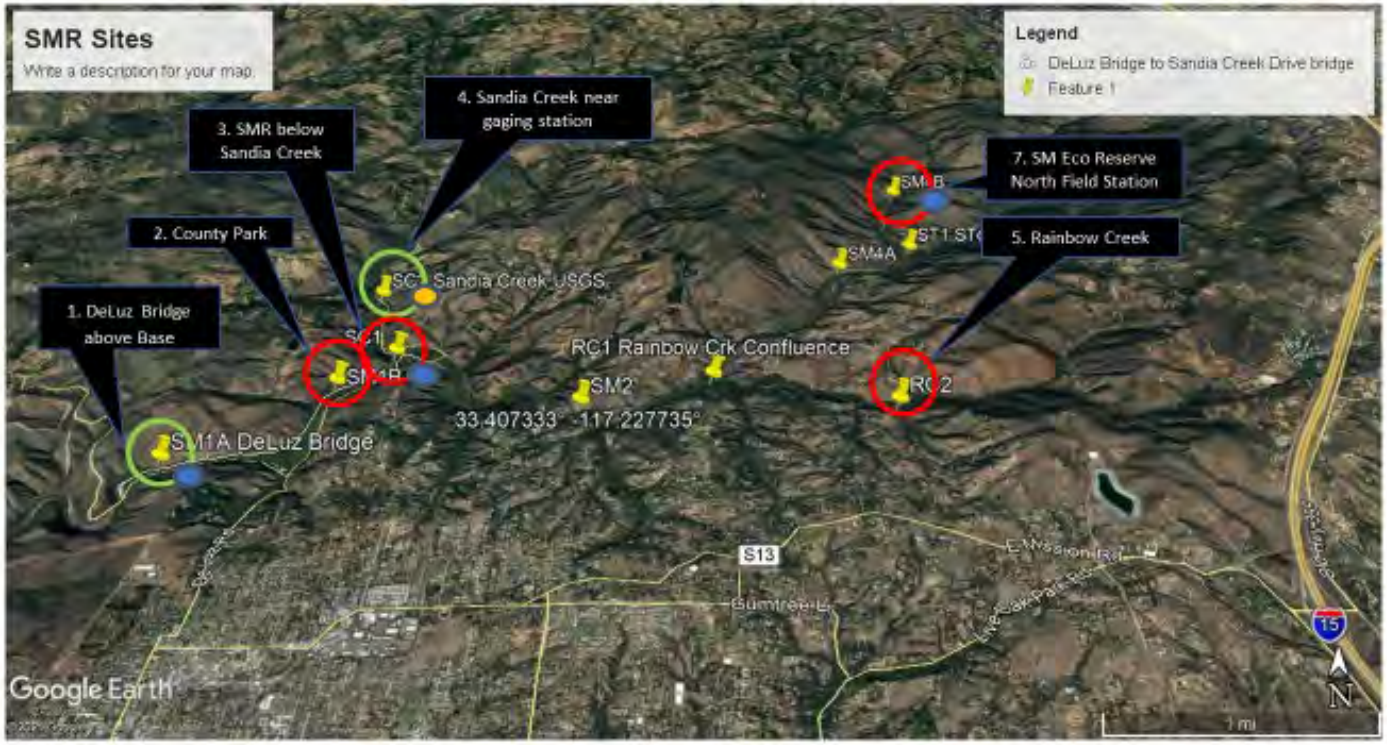
Bioassessment in Santa Margarita Ecological Reserve

Funding by SC Wetlands Recovery Project, Earth Island Institute and U.S. FWS.

Collaborative Monitoring and Reporting

eDNA Monitoring Sites July 2021 (CalTrout, CDFW)

SMR mainstem & tributaries upstream of Camp Pendleton



O. Mykiss trout detected

O. Mykiss trout Not detected

Arroyo chub (native) detected

Bass (non-native) detected

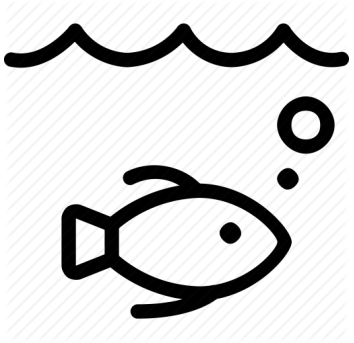
Pre-project by CDFW/PSMFC, augmented by long-term monitoring by:

- Camp Pendleton
- The Wildlands Conservancy
- Western Riverside County Regional Conservation Authority
- CalTrout

Project Success – Benefits for Fish, Water, People

Flood protection benefits

Stream structure/function benefit



Fish and wildlife benefits

Recreation Benefits

THE WILDLANDS CONSERVANCY

CALIFORNIA TROUT
FISH · WATER · PEOPLE

sjacobson@caltrout.org
858.414.1518 m

WALNUT CREEK WATERSHED COUNCIL

Community-Involved Creek Restoration in the Walnut Creek Watershed

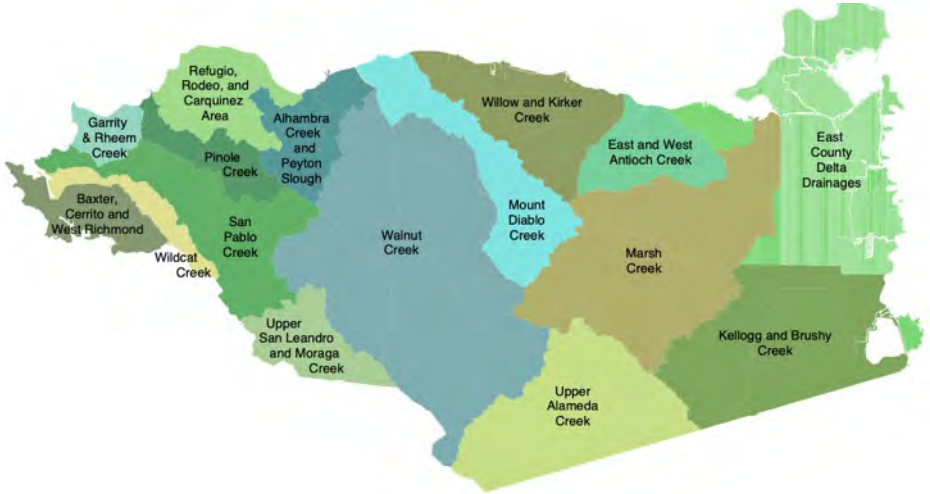
April 22, 2022
Salmonid Restoration Conference
Santa Cruz, CA

Presentation Overview

- Walnut Creek Watershed
- About the Walnut Creek Watershed Council (WCWC)
- Salmonids in Our Watershed
- Community-Involved Restoration Activities
- Opportunities and Challenges for Salmonid Restoration
- Q&A

Walnut Creek Watershed

- Largest watershed in Contra Costa County
- 146 square miles.
- 309 miles of creek channels
- Includes cities, protected natural lands, grazed lands, suburbs and urban creeks
- Flows into Suisun Bay



Credit: Contra Costa County Watershed Atlas

Credit: Wikimedia Commons/David Benbennick

Connected to the Delta & San Francisco Bay

Contra Costa County Watershed Atlas

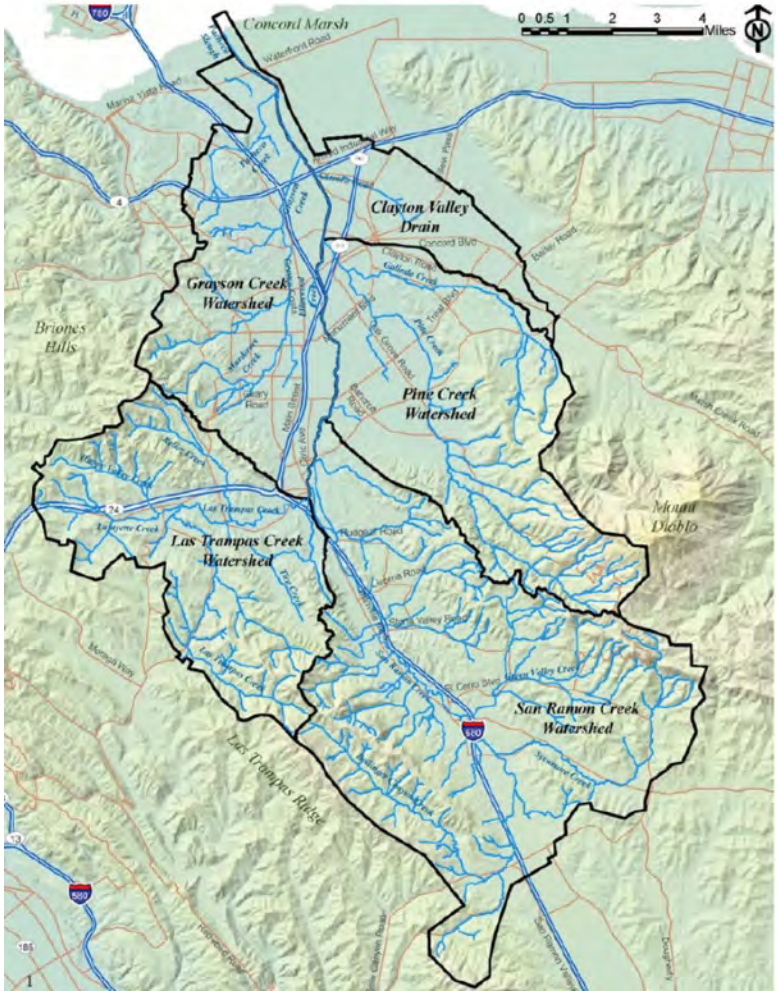
Walnut Creek Watershed

Main Stem & 5 Subwatersheds

1. Concord Area Watershed / Clayton Valley Drain
2. Grayson Creek Watershed
3. Las Trampas Creek Watershed
4. Pine Creek Watershed
5. San Ramon Creek Watershed

Channel Conditions Vary

- Natural
- Earth (constructed)
- Concrete
- Riprap
- Underground



About the Walnut Creek Watershed Council (WCWC)

Mission: To restore, preserve and protect the creeks in the Walnut Creek Watershed as a natural and community resource.

The Council is a nonprofit public benefit corporation organized under the nonprofit Corporation Law of the State of California.

Working With Many Stakeholders to Protect and Restore Our Watershed

Contra Costa County Flood Control & Water Conservation District

California Department of Fish & Wildlife

Contra Costa Resource Conservation District

the watershed project

Downtown Creeks Plan – Lafayette, CA

Friends of the Creeks

Friends of San Ramon Creek

Friends of Pleasant Hill Creeks

City of Walnut Creek

Mount Diablo Audubon Society

earth club

California Urban Streams Partnership

California Water Boards – San Francisco Bay - R2

Boy Scouts of America

The Restoration Trust – restoration·education·understanding

National Charity League, Inc.®

Republic Services

Salmonids in Our Watershed

- Historically and recently, adult anadromous salmonids, including Chinook salmon and steelhead, have been observed in Walnut Creek (main stem) and Grayson Creek.
- Fish passage assessment conducted in 2014* identified low flow barriers, which adult fish can overcome in high flows.
- On Walnut Creek, flood control drop structure is currently an insurmountable barrier. We are actively seeking solutions.

* Hanson, Charles H., *Fish Passage Assessment – Lower Walnut Creek and Lower Grayson Creek, Contra Costa County* (Walnut Creek: Hanson Environmental, Inc., September 2014).

Oct. 2021: Multiple adult Chinook salmon were observed in both Grayson and Walnut Creeks.

Salmonids

Adult Chinook Salmon in Grayson Creek (Oct. 2021)
(Photo by Alan Bade)

Salmonids

Adult Chinook Salmon in Walnut Creek

Salmonids

Adult Chinook Salmon in Walnut Creek (Oct. 2021)
Unable to Pass Drop Structure #1
(Photo by Patrick Graney)

Community-Involved Restoration Activities

WCWC and community creek groups have engaged community volunteers and private and public land owners in multiple restoration activities. The following slides highlight projects by two of the four creeks groups: Friends of San Ramon Creek and Friends of Pleasant Hill Creeks.

- **invasive species removal with a focus on *Arundo donax*,**
- **trash cleanups and assessments,**
- **water quality monitoring,**
- **wildlife surveys, and**
- **riparian restoration in an urban creek context.**

We are currently initiating a multi-stakeholder watershed restoration planning process. One of our key priorities is removing barriers to fish passage and improving salmonid habitat.

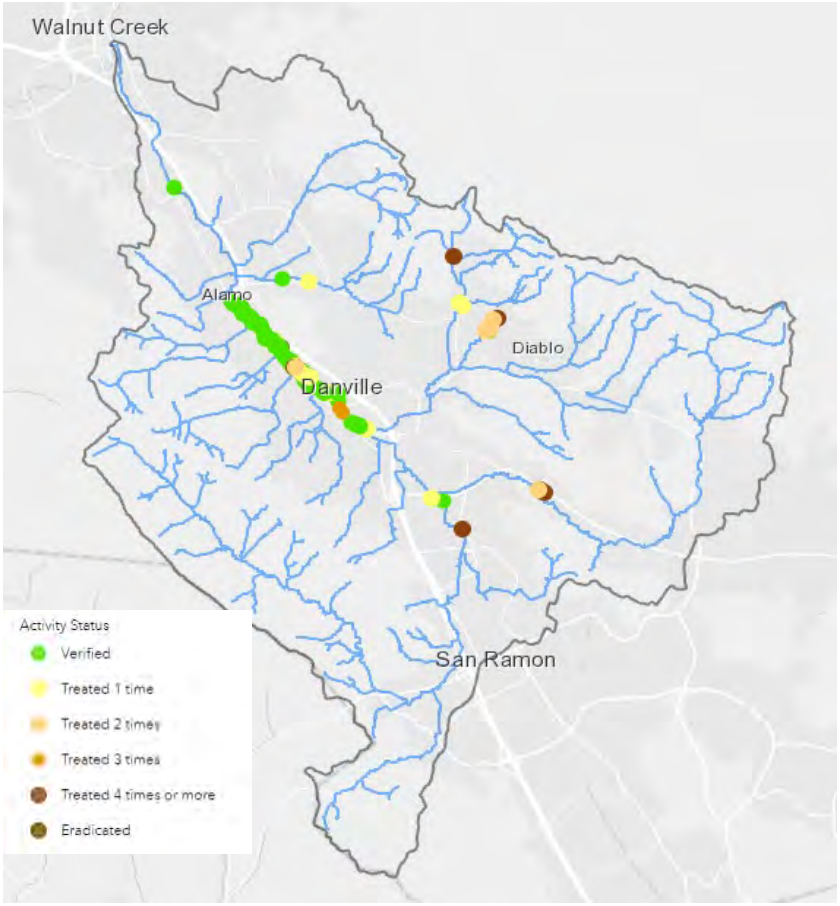

Friends of
San Ramon Creek
Community Led Arundo Removal

Arundo (*Arundo donax*), an invasive plant, is a threat to the watershed.

