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Connie S. Griffin  
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GENERAL MANAGER  
Alan E. Clanin

To: Board of Directors  
From: Alan E. Clanin, General Manager  
Date: August 12, 2020  
Subject: 2020 Urban Water Management Plan

Urban Water Management Plans (UWMPs) are prepared by urban water suppliers every five years. These plans support the suppliers' long-term resource planning to ensure that adequate water supplies are available to meet existing and future water needs.

The requirements for UWMPs are found in two sections of California Water Code, §10610-10656 and §10608. Every urban water supplier that either provides over 3,000 acre-feet of water annually, or serves more than 3,000 urban connections is required to submit an UWMP.

This year there are many changes to the requirements of the plan. The main changes from 2015 are beefing up and formalizing the Water Shortage Contingency Plan, and preparation of a Drought Risk Assessment.

The District has requested a quote from Albert A. Webb Associates Engineering for the preparation of the 2020 Urban Water Management Plan. Previously, the cost associated with plan preparation was \$59,930.

The plan is due July 01, 2021.

*Providing our community with a reliable water system that delivers high quality water for its health and safety needs.*

# **Urban Water Management Plan: Guidebook Development Workshop**

Tuesday, March 10, 2020  
California State University, Sacramento  
Alumni Center

# Introduction and Meeting Overview

UWMP Guidebook Workgroup Meeting  
March 10, 2020  
Sacramento, CA

Peter Brostrom, Chief  
Water Use and Efficiency Branch



CALIFORNIA DEPARTMENT OF  
**water resources**

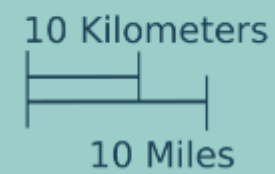
# Why UWMPs?



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# UWMP Key Points

- Important-Running out of water has a high societal cost
- Supplier plans-not plans for the State
- A great opportunity to tell suppliers story
  - New Board /Council Members
  - Local Media
  - Researchers



# Meeting Objectives

- Provide information on new requirements
- Present a draft approach to address all requirements and highlight areas of change
- Solicit input to improve guidance
- Discuss connection between Annual water Supply and Demand Assessment and UWMPs



# Workshop Objectives



Provide water suppliers and interested stakeholders with information on the latest updates to the Urban Water Management Plan legislative requirements:

- New water shortage contingency planning
- Updated drought risk assessment requirements



Solicit input from participants, based on diverse water supplier settings and experiences, to inform the UWMP guidance document update.





# Meeting Agenda

- 10:00**    **Welcome and Introductions**
- Framing the Conversation: Overview of the Legislative changes to the Urban Water Management Plan (UWMP)**
- Report Back on the Annual Water Supply and Demand Assessment (WSDA) Workshop**
- Presentation: The 2015 Urban Water Management Plan Guidebook**
- Presentation: New Legislative Requirements for the Water Shortage Contingency Plan (WSCP)**
- Large Group Discussion: Suggested Revisions to the UWMP Guidebook based on Water Suppliers Experience and the New WSCP Requirements to Promote Better Planning**
- 12:00**    **Lunch**
- 1:00**    **Presentation: New Legislative Requirements for the Drought Risk Assessment**
- Presentation: Proposed Analysis Approach to Address New Legislative Requirements**
- Small Group Discussions**
- 2:45**    **Short Break**
- Report Out**
- Wrap Up and Next Steps**
- 4:00**    **Adjourn**



# Guidelines for Conversation

- ✓ Use common conversational courtesy
- ✓ All ideas and points of view have value
- ✓ Avoid assuming and analyzing the motivation of others
- ✓ Be honest, fair, and as candid as possible
- ✓ Honor time and share the airtime
- ✓ Invite humor and good will
- ✓ Be comfortable
- ✓ Think innovatively and welcome new ideas
- ✓ Cell phone and computer courtesy



Julia Ekstrom, PhD, Chief Urban Unit, Water Use Efficiency  
Implementation Section, WUE Branch

**FRAMING THE CONVERSATION: OVERVIEW  
OF THE LEGISLATIVE CHANGES TO THE  
URBAN WATER MANAGEMENT PLAN (UWMP)**

# Why Do Water Management Plans?

- The Past – *What was done, BMPs-based*
- The Future – *Climate and Growth*
- Why it all matters – *Reliability*

*Where we are now:* Legislation and Limited Supplies



# Why Do Water Management Plans?

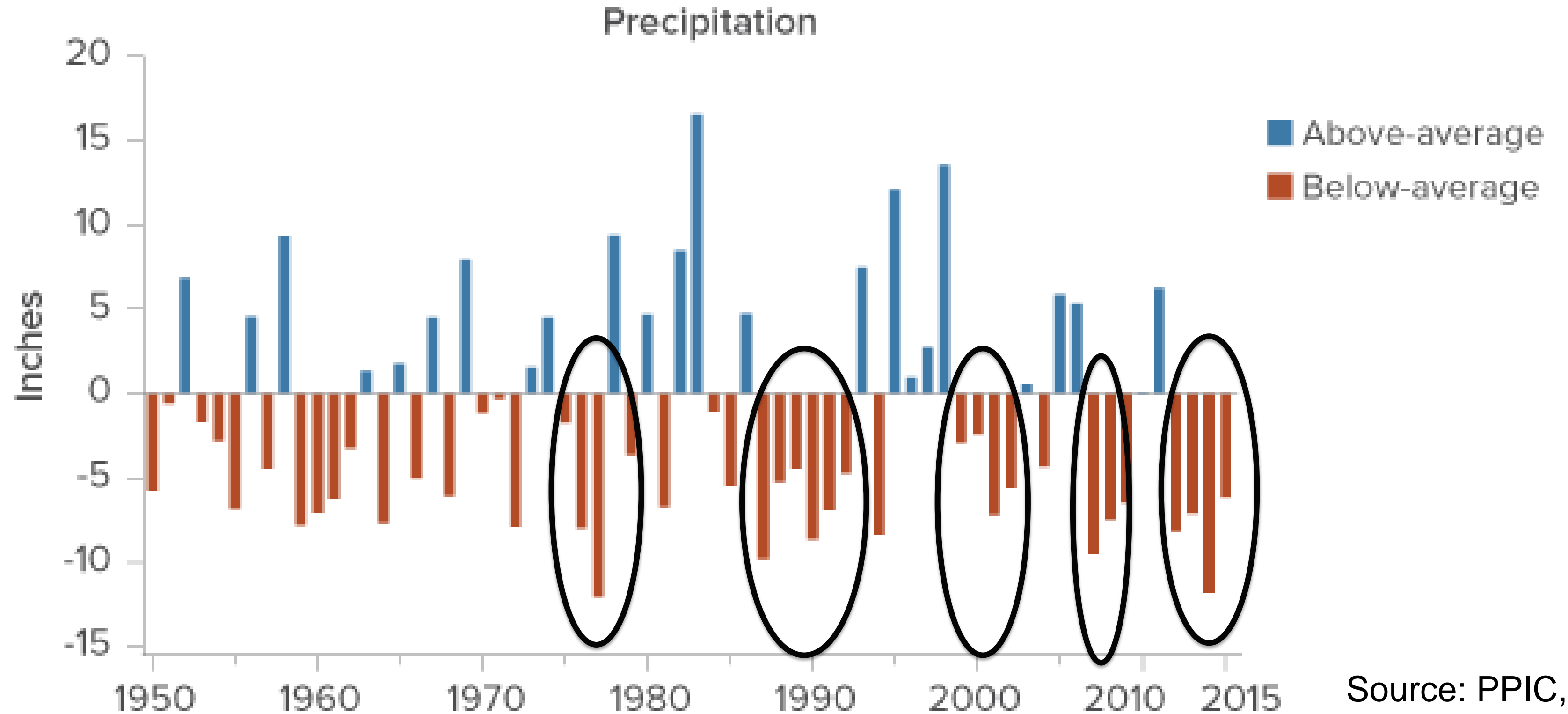
## The Past – *What was done*

- Legislation in response to drought/water shortages
- Recognition of the importance of reliability





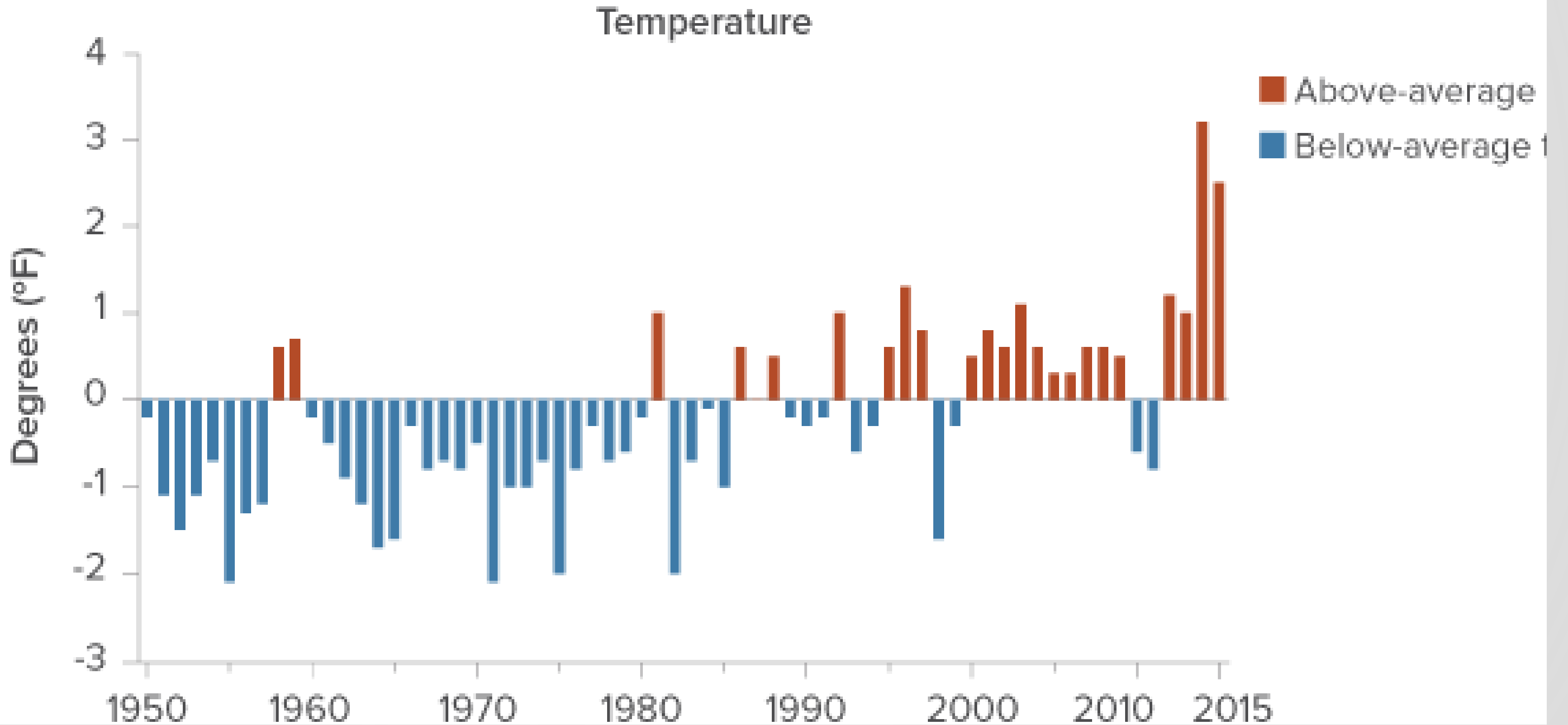
# Why Do Water Management Plans?



