



# RANCHO MURIETA CSD BOARD MEETING

## 2024 INTEGRATED WATER MASTER PLAN UPDATE

---

April 17, 2024

# Following IWMP Engineering Assessment Phases

## Supply

- OneWater Portfolio
- Water Rights
- Historic USGS data river flows
- Pumping Volumes and Storage Levels
- Climate Change

## Demand

- Development by Lot Type
- Demand Trends
- Past Conservation
- Proposed Development

## Scenarios/ Options

- Interactive Tool Modeled Scenarios
- Run Shared Vision Model (SVM) “what if” reductions
- Run SVM “what if” supplemental supplies
- Capital Projects utilizing hydraulic model
- Key Options
- Findings
- Community Discussion/Board Decisions

# Supply Recap



# Supply StoryMap

- [Rancho Murieta Community Water System StoryMap](#)



<https://tinyurl.com/ywduwyc3>



- ▶ COMMUNITY FAQ'S
- ▶ 2023 BOARD MEETINGS
- ▶ 2023 COMMITTEE MEETINGS
- ▶ QUICK LINKS-SECURITY LOG AND ACTIVITIES
- ▶ FINANCES
- ▶ PLANNING FOR DISASTERS
- ▶ RECLAIMED WATER



**Changes to Credit Card Payments**  
<https://www.municipalonlinepayments.com/ran>  
READ MORE >

RANCHO MURIETA CSD  
**INTEGRATED WATER MASTER PLAN**

**GET INVOLVED!**

Join District Board Members, Staff, and the Integrated Water Master Plan consulting team at a Town Hall to learn about and provide input on the community's Integrated Water Master Plan.

The District is offering additional public engagement opportunities as the Master Plan is developed.

The District's water supply and demand will be explored, along with the projected impacts of climate change on the supply. This data-driven approach to water planning will ensure Rancho Murieta's water supply remains strong.

**INTEGRATED WATER MASTER PLAN  
TOWN HALL MEETING**  
Thursday, November 2, 2023, 6:00 p.m. – 9:00 p.m.  
Marriott Bonvoy, Rancho Murieta Country Club  
(760.242.2438 or [waterplan@ranchomurieta.com](mailto:waterplan@ranchomurieta.com))

Visit <https://www.ranchomurieta.com/water-master-plan> to find additional project information and ongoing updates, including responses to public questions.

Email your questions or comments to the District at [waterplan@ranchomurieta.com](mailto:waterplan@ranchomurieta.com)

**Integrated Water Master Plan  
Town Hall 11/2/2023**  
Click here to see the Integrated Water Master Plan Page  
READ MORE >



**Integrated Water Master Plan**  
Rancho Murieta Community Services District using ArcGIS StoryMaps, which is a web-based, storytelling application that allows the District to share information in the form of maps accompanied by...  
READ MORE >

# Supply Recap

- Of the 4,400 AF of "Usable" Storage Capacity with Flashboards (rounded to nearest 10 AF)
  - Calero – 2,330 AF
  - Chesbro – 1,110 AF
  - Clementia – 960 AF
- Primary Surface Water Permit (copy on Supply StoryMap)
  - The maximum rate of direct diversion (directly to the water treatment plant) is six (6) cubic feet per second (cfs) and the maximum rate of diversion to offstream storage shall not exceed forty-six (46) cfs.
  - The amount diverted to storage shall not exceed four thousand and fifty (4,050) acre feet, with 3,900 acre feet per year (AFY) from the Cosumnes River
- Recycled Water (rounded to nearest AF)
  - Current system supply – 437 AF
  - Future system supply – 955 AF (average precipitation years)

