# Chino Basin Watermaster

REGIONAL WATER SUPPLIES: CHALLENGES, SOLUTIONS AND THE ROLE OF THE GROUNDWATER BASIN

BOARD WORKSHOP

DECEMBER 5, 2022





Recap

Throughout three workshops, Watermaster Board members and attendees have improve their understanding of:



- The Chino Basin Adjudication
- The Watermaster role

#### • The role of

Watermaster Board, Board Officers, and other Committees



#### The 1998 Court Order The relationship between the Pool Committees, AC, and the Board

• The different types of actions and decisions the Board could make

 The Peace Agreement
 The Optimum Basin Management Program
 The OBMP Update



## Workshop Goals

Improve understanding of:

- The regional supply challenges, and solutions for IEUA, TVMWD, and WMWD
- The role of the groundwater basin in helping overcome regional supply challenges





# Metropolitan Water District

**BRANDON GOSHI** 





#### Chino Basin Watermaster Workshop

Regional Water Supply Conditions and Key Future Initiatives

December 5, 2022

### Metropolitan Water District



December 5, 2022

Area

#### Sources of Water for MWD's Service Area



### Metropolitan's Imported Water Supplies



December 5, 2022

#### 2022 Water Supply Update

WSDM Supply Demand Balance

> Regional View



WSDM Supply Demand Balance

> Regional View



Emergency Water Conservation Program

October Update

#### • October Path Compliance

PATH 1	PATH 2
Las Virgenes MWD	City of Los Angeles
Three Valleys MWD	Inland Empire Utilities Agency
Calleguas MWD*	Upper San Gabriel Valley MWD

\*5 of 19 Calleguas water purveyors are Path 2

- No penalties issued for any Path 2 member agencies thus far
- Path 1 one-day-a-week watering continues through the end of the year

All SWP Dependent Agencies Weekly Water Use Tracking

June to December 2022





#### Outlook and Planning for 2023 and Beyond

### 2022 Storage Projected to be 2.3 MAF End of Year Balances



\* Estimate – May change based on supply/demand conditions

## End of Year Storage by Region



December 5, 2022

Chino Basin Watermaster Workshop

Supply Outlook: State Water Project

- Five Percent initial State Water Project Table A allocation plus Human Health and Safety Allocation
- Limited Metropolitan SWP storage
  - Depleted flexible storage
  - Low SWP carryover storage
- Continued acute shortage of water supply to meet demands in the SWP Dependent Area

## Potential DCP Contributions on the horizon



End of Month

Supply Outlook: Colorado River

- Metropolitan will access ICS to meet future DCP contributions; additional use of ICS to meet service area demand remains uncertain
- Metropolitan is not planning for a full Colorado River Aqueduct for 2023
- California has submitted a proposal to reduce Colorado River use by 400 TAF each year, beginning 2023 through 2026
- USBR evaluating options for delivery reductions for California, Arizona, and Nevada next year

Key Takeaways: EWCP

#### • EWCP will continue in January 2023

- Continuing discussions with Member Agencies on EWCP supply allocation methodology for 2023
- New volumetric limits and potential compliance mechanisms to be finalized in December 2022

Key Takeaways: Regionwide Conservation

- Agencies should consider preparing their governing bodies and communities for mandatory restrictions
- Agencies should implement enhanced voluntary conservation measures immediately to reduce water use in anticipation of mandatory 2023 WSAP
- Effective and timely voluntary conservation will mitigate the region's need for deeper mandatory cuts
- Mandatory measures will likely be needed with SWP allocations less than ~70%



7-Day Precipitation Outlook

Two major storm systems moving through the West Planning for 2023 and Beyond

> Key Initiatives

- Colorado River
  - USBR funded conservation
  - Drought Contingency Plan
- SWP
  - Water banking and transfers
  - Delta Conveyance and Sites Reservoir
- MWD Service Area
  - Enhanced Conservation
  - SWP Dependent Area Drought Solutions
  - Local Partnerships Chino Basin Program
  - Pure Water Southern California

Pure Water Southern California

A New Drought-Proof Water Source



#### Pure Water Southern California







## Questions



# Inland Empire Utilities Agency

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Inland Empire Utilities Agency

## Inland Empire Utilities Agency Overview

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#### Who is the Inland Empire Utilities Agency (IEUA)

