Regional Sewerage Program
Technical Committee Meeting

AGENDA
Thursday, October 28, 2021
2:00 p.m.
Teleconference Call

In effort to prevent the spread of COVID-19, the Regional Sewerage Program Technical Committee Meeting will be held remotely by teleconference.

Teams Conference Link: https://teams.microsoft.com/l/meetup-join/19%3ameeting_NmRmY2FmMDYtNTBmMS00MjA5LTk3ODgtZDkyY2U3MTRmZGYz%40thread.v2/0?context=%7b%22Tid%22%3a%224c0c1e57-30f3-4048-9bd2-cd58917dcf07%22%2c%22Oid%22%3a%22329ec40e-eb94-4218-9621-6bfa0baa9697%22%7d

Teleconference: (415) 856-9169/Conference ID: 715 477 121#

This meeting is being conducted virtually by video and audio conferencing. There will be no public location available to attend the meeting; however, the public may participate and provide public comment during the meeting by calling into the number provided above. Alternatively, you may email your public comments to the Recording Secretary Laura Mantilla at lmantilla@ieua.org no later than 24 hours prior to the scheduled meeting time. Your comments will then be read into the record during the meeting.

Call to Order

Roll Call

Public Comment

Members of the public may address the Committee on any item that is within the jurisdiction of the Committee; however, no action may be taken on any item not appearing on the agenda unless the action is otherwise authorized by Subdivision (b) of Section 54954.2 of the Government Code. Comments will be limited to three minutes per speaker.

Additions to the Agenda

In accordance with Section 54954.2 of the Government Code (Brown Act), additions to the agenda require two-thirds vote of the legislative body, or, if less than two-thirds of the members are present, a unanimous vote of those members present, that there is a need to take immediate action and that the need for action came to the attention of the local agency subsequent to the agenda being posted.

(Continued)

1. **Action Items**
   A. Approval of September 30, 2021 Technical Committee Meeting Minutes

2. **Informational Items**
   A. Grants Semi-Annual Update
   B. Operations Division Quarterly Update
   C. Return to Sewer Study *(Oral)*
   D. Operations & Compliance Updates (*Oral)*

3. **Receive and File**
   A. Draft Regional Sewerage Program Policy Committee Meeting Agenda
   B. Building Activity Report
   C. Recycled Water Distribution - Operations Summary
   D. Annual Reports (10-year Growth Forecast, Recycled Water & Energy)

4. **Technical Committee Items Distributed**
   None

5. **Other Business**
   A. IEUA General Manager's Update
   B. Committee Member Requested Agenda Items for Next Meeting
   C. Committee Member Comments
   D. Next Regular Meeting – November 25, 2021

Adjournment

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Recording Secretary (909) 993-1944, 48 hours prior to the scheduled meeting so that the Agency can make reasonable arrangements.

DECLARATION OF POSTING

I, Laura Mantilla, Executive Assistant of the Inland Empire Utilities Agency*, a Municipal Water District, hereby certify that, per Government Code Section 54954.2, a copy of this agenda has been posted at the Agency's main office, 6075 Kimball Avenue, Building A, Chino, CA and on the Agency's website at www.ieua.org at least seventy-two (72) hours prior to the meeting date and time above.

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ACTION ITEM

1A

Regional Sewerage Program
Technical Committee Meeting
MINUTES OF SEPTEMBER 30, 2021

CALL TO ORDER

A regular meeting of the IEUA/Regional Sewerage Program – Technical Committee was held via teleconference on Thursday, September 30, 2021. Committee Chair Nicole deMoet/City of Upland called the meeting to order at 2:01 p.m. Recording Secretary Laura Mantilla took roll call and established a quorum was present.

ATTENDANCE via Teleconference

COMMITTEE MEMBERS PRESENT:

David Crosley	City of Chino
Ron Craig	City of Chino Hills
Eduardo Espinoza	Cucamonga Valley Water District (CVWD)
Armando Martinez	City of Fontana
Courtney Jones	City of Ontario
Nicole deMoet	City of Upland
Shivaji Deshmukh	Inland Empire Utilities Agency (IEUA)

ABSENT:

Mike Hudson	City of Montclair

OTHERS PRESENT:

Amanda Coker	City of Chino
Mark Wiley	City of Chino Hills
Steve Nix	City of Fontana
Braden Yu	City of Upland
Kathy Besser	Inland Empire Utilities Agency
Christiana Daisy	Inland Empire Utilities Agency
Randy Lee	Inland Empire Utilities Agency
Christina Valencia	Inland Empire Utilities Agency
Joshua Aguilar	Inland Empire Utilities Agency
Andy Campbell	Inland Empire Utilities Agency
Javier Chagoyen-Lazaro	Inland Empire Utilities Agency
Denise Garzaro	Inland Empire Utilities Agency

OTHERS PRESENT (continued):

Elizabeth Hurst	Inland Empire Utilities Agency
Sylvie Lee	Inland Empire Utilities Agency
Eddie Lin	Inland Empire Utilities Agency
Laura Mantilla	Inland Empire Utilities Agency
Jason Marseilles	Inland Empire Utilities Agency
Cathleen Pieroni	Inland Empire Utilities Agency
Jeanina Romero	Inland Empire Utilities Agency
Ken Tam	Inland Empire Utilities Agency

PUBLIC COMMENTS

There were no public comments.

ADDITIONS/CHANGES TO THE AGENDA

There were no additions/changes to the agenda.

1. ACTION ITEMS

A. APPROVAL OF AUGUST 26, 2021 TECHNICAL COMMITTEE MEETING MINUTES

Motion: By Dave Crosley/City of Chino and seconded by Ron Craig/City of Chino Hills to approve the meeting minutes of the August 26, 2021 Regional Policy Committee meeting by the following vote:

Ayes: Crosley, Espinoza, Craig, Martinez, Deshmukh, Jones, deMoet
Noes: None
Absent: Hudson
Abstain: None
The motion passed by a vote of 7 ayes, 0 noes, 0 abstain, and 1 absent.

B. 2021 IEUA WASTEWATER AND RECYCLED WATER DEMAND FORECAST

Liza Muñoz/IEUA gave an overview of the 2021 IEUA Wastewater and Recycled Water Demand Forecasts. She stated that the item was presented at the August Committee meeting and noted that the technical memorandum that was missing from the August meeting packet is included in today's meeting packet.

Motion: By Dave Crosley/City of Chino and seconded by Eduardo Espinoza/Cucamonga Valley Water District to approve the 2021 IEUA Wastewater and Recycled Water Demand Forecast Model for the IEUA service area by the following vote:

Ayes: Crosley, Espinoza, Craig, Martinez, Deshmukh, Jones, deMoet
Noes: None
Absent: Hudson
Abstain: None
The motion passed by a vote of 7 ayes, 0 noes, 0 abstain, and 1 absent.

2. INFORMATIONAL ITEMS

A. FY 2020/21 FOURTH QUARTER BUDGET VARIANCE REPORT

Javier Chagoyen-Lazaro/IEUA provided a brief update on the Fiscal Year 2020/21 Fourth Quarter Budget Variance Reports and gave a summary of the uses and sources of funds for the Regional Wastewater and Recycled Water Programs.

General Manager Shivaji Deshmukh informed the Committee that Executive Manager of Finance & Administration/AGM Christina Valencia announced her plans to retire at the end of the calendar year. He stated that Mr. Chagoyen-Lazaro has been appointed as Acting Executive Manager of Finance & Administration/AGM.

B. RECYCLED WATER GROUNDWATER RECHARGE UPDATE

Andy Campbell/IEUA provided a summary on the data trends for the accumulated monthly stormwater capture and recycled water capture for the last Fiscal Year 2020/21 compared to prior years. He gave an update on the Hickory Basin Restoration Project, groundwater recharge deliveries trends, history of the program, and recycled water demand.

C. ENGINEERING QUARTERLY PROJECT UPDATE

Jason Marseilles/IEUA provided an update on the following projects: East End Flowmeter Replacement Project, RP-1 Disinfection Pump Improvements Project, and Carbon Canyon Water Reclaimation Facility (CCWRF) Asset Management Improvements Project.

D. RETURN TO SEWER STUDY

Ken Tam/IEUA informed the Committee that the City of Chino completed the nondisclosure agreements with Data Collaborative last month. He reported that the contracting agencies have been working on the onboarding process which will be completed in October. He further explained that the data analysis will begin in November. Mr. Tam thanked the staff from City of Chino, City of Ontario and CVWD for exporting the data on the onboarding process.

E. OPERATIONS & COMPLIANCE UPDATES

Ken Tam/IEUA reported that on September 8 there was a foaming incident at the headworks of CCWRF. IEUA Source Control immediately notified the City of Chino's Source Control staff. The joint Source Control team tracked the source which was a company that manufacturers shampoos and other products named PakLabs. The Source Control team conducted an inspection and interviewed staff and discovered residual foam in the manhole downstream of PakLabs. The manufacturer had spilled concentrated shampoo when they were blending the products which washed through their pretreatment system and into the sewer. IEUA and the City of Chino conducted another site inspection and advised PakLabs that a cease-and-desist compliance order would be issued along with the levy of a $1,000 fine. PakLabs will be required to upgrade their facility to prevent any future spills from occurring. Mr. Tam commented that the incident was a success story, as they were able to find the discharger and stop it from continuing to the plant. Mr. Tam thanked the City of Chino Source Control staff for their quick actions.

3. RECEIVE AND FILE

A. DRAFT REGIONAL SEWERAGE PROGRAM POLICY COMMITTEE MEETING AGENDA

B. BUILDING ACTIVITY REPORT

C. RECYCLED WATER DISTRIBUTION – OPERATIONS SUMMARY

D. CBP/WSIP BASELINE SCENARIO – REGIONAL CONTRACT

Courtney Jones/City of Ontario requested to pull Item 3D for discussion. Ms. Jones thanked IEUA staff for responding to their memo dated August 25, 2021 and stated that Ontario has concerns with the proposed funding of the CBP/WSIP baseline project being borne by the EDU rates. She commented that the portion with the local cost share plays a part in IEUA's letter of commitment to the California Water Commission and for this reason, Ms. Jones would like this item to come back to the Regional Committees to provide recommendation to the IEUA Board.

Eduardo Espinoza/CVWD commented that he read the staff report and understands that the project is in a planning phase. He stated that while he understands the letter of commitment is needed to confirm that IEUA is continuing to move forward with planning, he wants to make sure the funding investment will not be compromised and understands there will be offramps as the planning phase continues.

General Manager Deshmukh explained that there are not any commitments to move forward with the project yet and in respect to the Regional Contract, there is no action to be taken at this time. Christiana Daisy/IEUA commented that IEUA is still discussing, evaluating, and planning the project. Sylvie Lee/IEUA added that the commitment letter is a WSIP requirement to be eligible to move forward with the agreement phase and retain the funding of $200M. Discussions ensued regarding offramps, Ten-Year Forecast, budgeting, agreements required with various agencies and the CBP/WSIP timeline.

Items 3A through 3C were received and filed by the Committee.

4. TECHNICAL COMMITTEE ITEMS DISTRIBUTED

There were no items distributed.

5. OTHER BUSINESS

A. IEUA GENERAL MANAGER'S UPDATE

There were no updates.

B. COMMITTEE MEMBER REQUESTED AGENDA ITEMS FOR NEXT MEETING

There were no requested agenda items.

C. COMMITTEE MEMBER COMMENTS

There were no member comments.

D. NEXT MEETING – OCTOBER 28, 2021

ADJOURNMENT – Chair deMoet adjourned the meeting 3:25 p.m.

Prepared by:

Laura Mantilla, Executive Assistant

INFORMATION ITEM

2A

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Grants Semi-Annual Update

Jesse Pompa
Manager of Grants
October 28, 2021

Grant & Loan Funding Overview
2000 – Present

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

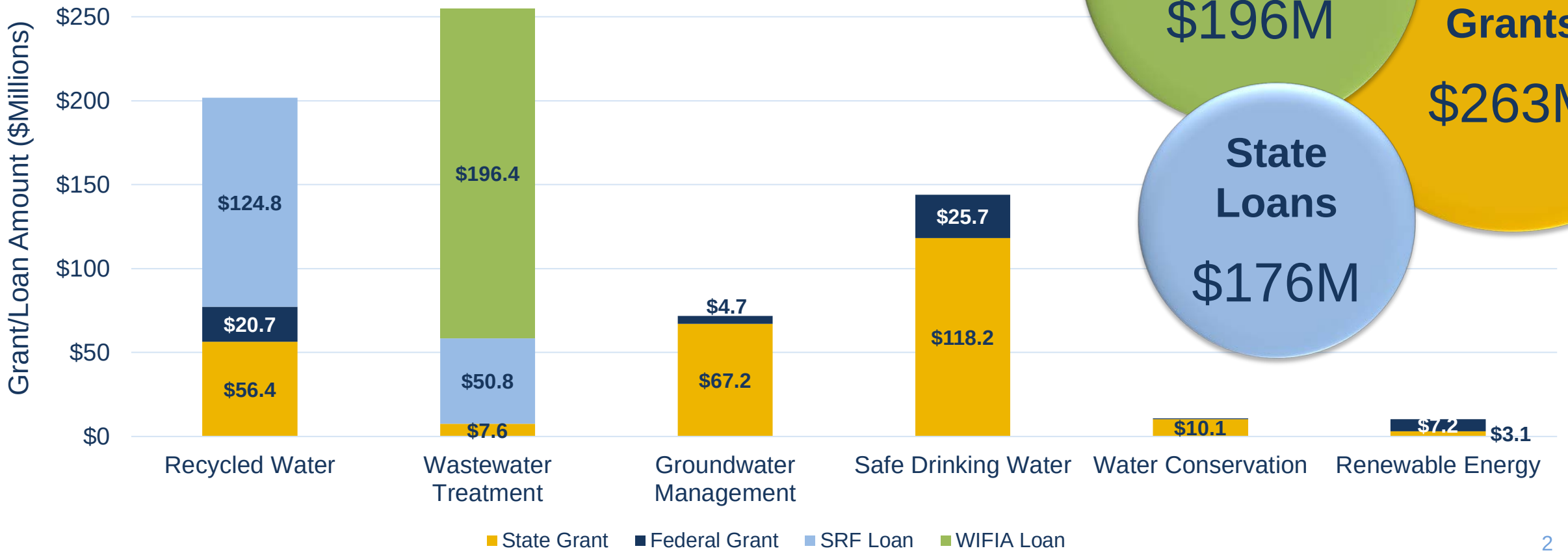
Executed Grants + Loans = $694M

Federal Grants $59M

Federal Loans $196M

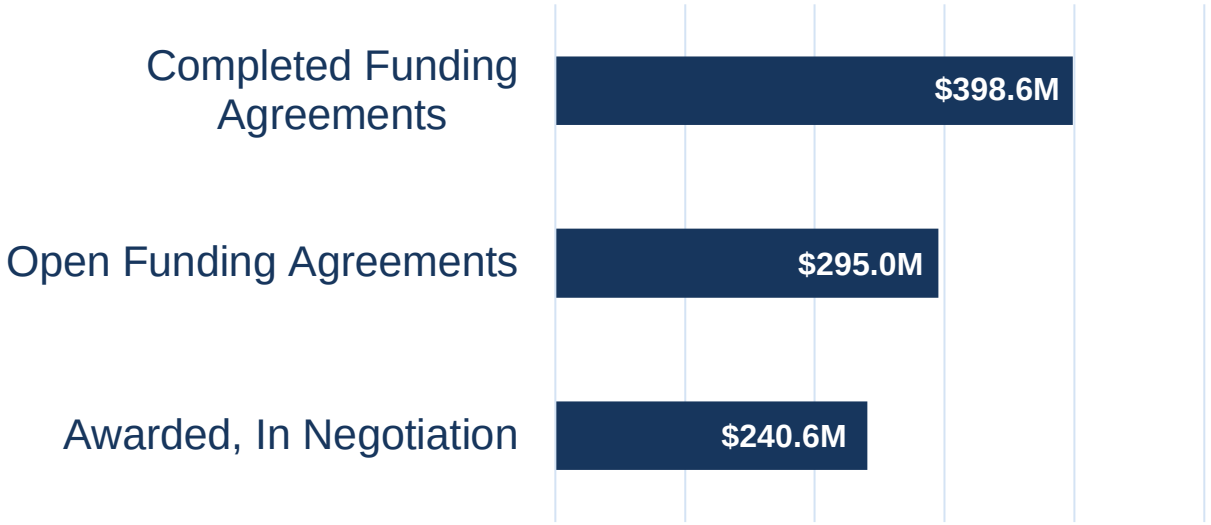
State Grants $263M

State Loans $176M



Funding Agreement Diversity

IEUA Awards since 2000



Total Awards = $934.2M

**Does not include WSIP funding*

Funding Agencies for IEUA's Current Agreements

BUREAU OF RECLAMATION

EPA

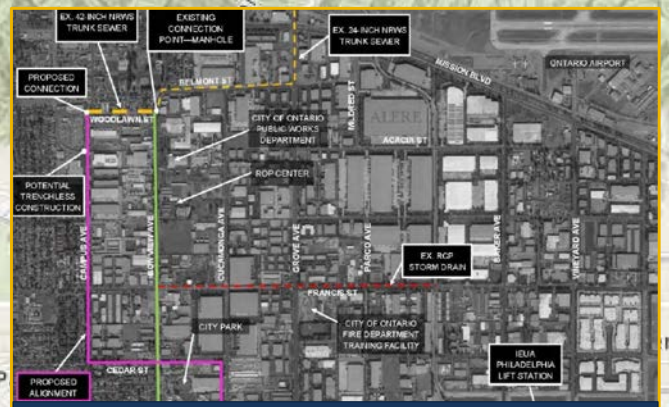
CALIFORNIA Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

DEPARTMENT OF WATER RESOURCES · STATE OF CALIFORNIA ·

CalRecycle

SAWPA

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA



PHILADELPHIA FORCE MAIN IMPROVEMENTS

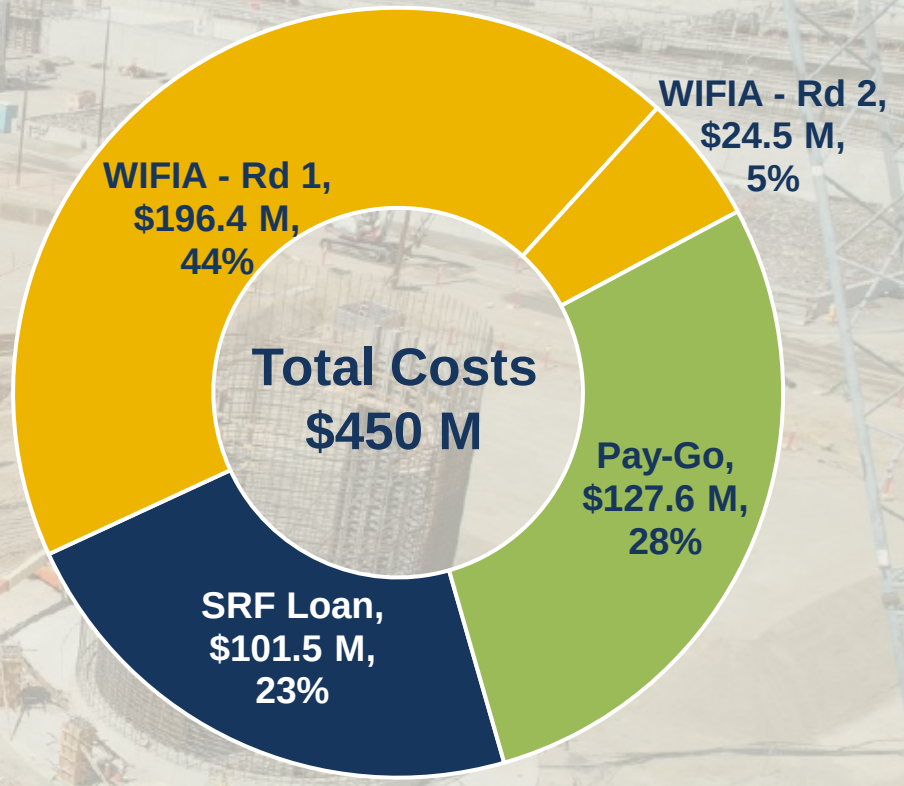
WINEVILLE/JURUPA/RP-3 BASIN IMPROVEMENTS

RP-5 EXPANSION PROJECT

SOUTH ARCHIBALD PLUME REMEDIATION

Project Scope and Benefits

- Expand existing Liquids Treatment Facility
- Construct new Solids Treatment Facility to replace existing plant to be decommissioned due to raising of Prado Dam
- Ensure reliable wastewater treatment for regional projected growth in southern service area over next 50 years
- Ensure compliance with Title 22 recycled water standards

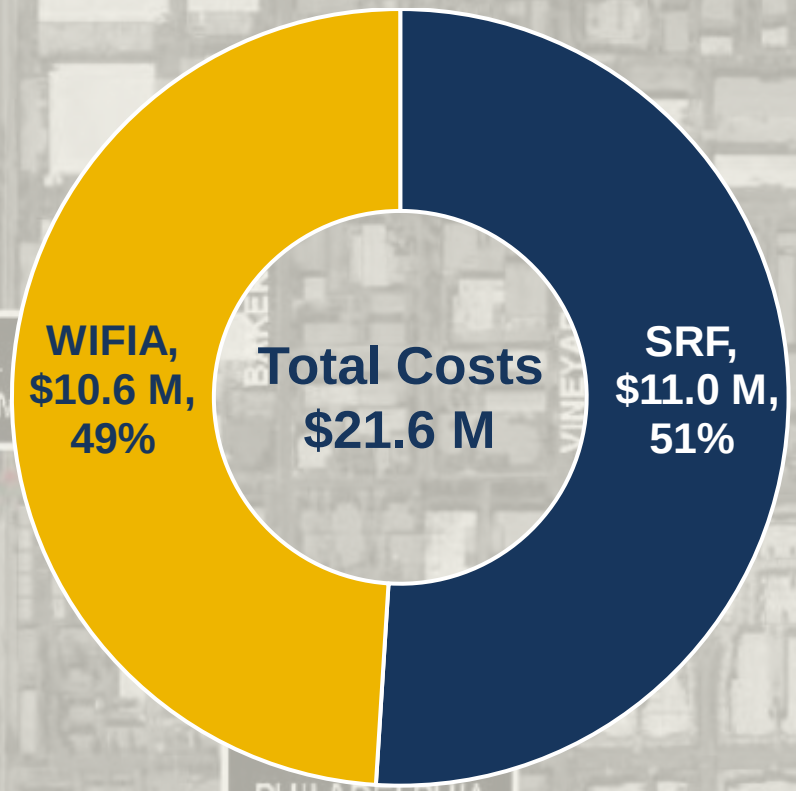


72% of Project Funding from Low-Interest Loans

RP-5 EXPANSION PROJECT

Project Scope and Benefits

- Increase non-reclaimable wastewater flow capacity
- Replace pipeline infrastructure that has reached the end of its useful life
- Improve maintenance access, enhance response times and public safety with installation of clean-out vaults

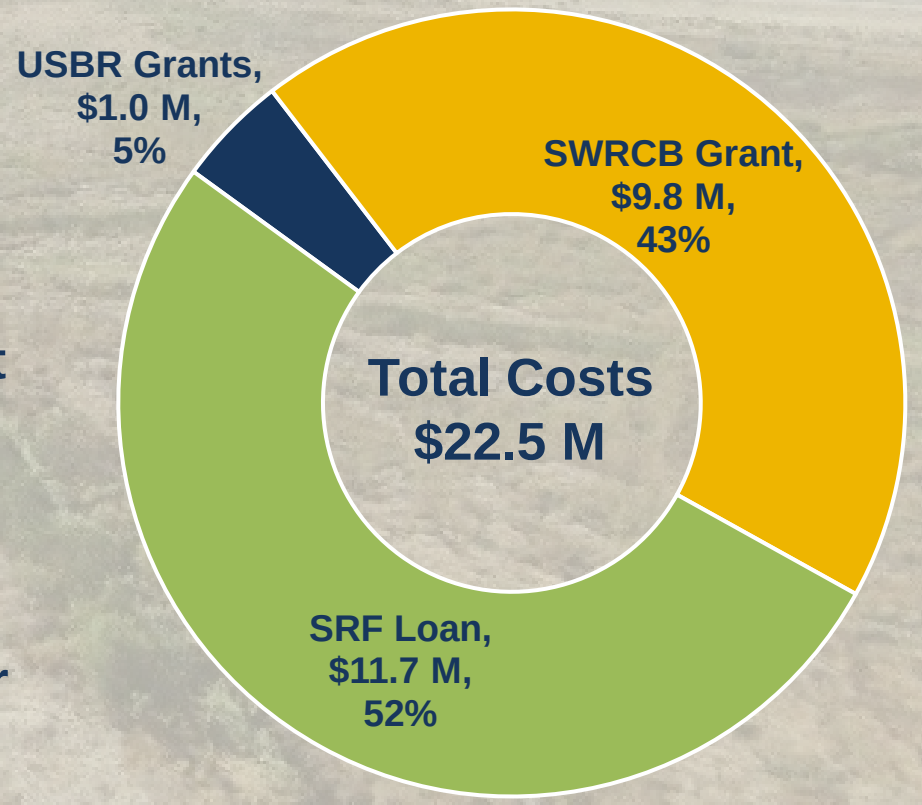


100% of Project Funding from Low-Interest Loans

PHILADELPHIA FORCE MAIN IMPROVEMENTS

Project Scope and Benefits

- Improve infrastructure at basins to increase recharge capacity
- Install pipeline and pump station to hydraulically connect three basins
- Enhance regional water supply reliability while reducing imported water demand
- Increase storm water recharge by 2,921 acre-feet per year (AFY) and recycled water recharge by 2,905 AFY