# Demand Recap

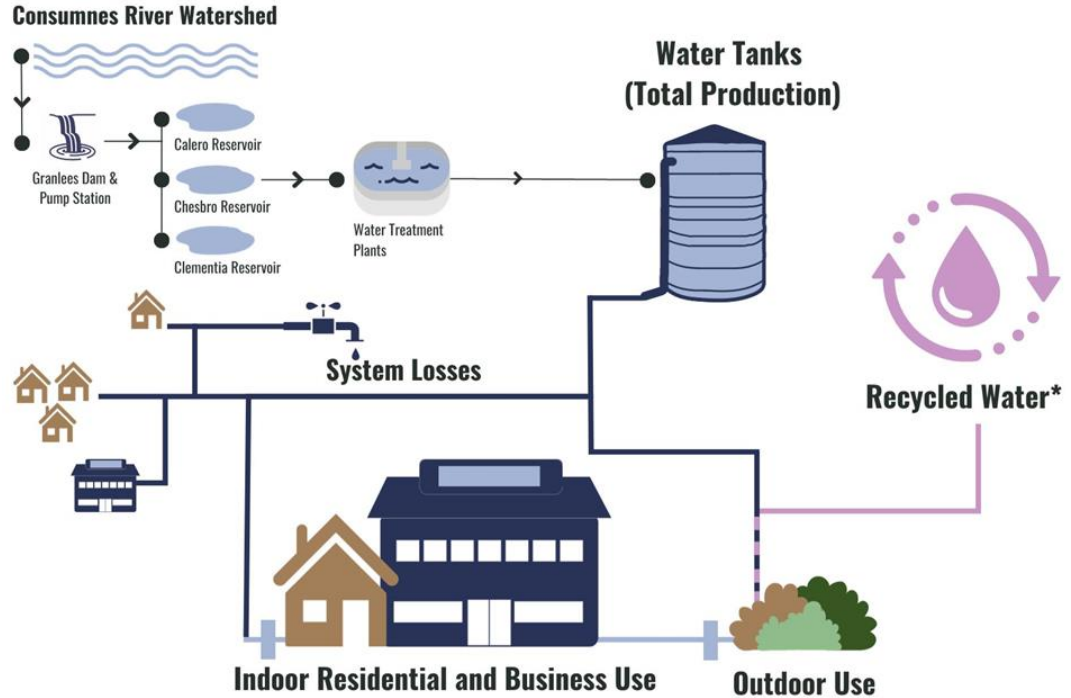


# Demand StoryMap

## • Rancho Murieta Community Water Demands



<https://tinyurl.com/3v5c5wvx>



# Demand Recap

	System Demands (acre-foot per year)
<b>Baseline Potable Water Existing Demands</b> (based on 12/31/22 Connections)	1,716
<b>Projected Future Demands at Buildout</b> * Note: Based on planned uses and known values	1,574*
<b>Total Community Demands at Buildout</b> (with system losses)	<b>3,290</b>

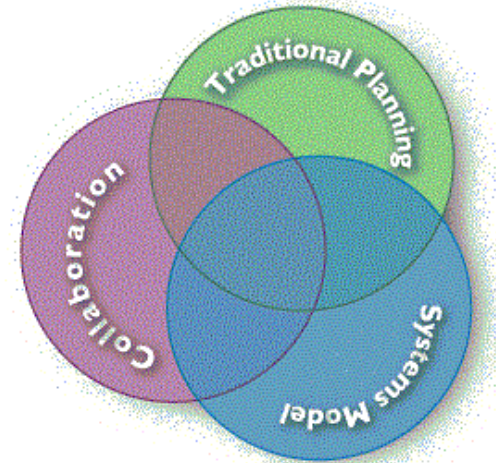
Additional details on the Demands StoryMap



# Shared Vision Model Scenarios for System Resilience

# Phase 3 – In-Process Scenario Planning

- **Engineering Perspective: Least Cost Planning for Robust System Resilience for the Whole Service Area**
  - Use a model to build scenarios
  - Analyze options
  - Discuss key alternatives
  - Additional public townhall discussion
  - Refine alternatives
  - Finish the documentation



Source: US Army Corps of Engineers Institute for Water Resources

# Key Choices Add More System Resiliency

- **Average Day with Climate Change**
  - Meet current and buildout demands
  - Option to Conserve More Water (Demand Reduction)
    - Further maximize recycled water
    - Meet future "Making Conservation Way of Life Laws"
    - Not accounted for in this analysis
- **Under "Worst Case" Drought Conditions**
  - Consider Clementia – original design of RMCSD Master Plan
  - Groundwater Well(s) – SB 552 Back-up Supply Law
  - Setting the 30% curtailment in planning effort could go lower (e.g., 40-50% cutback - note Water Code 10632 requires to plan for 50% cutback)

# Scenarios Summary

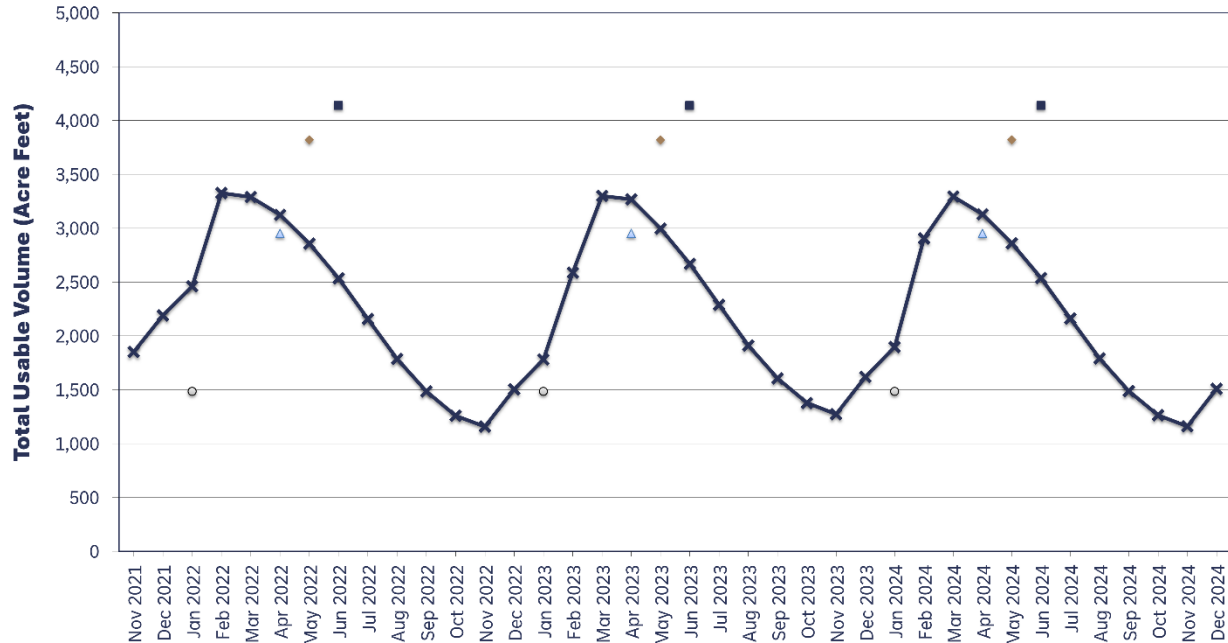
- **Scenario 1** – Average Recent Year with Climate Change
  - Have supply to meet Current Demand and Buildout Demand
    - Permitted water right, not permitted drinking water standards for Clementia
- **Scenario 2** – Historic “Worst-Case” Drought with Climate Change
  - Supply cannot sustain Current or Buildout Demand without augmentation

