



**BOARD OF DIRECTORS  
SAN LORENZO VALLEY WATER  
DISTRICT  
REGULAR MEETING  
MINUTES  
AUGUST 17, 2023**

**Thursday, August 17, 2023, at 5:30 p.m.**, SLVWD Conference Room, 12788 Highway 9, Boulder Creek, the residence at 722 Valley View Rd., Ben Lomond, CA, and via videoconference and teleconference.

**1. Convene Meeting 5:30 p.m.  
Roll Call**

Board Members Present:

Mark Smolley, President

Jeff Hill, Vice President

Jaime Ackemann, Director\*

Bob Fultz, Director

Gail Mahood, Director, absent due to medical issue.

A motion was made and seconded to excuse the absence of Director Mahood.

The motion passed unanimously.

Staff Present:

Rick Rogers, District Manager

Barbara Brenner, District Counsel\*

Holly Hossack, District Secretary

Scott Mattoch, Network Specialist

Garrett Roffe, Engineering Manager

\*Attended virtually

- 2. Changes to Closed Session Agenda: None**
- 3. Oral Communications Regarding Items in Closed Session: None**
- 4. Adjournment to Closed Session: 5:31 p.m.**
- 5. Re-Convene Meeting/Roll Call: 6:30 p.m.**

Board Members Present:

Mark Smolley, President

Jeff Hill, Vice President

Jaime Ackemann, Director\*

Bob Fultz, Director

Gail Mahood, Director, absent/excused

Staff Present:

Rick Rogers, District Manager

Barbara Brenner, District Counsel\*

Carly Blanchard, Environmental Programs Manager and Administrative Analyst

Kendra Reed, Director of Finance and Business Services

Holly Hossack, District Secretary

Scott Mattoch, Network Specialist

Garrett Roffe, Engineering Manager

\*Attended virtually

6. **Report of Actions Taken in Closed Session:** None

7. **Changes to the Agenda:** None

8. **Oral Communications:** None

9. **Unfinished Business:** None

10. **New Business:**

- a. EXPOSED SAN LORENZO VALLEY WATER DISTRICT  
INFRASTRUCTURE ON BROOKSIDE DRIVE, FELTON  
R. Rogers introduced and explained this item.

Discussion by the Board regarding:

- The District has been working with the neighborhood since the storm event 12.31.22
- Required environmental review and bidding could be done by Spring 2024
- Responsibility for culverts is with the road owner
- Water was restored immediately
- There is risk to the pipes when the road is repaired
- Moving other projects down the list of importance for this project
- Survey has to be completed before RFPs can be issued
- Possibility of federal funding/grants-grant writer is investigating
- Pipe currently 2" will be changed to 8" for fire flow

C. Keller, Felton, speaks for his community. He said that there are members of his community that still can't access their homes and/or have trees on their homes. He said that he is not happy with response from the District. The proposed timeline is disappointing. Fish and Game is expediting permits for disasters.

E. Coffee, Felton, also speaks for his community. He said the road is a private road and they understand that the culverts are not the responsibility of the District. He suggested that this situation could be expedited.

R. Rogers responded that the pipeline didn't stop anyone from getting to their homes, or removing trees. The District Engineer was working with several of the homeowners since the event occurred. The pipe is exposed, not up to standards, and needs to be replaced but the community is in water. The District will stand by when road repairs or other work is done to make sure that if a pipe is broken it will be repaired immediately.

Discussion by the Board regarding:

- Understandable frustration but what needs to be done going forward
- Equipment on the road due to the condition of the road
- Primary contact from the community
- FEMA funding
- The repair of the road is not the responsibility of the District
- Prepare a checklist and share it with the Board on future agendas

J. Jameson, Felton, questioned if we have enough staff to work with so many crisis situations.

b. 2023-25 STREAMFLOW, SALINITY AND TEMPERATURE MONITORING AND OPERATIONAL GAUGING CONTRACT AWARD

C. Blanchard introduce and explained this item.

Discussion by the Board regarding:

- A table with a financial summary was requested
- Control of the \$15K contingency for additional data to be approved

A motion was made and seconded to direct the District Manager to enter into a contract with Balance Hydrologics in an amount not to exceed \$119,000 for the purposes of the 2023-2025 Streamflow, Salinity and Temperature Monitoring and Operational Gauging program.

The motion passed unanimously.

c. CONJUNCTIVE USE UPDATE & MODELING TECHNICAL SUPPORT CONTRACT AWARD

C. Blanchard introduced and presented this item with a PowerPoint along with Mike Podlech, Fisheries Biologist and Chris Hammersmark, cbec engineering.

It was noted that Director Ackemann left the meeting at 7:21 p.m.

Discussion by the Board regarding:

- IS-MND
- Operating as an emergency since the CZU Fires
- Purchase of raw and treated water from the City of Santa Cruz
- Feasibility study for Loch Lomond
- Bidding process for this project
- Stream flow monitoring by Rincon
- Is more being done than is needed to support operational aspects
- Unused potential diversion - unmet potential in the winter during high flow
- Diversions impact on water going to the South System
- \$10K contingency

A motion was made and seconded that the Board of Directors direct the District Manager to enter a contract with cbec, inc. eco engineering in an amount not to exceed \$101,627.00 for modeling and data analysis to support the Conjunctive Use Environmental Impact Report.

B. Holloway, Boulder Creek, commented on the cost of the Loch Lomond water.

Dir. Fultz was upset this item was not bid on *per Board Policy* (amended at the 9.7.23 BoD meeting).

The motion passed unanimously.

- d. CZU BASIC WAIVER HOMES POLICY  
K. Reed introduced and explained this item.

Discussion by the Board regarding:

- The Budget & Finance Committee recommends to extend Basic Waiver by 2 years
- 49 requests for meters to be set
- Possibility of exemption from a connection fee

A motion was made and seconded that the Board approve Resolution No. 2 (23-24) granting a two-year extension of the District's Basic Waiver Program to the customers affected by the CZU Fires.

The motion passed unanimously.

- e. BLUE RIDGE TANK AGREEMENT CHANGE ORDER  
R. Rogers introduced and explained this item.

Discussion by the Board regarding:

- Maintenance required for this device
- Low pressure with new tank

- Mixing valves in all tanks policy

A motion was made and seconded to direct the District Manager to amend the existing contract with JMB Construction Inc. in an amount not to exceed \$41,700.00 for the purchase and installation of a Tideflex Potable Water Mixing Valve for the Blue Ridge Tank Replacement.

The motion passed unanimously.

- f. CAPITAL RESERVE POLICY  
K. Reed introduced and explained this item.

Discussion by the Board regarding:

- The basis for the reserve calculation/distorted value
- Budget amendment needed

This item should go to the B & F Committee

It was noted that Director Ackemann re-joined the meeting at 8:24 p.m.

- g. DROUGHT STATUS  
C. Blanchard introduced and explained this item.

Discussion by the Board regarding:

- The Engineering & Environmental Committee recommends that the Stage 2 Drought be lowered to Stage 1
- Possible population decline in the SLV
- This valley is substantially under the State goal for water usage/Santa Cruz County one of the lowest in the State
- Drought Stage should stick to the policy
- Is there any reason not to do this?
- We still don't have surface water sources since the CZU Fires

A motion was made and seconded to lower from a stage 2 water shortage to a stage 1 water shortage based on an anticipated water shortage of ten (10) percent or less for water year 2023.