Source: PPIC,  
Hanak

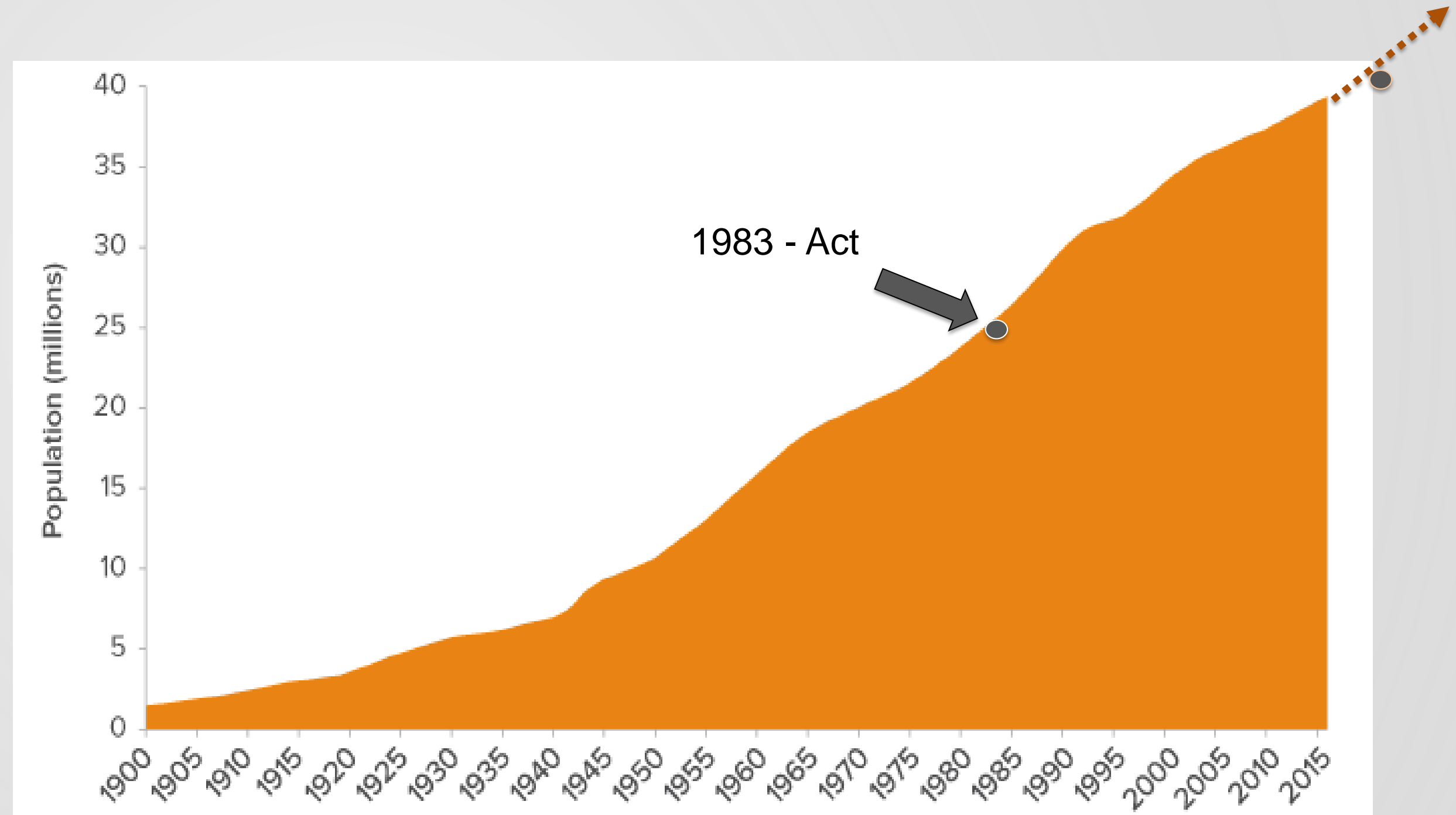


# Why Do Water Management Plans?



# Why Do Water Management Plans?

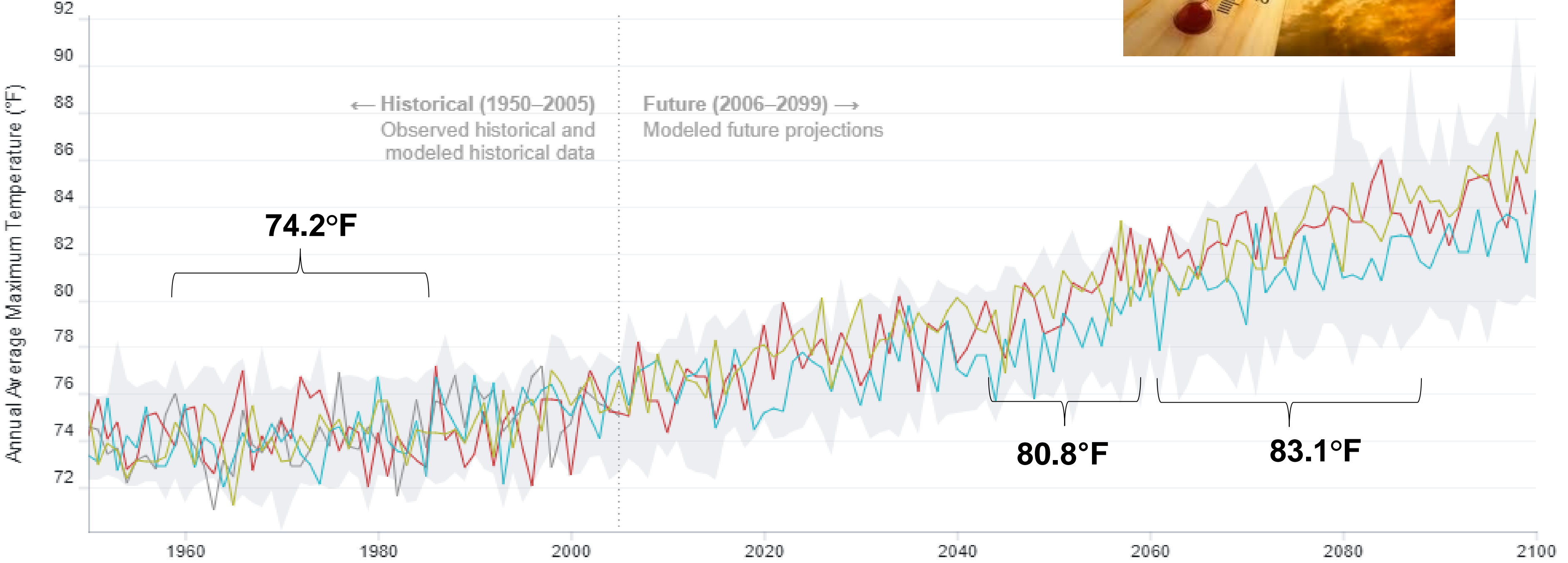
The Future –  
*Climate and  
Growth*



# Annual Average Maximum Temperature



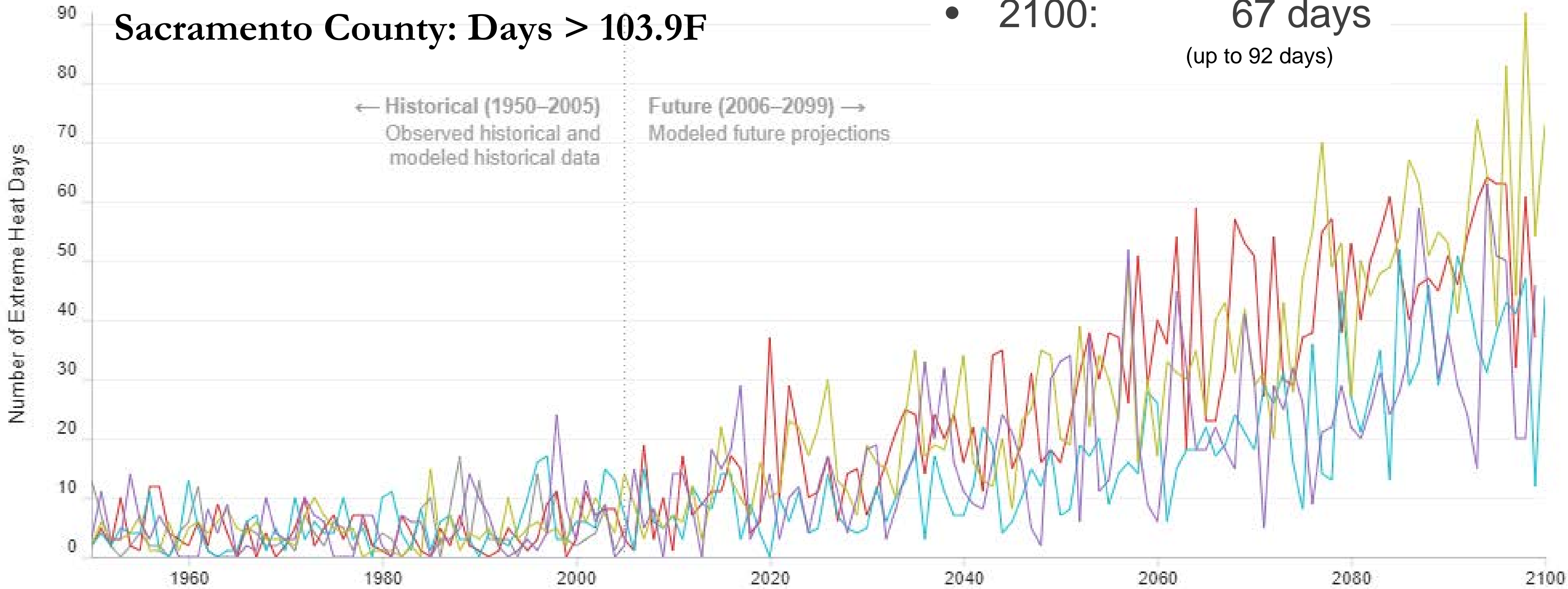
Modeled Variability (range of annual average values from all 32 LOCA downscaled climate models)  
Observed (1950-2005) HadGEM2-ES (Warm/Drier) CNRM-CM5 (Cooler/Wetter) CanESM2 (Average)



• Source: Cal-Adapt. Data: LOCA Downscaled Climate Projections (Scripps Institution of Oceanography), Gridded Historical Observed Meteorological Data (University of Colorado, Boulder).

# Extreme Heat Days

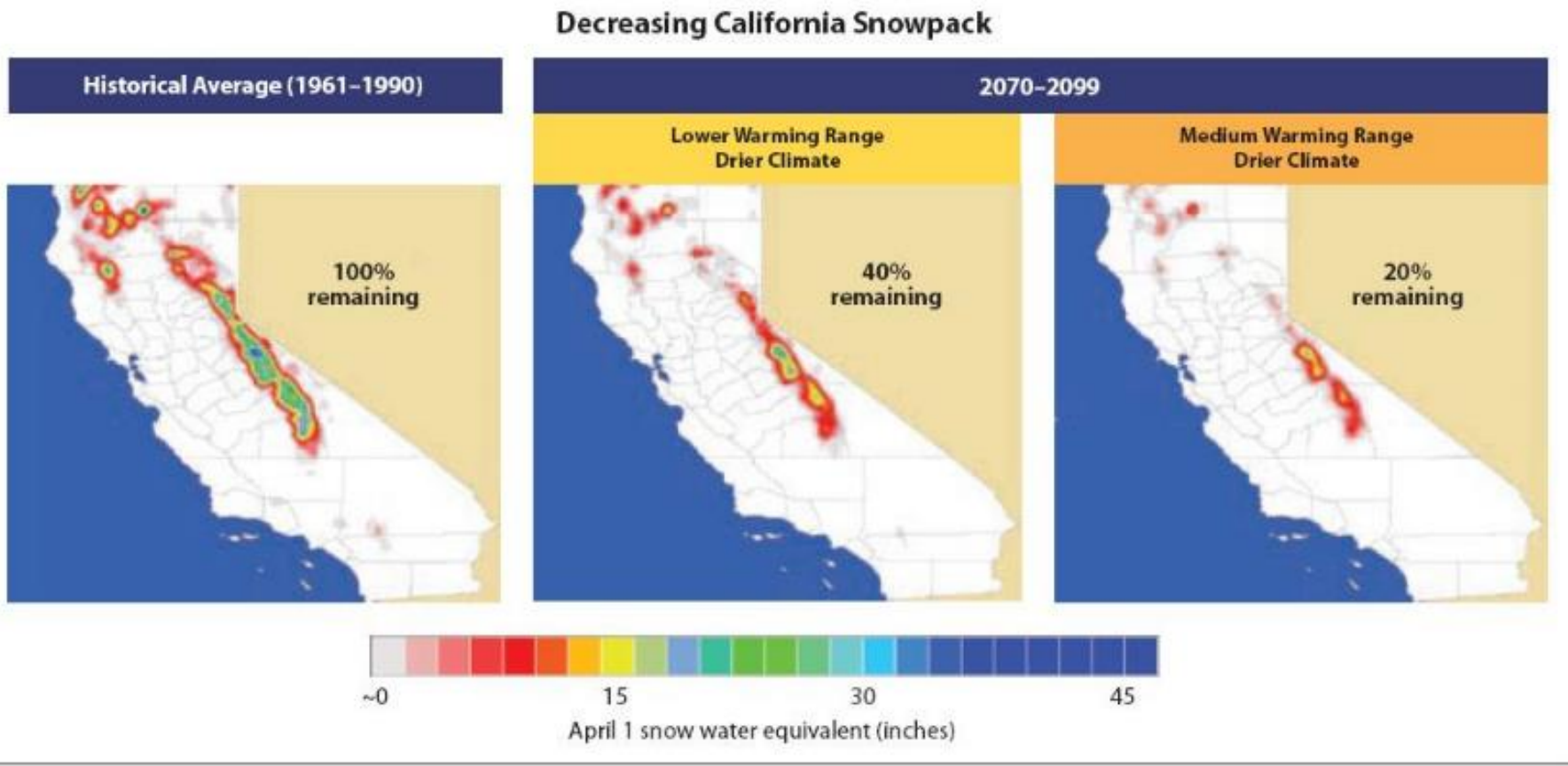
- Historical: 4 days
- 2050: 46 days
- 2100: 67 days  
(up to 92 days)