## Next Steps

- **Scenario 3** – Historic “Worst-Case” Drought with Climate Change  
Augmentation Alternatives
  - Current Demand
  - Buildout Demand
  - Other supply augmentation alternatives

# Scenario 1a – Average Recent Year with Climate Change Current Demand Outcome

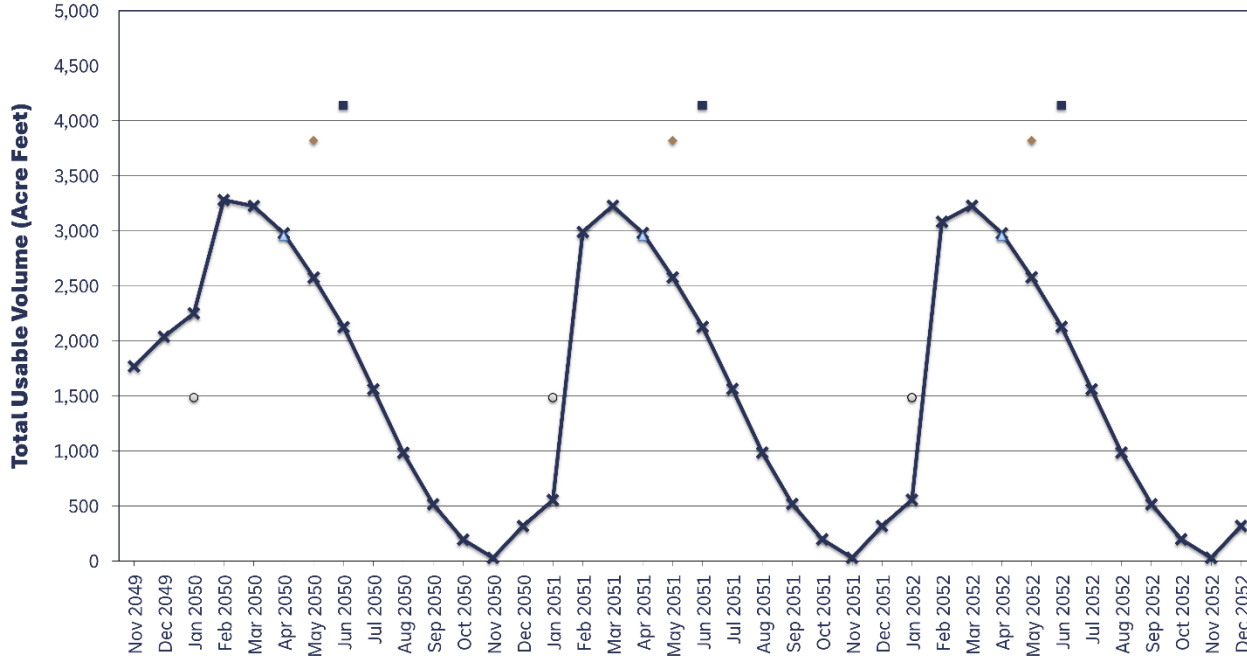
Reservoir Usable Supply Levels and Drought Triggers



- Clementia **Offline**
- Using recycled water for new and existing connections
- Golf course served by raw water
- No drought cutbacks
- No augmentation