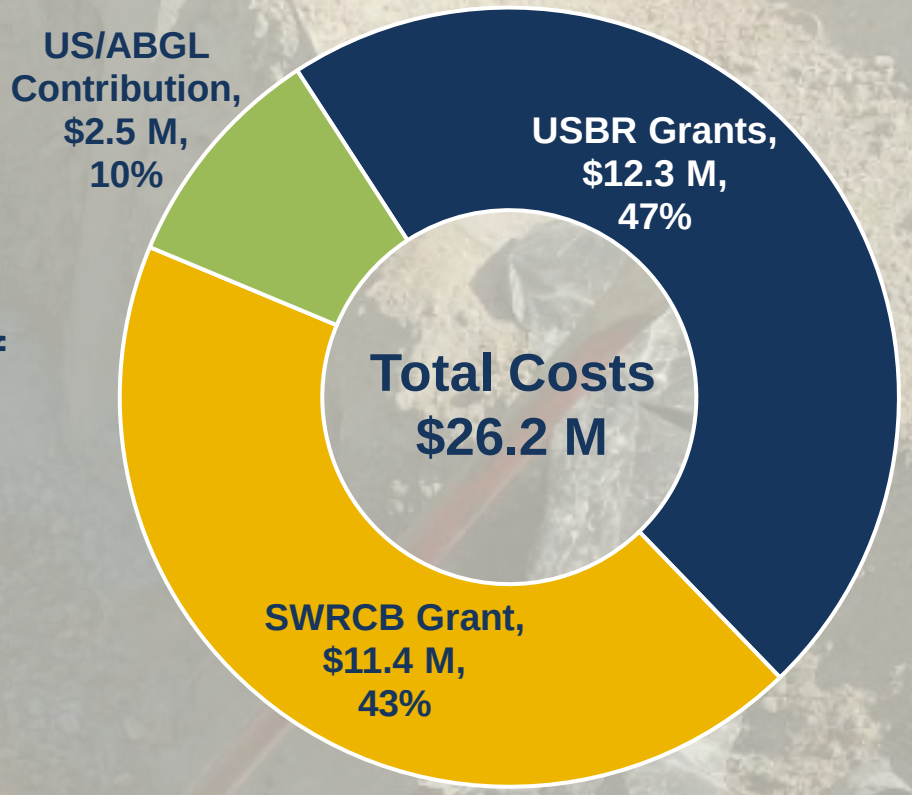


100% of Project Funding from Grants/Loans

WINEVILLE/JURUPA/RP-3 BASIN IMPROVEMENTS

Project Scope and Benefits

- In collaboration with the Chino Desalter Authority (CDA), install groundwater production well, dedicated raw water pipeline, and treatment equipment to facilitate removal of trichloroethylene (TCE) from South Archibald Plume
- Remediate affected groundwater
- Enhance regional water supply by permitting use of previously contaminated groundwater source



90% of Project Funding from Grants

SOUTH ARCHIBALD PLUME REMEDIATION

Multibenefit Drought Relief Funding
DWR Grant Opportunity

- Funding opportunity for projects providing immediate drought relief upon completion
  - $190 million available; $50 million allocated to tribal and DAC communities
  - Alignment with regional IRWM plan preferred
  - Awards expected in early December based on order of application submittal
- Joint IEUA-JCSD Recycled Water Intertie Project
  - Introducing 2,500 AFY of new water supply to the region
  - Vital component in Advanced Recycled Water Program
- Next Steps
  - Grant application to be submitted
  - Pending award decision in December
  - Joint IEUA-JCSD Recycled Water Intertie Project to be added to Ten-Year Forecast and Capital and Operating Budget

INFORMATION ITEM

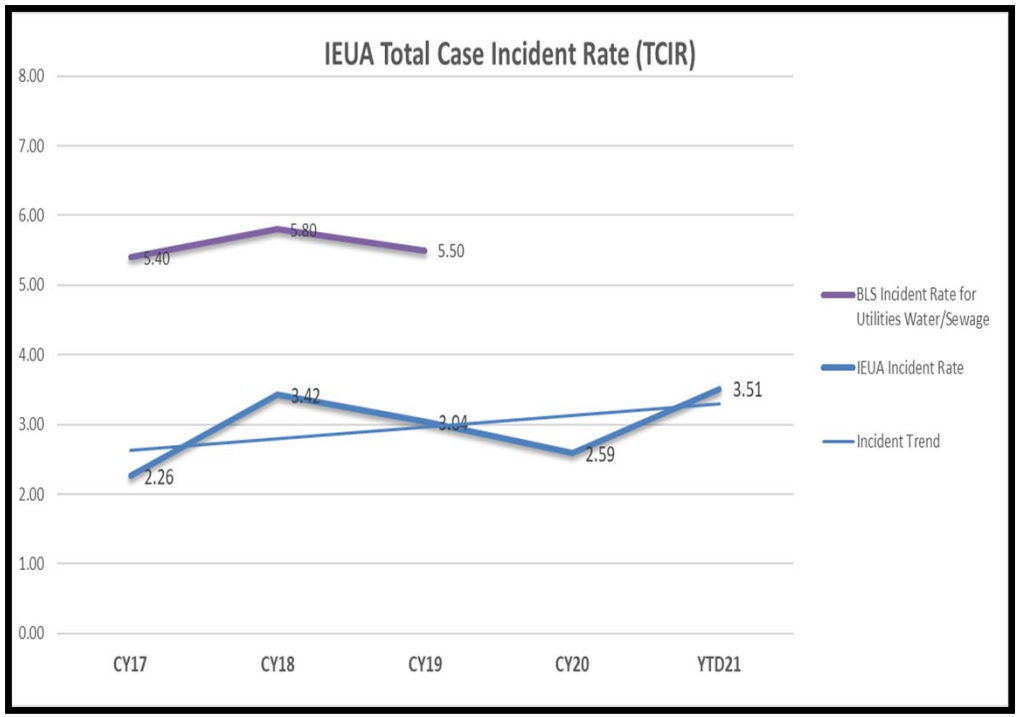
2B

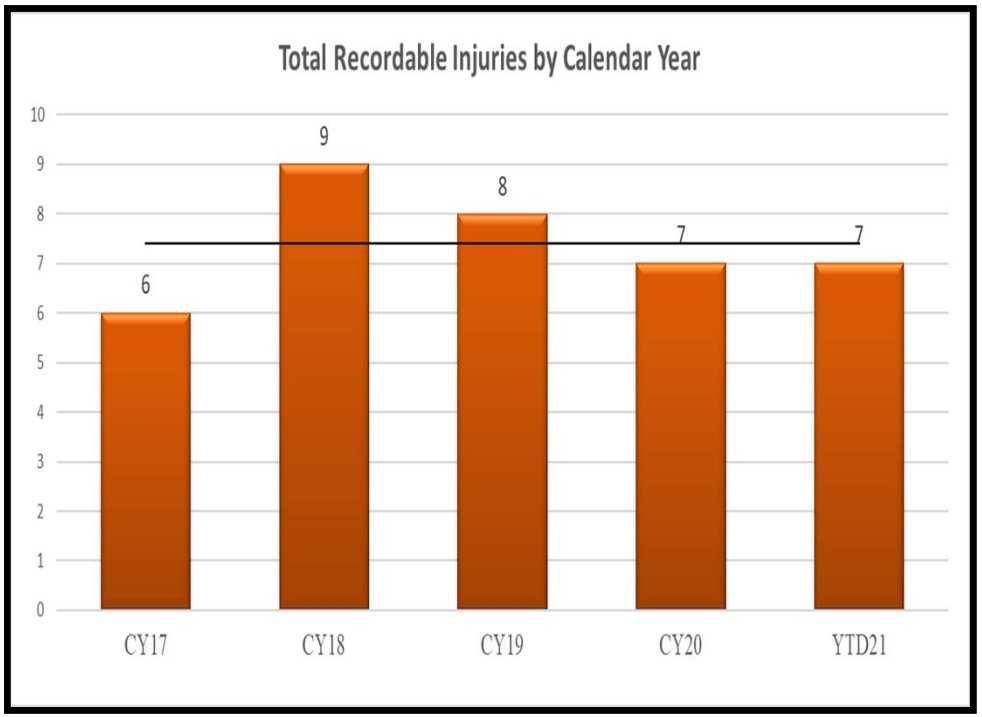
Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Operations Division Quarterly Update

Kanes Pantayatiwong
Manager of Business Information Services
October 2021

IEUA Incident Rates vs. Industry & Total Recordable Injuries



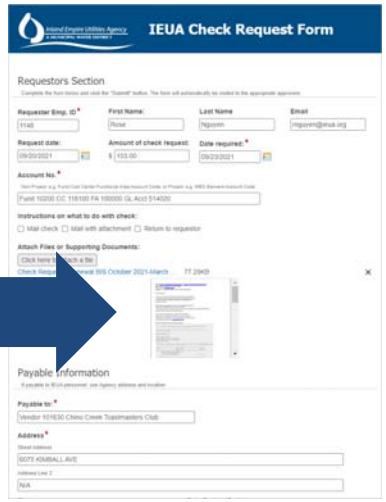


* Estimated incident rate based on past Sept hours worked

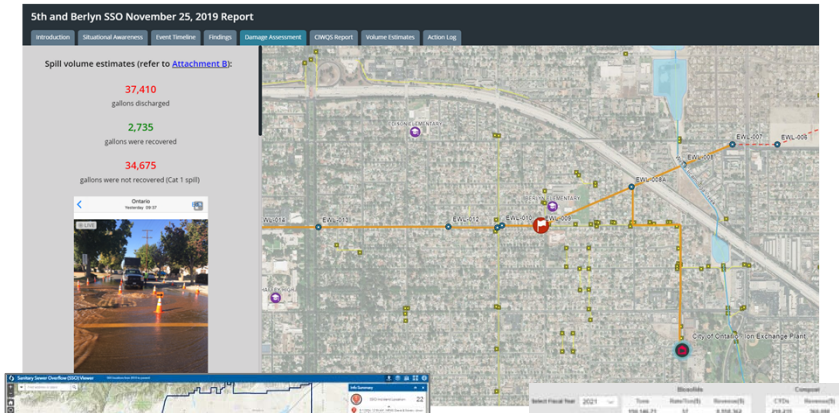
Digitization

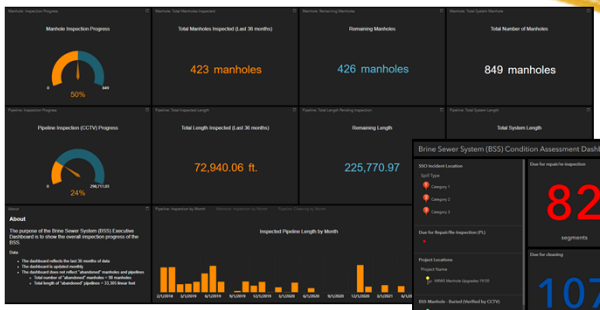
Laserfiche

Process ▲	
AP - Check Request IERCA	Start
AP - Check Request IEUA	Start
BIS - CHaRM	Start
BIS - Transport Request	Start
Budget Fund Transfer Request	Start
FIN - Mileage Reimbursement Request	Start
HR - Badge Request Form	Start
HR - New Employee Notification	Start
HR - PC Loan Form	Start
HR - Safety Shoe Voucher	Start
HR - Wellness Reimbursement	Start
Safety - Incident Report	Start

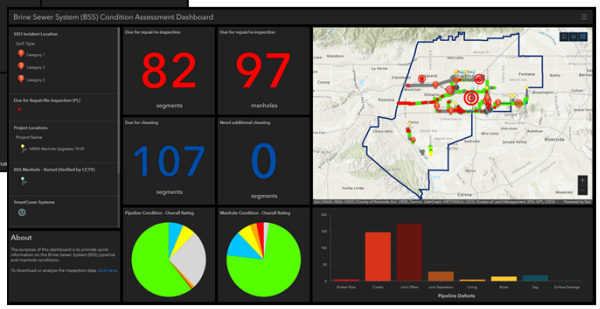


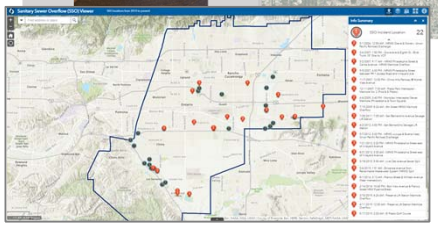
Dashboards and Reports





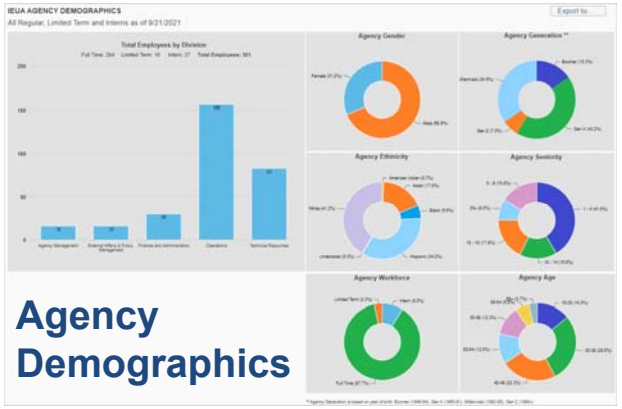
CCTV Inspection





Sewage Spill Overflow

IERCA Production & Energy Use



Agency Demographics

IEUA Collection System Flexibility

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Los Angeles Times

Subscribe
$1 for 6 mo

CALIFORNIA

Damaged Hyperion plant is releasing partially treated sewage into Santa Monica Bay

The Hyperion Water Reclamation Plant caused a 17-million-gallon sewage spill that closed Los Angeles area beaches this month. Now regulators want plant managers to conduct more testing. (Jason Armond/Los Angeles Times)

BY ROBERT J. LOPEZ | STAFF WRITER

JULY 30, 2021 11:27 AM PT

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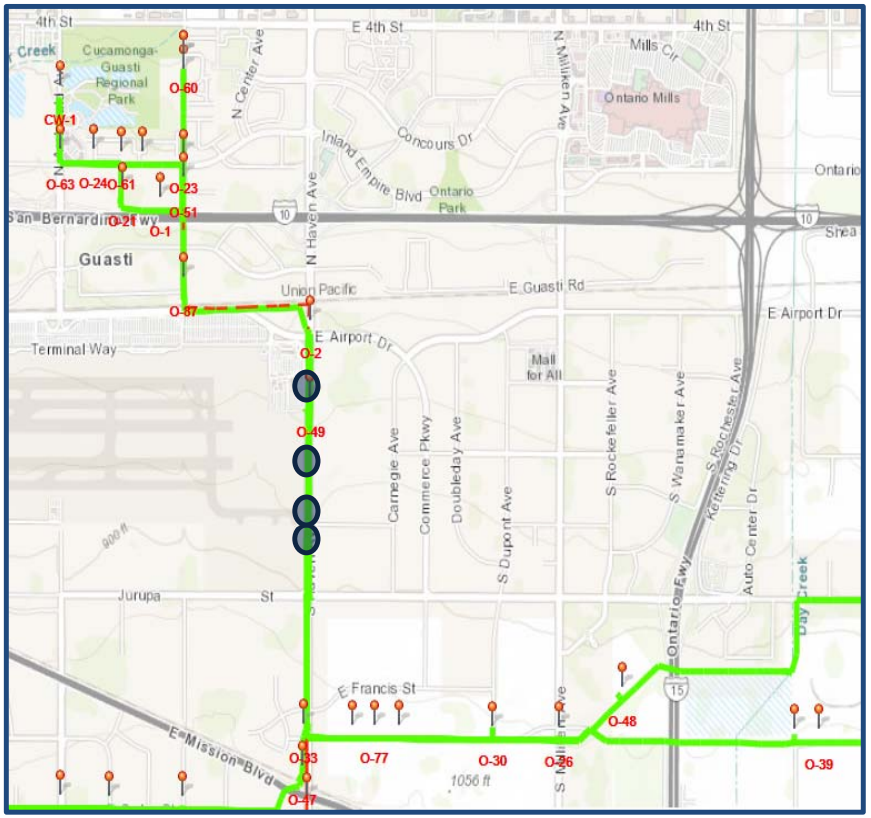
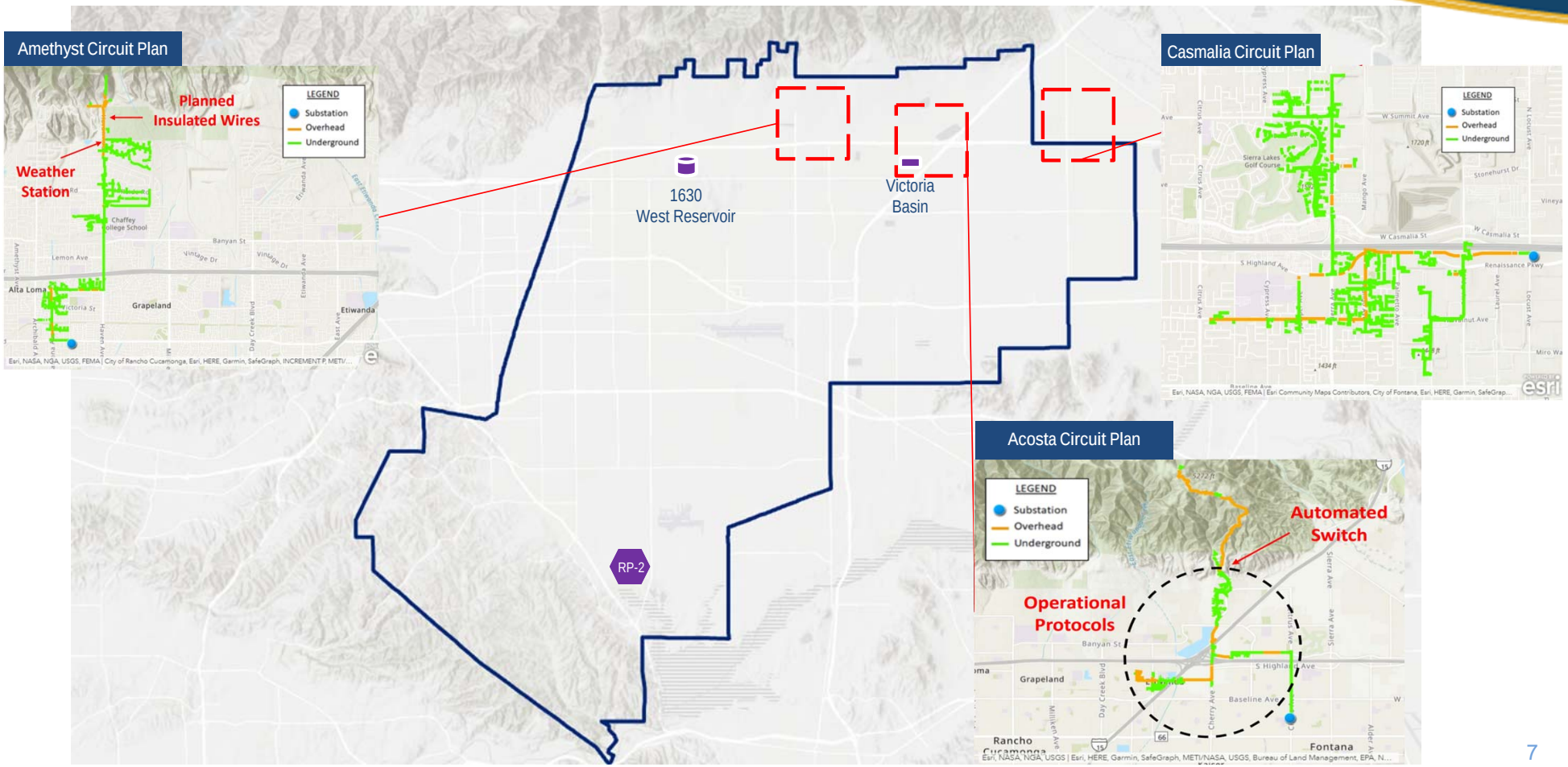


SCE Public Safety Power Shutoff (PSPS)
IEUA Service Area Electrical Grid Hardening



RECEIVE AND FILE

3A

Regional Sewerage Program
Policy Committee Meeting

AGENDA
Thursday, November 4, 2021
3:30 p.m.
Teleconference Call

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Teleconference: 1-415-856-9169/Conference ID: 552 973 583#

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Roll Call

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(Continued)

Additions to the Agenda

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1. **Technical Committee Report** *(Oral)*

2. **Action Item**
   A. Approval of October 7, 2021 Policy Committee Meeting Minutes

3. **Informational Items**
   A. SAWPA Update
   B. Regional Contract Negotiation Update *(Oral)*
   C. Grants Semi-Annual Update
   D. Operations Division Quarterly Update

4. **Receive and File**
   A. Building Activity Report
   B. Recycled Water Distribution – Operations Summary
   C. Annual Reports (10 Year Growth Forecast, Recycled Water & Energy)

5. **Policy Committee Items Distributed**
   None

6. **Other Business**
   A. IEUA General Manager's Update
   B. Committee Member Requested Agenda Items for Next Meeting
   C. Committee Member Comments
   D. Next Meeting – December 2, 2021

Adjourn

DECLARATION OF POSTING

I, Laura Mantilla, Executive Assistant of the Inland Empire Utilities Agency*, a Municipal Water District, hereby certify that, per Government Code Section 54954.2, a copy of this agenda has been posted at the Agency's main office, 6075 Kimball Avenue, Building A, Chino, CA and on the Agency's website at www.ieua.org at least seventy-two (72) hours prior to the meeting date and time above.

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RECEIVE AND FILE

3B

Building Activity Report - YTD Fiscal Year 2021/22

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Legend

- Service Area
- Unincorporated

Residential
- <=1.0
- 1.0 - 10.0
- >10.0

Commercial
- <=1.0
- 1.0 - 10.0
- >10.0

Industrial
- <=1.0
- 1.0 - 10.0
- >10.0

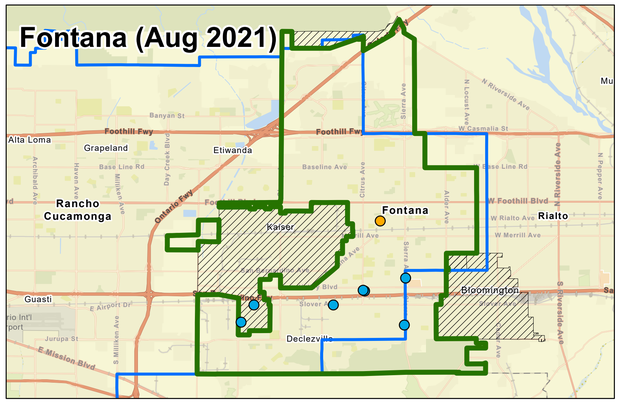
HALF MILE GRID: TOTAL EDU's (YTD)

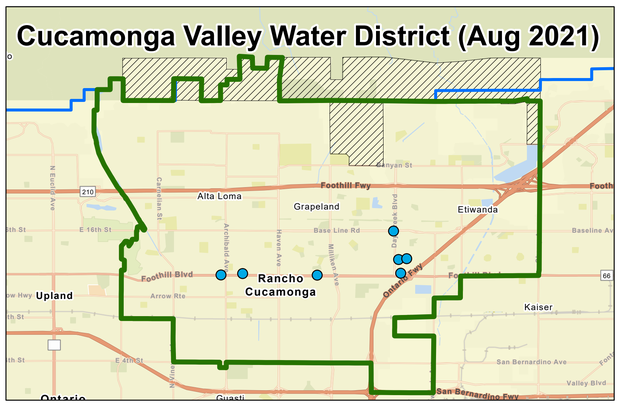
0 | 0.5 | 1 | 15 | 30 | 45 | 75+

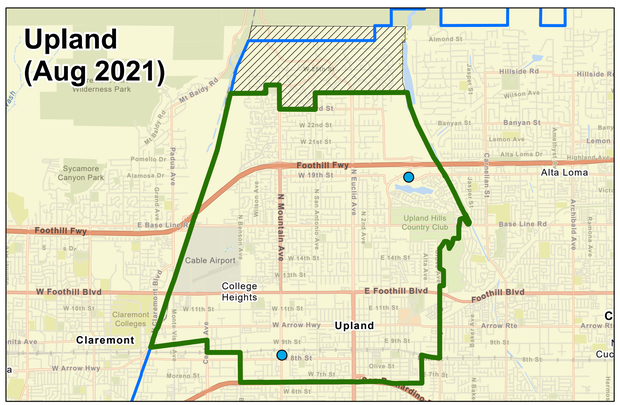
0 2.5 5 10 Miles

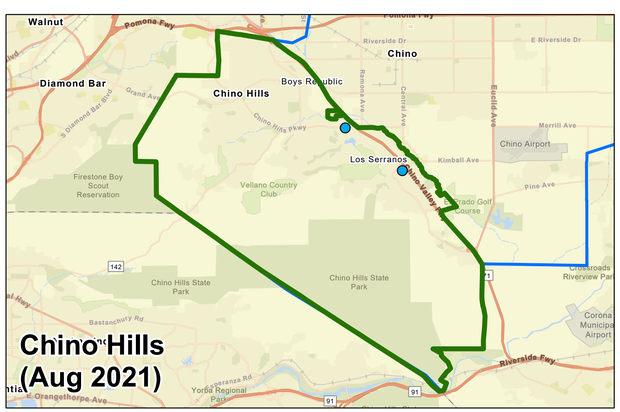
TOTAL EDU BY WASTEWATER CONNECTION TYPE (YTD)

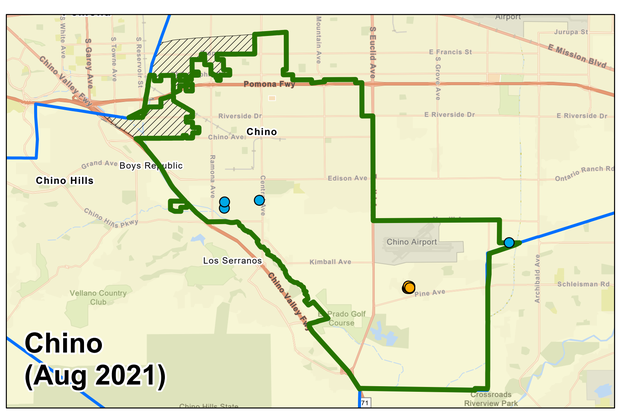
Contracting Agency	YTD Actual				Projected
	Commercial (EDUs)	Industrial (EDUs)	Residential (EDUs)	Total (EDUs)	Total (EDUs)
Chino	15	0	81	96	434
Chino Hills	43	0	0	43	276
CVWD	17	0	0	17	2050
Fontana	23	0	60	83	1792
Montclair	7	0	0	7	474
Ontario	80	0	86	166	7560
Upland	4	0	11	15	952
Total	188	0	238	426	13538