The motion passed unanimously.

11. **Consent Agenda:** Approved

12. **Adjournment:** 8:37 p.m.

Minutes approved: September 7, 2023

Holly B. Hossack  
Holly B. Hossack, District Secretary



# San Lorenzo Valley Water District



San  
Lorenzo Valley  
WATER DISTRICT

## Conjunctive Use Plan for the San Lorenzo River Watershed

August 17, 2023



## San Lorenzo River Watershed Conjunctive Use Plan (CUP)

- Goal to identify opportunities for improving the reliability of surface and groundwater supplies through conjunctively managing water supplies while also increasing stream baseflows for fish.
- The SLVWD has developed the following reports to support the Conjunctive Use Plan;
  - Water Availability Assessment for San Lorenzo River Watershed Conjunctive Use Plan
  - Fisheries Resource Considerations for the San Lorenzo River Watershed Conjunctive Use Plan
- SLVWD is now working on completing Environmental Impact Report (EIR) CEQA analysis and the final CUP.



# Water Availability Analysis

## 2. Conjunctive Use Scenarios

TABLE 2-1  
SUMMARY OF CONJUNCTIVE USE SCENARIO ALTERNATIVES ASSUMPTIONS (SELECTED SCENARIOS HIGHLIGHTED)

No.	Base Case and Alternative Conjunctive Use Scenarios	Stream Diversion Capacities		Fulton System Water Rights			Stream Diversion Exports Using System Inlettes					Import from Loch Lomond			Scotts Valley In-Lieu Recharge with Excessed Diversion		
		Existing	Doubled	Comply	Not Comply	Comply with Bypass Only	Fulton System	South System	Olympia ASR	South System	North System	Olympia ASR	North System	Fulton System	South System	from North System	from Fulton System
Historical Record, WYs 2000-2017																	
Synthesized Records, WYs 1970-2017:																	
1	Base case Simulated historical record (calibrated to WYs 2000-2017)	▲			▲												
Scenario 1 - Alternative Using Existing and Modified Infrastructure and Water Rights Variations																	
2	1a. Fulton system complies with water rights.	▼		○													
3	1b. Fulton system complies with required bypass flows, but not SLRST low-flow no-diversion requirements	▲				○											
4	1c. All diversion capacities doubled; Fulton system complies with water rights.		▼	○													
5	1d. All diversion capacities doubled; Fulton system divers without regard to water rights.		▲		▲												
6	1e. All diversion capacities doubled; Fulton system complies with required bypass flows only.		▲			○											
7	1f. South system imports North system unused potential diversions for in-lieu recharge; Fulton system complies with water rights.	▲		○			X	▲									
8	1g1. South system imports Fulton system unused potential diversions for in-lieu recharge; Fulton system divers without regard to water rights.	▲					X			▲							
9	1g2. Scenario 1g1 except Fulton system complies with water rights.	▲		○			X			▲							
10	1g3. Scenario 1g1 except Fulton system complies with required bypass flows only.	▲				○	X			▲							
11	1g4. Scenario 1g2 except inlette capacities limited.	▲		○			X										
12	1h1. South system imports unused potential diversion from North and Fulton systems for in-lieu recharge; Fulton system divers without regard to water rights.	▼			▼		X	▼	▼								
13	1h2. Scenario 1h1 except Fulton system complies with water rights.	▲		○			X	▲									
14	1i. North system imports Fulton system unused potential diversions for in-lieu recharge; Fulton system complies with water rights.	▲					X			▲							
15	1j. Scenario 1i plus South system imports unused potential diversion from North and Fulton systems.	▼		○			X	▼	▼	▼							
16	1k. Scenario 1j except inlette capacities limited.	▲		○			X	▲									
Scenario 2 - Import from Loch Lomond																	
17	2a. North and Fulton systems import from Loch Lomond to satisfy unmet demand in Scenario 1a.	▲		▲			X					▲	▲				
18	2b. Scenario 2a plus South system imports from Loch Lomond for in-lieu recharge.	▲		▲			X					▲	▲	▲			
19	2c. Scenario 2b plus South system also imports North system unused diversions, and North system imports unused Fulton system diversions.	▲		▲			X	▲				▲	▲	▲			
Scenario 3 - Import from Loch Lomond and Operate Olympia Aquifer Storage and Recovery (ASR)																	
20	3a. Scenario 2b plus North system operates Olympia area ASR using North system unused diversions.	▼		▼			X	⊖				▼	▼				
21	3b. Scenario 2b plus North system operates Olympia area ASR using Fulton system unused diversions.	▲		▲			X			⊖		▲	▲	▲			
22	3c. Scenario 3a and 3b combined.	▼		▼			X	⊖				▼	▼	▼			
23*	3d. Scenario 3c, but replace Peavine Farm baseline diversions with pumping from Olympia wells	▲		○			X	○				▲	▲	▲			
Scenario 4 - Contribute to Scotts Valley In-Lieu Recharge while Operating Olympia ASR and Importing from Loch Lomond																	
24	4. Scenario 3c plus SWWD imports North and Fulton system remaining unused potential diversions.	▼		▼			X	⊖				▼	▼	▼	▼	▼	▼

▲ Base case condition or scenario assumption. X North system has no unused diversions when needed by Fulton. All scenarios assume estimated 2045 demand and repeat of WY 1970-2017 climatic cycle.  
○ Minor unmet demand. ⊖ Inlette capacities limited to rated values. \* Simulated base case does not reflect minor use of system inlettes in actual use since 2016.  
▼ Water rights compliance results in unmet demand some years. ◊ Diversions reported to Olympia ASR, imported back to North system. \* Additional scenario identified after completion of WAA.  
SOURCE: adapted from Exponent (2019) and Johnson (2019)

- 24 conjunctive Use scenarios
- Focused primarily on water supply reliability and sustainability, with particular emphasis on groundwater sustainability
- Based on simulated monthly flow

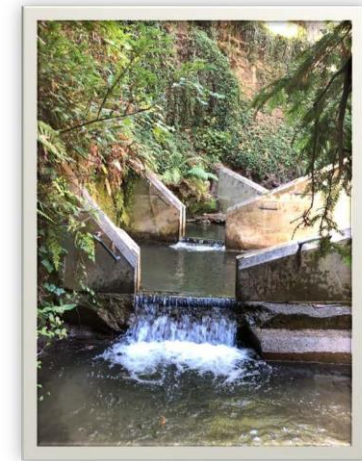


# Fisheries Resource Considerations Assessment



- Planning-level analysis of fisheries effects (benefits) of District-selected WAA scenarios
- Used WAA simulated flow results and streamflow monitoring data
- Did not establish habitat-flow relationships / instream flow needs

Fisheries Resource Considerations for the  
San Lorenzo River Watershed Conjunctive Use Plan  
*(Revised Final)*



Prepared for:

San Lorenzo Valley Water District  
13060 Highway 9  
Boulder Creek, CA 95006

County of Santa Cruz  
701 Ocean St.  
Santa Cruz CA 95060

Prepared by:

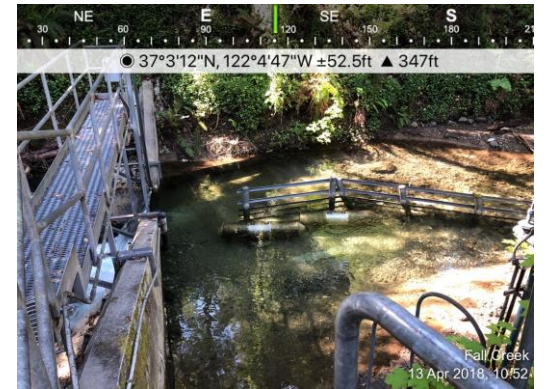
Mike Podlech, Fisheries Biologist

# Existing Operations

- **North System:** Surface water & groundwater sources
- **South System:** Groundwater only;
- **Felton System:** Surface water only;
- **Emergency Interties:** North-Felton, North-South, South- Scotts Valley WD

## Not Currently Used:

- **Loch Lomond:** 313 afy allotment
- **Lompico/Zayante:** Petition for Water Code section 1707 streamflow dedication submitted



# Stream Flow & Temperature Monitoring

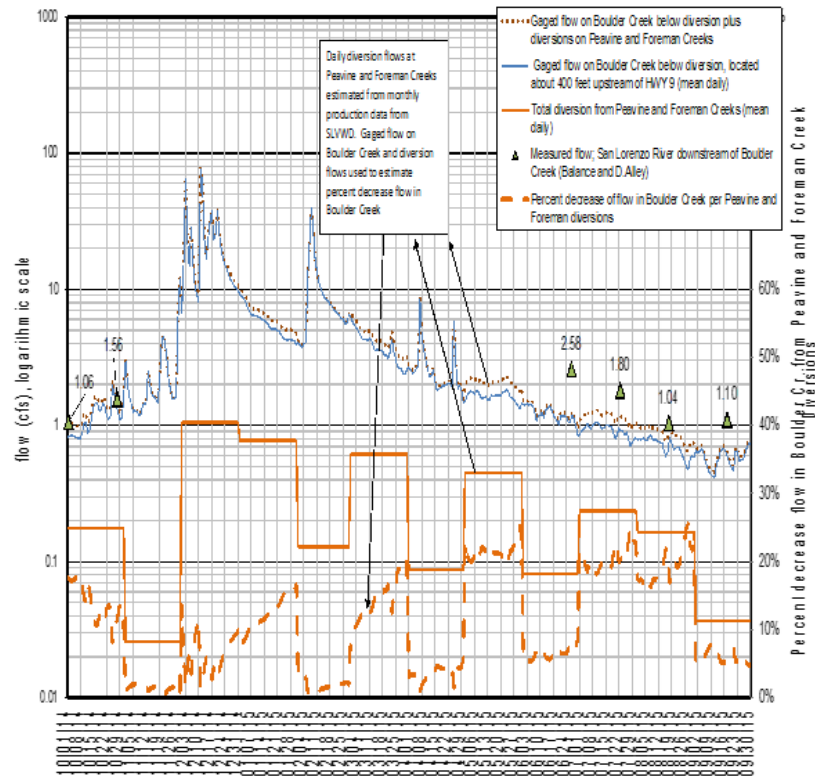


Figure 3-2: Synoptic discharge measurements on the SLR downstream of Boulder Creek, mean daily discharge of Boulder Creek, and diversions on Peavine and Foreman Creeks, Santa Cruz County, California, Water Year 2015. Diversion rates are compared to flow in Boulder Creek and the San Lorenzo River downstream of Boulder Creek.

- 5-year extensive gaging (2014-2018) with agency input and annual updates
- Broad range of water year types
- Included water temperature effects analysis by Don Alley
- Reduced scope since 2019
- Limited data from 2020-2023 due to natural disasters



# Revised Conjunctive Use Project Description



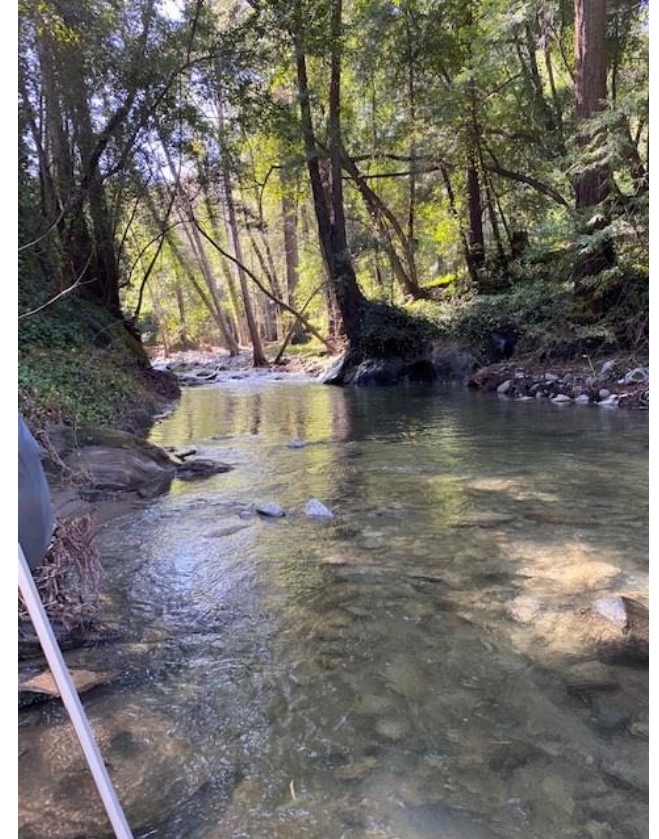
- Interties: Use existing emergency interties for non-emergency operations to move water through entire District to improve system reliability and expand conjunctive use
- Transfer of Unused Potential Diversions: Surface water diversion at existing PODs and capacities during high-flow/low-demand periods to offset groundwater pumping (in-lieu recharge with drought baseflow benefits)
- Loch Lomond: Utilize allotment to offset groundwater pumping and/or meet demand during low surface flow periods
  - Loch Lomond Feasibility Study Request for Proposals
- Felton Place of Use: Request water right permit modification to expand POU

## **NOT Included:**

- Changes to Felton Water Right Permit terms ("SLRBT Low-Flow Requirements Modifications Scenario" in IS/MND)
- Aquifer Storage and Recovery

- Environmental Impact Report (EIR) contract awarded to Rincon Consultants Inc., on August 18<sup>th</sup>, 2022.
- Updated project description brought to the Board of Directors on August 4, 2022
- Staff working to develop CUP operations plan (and select WAA scenario) to base EIR project description
- Model potential climate change impacts
- Working with the City of Santa Cruz to understand potential impacts to their operations

- cbec brought onto CUP planning effort to assist with operational data gaps & climate change modeling
- Initially started with \$30,000 under the General Manager's purchasing authority