# Scenario 1b – Average Recent Year with Climate Change Buildout Demand Outcome

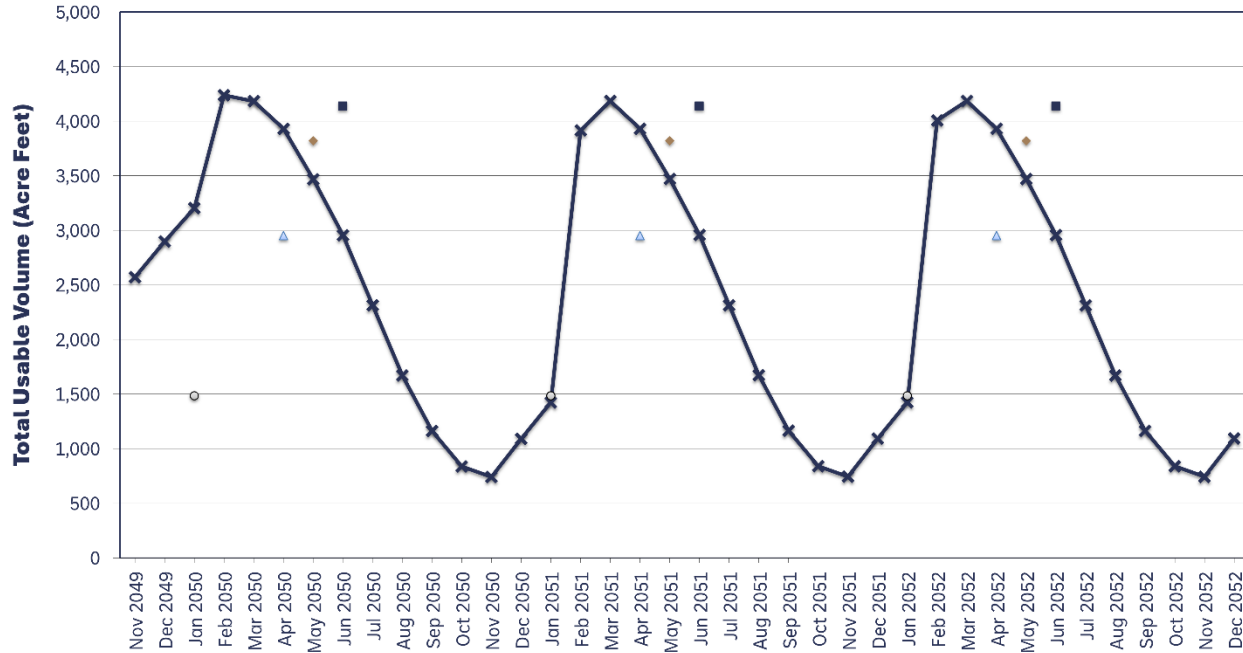
Reservoir Usable Supply Levels and Drought Triggers



- Clementia **Offline**
- Using recycled water for new and existing connections
- Golf course served by raw water
- No drought cutbacks
- No augmentation

# Scenario 1c – Average Recent Year with Climate Change Buildout Demand Outcome

## Reservoir Usable Supply Levels and Drought Triggers



- Clementia **Online**
- Using recycled water for new and existing connections
- Golf course served by raw water
- No drought cutbacks
- No augmentation

# Scenario 1 – Conclusion

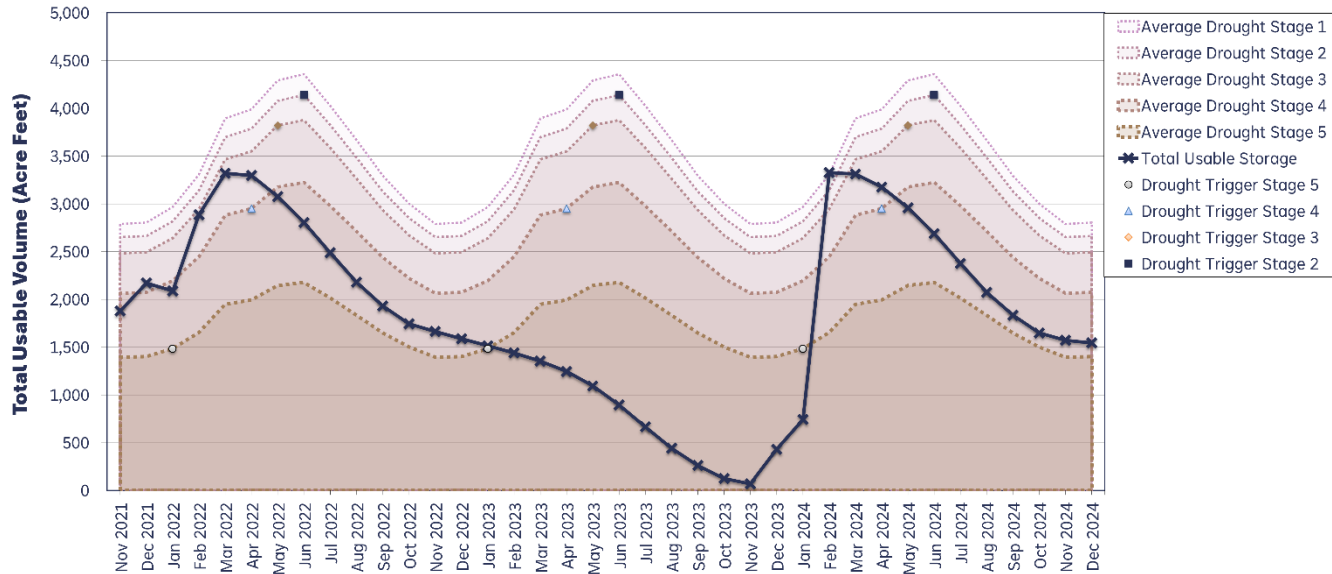
- In an average hydrology year with no demand cutbacks, including climate change, using recycled water
  - Enough water for existing demand
  - Enough water for buildout demand (with Clementia online)