# SNOWPACK

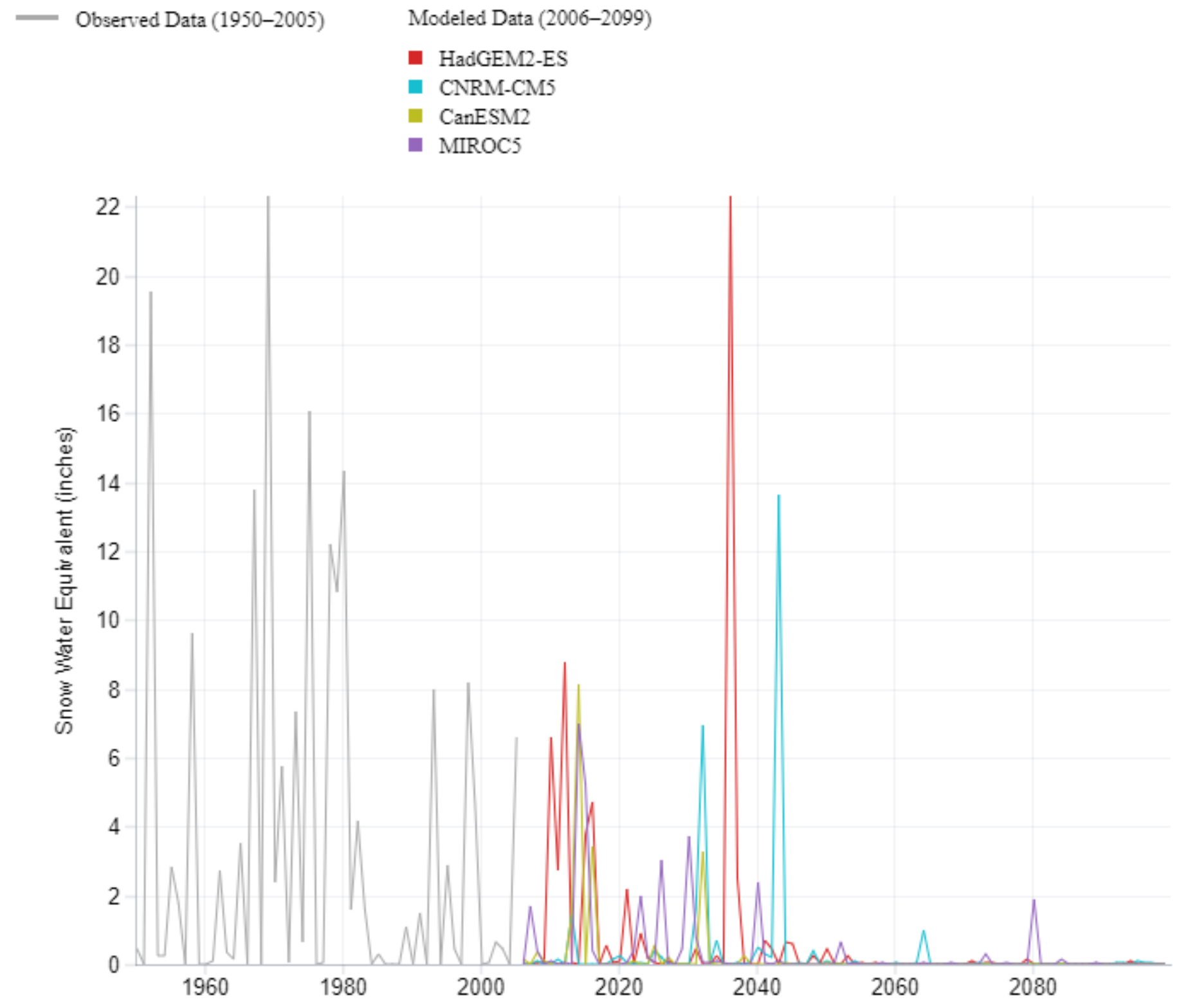
- Significant decrease



Luers A., Cayan D., Franco G., Hanemann M. and Croes B., California Climate Change Center (2006). Our Changing Climate: Assessing the Risks to California, p.7

# Snow Water Equivalence

Grid Cell (38.90625, -120.03125)  
Emissions continue to rise strongly through 2050 and plateau around 2100 (RCP 8.5)



CalAdapt 2020; Pierce et al. 2018; Livneh et al. 2015

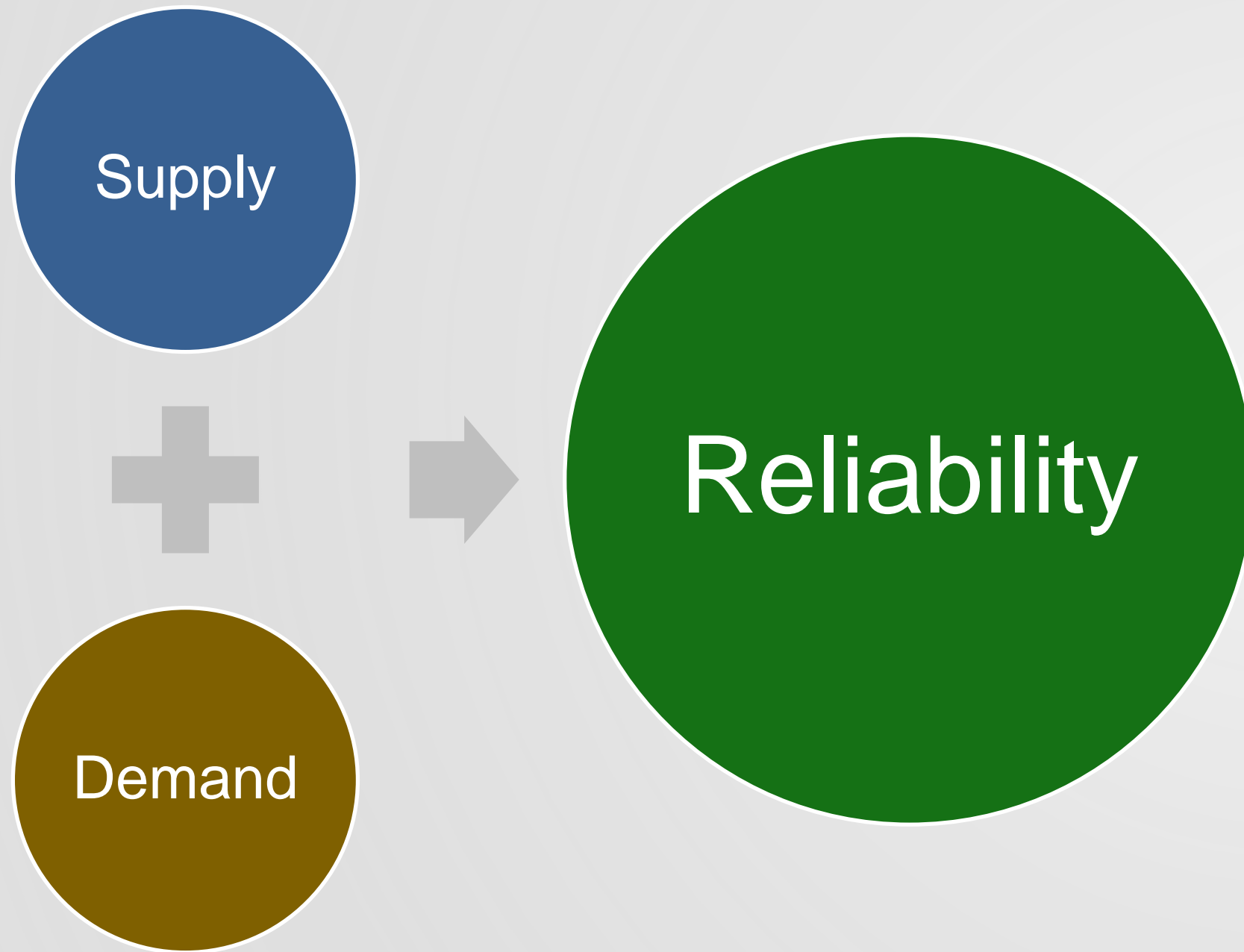
# Why Do Water Management Plans?



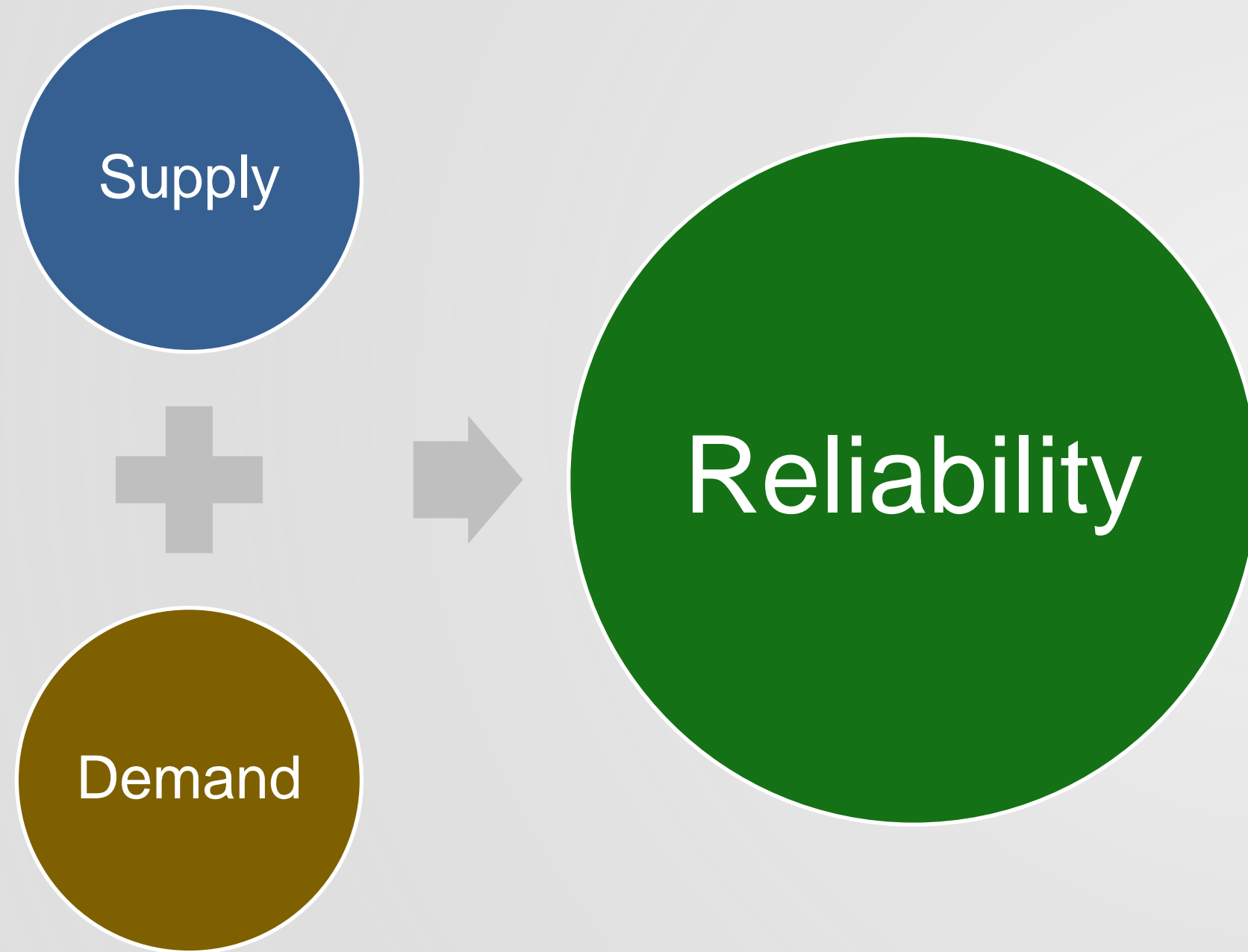
Reliability



# Why Do Water Management Plans?



# Why Do Water Management Plans?



## Tests on Reliability:

- Annual
- Near-term (5 years)
- Long-term (20 years)



# Legislative changes to Urban Water Management Plans (UWMPs)

Improvements for *long-term reliability and resilience* to drought and climate change:

- Water Shortage Contingency Plan with prescriptive elements
- 5-Year Drought Risk Assessment





