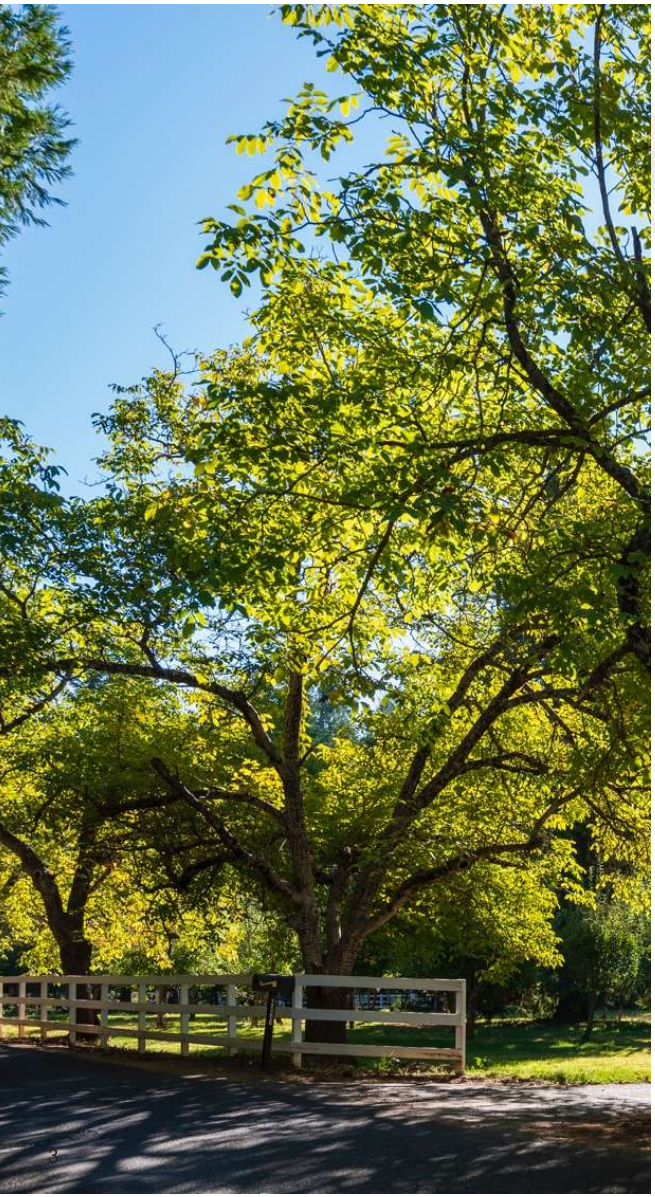
El Dorado Water Agency

El Dorado County Drought and Water Shortage Task Force Meeting

October 14, 2024

Brown AND Caldwell

TIME	AGENDA ITEM	PRESENTER
10:00	Introductions, CDRP Roles and Responsibilities	Kyle Ericson, EDWA
10:15	El Dorado County Roles and Responsibilities	Kameisha Nichols, El Dorado County
10:20	Historical Background (Why We Are Here)	BC Team
10:25	Meeting Objectives	BC Team
10:30	Drought and Water Shortage Resilience Plan (CDRP)	BC Team
10:40	Risk and Vulnerability Assessment	BC Team
11:20	Task Force Roundtable	Task Force Open Discussion
11:50	Next Steps	BC Team
11:55	Meeting Adjourned	Kyle Ericson, EDWA



Introductions

Task Force Core Members

County of El Dorado

• Carla Hass	Chief Admin Office
• Jeff Warren	Environmental Management Department
• Matthew Minson (new)	Public Health

County Sheriff's Office

• Scott Bare	Office of Emergency Services

El Dorado Water Agency

• Kyle Ericson	Water Resources Principal
• Hannah Romero (new)	Water Resources Principal

Brown and Caldwell

• Melanie Holten	Water Resources Manager
• Tess Sprague	Climate Resilience Lead

Introductions

Task Force Advisory Members

Melissa McConnell	City of Placerville
Hilary Roverud	City of South Lake Tahoe
Karen Bender	County of El Dorado, Environmental Management
Kameisha Nichols	County of El Dorado, Environmental Management
Rob Peters	County of El Dorado, Planning and Building
Julia Ekstrom	Department of Water Resources
Michael Ranalli	El Dorado County Farm Bureau
Phil Jones	El Dorado County Office of Education
Jon Money	El Dorado Irrigation District
Nicholas Schneider	Georgetown Divide Public Utility District
Kim Gustafson	Grizzly Flats Community Service District
John Marrs	Kyburz Mutual Water Company
Jennifer Lukins	Lukins Brothers Water Company, Inc.
Tracy Wilson	Quintette Service Corporation
James Sarmento	Shingle Springs Band of Miwok Indians
Mark Seelos	South Tahoe Public Utility District/Tahoe GSA
Sean Barclay	Tahoe City Public Utility District
Heather Blumenthal	Tahoe Keys Water Company

Key Definitions

Small water supplier:

- Community system serving 15 to 2,999 service connections
- Provides less than 3,000 acre-feet of water annually (Water Code §10609.51 subd. (k)).

Small water supplier's individual responsibility (SB552)

State small water system:

- Serving 5 to 14 service connections
- Does not regularly serve drinking water to more than an average of 25 individuals daily for more than 60 days out of the year as defined in Section 116275 (n) of the Health and Safety Code (Water Code §10609.51 subd. (m))

County's responsibility (SB552)

**A portion of the small water suppliers and state small water systems are managed by the State*

Key Definitions

Domestic well:

- A groundwater well used to supply water for the domestic needs of an individual residence or a water system
- Not a public water system and that has no more than four service connections, as defined in Section 116681 of the Health and Safety Code (Water Code §10609.51 subd. (k)).

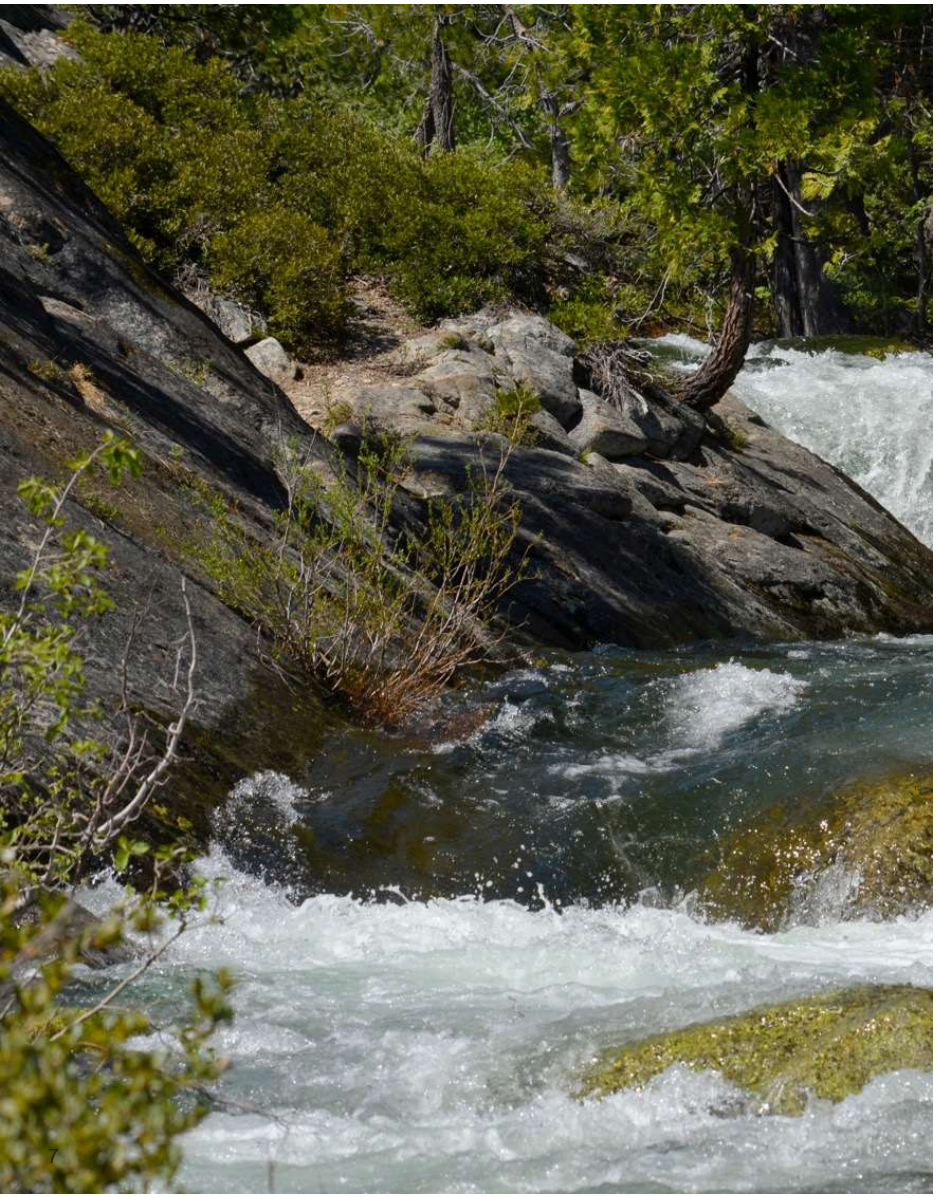
County's responsibility (SB552)

Non-transient, non-community water system: A public water system that is not a community water system and that regularly serves at least 25 of the same persons over 6 months per year, as defined in Section 116275 subd. (k) of the Health and Safety Code. Example of this includes a school (Water Code §10609.51 subd. (g))

NTNC's individual responsibility (SB552)

LPA: Local Primacy Agency

EMD: Environmental Management Department



Roles and Responsibilities

Core Task Force Members

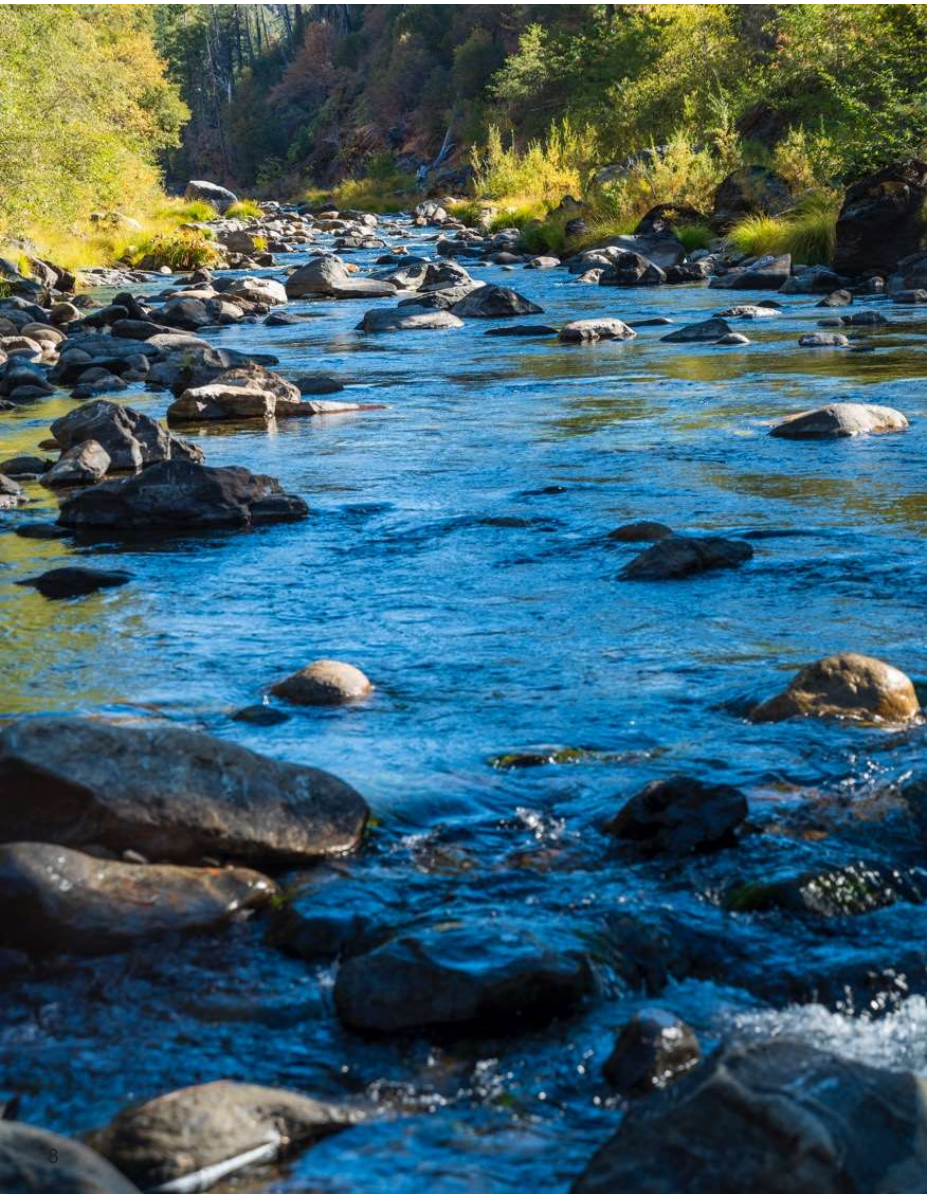
- Review current drought conditions using tools provided by the U.S. Drought Monitor and state agencies.
- Identify drought-related issues that will impact county residents.
- Develop actionable solutions to address identified problems.
- Support SB552 implementation to meet regulatory compliance, including County Plan for state SWS/domestic wells.
- Disseminate Task Force findings to the community.