- Looks like bamboo
- Can grow four inches a day
- Up to thirty feet tall.
- Consumes prodigious amounts of water, usually along streams
- Displaces/kills native plants
- Provides little food or habitat
- Is a fire hazard

Arundo infestations clog streams, interfering with fish passage. In addition, Arundo is a voracious water consumer, making it a threat to streams that have barely enough water to support fish.

Arundo in San Ramon Creek Subwatershed



Significant Arundo Infestation

- 147 patches of Arundo mapped
- 141,000 sq. ft.
- Mostly
  - In main channel between Danville and Alamo
  - On steep slopes
  - On private property
- Significant progress removing upstream patches

Overall Walnut Creek Watershed

- 394 patches of Arundo have been mapped

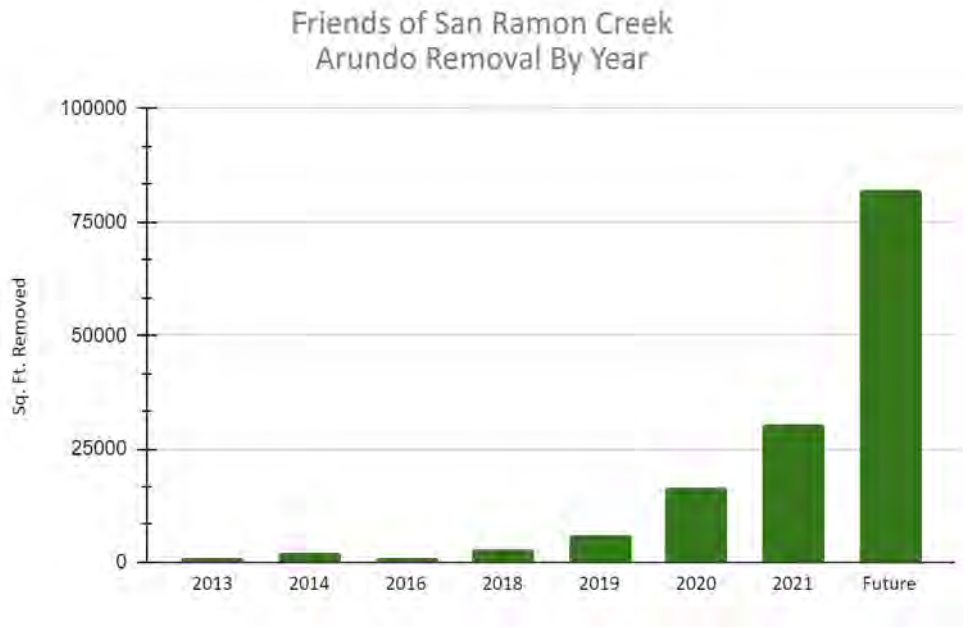
Friends of San Ramon Creek
Arundo Removal History

All volunteer group

- Started removing Arundo in 2013
- Removed over 12,000 sq. ft. in six years
- Progress, but not enough to get the job done

FSRC increased effort and focus in 2020

- Removed 47,000 sf from 35 patches last 2 years
- On track to eradicate from sub-watershed in 5 years



Before and After Volunteer Arundo Removal

The area on the right looked just like the area on the left a few weeks ago

How Community Volunteers Are Doing It

Using GIS to find and track Arundo	• Track infestation locations, owners, treatment progress • https://www.wcwatershed.org/arundo-map.html
Build and refine the removal process	• Practice on small sites with very interested landowners • Make the process efficient (e.g. ramp and straps for hauling)
Find landowners willing to remove Arundo	• Volunteer Community Outreach Coordinator willing to “knock on doors” • Build landowner awareness of Arundo’s issues with articles in social media, local papers, direct mail and personal contact • Negotiate Memorandum of Understanding with owners to identify roles and responsibilities
Recruit a volunteer team	• Chief Arundo Killer • Weekly Friday morning Arundo removal workdays with 5-10 volunteers • Occasionally use large community group (e.g., church, scouts) • In 2021 volunteers provided over 800 hours of labor • Recruit volunteers by networking and advertising
Accelerate the removal with funding and contractors	• Apply for grants and ask for in-kind donations of dumpsters • Use contractors when funding is available • Offer “we pay half” incentive when funding is available

What's Next

- Volunteers continue work to remove remaining 87,000 sf starting with upstream patches
  - Start earlier, use larger teams, possibly have two work days each week
- Continue outreach and work to get more Memoranda of Understanding in place
- Acquire more grant funding to hire contractors

Contact

- Mike Anciaux, Chief Arundo Killer, Friends of San Ramon Creek
  mike.anciaux@gmail.com
- Dick Heron, Co-Chair, Friends of San Ramon Creek
  herondick@comcast.net

Friends of
San Ramon Creek

Friends of Pleasant Hill Creeks

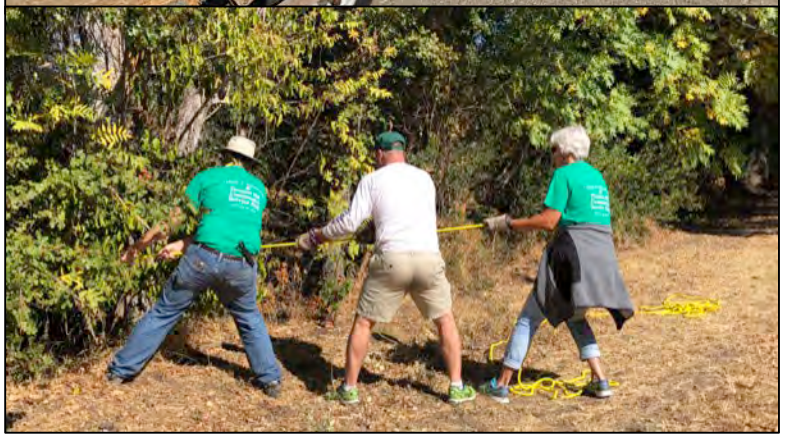
RESTORATION ACTIVITIES 2017-2022

Friends of Pleasant Hill Creeks Mission: Protect, Restore and Enjoy our Creeks

- All-volunteer nonprofit 501(c)(3) project of Social & Environmental Entrepreneurs (SEE).
- Based in Pleasant Hill.
- Active since 2017.
- Engaging community members and organizations to **value** our creeks and watershed as important assets for our community and to **take action** to protect and restore them.

Creek Clean Ups & Water Quality Monitoring

- **5000+** items of trash removed & catalogued
- **100+** volunteers
- **10** participating agencies and organizations
- **Water quality data** collected by volunteers and interns and published by Watershed Project

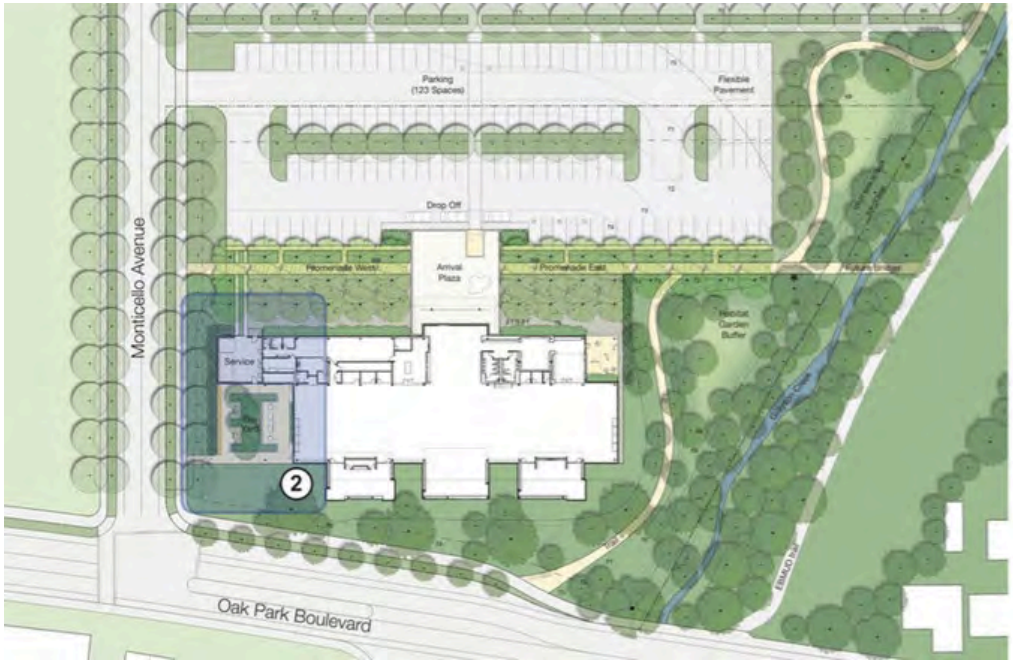


Grayson Creek Bird Survey

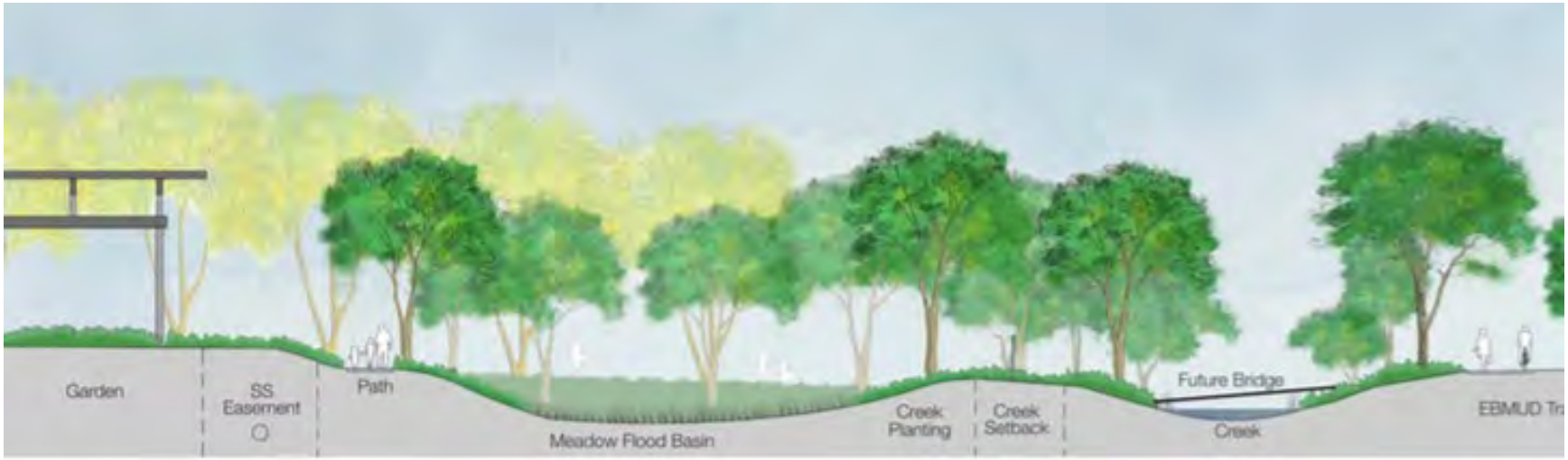
- **Who:** Volunteers from Mt. Diablo Audubon Society and Friends of Pleasant Hill Creeks
- **What:** Monthly field survey of birds
- **Where:** Two sections of Grayson Creek riparian corridor in Pleasant Hill
- **When:** November 2017 – present
- **Why:** Document avian diversity in our local creek ecosystem
- **Results:** More than 100 species documented and published on eBird

Creek-Oriented Planning

- Providing input into plans and CEQA documents for **new library and park on 10 acres adjacent to Grayson Creek**
- Plans include:
  - Green corridor
  - New creekside trail
  - New habitat garden
  - Expansion of native riparian plantings
  - Integration into library programming
  - Creek views
  - Meadow flood basin



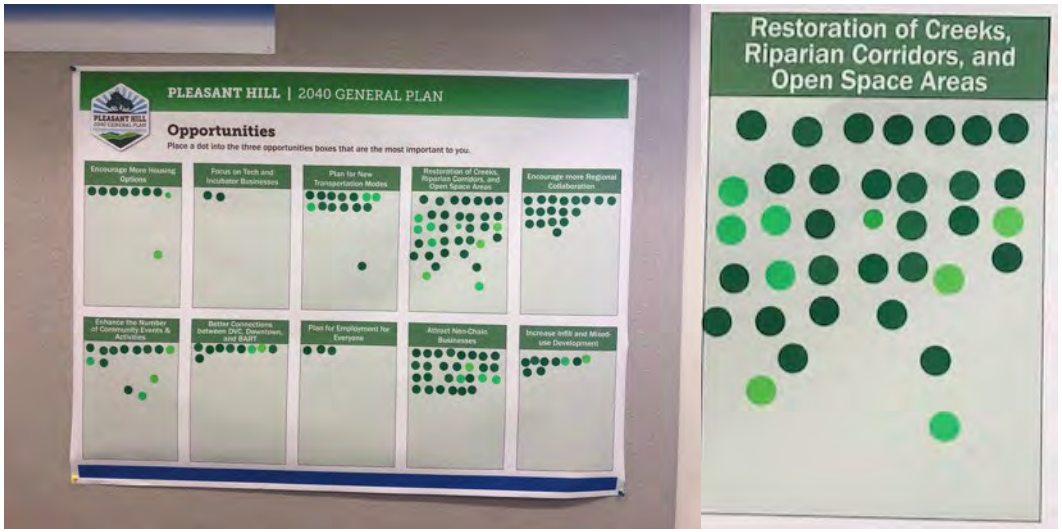
Creekside Restoration



New Creekside Trail, Flood Basin, & Habitat Garden Under Construction

Pleasant Hill General Plan 2040

- Attending community workshops and hearings
- Submitting comment letters
- Advocating for creek protection zones, including wider setbacks to allow for restoration of the riparian corridor



WCWC Begins Watershed Restoration Planning Process

In 2022, WCWC began a **watershed restoration planning process**. Our goal is a plan that reflects the vision of community stakeholders and meets state and local requirements for watershed plans. Restoration of wildlife habitat, including **salmonid habitat**, is a priority.