- Located in the southwestern portion of San Bernardino County
- 875,000 residents in our service area
- 242 square miles
- Contracting and retail agencies:
  - City of Chino
  - City of Chino Hills
  - Cucamonga Valley Water District
  - City of Fontana
  - City of Montclair
  - City of Ontario
  - City of Upland
  - Fontana Water Company
  - Monte Vista Water District



nland Empire Utilities Agency

#### **Board of Directors**



Steven J. Elie	Michael Camacho	Marco Tule	Jasmin A. Hall	Paul Hofer
President	Vice President	Secretary/Treasurer	Director	Director
Division 3	Division 5	Division 1	Division 4	Division 2

Inland Empire Utilities Agency

#### **IEUA's diverse and flexible supplies portfolio**



#### **Total 2020 UWMP Retail Demands**



Inland Empire Utilities Agency

#### **Collaboration as a MWD Member Agency in the Region**



- Metropolitan operates and maintains a vast storage and distribution system that allows them to distribute water imported from hundreds of miles away to their 26 member agencies
- Supplies 40 percent of California's water resources
- Helping the region meet the challenges of climate change and extended drought
  - Offers water-saving tips, classes, and rebates for water-saving devices and sustainable landscaping Southern Californians

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Inland Empire Utilities Agency

## **Drought in the Inland Region**

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#### MWD's Emergency Water Conservation Plan (EWCP) State Water Project Dependent Agencies Only



Inland Empire Utilities Agency

## IEUA's Regional Response and Strategy to the Water Shortage Emergency

#### **IEUA-Customer Agency collaboration:**

- ✓ Drought Response Task Force coordination
- ✓ Advocacy for extraordinary conservation programs
- ✓ Advocacy for long-term local and regional solutions

#### **IEUA's EWCP Framework:**

- ✓ Leverages Water Shortage Contingency Plan
- ✓ Imported water (IW) supply monthly allocation
- ✓ Monitoring and tracking
- ✓ Compliance with MWD's Emergency Water Conservation Program



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#### **Current Drought Conditions Across IEUA and Across SWP Dependent** Agencies





#### **Board Items and Drought Initiatives in Response to 2023 Conditions**



#### Resolution & Model Ordinance

- MWD Adopted in October
- Encourages Reduction and Elimination of NF Turf Irrigation
- Model Ordinance attached for use by Local Jurisdictions



 Commits to Reducing NF Turf by 30%



Grants

## Grant Funding Application

- Apply for grant funding for a new Regional Turnkey Turf Transformation Project
- Focus on Highly Visible Sites for Multiplier Effect

Inland Empire Utilities Agency

Inland Empire Utilities Agency

## **Chino Basin Program**

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#### What is the Chino Basin Program?

The Chino Basin Program (CBP) adds infrastructure so we can treat and store water locally:

- CBP builds Advanced Water Purification Facilities to treat recycled water, providing access to currently untapped supply
- CBP builds injection and extraction wells to store and retrieve the treated water
- CBP builds a distribution system to convey the treated water



#### **CBP–Local Facilities Overview**

• Facilities:

Put

Take

- 15,000 AF/year AWPF at RP-4
- Advanced treated recycled water pipeline
- 15,000 AF/year Injection wells
- 6,000 AF/year external water supply sources
- 40,000 AF/year Extraction wells
- Potable water pipelines & Reservoir
- Interconnection to Metropolitan's Rialto Pipeline





#### PUT – Infrastructure

\$392,000,000 (2019)

RW Supply External







Inland Empire Utilities Agency

#### Take – Infrastructure

\$270,000,000 (2019)



Extraction & Regional Distribution



MWD Connection





### **Schedule Overview by Project Component**



Inland Empire Utilities Agency



## Questions



# Break



# Three Valleys Municipal Water District

MATTHEW LITCHFIELD



#### WATER RESOURCES



### NOW + PLAN FORWARD

December 2022



Our mission is to supplement and enhance local water supplies to meet our region's needs in a reliable and costeffective manner

Three Valleys Municipal Water District

Pomona, Walnut, East San Gabriel Valley 133 square miles | 525,000 population

**DECEMBER 202** 

THREE VALLEYS MUNICIPAL WATER DISTRIC



#### BOARD OF DIRECTORS



CARLOS GOYTIA Division 1 Secretary



DAVID DE JESUS Division 2



JEFFREY HANLON Division 3



BOB KUHN Division 4



JODY ROBERTO Division 5 President



DANIELLE SOTO Division 6



MIKE TI Division 7 Treasurer

#### **TVMWD Member Agencies**

City of Covina City of Glendora City of La Verne City of Pomona **Rowland Water District** Walnut Valley Water District Golden State Water Claremont + San Dimas Suburban Water Systems Valencia Heights Water Company Boy Scouts of America - Firestone Reservation Ca. State Polytechnic University, Pomona Mt. San Antonio College