Advisory Task Force Members

- Provide current water supply conditions, data, and feedback, when applicable.
- Disseminate Task Force findings to the community and, when applicable, its customers.

El Dorado Water Agency

- Facilitate Task Force meetings, provide the venue for discussions related to SB552 support and implementation, and lead CDRP.



El Dorado County EMD Roles and Responsibilities

- State Mandates for LPA Program
- EMD Duties in LPA Program
- EMD Water Well Program

State Mandates for LPA Program

- Delegation Agreement
- Permits – reviewing and issuing new/amended
- Surveillance, sampling and monitoring
- Reporting and enforcement
- Program management
  - Annual workplan
  - Annual program review
- New permit and water treatment concurrent reviews with the State & GSA
- CEQA evaluations for permit amendments
- Annual electronic reporting to the State (eAR)
- Cal Code Systems are now included in the TNC's requirements

EMD Duties in LPA Program

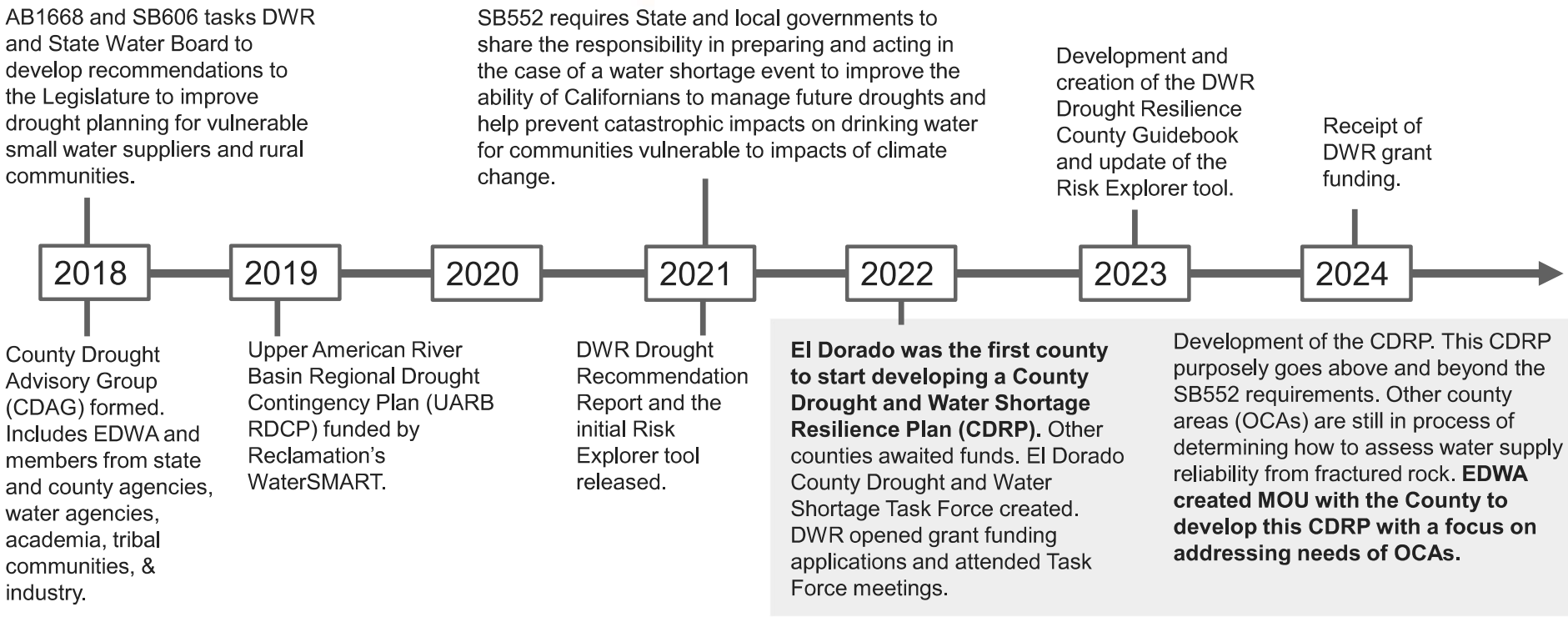
- Maintain water supply permits and water system inventory
- Conduct sanitary surveys and provide written reports
- Review water quality monitoring results (Failure to sample; exceedances)
- Monitor compliance with water quality (repeat sampling, Level I/II assessments)
- Data management – forms for EDC and State (SDWIS); clean up reports; change ownership
- Track and review Electronic Annual Reports & Consumer Confidence Reports
- Enforcement (issuing NOV's, Citations, Compliance Orders) and tracking compliance

EMD Water Well Program

- Determine the eligibility for new well construction
- Review and approve/deny well permit applications based on EDC Ordinance
- Conduct site inspections
- Ensure well production and completion reports are submitted

Historical Background

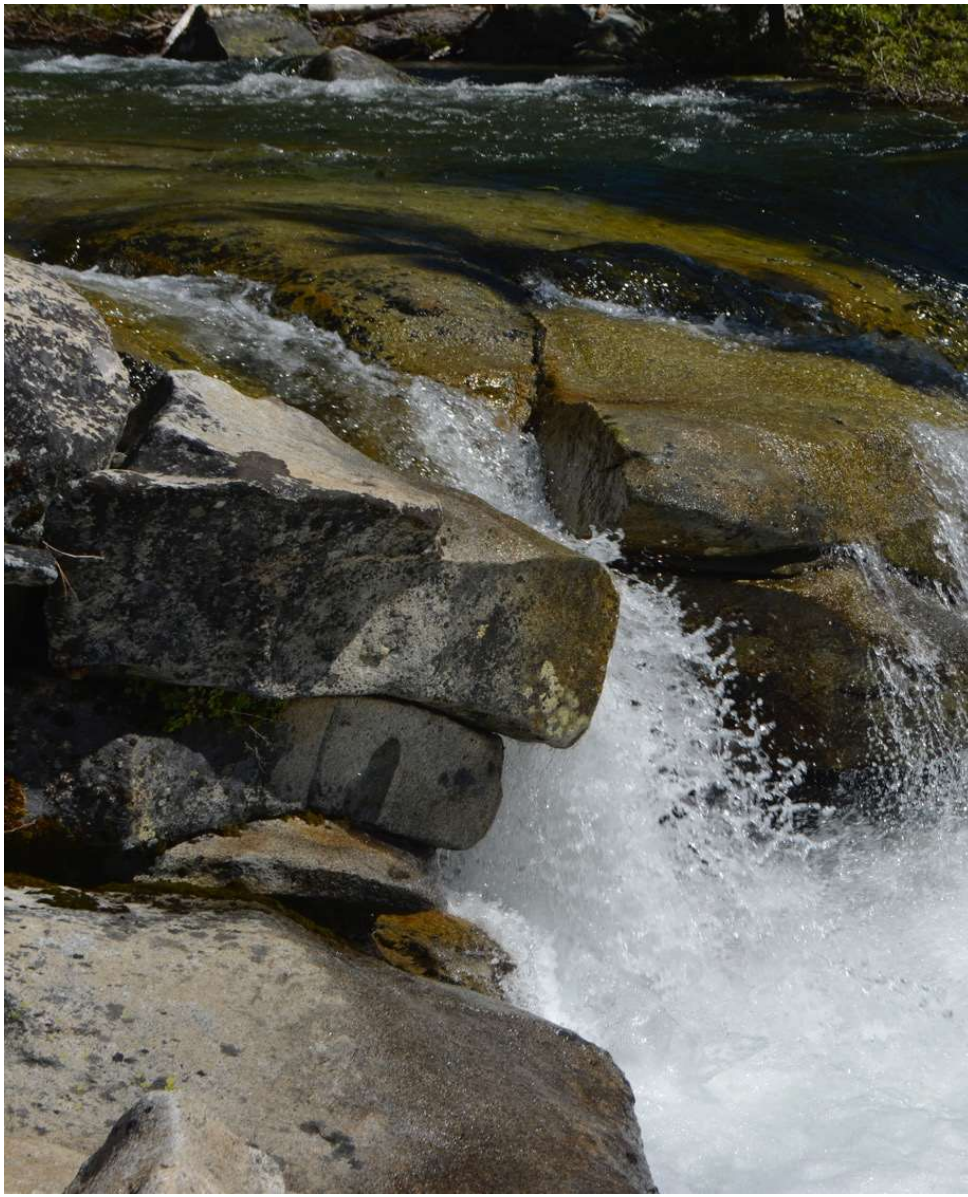
Historical Background (Why We Are Here)




Meeting Objectives

Meeting Objectives

- Bring Task Force members up to speed on previous efforts to date
- Share summary of findings from the Risk and Vulnerability Assessment
- Discuss findings and receive input via roundtable with Task Force members

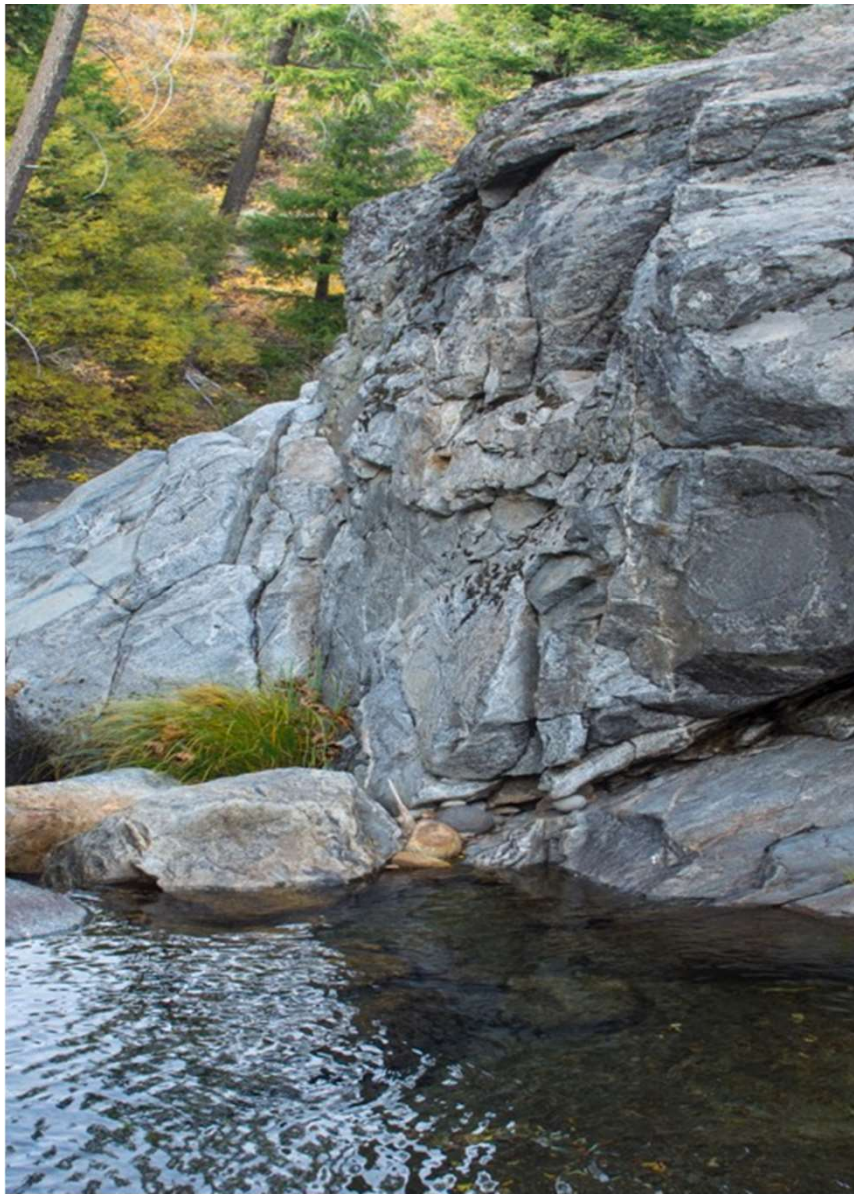


Drought and Water Shortage Resilience Plan (CDRP)