Opportunities & Challenges for Salmonid Restoration

Opportunities:

- Watershed plans – now required by state water boards – can engage government and community stakeholders in a process to identify restoration opportunities for salmonids.
- Major restoration project at Lower Walnut Creek almost complete (3.2 miles).
- Motivated communities who care about wildlife habitat, including fish.
- Growing group of partners.
- No dams.
- Funding.

Challenges:

- Barriers to fish passage, particularly drop structures.
- Pollution / water quality / temperature conditions should be improved.
- Invasive species.
- Poaching.
- Need to balance regulatory and stakeholder interests in urban areas, including flood protection.
- Funding.

Thank You

Bob Simmons

President, WCWC

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Heather Rosmarin

Co-Founder, Friends of Pleasant Hill Creeks

www.pleasanthillcreeks.org

pleasanthillcreeks@gmail.com

Planting A Dream: A Community Designed Urban Park Connects People and Nature

Chelsea Neill, PG, Balance Hydrologics
Rachel Saunders, Big Sur Land Trust
Beth Febus, Big Sur Land Trust

BIG SUR LAND TRUST

Balance Hydrologics

22 April 2022

Presentation Outline

01 Project Background

02 Community Engagement

03 Restoration Design

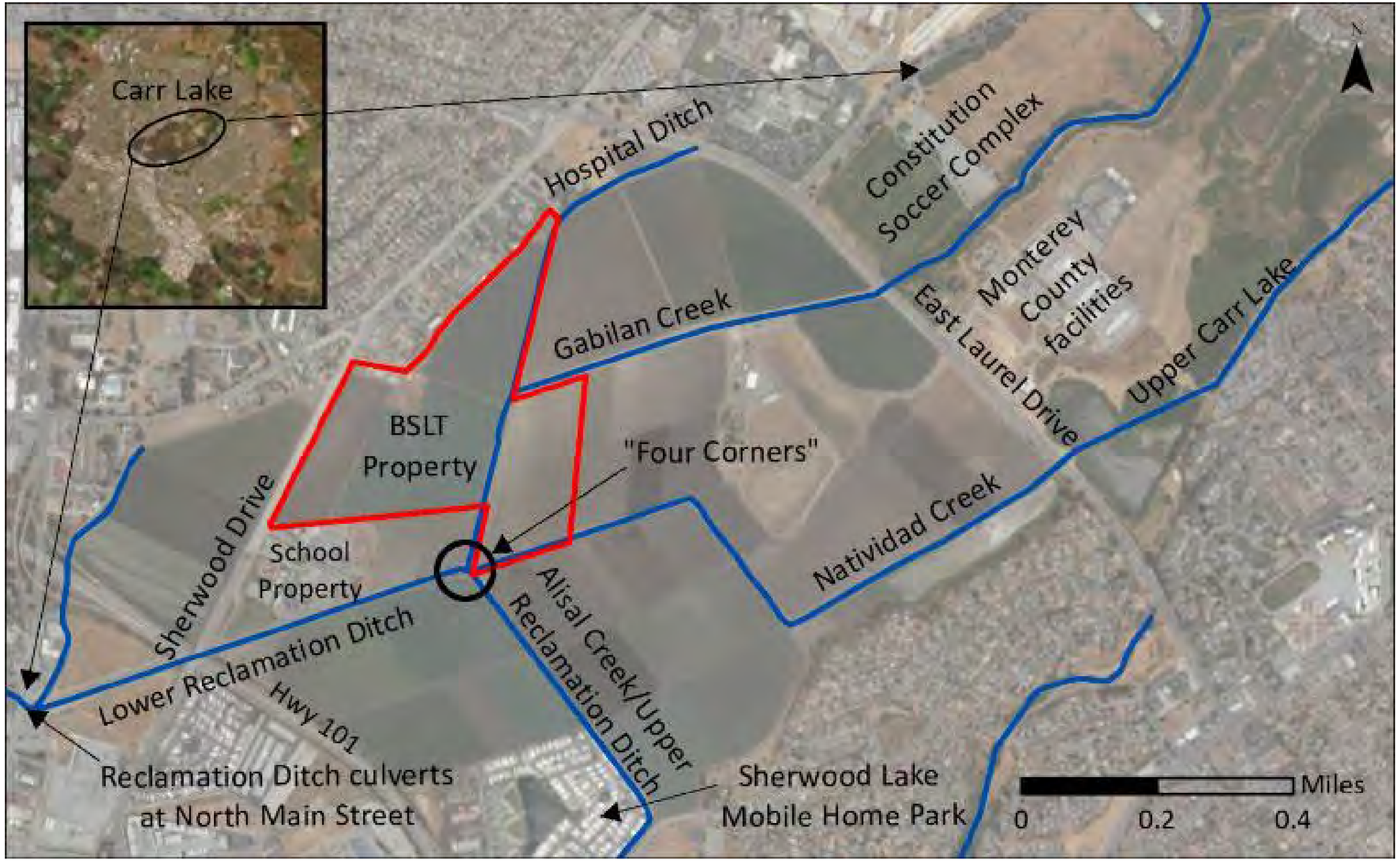
04 Questions

01

Project Background

Carr Lake History

- 480-acre historic lakebed
- One of 7 lakes in the Salinas Valley
- Early 1900s chain of Lakes were drained for agriculture
- Located in the center of Salinas- the city grew up around the historic lake
- Provides flood storage capacity



Carr Lake Park Project

- **In January 2017 BSLT acquired 73 acres of lakebed**
- **Goal: Work with community to design a multi-benefit park**

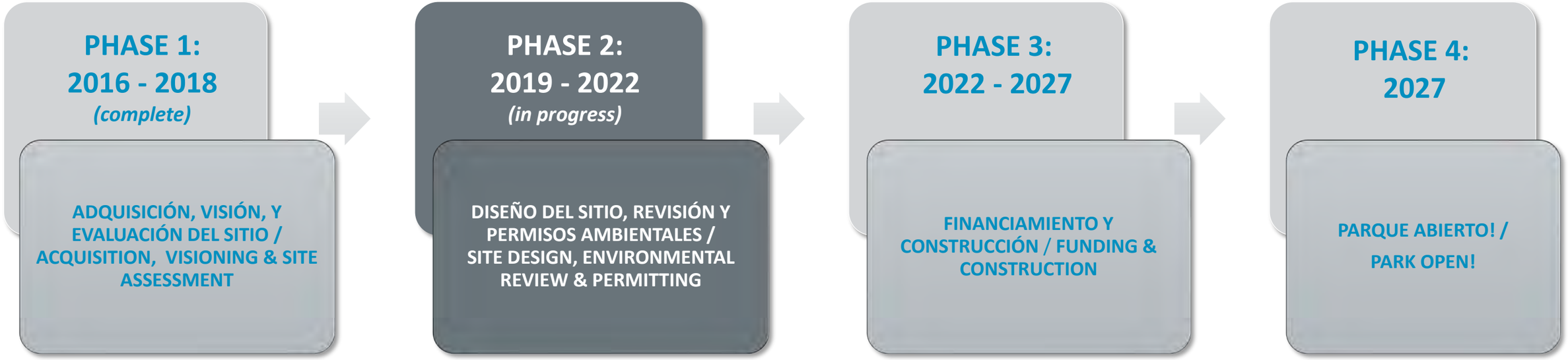
Carr Lake Park Project: Central Park

- Carr Lake can serve as a “central park”
  - 6-acre neighborhood park
  - 67-acre open space habitat area
  - 2,200 sq. ft community-serving building

Carr Lake Park Project: Central Park

- 6-acre neighborhood park
- 2,200 sq. ft community-serving building

Project Timeline and Process



- **Phase 2: Diseño del Sitio y Permisos**
  - Evaluaciones científicas/técnicas y monitoreo de línea de base
  - Preparar permisos y documentos de revisión ambiental
  - Finalizar el diseño y el plan del sitio, incluyendo las aprobaciones de la Ciudad y otras agencias
  - Participación continua de la comunidad, que incluyen visitas a la propiedad, días de plantación, y reuniones comunitarias y de partes interesadas

- **Phase 2: Site Design and Permitting**
  - Scientific/technical assessments and baseline monitoring
  - Prepare permits and environmental review documents
  - Finalize design and site plan, including City and other agency approvals
  - On-going community engagement and outreach including site tours, planting days and community and stakeholder meetings

02

Community Engagement

Carr Lake Partners

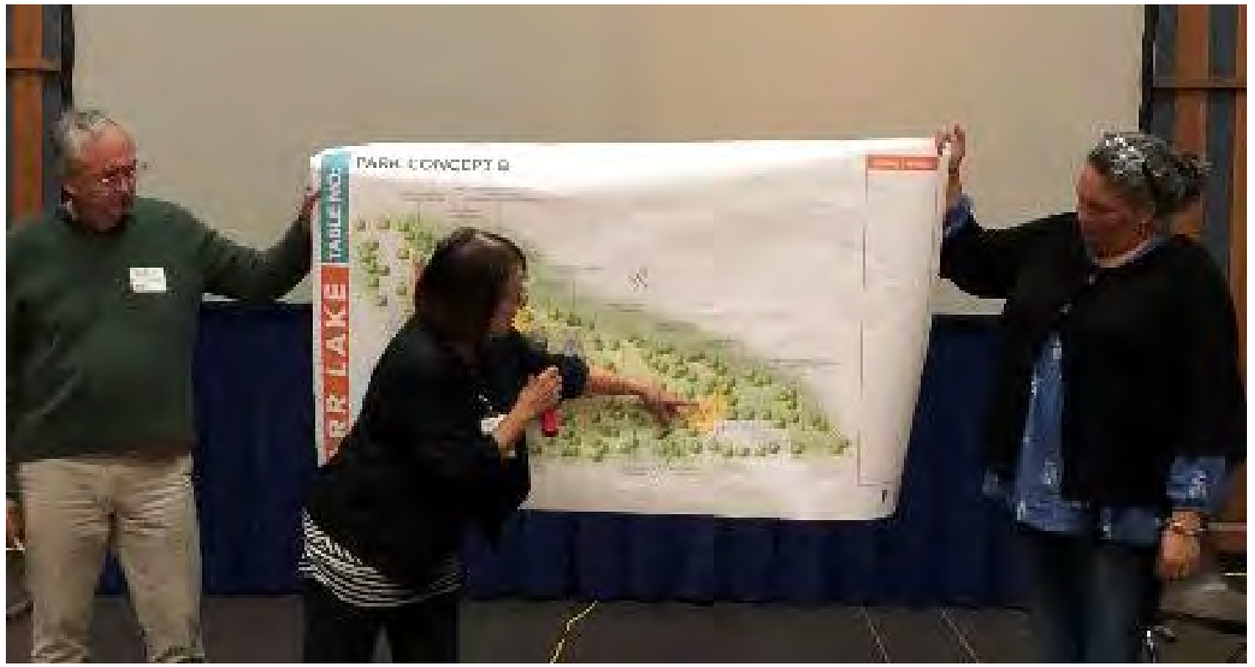
- Big Sur Land Trust
- Center for Community Advocacy
- Return of the Natives/CSUMB
- Building Healthy Communities
- Alisal Center for the Fine Arts
- Alisal Community Arts Network
- Baktun 12
- CHISPA
- City of Salinas
- MILPA
- Epicenter
- Local Urban Gardeners
- Urban Arts Collaborative
- Monterey County Dept. of Health
- Action Council of Monterey County

Community Involvement

- BSLT facilitated a series of design planning meetings, site tours, surveys and events to allow for community contribution
- 100s of residents and over a dozen Salinas-based organizations have participated
- BSLT regularly hosts planting days in their ¼ acre native plant garden on-site

Community Design Accomplishments

- Created a wish list and priorities for the Park
- Participated in planning the site
- Provided continual input on the details and the vision

