Pajaro River Watershed Resilience Program

Network Workshop #1: Vision

Creating a Vision for the Future of the Pajaro River Watershed

March 10, 2025 / 1:00 pm – 4:00 pm

Welcome to Workshop 1:
Creating a Vision for the Future of the Pajaro River Watershed

This program is funded in full or in part from the Budget Acts of 2022 and through an agreement with the State Department of Water Resources (DWR).

Workshop Speakers

Brian Lockwood,
General Manager, PV Water

Kiernan Brtalik,
PRWRP Project Manager

Ellen Cross,
PRWRP Network Strategy

Workshop Team Members

- Casey Meusel
- Marcus Mendiola
- Allegra Roth
- Maria Pascoal
- Bridget Childs

Adam Witt,
PRWRP Hydrologic & Ecological Sciences Lead

Reema Shakra, AICP
PRWRP Principal-in-Charge

Chairman Lopez,
Amah Mutsun Tribal Band

Thank you DWR attendees!

- Lewis Moeller
- Jordi Vasquez

PRWRP Advisory Group Members

Brian Lockwood, Pajaro Valley Water Management Agency (PV Water)	Leslie Rios, City of Watsonville
Casey Meusel, PV Water (Alt)	Beau Kayser, City of Watsonville (Alt)
Adam French, Amah Mutsun Tribal Band and Land Trust	Danielle Green, City of Watsonville (Alt)
Chairman Val Lopez, Amah Mutsun Tribal Band and Land Trust (Alt)	Kanyon Sayer-Roods, Indian Canyon Mutsun Band of Costanoan
Paul Hierling, Association of Monterey Bay Area Governments (AMBAG)	Mark Strudley, Pajaro Regional Flood Management Agency (PRFMA)
Amaury Berteaud, AMBAG (Alt)	Roxanne Grillo, PRFMA (Alt)
Matt Jones, City of Gilroy	Richard Castillo, Regeneración
Diana Centeno, City of Gilroy (Alt)	Nancy Faulstich, Regeneración (Alt)
Mark Johnson, City of Gilroy (Alt)	Amanda Geipe, San Benito County Health & Human Services Agency
William Via, City of Hollister	Jeff Cattaneo, San Benito County Water District (SBCWD)
Hydie McDonald, City of Hollister (Alt)	Dana Jacobson, SBCWD (Alt)
Illeana Alvarado, City of Morgan Hill	Heidi Williams, Santa Clara Valley Water District (Valley Water)
Tanya Carothers, City of Morgan Hill (Alt)	Samantha Greene, Valley Water (Alt)
Ilse Lopez-Narvaez, City of San Juan Bautista	Alyssa Mann, The Nature Conservancy
Don Reynolds, City of San Juan Bautista (Alt)	Adam Drici, The Nature Conservancy (Alt)

Activity #1: Table Introductions

Introduce yourself to the people at your table:

- Your Name
- Your Interest in the Pajaro River Watershed

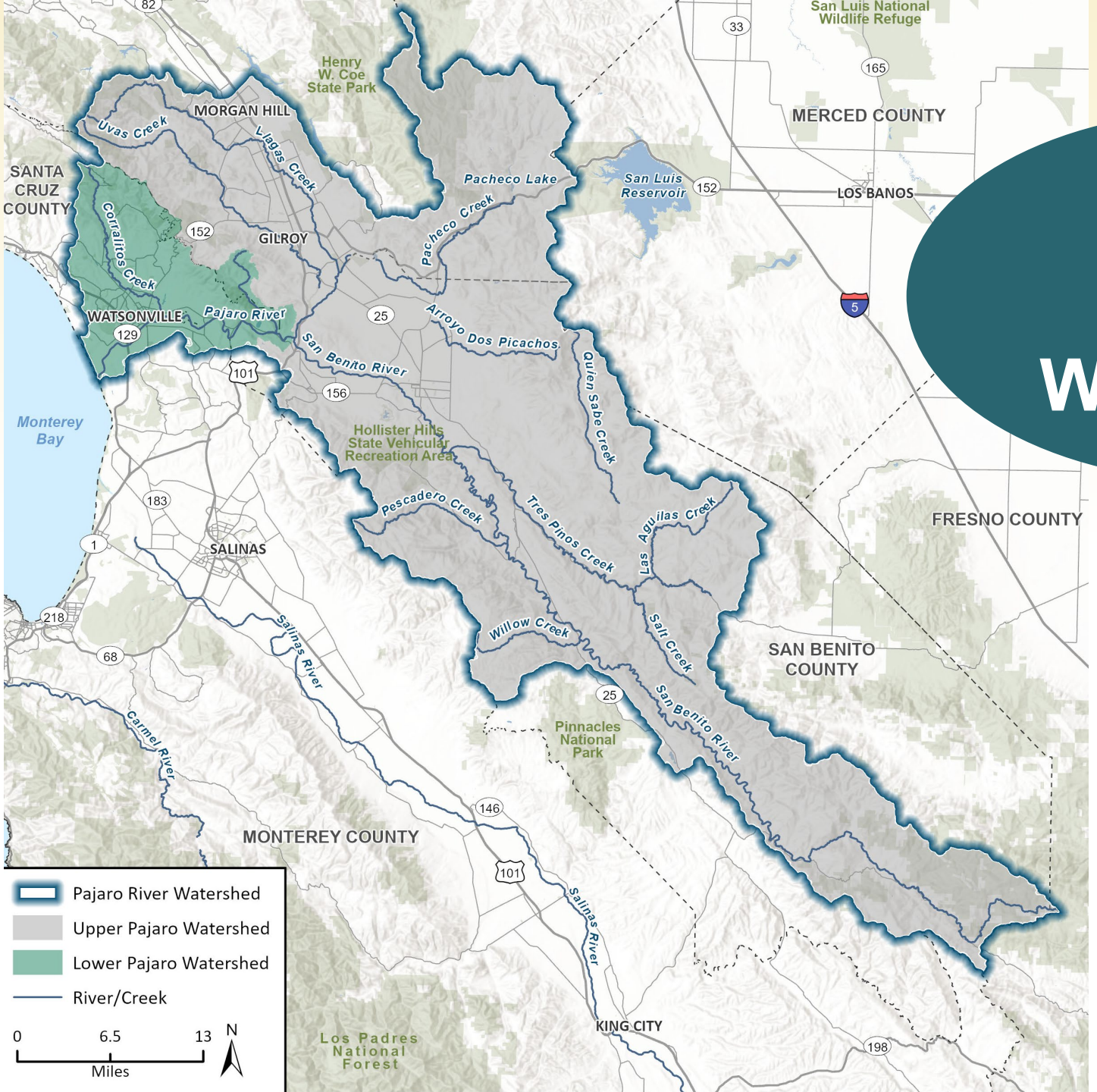
Network Workshop Agenda

Agenda	Interactive Discussions
PAJARO RIVER WATERSHED INTRODUCTION & TRIBAL PERSPECTIVES	**Activity 1** (5 minutes) • Table Introductions (complete)
WATER RESOURCE SYSTEMS	**Activity 2** (40 minutes) • Water Resource Systems Definition & Challenges
Networking Break and Timeline Activity (10 minutes)	
UNDERSTANDING CLIMATE HAZARDS	**Activity 3** (30 minutes) • Identifying Impacts in the Watershed
CRAFTING A RESILIENCE VISION	**Activity 4** (15 minutes) • Envisioning Resilience
NEXT STEPS	**Activity 5** (5 minutes) • Complete Exit Survey

PAJARO RIVER WATERSHED INTRODUCTION

Photo Source: Good Times

Pajaro River Watershed



Upper and Lower Watershed shown as defined in 2019 IRWM Plan (subject to change as part of the PRWRP process)