Conveying the Foothill Community Story

Important to success and intent of CDRP:

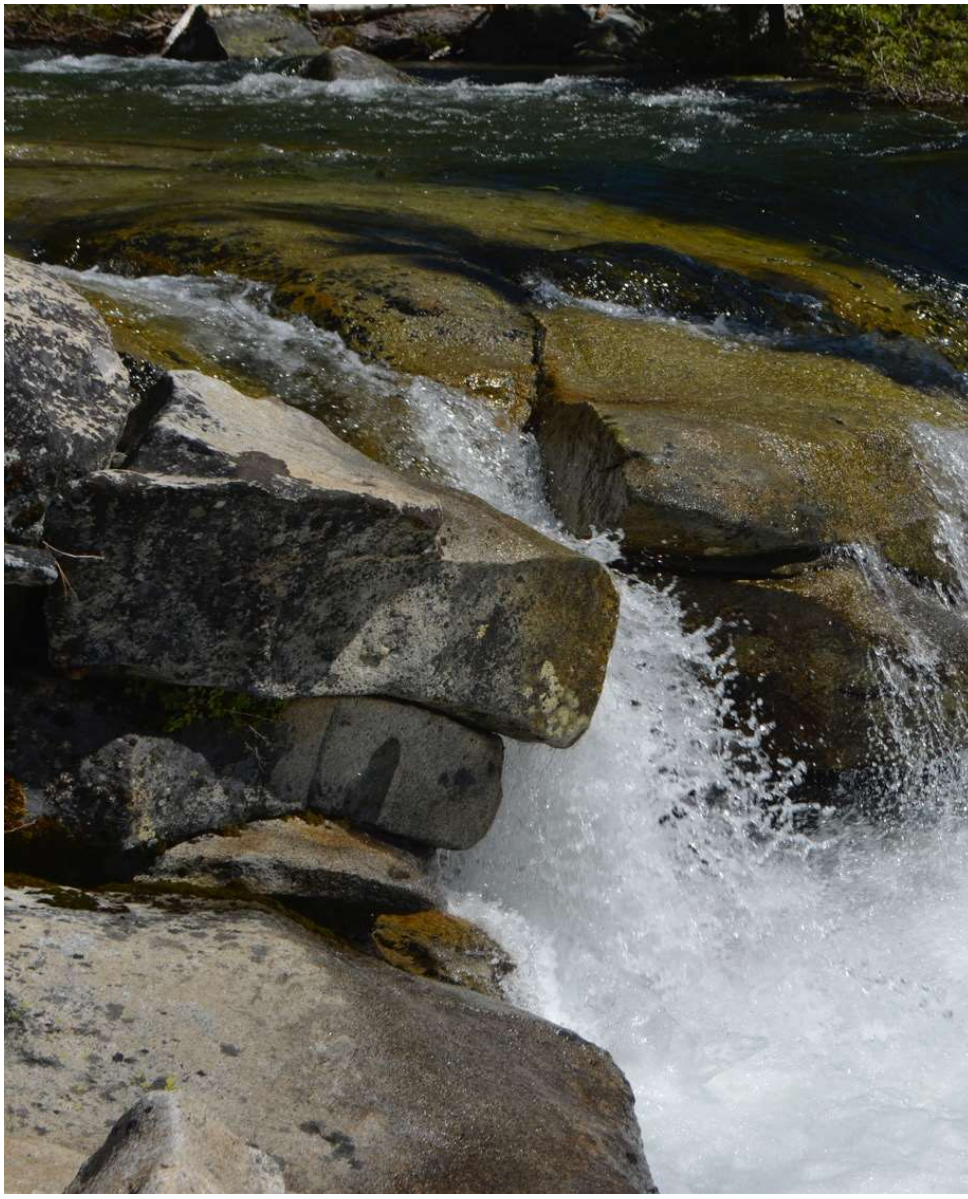
- Unique local conditions as headwater and foothill environment
- Change in demographics with COVID-19 mass urban exodus
- Still in recovery from wildfires (i.e., Caldor Fire, Grizzly Flats, Mosquito Fire)
- Flooding from atmospheric rivers
- Mostly rural-agricultural communities
- Limited surface water storage
- Fractured rock aquifers



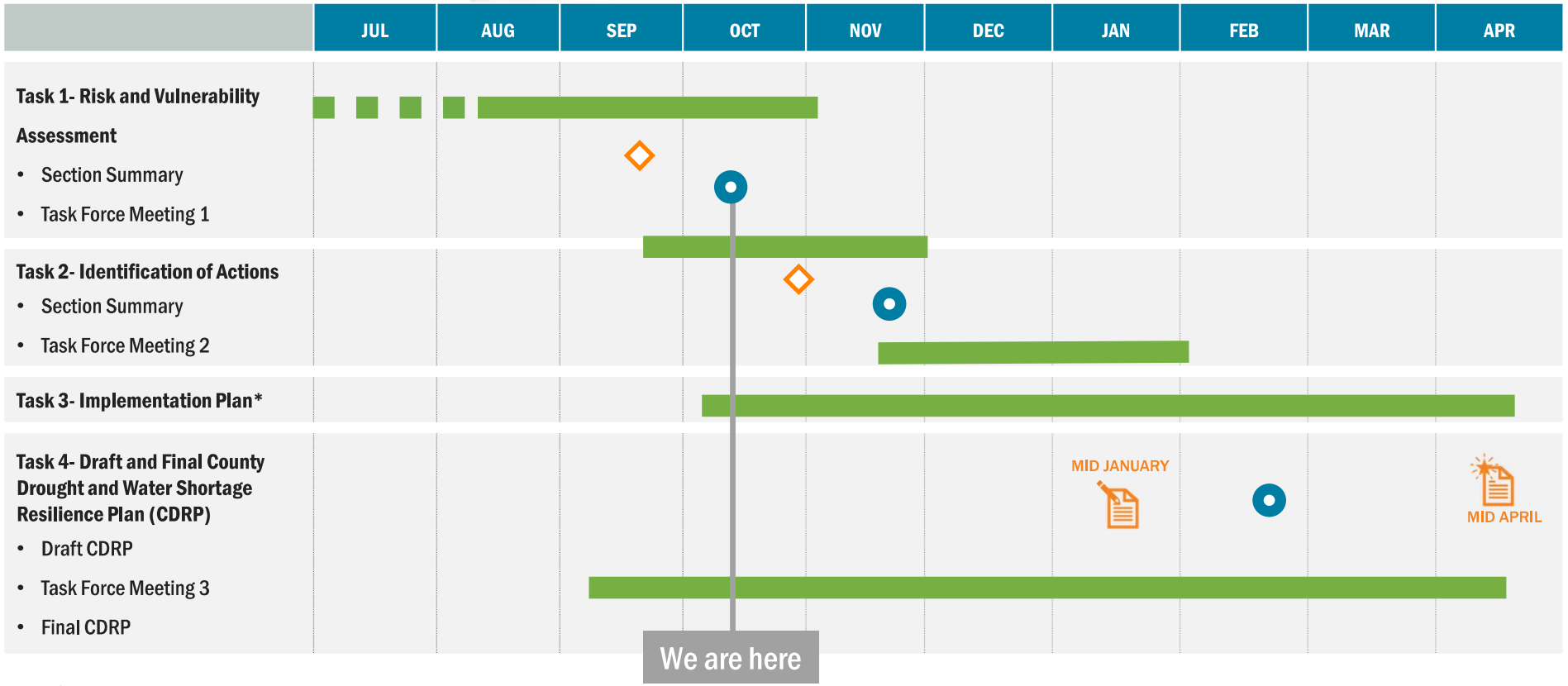
Source: Programmatic Watershed Plan (PWP) 2023

CDRP Objectives

- Improve small system and domestic well drought and water shortage preparedness in El Dorado County to promote the vision of the County General Plan.
- Implement proactive drought planning and be better prepared for future water shortage events and dry years.
- Develop a stand-alone CDRP document, comprehensive and easy to update without having to update multiple sources.



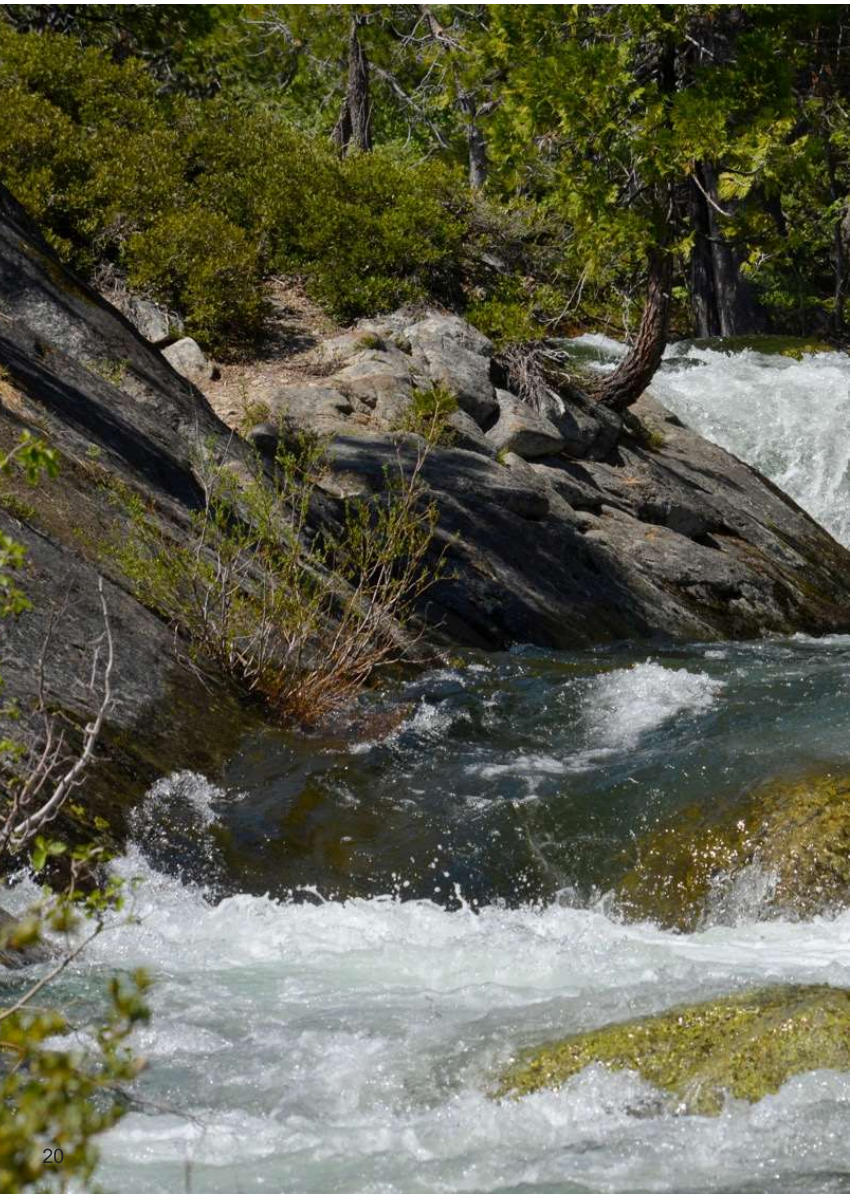
CDRP Development Process (Where We Are)



LEGEND

SECTION SUMMARIES | TASK FORCE MEETING | DRAFT CDRP | FINAL CDRP | EXTENSIVE PREVIOUS EFFORTS

*Support for implementation embedded in plan development



Above and Beyond SB552

El Dorado County Drought and Water Shortage Resilience Plan is a comprehensive plan, tailored to local data and needs

- All Small Water Systems are included in CDRP
  - Counties under SB552 are only required to address water shortage preparedness for domestic wells and State SWS (5 to 14 connections)
  - In contrast, CDRP includes all SWS (up to 2,999 connections)
  - Note: SWS include public and private entities
- Includes a custom risk assessment/vulnerability that goes beyond the DWR interactive webtool
  - Assessment approach incorporates more county-specific data, and enables a more tailored analysis of local vulnerability for El Dorado County communities
  - Includes a secondary custom analysis for domestic wells

Risk and Vulnerability Assessment

Risk and Vulnerability Assessment

Custom approach beyond current DWR vulnerability assessment, leverages locally available data, and includes extensive outreach.