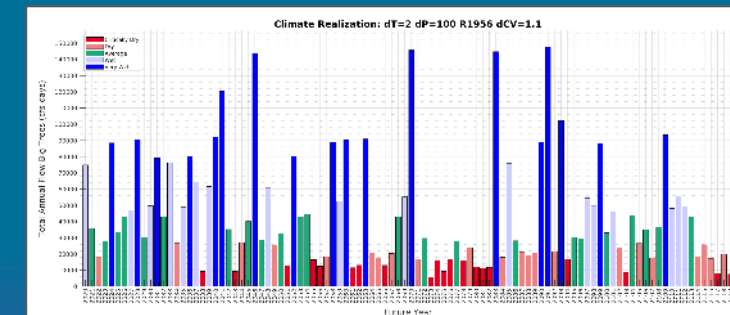
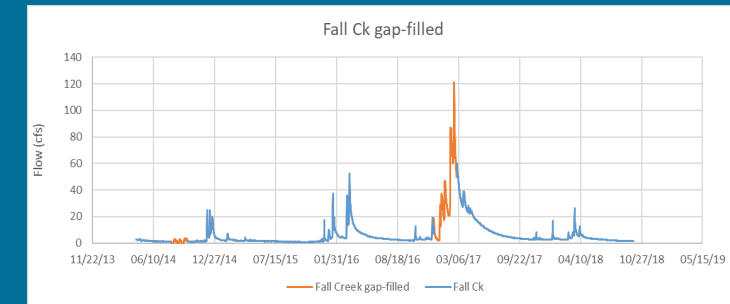
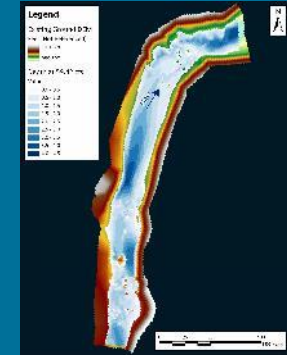


# cbec's Tasks

Assess changes in habitat availability and fish passage due to changes in flow

Synthesize “without project” daily streamflow records for use by others in CUP EIR CEQA analysis

Scale existing hydrology to potential future conditions due to climate change



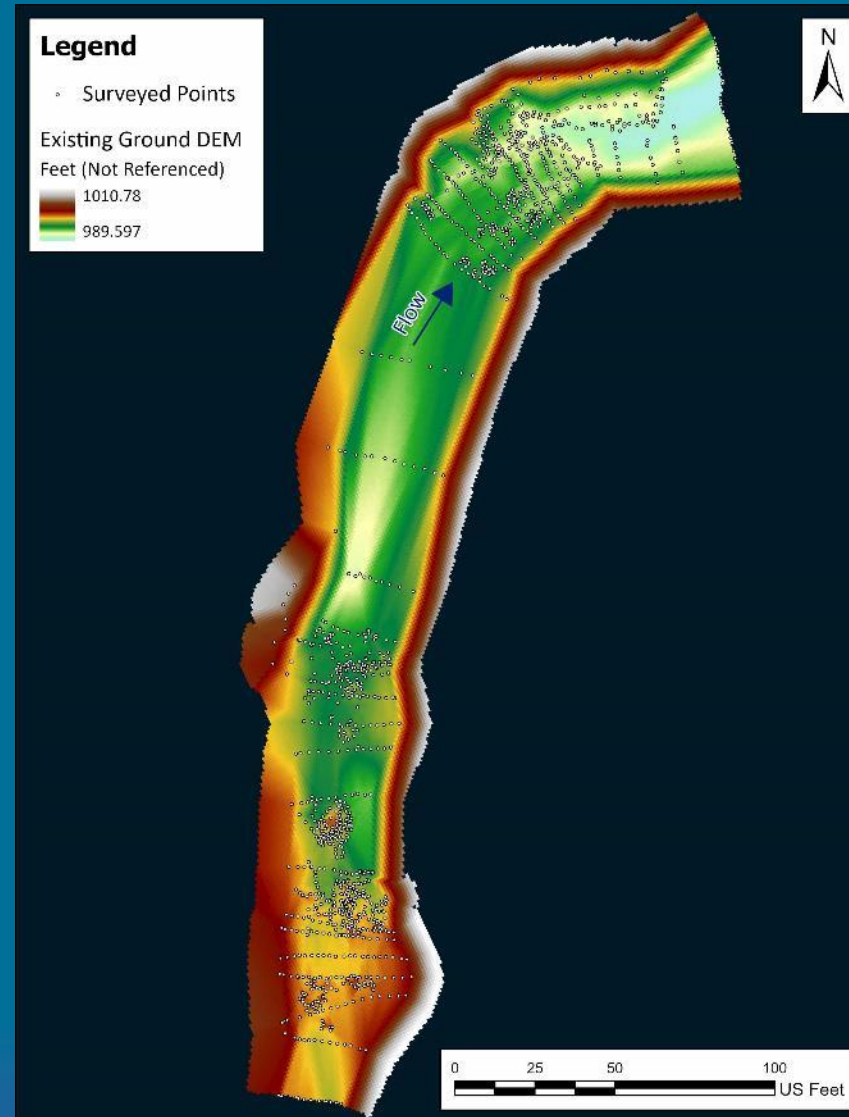


# Habitat and Fish Passage Analysis





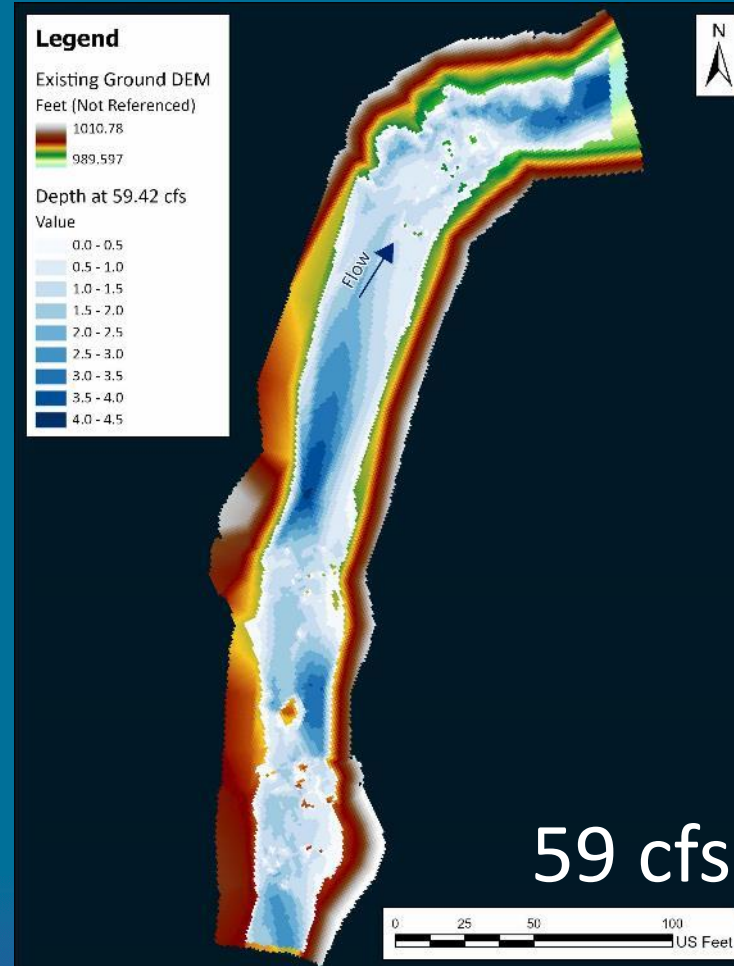
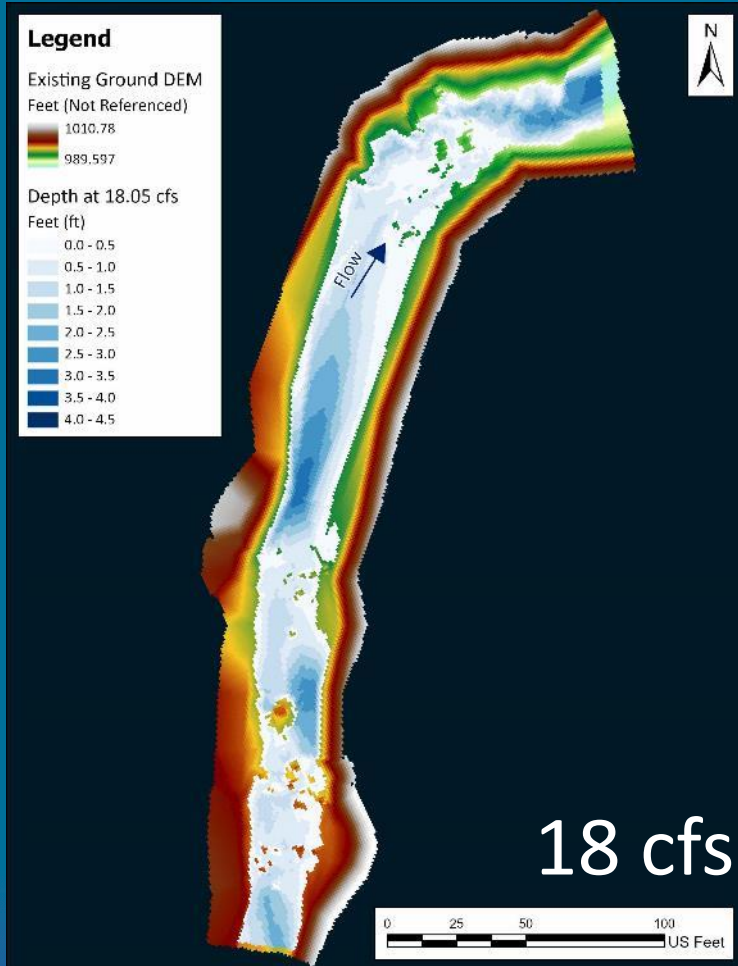
# Habitat and Fish Passage Analysis