1,300 Square Miles

232 River Miles

4 Counties

Santa Cruz, Santa Clara, San Benito, Monterey

5 Cities

Gilroy, Hollister, Morgan Hill, San Juan Bautista, Watsonville

Climate Hazards Impacting Water Resource Systems

Climate Hazards

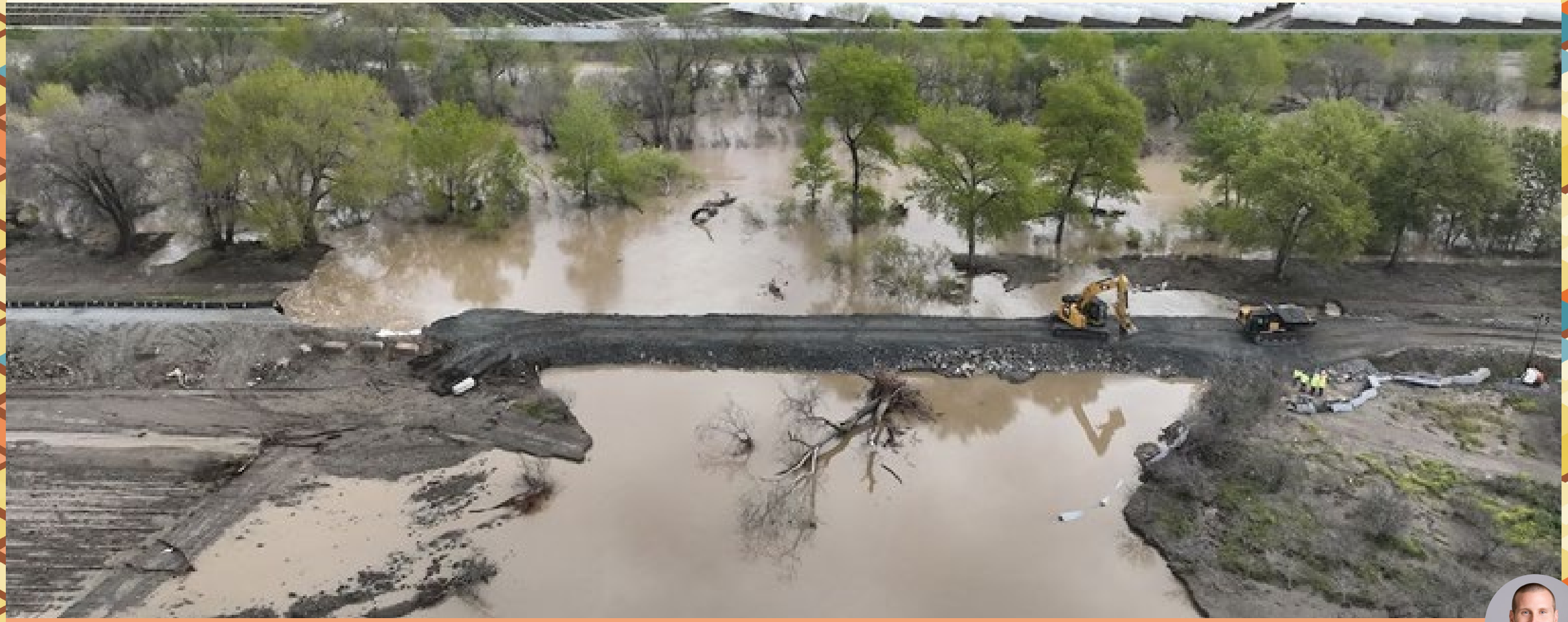
- Extreme Heat
- Extreme Precipitation
- Wildfire
- Drought
- Sea Level Rise and Storm Surge

IMPACT

Water Resource Systems

- Water Supply
- Flood Management
- Groundwater
- Ecosystems
- Water Quality
- Recreational Uses
- Cultural Resources

Major Weather Events and Disasters

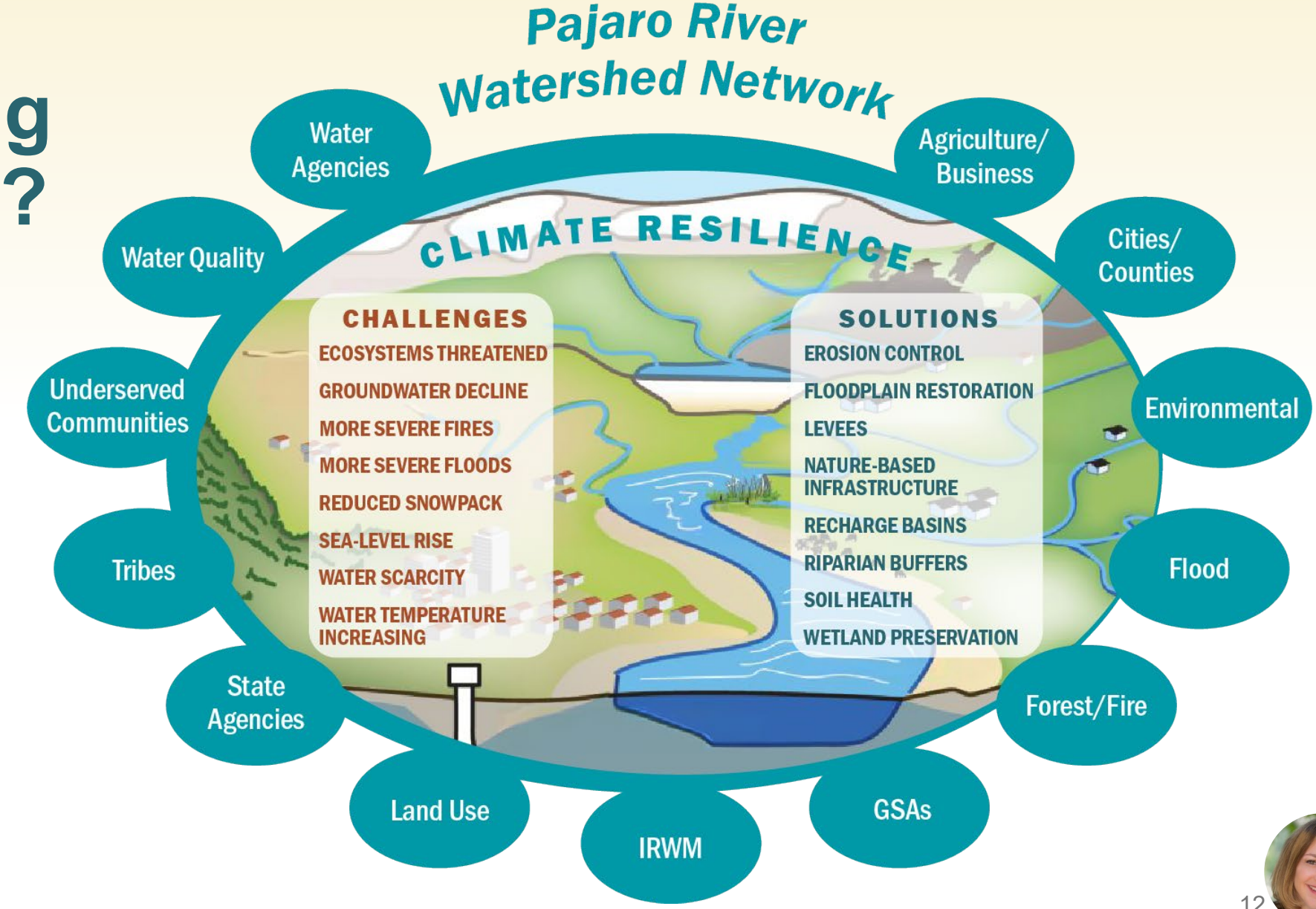


Pajaro River Levee Break, 2023

Pajaro River Watershed Goals

- Holistically study, plan, and manage water at a watershed scale
- Integrate and prioritize equity and inclusiveness
- Develop a watershed resilience vision
- Enhance partnership among non-traditional entities
- Improve regional competitiveness for funding

Who is informing the Plan?