#### 1950 - 2010 TVMWD WATER SUPPLY PORTFOLIO



**RAW WATER** SWP | Rialto Pipeline



**TREATED WATER** SWP + CRA | Weymouth



#### 2022 TVMWD WATER SUPPLY PORTFOLIO





RAW WATERTREATED WATERSWP | Rialto PipelineSWP + CRA | Weymouth



GROUNDWATER

Six Basins

one-year supply [imported water]

STORAGE

Main Basin, Six Basins, Chino Basin





SWP + CRA | Weymouth

### TVMWD SERVICE AREA WATER USE



### THREE VALLEYS SUPPLY PORTFOLIO



#### WHAT'S IN STORAGE



#### TVMWD SERVICE AREA WATER USE





## WATER RESOURCES CHALLENGES UNDER UNCERTAIN FUTURE CONDITIONS

- Invest in "regional" system integration and operational flexibility
- Increase groundwater storage/banking opportunities to develop local resilience
- Diversify water supply portfolio by integrating flow of water between groundwater basins
- Maintain access to current supplies by proactively addressing future uncertainty





#### WATER SUPPLY PORTFOLIO FORWARD









#### RAW WATER TREATED WATER GROUNDWATER STORAGE

State Water Project reliability

State Water Project + Colorado River Aqueduct

Sustainable Production Optimized storage and recovery programs







WATER USE EFFICIENCY

Efficient use of water and energy protecting the environment



CLIMATE RESILIENCE

Recognize the circular importance of resources

COLLABORATION INTEGRATION

Partnership beyond boundaries

Interconnected Supply + Distribution Network



#### Sustainable *Groundwater*

- Rehabilitation and operation of stranded wells in *Six Basins*
- Provides groundwater to
  Puente Basin Water
  Agency, otherwise 90%
  dependent on imported
  water
- Increasing groundwater spreading and storage capacity



DECEMBER 2022

#### Integrated *Regional System*

- Rehabilitation and operation of stranded wells in *Main Basin*
- Maximizes use of groundwater rights
- 6,000 AFY
- Provides alternative regional supply and distribution system
- Diversifies supply portfolio





THREE VALLEYS MUNICIPAL WATER DISTRICT

DECEMBER 2022

DECEMBER 2022



#### THREE VALLEYS MUNICIPAL WATER DISTRICT

#### SYSTEM FLEXIBILITY

- Collaborating with Metropolitan Water District
- Provides system flexibility to move Weymouth Treatment Plant water to SWP dependent areas of Claremont\* and La Verne
- High priority project for SWP – East Branch solutions

SWP | State Water Project \*Golden State Water Company provides water to the City of Claremont



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### INTEGRATED SYSTEMS

- Pure Water Southern California commitment of 6,500 AFY
- Azusa Pipeline to deliver to Weymouth/*Miramar*/WFA
- TVMWD in process of acquiring land for pump station for conveyance to Miramar
- Includes recharge in Main and Six Basins



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PUREWATER

THREE VALLEYS MUNICIPAL WATER DISTRICT

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## INTEGRATED SYSTEMS

- Azusa Pipeline to deliver to Weymouth/Miramar/WFA
- Increasing groundwater spreading and recharge
- Alternate supply source to Miramar/WFA during Rialto Feeder shutdowns



DECEMBER 2022

THREE VALLEYS MUNICIPAL WATER DISTRICT

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### STORAGE + RECOVERY

Collaborate with Metropolitan, its member agencies and partners to enhance and invest in local storage and recovery programs in Chino Basin, Main Basin and Six Basins

• Partnership in programs such as the Chino Basin Program







Collaboration

#### PLAN FORWARD

Integration Advocacy [Education + Funding]





# Western Municipal Water District

CRAIG MILLER





# Western Municipal Water District

CRAIG MILLER







## **Regional Water Supplies and the Future of Water**

**Chino Basin Watermaster Workshop** 



## **Overview**

#### 1) About Western

2) Water supply and drought

3) Local efforts

4) The future of water management




#### **Overview of Western**



## Western's Service Area

- Established in 1954 to deliver imported water
- Wholesale and retail water provider
- Serve 527 square-miles area in western Riverside County
- One of the largest public agencies in the region