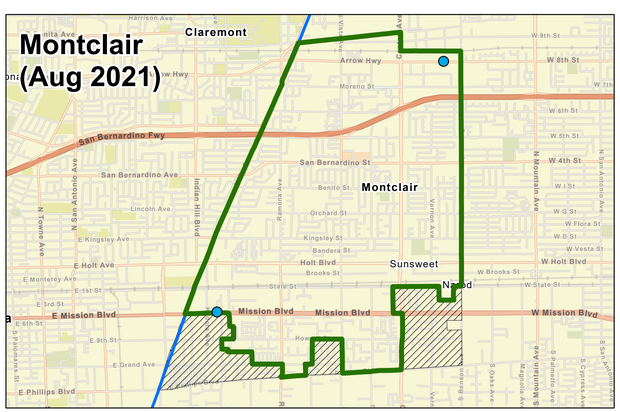












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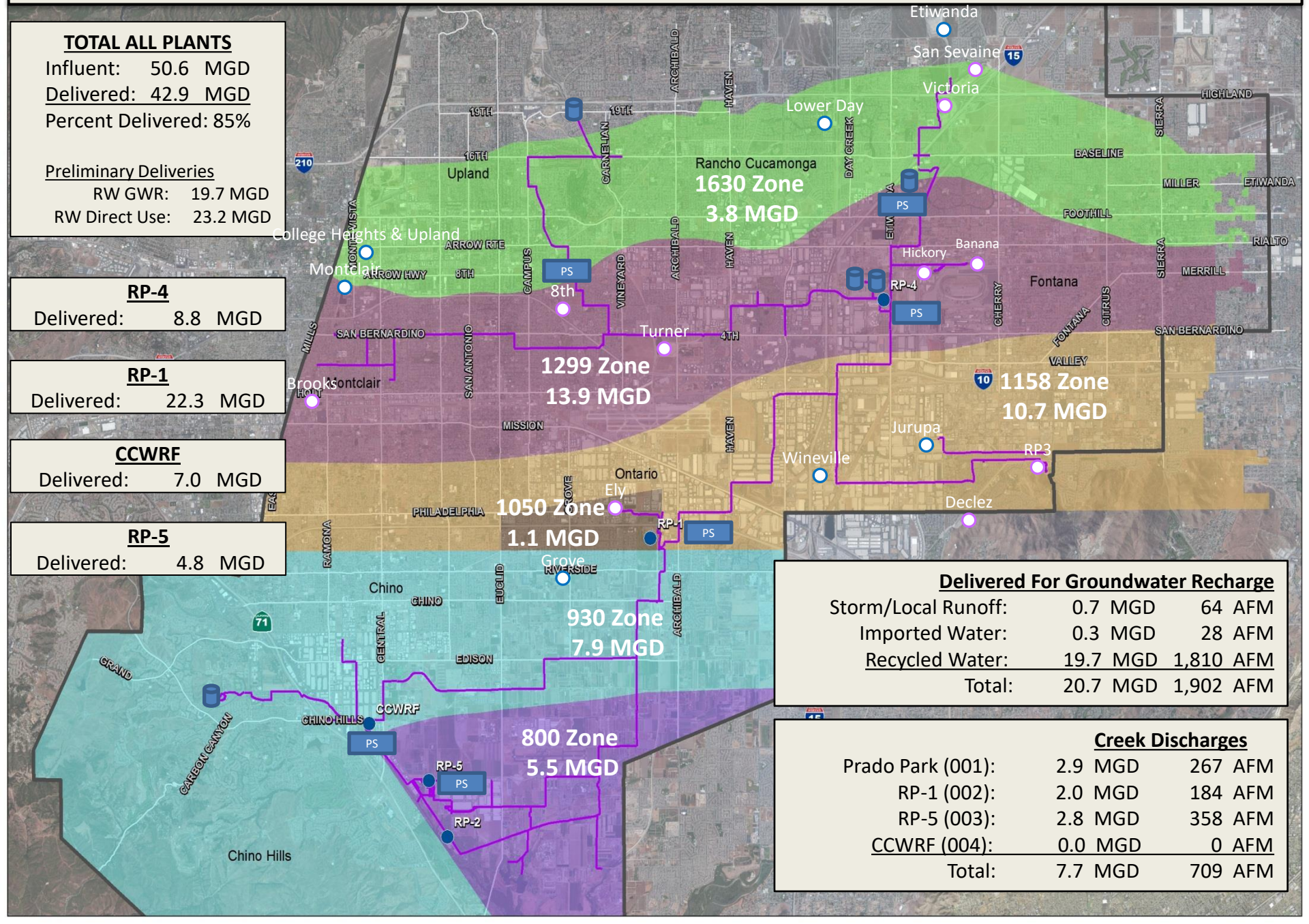
IEUA RECYCLED WATER DISTRIBUTION – SEPTEMBER 2021



TOTAL ALL PLANTS

Influent: 50.6 MGD
Delivered: 42.9 MGD
Percent Delivered: 85%

Preliminary Deliveries
RW GWR: 19.7 MGD
RW Direct Use: 23.2 MGD

RP-4
Delivered: 8.8 MGD

RP-1
Delivered: 22.3 MGD

CCWRF
Delivered: 7.0 MGD

RP-5
Delivered: 4.8 MGD

Delivered For Groundwater Recharge

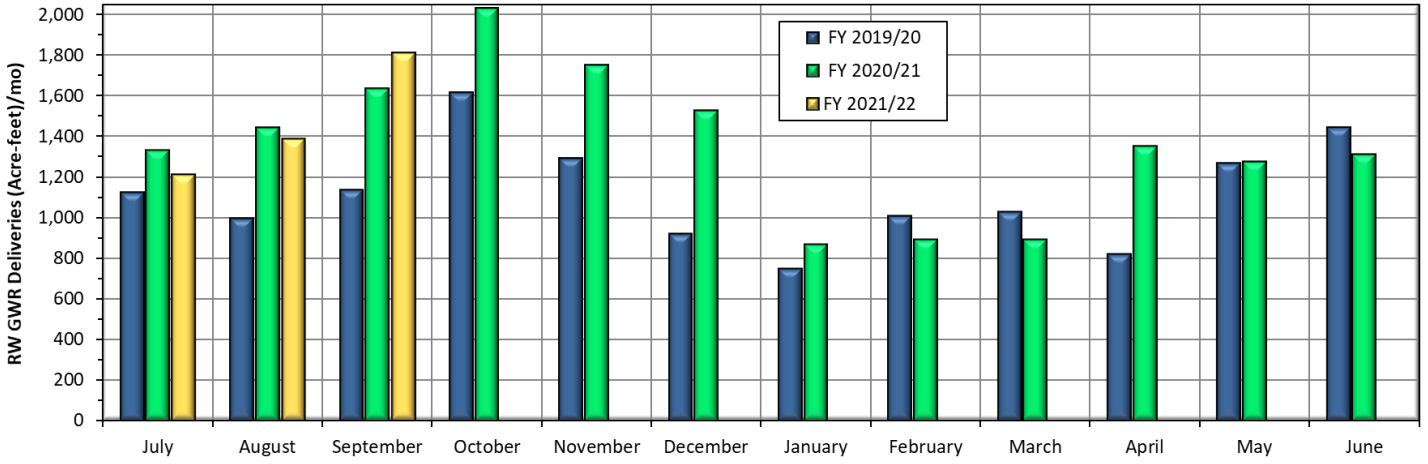
Storm/Local Runoff:	0.7 MGD	64 AFM
Imported Water:	0.3 MGD	28 AFM
Recycled Water:	19.7 MGD	1,810 AFM
Total:	20.7 MGD	1,902 AFM

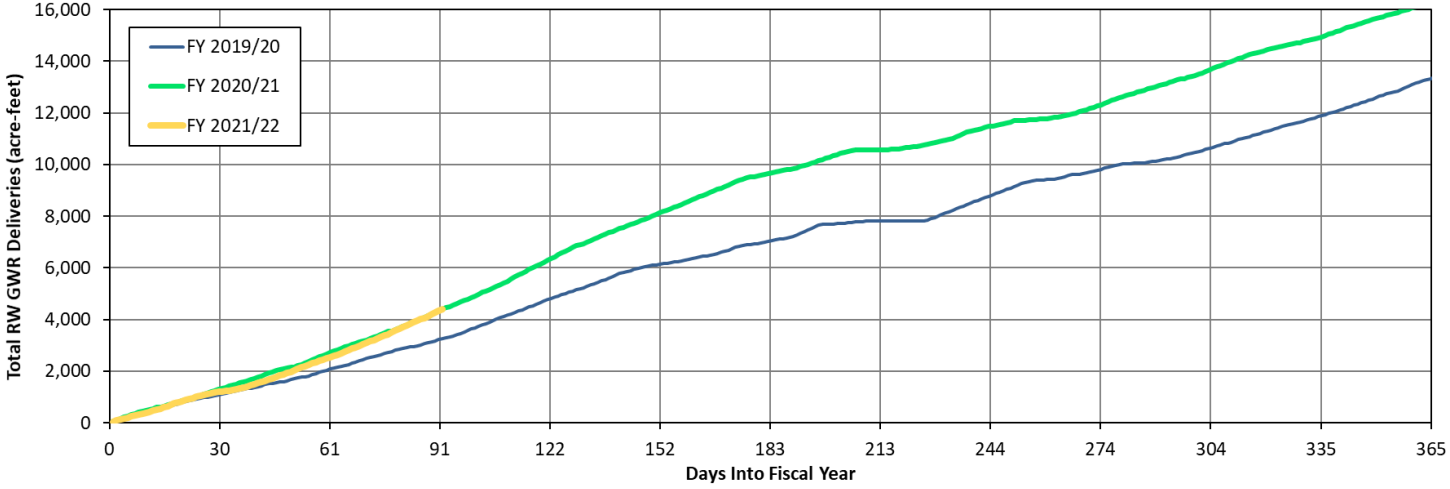
Creek Discharges

Prado Park (001):	2.9 MGD	267 AFM
RP-1 (002):	2.0 MGD	184 AFM
RP-5 (003):	2.8 MGD	358 AFM
CCWRF (004):	0.0 MGD	0 AFM
Total:	7.7 MGD	709 AFM

Recycled Water Recharge Actuals - September 2021 (Acre-Feet)

Basin	9/1-9/4	9/5-9/11	9/12-9/18	9/19-9/25	9/26-9/30	Month Actual	FY To Date Actual	Deliveries are draft until reported as final and do not included evaporative losses.	
Ely	0.0	0.0	18.1	25.6	0.3	44.0	245		
Banana	0.0	37.2	6.7	22.6	30.2	96.7	265		
Hickory	67.3	66.3	80.8	68.8	14.9	298.1	516		
Turner 1 & 2	0.0	0.0	0.0	1.0	19.1	20.1	39		
Turner 3 & 4	0.0	0.0	0.0	0.0	19.1	19.1			
8th Street	0.0	68.2	84.3	86.0	61.3	299.8	301		
Brooks	21.6	22.7	26.1	20.7	10.1	101.2	332		
RP3	100.2	144.8	130.4	125.9	113.3	614.6	1531		
Declez	27.4	27.0	40.2	33.6	15.3	143.5	332		
Victoria	0.0	0.0	0.0	0.0	26.0	26.0	26		
San Sevaine	0.0	30.0	41.2	41.1	34.9	147.2	820		
Total	216.5	396.2	427.8	425.3	344.5	1,810.3	4,406	4,406	AF previous FY to day actual





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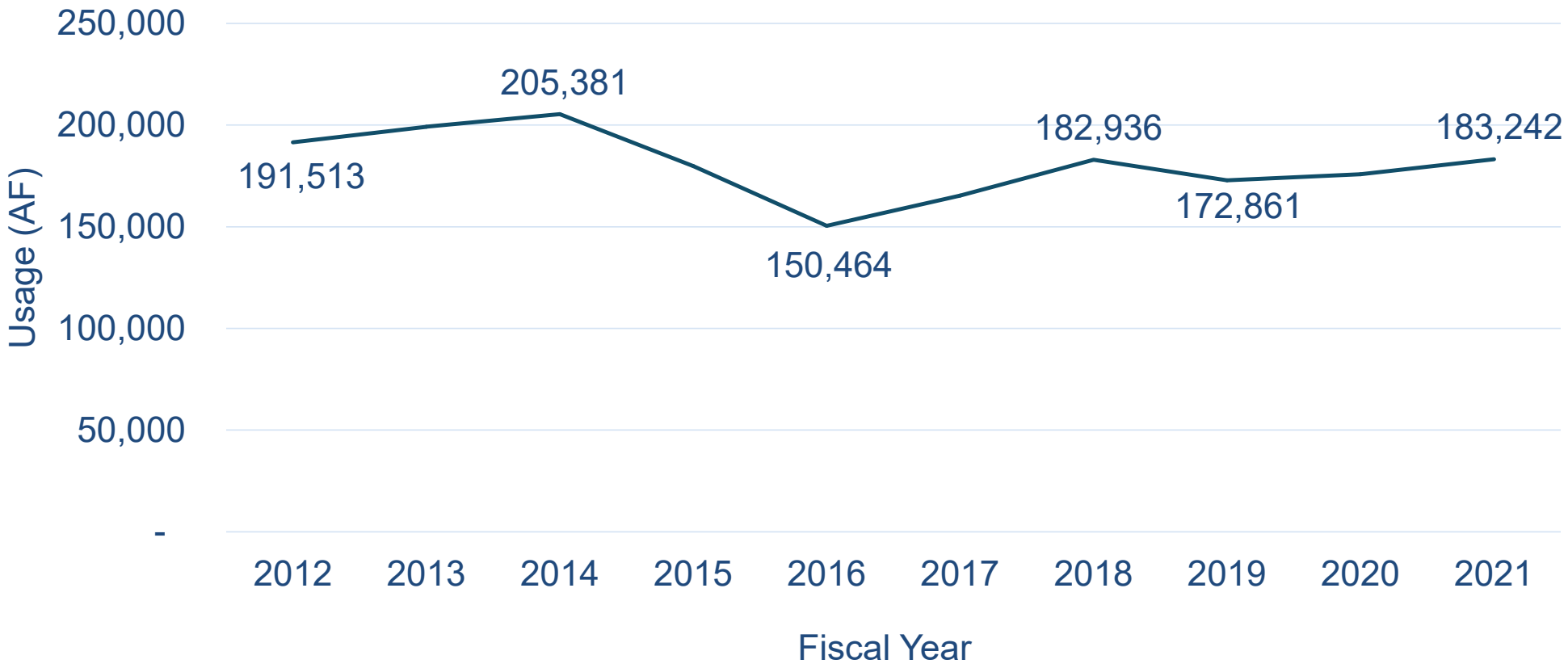
Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

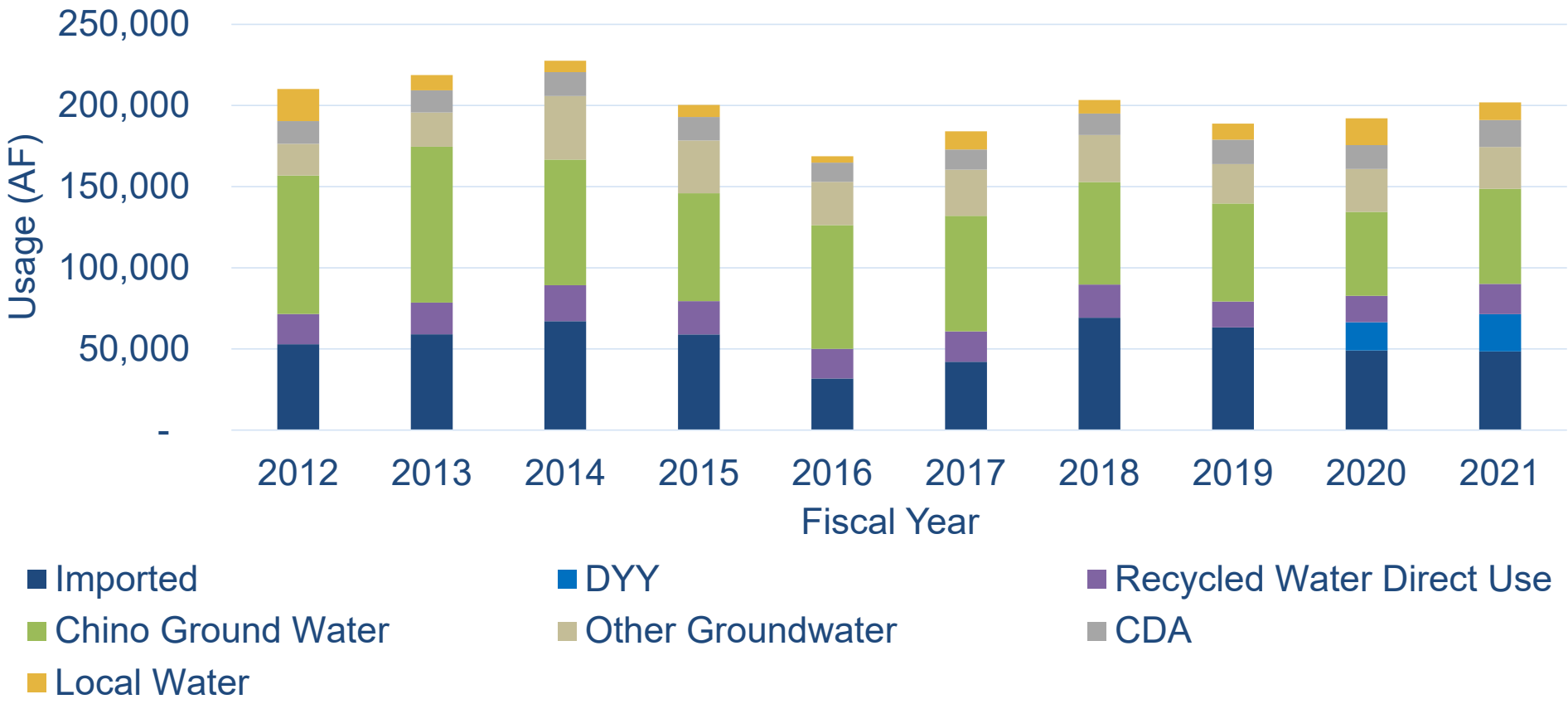
1st Quarter Strategic Planning and Resources Update

Pietro Cambiaso
Deputy Manager of Strategic Planning & Resources
October 2021

Regional Potable Water Use

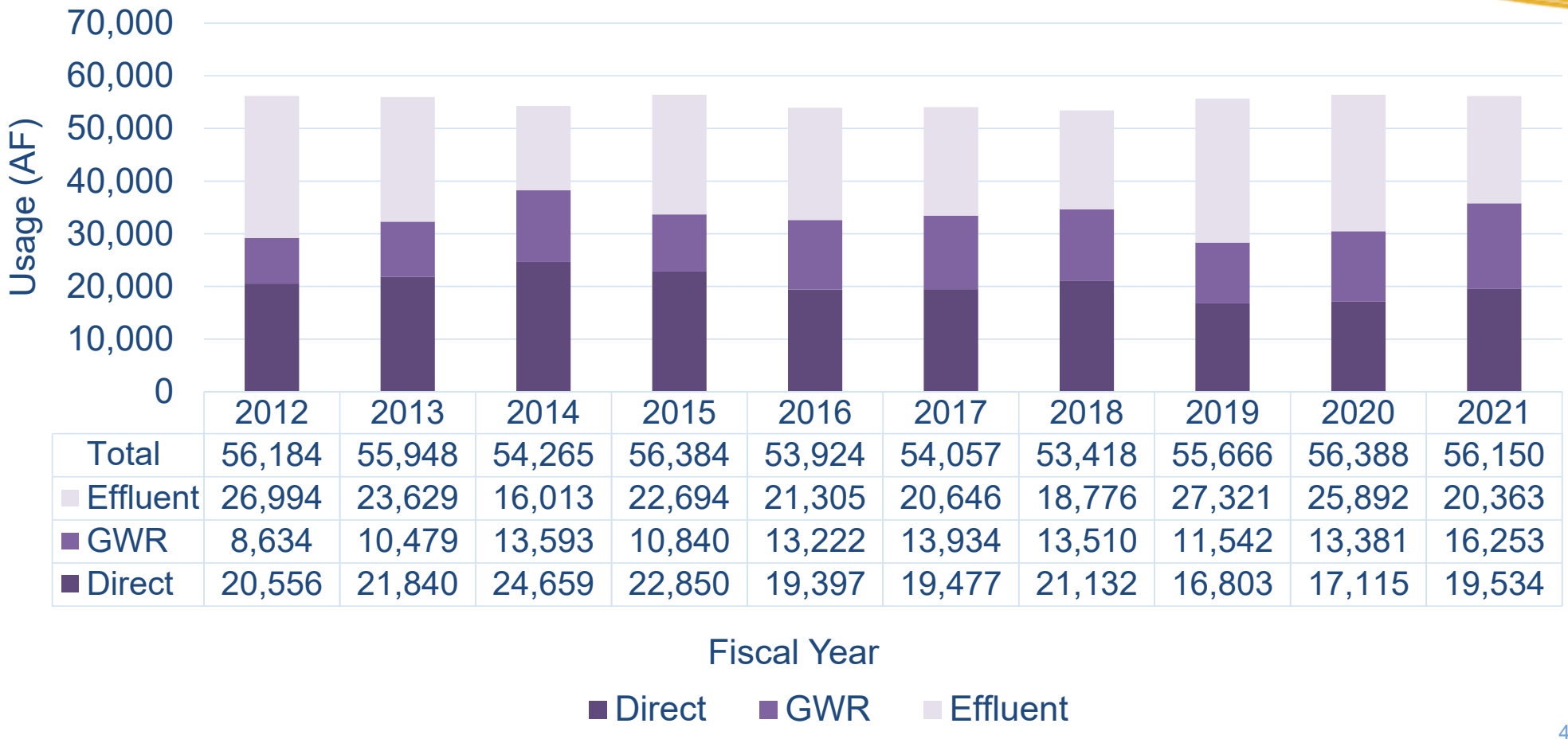


Regional Member Agency Water Use



*Local water includes local surface water, intraregional sales and purchases, as well as purchases and sales from local water companies such as SAWCo and WECWC.
*RW does not include 628 AF for IEUA use and 277 AF for SB County Use in RW Direct Use

Recycled Water Use

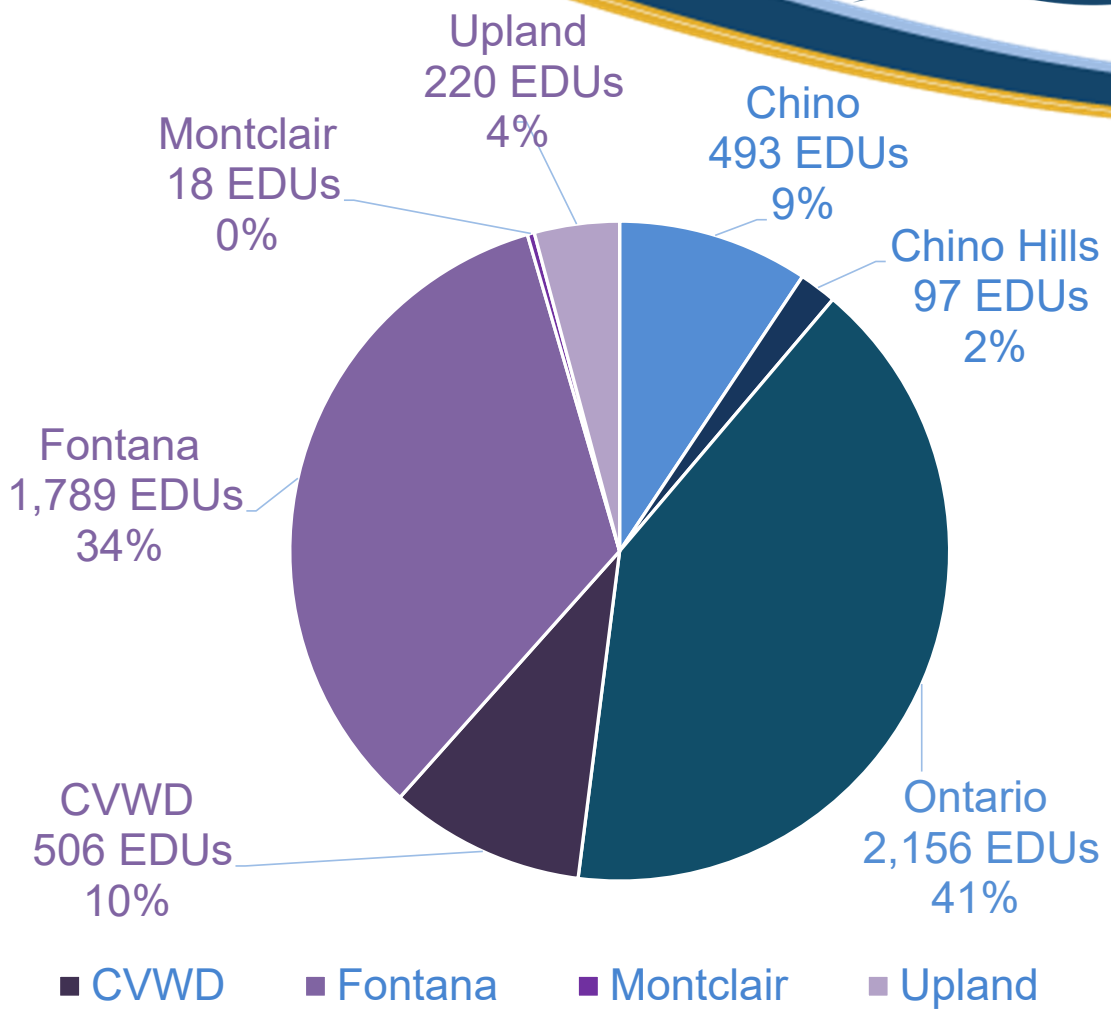


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total	56,184	55,948	54,265	56,384	53,924	54,057	53,418	55,666	56,388	56,150
Effluent	26,994	23,629	16,013	22,694	21,305	20,646	18,776	27,321	25,892	20,363
GWR	8,634	10,479	13,593	10,840	13,222	13,934	13,510	11,542	13,381	16,253
Direct	20,556	21,840	24,659	22,850	19,397	19,477	21,132	16,803	17,115	19,534

*Includes 628 AF IEUA direct usage and 277 AF for County of San Bernardino Direct Usage