What We Heard From You

*Thank you for **74** completed Watershed Network surveys!*

We learned:

- 61% felt past engagement efforts were **somewhat effective**
- 40% felt their feedback had **moderate influence** on past project outcomes

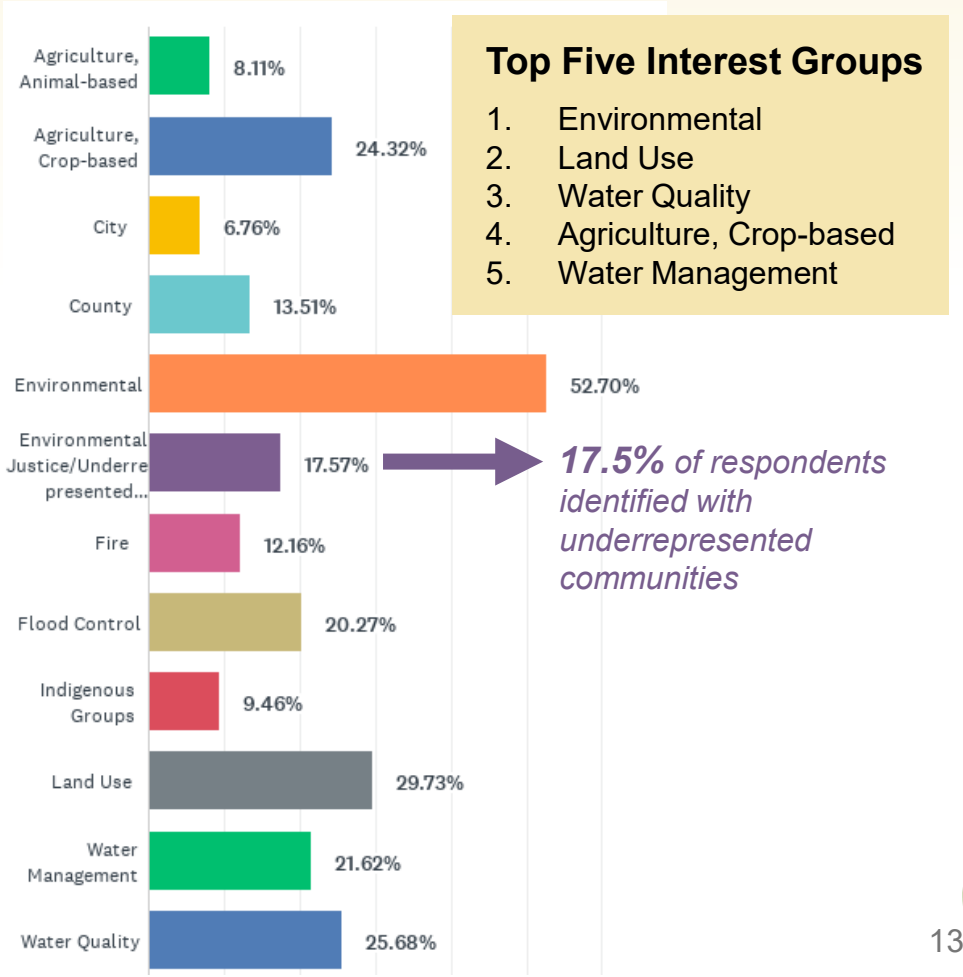
Respondents want to:

Provide input

Ensure transparency

Influence outcomes

What interest group do you mostly align with?



Top Five Interest Groups

1. Environmental
2. Land Use
3. Water Quality
4. Agriculture, Crop-based
5. Water Management

***17.5%** of respondents identified with underrepresented communities*

Pajaro River Watershed Resilience Program
Roles and Responsibilities

Advisory Group

- Provide direction to consultant team
- Communicate with governing bodies
- Review Watershed Resilience Plan draft chapters
- Attend Advisory Group meetings and Workshops

Pajaro River Watershed Network

- Stay informed and complete pre-work for Workshops
- Attend and provide input at Workshops to steer vision and guide prioritization of vulnerabilities and adaptation strategies
- Provide comments on final draft Watershed Resilience Plan

Consultant/ Administrative Team

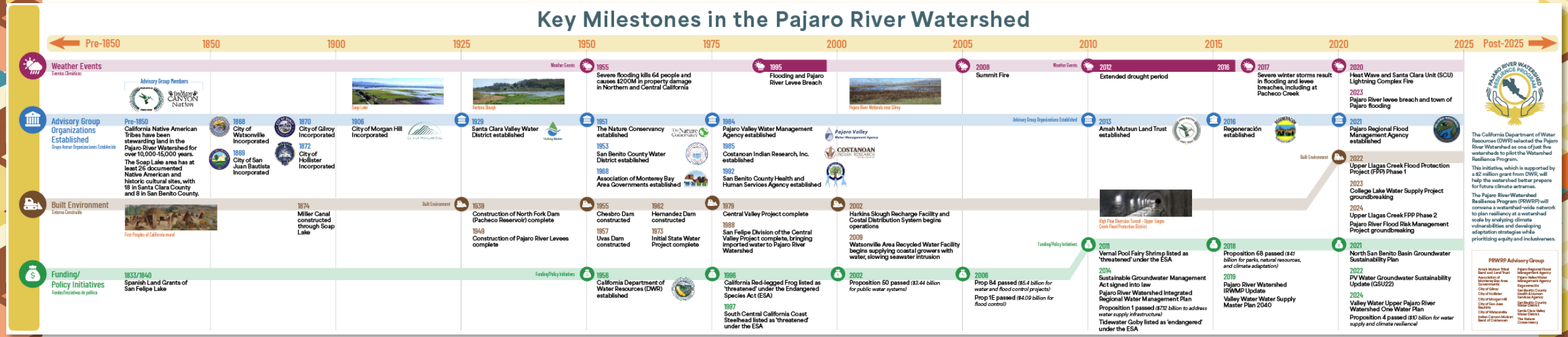
- Conduct outreach to expand an inclusive Watershed Network
- Identify climate vulnerabilities and develop adaptation strategies
- Lead Advisory Group meetings and Workshops to receive input
- Draft Watershed Resilience Plan chapters

Engagement Opportunities

Winter 2024/25	Spring 2025	Summer/Fall 2025	Fall/Winter 2025	Spring 2026
Set the Stage	Explore Climate Hazards	Assess Vulnerabilities & Risks	Develop Adaptation Strategies	Implement & Monitor
	Workshop #1 Visioning (In Person) **March 10, 2025**	**Workshop #2** Prioritizing Vulnerabilities (Virtual) June 10, 2025	**Workshop #3** Initial Adaptation Strategies (In-Person) August 2025	**Workshop #4** Prioritizing Adaptation Strategies (Virtual) October 2025	**Workshop #5** Public Release of WRP (Virtual) February 2026

Key Milestones in the Watershed

Please use the Post-It Notes to add events to the timeline!