- Previously developed by Stantec and reviewed by Task Force extensively
- Recent addition of newly available domestic wells data
- Interpretation of results

Risk and Vulnerability Assessment

Gather existing data on small water systems

Extensive Previous Work Conducted:

- Data collected from County EMD and State Water Board's 2020 EAR.
- Informational interviews with representatives from small water systems
- Distribution of online survey

Recent Data Added:

- Available domestic well data from El Dorado County

Existing Data (detail and limitations)

County EMD and State Water Board's 2020 EAR.

EMD (97/128 systems) non-digital information scanned: water quality emergency notification plans, water system inspection reports, bacteriological and chemical water sample reports, and domestic water supply permits

EAR (123/128 systems) digital information downloaded: population served, number of potable water connections, long-term drought and water shortage resilience improvements made and/or planned, sensitivity to climate change threats, and climate change adaptation strategies.

Informational interviews with representatives from small water systems to:

- Discuss past, current, and potential future issues
- Gain further information on their respective water systems

Distribution of online survey to gather information, including the following topics: metering, groundwater production, purchased water, sold water, recycled water, delivery type, complaints, treatment, emergency power

Domestic well data: El Dorado County well database (records from 1992 onward)

Risk and Vulnerability Assessment

Review and analyze existing data and information

Drought and shortage risks for each small water system analyzed using a vulnerability assessment method tailored for El Dorado County small systems.

Extensive Previous Work Conducted:

Data collected from EMD and EAR reviewed and summarized based on:

- Water infrastructure
- Water supply sources
- Water demands
- Emergency drinking water solutions
- Long-term drought or water shortage planning

Recent Analysis Added:

Available domestic well data collected and reviewed.

EMD/EAR Summary

General Information	• **Water System Use**: 37 systems are recreation areas with 25 residential systems as next most common • **Water System Ownership:** Of 108 systems ~33% were privately owned businesses with federal government as next most common ownership
Infrastructure	• **Maximum Hours System Can Maintain System Pressure During Power Outages**: Of the 44 systems that specified, all could maintain pressure in the system for up to 72 hours
Water Supply	• **Water Supply Source:** ~76% of water systems had wells as their primary source and ~69% had no alternate sources • **Water Quality Issues:** Of the 28 systems that indicated issues in the past, ~93% involved total coliform.
Emergency Drinking Water Solutions	• **Water Quality Emergency Notification Plans:** Of the 97 systems from EMD, 44 systems had plans.
Long-term Drought / Water Shortage Planning	• **Drought Threat:** Of 14 systems, 50% indicated none to low sensitivity and ~43% indicated medium sensitivity to droughts (one system indicated high sensitivity) • **Climate Change Adaptation Measures:** 11 systems identified adaptation measures, most of them complete • **Long-term Improvements Made/Planned to Increase Drought/Water Shortage Resiliency:** All improvements made/planned (7 systems) focused on maintenance/aging infrastructure rather than drought/water shortage

Interview Feedback

- **Interviews were conducted representing 8 different small systems (see box, right)**

- **Areas of concern from interviewees included the following:**
  - Water supply shortage
  - No secondary supply
  - Water quality
  - Failing infrastructure
  - Emergency and interim drinking water solutions
  - Funding
  - Auxiliary power
  - Water curtailments
  - SB552 implementation

Systems providing interview input:

Bear State Water Works
Kyburz Mutual Water System
Lakeside Park Association
Lukins Brothers Water Company
City of Placerville
Quintette Service Corp Water
Strawberry Trt 1-6, 36-38
Tahoe Keys Water Company

Risk and Vulnerability Assessment

Identify vulnerabilities to inform CDRP

Additional data (e.g., wildfire risk, potential increase in future temperature, eWRIMS) as well as EMD and EAR data was reviewed to define what each value of 1 to 5 means for each risk factor.

Extensive Previous Work Conducted

Vulnerability assessment method developed and applied four vulnerability categories:

- Environmental
- Infrastructure
- Regulatory
- Social

Each category has a number of risk factors (18 total).

Each risk factor is scored from 1 (least vulnerable) to 5 (most vulnerable) for each small water system.

Recent Assessment Added:

Review of existing data and analysis, conduct further analysis of data for domestic wells, and interpretation of results for each vulnerability category and risk factor.

Vulnerability Assessment Approach

Example of criteria for risk factors from the "Environmental Vulnerabilities" category.

Risk Factor	1	2	3	4	5
Environmental Vulnerabilities					
Temperature Increase Expected	Temperature increase between 3.21° and 3.27°C	Temperature increase between 3.28° and 3.34°C	Temperature increase between 3.35° and 3.40°C	Temperature increase between 3.41° and 3.47°C	Temperature increase between 3.48° and 3.53°C
High Wildfire Risk	Decadal wildfire probability between 0.01 and 0.12	Decadal wildfire probability between 0.13 and 0.24	Decadal wildfire probability between 0.25 and 0.36	Decadal wildfire probability between 0.37 and 0.48	Decadal wildfire probability between 0.49 and 0.60
	Located in a Moderate Fire Hazard Severity Zone		Located in a High Fire Hazard Severity Zone		Located in a Very High Fire Hazard Severity Zone
	Not located in a Utilities Fire Threat Area		Located in a Tier 2 Utilities Fire Threat Area		Located in a Tier 3 Utilities Fire Threat Area
High Drought Susecptibility	0 Dry Years	1 Dry Year	2 Dry Years	3 Dry Years	4-5 Dry Years

Vulnerability Assessment Approach (putting it all together)

Water System Information

Scores for each Water System by Risk Factor

Weighted and final vulnerability scores by Water System

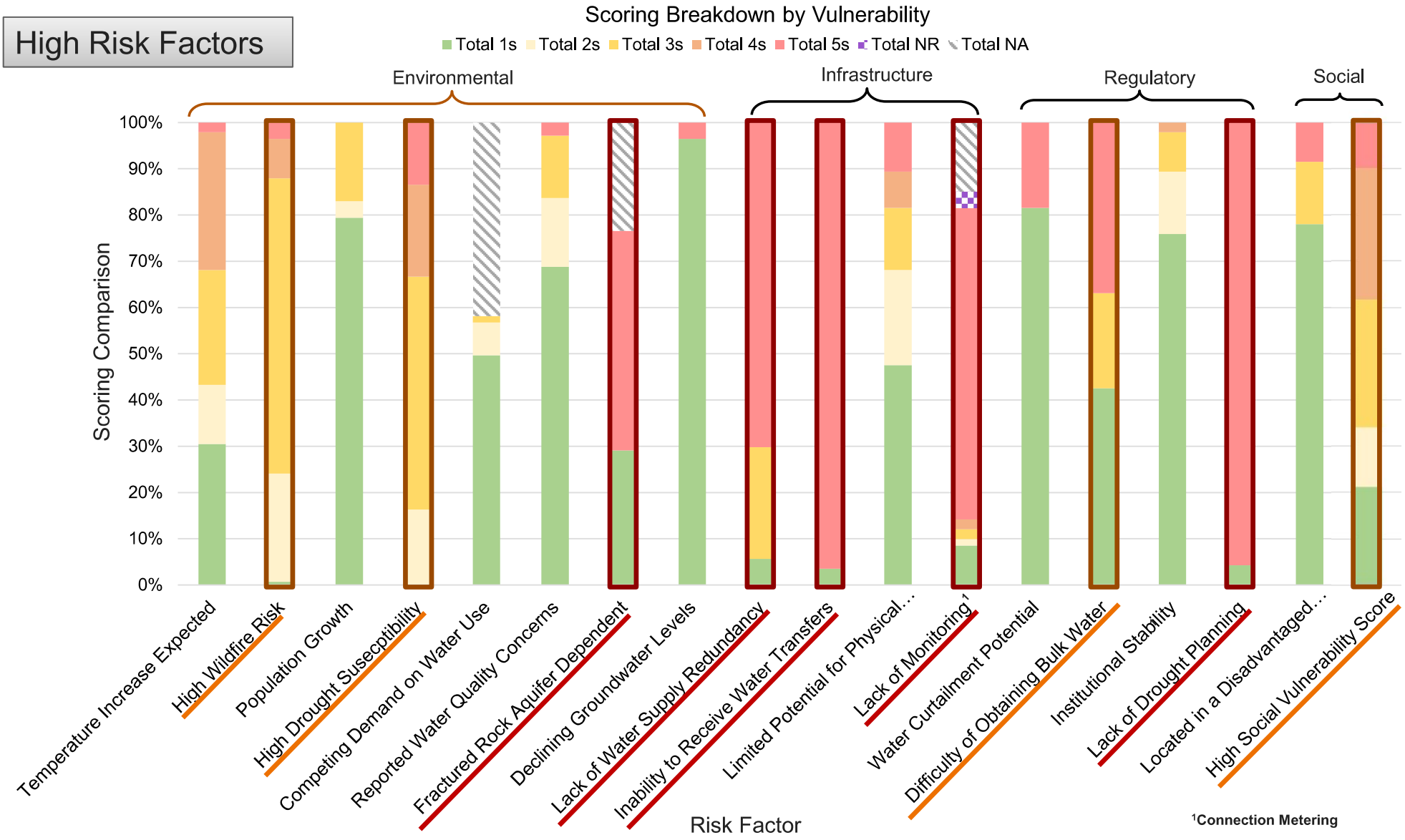
Breakdown of scores (e.g., how many 1s vs 5s) by Water System and identification of missing data

Water Systems	Water System Information					Vulnerabilities Risk Assessment Data																		Data Overview					Scores				
						Environmental Vulnerabilities								Infrastructure Vulnerabilities				Regulatory and Organizational Vulnerabilities				Social Vulnerabilities		Missing Data		Score Breakdown				Vulnerability-Weighted Scores				Final
Small Water System Name	System Type	Service Classification	Water Source Type	Located in West Slope or Tahoe?	Total Connections	Temperature Increase Expected	High Wildfire Risk	Population Growth	High Drought Suseptibility	Competing Demand on Water Use	Reported Water Quality Concerns	Fractured Rock Aquifer Dependent	Declining Groundwater Levels	Lack of Water Supply Redundancy	Inability to Receive Water Transfers	Limited Potential for Physical Consolidation	Lack of Monitoring	Water Curtailment Potential	Difficulty of Obtaining Bulk Water	Institutional Stability	Lack of Drought Planning	High Social Vulnerability Score	Located in a Disadvantaged Community	Total NR	Total NA	Total 1s	Total 4s	Total 5s	Environmental Vulnerabilities Weighted Score	Infrastructure Vulnerabilities Weighted Score	Regulatory and Organizational Vulnerabilities Weighted Score	Social Vulnerabilities Weighted Score	Final Weighted Score
Tahoe City Pud - Rubicon	C	Residential Area	Well	Tahoe	625	2	2	1	4	NA	1	1	1	3	5	3	1	1	3	3	1	3	1	0	1	8		1	1.89	3.20	1.91	2.00	2.23
Millers Hill School	NTN	School	Well	WS	7	1	2	1	3	1	2	5	1	3	5	2	1	1											2.57	3.43	1.50	2.30
Lakeside Park Association	C	Residential Area	Intake	Tahoe	139	4	2	1	3	NA	1	NA	1	1	1	1	NA	5											1.00	3.45	4.50	2.35
El Dorado Id - Outingdale	C	Residential Area	Intake	WS	193	1	2	1	2	2	1	NA	1	5	5	3	1	5											3.57	3.57	2.00	2.36
Rivers Bend Resort	SSWS	NR	Well	WS	<=14	1	3	1	2	1	1	5	1	5	5	2	NA	1											3.14	2.71	2.00	2.37
Grizzly Flats Community Servic	C	Residential Area	Intake	WS	621	1	4	1	3	1	1	NA	5	1	5	5	1	5											2.14	3.57	2.50	2.38
Echo Lake Camp	NC	Summer Camp	Intake	WS	11	4	2	1	4	1	1	NA	1	1	5	1	5	5											2.71	3.43	1.00	2.41
Lotus Pub	NC	Restaurant	Well	WS	6	1	3	1	2	1	1	5	1	3	5	1	5	1											3.57	2.71	1.50	2.42
Echo Chalet Inc	NC	Other Transient Area	Well	Tahoe	6	4	2	1	4	NA	1	1	1	3	5	1	5	1											3.60	2.09	1.00	2.45
El Dorado Id - Strawberry	C	Residential Area	Intake	WS	149	1	3	3	5	1	1	NA	1	5	5	2	1	5	1	2	1	1	1	0	1	9	2	2	0	4	2.45	3.43	2.29	1.00	2.49
All Outdoors Adventure Trips	NC	Recreation Area	Well	WS	4	1	3	1	2	1	2	5	1	3	5	1	5	1	3	1	5	2	1	0	0	8	3	3	0	4	2.17	3.57	2.71	1.50	2.50
Robbs Resort	NC	Recreation Area	Well	WS	40	1	3	1	3	1	1	5	1	5	5	5	NR	1	5	1	5	1	1	1	0	9	0	2	0	6	2.17	3.57	3.29	1.00	2.51
Mother Lode Water System	NC	Recreation Area	Well	WS	3	1	3	1	2	1	1	5	1	3	5	2	5	1	3	1	5	3	1	0	0	8	2	4	0	4	2.00	3.71	2.71	2.00	2.52
Camp Lotus Water System	NC	Other Transient Area	Well	WS	35	1	3	1	2	1	1	5	1	3	5	2	5	1	3	1	5	3	1	0	0	8	2	4	0	4	2.00	3.71	2.71	2.00	2.52
Indian Diggings School	SSWS	School	Well	WS	<=14	1	4	1	2	1	1	5	1	5	5	4	NA	1	5	1	5	1	1	0	1	9	1	0	2	5	2.25	3.43	3.29	1.00	2.52
Gerle Creek Summer Homes	NC	Other Residential Area	Well	WS	41	2	3	1	3	1	1	5	1	1	5	3	5	5	5	1	5	1	1	0	0	8	1	3	0	6	2.33	3.00	4.43	1.00	2.59
Echo Peak Water Association	NC	Residential Area	Spring	Tahoe	26	3	2	1	4	NA	2	NA	1	5	5	2	5	1	1	1	5	1	1	0	2	7	3	1	1	4	2.22	4.40	2.09	1.00	2.60