# Legislative Changes to UWMPs (cont.)

- Lay person's description of reliability
- Long-term forecast for each water supply source, including climate change and supporting information
- Incorporation of projected land use changes in demand forecasting
- Seismic risk assessment and mitigation plan
- Energy analysis now required
- Water savings from codes/standards/etc. now required
- Include 5 previous years of system water losses (*not much different from previous code but different from 2015 plans*)
- Include GSP



# Other Legislative changes:

- Some added definitions and clarifications/modifications
- Water Use Objectives added – Jan 1, 2024 (§10609); DMMs to meet WMOs by Jan 2027
- Grants and loans eligibility no longer tied to implementation of DMMs (still tied to UWMP)
- Changes to Water Loss Audit reporting dates starting for 2023 reporting year
- WSCP required for CPUC general rate case filings
- Standards, studies, and reports for DWR and Water Board
- Enforcement actions for Water Board



# Urban Water Management Plan Guidebook Update: Schedule and Deliverables

March 10, 2020

Kickoff Workshop

May 2020

Preliminary Draft Workshop

June 2020

Public Draft Guidebook + Workshop

Fall 2020

Final Guidebook + Workshops

May, 2021

WUEData Portal updated

July 1, 2021

Plans Due to DWR



Nancy King, Water Resources Engineer, DWR

**ANNUAL WATER SUPPLY AND DEMAND  
ASSESSMENT WORKSHOP**

Sabrina Cook, PhD, Chief Water Use Efficiency  
Implementation Section,  
Water Use Efficiency Branch, DWR

# **URBAN WATER MANAGEMENT PLAN GUIDEBOOK**

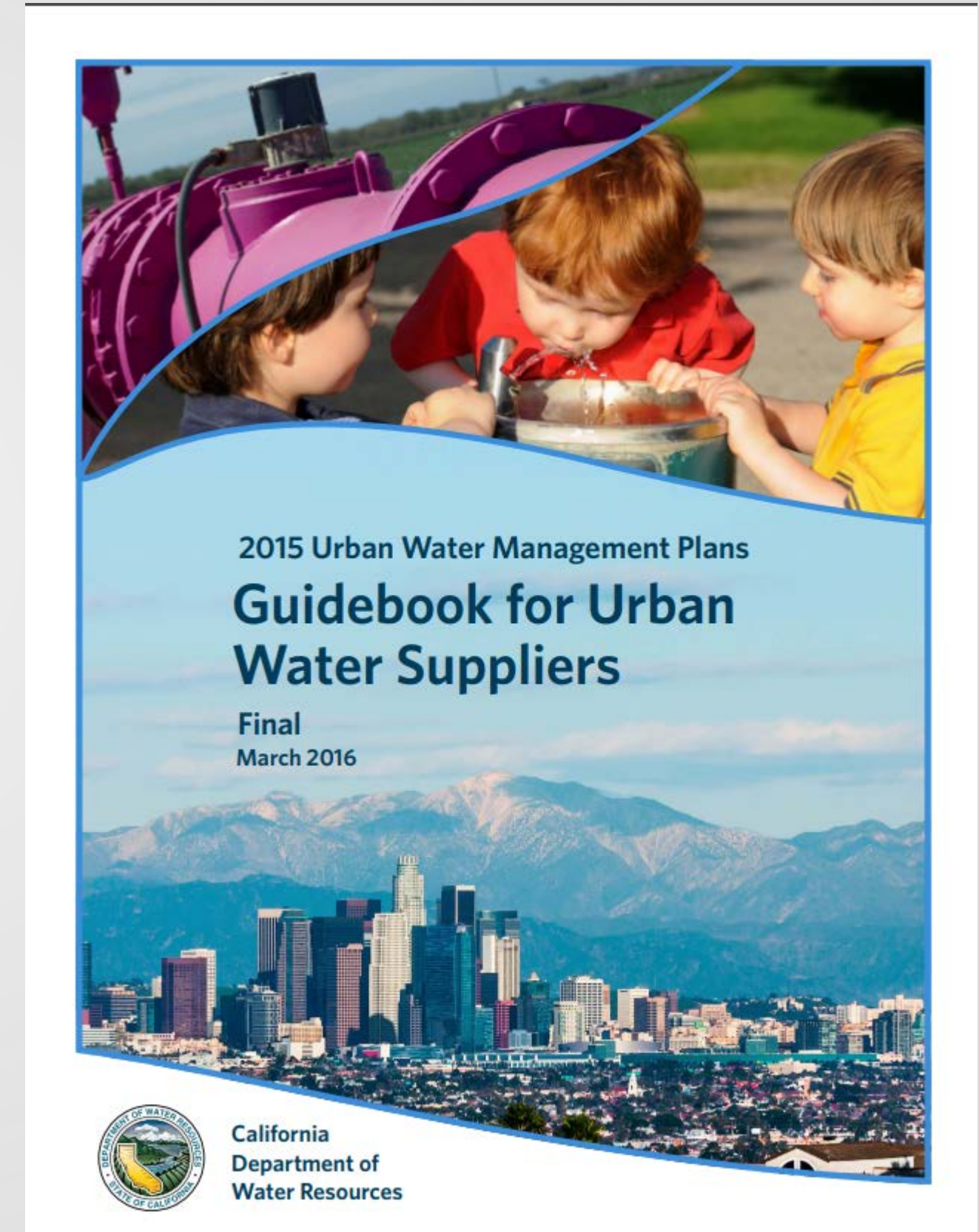


# 2015 UWMP Guidebook

- History
- What it is
- Components
- How it should be used
- How it relates to other tools



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WATER RESOURCES






# 2015 UWMP Guidebook

- Submission of electronic data tables
- Population tool
- 20% reduction by 2020, target method 4

WUEdata - Public Portal Sign In

 **Water Use Efficiency Data (WUEdata)**

The Water Use Efficiency (WUE) data online submittal tool allows urban water suppliers to submit data to the California Department of Water Resources ([DWR](#)). This data is made available to the public through the links below:

Urban Water Management Plans (UWMPs)		
<a href="#">View 2015 UWMPs</a>	View 2015 UWMPs, attached documentation, and official letters from DWR to the supplier.	<b>Number of 2015 Urban Water Management Plans (UWMPs) Submitted to DWR</b>  427 Urban Water Suppliers* 11 Suppliers under the reporting threshold* 6 Regional Alliances  <small>*Section 10617 of the California Water Code defines an "Urban water supplier" as a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually.</small>
<a href="#">2015 UWMP Data</a>	Download data submitted by water suppliers for each UWMP Table. For more information regarding table definitions and uses, see DWR's website - <a href="#">2015 Urban Water Management Plans</a> .	
<a href="#">View 2010 UWMPs</a>	View 2010 UWMP data on the California Department of Water Resources website.	
<a href="#">View 2005 UWMPs</a>	View 2005 UWMP data on the California Department of Water Resources website.	
<a href="#">Resources</a>	View and download resources/documents relevant for urban water suppliers.	



Sabrina Cook

# **WATER SHORTAGE CONTINGENCY PLANS**

# Elements of the Water Shortage Contingency Plan (WSCCP)

1. Water supply reliability analysis
2. Annual Assessment Procedures
3. Six standard shortage stages
4. Shortage response actions
5. Communication protocols



# Elements of the Water Shortage Contingency Plan (WSCCP)

1. Water supply reliability analysis
2. **Annual Assessment Procedures**
3. Six standard shortage stages
4. Shortage response actions
5. Communication protocols
6. Compliance and enforcement
7. Legal authorities
8. Financial consequences of WSCCP
9. Monitoring and reporting
10. WSCCP refinement procedures



# Water Supply Reliability

## New Legislative Requirements: WSCP

### SBx7-7

Water Shortage Contingency  
**Analysis**

- In UWMP:
  - Next 20 years, 5 year increments
  - Normal, single dry year
  - Multiple dry years

### 2018 Legislation

Water Shortage Contingency  
**Plan (Adopted)**

- Analysis of Supply & Demand Assessment – each source
- Next 20 years, 5 year increments
- Normal, single dry year
- 5-year drought/**Drought Risk Assessment**





# Assessment and Stages

## New Legislative Requirements: WSCP

### SBx7-7

#### Water Shortage Contingency Analysis

- Minimum available for next 3 years
- Variable stages, > 50%
- Actions: catastrophic, power outages, earthquake, **or** other

### 2018 Legislation

#### Water Shortage Contingency Plan (Adopted)

- Procedures for Annual WSDA
- 6 shortage levels
- Shortage levels apply to: catastrophic, power outages, earthquake, **and** others





# Example Crosswalk

2015 UWMP Stage	Supply Condition		2020 WSCP Level	Supply Reduction
1 – Voluntary	Normal	→	1	≤ 10%
2 – Water Alert	Slightly restricted (12%)	→	2	10-20%
3 – Water Warning	Moderately restricted (20%)	→	3	20-30%
4 – Water Crisis	Severely restricted (35%)	→	4	30-40%
5 – Water Emergency	Extremely restricted ( <b>&gt;50%</b> )	→	5	40-50%
		↘	6	> 50%



# Actions and Prohibitions

## New Legislative Requirements: WSCP

### SBx7-7

#### Water Shortage Contingency Analysis

- Generic actions
- Mandatory prohibitions
  - Consumption reduction – most restrictive stages to achieve 50%
  - Penalties or charges

### 2018 Legislation

#### Water Shortage Contingency Plan (Adopted)

- Specific, locally appropriate actions
- Mandatory prohibitions: locally appropriate in addition to State mandated
- Estimated time



# Communication Protocols

## New Legislative Requirements: WSCP

### SBx7-7

Water Shortage Contingency  
**Analysis**

### 2018 Legislation

Water Shortage Contingency  
**Plan (Adopted)**

- Procedures/protocols to inform
- Current or predicted shortage (AWSDA)
- Shortage response actions triggered or anticipated
- Other relevant



# Compliance, Enforcement, Authority

## New Legislative Requirements: WSCP

### SBx7-7

Water Shortage Contingency  
**Analysis**

- Penalties or charges for excessive use
- Draft water shortage contingency resolution or ordinance

### 2018 Legislation

Water Shortage Contingency  
**Plan (Adopted)**

- Customer compliance, enforcement, appeal, and exemption procedures
- Description of legal authorities to enforce



# Finances, Monitoring, Reevaluation

## New Legislative Requirements: WSCP

### SBx7-7

Water Shortage Contingency  
**Analysis**

- Impacts analysis on revenue and expenditures
- Mechanism for determining actual water use reductions

### 2018 Legislation

Water Shortage Contingency  
**Plan (Adopted)**

- Description of financial consequences
- Monitoring and reporting procedures for customer compliance and state reporting
- Reevaluation





# Large Group Discussion: Suggested Revisions to the UWMP Guidebook

Given the new requirements and your past experience, How can DWR improve the Guidebook

- a. To help with assessments, evaluations, and reporting?
- b. To improve local planning for water supply reliability?