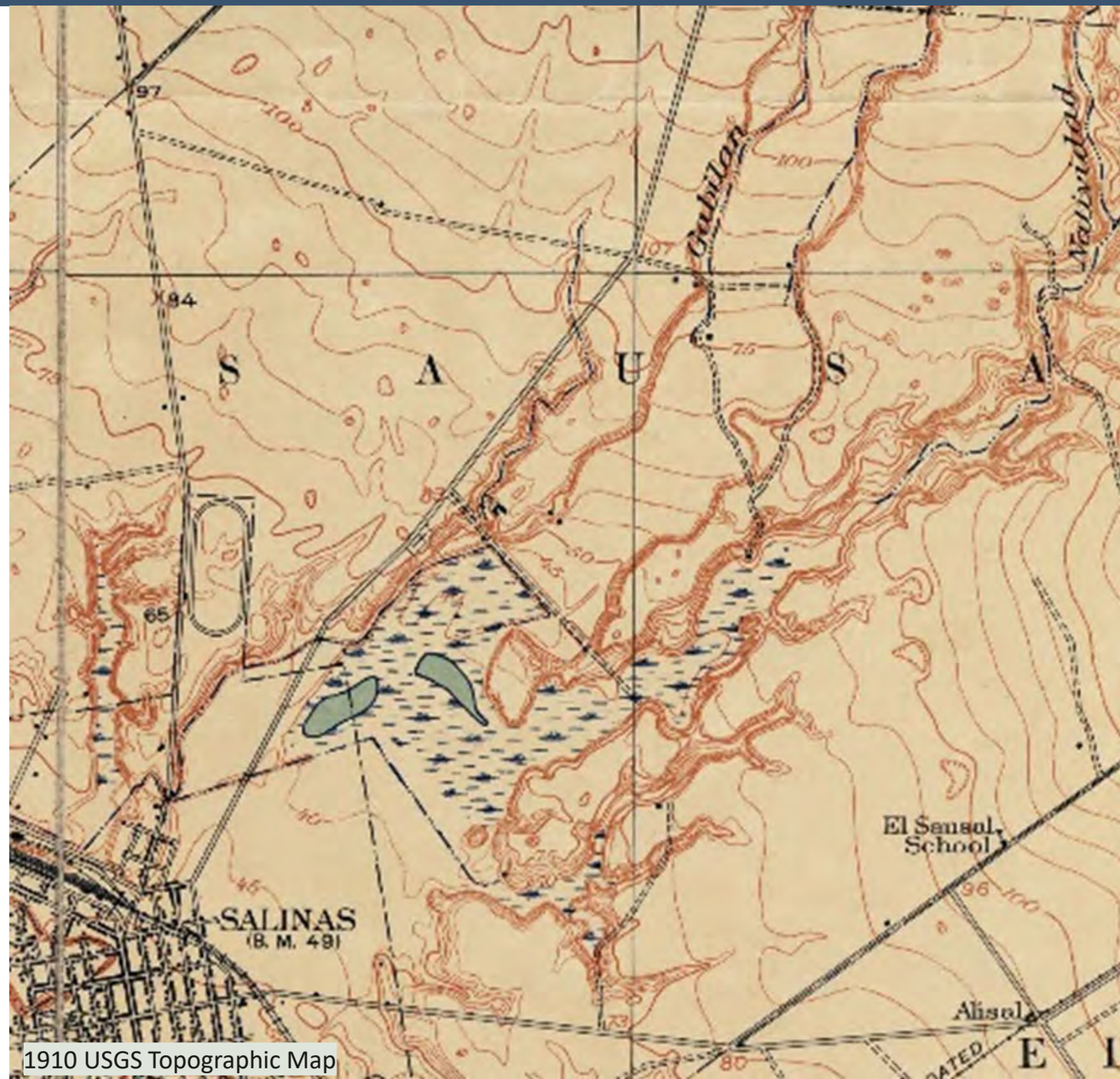


03

Restoration Design

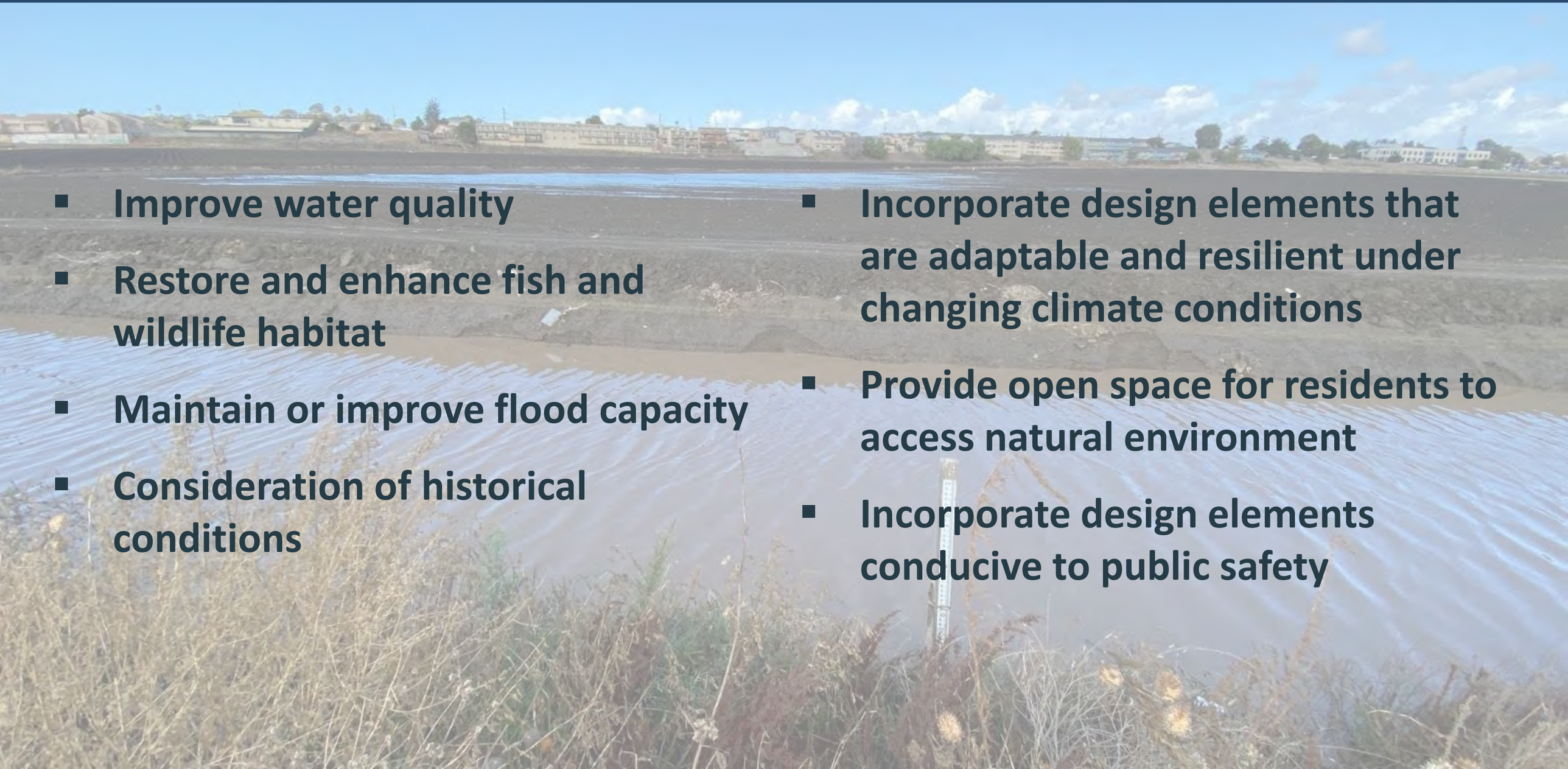
Historical Conditions

- Wetland and freshwater marsh
- Dispersed flow (no single channel)
- Seasonal extents of open water vary with rainfall patterns



1910 USGS Topographic Map

Restoration Goals



- **Improve water quality**
- **Restore and enhance fish and wildlife habitat**
- **Maintain or improve flood capacity**
- **Consideration of historical conditions**
- **Incorporate design elements that are adaptable and resilient under changing climate conditions**
- **Provide open space for residents to access natural environment**
- **Incorporate design elements conducive to public safety**

Restoration Opportunities

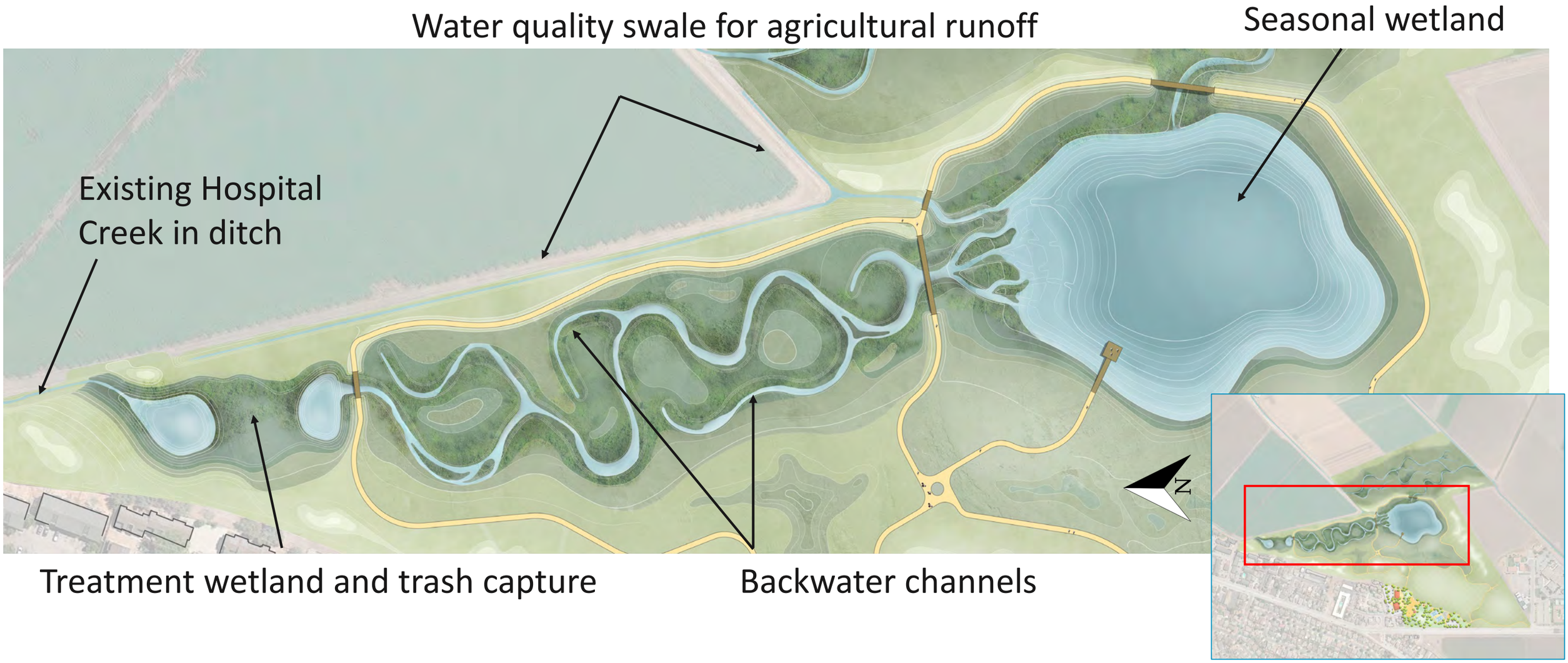
- **Open space- 73 acres**
- **High ground- 6.5 acres out of floodway**
- **Multiple waterways**
- **Cooperation with adjacent landowners**
- **Public education and access**
- **Public engagement**
- **Improve water quality**
- **Improve habitat**
- **Climate change benefits**

Restoration Constraints

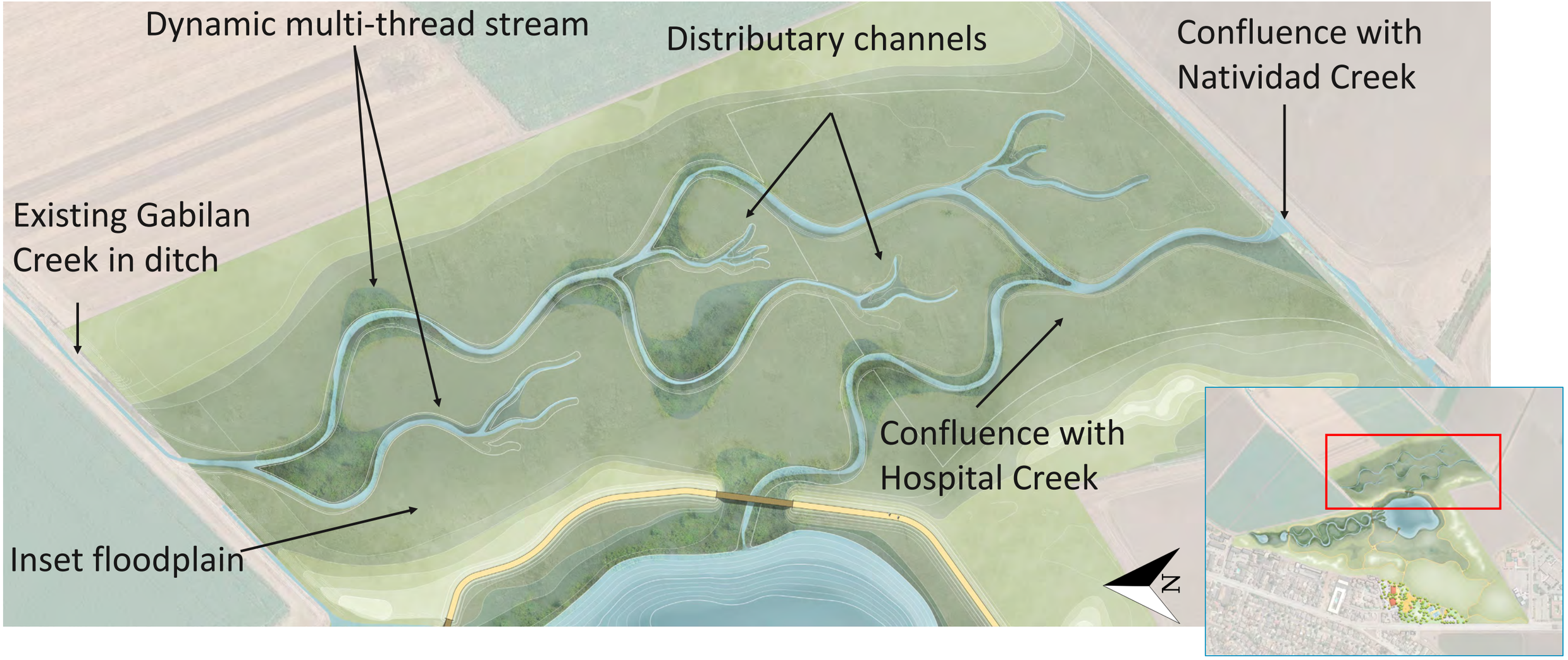
- **Hydrology**
- **Geomorphology**
- **Soils and infiltration**
- **Fish Passage**
- **Property ownership**
- **Public safety**
- **Earthwork balance**
- **Site maintenance**

Restoration Plan

Hospital Creek



Gabilan Creek



Thank you!