Weather Events

Advisory Group Organizations Established

Built Environment

Funding/ Policy Initiatives

Video Message

from Chairman Valentin Lopez, Amah Mutsun Tribal Band

Click to play

WATER RESOURCE SYSTEMS

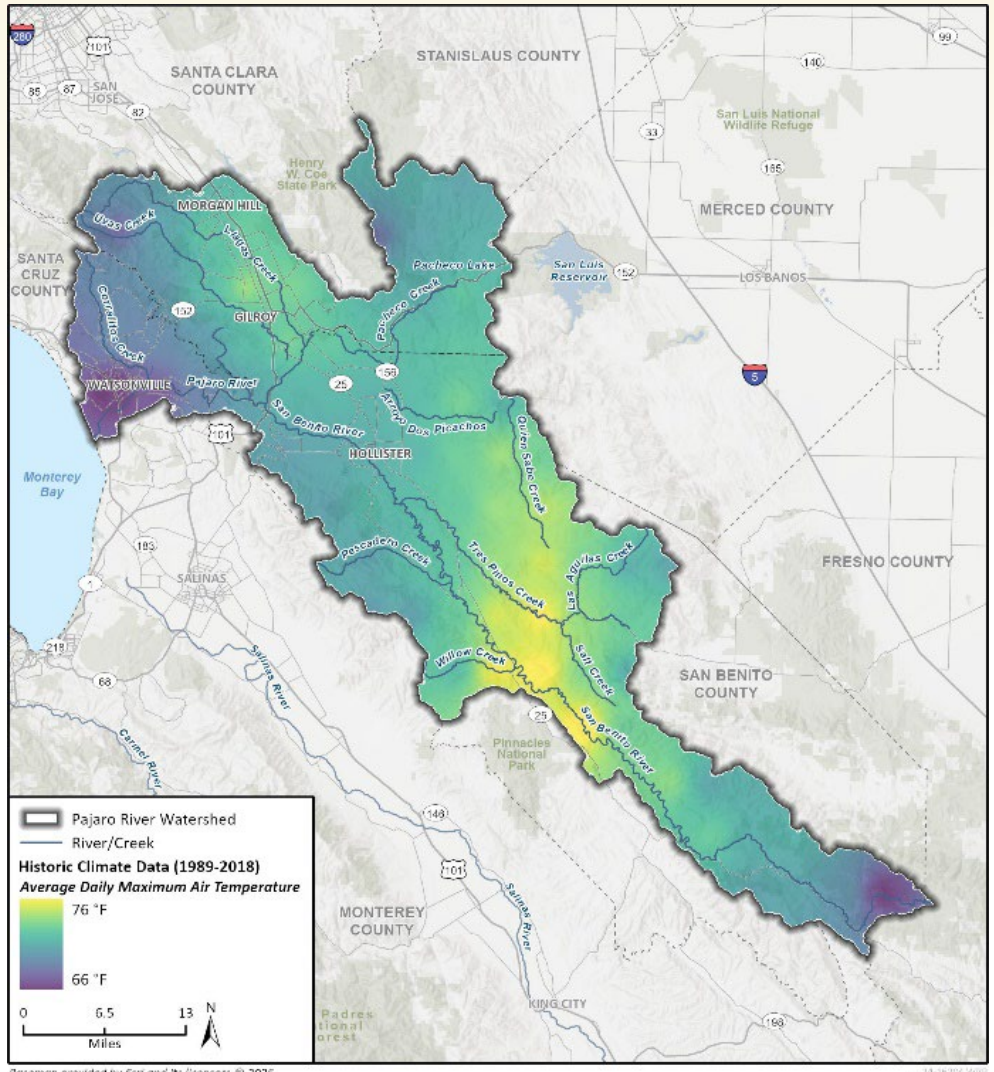
with Adam Witt, Stantec

Climate and Hydrology

The Pajaro River Watershed climate and hydrology are the foundation of the water resource systems present in the watershed.

Average Air Temperatures:

- Cooler along the coast and at higher elevations
- Warmer inland
- Coastal influence moderates inland temperatures
- Seasonal temperature variability



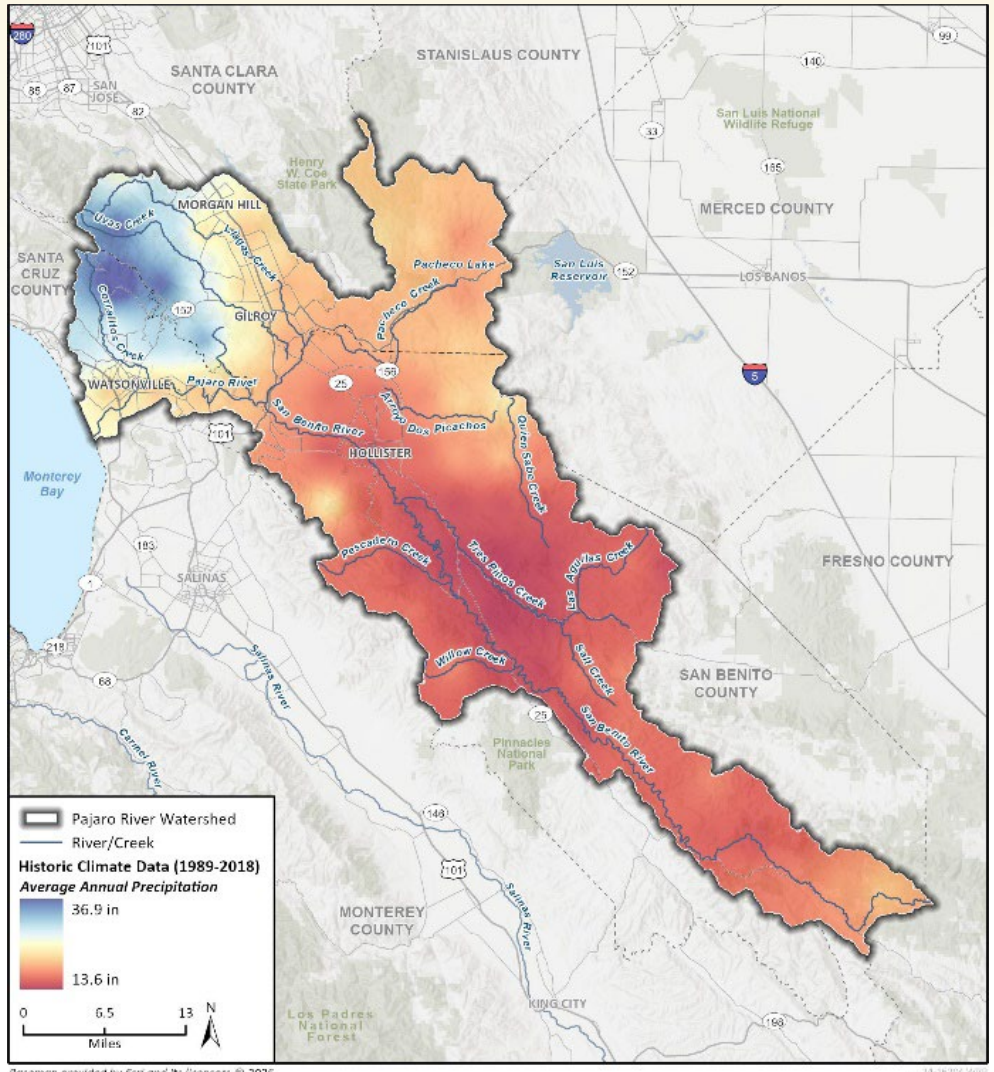
Basemap provided by Esri and its licensors © 2025.
Additional data provided by CPAD, 2024; NHD, 2024; DWR, 2024; Climate Data provided by Stantec and interpolated by Rincon Consultants, Inc., 2025.

Climate and Hydrology

The Pajaro River Watershed climate and hydrology are the foundation of the water resource systems present in the watershed.

Average Annual Precipitation:

- Highest in the Santa Cruz Mountains (northwest)
- Moderate at higher elevations inland
- Lowest at lower elevations inland due to rain shadow effect
- Highly variable year to year



Basemap provided by Esri and its licensors © 2025.
Additional data provided by CPAD, 2024; NHD, 2024; DWR, 2024; Climate Data provided by Stantec and interpolated by Rincon Consultants, Inc., 2025.