# Lunch Break



# Drought Reflection Activity

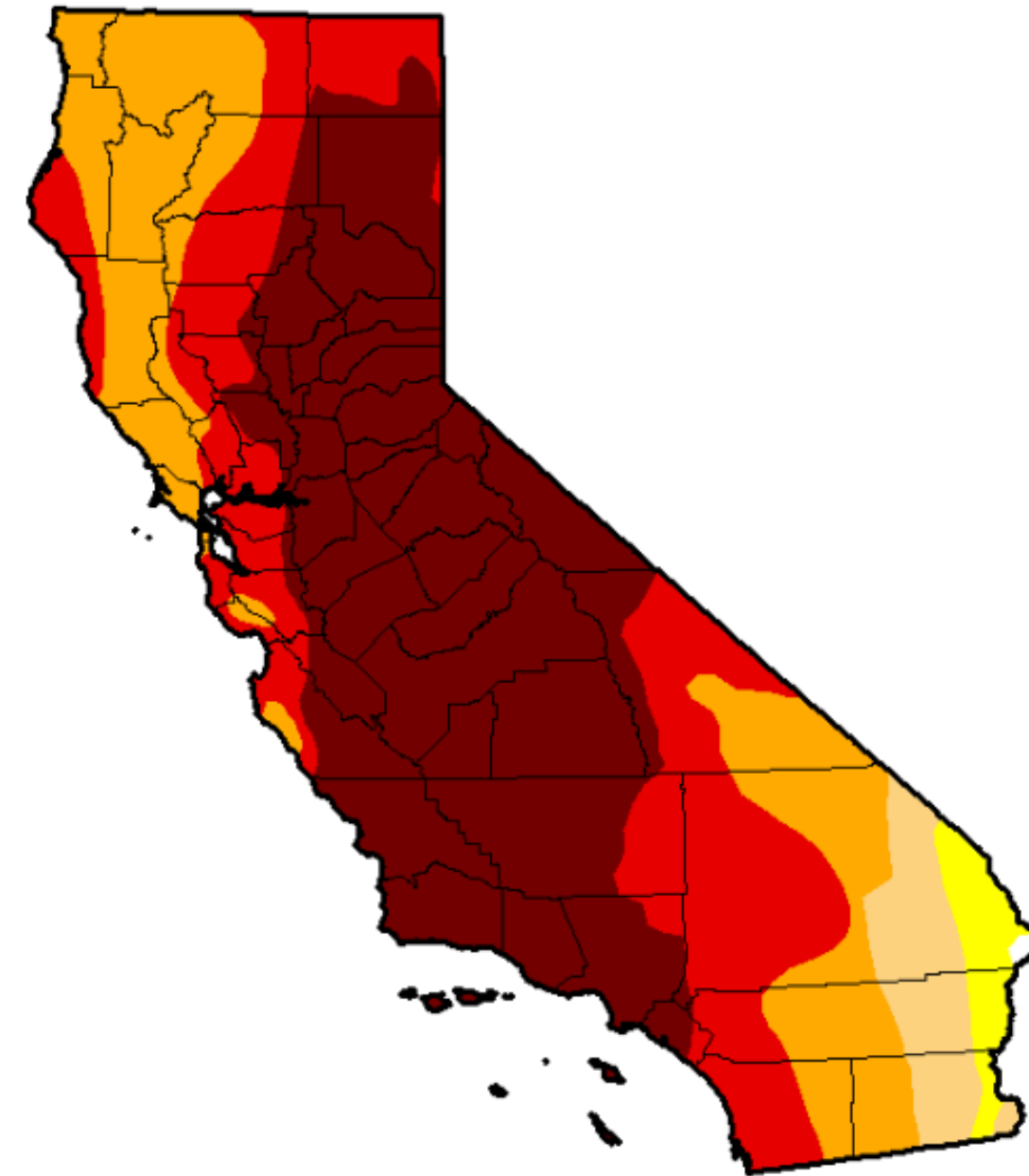
- Do you know what this year represents?

## Intensity:



*The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.*

*U.S. Drought Monitor*  
**California**



# Table Chat (15 minutes):

Looking back to 2012, at the beginning of a long-term drought, what would you have done differently?

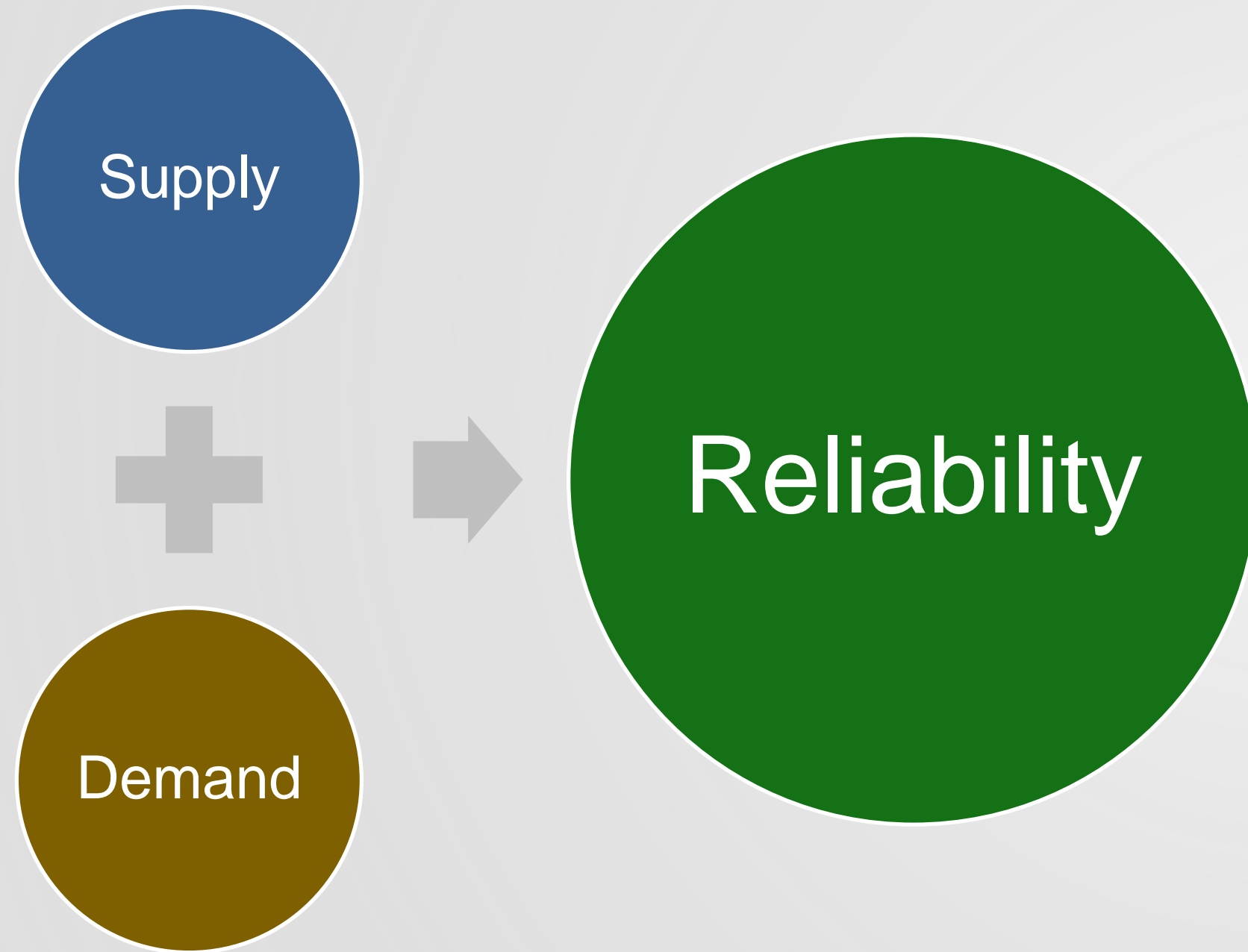
What are you thinking about now, given our current weather conditions?



Julia Ekstrom

# **DROUGHT RISK ASSESSMENT**

# Drought Risk Assessment



## Types of Reliability

- Annually
- **Near-term (5 years)**
- Long-term (20 years)



# Drought Risk Assessment Requirements:

## *Near-term reliability (5 years)*

- Key changes:
  - Extend to five years (rather than 3)
  - Evaluate by each water source

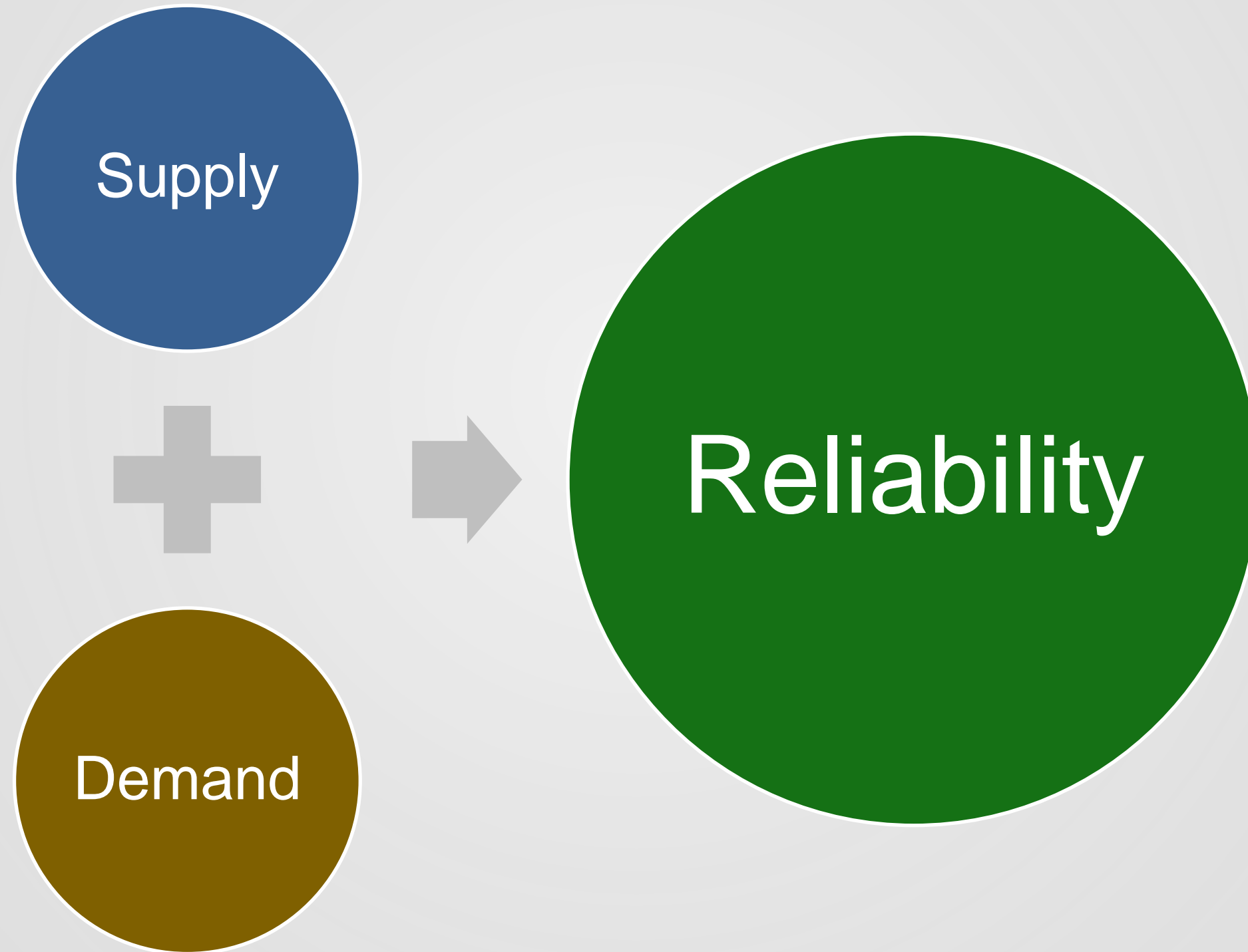




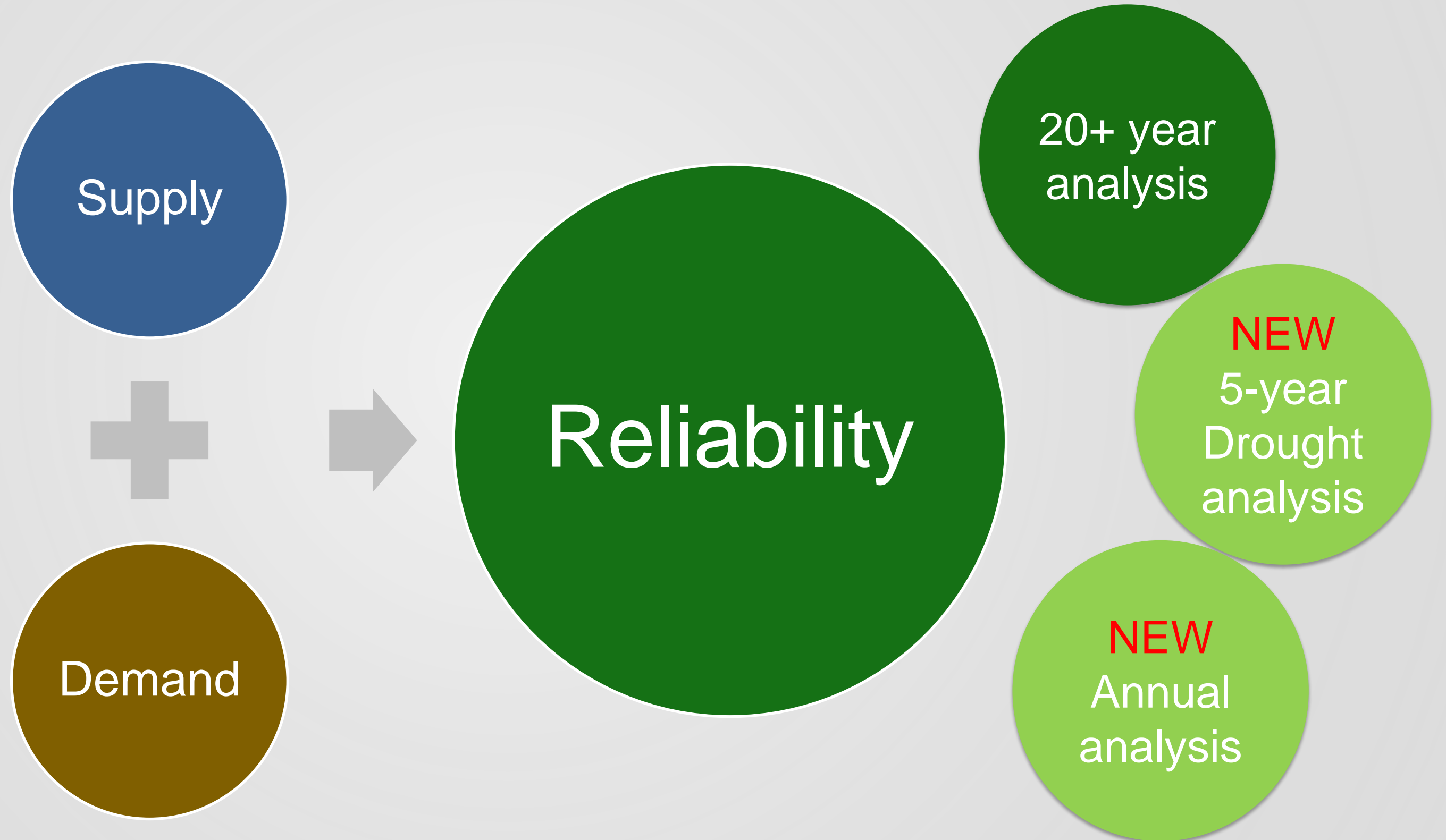
Greg Young, Principal - Tully & Young

**PROPOSED ANALYSIS APPROACH TO  
ADDRESS NEW LEGISLATIVE REQUIREMENTS**

**The UWMP requires a demonstration of the ability to meet customer demands under various supply conditions.**



...and the UWMP requires several reliability assessments.