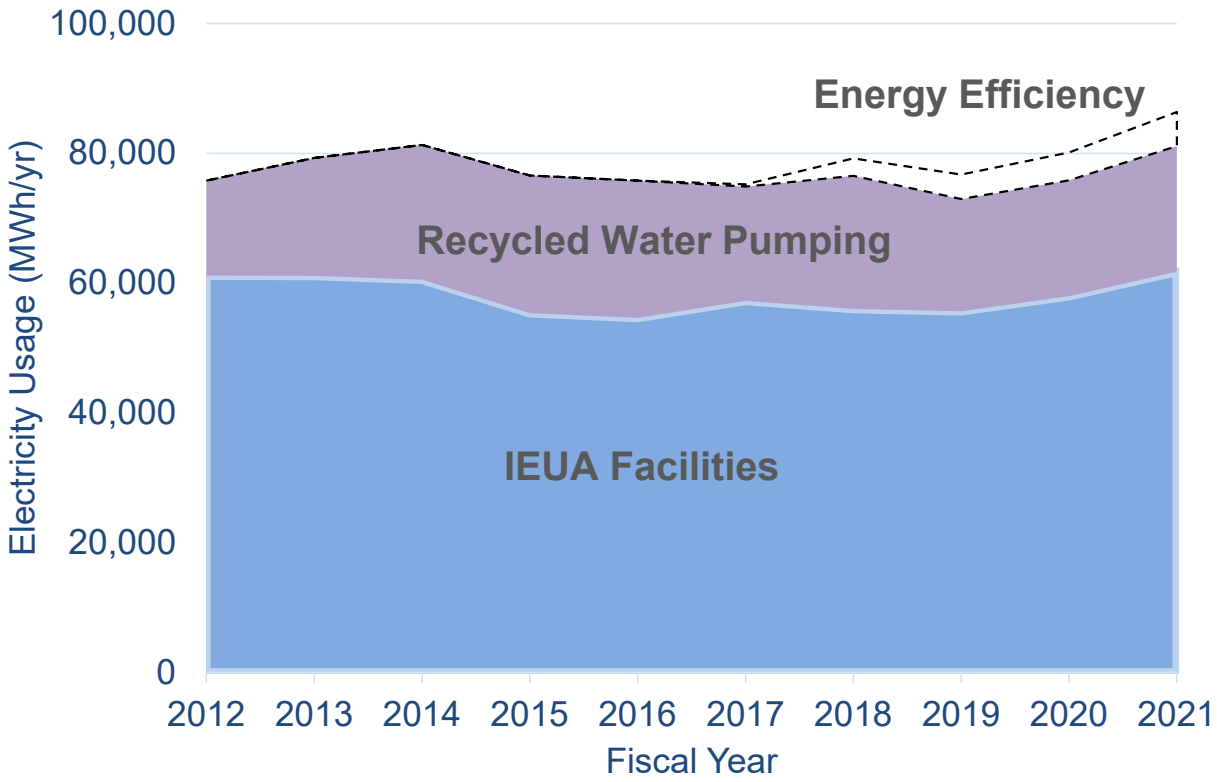
FY20/21 Building Activity

- Total 5,279 Equivalent Dwelling Units (EDUs) in FY 20/21
  - —2,746 EDUs **South** Service Area (52%)
  - —2,533 EDUs **North** Service Area (48%)
- $36.7M funding in FY 20/21



*Partial EDUs rounded to the nearest whole number

Electricity Usage



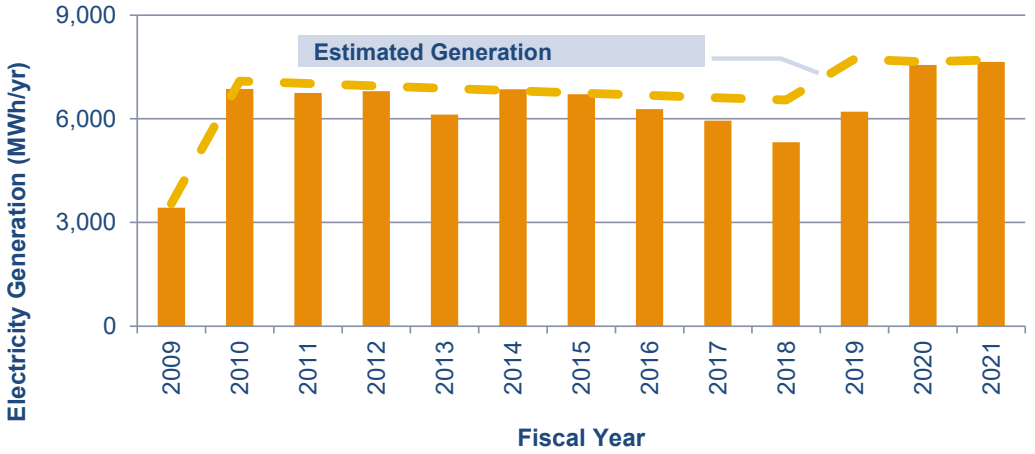
Energy Efficiency Project

RP-1 1158 Recycled Water Pump Station Upgrade

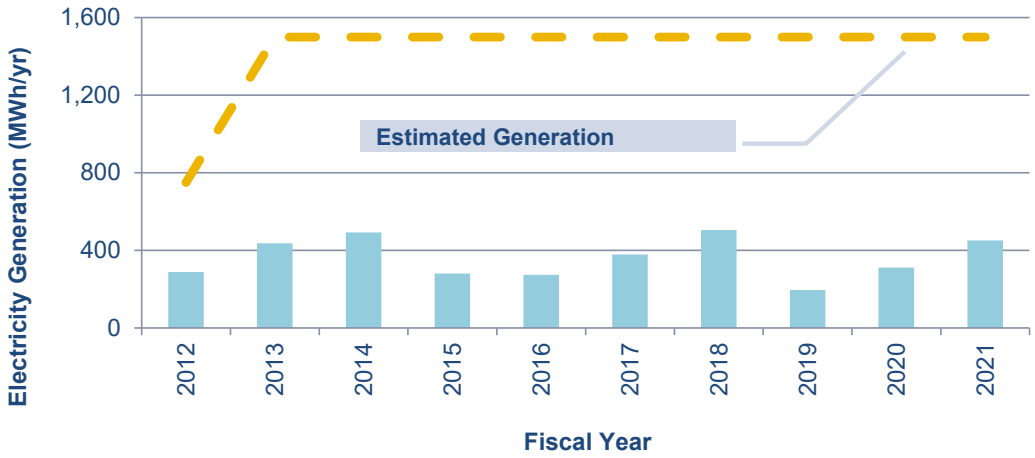
- Completed September 2020
- Avoided power usage 81 kW
- Expected annual savings
  - 927,000 kWh
  - $116,000
- SCE Incentive $86,000

Renewable Energy

Solar



Wind



Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Planning Annual Report

Fiscal Year 2020/2021

October 2021

Contents

INTRODUCTION

The Inland Empire Utilities Agency (IEUA) is located in Western San Bernardino County and serves approximately 900,000 residents in a 242-square mile service area. As a regional wastewater treatment agency, IEUA provides wastewater utility services to seven regional contracting agencies (RCAs) under the Chino Basin Regional Sewage Service Contract: cities of Chino, Chino Hills, Fontana, Montclair, Ontario, Upland, and Cucamonga Valley Water District (CVWD) in the city of Rancho Cucamonga. In addition to the RCAs, the Agency provides wholesale imported water from the Metropolitan Water District of Southern California (MWD) to seven retail agencies: the cities of Chino, Chino Hills, Ontario, Upland, CVWD in the city of Rancho Cucamonga, Fontana Water Company in the city of Fontana, and the Monte Vista Water District in the city of Montclair.

In addition to providing these key services, IEUA also produces and distributes high quality recycled water, implements the Chino Basin stormwater/groundwater recharge program, and provides regional water resources planning to ensure reliable, cost-effective environmentally responsible water supplies for current and future customers. The purpose of the Strategic Planning Annual Report (SPAR) is to provide annually updated information about the IEUA service area's potable water, recycled water, groundwater, and wastewater. This report also provides a holistic summary of historic trends, usage patterns, current programs, and future forecasts.

SECTION 1: ANNUAL IEUA SERVICE AREA WATER USE

IEUA monitors and compiles water use data from each of its retail agencies to track overall water demands and sources of supply. Annual water use is split between potable water usage and the direct use of recycled water. IEUA's regional water usage in FY 20/21 was 202,776 AF (183,242 AF potable usage and 19,534 AF recycled direct usage). Recycled water used for groundwater recharge is not included in this total but can be found in Section 2 of the SPAR.

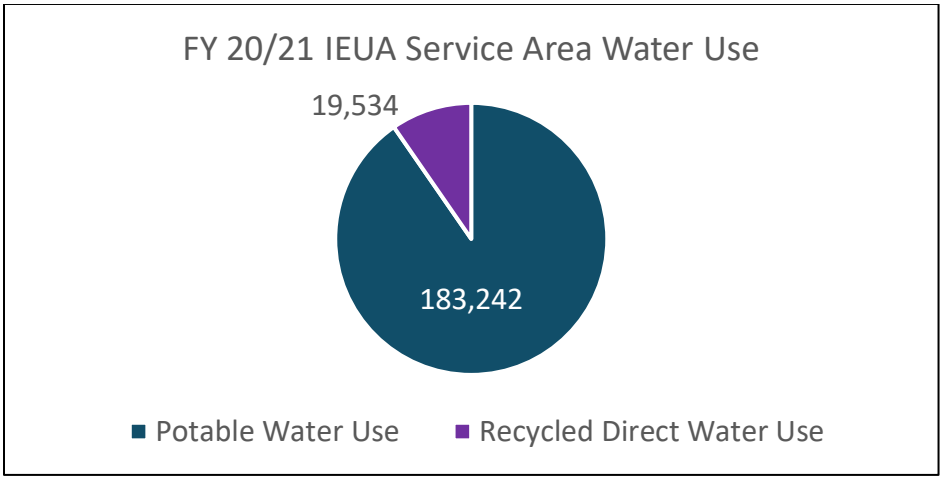


Figure 1 – FY 20/21 IEUA Service Area Water Use

Current Potable Water Use

Total potable water consumption within IEUA's service area for FY 20/21 was 183,242 AF. This is approximately a 4% increase (7,413 AF) from FY 2019/20 potable consumption of 175,829 AF. The region is now using approximately 11% less potable water than before the recent drought in FY 13/14 when potable consumption was at 205,381 AF. MWD Tier 1 imported water use in the region slightly increased from 66,438 AF in FY 19/20 to 71,444 AF in FY 20/21. Both FY 19/20 and FY 20/21 MWD usage includes Dry Year Yield (DYY) water supplies. For more information on DYY, see "Dry Year Yield" in section 2 of the SPAR. A breakdown of the IEUA regional usage can be found in Table 2, while a breakdown of the retail water agencies' FY 20/21 water usage can be found in Appendix B.

Projected Imported Water Use

Demands for MWD Tier 1 imported water brought into the region through IEUA were projected to 2045 as part of the 2020 Urban Water Management Plan (2020 UWMP). The 2020 UWMP imported water demand projections were supplied by the retail agencies to IEUA. IEUA expects imported demand to increase over the next 25 years based on the 2020 UWMP projections.

Table 1 – Projected Imported Water Use Demands by Retail Agency (AF)

Retail Agency	2025	2030	2035	2040	2045
Chino	5,353	5,353	5,353	5,353	5,353
Chino Hills	7,153	7,367	7,711	7,758	7,802
CVWD	28,369	28,369	28,369	28,369	28,369
FWC	15,000	15,000	15,000	15,000	15,000
MVWD	5,000	5,000	5,000	5,000	5,000
Ontario	11,000	13,000	15,000	17,000	17,000
Upland	5,541	5,541	5,541	5,541	5,541
Total	**77,416**	**79,630**	**81,974**	**84,021**	**84,065**

Table 2 – Fiscal Year 2020/2021 Regional Potable Monthly Water Use

		IEUA Service Area Potable Water Use FY20/21 (AF)												
		July	August	September	October	November	December	January	February	March	April	May	June	Total
Purchases from IEUA	Imported MWD	5,020	5,593	5,107	4,141	3,324	2,604	3,177	2,705	3,454	3,497	4,598	5,224	*48,444*
	DYY Take	3,533	3,333	3,333	2,500	1,500	2,000	-	-	-	2,000	2,600	2,200	*23,000*
Subtotal		***8,553***	***8,927***	***8,440***	***6,641***	***4,824***	***4,604***	***3,177***	***2,705***	***3,454***	***5,497***	***7,198***	***7,424***	***71,444***
Production	Chino Groundwater	5,256	5,490	4,736	5,540	4,276	4,390	3,961	3,977	4,284	5,085	5,254	6,437	*58,687*
	Other Groundwater	2,732	3,042	2,682	2,442	2,070	1,724	1,769	1,568	1,608	1,895	2,054	2,070	*25,654*
	Local Surface Water	1,795	1,339	1,099	1,074	1,097	827	973	979	870	805	661	462	*11,981*
Subtotal		***9,784***	***9,871***	***8,517***	***9,056***	***7,443***	***6,941***	***6,703***	***6,524***	***6,762***	***7,785***	***7,968***	***8,970***	***96,322***
Purchases	CDA	1,315	1,333	1,276	1,607	1,450	1,553	1,519	1,166	1,347	1,252	1,324	1,451	*16,593*
	CVWD	-	-	-	-	-	-	-	-	-	-	-	-	-
	MVWD	700	803	798	548	335	177	239	342	311	325	536	508	*5,621*
	SAWCo	1,365	1,142	906	789	755	417	579	489	554	788	885	884	*9,552*
	West End	203	226	190	183	146	205	139	145	127	160	120	183	*2,027*
Subtotal		***3,583***	***3,503***	***3,169***	***3,127***	***2,686***	***2,352***	***2,476***	***2,142***	***2,339***	***2,525***	***2,866***	***3,025***	***33,794***
Sales	Chino Hills	(947)	(1,037)	(1,015)	(833)	(543)	(524)	(317)	(353)	(408)	(634)	(819)	(719)	*(8,150)*
	Ontario	(47)	(46)	(45)	(45)	(44)	(28)	(44)	(41)	(44)	(42)	(34)	(40)	*(500)*
	MVWD	(53)	(52)	(51)	(51)	(104)	(87)	(86)	(46)	(50)	(47)	(38)	(45)	*(709)*
	Upland	(1,318)	(1,149)	(861)	(743)	(657)	(334)	(499)	(449)	(509)	(746)	(851)	(844)	*(8,959)*
Subtotal		**(2,365)**	**(2,283)**	**(1,971)**	**(1,673)**	**(1,347)**	**(973)**	**(946)**	**(889)**	**(1,012)**	**(1,469)**	**(1,742)**	**(1,648)**	***(18,318)***
Total		**19,555**	**20,018**	**18,155**	**17,151**	**13,605**	**12,923**	**11,411**	**10,482**	**11,543**	**14,338**	**16,291**	**17,771**	**183,242**

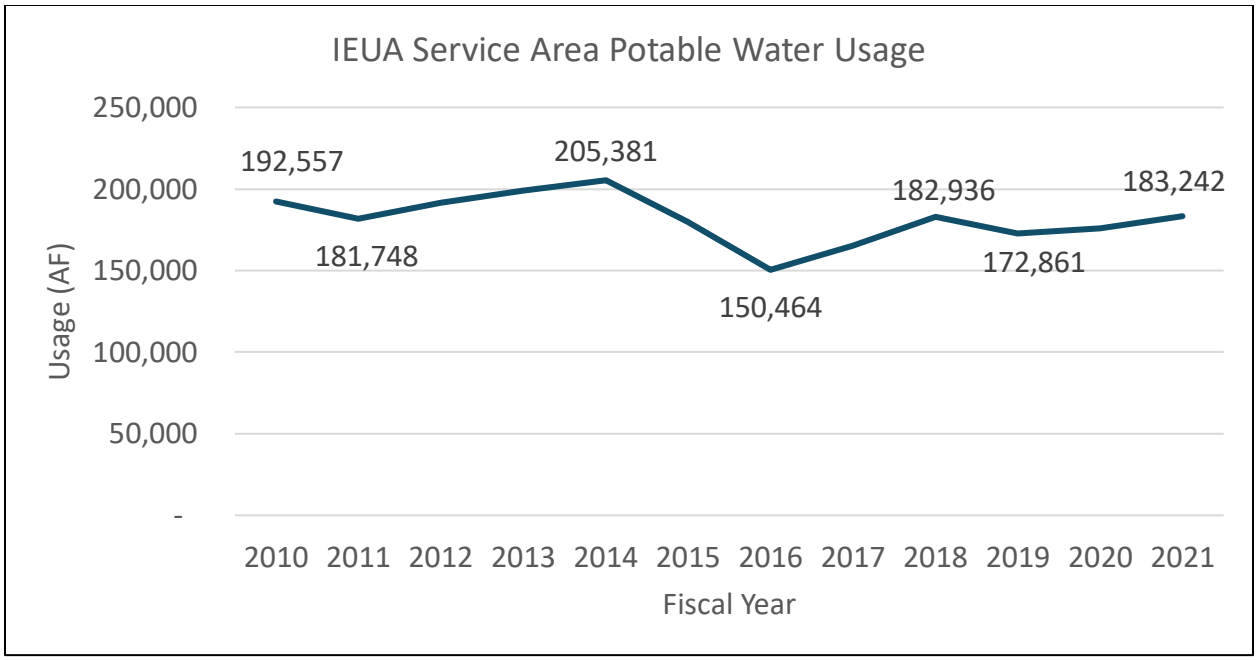


Figure 2 – IEUA Service Area Potable Water Use

Current Recycled Water Use

IEUA is the wholesale recycled water provider to the RCAs which work as or with retail agencies to directly serve their customers. IEUA contracting/retail water agencies which served recycled water in 2020/21 include:

- City of Chino
- City of Chino Hills
- Cucamonga Valley Water District (CVWD)
- City of Fontana (through FWC)
- City of Montclair (through MVWD)
- City of Ontario
- City of Upland

Fontana Water Company (FWC) and Monte Vista Water District (MVWD) are the water retailers in the Cities of Fontana and Montclair, respectively, but are not IEUA regional contracting agencies. FWC and MVWD retail recycled water obtained from their overlying cities, which are IEUA regional contracting agencies. San Bernardino County is currently a direct use customer of IEUA based on long standing historical contracts. Total recycled water direct use within the region was 19,534 AF in FY 20/21.

Table 3 – Recycled Water Demand by Agency for FY 20/21

Retail Agency	Direct Use (AF)	Percent of Direct Demand
Chino	5,643	29%
Chino Hills	1,668	9%
CVWD	1,222	6%
Fontana/FWC	425	2%
Montclair/MVWD	343	2%
Ontario	8,556	44%
Upland	772	4%
IEUA	628	3%
San Bernardino County	277	1%
Total	**19,534**	**100%**

Projected Recycled Water Use

Direct recycled water use in the IEUA service area has been projected out to 2040 in both the 2020 UWMP and as part of the Recycled Water Demand Forecast Technical Memorandum (Demand Forecast). The 2020 UWMP recycled water projections were supplied by the retail agencies to IEUA as part of the 2020 UWMP. The Demand Forecast recycled water projections utilized land use-based demand modeling completed by IEUA in conjunction with the retail agencies in 2015 and were subsequently updated in 2021.

Table 4 – Projected Recycled Water Direct Use Demand by Retail Agency (AF)

Retail Agency	Projection Source	2025	2030	2035	2040
Chino	2020 UWMP	4,500	4,500	4,000	3,800
	Demand Forecast	5,498	5,780	5,961	6,178
Chino Hills	2020 UWMP	1,609	1,609	1,609	1,609
	Demand Forecast	1,858	2,047	2,047	2,626
CVWD	2020 UWMP	1,800	2,000	2,000	2,000
	Demand Forecast	2,032	2,288	2,513	2,674
FWC	2020 UWMP	1,000	1,500	2,000	2,500
	Demand Forecast	994	1,392	1,911	2,000
MVWD	2020 UWMP	1,100	1,100	1,100	1,100
	Demand Forecast	359	363	396	398
Ontario	2020 UWMP	12,168	13,465	14,330	16,059
	Demand Forecast	9,188	10,383	10,814	12,820
Upland	2020 UWMP	703	703	703	703
	Demand Forecast	940	1,022	1,062	1,158
Total	**2020 UWMP**	**22,880**	**24,877**	**25,742**	**27,771**
	Demand Forecast	**20,869**	**23,275**	**24,704**	**27,854**

Projected Regional Water Use

Projected water use was calculated as part of the development of the 2020 UWMP. IEUA collected each retail agencies' projected water use from their respective UWMP and totaled the use to obtain a regional water use projection. Regional water use projections include both potable and recycled water direct use.

Table 5 – 2020 UWMP Projected Water Demand by Retail Agency (AF)

Retail Agency	2025	20302	2035	2040	2045
Chino	20,843	22,310	23,087	23,963	25,108
Chino Hills	17,120	17,334	17,678	17,725	17,769
CVWD	53,369	58,092	59,650	60,949	60,949
FWC	45,593	46,909	47,665	50,442	51,943
MVWD	14,232	14,564	15,175	15,437	15,706
Ontario	52,550	58,513	63,406	73,668	73,668
Upland	25,328	25,328	25,328	25,328	25,328
Total	**229,035**	**243,050**	**251,989**	**267,512**	**270,471**

Projected water use was also calculated as part of the 2015 Integrated Resources Plan (2015 IRP), which developed a range of demand possibilities to accommodate for future uncertainty caused by the various demand factors including climate change. This analysis came from demand modeling conducted as part of the 2015 IRP and 2015 Urban Water Management Plan (2015 UWMP), which found that new developments in the region are more water efficient due to changes in the plumbing code, higher density developments with less landscaping, and compliance landscape ordinance requirements set forth in AB1881.

Table 6 – 2015 IRP Demand Forecast (AF)

Urban M&I Forecast	2015	2020	2040
High Forecast	225,000	230,000	267,000
Medium Forecast	225,000	220,100	238,600
Low Forecast	225,000	212,000	217,400

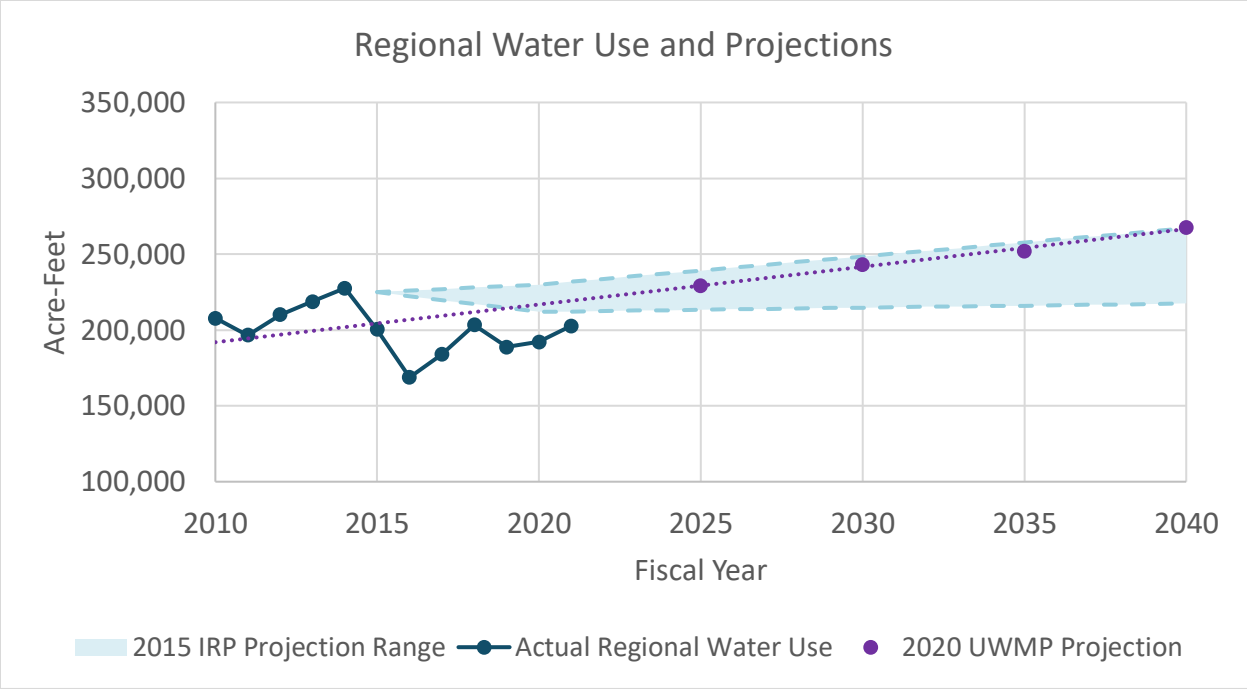


Figure 3 – IEUA Regional Water Use and Projections

The 2020 UWMP and 2015 IRP both reach approximately 267,000 AF in the year 2040. However, IEUA's actual FY 20/21 regional water use of 202,776 AF (183,242 AF potable use and 19,534 AF recycled direct use) is below the 2020 low demand forecast of 212,000 AF outlined in IEUA's 2015 IRP. A continuous focus on water use efficiency and per capita reductions, as required in SB X7-7, AB 1668, and SB 606 is anticipated to reduce per capita water use and demands. IEUA anticipates a slight increase in FY21/22 water use due to the continually growing population in the region and the general climate change trend of projected temperature increases. However, long-term demands are not expected to exceed the peak 10-year demand reached during FY 13/14.

In addition to the increase in projected water use, an increase to the number of Meter Equivalent Units (MEUs) in the region is also anticipated. For FY 21/22 it is projected that the region will contain 413,826 MEUs, an increase of 4,937 MEUs from FY 20/21's actual MEUs count of 408,889.

Table 7 – Projected MEUs

Retail Agency	FY 20/21 Actual MEUs	FY 21/22 Projected MEUs
Chino	39,264	40,238
Chino Hills	39,499	38,924
CVWD	105,805	106,006
FWC	90,162	91,413
MVWD	21,901	21,979
Ontario	76,459	78,166
Upland	32,779	33,966
WVWD*	3,020	3,134
Total	**408,889**	**413,826**

**IEUA and WVWD have a shared service area for emergency supply*

SECTION 2: GROUNDWATER RECHARGE DELIVERIES

Historical Groundwater Recharge Deliveries

The Chino Basin is one of the largest groundwater basins in Southern California containing approximately 5,000,000 AF of water with an un-used storage capacity of approximately 1,000,000 AF. Groundwater from the Chino Basin accounts for approximately 29% of FY 20/21, regional water supplies. The Chino Basin is an adjudicated basin and has been overseen by the Chino Basin Watermaster (CBWM) since 1978. The basin is dependent on rainfall and supplemental sources for recharge.

IEUA, in coordination with CBWM, the Chino Basin Water Conservation District (CBWCD), San Bernardino County Flood Control District (SBCFCD), the Chino Desalter Authority (CDA), and local agencies capture water for replenishment. Sources include recycled water from IEUA's regional water recycling plants, stormwater and dry weather flow capture, and imported water recharge.

Recharged imported water is either purchased by a local agency, requested by the Chino Basin Watermaster to maintain safe operating yield of the basin, used to blend down recharged recycled water TDS levels, or as part of the Chino Basin Dry-Year Yield (DYY) Program. Total groundwater recharge delivered to the Chino Basin in FY 20/21 was 23,430 AF. Groundwater recharge deliveries is water delivered to recharge facilities and does not take into consideration evaporative or other losses that may occur prior to recharge.