Climate and Hydrology

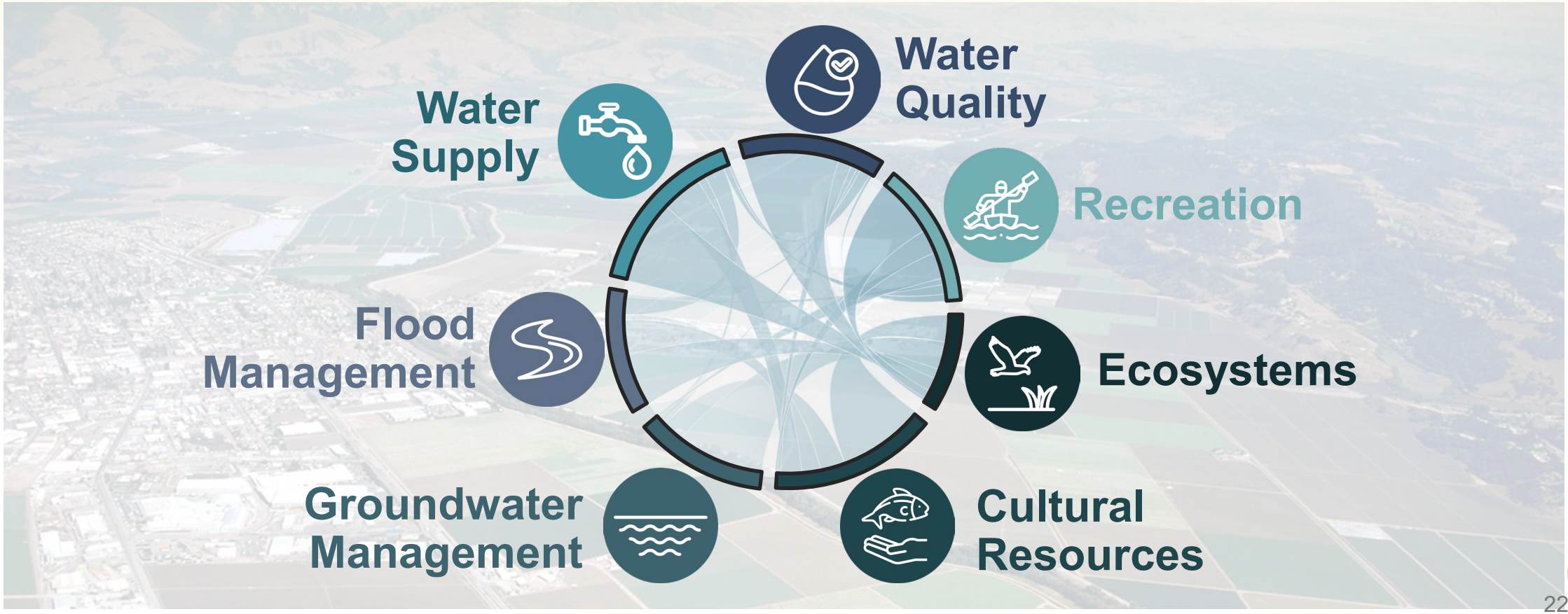
The hydrologic regime of the watershed is highly variable within a year (wet winters to dry summers) and from year to year (droughts to floods)

Pajaro River flooding in 2023
Source: Pajaro Regional Flood Management Agency

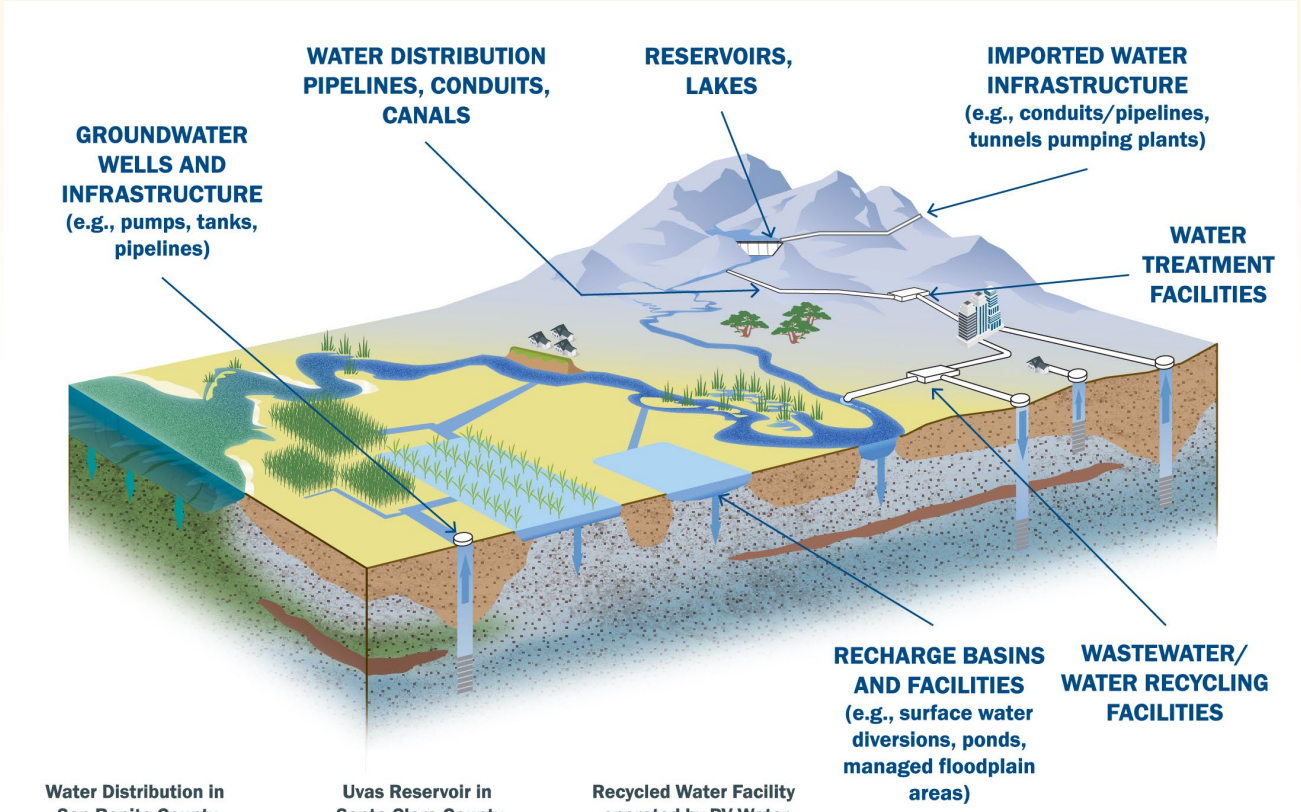
The Pajaro River during the dry season
Source: https://baynature.org/2021/12/06/how-birds-help-keep-the-pajaro-river-levees-safe-without-poison/ (Photo by Elyse DeFranco)

Water Resource Systems

Seven interrelated Water Resource Systems are defined in the Pajaro River Watershed that will guide climate resilience planning efforts:



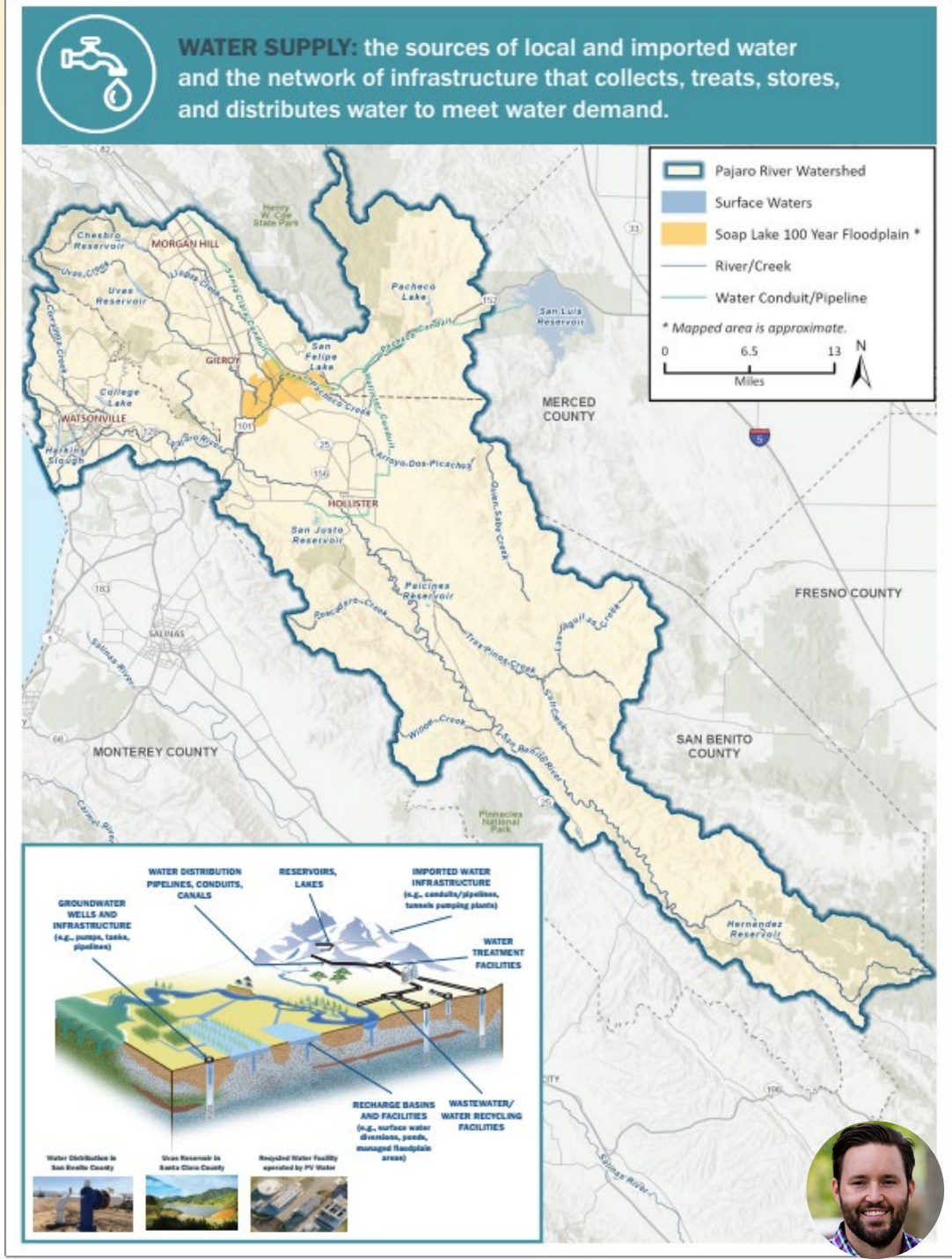
Water Supply



Water Distribution in San Benito County

Uvas Reservoir in Santa Clara County

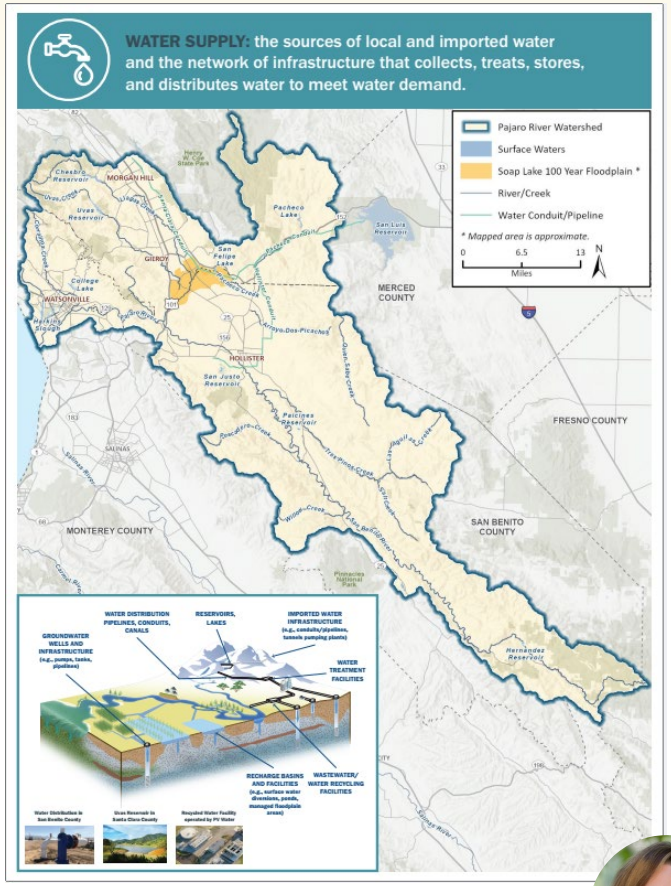
Recycled Water Facility operated by PV Water



Activity #2: Water Resource System Features and Challenges

Use the Water Resource System lens to identify where important features and challenges in the watershed are.

1. **Choose a Station (1-7):** Choose a water resource system that interests you and go to the corresponding poster.
2. **Identify Water Resource System Features & Challenges:**
   - Place **green** post-it notes to identify **important features** (e.g., wetlands, reservoirs) on the poster (include location)
   - Place **orange** post-it notes to identify specific watershed **challenges** (e.g., water supply shortage) on the poster (describe where and under what conditions these challenges occur)
3. **Rotate:** Every 8 minutes, choose a new Water Resource System to visit. You may visit up to 3 stations total.
4. **Report Out:** Summarize key points from your discussion.



Water Resource Systems

- Station 1: Water Supply
- Station 2: Groundwater
- Station 3: Flood Management
- Station 4: Cultural Resources
- Station 5: Water Quality
- Station 6: Ecosystems
- Station 7: Recreational Uses

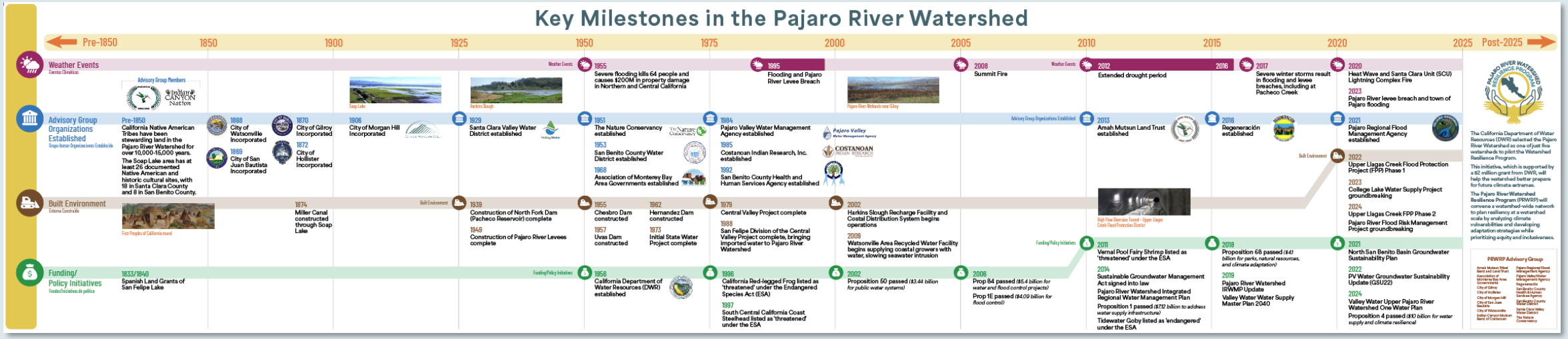
Green Post-it =
Important Feature
that resonates with you

Orange Post-it =
Challenge
that you've encountered in the past

Remember: be specific!!!