# Habitat and Fish Passage Analysis

## Simulated Water Depth



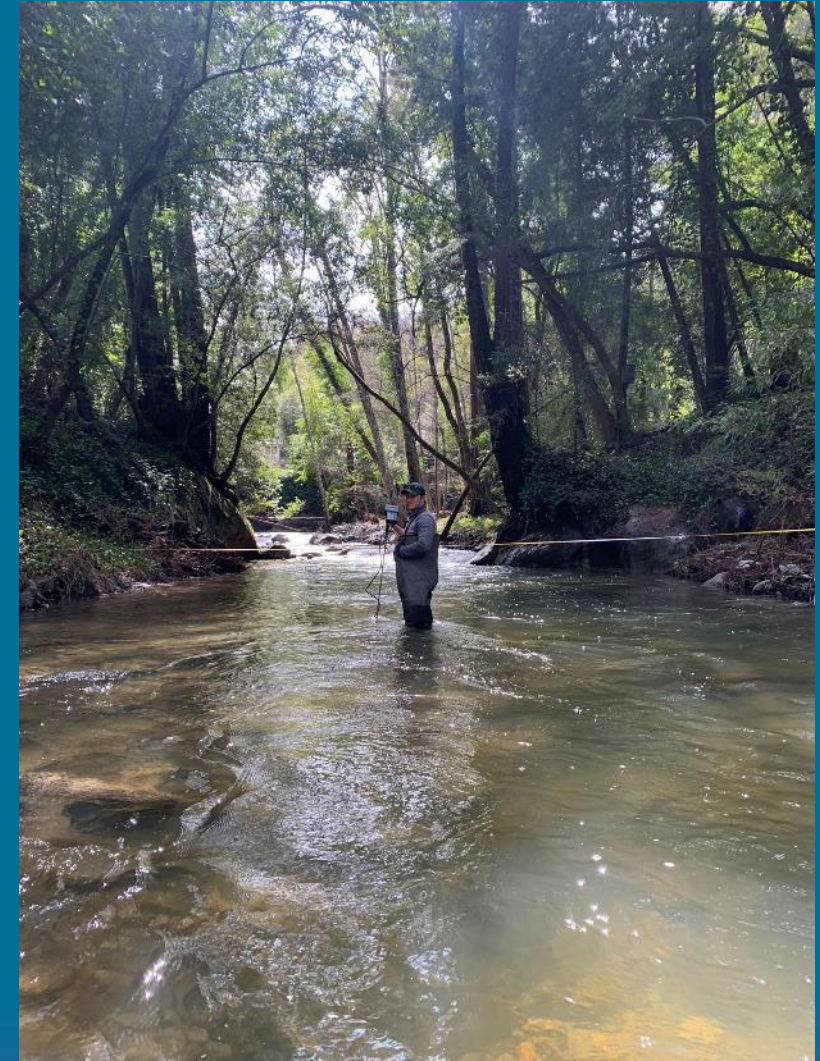
Use model to assess:

- When reach becomes impassable for steelhead
- How rearing habitat availability changes with flow

# Streamflow Synthesis

## Prepare daily streamflow data for use in Conjunctive Use Planning (CUP) efforts

- Use monitoring records across the SLVWD service area from 2014-2018
  - Captures wide natural variation in water years
- Prepare data by filling gaps and removing diversion effects