# Scenario 2a – “Worst-Case” Drought with Climate Change

## Current Demand Outcome

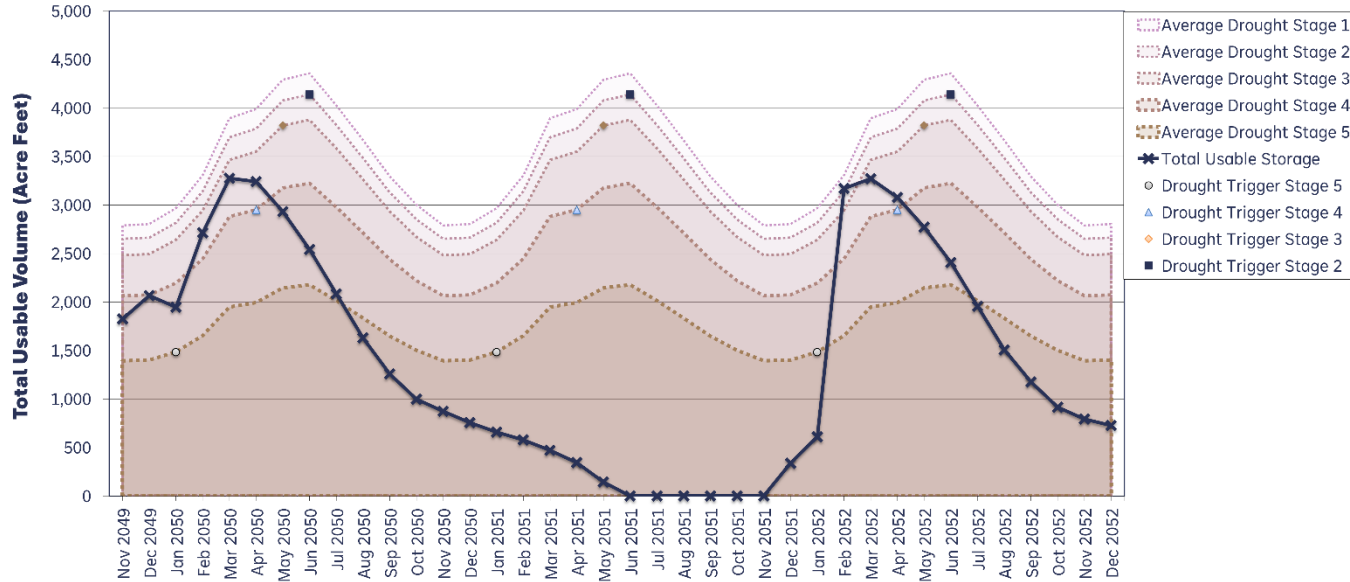
Reservoir Usable Supply Levels and Drought Triggers



- Clementia **Offline**
- Use drought plan (30% cutback in stage 4 and 5)
- Using recycled water for new and existing connections
- Golf course served by raw water
- No augmentation (no well)

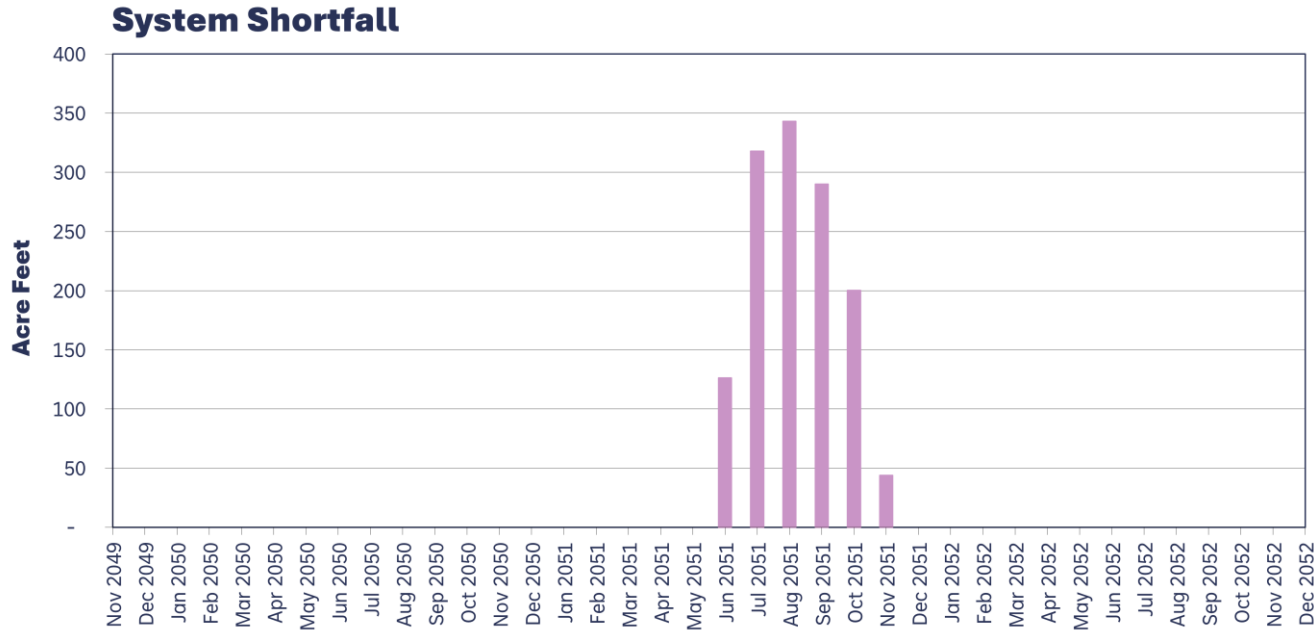
# Scenario 2b – “Worst-Case” Drought with Climate Change Buildout Demand Outcome