Table 8 – FY 20/21 Groundwater Recharge Purchases

Groundwater Recharge Source	Recharge (AF)
Recycled Water	16,253
Stormwater & Dry Weather Flow	4,911
Imported Water	2,266
IEUA (MWD)	*0*
*DYY Puts**	*0*
*TVMWD (MWD)***	*2,266*
Total	**23,430**

**DYY Puts Exclude aquifer storage and recovery*

*** Three Valleys Municipal Water District (TVMWD) purchases water directly from MWD.*

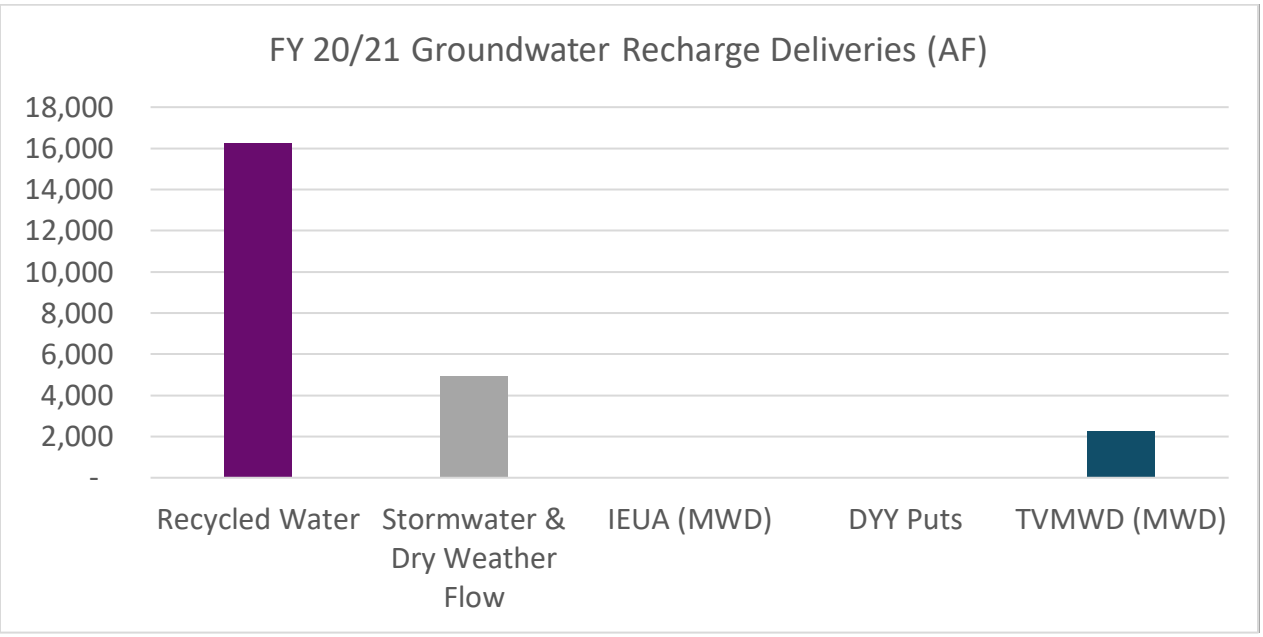


Figure 4 – FY 20/21 Groundwater Recharge Deliveries

Recycled water groundwater recharge use was 16,253 AFY in FY 20/21, up 21% from FY 19/20's recycled water ground water recharge of 13,381 AF. Recycled water is recharged by IEUA on behalf of its RCAs and retail water agencies.

Table 9 – FY 20/21 Recycled Groundwater Recharge Deliveries by Agency

Retail Agency	Recharge (AF)
Chino	-
Chino Hills	1,463
CVWD	9,336
Fontana/FWC	3,185
Montclair/MVWD	737
Ontario	-
Upland	1,531
Subtotal	**16,253**

FY 20/21 was a 5 year low for groundwater recharge totals but was also the highest recycled water recharge recorded to date at over 16,000 AF. The overall decrease to recharged is due in part to low precipitation rates reducing stormwater availability and MWD not requesting the storage of any water for the DYY program in FY 20/21.

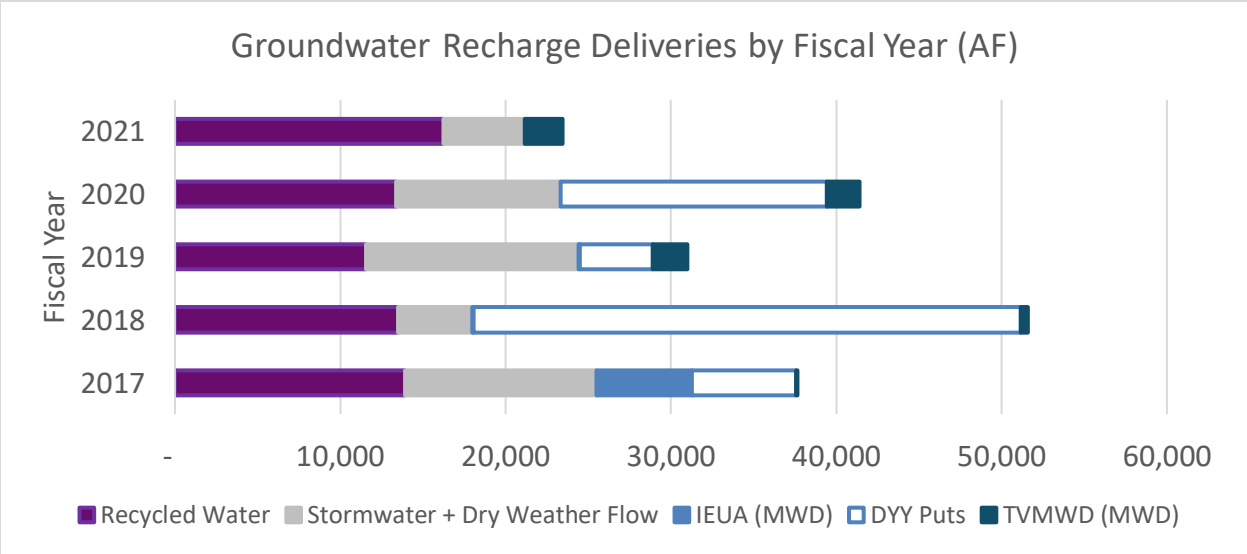


Figure 5 – Historical Groundwater Recharge Deliveries

Projected Groundwater Recharge Deliveries

It is projected that future groundwater recharge delivery projections will remain at an estimated 16,420 AFY of recycled water as outlined in the 2018 Recharge Master Plan Update. Due to the unpredictability of storm events and variability of imported water for groundwater recharge in the IEUA region, the five-year average was taken to determine the projected recharge of stormwater and dry weather flows and imported water. It is estimated that future groundwater

recharge will contain 8,761 AF of stormwater and dry weather flows and 2,549 AF of imported water. Imported groundwater projections do not include DYY values as continued storage of DYY water is not expected to continue past FY 20/21.

Table 10 – Projected Groundwater Recharge Deliveries by Source

Groundwater Recharge Source	Projected Groundwater Recharge (AFY)
Recycled Water	16,420
Stormwater & Dry Weather Flow	8,761
Imported Water (No DYY)	2,549
Total	**27,730**

Dry Year Yield

The DYY program provides for the storage of up to 100,000 AF of water in a MWD Storage Account in the Chino Basin pursuant to the Groundwater Storage Program Funding Agreement dated June 2003 and as subsequently amended. Signatories to the Phase I Agreement are:

- Metropolitan Water District of Southern California,
- Inland Empire Utilities Agency
- Three Valleys Municipal Water District
- Chino Basin Watermaster

The DYY Agreement provides for storage of up to 25,000 AF per year unless Chino Basin Watermaster allows for more, and extraction, at MWD's call during dry years, of up to 33,000 AF per year not to exceed the amount of water in the Metropolitan Storage Account (DYY Account). In February 2019, the signatories expanded the extraction provisions so that water could be voluntarily extracted from the DYY Account outside of call years, with approval from the signatories.

From June 2017 through June 2021 a total of 64,830 AF were stored in the DYY Account; 59,894 AF by groundwater recharge and 4,936 AF by Aquifer Storage and Recovery (ASR) injected water. From July 2019 through June 2021 Cucamonga Valley Water District and Fontana Water Company have voluntarily extracted 40,395 AF, leaving the account with a balance of 24,435 AF.

Table 11 – DYY Account Balance

DYY Account Balance (June 2017-June 2021)	
"PUTS"	
Recharged Water	59,894
ASR Injection	4,936
"TAKES"	
CVWD	37,895
FWC	2,500
Total	**24,435**

The voluntary production projection for FY 21/22 is shown in Table 11. Signatories have agreed for Cucamonga Valley Water District and Fontana Water Company to extract the remaining DYY Account balance by June 2022.

Table 12 – DYY Voluntary Production Projections

Agency	Baseline	July-December 2021 Production	Jan-June 2022 Production	Total DYY Voluntary Production
CVWD	5,536	13,000	5,000	18,000
FWC	863	4,000	1,000	5,000

SECTION 3: SANTA ANA REGIONAL BASEFLOW OBLIGATION

Santa Ana River Regional Baseflow Obligation

The Santa Ana River has a regional baseflow obligation established by past judgment. The baseflow obligation is a joint obligation between IEUA and Western Municipal Water District to ensure an average of 42,000 AF at Prado Dam. The minimum baseflow obligation was reduced to 34,000 AF after 1986 as long as no cumulative baseflow debt exists. In Water Year 2019/2020, baseflow at Prado Dam was 74,465 AF. More information about the Santa Ana River baseflow obligation can be found in the Santa Ana River Watermaster Annual Report (https://www.wmwd.com/292/Santa-Ana-Watermaster-Reports).

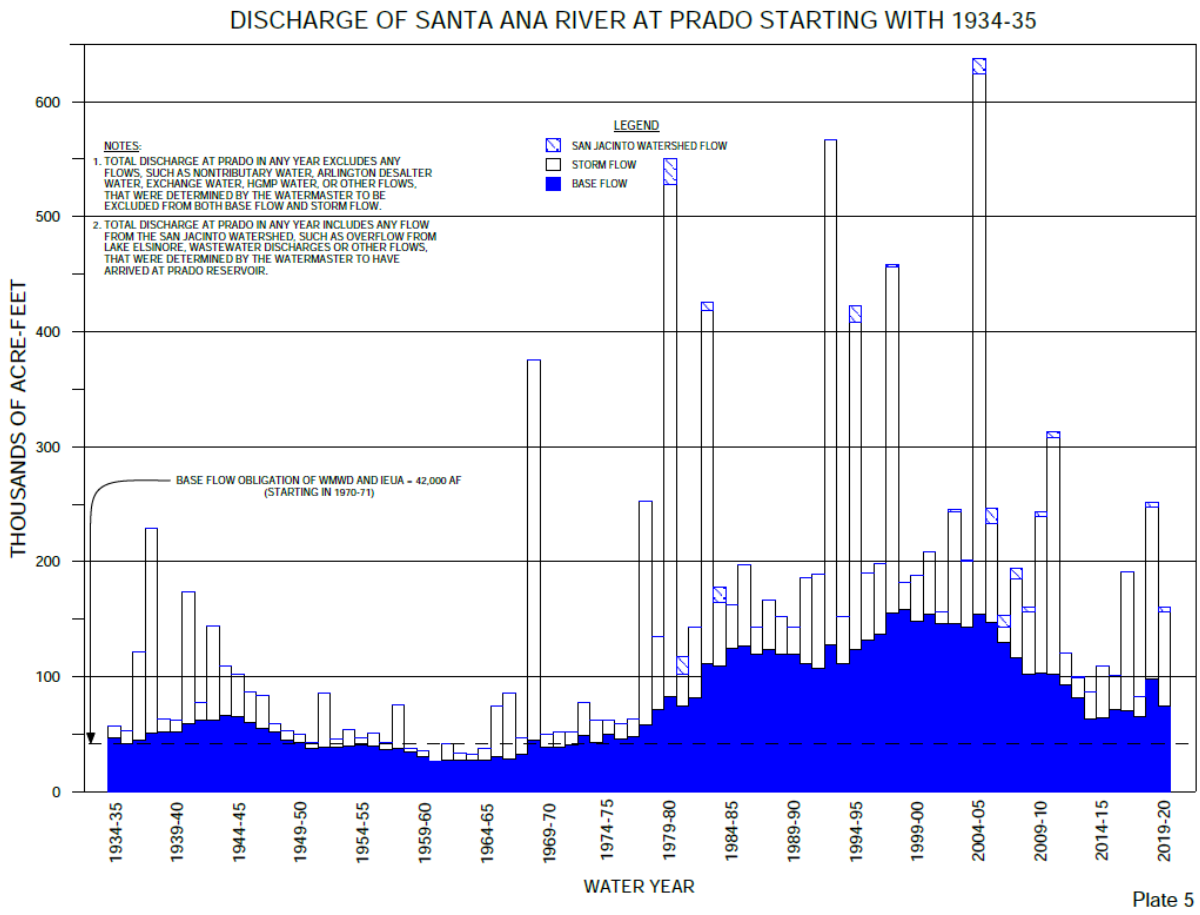


Figure 6 – Discharge of Santa Ana River at Prado
Source: Santa Ana River Watermaster Annual Report 2019-2020

SECTION 4: WASTEWATER

Wastewater Actuals

Over the past decade the IEUA service area has experienced an increase in indoor water use efficiency as a direct result of drought, shifting public policy, more efficient building and plumbing codes, and effective conservation program campaigns. This increased efficiency has decreased the volume of wastewater flows received by IEUA treatment plants by approximately 10% since 2010. While the flows have continued to decrease, the regional population has continued to grow. The combination of an increased population but reduced wastewater flow has resulted in an increase in the strength of the wastewater coming into IEUA's treatment facilities. This trend of increased wastewater strength is expected to continue as both the population and regional water efficiency continue to increase. Current and future wastewater treatment plant expansions are driven by the increased strength of wastewater flows to the facilities, rather than the volume of flows to the facilities.

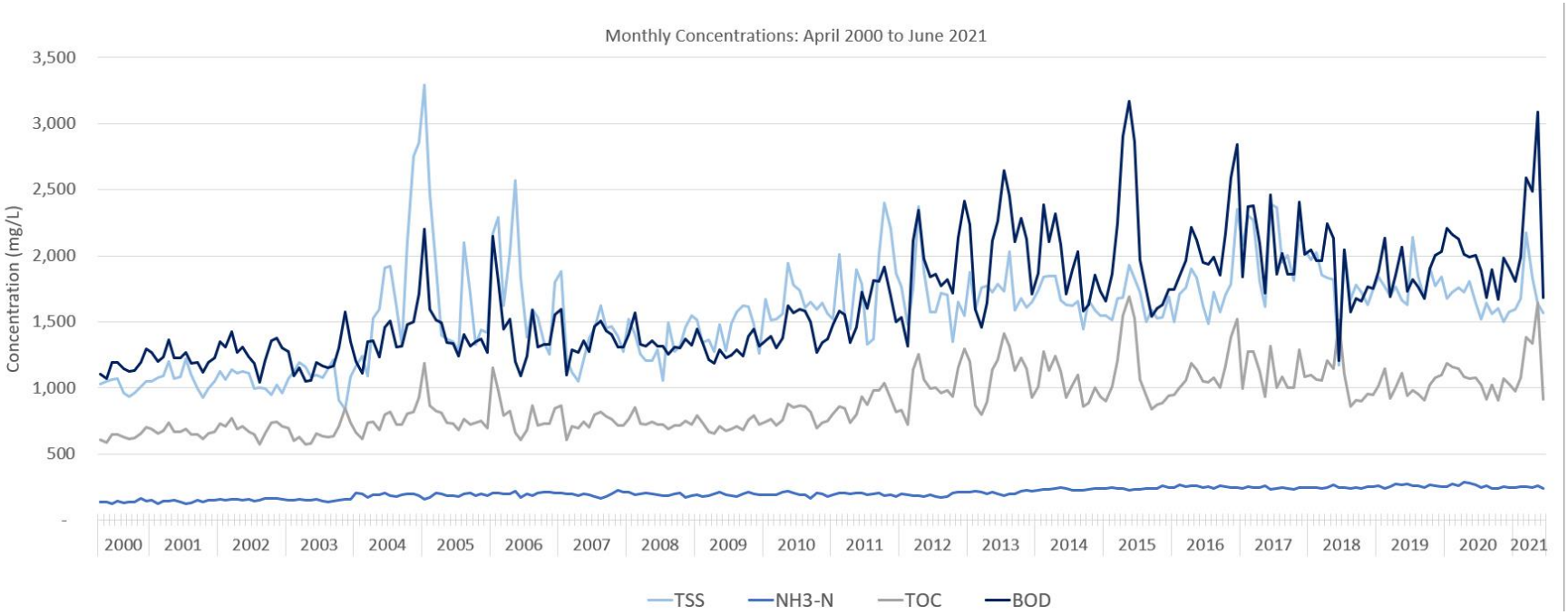


Figure 7 – Monthly Concentrations: April 2000 – June 2021

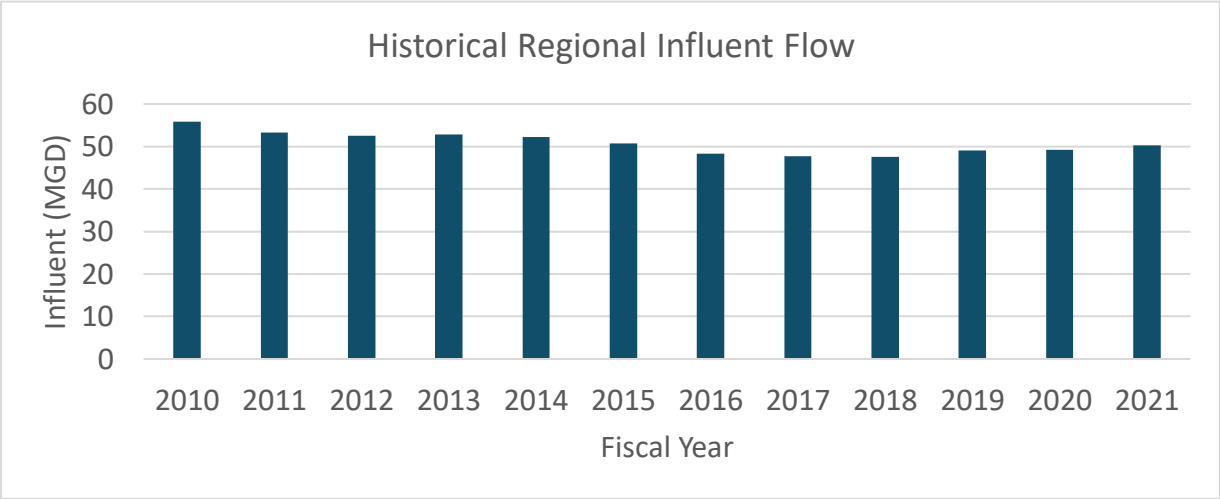


Figure 8 – Historical Regional Influent Flows

While wastewater flows have decreased from FY 09/10, recycled water use has increased. This increase in recycled water utilization can be attributed to the San Bernardino Avenue Lift Station and the Montclair Lift Station. The Montclair Lift Station pumps wastewater from portions of Montclair, Upland, and Chino to IEUA's RP-1 and CCWRF treatment plants. The San Bernardino Ave Pump Station pumps a portion of the flow from the City of Fontana to IEUA's RP-4 treatment plant. Together, these lift stations help shift flows that would naturally flow from one portion of the service area to a different treatment plant to balance flows and keep water in the northern portion of the service area. This shift in flows allows IEUA to maximize the potential for recycled water use. These lift stations also increase regional system flexibility and allow the treatment plants to operate as an interconnected system.

Equivalent Dwelling Unit (EDU) activity has increased from FY 19/20 to FY 20/21 with the addition of 5,281 EDUs to the region compared to the addition of only 3,435 EDUs the previous fiscal year. The additional EDUs added in FY 20/21 are 3,732 EDUs lower than the RCAs projections of 9,013 EDUs and 1,281 EDUs more than the IEUA Budgeted Projections of 4,000 EDUs. Two sets of projections exist to allow for conservative estimates on both the flow and financial aspects of EDUs. The RCAs projections are required under the Regional Sewage Service Contract and serve as a planning tool for plant treatment capacity. Under the Regional Sewage Service Contract, RCAs who report EDU projections that are lower than what the regional experiences may have building moratoriums imposed. For this reason, the RCAs may make projections conservatively high. Budgeted projections on the other hand are used by IEUA to project future needs. To ensure fund availability, budgeted projections are conservatively low. The result of both sets of projections is the assumption that projections are conservative, ensuring IEUA treatment plants can handle the added load while also ensuring the agency does not over project fund availability.

Table 13 – Historical EDU Activity

Building Activity for Last Five Fiscal Years (FY 15/16 through FY 19/20)			
Year	**Building Activity (EDUs)**	**Budgeted Projections (EDUs)**	**RCAs Projections (EDUs)**
FY 15/16	4,787	4,330	5,849
FY 16/17	5,189	3,000	5,277
FY17/18	5,223	4,000	5,442
FY 18/19	3,459	4,000	6,149
FY 19/20	3,435	4,000	6,390
FY 20/21	5,281	4,000	9,013

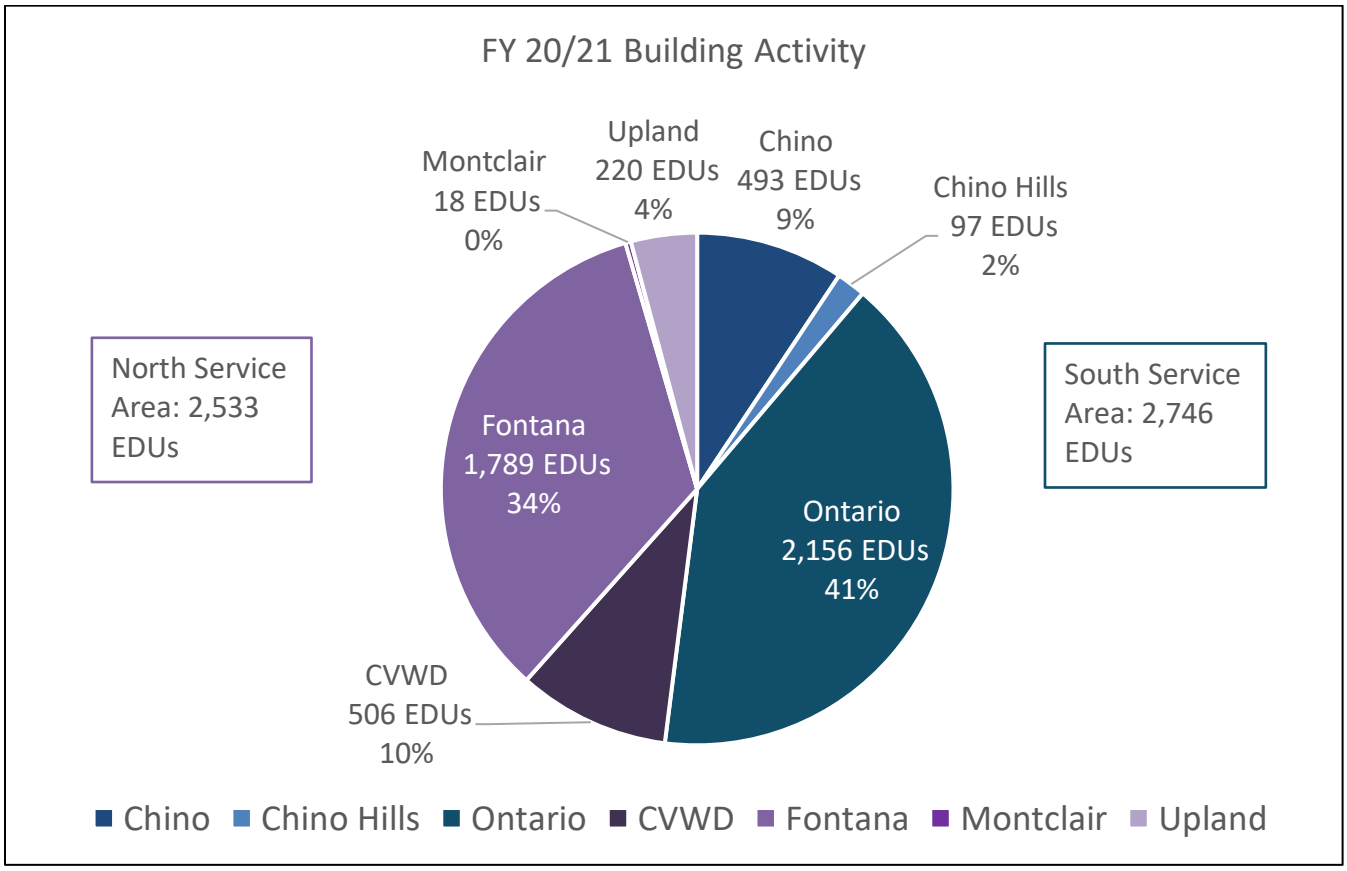


Figure 9 – FY 20/21 Building Activity

Wastewater Projections

Wastewater flow forecasts are conducted annually and are based on four main components: (1) historical wastewater flow trends; (2) per dwelling unit wastewater generation factors, based on the 2015 Wastewater Facilities Master Plan Update (WWFMPU) projections; (3) actual influent flows measured at the treatment plants; and (4) expected future growth numbers provided by the RCAs. These projections are used to determine future demands on the Agency's facilities and help anticipate the need for modifications to treatment plants and solids handling facilities.

The WWFMPU identified the projected flows to the treatment plants in 2035 through 2060. The WWFMPU estimates that there will be a regional flow of 73.5 MGD by 2035 and an ultimate/build-out flow of 80 MGD by 2060. The increase in flows implies that there will be facility expansions over the next 20 years.

In 2021, the RCAs completed a survey of their 10-year capacity demand forecast. The results of the 10-year capacity demand forecast survey are summarized in Table 12. For FY 2021/22, the forecasted activity was 13,538 EDUs. Over the next ten years, activity was projected to total 100,857 EDUs region wide. Approximately 77% of this projected activity is a result of new development in the service areas of Ontario and Fontana. Over the next ten years, building activity is projected to be approximately 80% residential and 20% commercial/industrial.