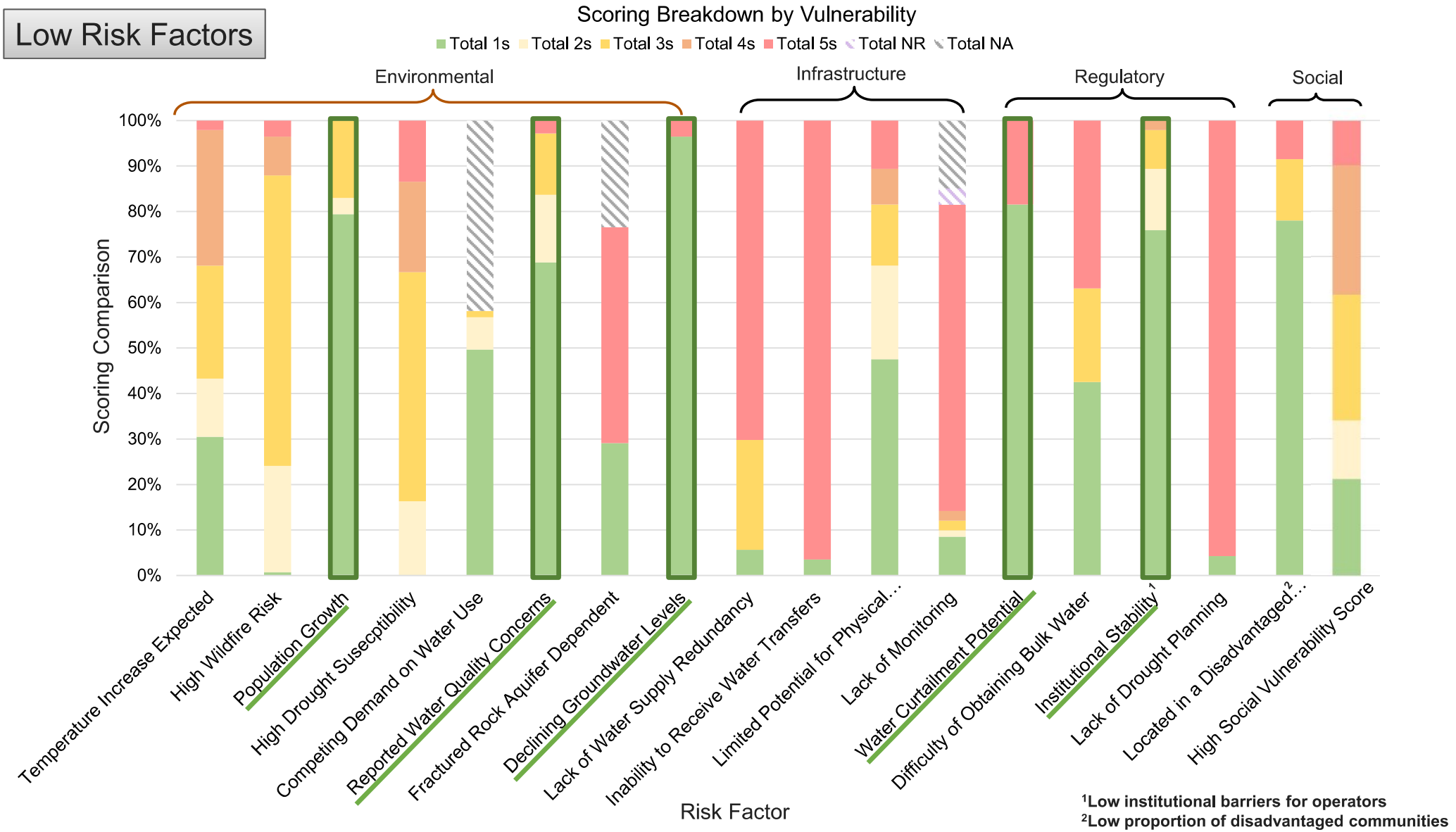
Key | Vulnerability Information | Matrix Key | Risk Factors Matrix | Primary Graphs | Graphs | Vul. Weighting Lookups | RM Lookup - WS | RM Lookup - TB | Summary Data | Source Hyperlinks | Risk Factors Matrix (ref)

Ready | Accessibility: Investigate

High Risk Factors

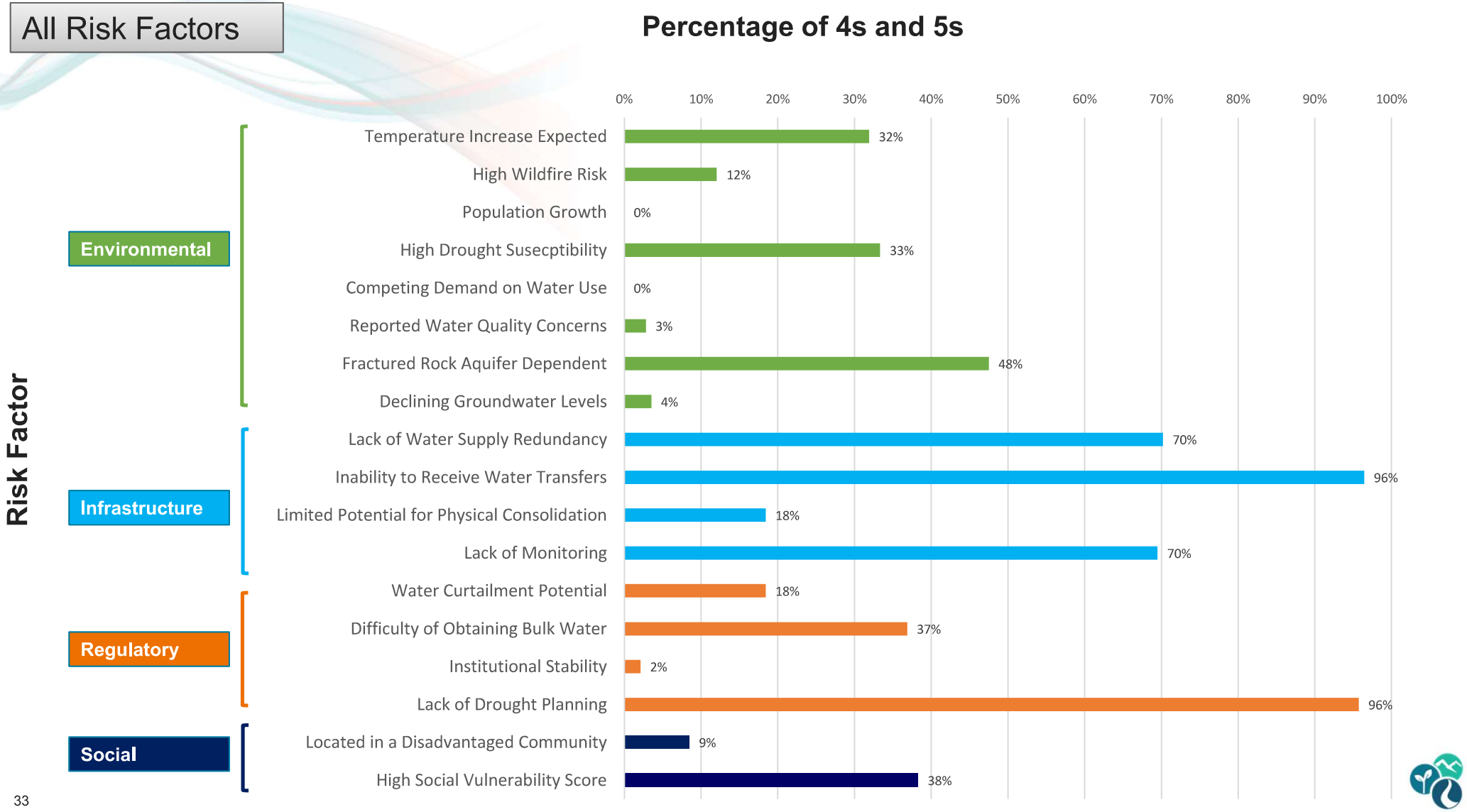


Low Risk Factors



[1]Low institutional barriers for operators
[2]Low proportion of disadvantaged communities

All Risk Factors



High Risk Factors (County-wide)

Environmental Vulnerability:
Fractured rock aquifers

Infrastructure Vulnerabilities:
- Lack of Water Supply Redundancy
- Inability to Receive Water Transfers
- Lack of monitoring/connection metering

El Dorado Irrigation District

DROUGHT ACTION PLAN 2021 UPDATE

Regulatory Vulnerability:
6 systems have drought planning document

Photo sources (left to right) EDWD 2019, EID 2021, USGS 2002. Full citation in notes.

Risk Factors (deeper dive)

Environmental

Risk Factors:

- Fractured Rock Aquifer Dependent
- High Wildfire Risk
- High Drought Susceptibility (i.e., number of dry years in the last 5 years)
- Temperature Increase Expected
- Reported Water Quality Concerns
- Population Growth
- Competing Demand on Water Use (based on competition with agricultural use)
- Groundwater Levels

67 systems are fractured rock aquifer dependent, all in West Slope

All systems in moderately high fire risk or higher. Five (5) areas in very high wildfire severity zone, all in the West Slope

47 systems have had multiple (3 or more) dry years in the past 5 years (relatively even Tahoe vs West Slope)

61 systems missing information on whether system is competing with agricultural water use

44 systems have identified water quality concerns

- 21 previously reported concerns and 23 currently have WQ concerns
- 4 systems with current concerns do not have a secondary supply and are located in the Tahoe basin
- 12 systems with current concerns are state small water systems

Population Growth appears mostly stable/steady

Stable groundwater levels

Risk Factors (deeper dive)

Infrastructure

Risk Factors:

- Lack of Water Supply Redundancy
- Inability to Receive Water Transfers
- Lack of Monitoring (e.g., percentage of metered connections)
- Limited Potential for Physical Consolidation

5 Systems with "5's" in all categories are non-community system campgrounds in the West Slope

Many (99) systems rely on one water supply:

- Majority of these rely on wells
- Nearly even split West Slope to Tahoe Basin

Only 4 systems have the ability to receive water transfers

Many (97) systems do not have monitoring in place

Missing information on monitoring

- 21 systems are missing information on monitoring
- All but one of these are state small water systems
- Majority are in the Tahoe Basin

Most infrastructure risk factors indicated areas of greater potential risk than other factors

- Exception: Limited Potential for Physical Consolidation

Risk Factors (deeper dive)

Regulatory

Risk Factors:

- Water Curtailment Potential (whether supply is dependent upon a water right)
- Difficulty of Obtaining Bulk Water (whether near a major transportation corridor)
- Lack of Drought Planning (whether system has a drought preparedness or water shortage contingency plan)
- Institutional Stability

26 systems representing approximately 4500 connections have supply dependent upon a water right

- Relatively even split across both Tahoe and West Slope
- Nearly 4000 of the approx. 4500 connections are in residential areas in the West Slope

53 systems are not located near a major transportation corridor and may have difficulty in obtaining bulk water

- Majority of these rely on wells and are in the West Slope

Most systems lack formalized drought preparedness or contingency plan, exceptions are:

- EID (Outingdale and Strawberry), Tahoe PUD - Rubicon, Grizzly Flats, Lukins, and Quintette (all have existing planning in place)

Low total number of systems relying on water rights (low threat of water curtailment of surface waters)

- Exceptions: approx. 4500 connections within systems relying on water rights

Generally low institutional barriers for operators

Risk Factors (deeper dive)

Social

Risk Factors:

- Located in a Disadvantaged Community (whether located in a disadvantaged or severely disadvantaged community) Based on:
  - Disadvantaged: <80% of CA annual median household income
  - Severely disadvantaged: <60% of CA average
- High Social Vulnerability Score Based on:
  - Percent of the population 65+
  - Percent of households with no vehicles
  - Percent of population 25 and older without a high school diploma

Data indicates many areas not serving disadvantaged communities.