Our Partners:
Big Sur Land Trust
BFS Landscape Architects

Balance Hydrologics

224 Walnut Avenue, Suite E, Santa Cruz, CA 95060
800 Bancroft Way, Suite 101, Berkeley, CA 94710
12020 Donner Pass Rd, Truckee, CA 96161

04

Questions

Meet up @ Coastal Cleanup Day, Sept 21, 2021

Engaging Community to Protect the Pinole Creek Watershed:

Assessment of trash impacts to promote a thriving ecosystem

Ann Moriarty
Friends of Pinole Creek Watershed
Mary Moffitt
Pinole Creek Ally

AGU THRIVING EARTH EXCHANGE

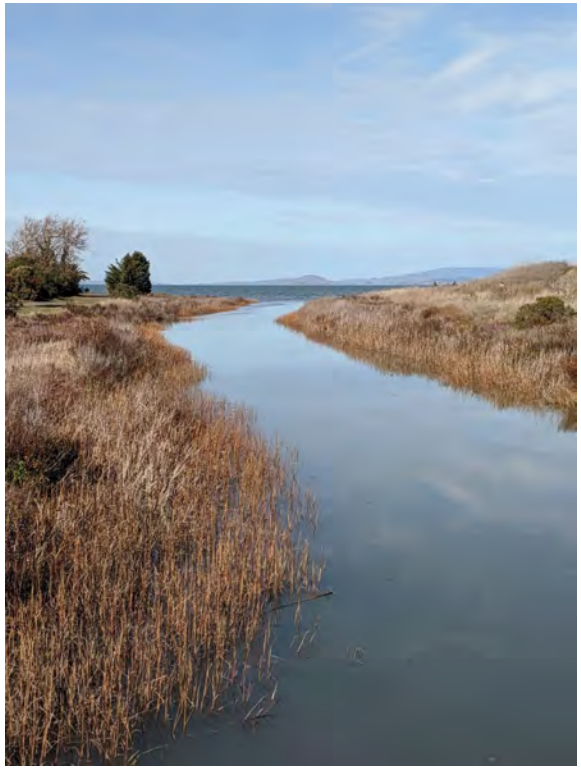
Salmonid Restoration Conference
22 April, 2022

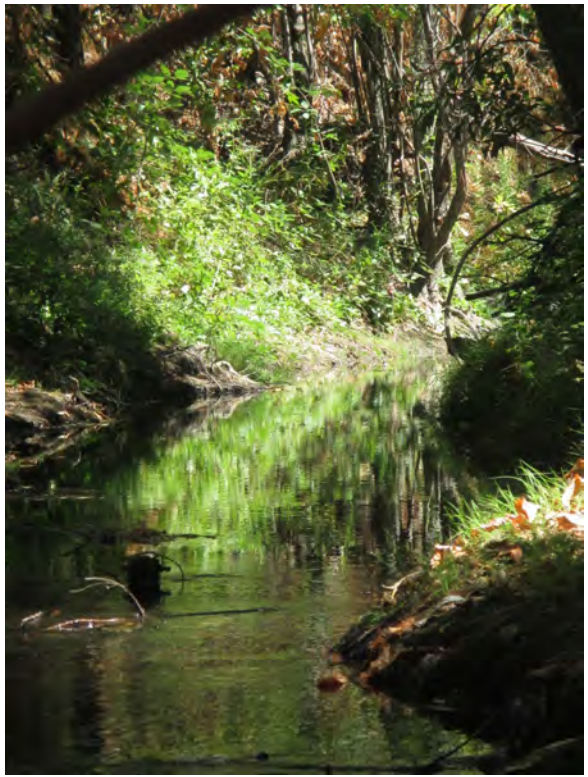
San Pablo Bay

Pinole Creek Watershed

Santa Cruz

What is Special about Pinole Creek?



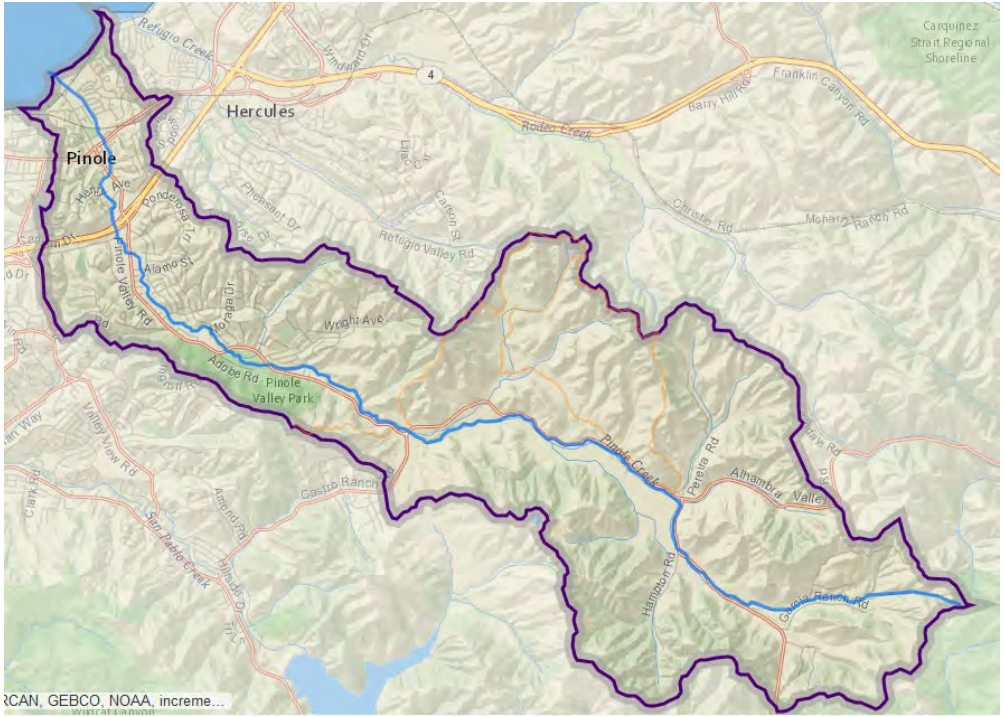


What is Special about Pinole Creek?

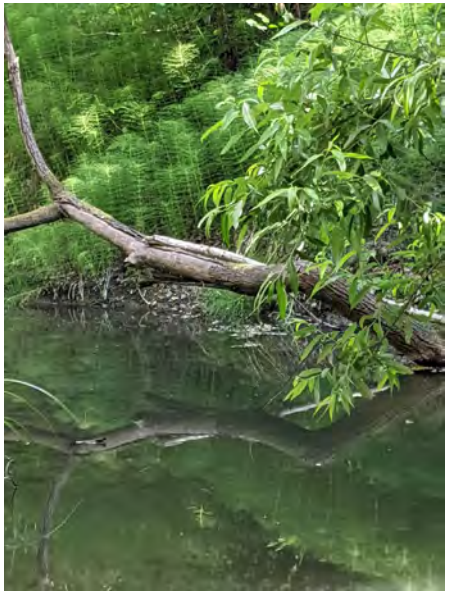
Steelhead Trout Fish

Passage completed 2016

What is Special about Pinole Creek?



Free-running creek from the Upper Watershed in Briones Regional Park to San Pablo Bay



What is Special about Pinole Creek?

Community Involvement:

Friends of Pinole Creek Watershed celebrates 20 years

What is Special about Pinole Creek?

Pinole Library Native Plant Garden

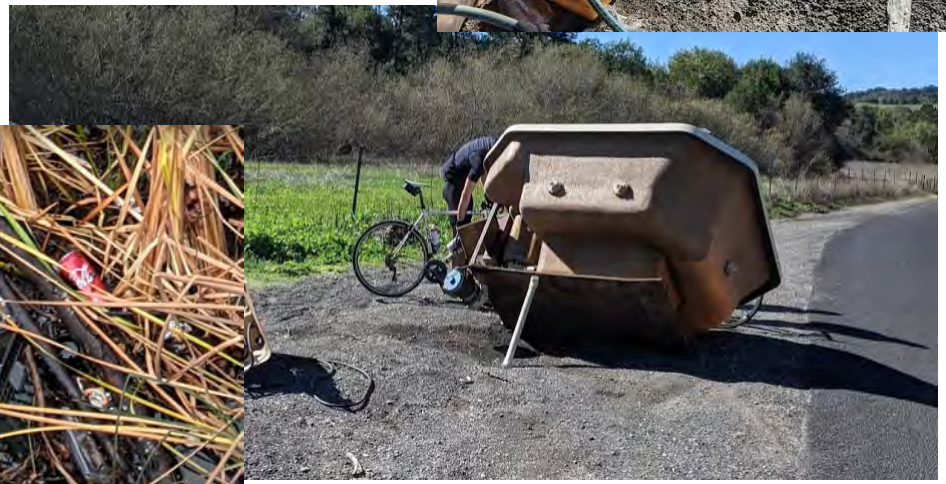
What is Special about Pinole Creek?

Demonstration Project restored tidal marsh and riparian vegetation along 1000 feet of lower Pinole Creek completed 2010

What’s the Problem?

Trash: Littering and Dumping

Pollute Pinole Creek



What is the Project?

A community science trash-assessment project that engages the community via multiple partnerships leading to policy and action to reduce trash & provide healthy habitat.

AGU THRIVING EARTH EXCHANGE

How did it start?

In 2019, a few folks gathered to discuss a science- & data-driven way to address trash.
We applied to **Thriving Earth Exchange** to fund a Science, Policy, & Engagement project.




THRIVING EARTH EXCHA

Thriving Earth Exchange strengthens and enhances collaboration among communities, scientists, and partner organizations so that all communities can build healthy, resilient, thriving, just, and ecologically responsible futures.

AGU
THRIVING EARTH EXCHANGE

Who are the Partners?

Friends of Pinole Creek Watershed

CC Resource Conservation District

Earth Team (Pinole Valley High)

City of Pinole

Ellerhorst Elementary School

EBMUD

Supported and Funded by: AGU THRIVING EARTH EXCHANGE

City of Pinole

CCRCD

Community

Ellerhorst 6th graders

FOPCW

Earth Team

How were Volunteers Recruited?