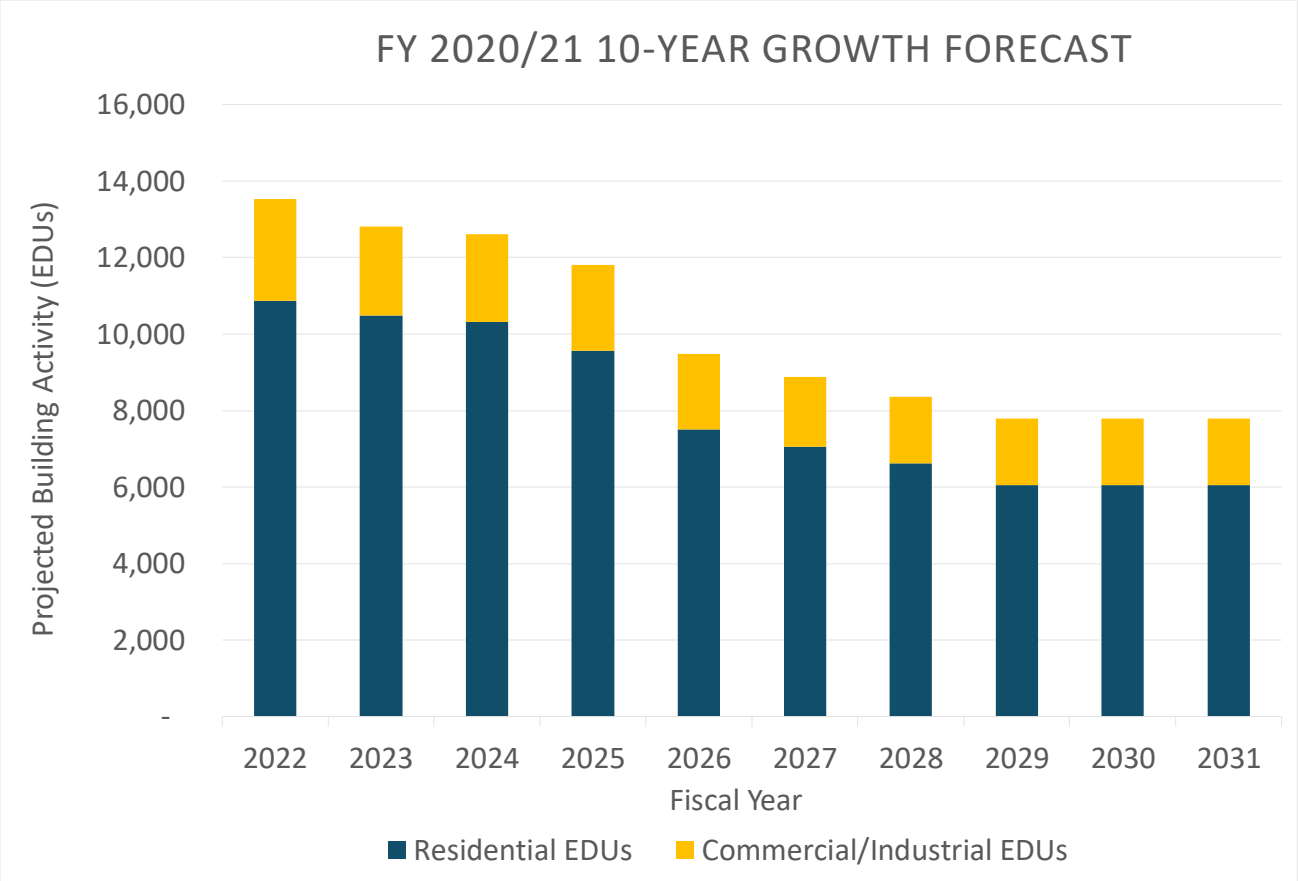


Figure 10 – FY 20/21 10-Year Growth Forecast

Table 14 – 10 Year Projected EDU Activity

Fiscal Year	Chino* EDUs	Chino Hills EDUs	CVWD EDUs	Fontana EDUs	Montclair* EDUs	Ontario EDUs	Upland EDUs	Total EDUs
FY 21/22	434	276	2,050	1,792	474	7,560	952	13,538
FY 22/23	396	744	2,050	1,863	106	6,763	912	12,812
FY 23/24	396	1,140	1,650	1,935	26	6,763	702	12,612
FY 24/25	396	782	1,250	2,011	26	6,763	572	11,800
FY 25/26	396	400	890	2,089	26	5,320	352	9,473
FY 26/27	395	552	490	2,171	26	5,040	200	8,875
FY 27/28	285	462	490	2,171	26	4,820	110	8,364
FY 28/29	285	2	490	2,171	26	4,820	0	7,794
FY 29/30	235	2	490	2,171	26	4,820	0	7,794
FY 30/31	235	2	490	2,171	26	4,820	0	7,794
TOTAL	**3,554**	**4,340**	**10,340**	**20,545**	**788**	**57,490**	**3,800**	**100,857**

**The City of Chino's and the City of Montclair's forecasts have been extended from last Fiscal Year as a completed 2021 10-year capacity demand forecast was not completed.*

APPENDIX A: ACRONYMS

AF: Acre Feet

AFY: Acre Feet per Year

ASR: Aquifer Storage and Recovery

CBWCD: Chino Basin Water Conservation District

CBWM: Chino Basin Water Master

CDA: California Desalter Authority

CVWD: Cucamonga Valley Water District

DYY: Dry Year Yield Program

EDU: Equivalent Dwelling Unit

FWC: Fontana Water Company

IEUA: Inland Empire Utilities Agency

IRP: 2015 Integrated Resource Plan

MEUs: Meter Equivalent Units

MGD: Million Gallons per Day

MVWD: Monte Vista Water District

MWD: Metropolitan Water District of Southern California

SPAR: Strategic Planning Annual Report

RCAs: Regional Contracting Agencies

SAR: Santa Ana River

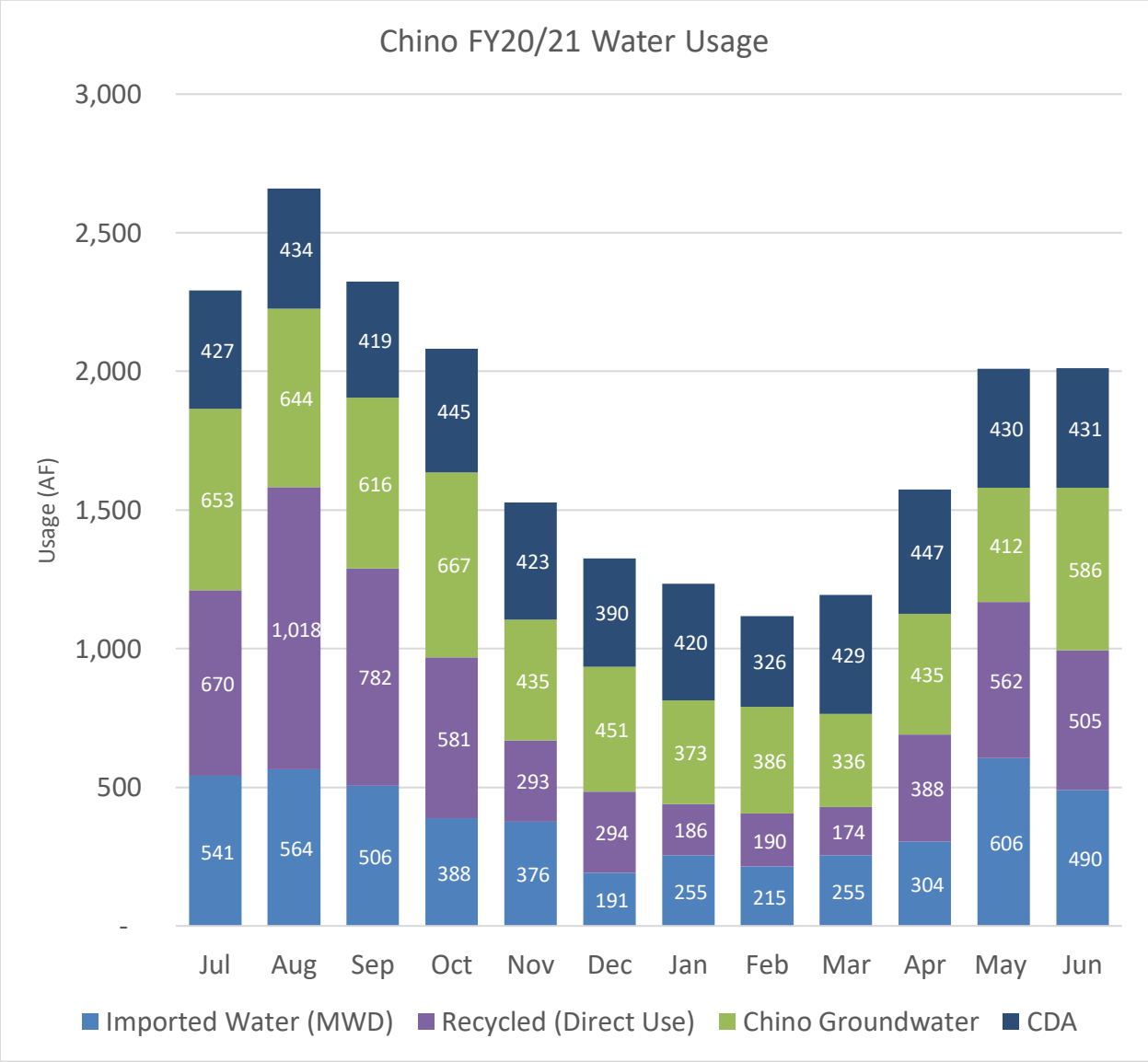
SBCFCD: San Bernardino County Flood Control District

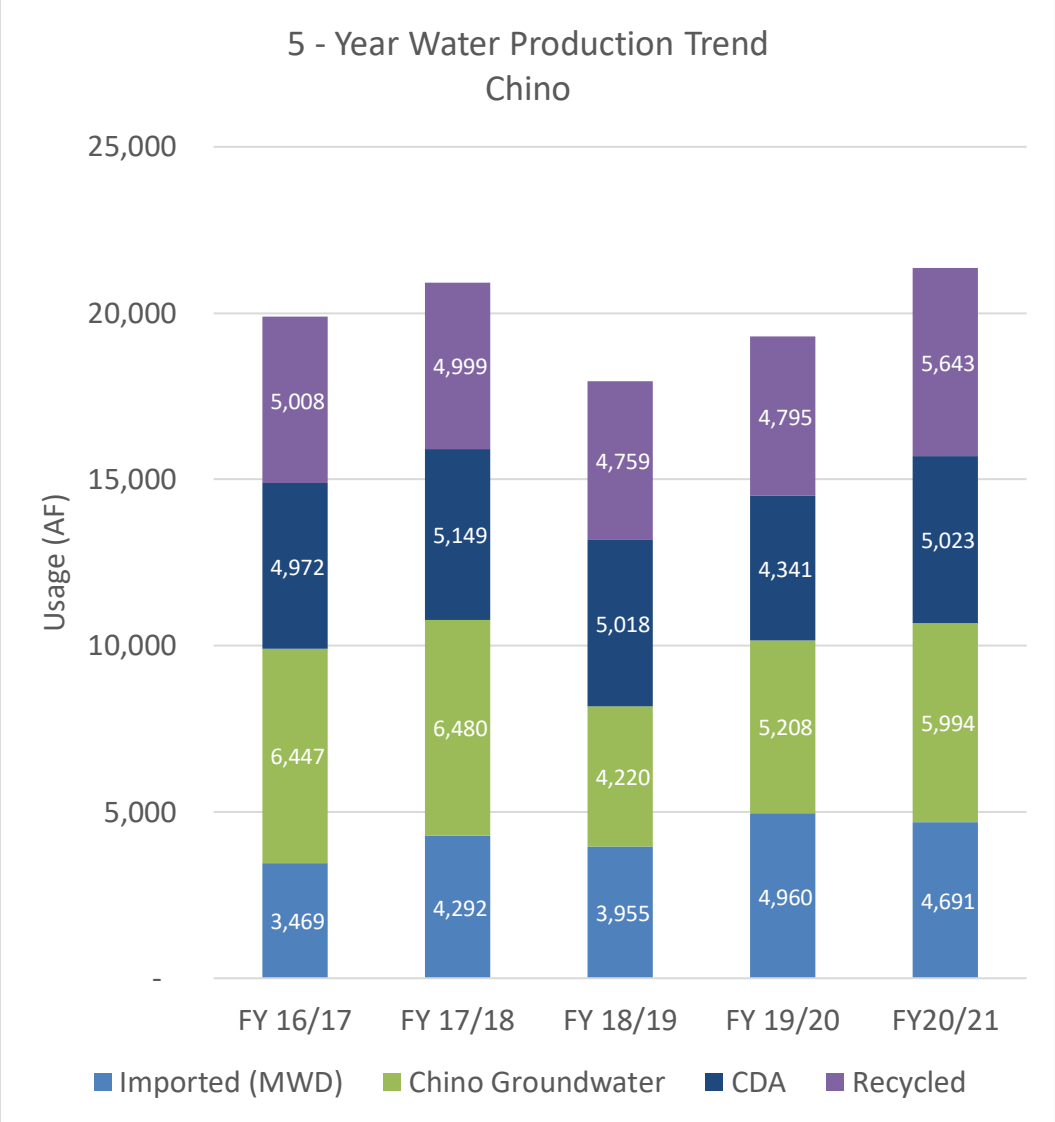
UWMP: Urban Water Management Plan

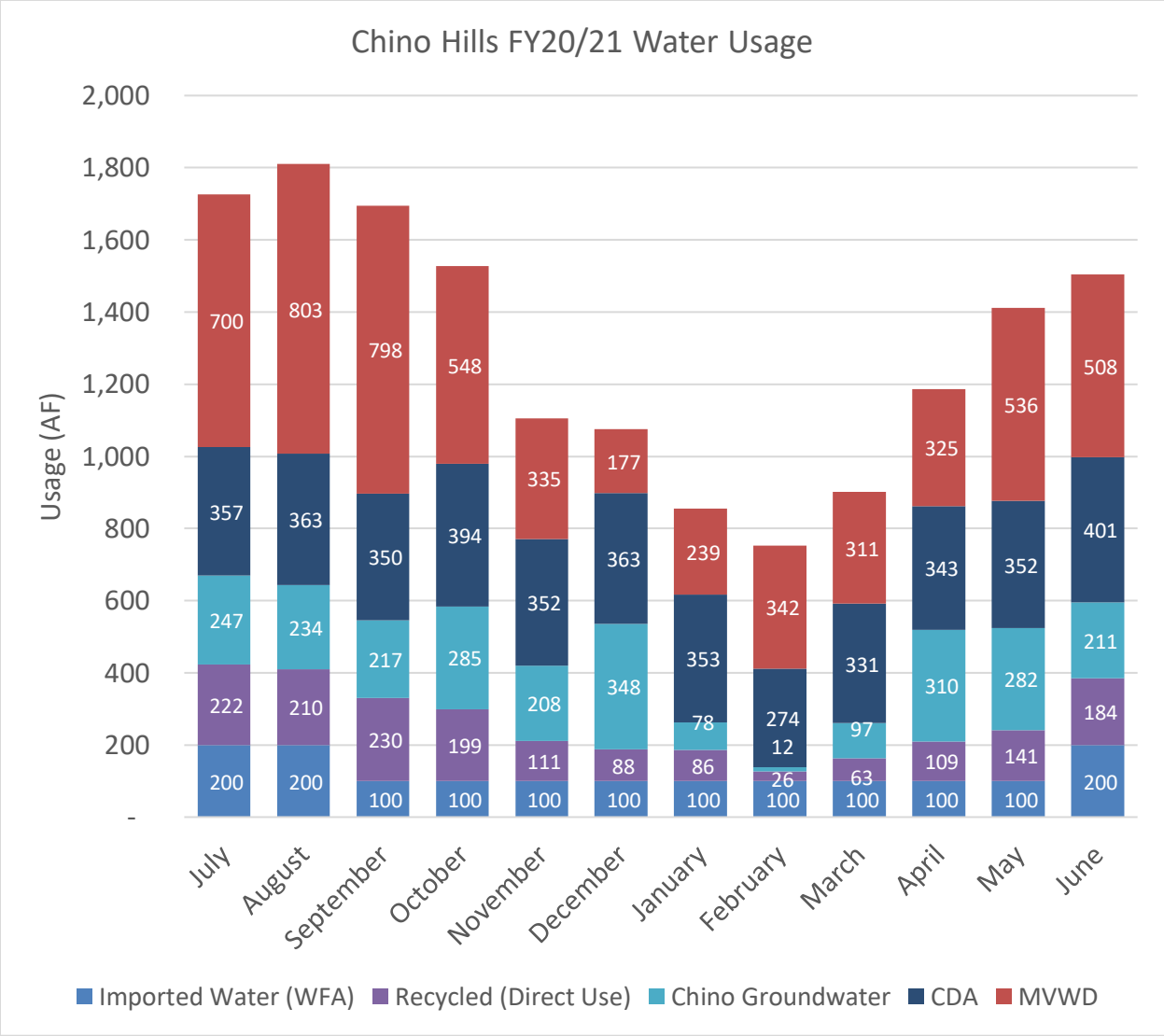
WVMWD: West Valley Municipal Water District

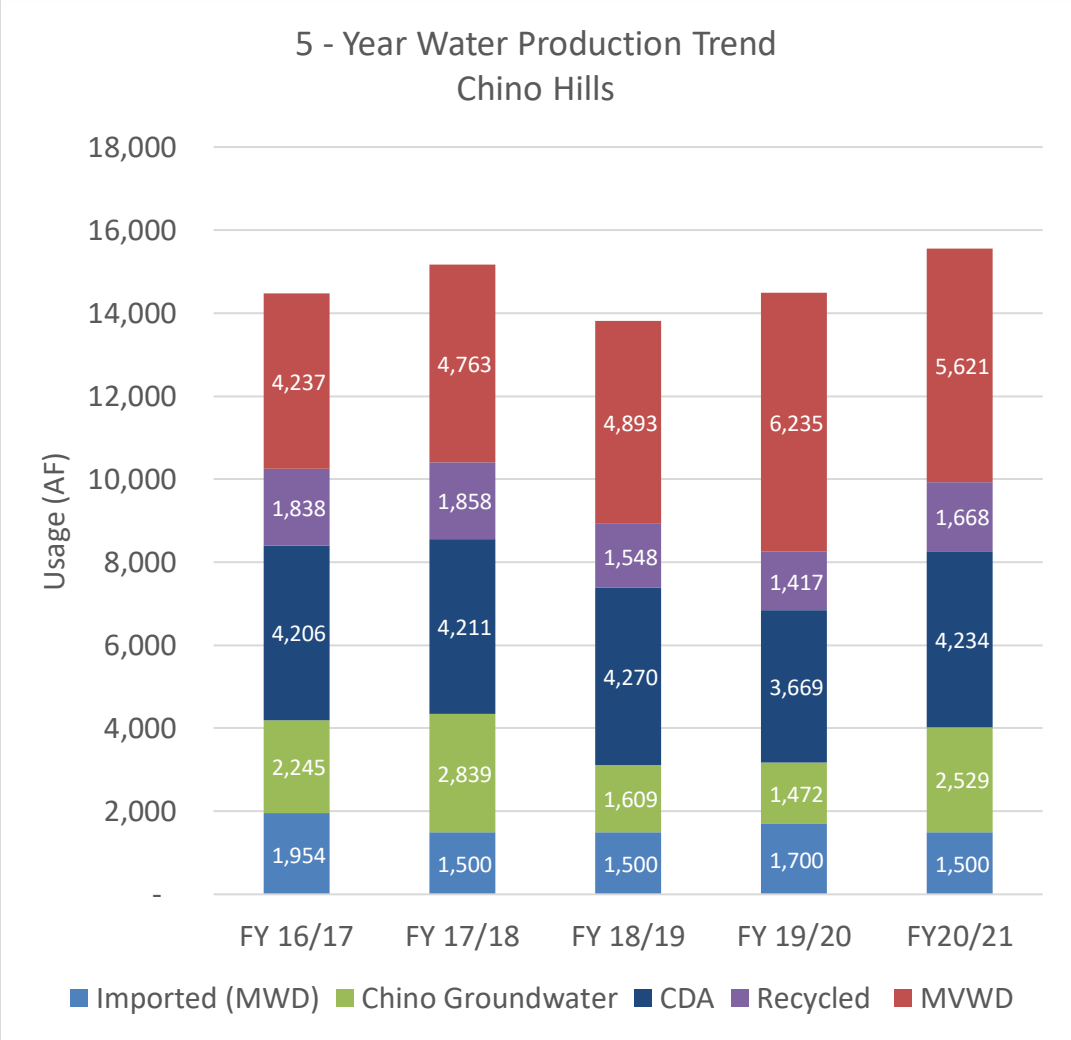
WWFMPU: 2015 Wastewater Facilities Master Plan Update

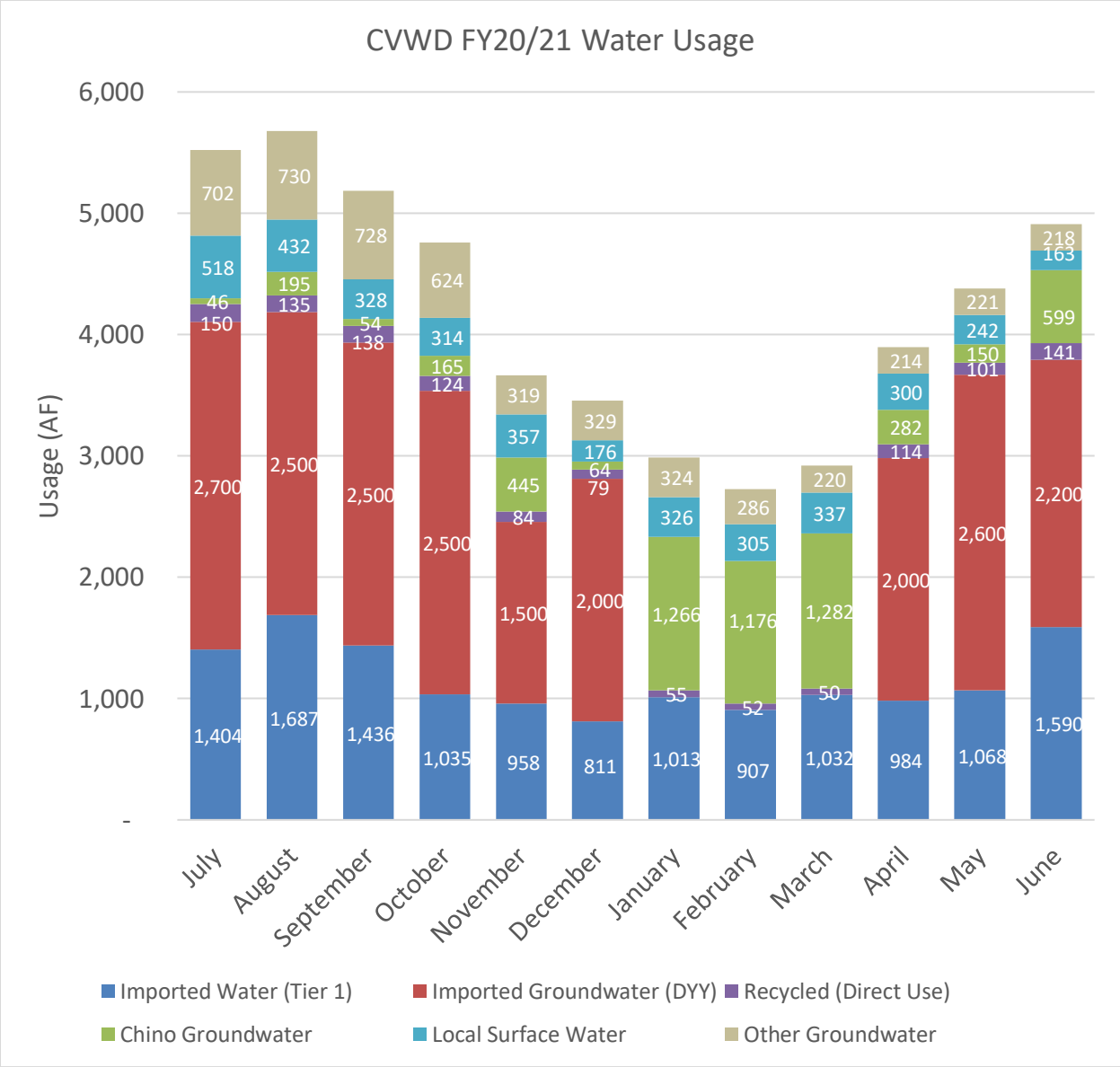
APPENDIX B: RETAIL AGENCY WATER USE CHARTS

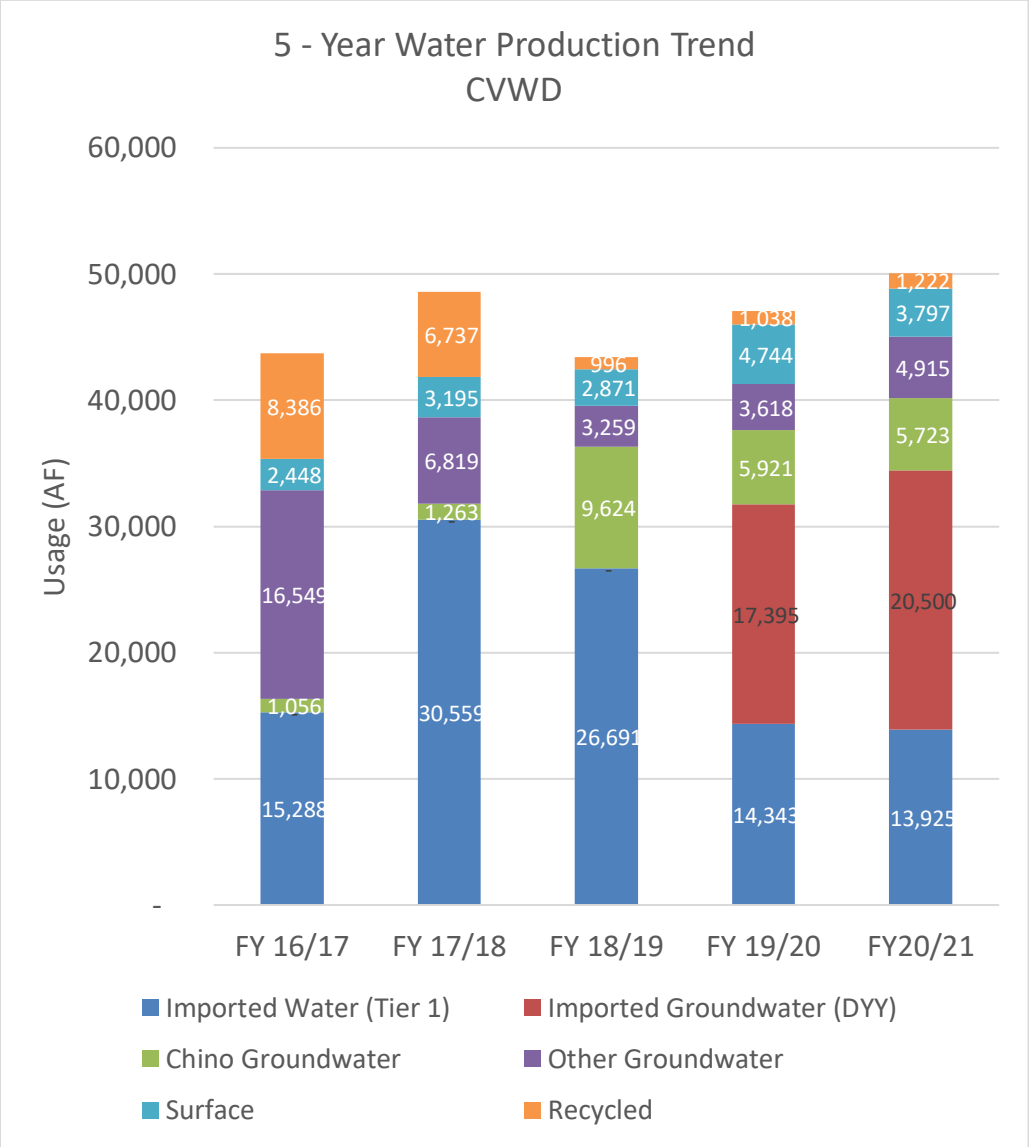

Chino FY20/21 Water Usage
Usage (AF)
3,000
2,500
2,000
1,500
1,000
500
-
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
541
670
653
427
564
1,018
644
434
506
782
616
419
388
581
667
445
376
293
435
423
191
294
451
390
255
186
373
420
215
190
386
326
255
174
336
429
304
388
435
447
606
562
412
430
490
505
586
431
Imported Water (MWD)
Recycled (Direct Use)
Chino Groundwater
CDA