- However, this is not uniform. 31 systems are classified as being located in a disadvantaged area (representing approx. 6000 connections)

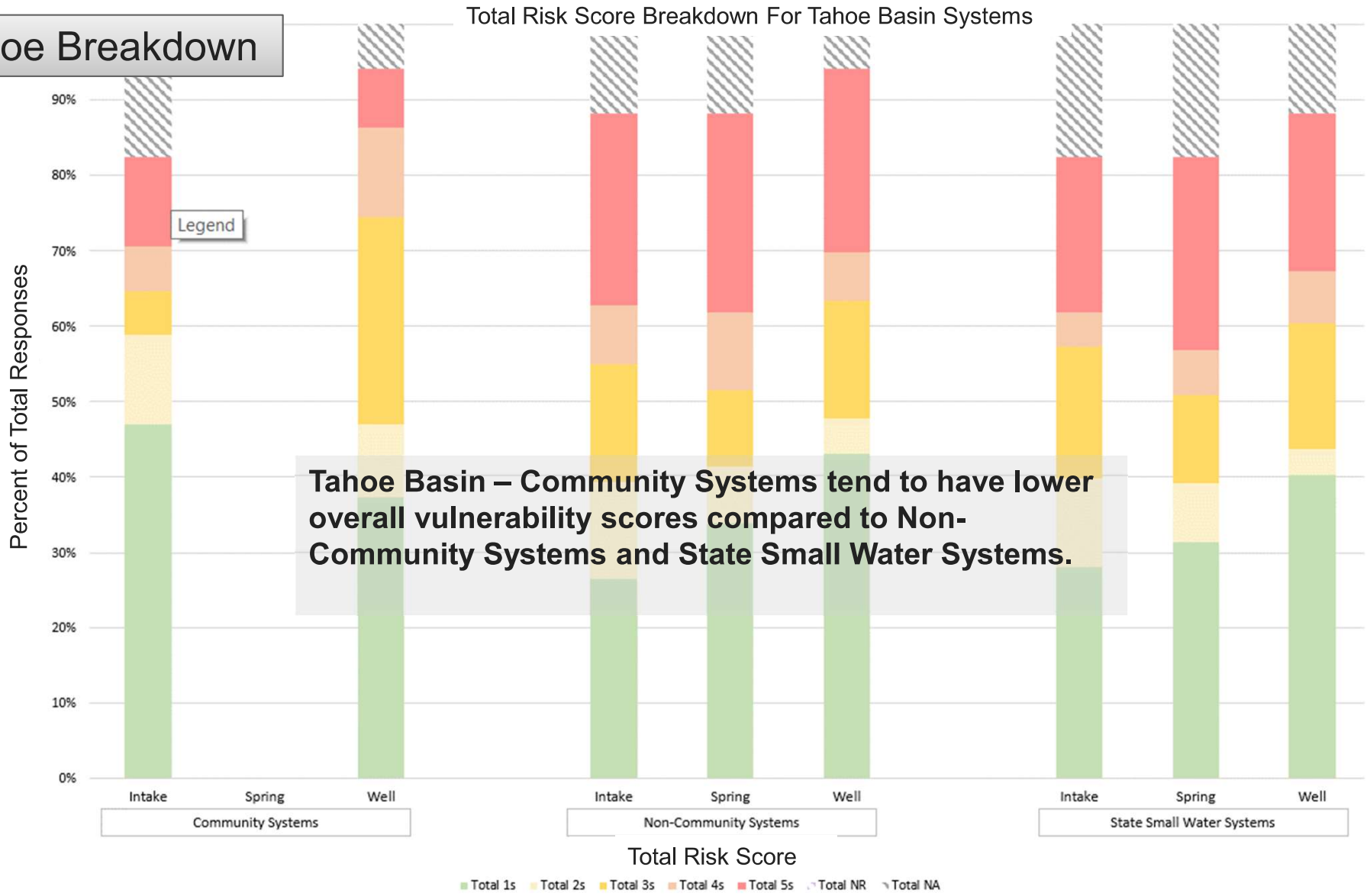
12 systems are classified as being located within a severely disadvantaged area (all in the Tahoe Basin)

High Social Vulnerability Scores relatively evenly split between Tahoe and West Slope

Overall higher average for High Social Vulnerability Scores compared to disadvantaged community factor

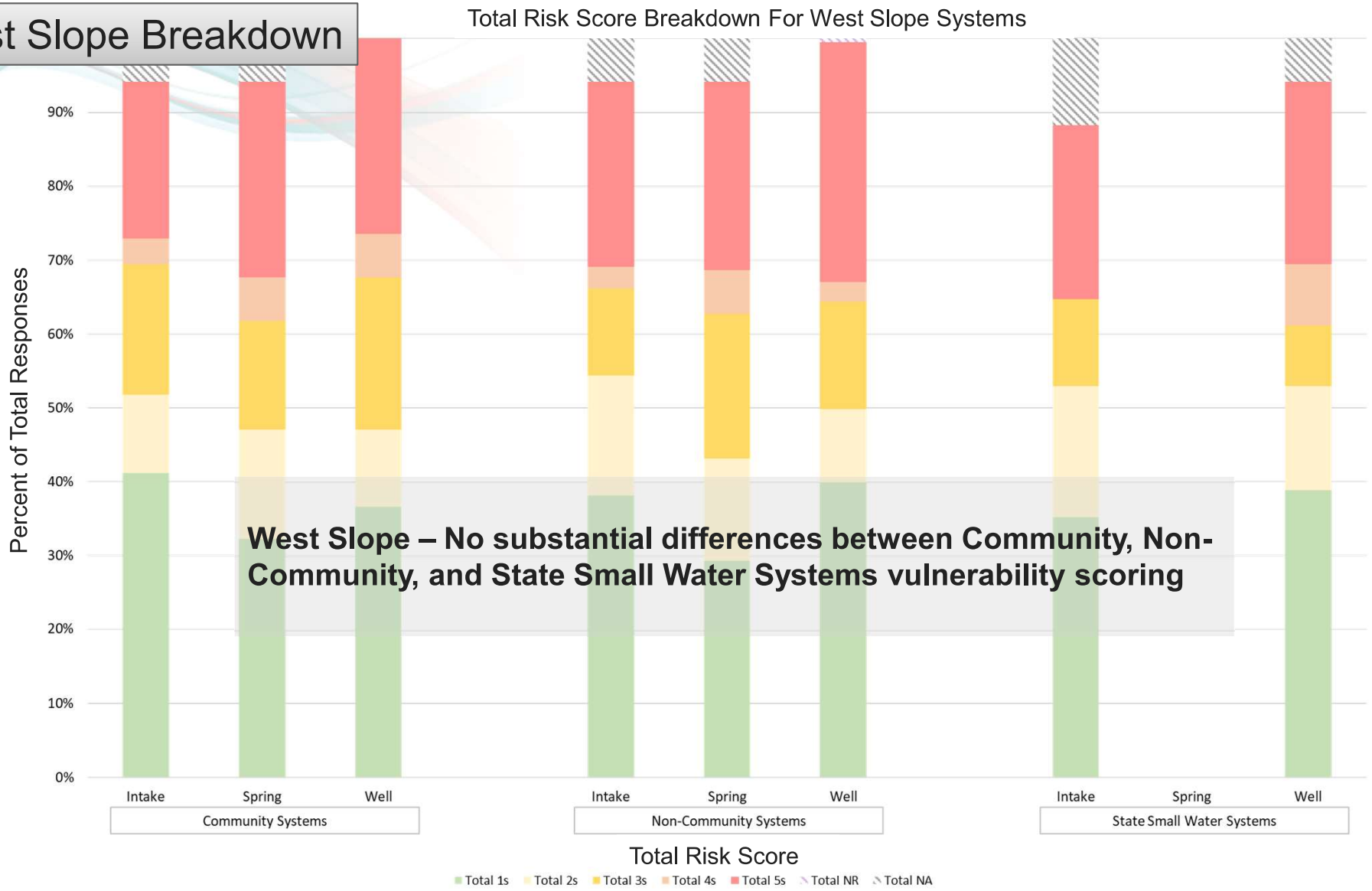
- Many of these are wells in the Tahoe Basin

Tahoe Breakdown



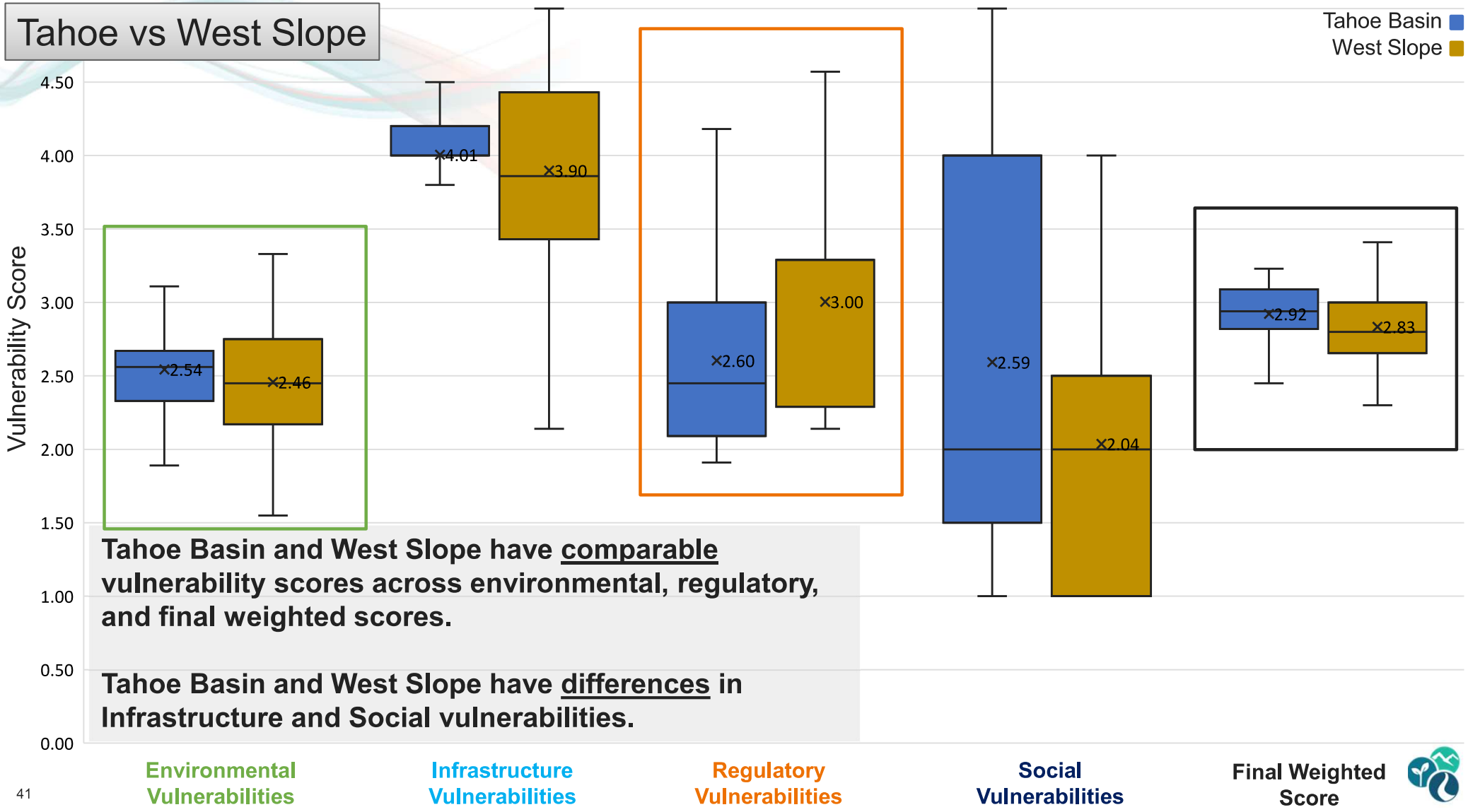
Tahoe Basin – Community Systems tend to have lower overall vulnerability scores compared to Non-Community Systems and State Small Water Systems.