# 2015 UWMP Reporting Tables

**Table 2-1 Retail Only: Public Water Systems**

Public Water System Number	Public Water System Name	Number of Municipal Connections 2015	Volume of Water Supplied 2015
----------------------------	--------------------------	--------------------------------------	-------------------------------

**Table 6-1 Retail: Groundwater Volume Pumped**

Supplier does not pump groundwater. supplier will not complete the table below.

Groundwater Type	Location or Basin Name	2011	2012	2013
------------------	------------------------	------	------	------

**Table 6-9 Retail: Water Supplies — Projected**

Water Supply	Additional Detail on Water Supply	2020		2025	
		Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)
<b>Total</b>		0	0	0	0

**Table 4-1 Retail: Demands for Potable and Raw Water - Actual**

Use Type	2015 Actual
----------	-------------

**Table 4-2 Retail: Demands for Potable and Raw Water - Projected**

Use Type	Additional Description	2015	2020	2025	2030
----------	------------------------	------	------	------	------

**Table 4-3 Retail: Total Water Demands**

	2015	2020	2025	2030
Potable and Raw Water From Tables 4-1 and 4-2	0	0	0	0
Recycled Water Demand* From Table 6-4	0	0	0	0
<b>TOTAL WATER DEMAND</b>	0	0	0	0

**Table 7-2 Retail: Normal Year Supply and Demand Comparison**

	2020	2025	2030	2035	2040 (Opt)
Supply totals					

**Table 7-3 Retail: Single Dry Year Supply and Demand Comparison**

	2020	2025	2030	2035	2040 (Opt)
Supply totals					

**Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison**

	2020	2025	2030	2035	2040 (Opt)
First year	Supply totals				
	Demand totals				
	Difference	0	0	0	0
Second year	Supply totals				
	Demand totals				
	Difference	0	0	0	0

## 2015 Relevant Submittal Tables with Supply and Demand

Table 2-1  
Table 4-1  
Table 4-2

Table 4-3  
Table 6-1  
Table 6-7

Table 6-9  
Table 7-1  
Table 7-2

Table 7-3  
Table 7-4  
Table 8-4



# Drought Risk Assessment and Reliability Analysis

- New Legislation requires new analysis
- Other Regulations – monthly data

*2015 tables focused on annual reporting, which potentially resulted in reliability analysis that miss critical monthly challenges faced by suppliers*





# Example: Effective analysis requires supply and demand information to be assessed by month

## Assumed Water Supply:

- Pre-1914 Licensed water right
  - 10 cfs max direct diversion rate; 7,200 af/yr max
  - No history of dry year restriction
- 1982 permitted water right
  - 12 cfs max direct diversion rate; 9,100 af/yr max
  - Term 91 restriction has caused curtailment in July/Aug – reduces total to 7,575 af/yr
- 8 groundwater wells with 8,500 gpm total capacity

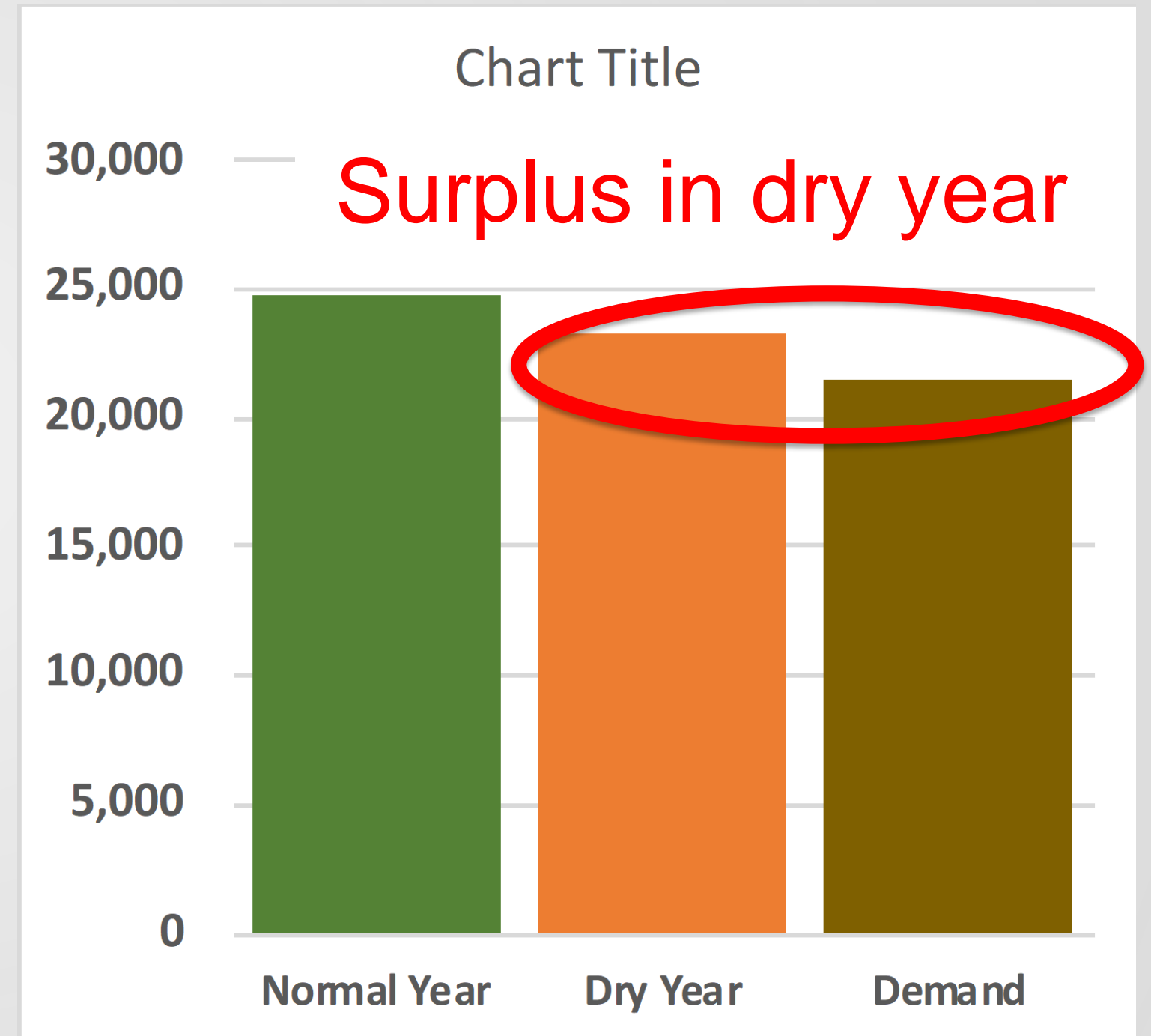


# Example (cont.): Annual Calculation

Annual Demand is 21,500 af

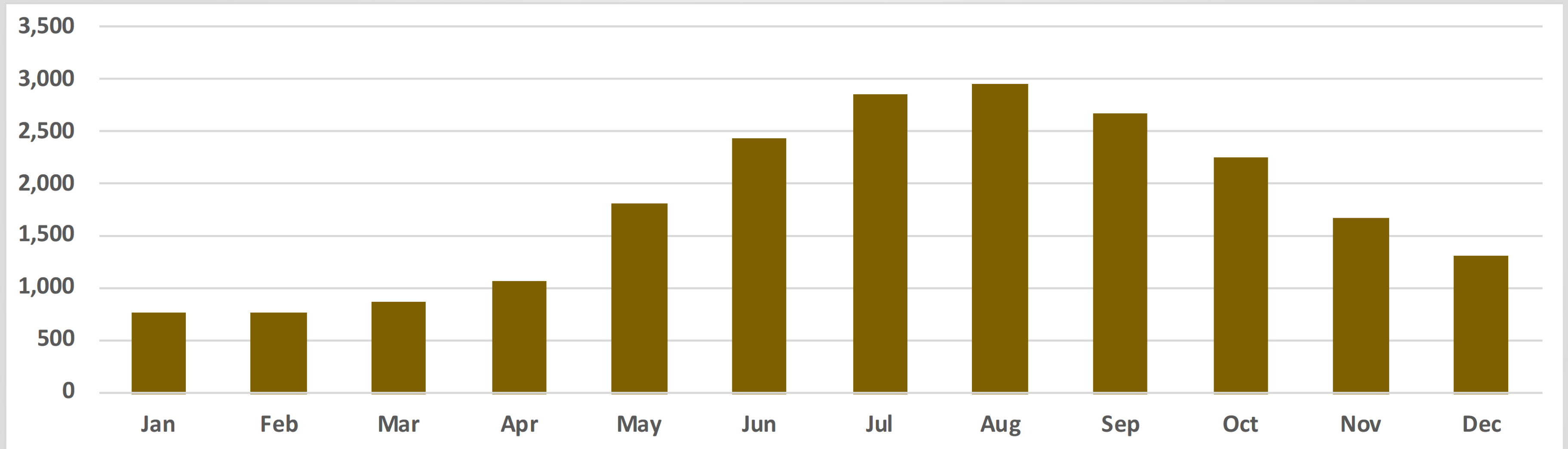
Dry Year Reliability Analysis:

- Supply = 24,800 af/yr (normal)  
= 23,275 af/yr (dry)
- Demand = 21,500 af/yr
- Annual Surplus of 1,775 af



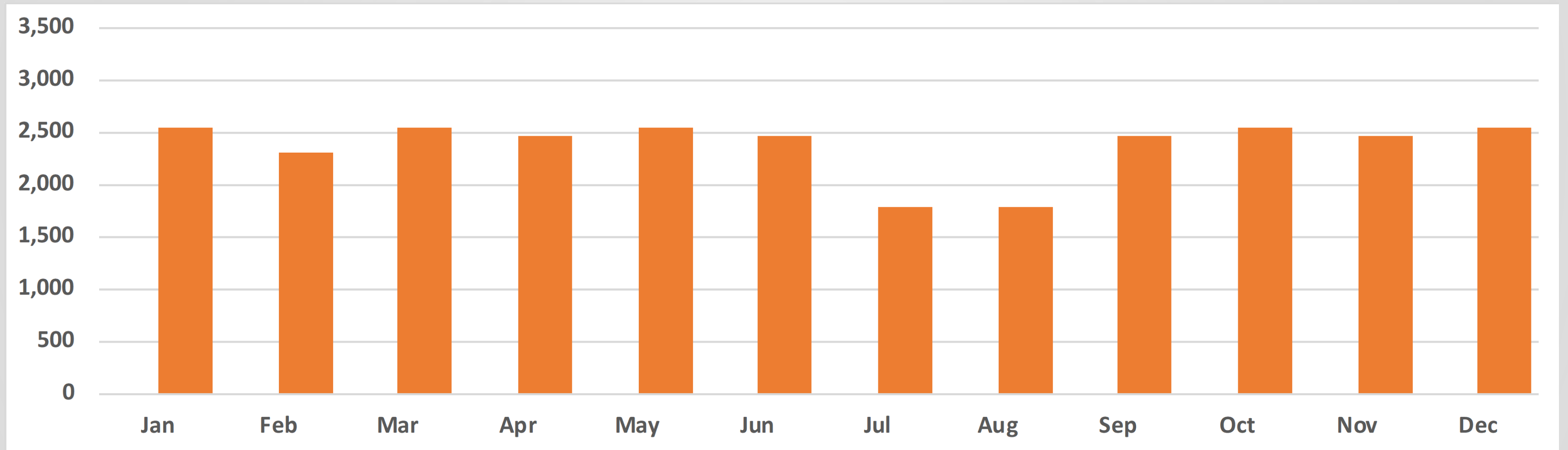
# Example (cont.): Dry Year Monthly Demand