#### Western's Board of Directors

• Five-member Board, publicly elected



Mike Gardner Division 1 **Gracie Torres** Division 2

Brenda Dennstedt Division 3 Laura Roughton Division 4 Fauzia Rizvi Division 5

#### **About Western**



Provide drinking water, recycled water, and wastewater services to nearly **1 million people** 



Western serves fourteen (14) wholesale customers



Serving nearly **25,000 retail connections** (100,000+ people)



Member agency of the Metropolitan Water District of Southern California





## **Diverse Water Supply**

- ✓ Arlington Desalter
- ✓ Chino Desalter
- ✓ Victoria Recharge Basin
- ✓ Groundwater
- ✓ Recycled Water
- Imported Water (Mills and Skinner WTPs)







#### Western's Values



#### Efficiency

Ensuring that our dedication to efficiency standards extends across Western and beyond water resources, providing guidance to all financial and operational decisions.



#### Water Supply Reliability

Securing a safe and stable water supply through diverse source strategies and innovative water resource management.



#### **Fiscal Responsibility and Value**

Ensuring the financial stability of Western and value to the customer through sound fiscal management and disciplined decision making.



#### **Public Trust, Accountability and Transparency**

Maintaining a standard of exceptional integrity, honor and respect through open communication and accessibility.



## RESOURCE **MANAGEMENT**

Maximize Western's diversified, regulatory compliant, and cost-effective resource portfolio to ensure service reliability and resiliency for an expanding customer base

> Implement a wholesale enterprise to optimize water supplies and infrastructure that benefits wholesale and retail customers

2 Collaborate with neighboring agencies to optimize regional resources

- 3 Save money, energy, and water through:
  - Exploring energy generation and storage
    opportunities
  - Maximizing technology
  - Optimizing operational efficiency
  - Incorporating energy management practices
    and design

- Increase the beneficial use of recycled water
- 5 Create a water storage initiative to ensure Western can take advantage of surplus imported supplies, when available
- Expand Geographic Information Systems (GIS) capabilities by advancing processes to support asset management and business needs

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#### Local Supplies Bring Groundwater Solutions

#### Challenges

- **Regulatory Requirements**
- **Basin Sustainability**
- Climate Change/Drought

#### **Solutions**

- Chino Basin Conjunctive Use Programs WRCRWA RW in Chino Basin
  - Stormwater Capture & Recharge

**Chino and Arlington Desalters** 





#### **CURRENT RESPONSE TO DROUGHT**



## The State's Drought Response

- 20% voluntary water reductions
- Mandatory restrictions
  - Nonfunctional turf for commercial, industrial, and institutional customers
- Continued focus by the Legislature on indoor water conservation and drought outreach
- Demand local agencies build local supply projects



## **Local Preparation**



Southern California uses up to **50% less water** than a decade ago



Investments in local water supply projects reduce reliance on imported water



Even with significant population increase, per capita **water demand is down** from 30 years ago