City of Pinole Dumpster Day

Coastal Cleanup Day

Pinole Library Exhibit

Presentation: Pinole Community Services group

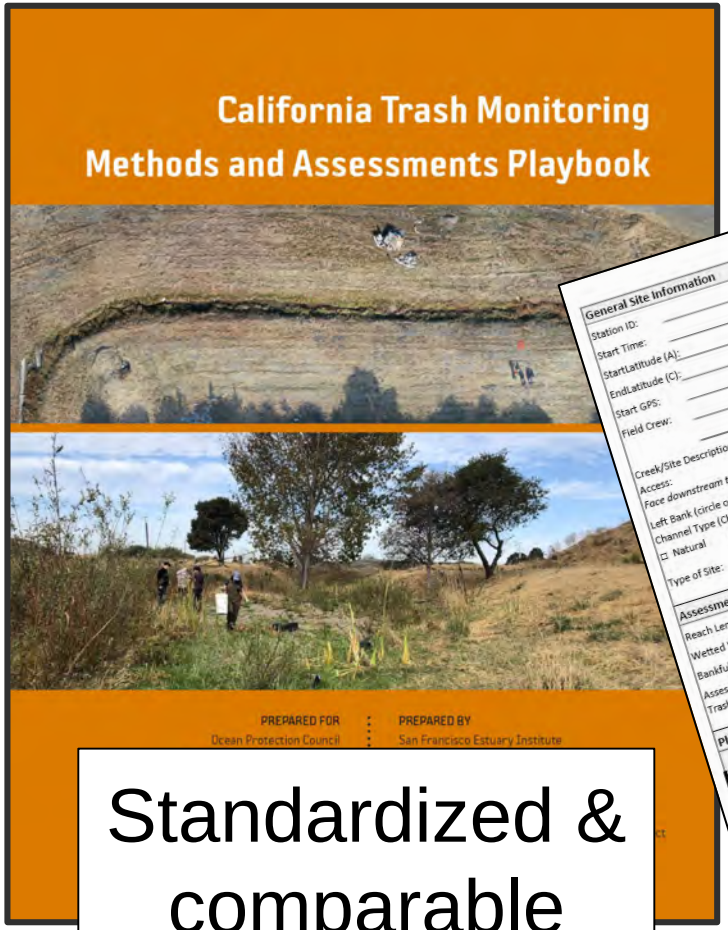
Presentations: Various Community groups

FOPCW listserv

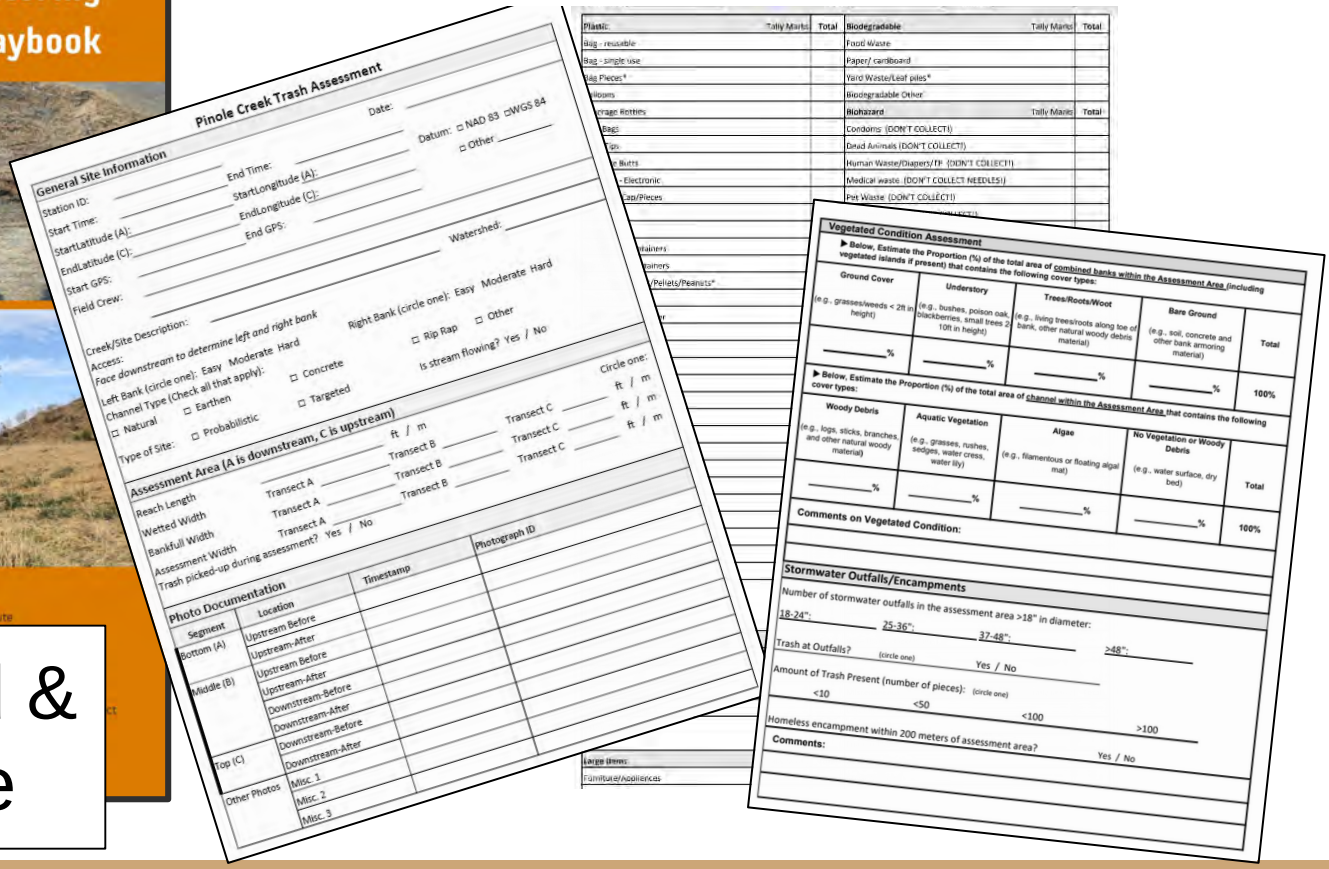
Social media - Instagram and Facebook

Collaboration with PVHS Earth Team and Ellerhorst

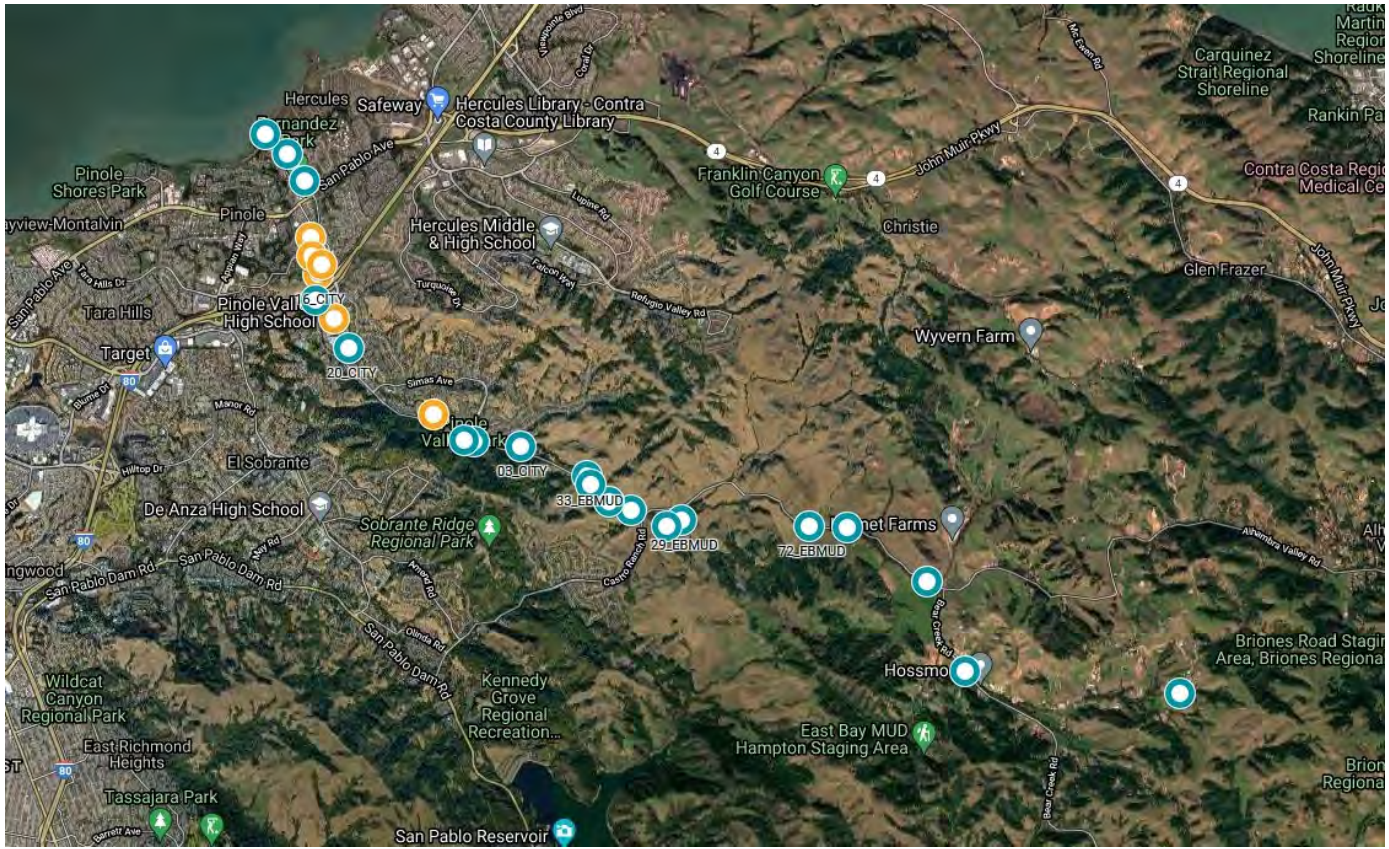
Scientific methodology



Standardized & comparable



Randomized site choice along main stem of creek



Expected Scientific Outcomes

How much trash is in the creek?

Policy implications:

1. Planning for removal.
2. Comparing the creek to other places, e.g. roads.
3. Future comparisons, is it increasing or decreasing.

Expected Scientific Outcomes

What types of trash are most common?

Policy implications:

1. Identifying interventions, e.g. cigarette disposal containers.
2. Engaging local producers.
3. Assessing future changes, e.g. more plastic or paper through time.

Expected Scientific Outcomes

Where is the trash coming from?

Policy implications:

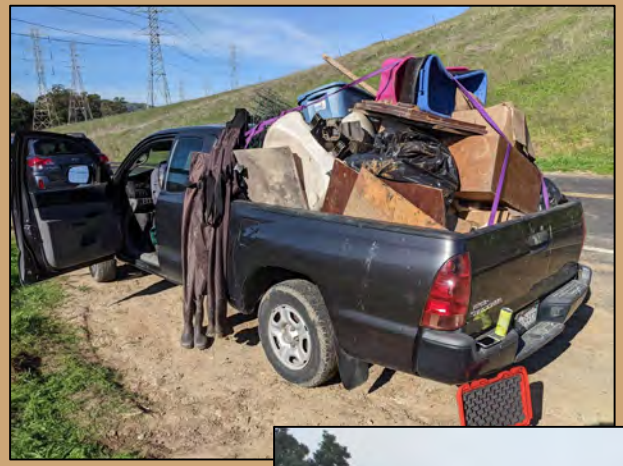
1. Identifying interventions, e.g. street sweeping routes.
2. Identifying opportunities for educating the public.
3. Assessing future changes in the major sources of litter.

What did we do?

Volunteer Team
> 200 volunteer hours

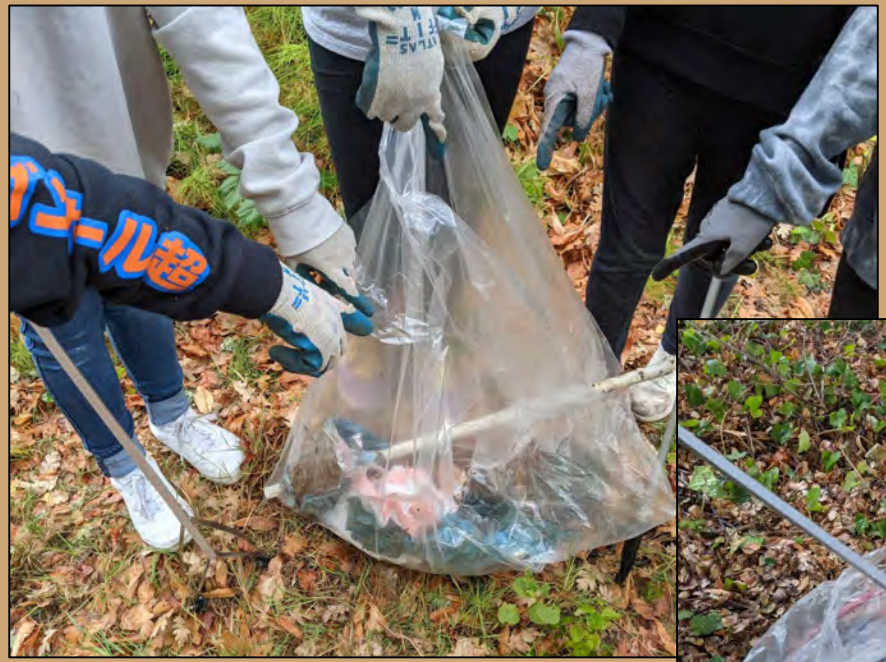
Volunteer Team

Volunteer Team



Addressing dumping sites

Earth Team
> 120 volunteer hours



Ellerhorst 6th grade team
> 60 volunteer hours

How did we address the unhoused population?

We encountered unhoused folks at two sites.

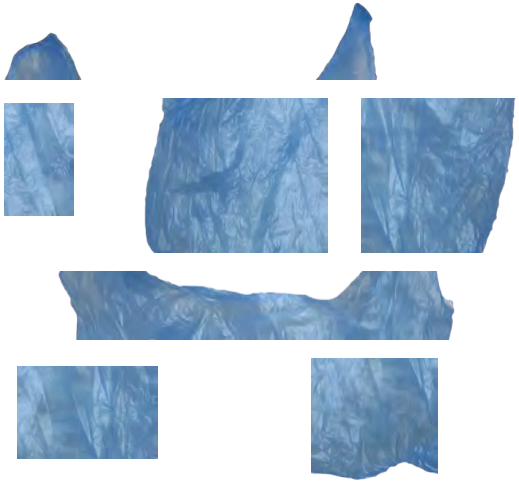
We explained what we were doing, interacted politely, invited to participate, & didn’t shame them.

What were the results?

How much trash is in Pinole Creek?