West Slope Breakdown



West Slope – No substantial differences between Community, Non-Community, and State Small Water Systems vulnerability scoring

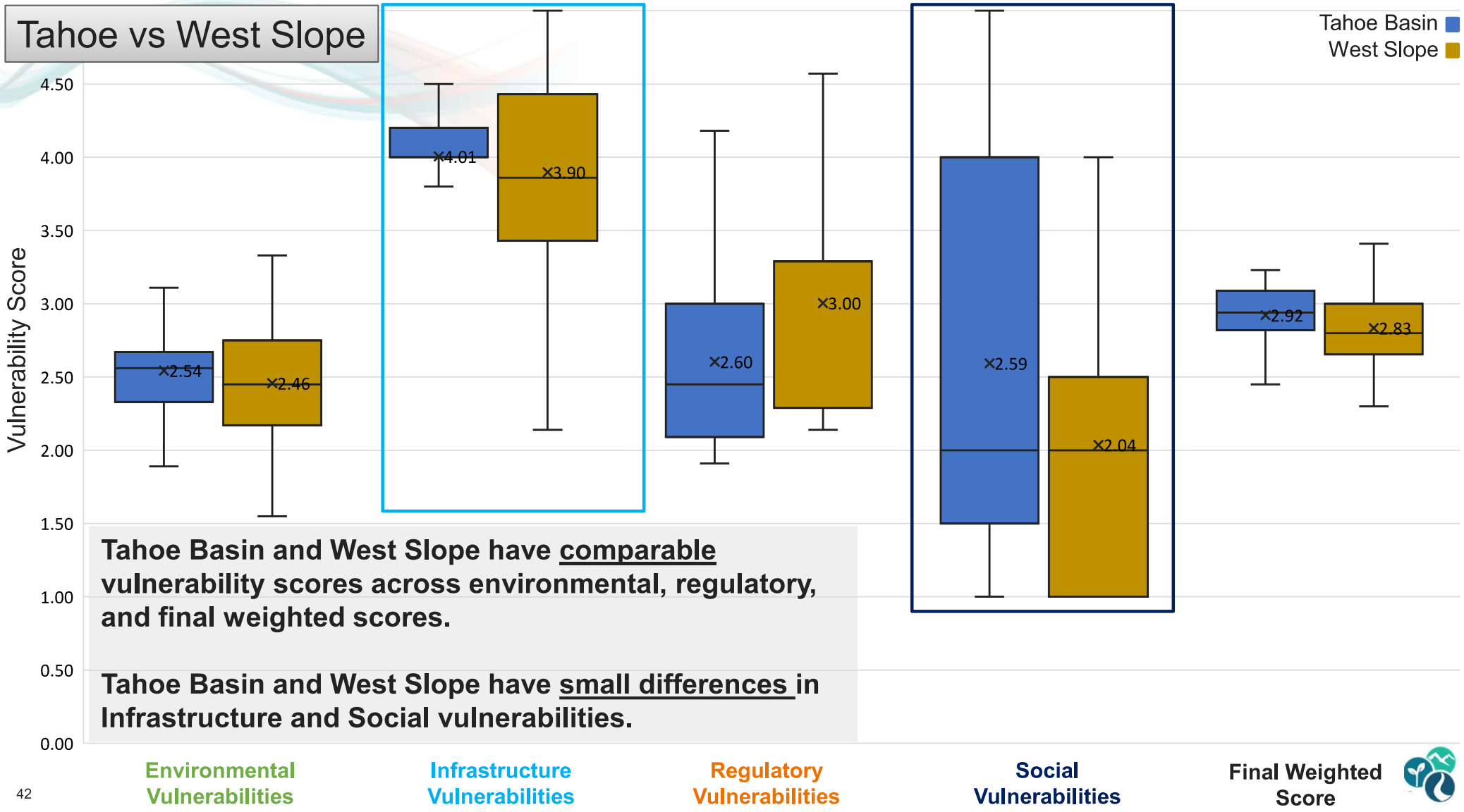
Tahoe vs West Slope



Tahoe Basin and West Slope have <u>comparable</u> vulnerability scores across environmental, regulatory, and final weighted scores.

Tahoe Basin and West Slope have <u>differences</u> in Infrastructure and Social vulnerabilities.

Tahoe vs West Slope



Tahoe Basin and West Slope have <u>comparable</u> vulnerability scores across environmental, regulatory, and final weighted scores.

Tahoe Basin and West Slope have <u>small differences</u> in Infrastructure and Social vulnerabilities.

Tahoe vs West Slope Commonalities

Category	Common Issues	Common Strengths
Environmental	• Moderately high to high wildfire risk • Medium drought susceptibility	• Low population growth • Low reported water quality concerns overall, although issues exist or have existed for specific areas (e.g., South Tahoe well deconstructions) with 44 systems reporting these concerns[1] • Stable groundwater levels
Infrastructure	• Inability to receive water transfers • Lack of monitoring/metering	
Regulatory	• Lack of drought planning (esp. for OCAs) • Primary Systems have drought planning documents but OCA do not	• Few systems susceptible to water curtailments • Few institutional barriers (i.e., certifications)
Social	• Both contain locations identified as disadvantaged	

[1] A total of 44 systems have had or are currently reporting water quality concerns. There are 23 systems currently reporting concerns, while 21 systems previously had but are not currently reporting these concerns.

Tahoe vs West Slope Differences

Category	Tahoe	West Slope
Environmental		• Greater Fractured Rock Aquifer Dependency
Infrastructure	• Difficulty of obtaining bulk water = 2.3 • **Higher** lack of water supply redundancy = 4.7	• **Greater** difficulty of obtaining bulk water = 3.3 • Lack of water supply redundancy = 4.0
Regulatory		• More of the connections dependent upon a water right are in West Slope
Social	• **Higher** proportion of disadvantaged communities = 2.1 • All 12 of the systems identified as located within a severely disadvantaged community are in Tahoe	• Proportion of disadvantaged communities = 1.3

Vulnerability Assessment Key Takeaways

Category	High Risk Factors (consideration for developing mitigation measures)
Environmental	• Fractured rock aquifer dependency • High Wildfire Risk • High drought susceptibility (number of dry years in the last 5 years) • 61 systems are missing information on whether system demand is competing with agriculture • Significant number of systems have water quality concerns (44), several have no secondary supply, 12 are small state systems.

Infrastructure	• Lack of water supply redundancy (99 systems)
	• Inability to Receive Water Transfers (only 4)
	• Lack of monitoring/connection metering (97)
	  • 21 systems have missing information; all but one of these are state small systems
	  • Majority are in Tahoe Basin

Vulnerability Assessment Key Takeaways

Category	High Risk Factors (consideration for developing mitigation measures)

Regulatory	• Lack of drought planning (esp. for OCAs. Except EID, Tahoe PUD - Rubicon, Grizzly Flats, Lukins)
	  • ~4500 connections have supply dependent on a water right
	  • Nearly 4000/4500 connections are in residential areas in West Slope
	• 53 systems are not located near a major transportation corridor and may have difficulty in obtaining bulk water
	  • Majority of these rely on wells and are in the West Slope

Social	• High number of connections located in disadvantaged areas
	  • 31 systems, 6000 connections are in disadvantaged area
	  • 12 systems (all in Tahoe Basin) are severely disadvantaged
	• Both areas have systems that fall within the High Social Vulnerability Score 4s and 5s (48% of systems for Tahoe and 32% of systems for West Slope)

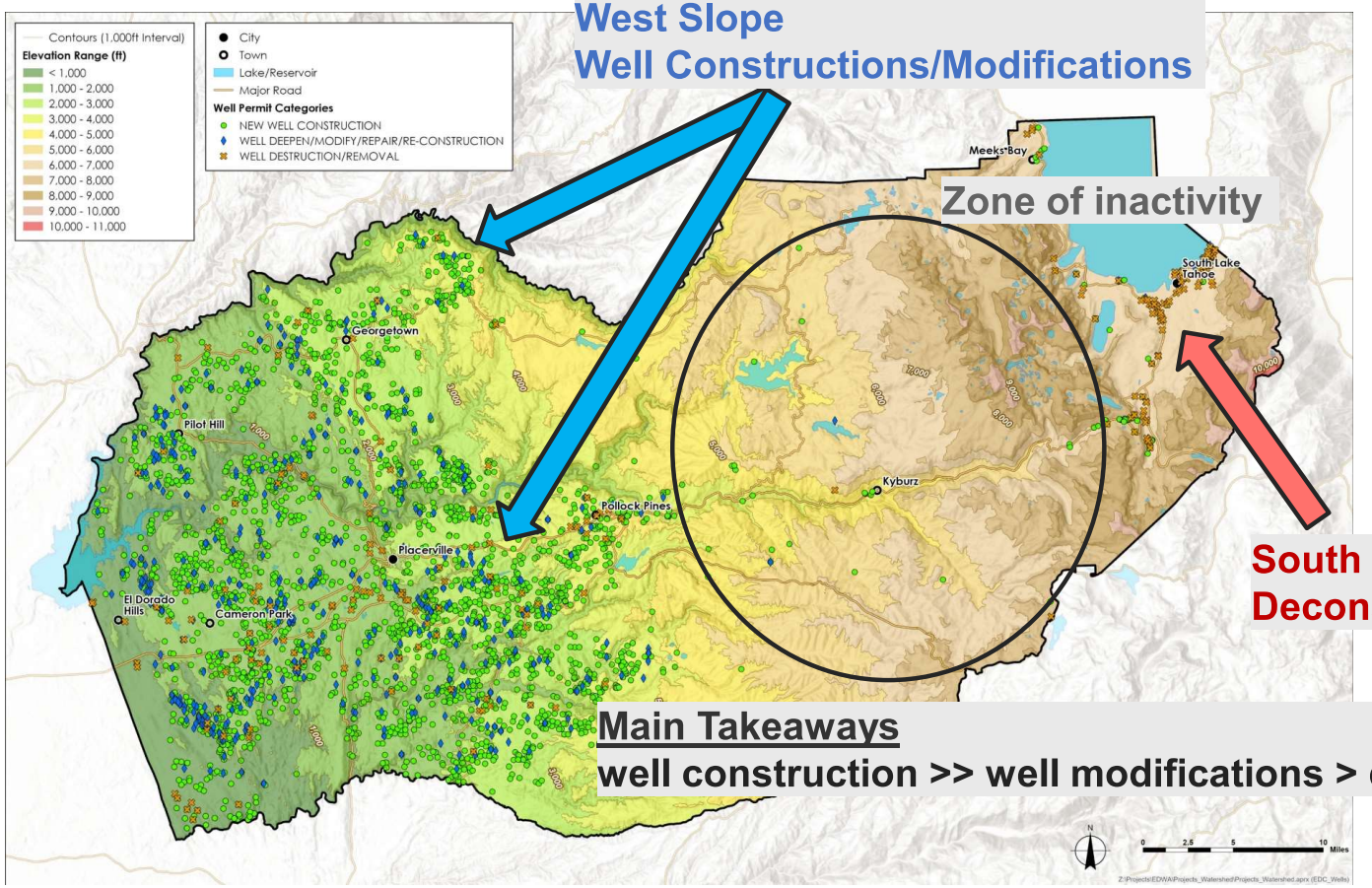
Domestic Wells

- **What information do we have?**
  - El Dorado County well database (as of May 2024)
    - Permit – Record ID, Permit category
    - Location – APN, latitude, longitude, City Name
    - Well characteristics – Well pumping rate and depth
    - Dates – Permit approved date and final inspection date

- **Mapping/Analyses done thus far:**
  - Permit Categories (Construction, Modification/Deepening, Deconstruction)
  - Depth trends

- **Additional mapping/analyses that can be done:**
  - Age trends
  - Wildfire risk
  - Declining Groundwater Levels
  - Fractured Rock Aquifer Dependent
  - Disadvantaged Communities