Monthly demand pattern is driven by outdoor summer use



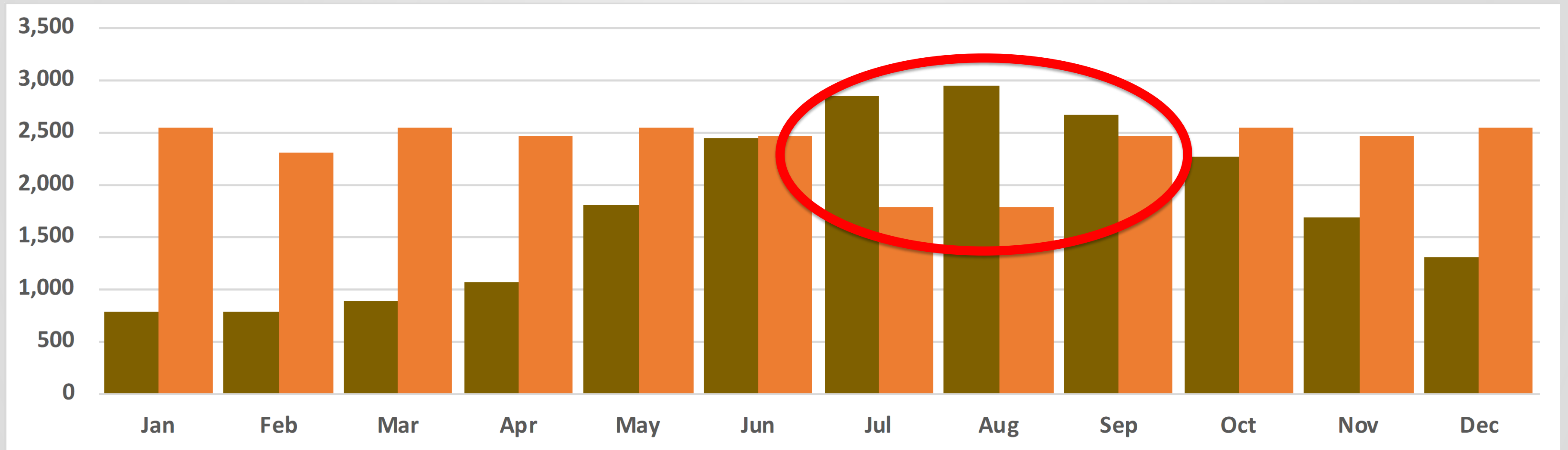
# Example (cont.): Dry Year Monthly Supply

And the supplies have monthly limits



# Example (cont.): Dry Year Seasonal Deficit

Resulting in a monthly analysis that shows a shortage in July, Aug and Sep that should be addressed



Shortage projected in these months  
as much as 2,455 af



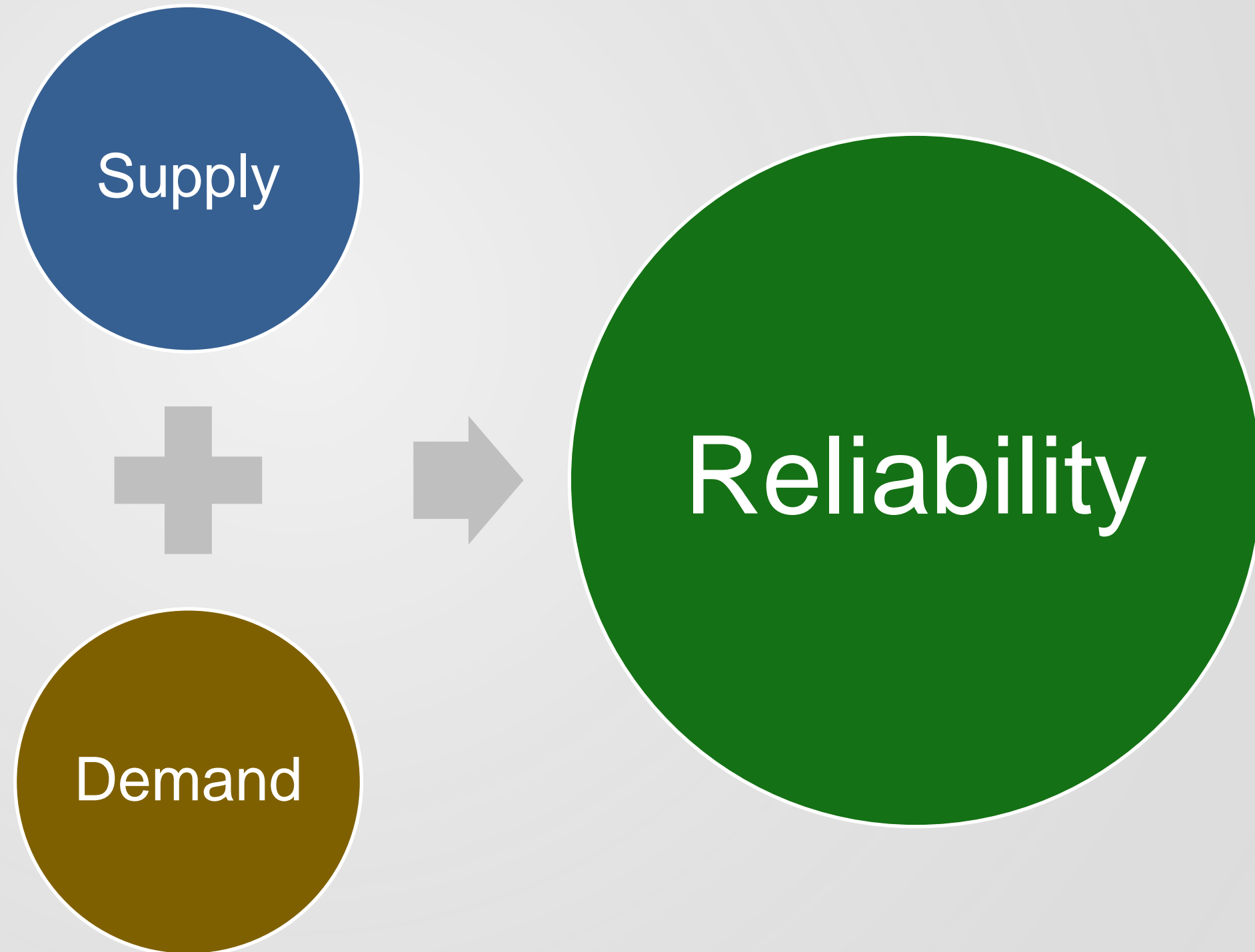


# Available Monthly Data:

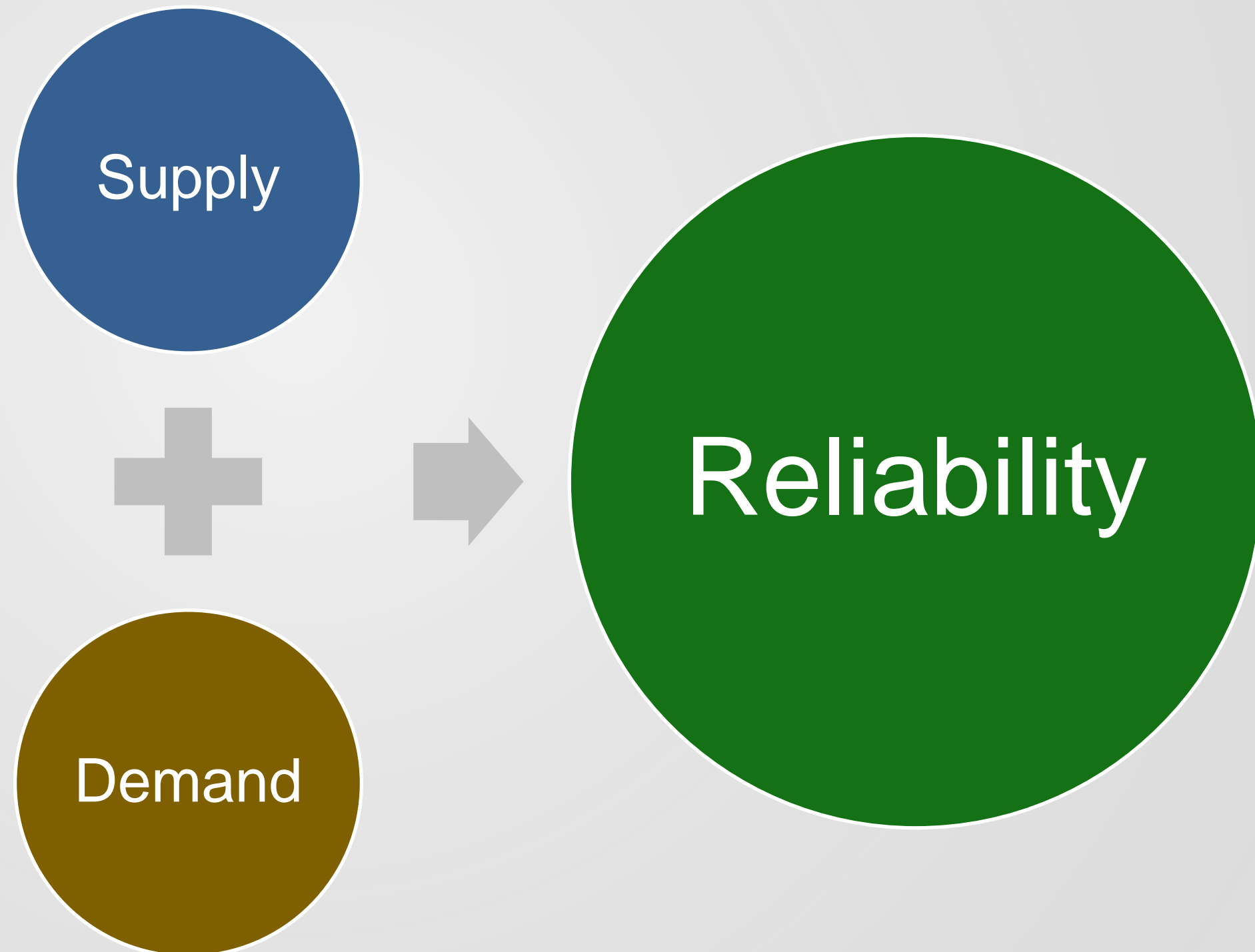
- Demand already reported monthly
  - Monthly demand in annual reports to Div. of Drinking Water
  - SWRCB proposed regulation
  - Reflects variations in customer use already in supplier's operations
- Supply details may have monthly variables
  - Water rights may have constraints by month or for certain months, or include terms that could trigger only in certain months (e.g. Term 91)
  - Water contracts often require a projected monthly schedule
  - Infrastructure may have certain limits that cap a monthly supply



# Water Supply, Demand, and Reliability



**This graphic is intentionally simplistic. To begin relating these 3 elements to the code, DWR has developed another graphic.**



# Supply Characterization

# Demand Characterization

## Integration Requirements

2020 GPCD Compliance

Demonstrate 20 years of Reliability  
(5-year increments)

Annual Assessment (New)

5-year Drought Risk Assessment (New)

**Reporting: UWMP including WSCP (Refined) and Drought Risk Assessment (New)**



# Supply Characterization

**§10631**  
 (b)(4)(C) last 5-years of groundwater pumping  
 (b)(4)(D) projected groundwater pumping

**§10631**  
 (b) existing and planned sources in 5-yr increments for 20 years  
 (b)(1) for normal year, single-dry year, and droughts lasting at least 5 years

**§10632(a) (Significantly Revised WSCP)**  
 (2)(B)(ii) Current year available supply  
 (4)(A) Locally appropriate supply augmentation actions

**§10635(b) (New 5-year DRA)**  
 (2) a determination of reliability of each source under a variety of shortage conditions

# Integration Requirements

**2020 GPCD Compliance**  
**§10608.24**  
 (b) each urban retail supplier shall meet its urban water use target by December 31, 2020.  
 (c) Compliance daily per capita water use (adjusted?)