Ongoing education and outreach programs





Water Shortage Contingency Plan

WESTERN MUNICIPAL WATER DISTRICT

2020 Urban Water Management Plan Revised March 30, 2022

#### **Substantial Water Resource Planning**

Figure 1-2. UWMP Relation to Other Planning Efforts												
				PLA	AN AREA FOCUS				PLAN 1	OPICS		
Plan elements with a direct link to this UWMP						70	P.S			t Ba		50 第 の 後
PLANNING DOCUMENT	PREPARED BY	DOCUMENT PROGRESS STATUS		WESTERN WHOLESALE	WESTERN RETAIL	REGIONAL OR STATE	SUPPLIES / RELIABILITY	DEMANDS / WATER USE EFFICIENCY	INFRASTRUCTURE	CLIMATE CHANGE	RISK AND MITIGATION	WATER SHORTAGE & EMERGENCY RESPONSE
WESTERN 2020 UWMP	Western		This UWMP	1	√		√	✓		√	✓	√
WATER SHORTAGE CONTINGENCY PLAN	Western		Developed as part of 2020 UWMP	1	√		~	✓		✓	✓	✓
WESTERN DROUGHT CONTINGENCY PLAN	Western in collaboration with Drought Task Force		Under Development as part of 2020 UWMP	1	~	√	~	✓	✓	√	✓	✓
WESTERN RETAIL FACILITIES MASTER PLANS	Western		Under development		1			1	1			
RIVERSIDE RETAIL SERVICE AREA BUILD-OUT DEMAND ANALYSIS	Western	•••••	Completed in 2019		~			1				
MURRIETA SERVICE AREA BUILD-OUT DEMAND ANALYSIS	Western		Completed in 2018		1			✓				
ARLINGTON BASIN GROUNDWATER SUSTAINABILITY PLAN (GSP)	Western in collaboration with the Arlington Groundwater Sustainability Agency (GSA)		Under development	1	~	~	$\checkmark$			~	~	
AWIA RISK AND RESILIENCE ASSESSMENT AND EMERGENCY RESPONSE PLAN	Western	•••••	Completed	1	1		$\checkmark$				✓	
LOCAL HAZARD MITIGATION PLAN	Western		Completed in 2017	~	1		√		×		✓	
METROPOLITAN INTEGRATED RESOURCES PLAN (IRP) AND 2020 UWMP	MWD in collaboration with Western and other member agencies		Under development	1	1	$\checkmark$	$\checkmark$	*		*	✓	*
2019 WATER USE EFFICIENCY (WUE) MASTER PLAN	Western	•••••	Completed in 2019		$\checkmark$			✓				
LOCAL RETAIL AGENCY 2020 UWMPS	Local retail water suppliers		Under development			$\checkmark$	$\checkmark$	✓		✓	~	✓
2020 UPPER SANTA ANA WATERSHED INTEGRATED REGIONAL URBAN WATER MANAGEMENT PLAN	San Bernardino Valley Municipal Water District in collaboration with Western and other agencies		Under development			~	√	*		~	~	*
ONE WATER ONE WATERSHED PLAN	SAWPA in collaboration with Western and others	•••••	Completed in 2019			$\checkmark$	$\checkmark$	~		✓	~	1

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#### Western's Drought Response

- Continue to promote wateruse efficiency
- Responding to State mandated CII non-functional turf watering restrictions
- Preparing for an escalation in Water Shortage Stages
  - Currently in Stage 2



#### Western's Customers Have Responded



Baseline Water Use from 1995-2004, gallons per capita per day

352 2020 Water Use Target

430





#### THE FUTURE OF WATER SUPPLY

Californians need bold action on water now



#### CA Water Supply Strategy

1. Create storage space for up to 4 MAF

2. Recycle and reuse at least 800,000 AFY by 2030

3. Free up 500,000 AFY by eliminating water waste

4. Make new water available by capturing stormwater and desalination









#### **COALITION MISSION**

- Education campaign to elevate the water crisis
- Raise awareness among California policymakers and thought leaders
- Demand bold and immediate State action to secure California's future
- Make water a top State agenda item with ongoing investment



#### **SOLVE THE WATER CRISIS Growing Participation**



**SOLVE THE WATER CRISIS** ACT NOW TO SECURE CALIFORNIA'S FUTURE.

#### By the Numbers



Board Members: Funding the effort - water providers from across California



Pledged supporters advancing Solve the Water Crisis' goals



Interested supporters in the process of pledging membership or support



#### SOLUTIONS

Educate key audiences on solutions to address the state's water supply and reliability issues, including statewide and long-term benefits of solutions.

More surface and groundwater storage

Improved inter-regional and local conveyance Creative regulatory solutions such as the voluntary agreements



New supply including investments in local water infrastructure, such as groundwater recharge, desalination, and recycling



**SOLVE THE WATER CRISIS** ACT NOW TO SECURE CALIFORNIA'S FUTURE

## **Opportunities within the Chino Basin**



How can we use the basin to **enhance water resiliency**?



How can Western's water resources further contribute to the Chino Basin?



Are there opportunities for intra-basin partnerships?



How do we continue to leverage grant funding as a region?



Are there **regional facilities and/or programs** to help enhance water resiliency?





# Questions



# Break



# Chino Basin Watermaster

PETER KAVOUNAS



# The Role of the Groundwater Basin

HOW THE CHINO BASIN IS HELPING THE REGION OVERCOME THE REGIONAL SUPPLY CHALLENGES

The largest source of water for the region:





A more reliable source than imported water:





A less expensive source than imported water:





A success story in desalting





#### **OBMP Program Elements (PEs)**







#### Next Steps





#### **Environmental Review**

Potential Implementation Plan Update



Potential Peace Agreement Amendment



## Workshop Goals

Improve understanding of:

- The regional supply challenges, and solutions for IEUA, TVMWD, and WMWD
- The role of the groundwater basin in helping overcome regional supply challenges



# Thank you!







WATERMASTER 2022 ANNUAL CHARITY DRIVE