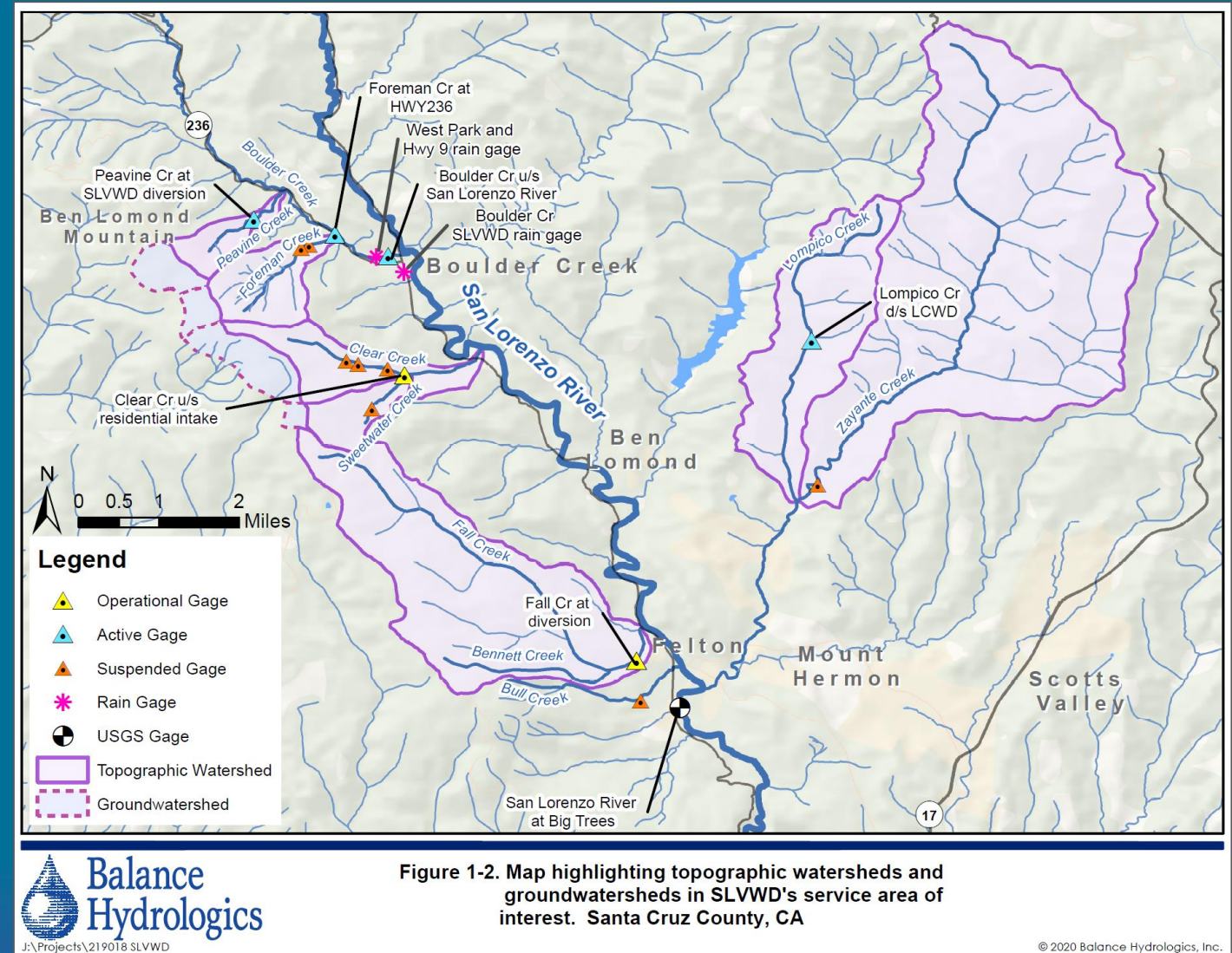




# Streamflow Synthesis

## Streamflow monitoring in the SLVWD service area

- Performed by Balance Hydrologics
- Full tributary monitoring 2014-2018
  - **North System**
    - Peavine Creek
    - Foreman Creek
    - Boulder Creek
    - Clear Creek
    - Sweetwater Creek
  - **Felton System**
    - Fall Creek
    - Bull Creek
  - **Lompico System**
    - Lompico Creek
    - Zayante Creek
- Final record: 4/15/2014 – 9/30/2018





# Streamflow Synthesis

## Monitored streamflow gap-filling

- Gaps in data collection caused by gage damage during storms, equipment malfunction, decisions to move gage sites
- Gaps range from few weeks to few months
- Largest data gap: Foreman Creek, 2 years
- Gaps filled by linear correlations with neighboring gages

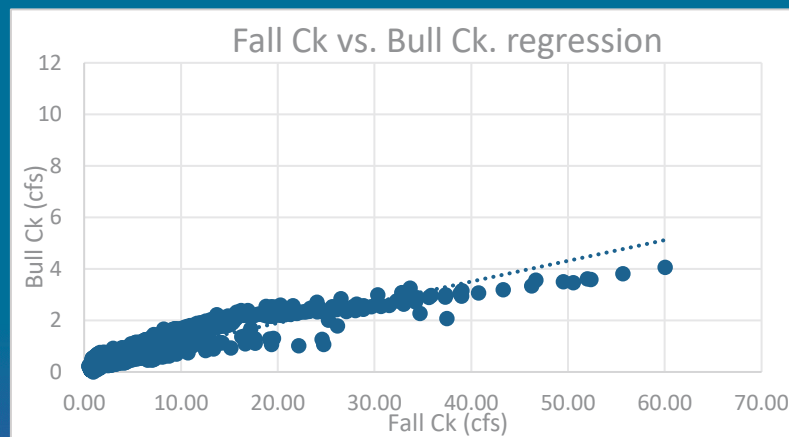
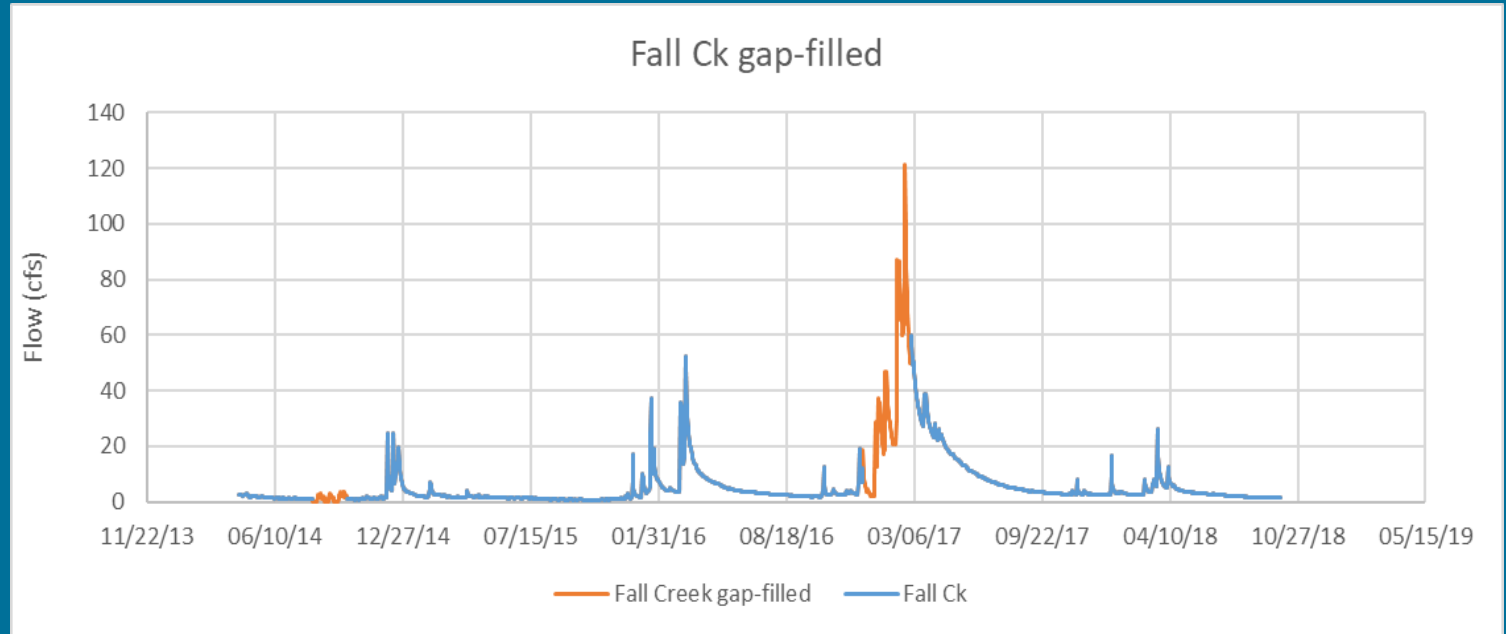