Reservoir Usable Supply Levels and Drought Triggers



- Clementia **Offline**
- Use drought plan (30% cutback in stage 4 and 5)
- Using recycled water for new and existing connections
- Golf course served by raw water
- No augmentation (no well)

# Scenario 2 – “Worst-Case” Drought with Climate Change Buildout Demand Outcome



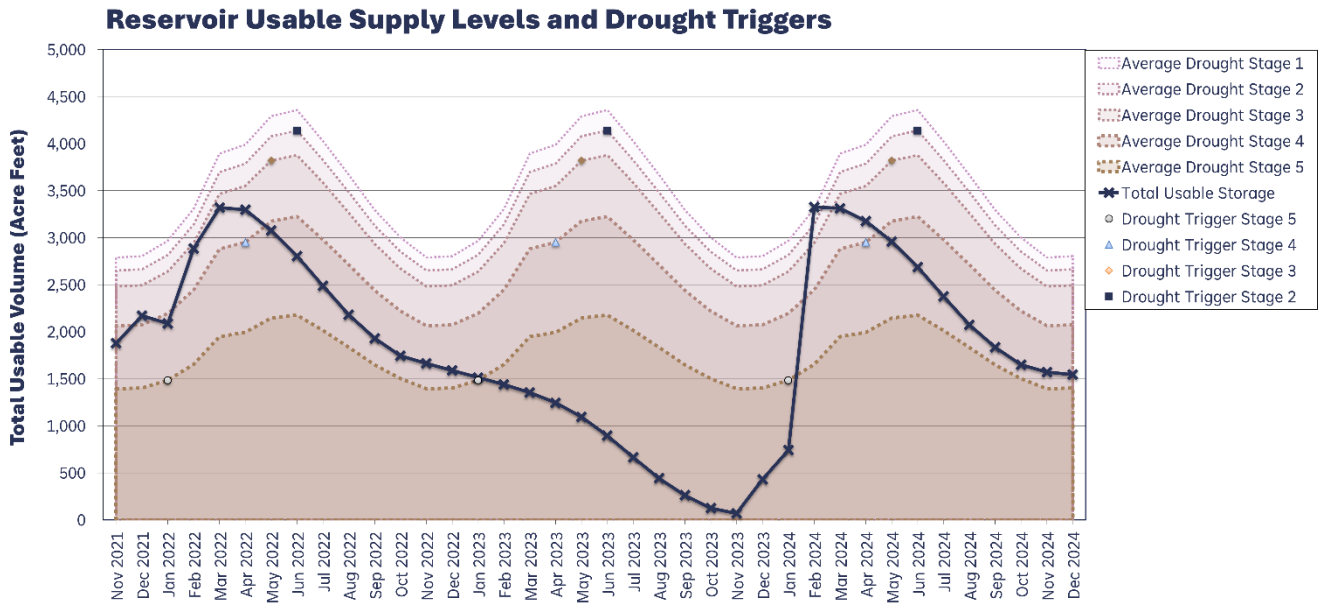
- Clementia **Offline**
- Use drought plan (30% cutback in stage 4 and 5)
- Using recycled water for new and existing connections
- Golf course served by raw water
- No augmentation

## Scenario 2 – Conclusion

- With a “worst-case” drought and climate change
  - Enough water for current demand (minor shortfall – need to consider Clementia or well)
  - Not enough water for buildout demand (more significant shortfall – need to consider wells and/or Clementia)
- **Must augment supply**
  - **Shortfall projected under climate change scenarios**
  - **SB 552 – Back-up supply required**
  - **Consider Clementia as a drought solution (need to meet drinking water standards, have water right permit)**