NETWORKING BREAK

Use the Post-it Notes to add additional milestones to the timeline!



UNDERSTANDING CLIMATE HAZARDS

with Reema Shakra, Rincon Consultants

Climate Hazards

Extreme Heat: Periods of significantly higher-than-average temperatures, which can pose health risks, strain energy resources, and impact infrastructure.

Extreme Precipitation and Flooding: Intense rainfall events that can lead to flooding, soil erosion, and challenges to water management systems.

Wildfire: Uncontrolled fires occurring in forests, grasslands, or other vegetated areas, often intensified by dry conditions and capable of causing widespread damage to property and ecosystems.

Drought: Extended periods of deficient rainfall leading to water shortages, adversely affecting agriculture, water supply, and natural ecosystems.

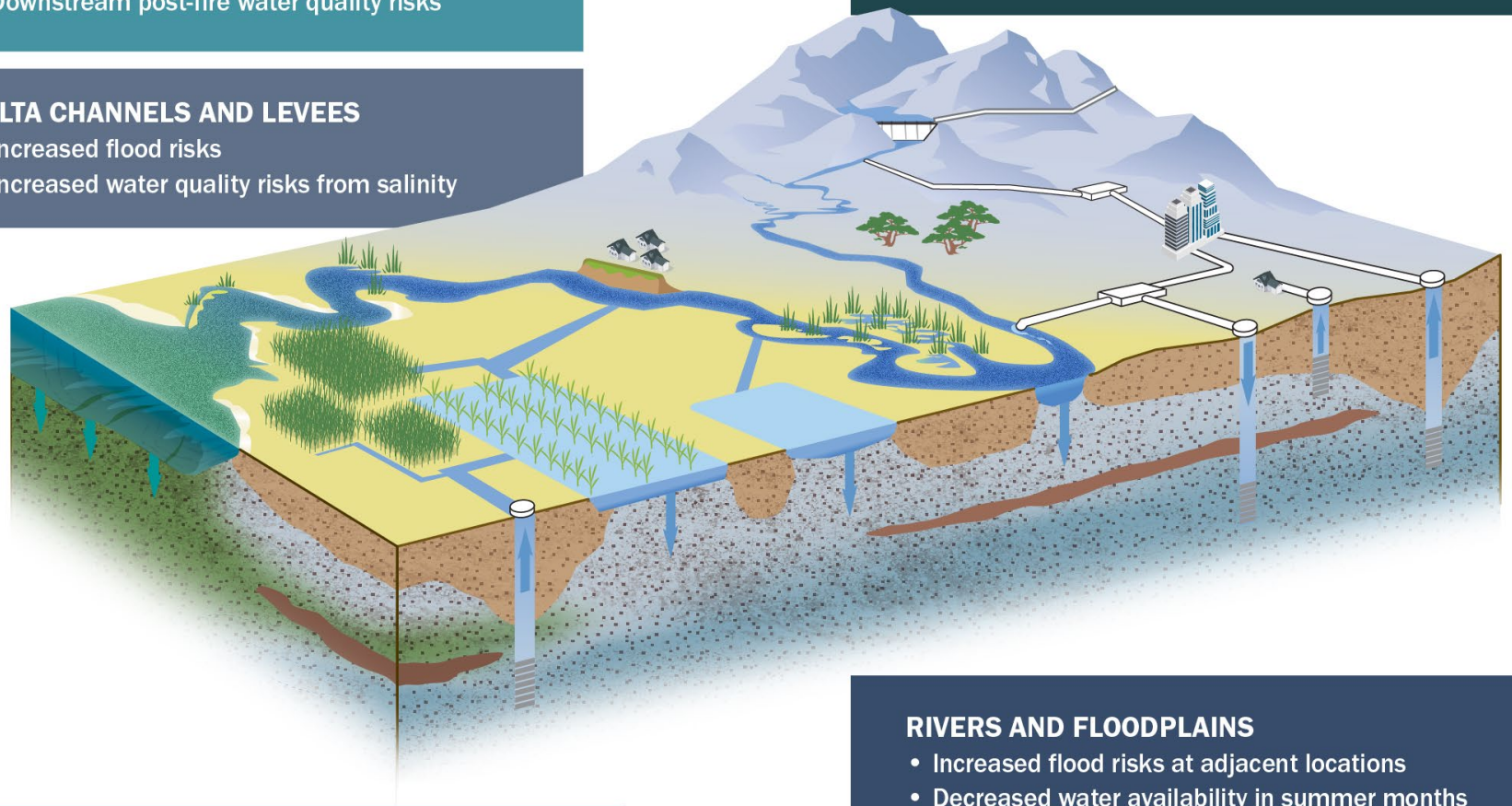
Sea-Level Rise and Storm Surge: The combination of rising sea levels and intensified coastal storms increases the risk of coastal erosion, flooding, and damage to coastal infrastructure and habitats.

Impacts from Climate Hazards Vary Across the Watershed

HEADWATERS AND UPPER WATERSHEDS
- Increased water supply risks in summer months
- Increased flood risks at lower elevations
- Increased wildfire vulnerabilities
- Downstream post-fire water quality risks

DELTA CHANNELS AND LEVEES
- Increased flood risks
- Increased water quality risks from salinity

MAJOR RESERVOIRS
- Decreased water supply reliability in summer months
- Increased reservoir failure risks
- Increased flood risks at downstream locations



RIVERS AND FLOODPLAINS
- Increased flood risks at adjacent locations
- Decreased water availability in summer months

ECOSYSTEMS
- Increased vulnerability to temperature increased
- Increased vulnerability to invasive species
- Increased habitat degradation risks
- Greater stress on ecosystems

GROUNDWATER
- Increased groundwater depletion risks
- Increased groundwater quality risks

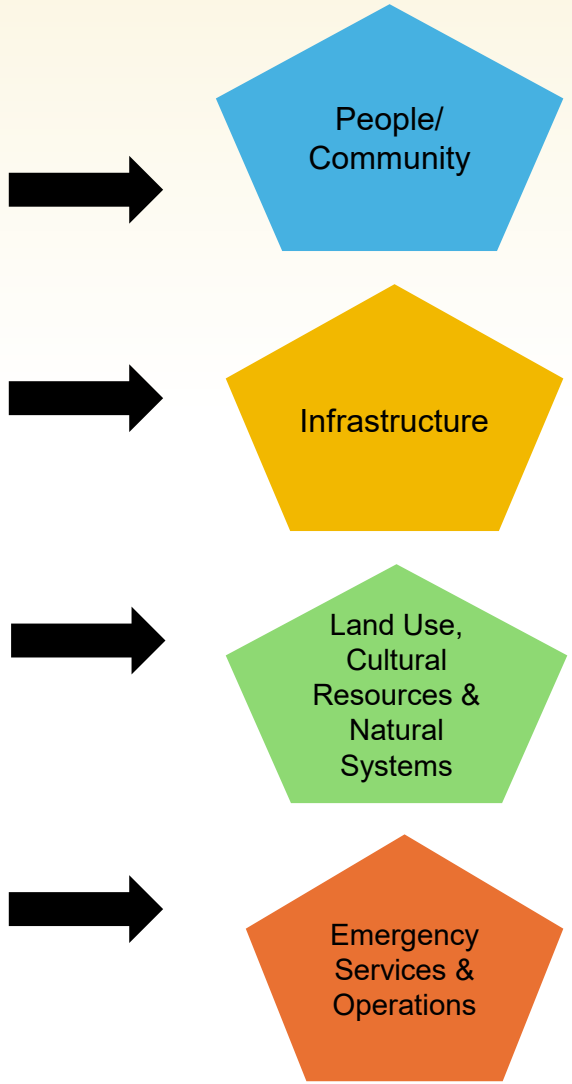
Potential Climate Change Impact Groups

- Adverse Health Issues from Degraded Water Quality
- Levee failure triggers floods, damaging homes