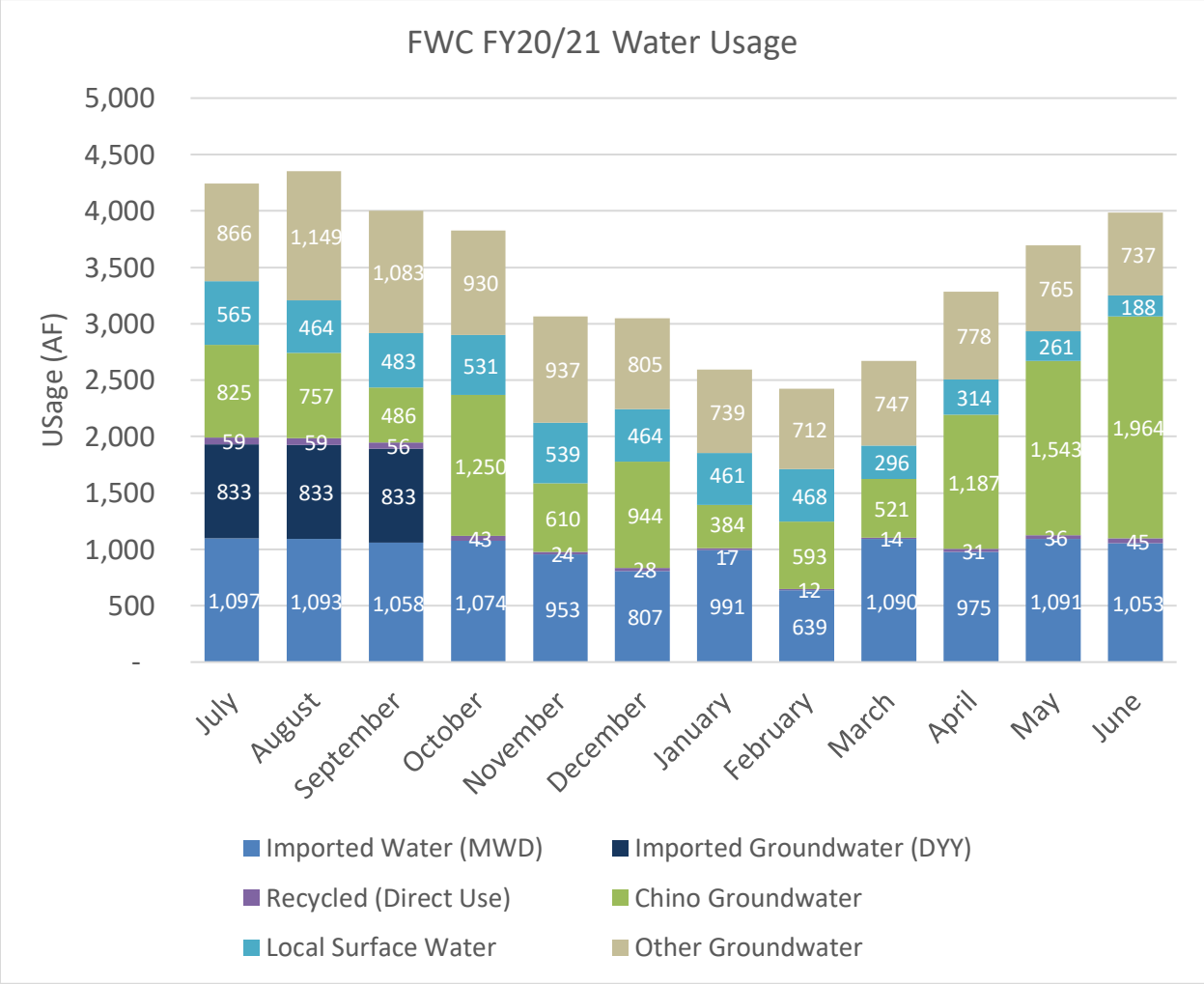

5 - Year Water Production Trend
Chino
25,000
20,000
15,000
10,000
5,000
-
Usage (AF)
5,008
4,999
4,759
4,795
5,643
4,972
5,149
5,018
4,341
5,023
6,447
6,480
4,220
5,208
5,994
3,469
4,292
3,955
4,960
4,691
FY 16/17
FY 17/18
FY 18/19
FY 19/20
FY20/21
Imported (MWD)
Chino Groundwater
CDA
Recycled

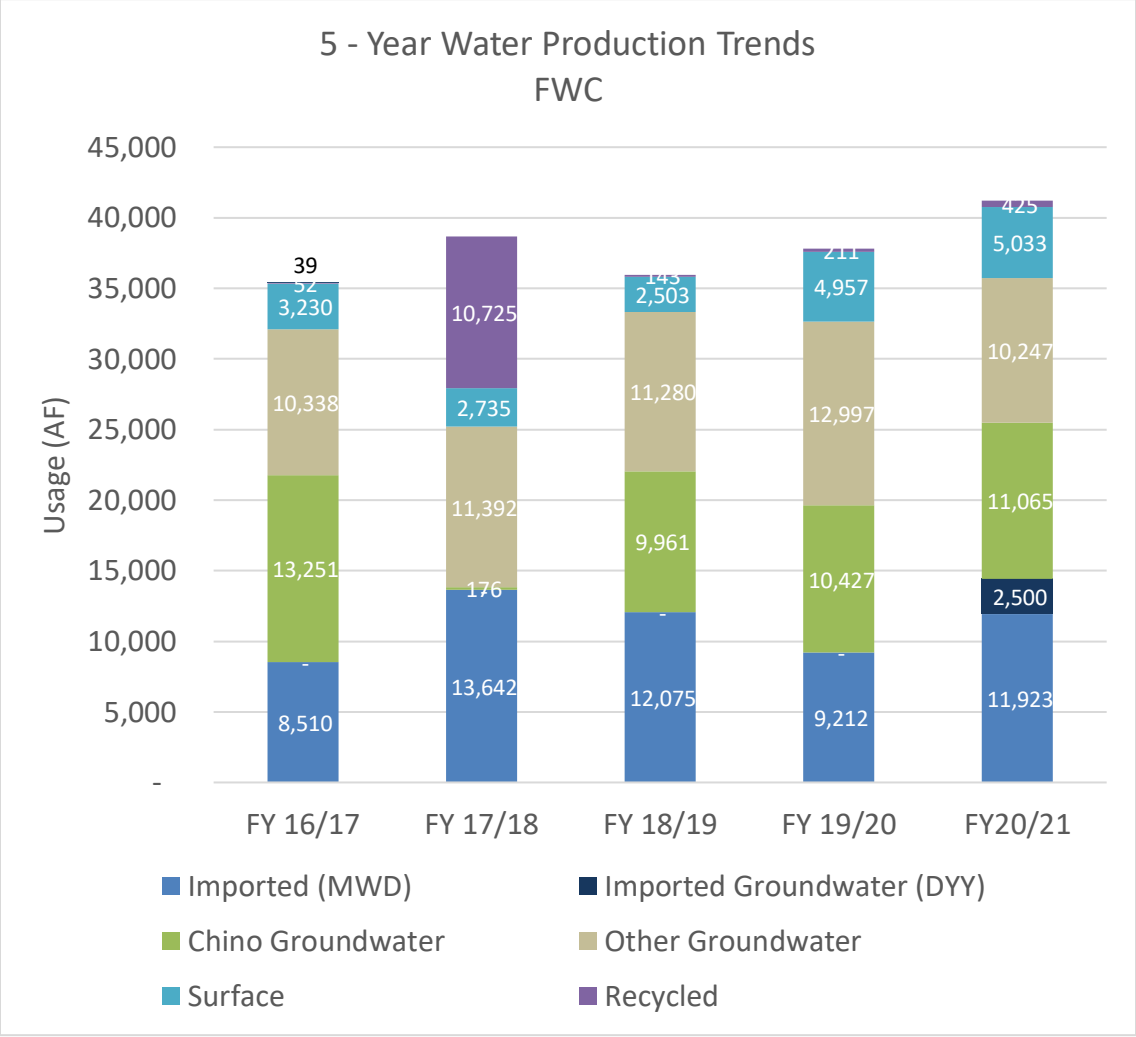

Chino Hills FY20/21 Water Usage
Usage (AF)
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
-
July
August
September
October
November
December
January
February
March
April
May
June
700
803
798
548
335
177
239
342
311
325
536
508
357
363
350
394
352
363
353
274
331
343
352
401
247
234
217
285
208
348
78
12
97
310
282
211
222
210
230
199
111
88
86
26
63
109
141
184
200
200
100
100
100
100
100
100
100
100
100
200
Imported Water (WFA)
Recycled (Direct Use)
Chino Groundwater
CDA
MVWD

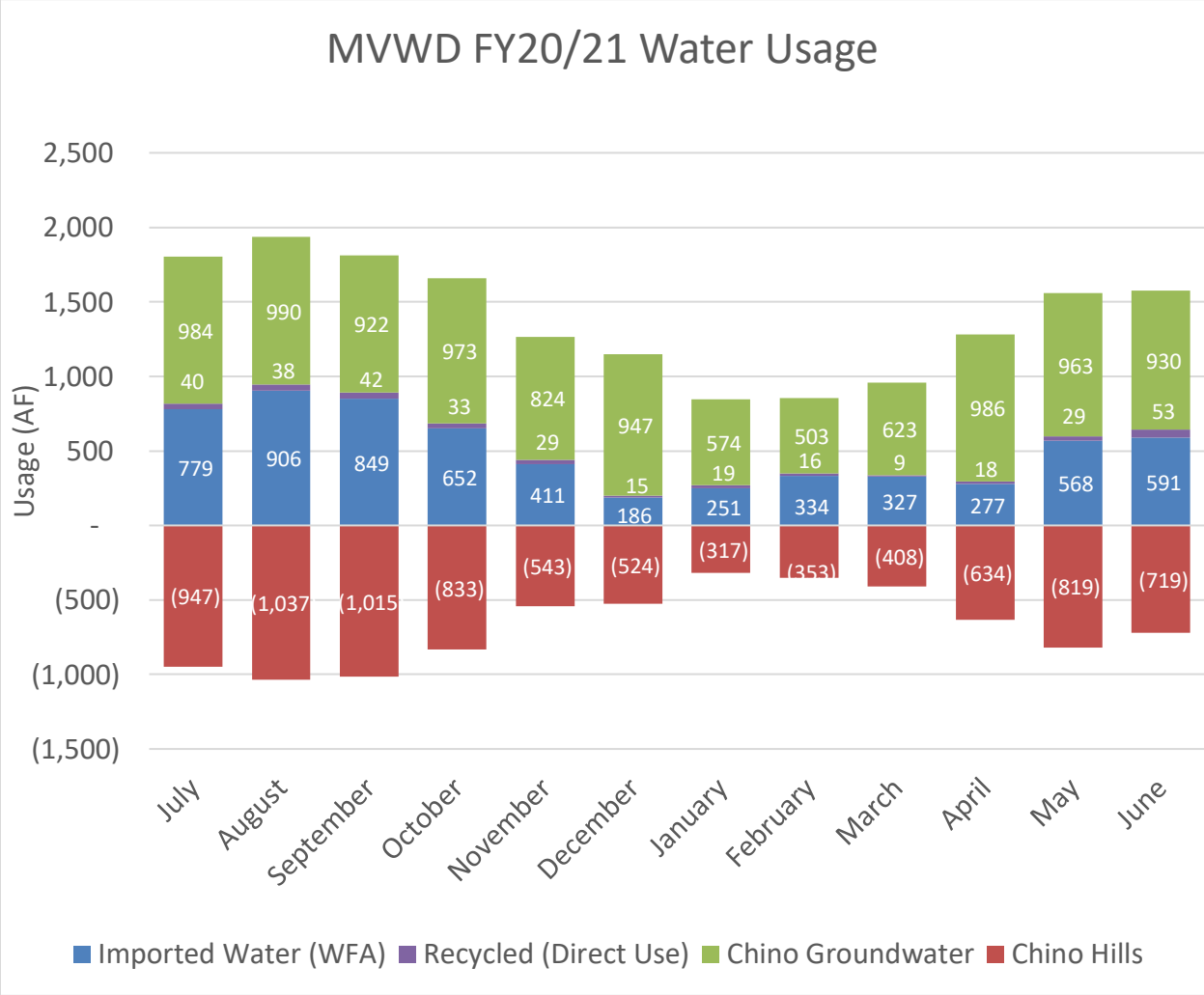

5 - Year Water Production Trend
Chino Hills
Usage (AF)
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
-
4,237
1,838
4,206
2,245
1,954
4,763
1,858
4,211
2,839
1,500
4,893
1,548
4,270
1,609
1,500
6,235
1,417
3,669
1,472
1,700
5,621
1,668
4,234
2,529
1,500
FY 16/17
FY 17/18
FY 18/19
FY 19/20
FY20/21
Imported (MWD)
Chino Groundwater
CDA
Recycled
MVWD

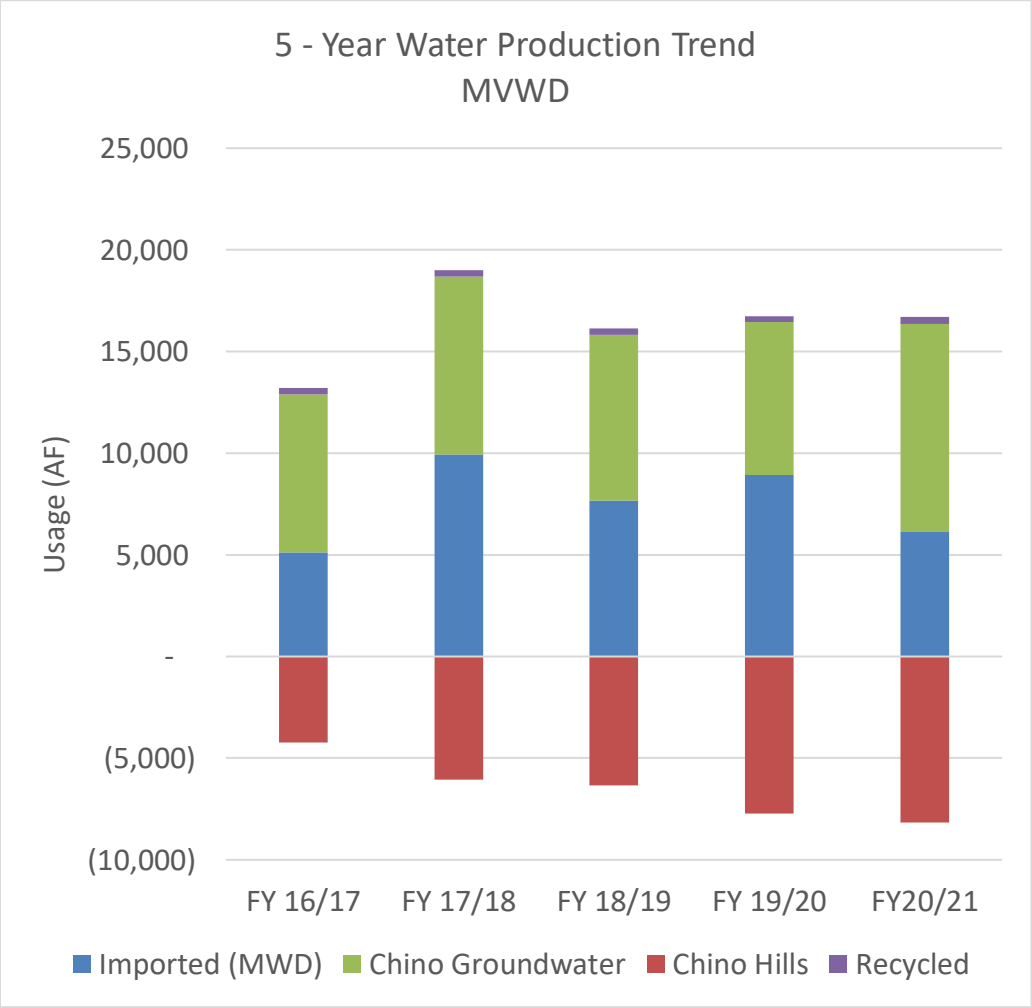

CVWD FY20/21 Water Usage
Usage (AF)
6,000
5,000
4,000
3,000
2,000
1,000
-
July
August
September
October
November
December
January
February
March
April
May
June
1,404
2,700
150
46
518
702
1,687
2,500
135
195
432
730
1,436
2,500
138
54
328
728
1,035
2,500
124
165
314
624
958
1,500
84
445
357
319
811
2,000
79
64
176
329
1,013
1,266
55
326
324
907
1,176
52
305
286
1,032
1,282
50
337
220
984
2,000
114
282
300
214
1,068
2,600
101
150
242
221
1,590
2,200
141
599
163
218
Imported Water (Tier 1)
Imported Groundwater (DYY)
Recycled (Direct Use)
Chino Groundwater
Local Surface Water
Other Groundwater

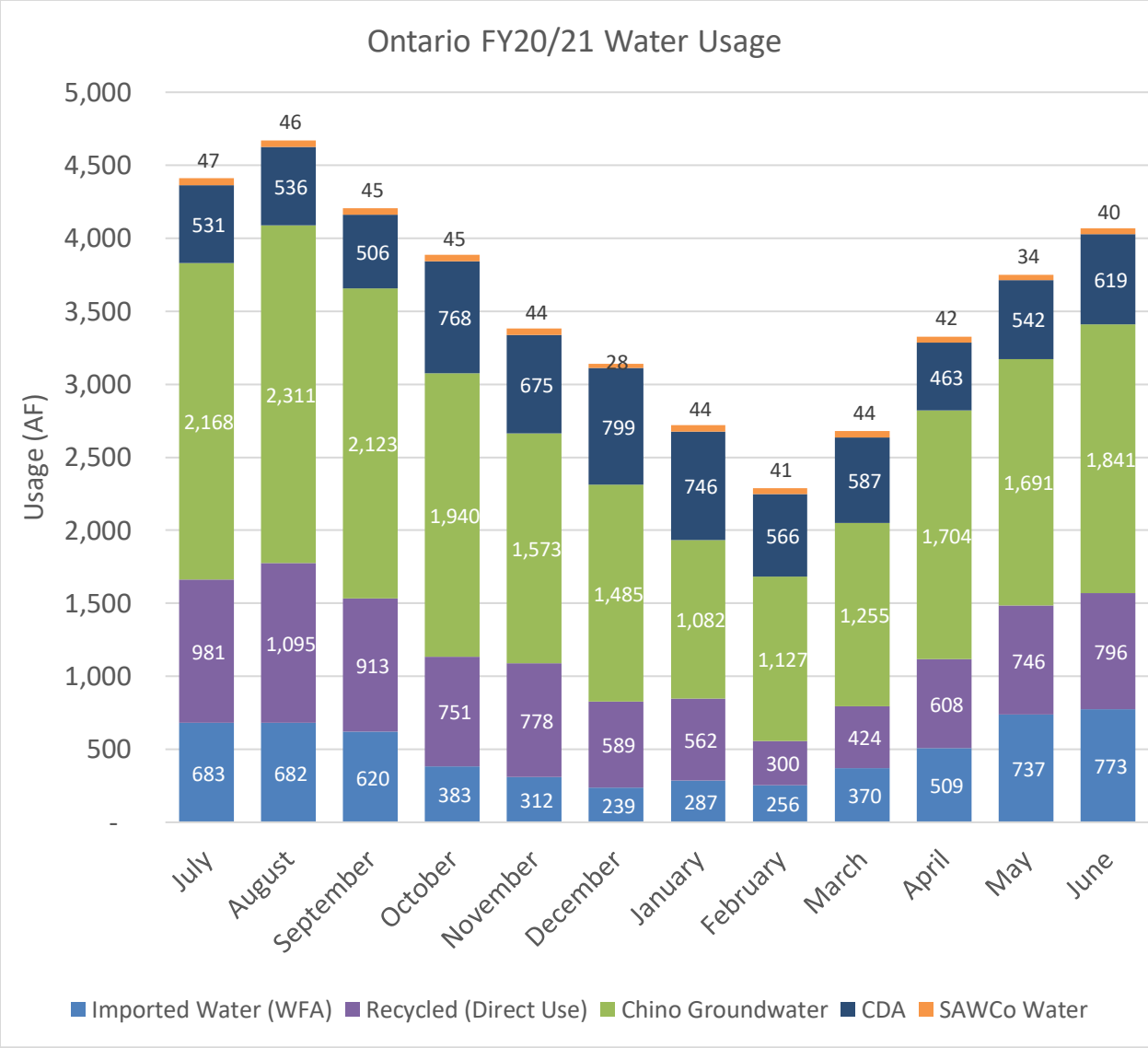

5 - Year Water Production Trend
CVWD
Usage (AF)
60,000
50,000
40,000
30,000
20,000
10,000
-
FY 16/17
FY 17/18
FY 18/19
FY 19/20
FY20/21
8,386
2,448
16,549
1,056
15,288
6,737
3,195
6,819
1,263
30,559
996
2,871
3,259
9,624
26,691
1,038
4,744
3,618
5,921
17,395
14,343
1,222
3,797
4,915
5,723
20,500
13,925
Imported Water (Tier 1)
Imported Groundwater (DYY)
Chino Groundwater
Other Groundwater
Surface
Recycled

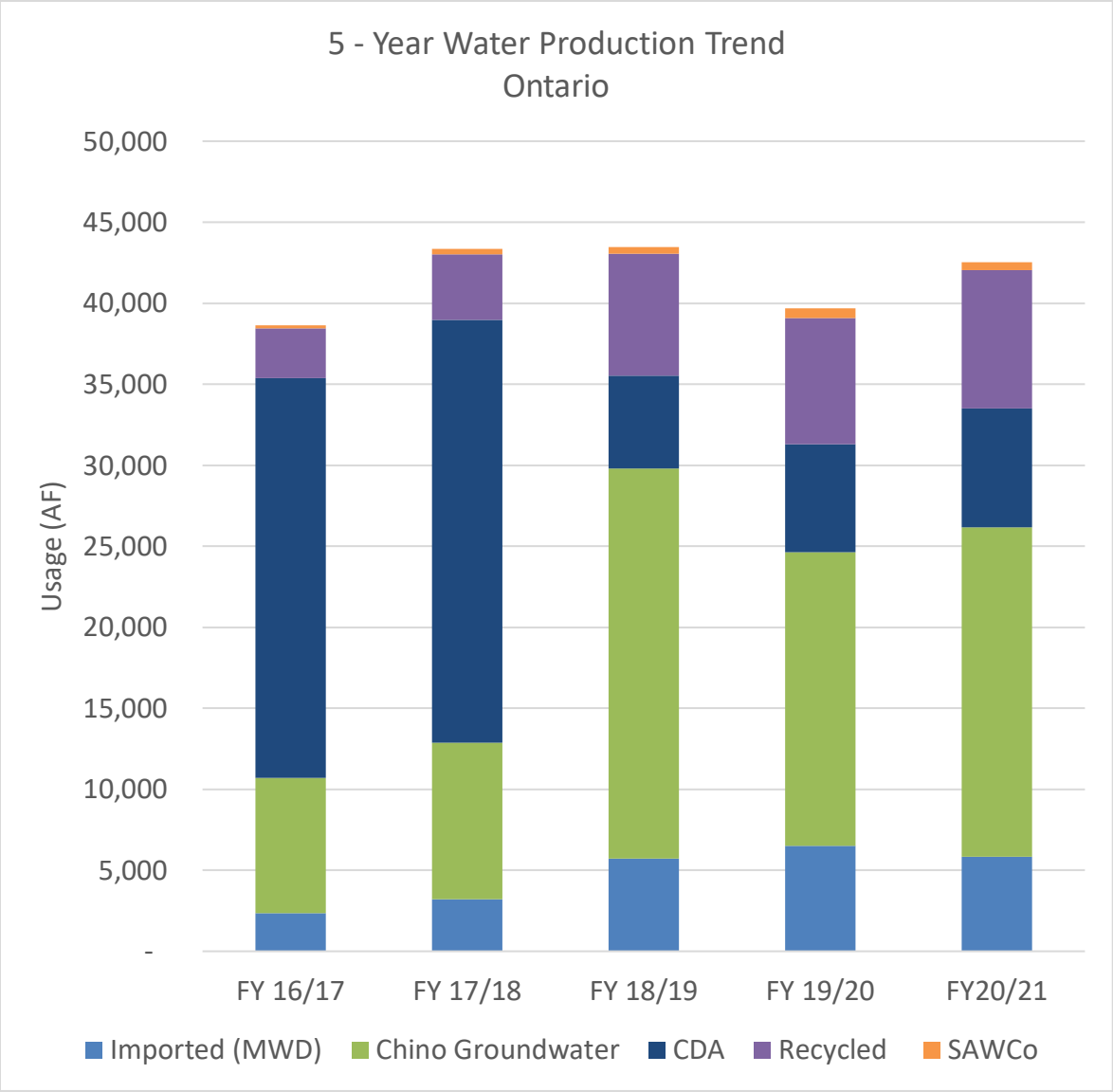

FWC FY20/21 Water Usage
USage (AF)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
-
July
August
September
October
November
December
January
February
March
April
May
June
866
565
825
59
833
1,097
1,149
464
757
59
833
1,093
1,083
483
486
56
833
1,058
930
531
1,250
43
1,074
937
539
610
24
953
805
464
944
28
807
739
461
384
17
991
712
468
593
12
639
747
296
521
14
1,090
778
314
1,187
31
975
765
261
1,543
36
1,091
737
188
1,964
45
1,053
Imported Water (MWD)
Imported Groundwater (DYY)
Recycled (Direct Use)
Chino Groundwater
Local Surface Water
Other Groundwater