Domestic Well Permit Categories



West Slope
Well Constructions/Modifications

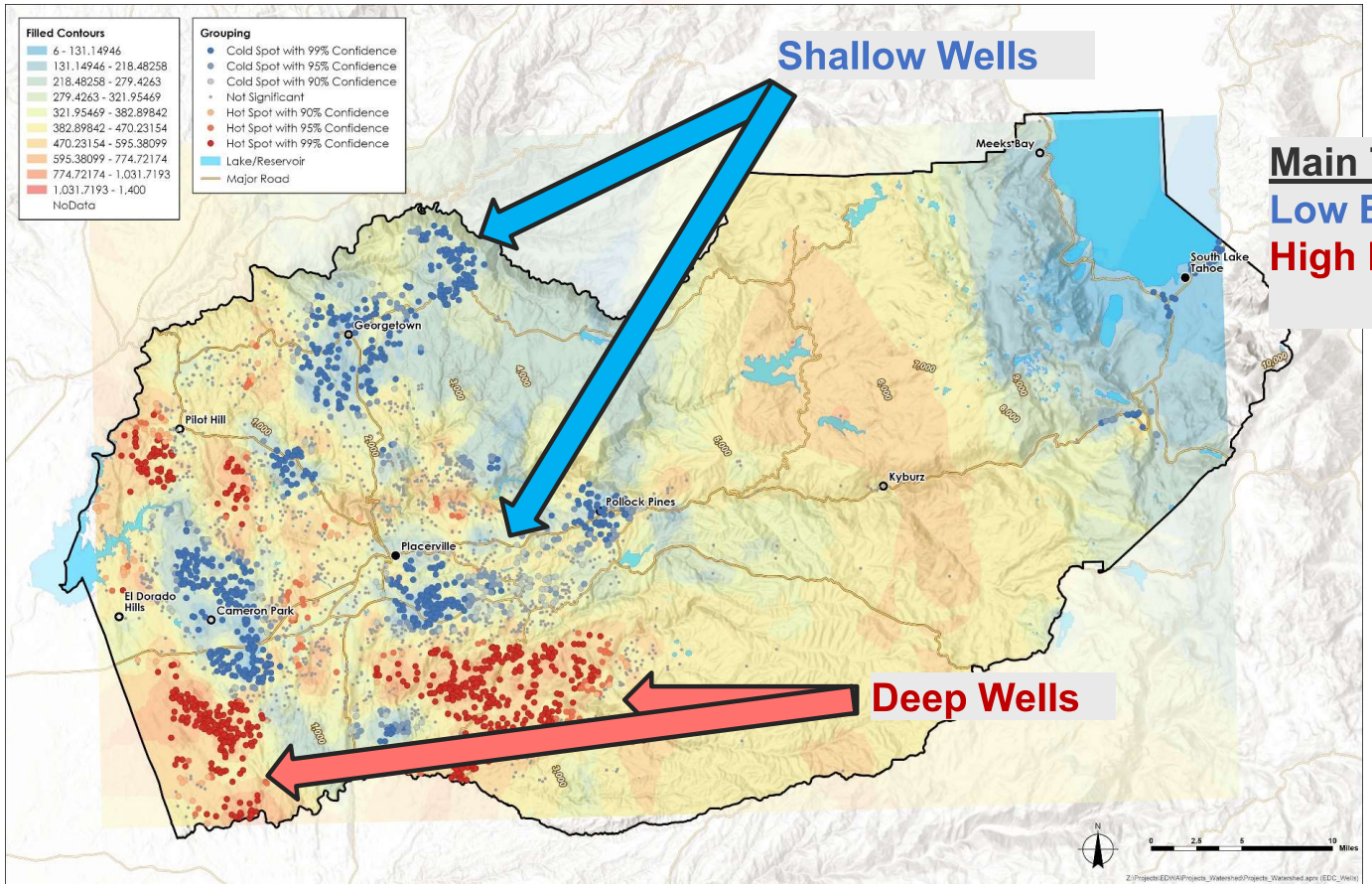
Zone of inactivity

South Tahoe
Deconstructions

Main Takeaways

well construction >> well modifications > deconstructions

Domestic Well Depth Analysis



Main Takeaway

Low Elevation Flats= Shallow Well

High Elevation Hills = Deep Well

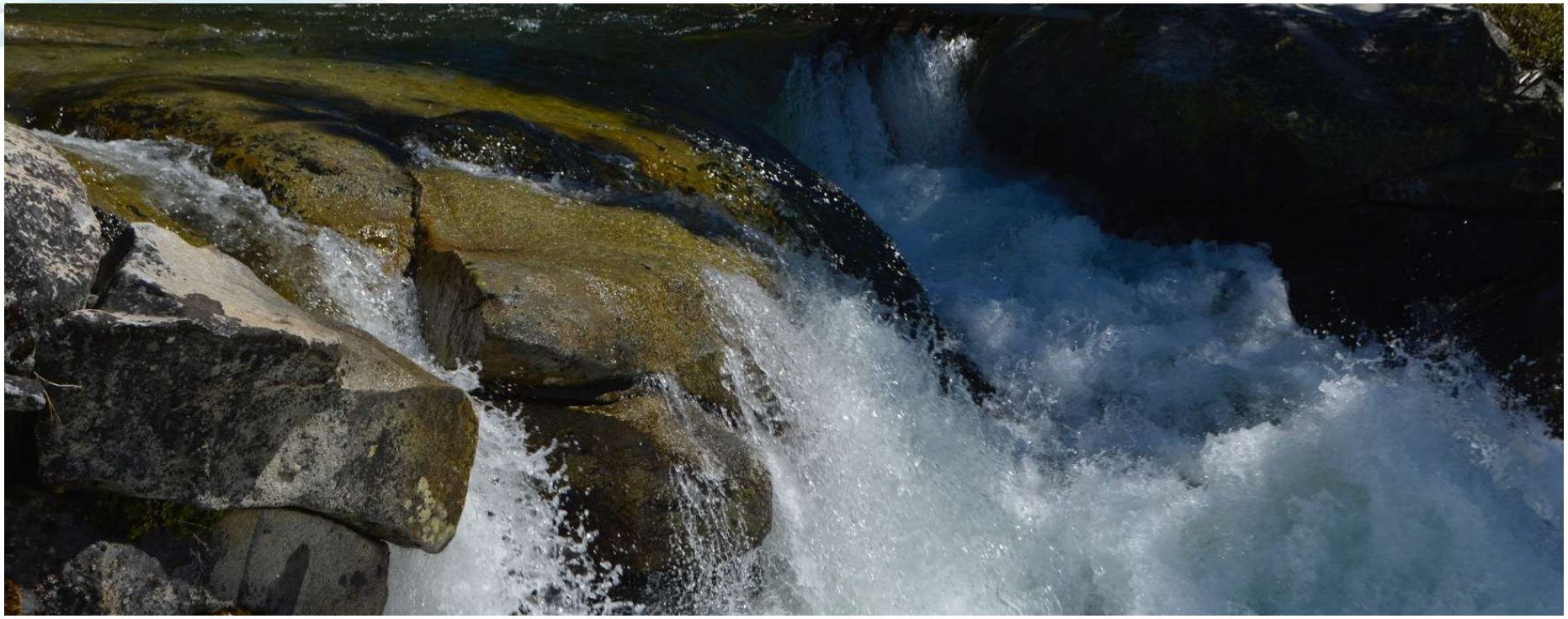

Task Force Roundtable

Roundtable

Anecdotes: What personal experience in dealing with drought can you share?

Concerns: Are there any immediate or long-term concerns with how we should be preparing for and managing drought?

Success stories: What solutions have you seen work in the past for our communities?



Questions?

Do you have any questions for the CDRP development team?

Next Steps

Next Steps

October

Completion of written sections for CDRP Risk and Vulnerability Assessment results integrating feedback from TF Discussion

November

Task Force Request: Review and update Short- and Long-term Actions lists

Scheduling and preparation of Task Force Meeting #2

Next Steps: What's coming your way…

The team will be looking for input on:

- **Short-term Emergency Response Actions**
  - These address immediate impacts of drought (e.g., water shortage and water quality issues)
- **Long-term Mitigation Actions**
  - These include projects, activities, or processes taken to reduce or eliminate long-term impacts from drought conditions

The following slides provide a preliminary list of both short- and long-term actions as a "look ahead" for Task Force Meeting #2. **– Keep in mind that actions to support systems may vary depending on type of system.**

County CDRP Table 3-X. Short-Term Emergency Response Actions for Small Water Systems [PREVIEW]

Action	Response or Mitigation Action Category	Lead Entity(ies)
Treat available water from non-regular sources[1]	Water Supply	SWS
Maintain (and possibly expand) water filling station locations	Emergency Potable Water Supply	EID, GDPUD, County
Water trucking and bulk water hauling	Emergency Potable Water Supply	SWS
Purchase packaged or bottled water	Emergency Potable Water Supply	SWS
Enact water rationing	Water Conservation	SWS
Develop mutual aid agreements with SWS or PWA	Planning and Assistance	County, Agency, SWS
Develop and implement streamlined well permitting system during drought or water shortage events	Planning and Assistance	County
More frequent County Drought and Water Shortage Task Force coordination	Planning and Assistance	Agency, County

Key: El Dorado Water Agency (Agency); County of El Dorado (County); El Dorado Irrigation District (EID); Georgetown Divide Public Utility District (GDPUD); public water agency (PWA); small water system(s)(SWS)

[1] When regular sources of water become scarce, residents may suggest the use of alternate water supplies that may have been rejected for use in the past or new water supplies that residents secure on a short-term basis. Approval for use of alternative supply required by the State Water Board or County Public Health Officer for domestic use. (DWR County Drought Resilience Plan Guidebook, Section 4-7).

County CDRP Table 4-X. Long Term Mitigation Actions [PREVIEW]

Action	Response or Mitigation Action Category	Lead Entity(ies)
Drill new wells or deepen existing ones	Water Supply	SWS
Install water treatment facilities	Water Supply	SWS
Install reserve tanks	Water System Infrastructure	SWS
Install emergency intertie with neighboring SWS	Water System Infrastructure	SWS
Update water system infrastructure	Water System Infrastructure	SWS
Line/coat canals or other conveyance infrastructure	Water System Infrastructure	SWS
Install standby generator	Water System Infrastructure	SWS
Pursue physical consolidation	Consolidation	SWS
Pursue managerial consolidation	Consolidation	SWS
Encourage and implement water conservation measures	Water Conservation	SWS, County, Agency
Install flow meters	Water Conservation	SWS
Improve leak reporting and response programs	Water Conservation	County, Agency
Conduct water loss audits	Water Conservation	SWS
Improve efficiency of existing irrigation systems	Water Conservation	SWS
Implement volumetric rate structure	Water Conservation	SWS
Install groundwater level monitoring devices	Data/Information	Well Owners

Key: El Dorado Water Agency (Agency); County of El Dorado (County); El Dorado Irrigation District (EID); Georgetown Divide Public Utility District (GDPUD); public water agency (PWA); small water system(s)(SWS)

County CDRP Table 4-X. Long Term Mitigation Actions (continued)

Action	Response or Mitigation Action Category	Lead Entity(ies)
Establish well monitoring network in the West Slope	Data/Information	Agency, County
Develop a county-wide dry well reporting system	Data/Information	County
Update the County website with drought resources	Data/Information	County
Update the Agency's online mapping and data portal	Data/Information	Agency, County
Maintain accurate SWS service area boundaries	Data/Information	SWS
Update the County permits/forms to collect relevant water- and system-related data	Data/Information	County
Develop and maintain drought preparedness or Water Shortage Contingency Plans	Planning and Assistance	SWS
Develop and maintain emergency response or drinking water distribution plan	Planning and Assistance	SWS
Update the County's Local Hazard Mitigation Plan	Planning and Assistance	County
Perform an annual drought supply evaluation	Planning and Assistance	SWS
Provide technical assistance for SB 552 compliance	Planning and Assistance	Agency, County
Support and assist with funding opportunities	Planning and Assistance	Agency
Collaborate with SAFER's Water Partnership Training Program	Education	Agency
Collaborate with the Rural Community Assistance Corporation's training and workshops	Education	Agency
Educate residents about water conservation	Education	Agency, County, SWS
Educate customers about the resources available during drought or water shortage events	Education	Agency, County

Key: El Dorado Water Agency (Agency); County of El Dorado (County); El Dorado Irrigation District (EID); Georgetown Divide Public Utility District (GDPUD); public water agency (PWA); small water system(s)(SWS)

Next Steps: Task Force Meeting Schedule

Task Force Meeting	Proposed Date	Meeting Focus
Task Force Meeting 1	Oct. 14th	Risk and vulnerability assessments
Task Force Meeting 2*	Nov. 21st	Long-term mitigation actions and short-term emergency response actions
Task Force Meeting 3*	Feb. 27th (2025)	Draft Drought and Water Shortage Resilience Plan, especially Implementation Plan Section

*Dates subject to change with Task Force availability


El Dorado
Water Agency
Thank you