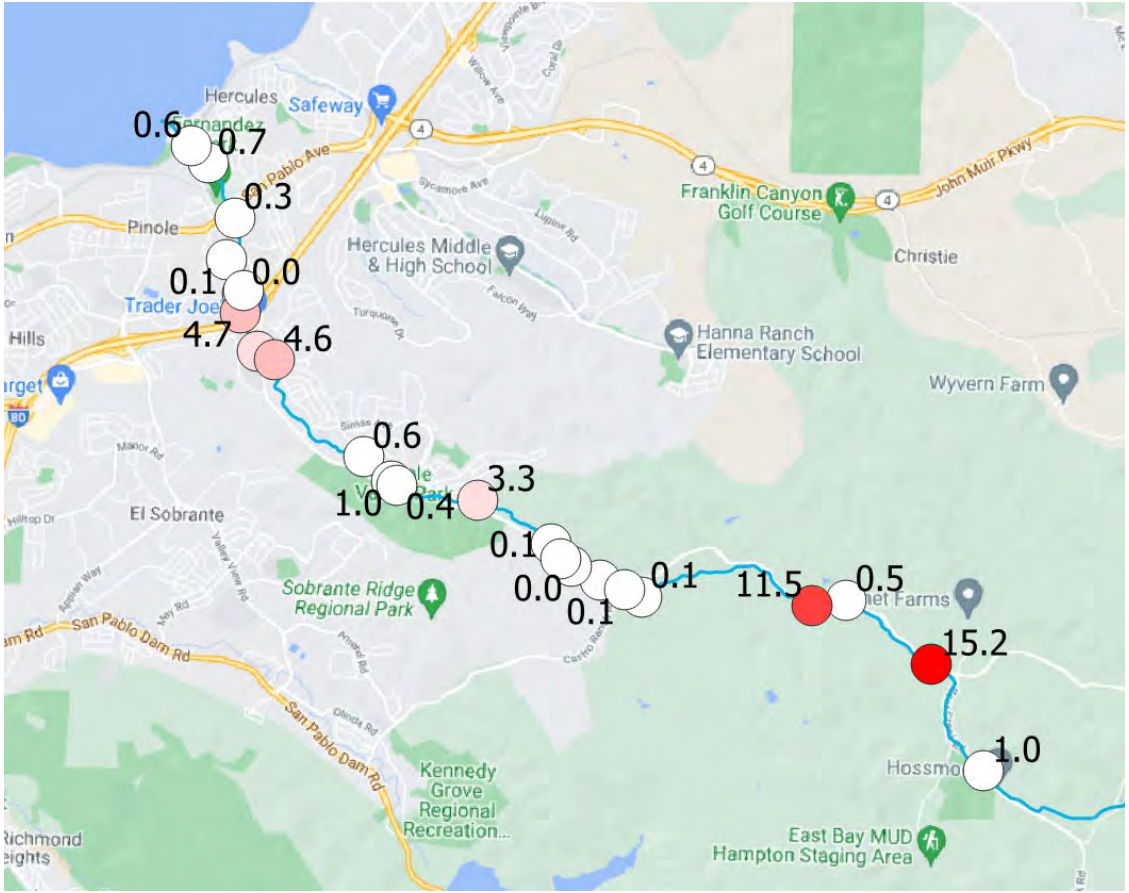
We measured both trash count and volume.

Volume generally conserved - long-term impacts



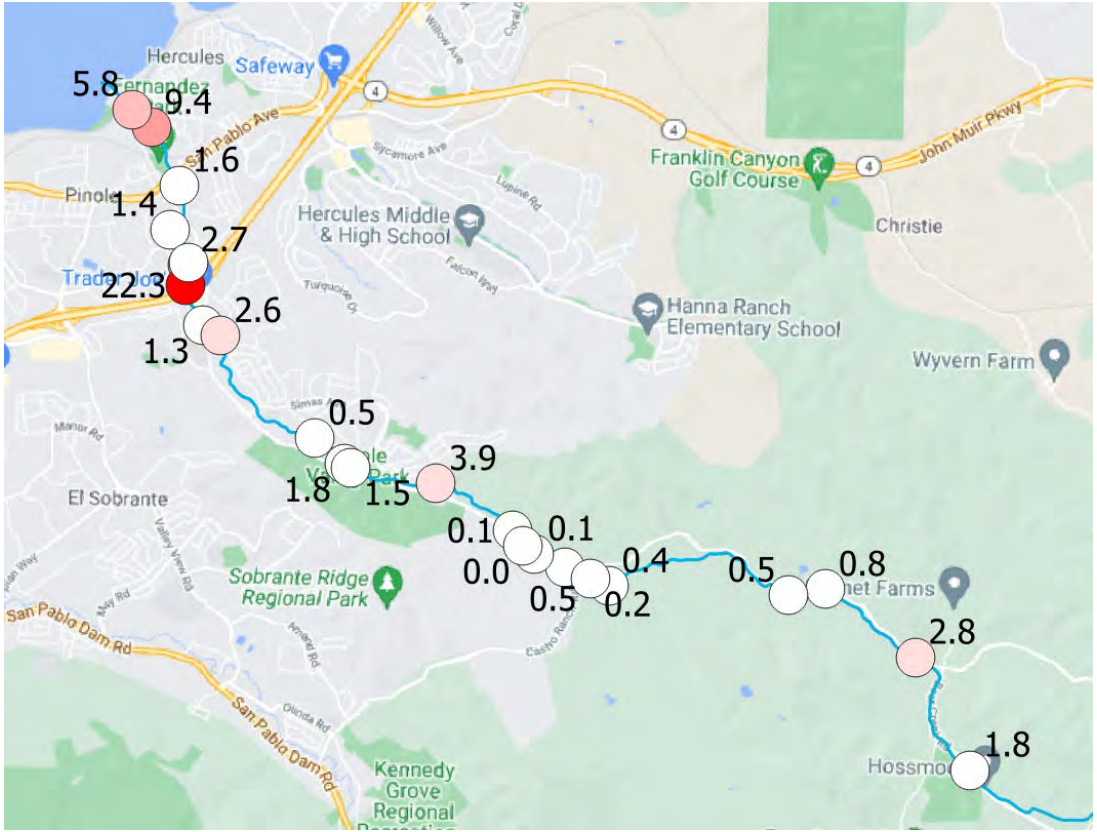
Count changes rapidly - short-term impacts

How much trash is in Pinole Creek?



Highest trash volume (per meter) was in the county, discovered at dump sites.

How much trash is in Pinole Creek?



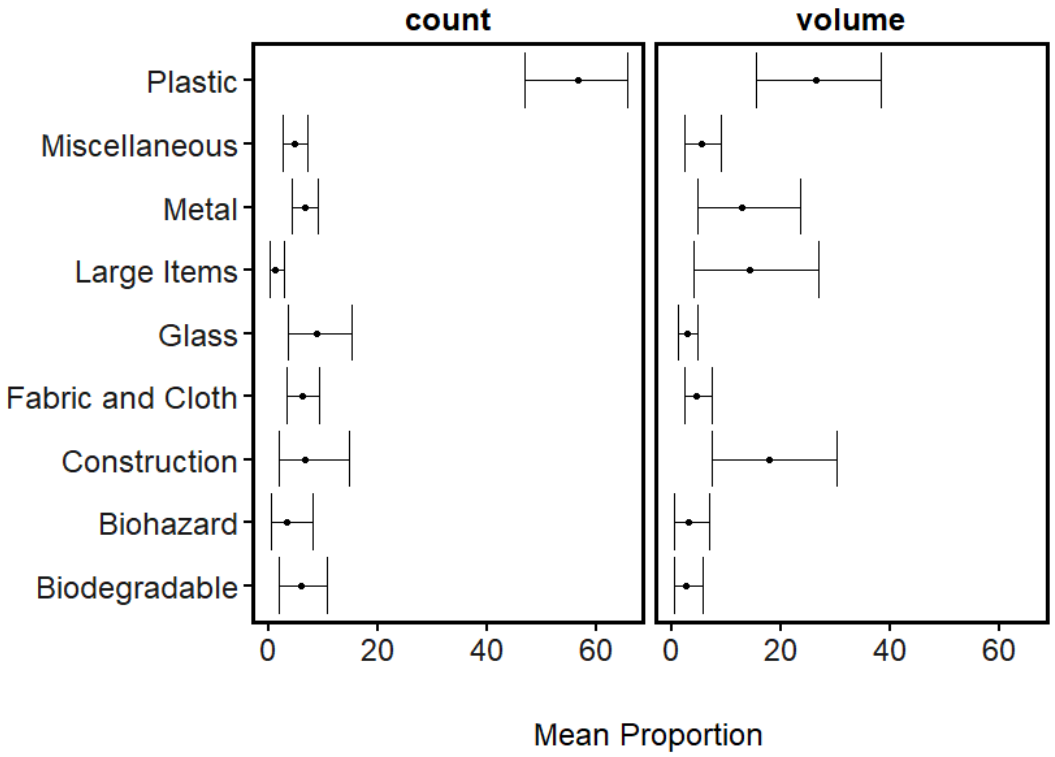
Highest trash count (per meter) was within Pinole city limits, at the Fish Passage under I-80.

How much trash is in Pinole Creek?

We estimate there were ~264 thirty-five gallon trash bins worth of trash

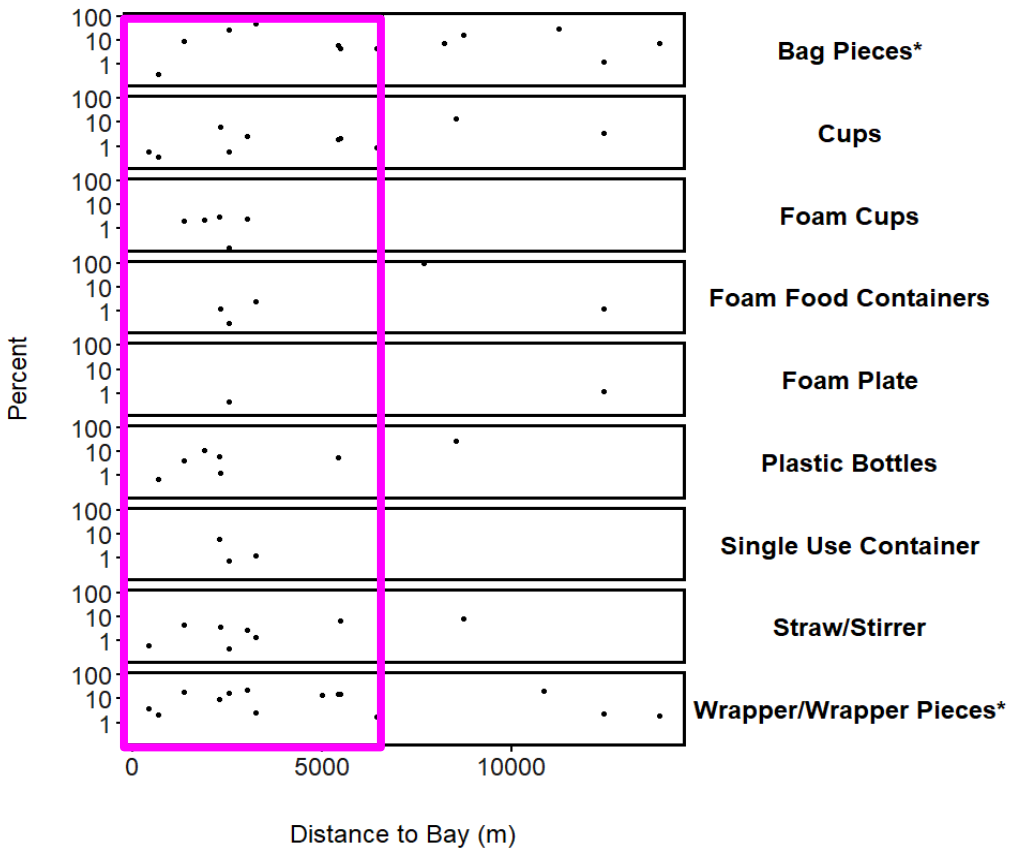
- *in* the creek
- from this assessment
- at this snapshot in time

What types of trash are most common?



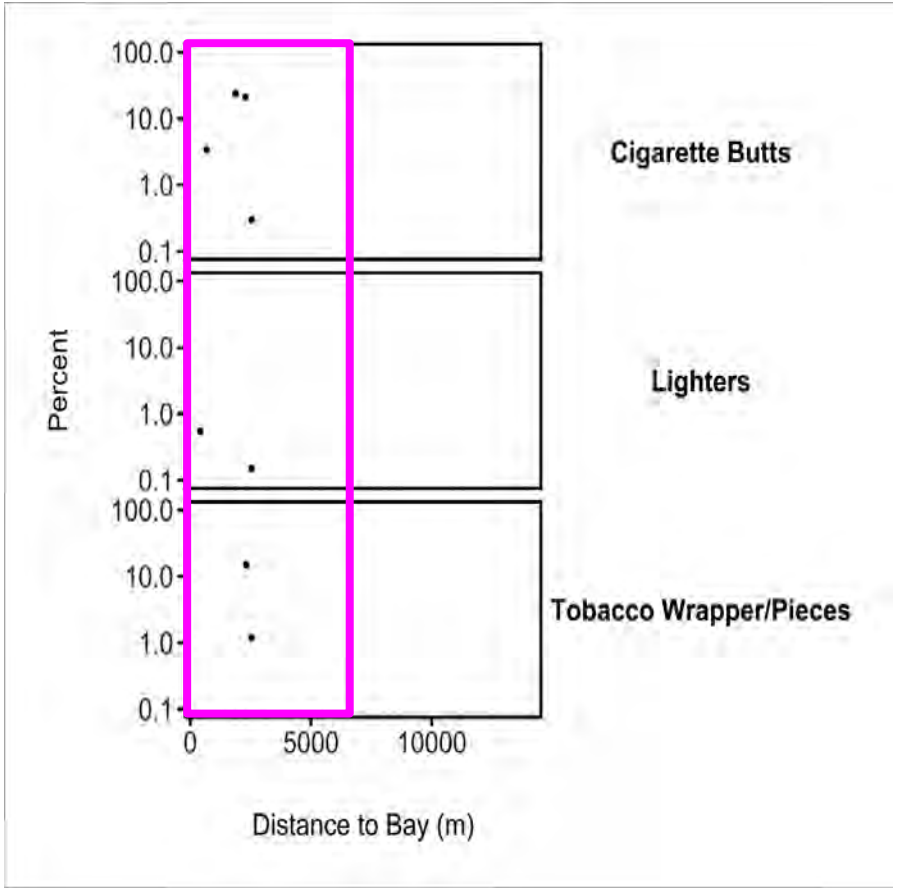
Plastic is the most abundant material in the stream by count and is highly abundant by volume.

What types of trash are most common?