*Image from Balance Hydrologics*

# Final gap-filled streamflow record

## Fall Creek

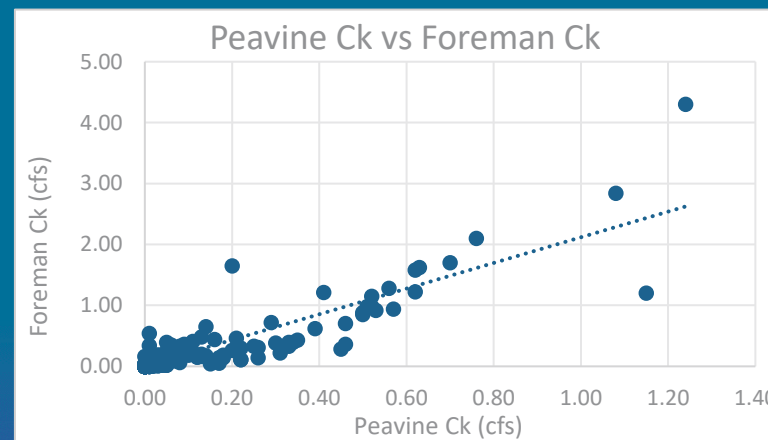
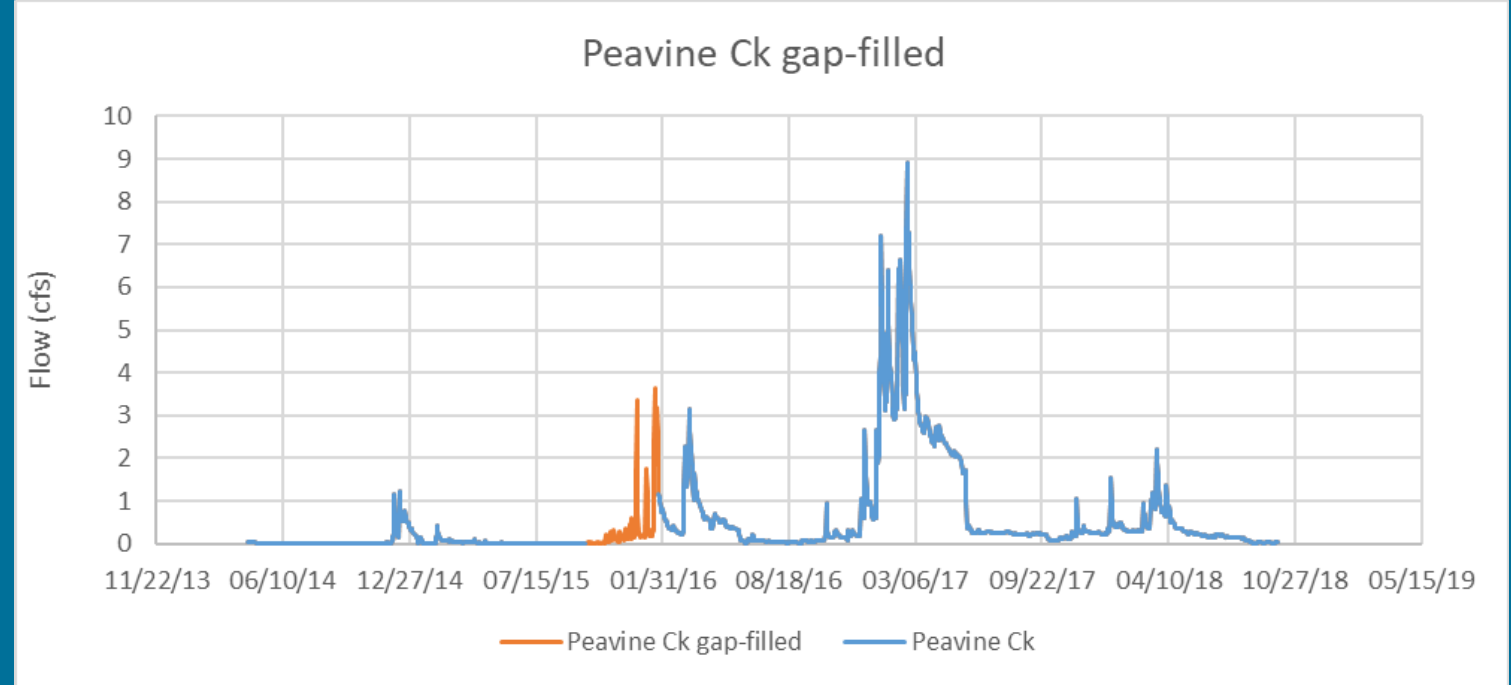
- Gaps ranging 4-6 weeks
- Filled with Bull Creek linear regression
- Regression  $r^2=0.86$



# Final gap-filled streamflow record

## Peavine Creek

- 4-month data gap Oct 2015 – Jan 2016
- Filled with Foreman Ck linear regression ( $Q < 10$  cfs)
- Regression  $r^2 = 0.80$





# Flow Diversion Corrections

- Monitored flows do not account for system diversions
- Monthly reported diversions from SLVWD added back to monitored daily flow
- Result: natural condition, daily flow for 2014-2021