# Scenario 3a – “Worst-Case” Drought with Climate Change

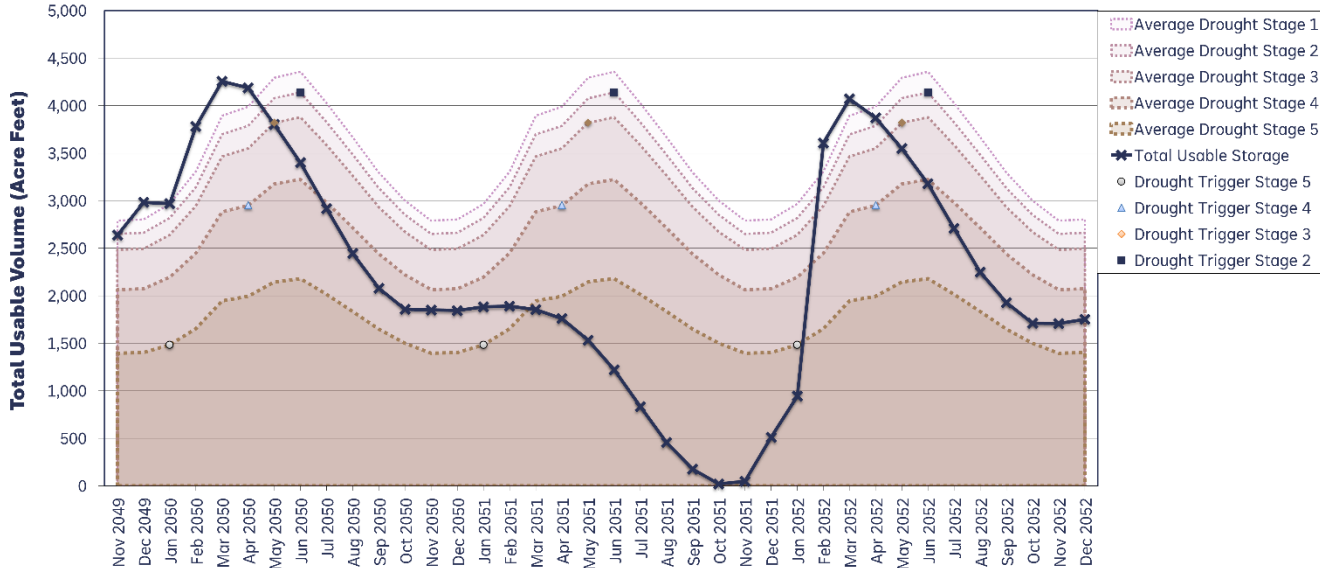
## Current Demand Augmentation Outcome



- Clementia **Offline**
- Use drought plan (30% cutback in stage 4 and 5)
- **With back-up 1,200 GPM well**
- Using recycled water for new and existing connections
- Golf course served by raw water

# Scenario 3b – “Worst-Case” Drought with Climate Change Buildout Demand Augmentation Outcome

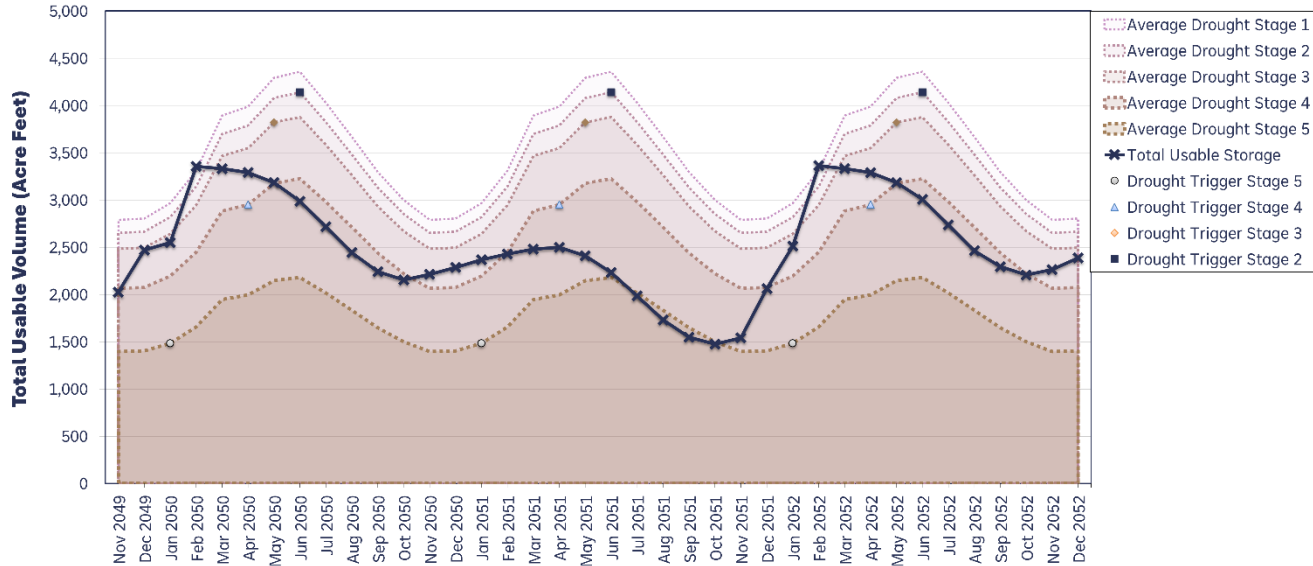
Reservoir Usable Supply Levels and Drought Triggers