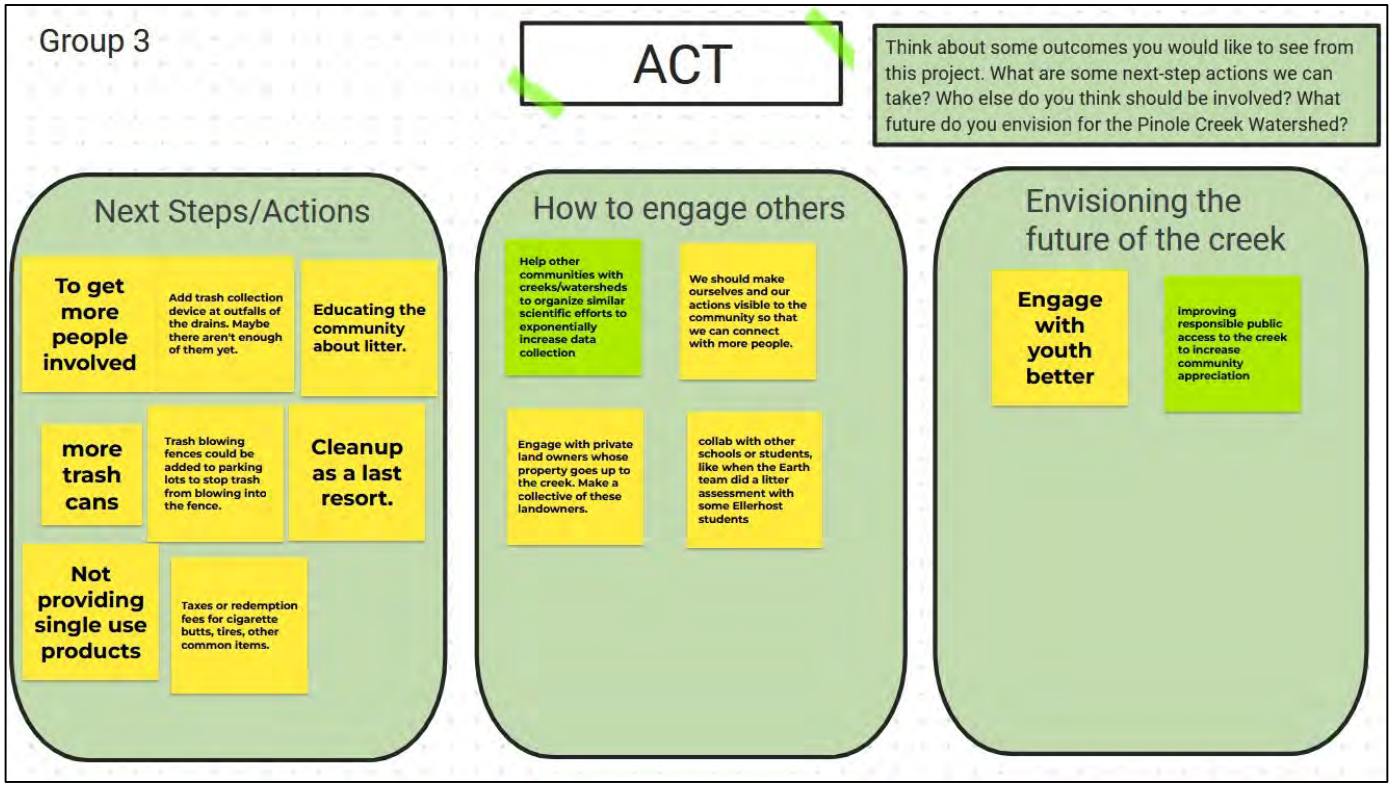
Greatest volume of single use food trash found at study sites within city limits

What types of trash are most common?



Cigarettes and related items are also prevalent in city limits

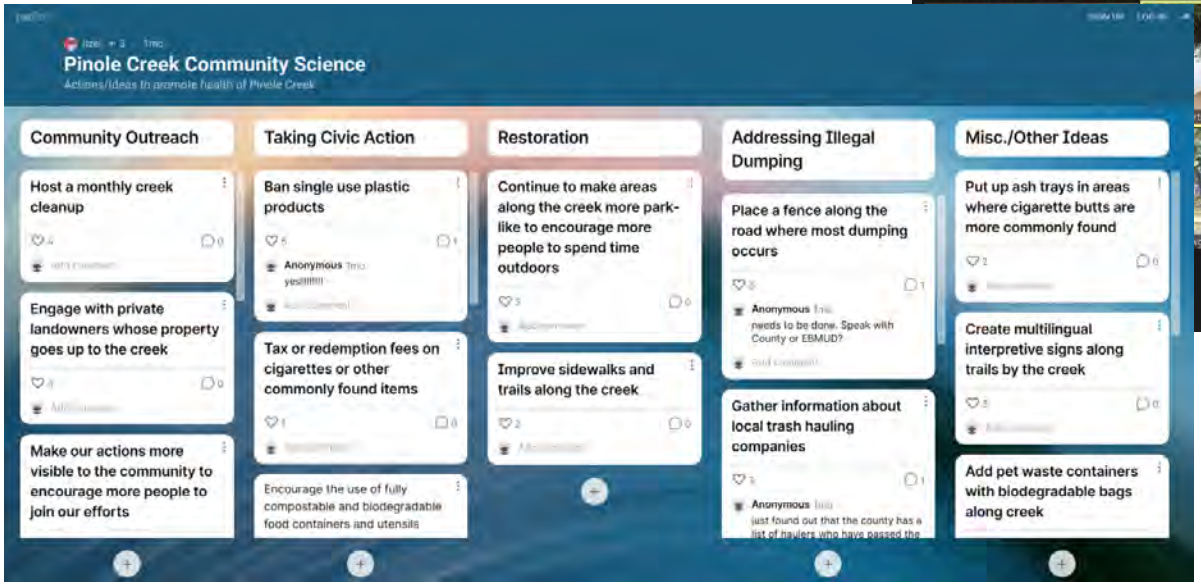
What policies and action does the community recommend?



Jamboard from 1/2022 volunteer community meeting

What policies and action does the community recommend?

Padlet from 2/2022
FOPCW meeting



City Council Presentation…

What policies and action does the community recommend?

Develop and/or update city ordinances:

- ➢ Foodware (enhance styrofoam food packaging ordinance)
- ➢ Cigarettes

PINOLE CREEK WATERSHED COMMUNITY & SCIENCE

What policies and action does the community recommend?

Identify high trash areas of concern and address problem

What policies and action does the community recommend?

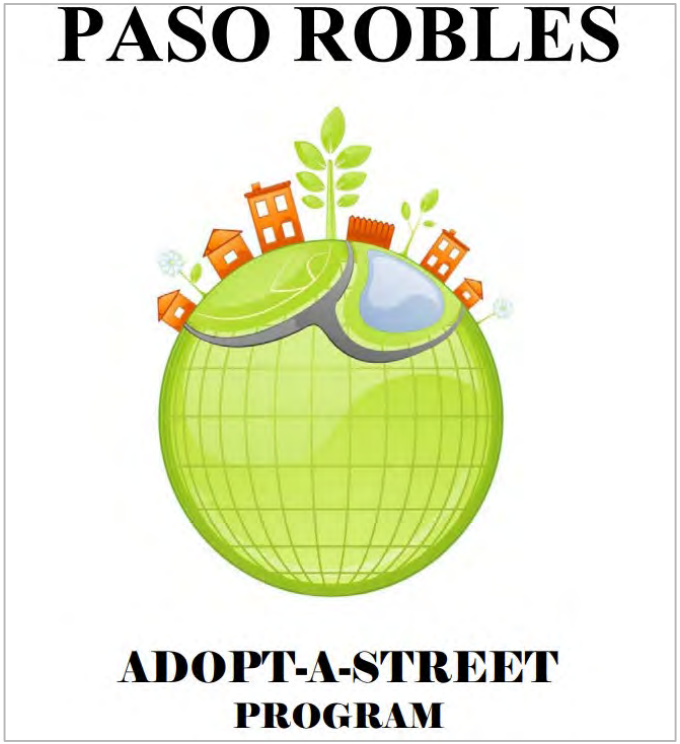
Create a city-owned trash bin inventory.

Use our data to inform new trash bin locations in areas of concern

What policies and action does the community recommend?

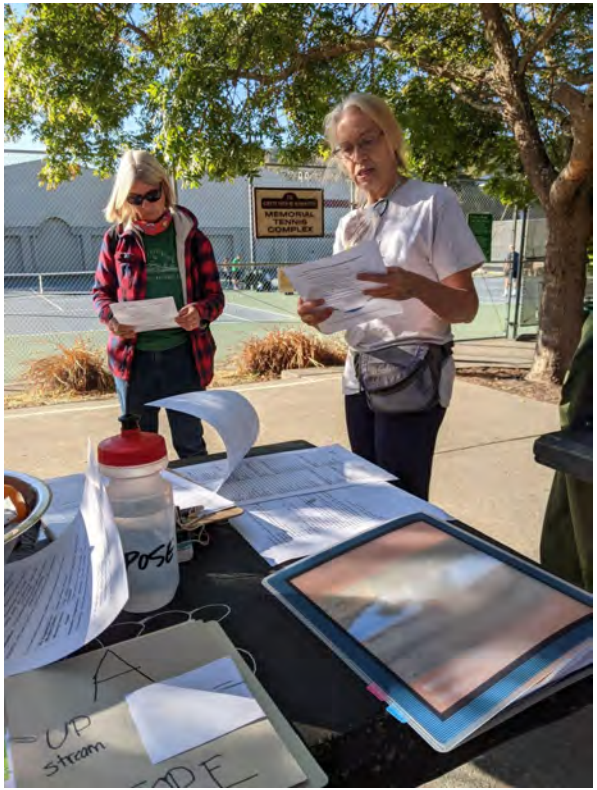
Initiate monthly trash cleanups harnessing the power of community groups

What policies and action does the community recommend?



Institute an “Adopt-a-Street” or “Adopt-a-Spot” Program (Create Pinole Creek Allies)

What policies and action does the community recommend?



Initiate litter-awareness outreach & educational programs in schools and community

What policies and action does the community recommend?

Fund a follow-up trash assessment in 5 years (2026)

What policies and action does the community recommend?

Contra Costa County Supervisors to come…

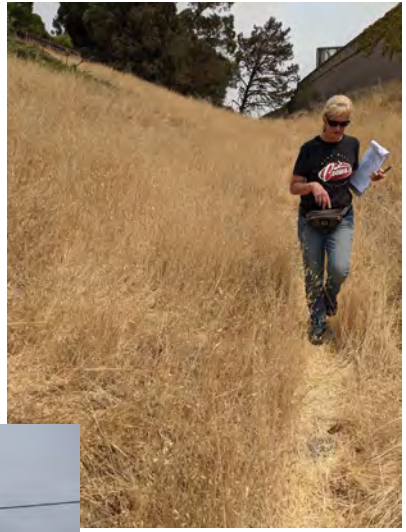
Takeaways…

Establishing partnerships

Recruitment

Commitment

Communication



PINOLE CREEK WATERSHED COMMUNITY & SCIENCE

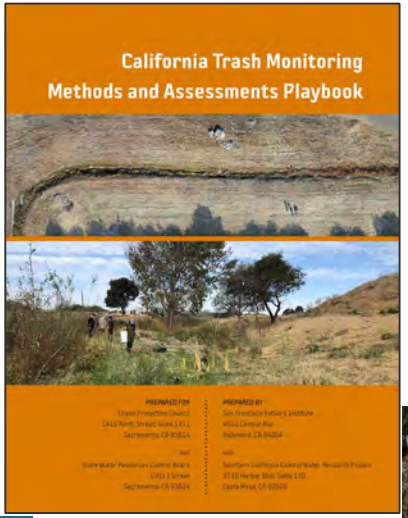
Takeaways…

Preparation

Resources

Equipment

Data, Data, Data



Pinole Creek Trash Assessment

General Site Information

Station ID:	5			Date:	10/30/21
Start Time:	9:30 AM	End Time:	10:30 AM		
StartLatitude:	37.9804	StartLongitude:	-122.2692	Datum:	GoogleEarth (NAD 83)
EndLatitude:	37.9803045	EndLongitude:	-122.2688407		
Start GPS:		End GPS:			

Field Crew: Mary, Megan, Ann, Damien, Kent

Creek/Site Description: Pinole Valley Park just UPSTREAM of footbridge nr Dog Park

Watershed

Left Bank Access: HARD (Facing Downstream) Right Bank Access: HARD

Channel Type (Select all that apply):

Natural	No addtional types	No addtional types	No addtional types

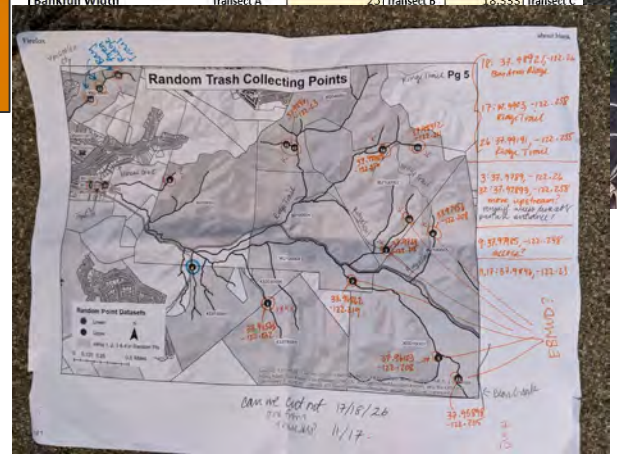
Describe Other Channel Type:

Type of Site: probabilistic

Is stream flowing?

Assessment Area

Reach Length	98	ft				
Wetted Width	Transect A	8.416666667	Transect B	15.25	Transect C	
Bankfull Width	Transect A	25	Transect B	18.333	Transect C	



AGU
THRIVING EARTH EXCHANGE

PINOLE CREEK WATERSHED COMMUNITY & SCIENCE

Takeaways…

Community science depends upon the community. A diverse community can come together over shared values (caring for Pinole Creek).

Takeaways…

Celebrate Together!

Pinole Creek!

How is this project different than simply picking

Who is going to do this?

This is a long-term community & science colla

We commit to following up with the Community, Council, and Staff to protect the Pinole Creek Watershed.