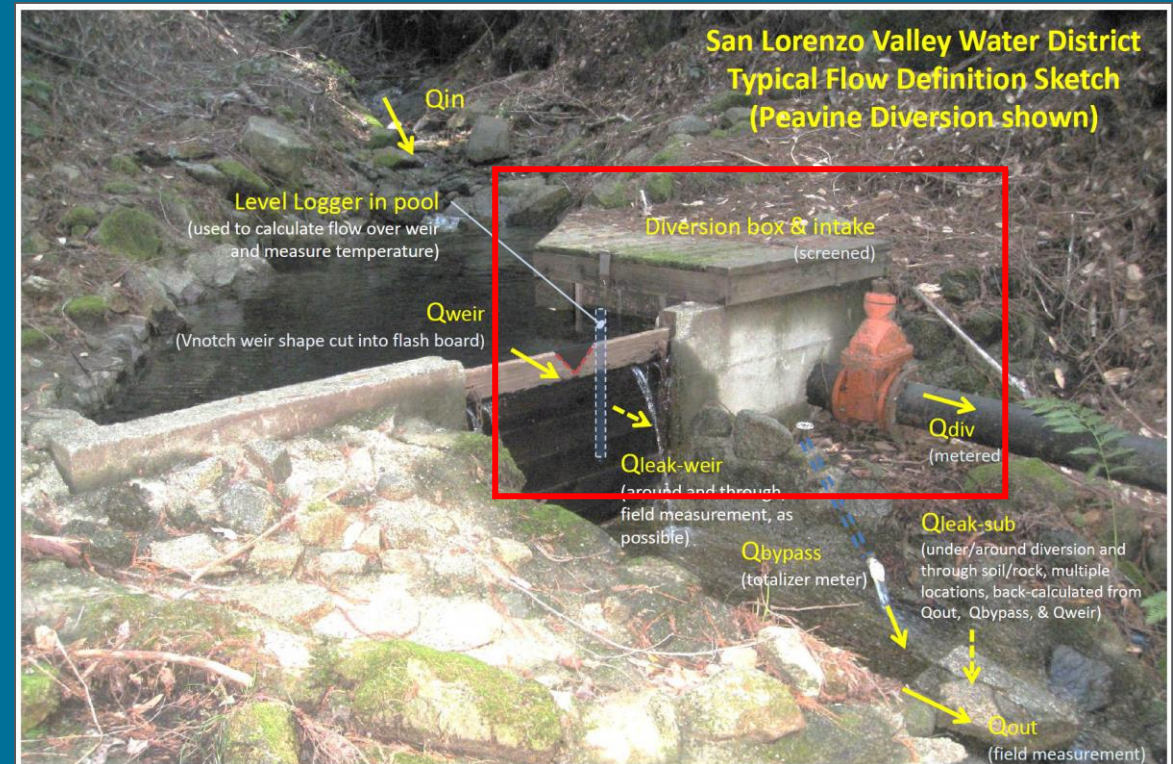
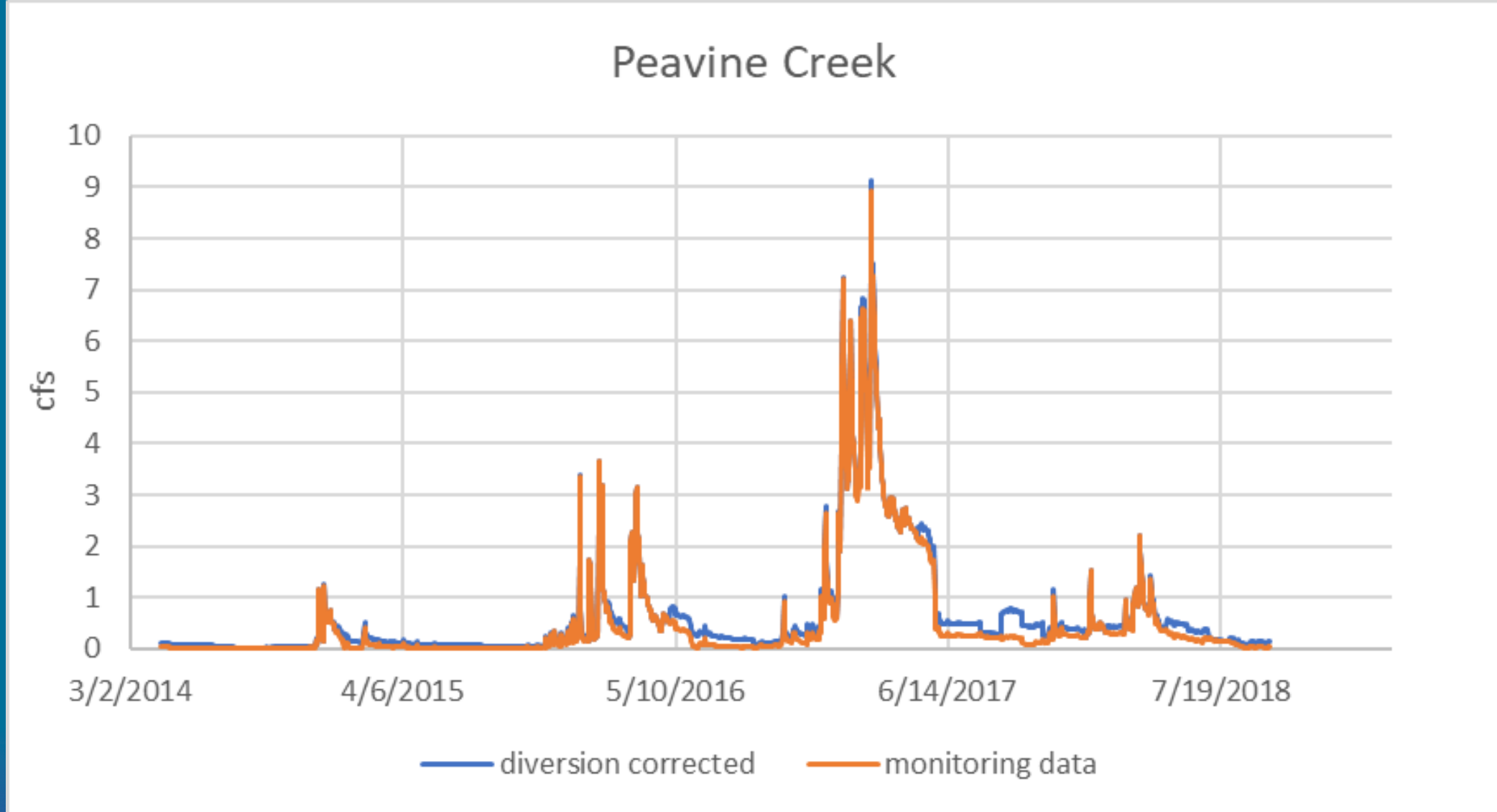
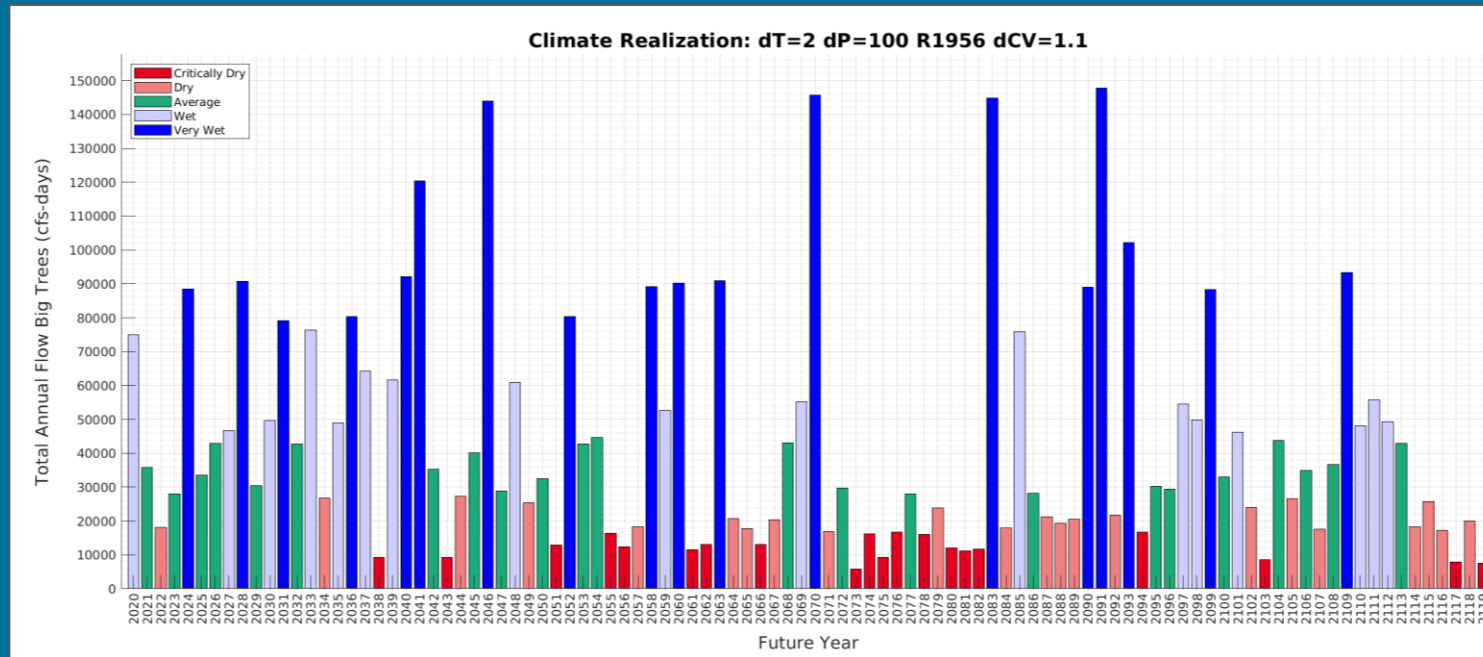


Image from Balance Hydrologics

# Without Project Synthesized Flow



# Next Steps: Climate Change Analysis



- Building off City of Santa Cruz's previous climate stress test work
- Scale results for 100-year chronologies to 4.5-year chronology for monitored daily flow
- Extrapolate results for Big Trees flow to monitored flow locations throughout service area (9 total sites)



# Closing





**Thank you for  
your time!**

**Questions & Answers**