- Clementia Online
- Use drought plan (30% cutback in stage 4 and 5)
- **With 500 GPM well**
- Using recycled water for new and existing connections
- Golf course served by raw water

# Scenario 3c – “Worst-Case” Drought with Climate Change Buildout Demand Augmentation Outcome

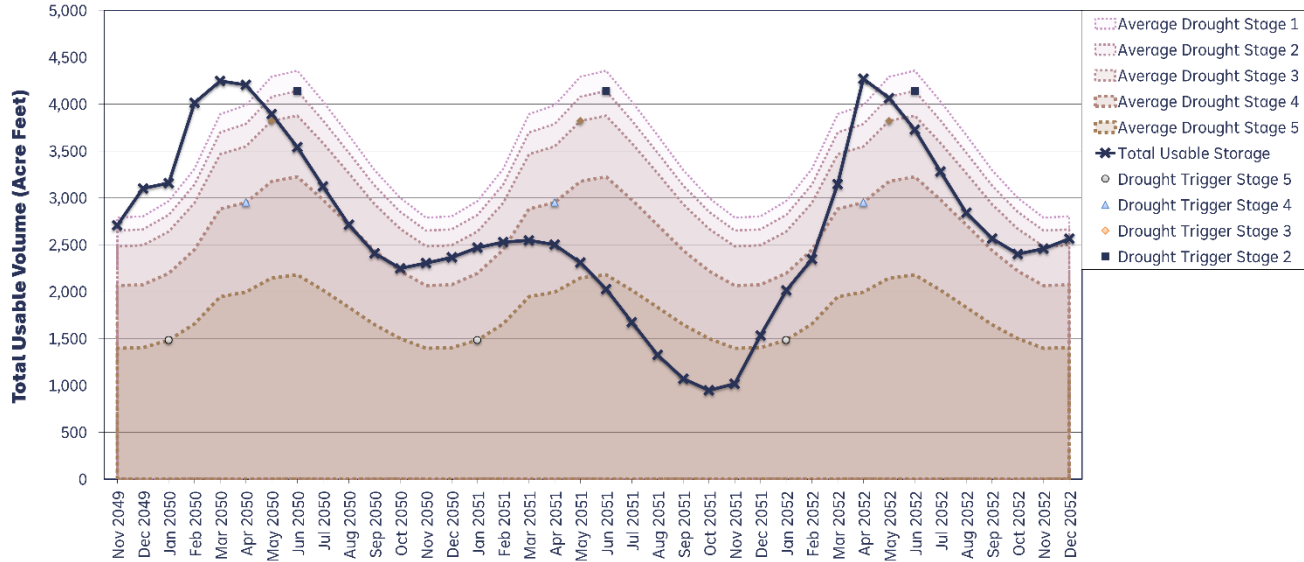
Reservoir Usable Supply Levels and Drought Triggers



- Clementia **Offline**
- Use drought plan (30% cutback in stage 4 and 5)
- **With 2,000 GPM well**
- Using recycled water for new and existing connections
- Golf course served by raw water

# Scenario 3d – “Worst-Case” Drought with Climate Change Buildout Demand Augmentation Outcome

Reservoir Usable Supply Levels and Drought Triggers



- Clementia Online
- Use drought plan (30% cutback in stage 4 and 5)
- **With 1,200 GPM well**
- Using recycled water for new and existing connections
- Golf course served by raw water



## Scenario 3 – Historic Drought with Climate Change Supply Augmentation Conclusion

- With “worst-case” drought and climate change:
  - Enough water for **current** demand:
    - Considering Clementia, OR
    - Back-up supply well to support average-day demand
  - To meet buildout demand:
    - Consider Clementia and 1,200 GPM wells, OR
    - Consider 2,000 GPM wells without Clementia
  - Future wells can lead to a robust drought resilience supply

# Technical Observations – Supply Augmentation Alternatives

Scenario	1a	1b	1c	2a	2b	3a	3b	3c	3d
Hydrology	Average Year	Average Year	Average Year	Historic Drought	Historic Drought	Historic Drought	Historic Drought	Historic Drought	Historic Drought
Demand	Current	<b>Buildout</b>	<b>Buildout</b>	Current	<b>Buildout</b>	Current	<b>Buildout</b>	<b>Buildout</b>	<b>Buildout</b>
Utilize Clementia	NO	NO	YES	NO	NO	NO	YES	NO	YES
Outcome	Meet Monthly Demands, Do not meet SB552	Minimally Meet Monthly Demands	Meet Monthly Demands	Minor Shortfall, Do not meet SB552	Significant Shortfall	Minimally Meet Monthly Demands and SB552, potential >30% cutback needed	Minimally Meet Monthly Demands, potential >30% cutback needed	Meet Monthly Demands	Meet Monthly Demands
Additional Source	None, Back-up needed	None, Back-up needed	None	Back-up needed	Necessary	<b>1,200 gpm capacity source</b>	<b>500 gpm capacity source</b>	<b>2,000 gpm capacity source</b>	<b>1,200 gpm capacity source</b>

# Thank You