**Demonstrate 20 yrs of Reliability (5-yr incr.)**  
**§10635(a)**  
 Reliability in 5-year increments for 20 years (1) for normal year, single-dry year, and droughts lasting at least 5 years

**Annual Assessment (New)**  
**§10632.1**  
 Annual water supply and demand assessment per 10632(a)(2)

**5-year Drought Risk Assessment (New)**  
**§10635(b)**  
 (3) A comparison of the total water supply with the projected water use for the drought period

# Demand Characterization

**§10608.12**  
 (f) "Compliance daily per capita water use" means the gross water use during the final year of the reporting period.  
 (h) "Gross water use" means the total volume of water...entering the distribution system

**§10631**  
 (d)(1) past and current water in 5-year increments for 20 years for normal year, single-dry year, and droughts lasting at least 5 years

**§10632(a) (Significantly Revised WSCP)**  
 (2)(B)(i) Current year unconstrained demand  
 (4)(B) Locally appropriate demand reduction actions

**§10635(b) (New 5-year DRA)**  
 projected demands for the next 5 consecutive years

**Reporting: UWMP including WSCP (Refined) and Drought Risk Assessment (New)**



# Supply Characterization

# New Supply Characterization Table

Integrates with existing UWMP reporting tables and facilitates new DRA reporting

Supply		M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	Total	2025	2030	2035	2040	2045 (opt)
Source 1: [Type from list]		[Additional description]																	
2020 Qty														0	not applicable				
Normal Year														0	0				
Single Dry Year														0	0				
Multi-Year Drought	1st Dry Year													0	0				
	2nd Dry year													0	0				
	3rd Dry year													0	0				
	4th Dry year													0	0				
	5th Dry year													0	0				

### Table Elements:

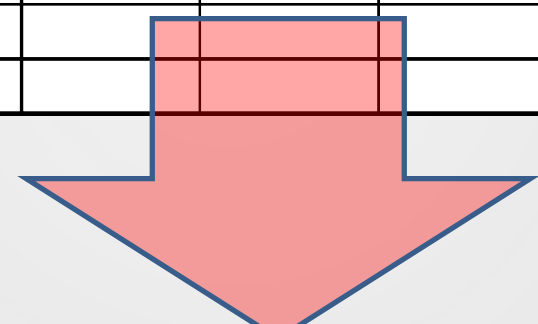
1. Source type and description (tied to supplier's discussion in UWMP)
2. Current year (2020) and year-type rows, including new 5-year drought
3. Supplier-defined monthly and annual volumes by year-type
4. Supplier-defined projected annual volumes by year-type for 20+ years in 5-year increments

# Supply Characterization

# New Supply Characterization Table (cont.)

Supply	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	Total	2025	2030	2035	2040	2045 (opt)		
Source 1: [Type from list] [Additional description]																				
Source 2: [Type from list] [Additional description]																				
Source 3: [Type from list] [Additional description]																				
Multi-Year Drought	2020 Qty																			
	Normal Year																			
	Single Dry Year																			
	Multi-Year Drought	1st Dry Year																		
		2nd Dry year																		
		3rd Dry year																		
		4th Dry year																		
		5th Dry year																		

Add individual sources with details as appropriate per §10631(b)(2)



Total Supply	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	Total	2025	2030	2035	2040	2045 (opt)
2020 Qty	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Normal Year	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single Dry Year	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Multi-Year Drought	1st Dry Year	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2nd Dry year	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3rd Dry year	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4th Dry year	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5th Dry year	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Summary of all supplies



# Supply Characterization

# Demand Characterization

## Integration Requirements

2020 GPCD Compliance

Demonstrate 20 years of Reliability  
(5-year increments)

Annual Assessment (New)

5-year Drought Risk Assessment (New)

**Reporting: UWMP including WSCP (Refined) and Drought Risk Assessment (New)**



# New Demand Characterization Table

Integrates with existing UWMP reporting tables and facilitates new DRA reporting

## Demand Characterization

Demand	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	2020 Tot.	2025	2030	2035	2040	2045 (opt)
2020 Single-family Residential																		
Multi-family Residential																		
Commercial/ Institutional																		
Industrial																		
Landscape Irrigation																		
Other																		
Agricultural																		
Losses																		
Total Gross Water Use																		

### Table Elements:

1. Water use sectors would match §10631(d) and DDW reporting
2. Current year (2020) gross water use for GPCP target compliance
3. Supplier-defined monthly and annual 2020 water use to facilitate Annual Assessments and 5-year Drought Risk Assessment by year-type
4. Supplier-defined projected water use for 20+ years in 5-year increments





# New Demand Characterization Table (cont.)

## Demand Characterization

Demand	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	2020 Tot.	2025	2030	2035	2040	2045 (opt)
2020 Single-family Residential																		
Multi-family Residential																		
Commercial/ Institutional																		
Industrial																		
Agricultural																		
Losses																		
<b>Total Gross Water Use</b>																		

Total gross water use becomes 'current unconstrained demand'



For Drought Risk Assessment	Current Unconstrained Demand																	
	Change																	
	Unconstrained Demand Year 1																	
	Change																	
	Unconstrained Demand Year 2																	
	Change																	
	Unconstrained Demand Year 3																	
	Change																	
	Unconstrained Demand Year 4																	
	Change																	
	Unconstrained Demand Year 5																	

Demand representations for 5-year DRA



Add anticipated annual change to each year to build 5-years of 'unconstrained demand' for DRA



# Integration with '2015 Reporting Tables'

## Demand Characterization

Demand	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	2020 Tot.	2025	2030	2035	2040	2045 (opt)
2020 Single-family Residential																		
Multi-family Residential																		
Commercial/ Institutional																		
Industrial																		
Landscape Irrigation																		
Other																		
Agricultural																		
Losses																		
Total Gross Water Use																		

Example:  
Existing Table 4-2

Table 4-2 Retail: Demands for Potable and Raw Water - Projected

Use Type (Add additional rows as needed)	Additional Description (as needed)	Projected Water Use				
		Report To the Extent that Records are Available				
<i>Drop down list. May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool</i>		2020	2025	2030	2035	2040-opt
		TOTAL	0	0	0	0

NOTES:



# Supply Characterization

# Demand Characterization

## Integration Requirements

2020 GPCD Compliance

Demonstrate 20 years of Reliability  
(5-year increments)

Annual Assessment (New)

5-year Drought Risk Assessment (New)

**Reporting: UWMP including WSCP (Refined) and Drought Risk Assessment (New)**



# Integration with '2015 Reporting Tables'

## Integration Requirements

Supply Characterization													2025	2030	2035	2040	2045 (opt)	
Total Supply	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	Total	not applicable				
2020 Qty	0	0	0										0	0	0	0	0	
Normal Year	0	0	0										0	0	0	0	0	
Single Dry Year	0	0	0										0	0	0	0	0	
Multi-Year Drought:																		
1st Dry Year	0	0	0										0	0	0	0	0	
2nd Dry year	0	0	0										0	0	0	0	0	
3rd Dry year	0	0	0										0	0	0	0	0	
4th Dry year	0	0	0										0	0	0	0	0	
5th Dry year	0	0	0										0	0	0	0	0	

Demand Characterization													2025	2030	2035	2040	2045 (opt)	
Demand	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	2020 Tot.					
2020																		
Single-family Residential																		
Multi-family Residential																		
Commercial/ Institutional																		
Industrial																		
Landscape Irrigation																		
Other																		
Agricultural																		
Losses																		
Total Gross Water Use																		

Example:  
Existing Table 7-3

	2020	2025	2030	2035	2040 (Opt)
Supply totals					
Demand totals					
Difference	0	0	0	0	0

NOTES:



# Proposed 5-Yr DRA Table

## Integration Requirements

Year 1	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	Total
Demands (1st Year)													
Unconstrained Demand (Year 1)													
Supplies (1st dry year)													
Total Supply													
Integration													
Projected surplus/(shortfall)													
Planned WSCP Actions													
WSCP % demand reduction target													
Reduction due to WSCP actions													
Year 1 Demand w/ WSCP Actions													
Revised Surplus/(shortfall)													

### Table Elements:

1. Demand and supply information from prior tables generate a monthly representation of surplus or shortage
2. Supplier identifies anticipated reduction targets (as %) by month that helps understand the 'annual' relation to standard water shortage levels
3. Adjust monthly % targets to evaluate effectiveness of shortage response actions to remove shortfall





# Proposed 5-Yr DRA Table

## Integration Requirements

Year 1	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	Total
Year 2													Total
Year 3													Total
Year 4													Total
Year 5	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	Total
Unconstrained Demand (Year 5)													
Supplies (5th dry year)													
Total Supply (5th dry year)													
Integration													
Projected surplus/(shortfall)													
Planned WSCP Actions													
WSCP % demand reduction target													
Reduction due to WSCP actions													
Year 5 Demand Estimate													
Revised Surplus/(shortfall)													

Repeat for all 5 years – defined by supplier



# Integration with Proposed DRA tables

## Integration Requirements

Total Supply	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	Total	2025	2030	2035	2040	2045 (opt)	
2020 Qty	0	0	0	0	0	0	0	0	0	0	0	0	0	not applicable					
Normal Year	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1st Dry Year	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3rd Dry year	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4th Dry year	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5th Dry year	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Supply Characterization

Current Unconstrained Demand																		
Change																		
Unconstrained Demand Year 1																		
Change																		
Unconstrained Demand Year 2																		
Change																		
Unconstrained Demand Year 3																		
Change																		
Unconstrained Demand Year 4																		
Change																		
Unconstrained Demand Year 5																		

Demand Characterization

Example:  
New DRA Table:  
Year 1

Year 1	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	Total
Demands (1st Year)													
Unconstrained Demand (Year 1)													
Supplies (1st dry year)													
Total Supply													
Integration													
Projected surplus/(shortfall)													
Planned WSCP Actions													
WSCP % demand reduction target													
Reduction due to WSCP actions													
Year 1 Demand w/ WSCP Actions													
Revised Surplus/(shortfall)													



# New 'Foundational Table' for Supply and Demand, and New Tables for 5-year DRA

Total Supply		M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	Total	2025	2030	2035	2040	2045 (opt)			
2020 Qty		0	0	0	0	0	0	0	0	0	0	0	0	0	not applicable							
Normal Year		0	0	0	<b>Supply Characterization</b>				0	0	0	0	0	0	0	0	0	0	0	0		
Single Dry Year		0	0	0					0	0	0	0	0	0	0	0	0	0	0	0	0	0
Multi-Year Drought	1st Dry Year	0	0	0					0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2nd Dry year	0	0	0					0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3rd Dry year	0	0	0					0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4th Dry year	0	0	0					0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5th Dry year	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

Demand		M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	2020 Tot.	2025	2030	2035	2040	2045 (opt)
2020	Single-family Residential																		
	Multi-family Residential																		
	Commercial/ Institutional																		
	Industrial																		
	Landscape Irrigation																		
	Other																		
	Agricultural																		
	Losses																		
	Total Gross Water Use																		
	Current Unconstrained Demand																		
For Drought Risk Assessment	Change																		
	Unconstrained Demand Year 1																		
	Change																		
	Unconstrained Demand Year 2																		
	Change																		
	Unconstrained Demand Year 3																		
	Change																		
	Unconstrained Demand Year 4																		
	Change																		
	Unconstrained Demand Year 5																		

**Demand Characterization**

Year 2	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	Total
Demands (2nd Year)													
Year 3	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	Total
Demands (3rd Year)													
Year 4	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	Total
Demands (4th Year)													
Year 5	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	Total
Demands (5th Year)													
Unconstrained Demand (Year 5)													
Supplies (5th dry year)													
Total Supply (5th dry year)													
Integration													
Projected surplus/(shortfall)													
Planned WSCP Actions													
WSCP % demand reduction target													
Reduction due to WSCP actions													
Year 5 Demand Estimate													
Revised Surplus/(shortfall)													

**DRA Tables**



# Discussion Instructions

1. Please identify a **note taker/reporter** for the group to help track key themes from your discussion and to report out on behalf of the group.
2. Review the questions and go around the table, giving each participant an opportunity to **provide input**. Make sure that all participants have an opportunity to share their thoughts.
3. **Be additive** and highlight areas of agreement.
4. Following a short break, you will be prompted to **share your suggestions** with the larger group.
5. Use the **comment cards** at the table to provide DWR with additional input



# Small Group Discussion

1. What **new features** would be helpful to incorporate into new or existing tables in the Guidebook?
2. Given the trend towards **monthly data reporting**, what are potential barriers to monthly reliability analysis in the UWMP?
3. What are some approaches to address the new requirement for **detailed reporting of multiple sources**?





# Wrap Up and Next Steps

Will be sharing meeting materials and link to webinar/meeting summary next week

- **Spring 2020:** Next Workgroup Meeting (TBD)
- **Summer 2020:** Draft Guidebook Released for Public Review
- **Fall 2020:** Final Guidebook Release
- **Early Spring 2021:** WUE Data Portal Revised for Submissions
- 
- **July 1, 2021:** UWMP Deadline to DWR

Thank you for joining us today!



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