- Increased Operations/Maintenance
- Post-fire debris impacts reservoir water quality
- Water pumps go offline due to extended power shutoffs

- Damage and Permanent Loss to Cultural Resources
- Agricultural Pests/Diseases
- Recreational Loss/Disruptions
- Permanent habitat loss

- Service/Operational Disruptions
- Inability to Access Water Facilities to Maintain Operations



Purpose of Problem Statements

Purpose of preparing *problem statements*:

1. Identify affected communities, features, and systems
2. Understand impacts already experienced from climate hazards
3. Connect impacts to water resource systems
4. Support data-driven decision making
5. Prioritize actions for adapting

Preparing Problem Statements for the Watershed

Guided by today's input, the PRWRP team will generate ***problem statements*** that speak to:

- WHAT is the problem at hand
- WHO or WHAT is impacted
- WHY is it a problem
- WHICH water resource system applies
- WHERE the problem takes place

Example Problem Statement
Infrastructure Category

Levees and Other Flood Control Devices – Feature type

WHAT: The Pajaro River Watershed will experience more extreme fluctuations in precipitation patterns. Heavy rainfall and associated flooding will increase in frequency and strength. Flood control infrastructure includes levees, dikes, drainage channels, and other infrastructure meant to help prevent rivers, creeks and other water bodies from overflowing their banks and flooding adjacent lands.

WHY: Flood control infrastructure may not be designed to adequately contain floodwater associated with projected precipitation events. These systems may become overwhelmed by water and debris from climate change hazards, causing them to malfunction and become damaged. This increases the risk of flooding in communities currently protected by this infrastructure. These systems require regular maintenance and post-storm event maintenance which is costly and time intensive.

WHERE: When flood control infrastructure fails, water and debris build up and wash into normally dry areas, where it can cause substantial harm to buildings, infrastructure, and people.

Problem Statement Categories

- Understand the challenges the watershed has faced already *(Activity 1)*
- Deeper dive to look at different climate hazards and how those will impact the most vulnerable features and communities in the watershed *(Activity 2)*

Categories:

People/ Community (Station 1)

Infrastructure (Station 2)

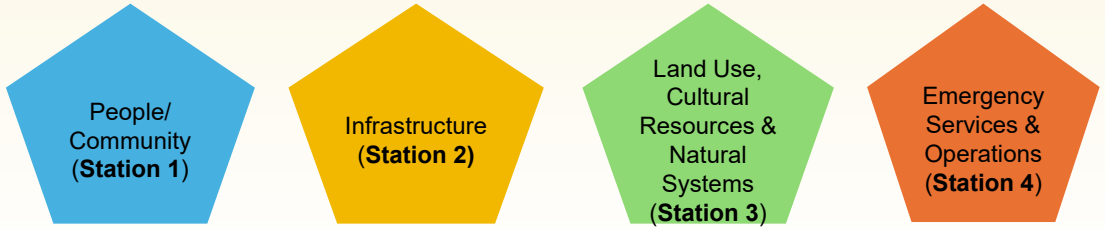
Land Use, Cultural Resources & Natural Systems (Station 3)

Emergency Services & Operations (Station 4)

Activity #3: Identifying Impacts in the Watershed

1. **Choose a Station:** Visit a category of interest
2. **Identify Impacts:** Discuss how climate hazards impact the category
   - **Post-it Notes:** Write down specific impacts and place them under the appropriate hazard
   - **Vote with Red Dots:** If you agree an impact is important, place a **red dot**
3. **Rotate every 5 minutes** to complete all categories
4. **Category report-out**: 8 minutes

Categories:



People and Communities	Climate Hazards				
	Drought	Wildfire	Extreme Heat	Extreme Precipitation and Flooding	Sea Level Rise and Storm Surge
Example Communities: 1. Urban Communities 2. Rural Communities 3. Tribal Communities 4. Underserved Communities 5. Agricultural Communities 6. Outdoor workers	Tribal communities have reduced access to braiding grass, due to plant loss from extended droughts, impacting their ability to engage in important cultural practices.	Access to safe clean water is interrupted when water infrastructure is damaged by wildfires, impacting the ability of underserved communities to access clean and affordable water.	Boating and fishing activities are temporarily shut down during spikes in heat because of poor water quality from increased algal growth due to warmer water temperatures.	Levee failures trigger floods which damage homes and impact access to workplaces. Access to FEMA and state funds takes time and will impact low-income communities the hardest.	Agricultural fields rely on wells that are impacted by seawater intrusion. Crops are not as healthy which reduces harvesting and impacts agricultural worker's jobs and pay.

CRAFTING A RESILIENCE VISION

Working Draft Vision

Climate Resilience

Defining Resilience*

Capacity of any entity, whether an individual, community, organization, or natural system to:

1. Prepare for disruptions
2. Recover from shocks and stresses
3. Adapt and grow from a disruptive experience

Image Source: Pajaro Compass

* Adapted from the International Panel on Climate Change

Measuring Resilience

How can we measure progress and demonstrate better outcomes when implementing the Pajaro River Watershed Resilience Program?

- Reliability of surface and groundwater supplies
- Increased water conservation and efficient water use
- Fewer people exposed to 100-year flood events
- Less infrastructure exposed to 100-year flood events
- Stable or increasing groundwater levels
- Decreased land subsidence rate
- Decreased number of dry wells
- Improved ecological and biological conditions
- Reduced wildfire threat
- Improved drinking water quality
- Improved water quality in Pajaro River and tributaries
- Less erosion and sedimentation in stream channels

Draft Vision Statement

The **Pajaro River Watershed Network** recognizes that it is our collective responsibility to create adaptive, responsive, and affordable solutions that strengthen the watershed at large against climate disasters.

Our diverse Network understands the importance of reliable and clean water, and the impacts of drought, fire, flood, and excessive heat on people and ecosystems. Our Watershed Network will:

- Focus to proactively safeguard our interconnected economy, natural and built environment, culture, and biodiversity in the Pajaro River Watershed by managing our water resources to prepare for climate extremes.
- Commit to learning and applying the shared values that unify us across the watershed while protecting our communities most at-risk from climate challenges within the watershed and beyond.
- Identify opportunities for adaptive solutions, plan and implement multi-benefit projects, climate-resilient infrastructure, integrated resource management, and nature-based solutions to prevent, reduce, respond to, and mitigate for future climate uncertainty.

Our vision for the Pajaro River Watershed is a connected community resilient to climate impacts and committed to a thriving future for all.

Activity #4: Envisioning Resilience

Facilitated activity by table:

- **Vision Statement**: If we successfully accomplish the Vision of a resilient watershed, what does it look like and how do you interact with it?
- **Discuss and edit**: Discuss and provide descriptive statements (10 minutes).
- **Take notes**: Take notes on one copy for our team to incorporate.
- **Report-out**: 5 minutes to share a few suggested edits

Our vision for the Pajaro River Watershed is a connected community resilient to climate impacts and committed to a thriving future for all.

NEXT STEPS

Upcoming Activities

- Complete Exit Survey – thank you!
- Mark Your Calendar for
  Workshop #2: Prioritizing Vulnerabilities
  - Virtual only
  - June 10, 2025, 9:00am-12:00pm
  - Outcomes from Workshop #1 and prioritization of vulnerabilities

- Check out the PRWRP website and **join** the Network: www.pvwater.org/PRWRP

Activity #5: Exit Survey

English

Español