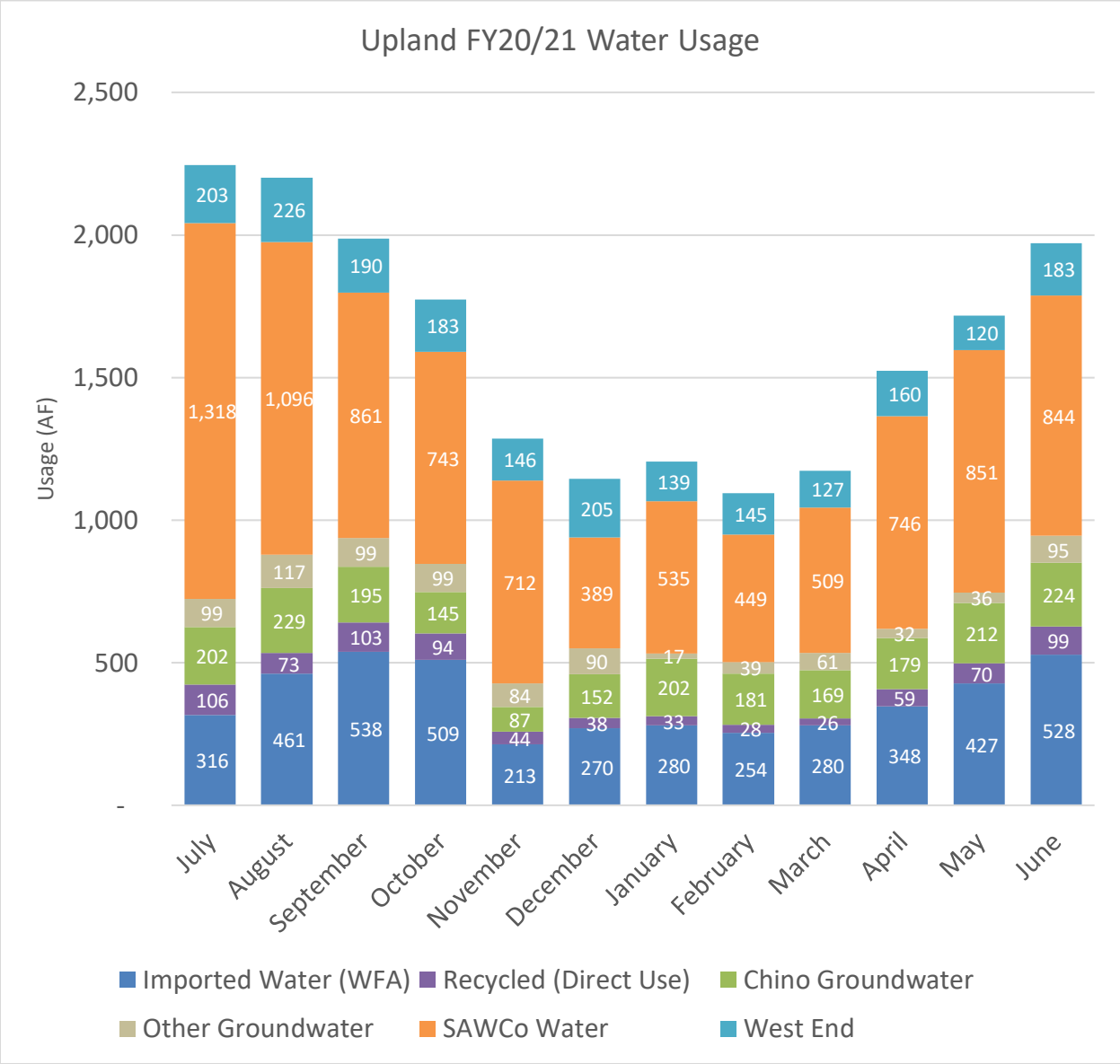

5 - Year Water Production Trends
FWC
Usage (AF)
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
-
FY 16/17
FY 17/18
FY 18/19
FY 19/20
FY20/21
39
3,230
10,338
13,251
8,510
10,725
2,735
11,392
176
13,642
2,503
11,280
9,961
12,075
4,957
12,997
10,427
9,212
5,033
10,247
11,065
2,500
11,923
Imported (MWD)
Imported Groundwater (DYY)
Chino Groundwater
Other Groundwater
Surface
Recycled

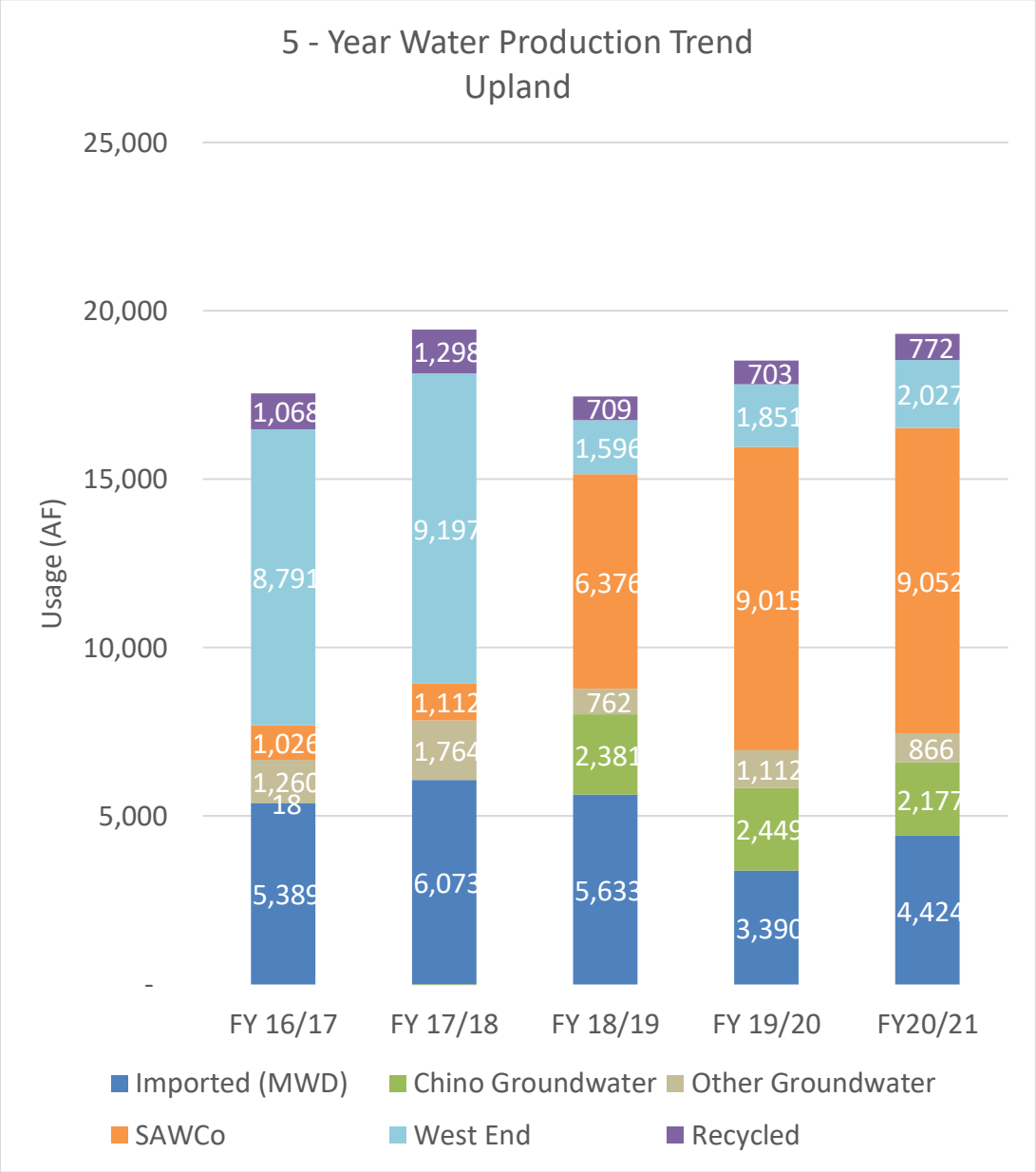

MVWD FY20/21 Water Usage
Usage (AF)
2,500
2,000
1,500
1,000
500
-
(500)
(1,000)
(1,500)
July
August
September
October
November
December
January
February
March
April
May
June
984
40
779
(947)
990
38
906
(1,037)
922
42
849
(1,015)
973
33
652
(833)
824
29
411
(543)
947
15
186
(524)
574
19
251
(317)
503
16
334
(353)
623
9
327
(408)
986
18
277
(634)
963
29
568
(819)
930
53
591
(719)
Imported Water (WFA)
Recycled (Direct Use)
Chino Groundwater
Chino Hills


5 - Year Water Production Trend
MVWD
25,000
20,000
15,000
10,000
5,000
-
(5,000)
(10,000)
Usage (AF)
FY 16/17
FY 17/18
FY 18/19
FY 19/20
FY20/21
Imported (MWD)
Chino Groundwater
Chino Hills
Recycled


Ontario FY20/21 Water Usage
Usage (AF)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
-
July
August
September
October
November
December
January
February
March
April
May
June
47
46
45
45
44
28
44
41
44
42
34
40
531
536
506
768
675
799
746
566
587
463
542
619
2,168
2,311
2,123
1,940
1,573
1,485
1,082
1,127
1,255
1,704
1,691
1,841
981
1,095
913
751
778
589
562
300
424
608
746
796
683
682
620
383
312
239
287
256
370
509
737
773
Imported Water (WFA)
Recycled (Direct Use)
Chino Groundwater
CDA
SAWCo Water


5 - Year Water Production Trend
Ontario
Usage (AF)
50,000
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
-
FY 16/17
FY 17/18
FY 18/19
FY 19/20
FY20/21
Imported (MWD)
Chino Groundwater
CDA
Recycled
SAWCo


Upland FY20/21 Water Usage
Usage (AF)
2,500
2,000
1,500
1,000
500
-
July
August
September
October
November
December
January
February
March
April
May
June
203
1,318
99
202
106
316
226
1,096
117
229
73
461
190
861
99
195
103
538
183
743
99
145
94
509
146
712
84
87
44
213
205
389
90
152
38
270
139
535
17
202
33
280
145
449
39
181
28
254
127
509
61
169
26
280
160
746
32
179
59
348
120
851
36
212
70
427
183
844
95
224
99
528
Imported Water (WFA)
Recycled (Direct Use)
Chino Groundwater
Other Groundwater
SAWCo Water
West End


5 - Year Water Production Trend
Upland
25,000
20,000
15,000
10,000
5,000
-
Usage (AF)
1,068
8,791
1,026
1,260
18
5,389
1,298
9,197
1,112
1,764
6,073
709
1,596
6,376
762
2,381
5,633
703
1,851
9,015
1,112
2,449
3,390
772
2,027
9,052
866
2,177
4,424
FY 16/17
FY 17/18
FY 18/19
FY 19/20
FY20/21
Imported (MWD)
Chino Groundwater
Other Groundwater
SAWCo
West End
Recycled

IEUA
Energy Report

FISCAL YEAR 2020/21

Strategic Planning and Resources

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Table of Contents

IEUA Energy Portfolio

Executive Summary

The 2020/21 Energy Report tracks IEUA's energy consumption and portfolio, renewable generation performance and savings, and energy efficiency projects for the fiscal year. The report includes a brief description of upcoming projects and initiatives that will be implemented over the next few years.

IEUA's energy portfolio included:

- Imported Electricity
- Solar Energy
- Wind Power
- Battery Storage
- Biogas
- Natural gas

2020/21 IEUA's energy use

- Total Electricity consumption: 81,119 MWh of electricity
- Renewable Energy: 8,096 MWh (10% of total electricity)
- Annual energy expenses: $9.7 million [imported electricity, renewable energy, natural gas, and energy management services]
- Renewable energy savings since 2008: $1,143,000.

Did you know?

*In 2019 a typical U.S. household used 11,880 kWh**

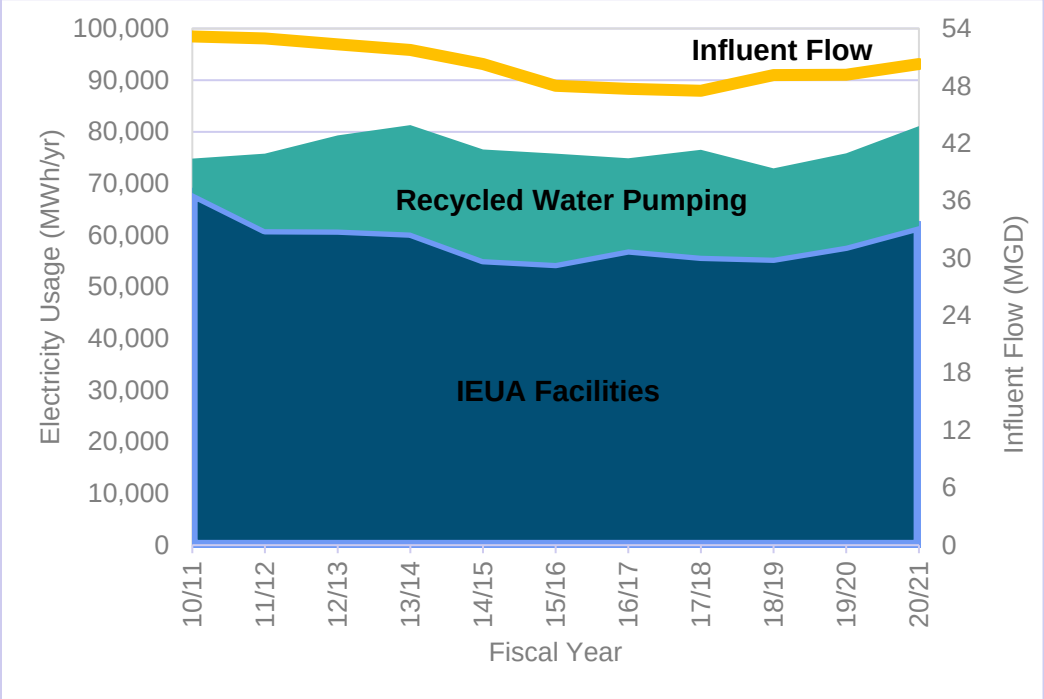
The renewable energy generated by IEUA would be able to provide electricity to at least 682 homes.

Source: U.S. Energy Information Administration

Flow and Energy Consumption

- In 2020/21, the annual average influent flow to the regional water recycling plants was 50.3 MGD which was an increase of 2.3% as compared to the previous fiscal year of 49.2 MGD (Figure 1).
- In 2020/21, IEUA facilities, which include the regional water recycling plants, composting facility, and recycled water pumping, used approximately 81,119 MWh of electricity (Figure 1). The electricity consumption for 2020/21 increased by 7.2% as compared to the previous fiscal year of 75,703 MWh. This was due to the increased recycled water pumping and groundwater recharge activity.

Figure 1: IEUA Electricity Use and Regional Influent Flows



Expenditure

- The cost of electricity remains the highest non-labor operations and maintenance (O&M) expenditure for IEUA. In 2020/21, the annual cost for energy related utilities and energy management was $9.7 million compared to the previous fiscal year of $7.6 million due to more power consumption, Southern California Edison (SCE) rates increase, and rising energy costs in California. IEUA has a diversified energy procurement approach, that includes on-site generation Power Purchase Agreements (PPA), energy demand management, electricity purchase from Southern California Edison, and direct access contract with Shell Energy North America, that continues to provide rate stabilization and cost effectiveness.

Renewable Energy Production and Storage

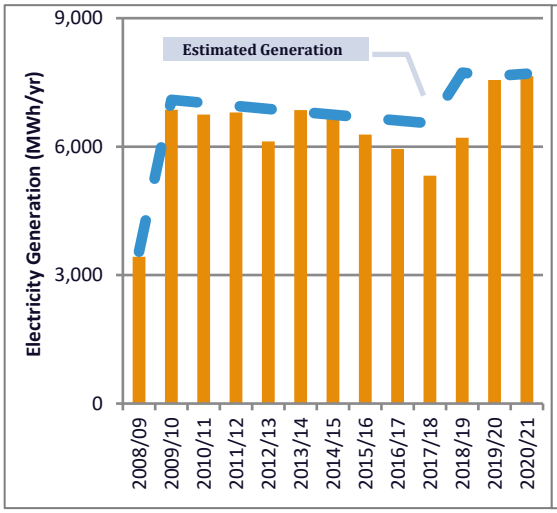
- IEUA's diverse renewable portfolio consists of 5.0 MW solar, 1.0 MW of wind, 3.0 MW of engines, and 4.0 MW battery (Figure 2). The battery storage optimizes energy management by charging from the grid during off-peak periods and discharging during on-peak periods, therefore it is not considered as onsite generation. In order to increase onsite renewable generation, IEUA plans to complete the installation of the necessary emissions control required by South Coast Air Quality Management District to have the Renewable Energy Efficiency Project (REEP) engines operating as part of the RP-5 Expansion project.

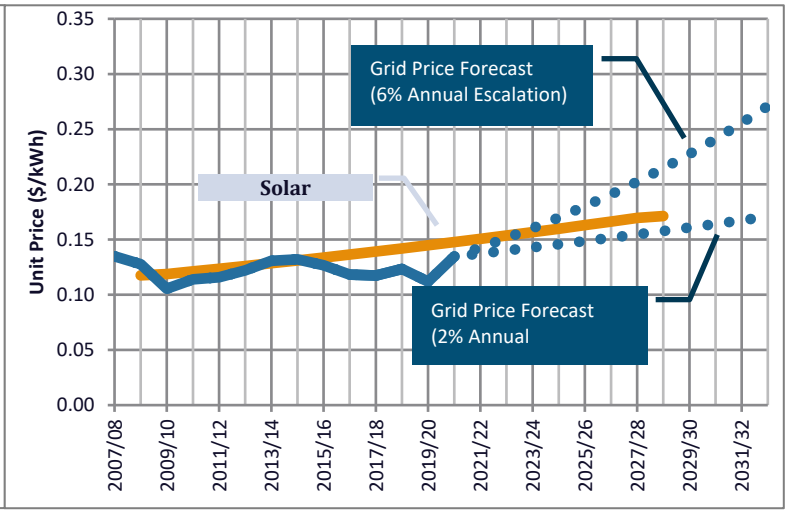
Figure 2: IEUA's Diverse Renewable Portfolio

- In 2020/21, 8,096 MWh of electricity was generated onsite, 2.9% more than 2019/20. The increase is due to the 70 kw of rooftop solar on the RP-5 lab operating for a full year and increase in the wind turbine energy production.
- IEUA's renewable portfolio generated 10% of the electricity used in 2020/21. Of the electricity consumed by IEUA;
    - 7,645 MWh was produced by the solar across IEUA facilities; and
    - 451 MWh was produced by the wind turbine at RP-4.

- Despite PPA average rates being typically higher than the average grid price in 2020/21, renewable energy projects provided overall $99,000 in savings, as a result of lower standby charges compared to the facility demand charge rate.
- Generated solar electricity varies throughout the year due to the different number of sunlight hours, solar generation is usually higher in the summer and lower in the winter.
- The REEP engine has been offline since August 2017, operation is expected to restart the engine subsequent to the completion of the RP-5 Biosolids Facility project and the installation of the emission control equipment, which is anticipated in 2025.
- In 2015, IEUA partnered with Advanced Microgrid Solutions (AMS) through an energy management services (EMS) agreement to install 4 MW of battery storage and 1.5 MW of solar to optimize energy management and achieve cost savings through strategic procurement. The RP-1, RP-5, and CCWRF battery storage systems started commercial operation in November 2018, and the RP-4 and IERCF battery storage and solar system began commercial operation in March 2019. All facilities have completed their second year of operation. As of April 2020, the battery systems are now being operated and maintained by Enel X.

Solar across IEUA facilities generated 7,645 MWh of renewable energy, **1.2% more than 2019/20.** The slight increase in output was due to the IEUA-owned 70 kw of rooftop solar on the RP-5 lab operating for a full year.





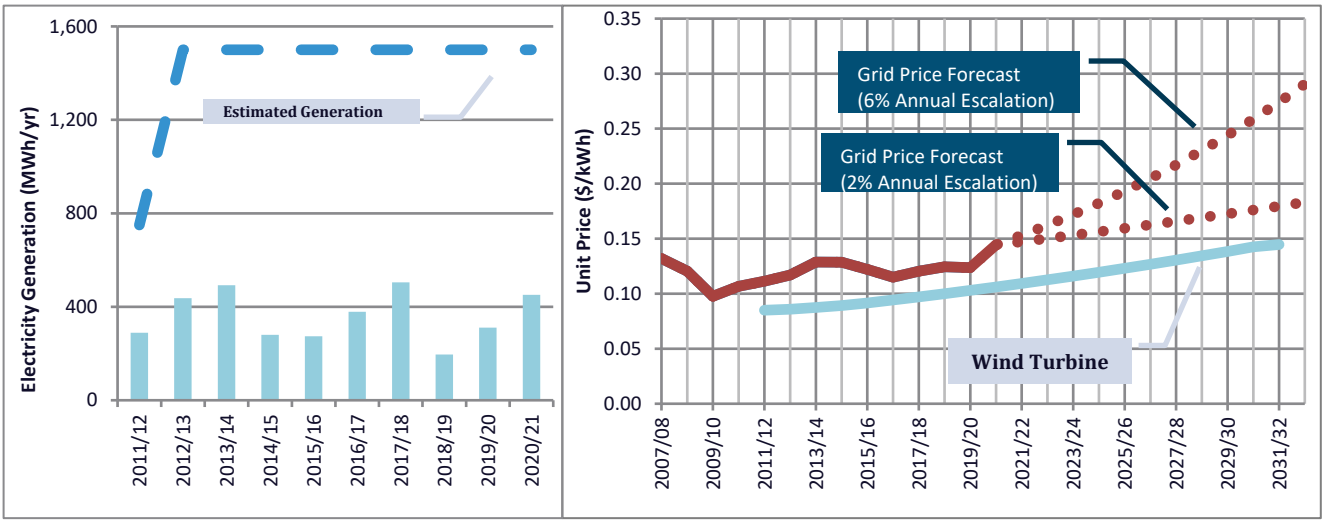
For 2020/21, the SunPower PPA rate or the solar was higher than the average grid price. However, the solar projects provided approximately $82,000 in savings, as a result of lower standby charges compared to the facility demand charge rate. The current SunPower PPA will expire in 2029. Staff will negotiate with the provider to extend the contract or purchase the solar, if cost-effective for the Agency.

Solar generated an overall savings of $332,000 from 2008/09 to 2020/21

Table 1: Savings from Solar Power PPA

Savings FY 08/09 – FY 20/21	$332,000
Range of Savings PPA Term (FY 08/09 – FY 28/29)	$721,000 (2% Esc) $1,815,000 (6% Esc)

Wind turbine at RP-4 generated 451 MWh of renewable energy, **45% higher than 2019/20** due to the system being online during the entire fiscal year. For 2020/21, the PPA rate for the wind turbine was 20% lower than the average grid price. The wind turbine provided approximately $17,000 in savings.

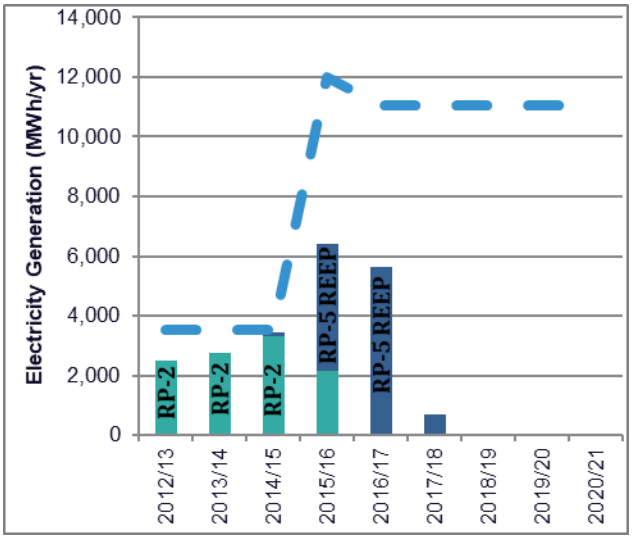


Wind generated $101,000 in savings from 2011/12 to 2020/21.

Table 2: Savings from Wind Power

Savings FY 11/12 – FY 20/21	$101,000
Range of Savings PPA Term (FY 11/12 – FY 31/32)	$243,000 (2% Esc) $422,000 (6% Esc)

Renewable energy was not generated by the REEP engines since the RP-5 Solids Handling Facility was not operational the entire fiscal year. The REEP engines at RP-5 were put offline in August 2017. **The engines are expected to go back online in 2025 after the completion of the RP-5 Biosolids Facility project**, and the installation of the SCAQMD required emission controls.



Battery Storage + Solar Performance

The AMS battery storage at RP-1, RP-5 and CCWRF (2.5 MW combined) started commercial operation in November 2018, and the 1.5 MW battery storage at RP-4 and 1.5 MW of solar at IERCF started commercial operation on March 2019. In the second year of commercial operation, **RP-1, RP-5, and CCWRF experienced a combined average demand reduction of 509 kW** during on-peak hours with a total bill savings of $99,000. While the system at **IERCF and RP-4 achieved an average demand reduction of 483 kW during on-peak hours and solar generation of 2,165 MWh** with a total bill savings of $255,000 in the second term year. Since the minimum guaranteed savings per the contracts were not met, the battery system owners reconciled the remainder of the expected savings to the Agency.

The battery storage systems incurred an $354,000 in savings during year 2 of operation.

Energy Efficiency Projects

- IEUA continues to work with Southern California Edison and Southern California Regional Energy Network (SoCalREN) to conduct comprehensive energy audits and to implement projects to reduce electricity consumption and demand throughout its facilities and operations. In FY 20/21, the following process optimization project was completed:
  - RP-1 1158 Recycled Water Pump Station Upgrade
    - Completed: September 2020
    - Expected annual savings: 927,000 kWh and $116,000
    - Incentive: $86,000
      Avoided power usage: 81 kW
- Since the start of the partnership in 2015, the Agency's implementation of energy efficiency projects has accumulated:
    - Expected annual savings: 5,236,000 kWh and $615,000
    - Incentive: $491,000
    - Avoided power usage: 474 kW

Other Projects

RP-1 SCE Primary Metering Cabinet Replacement

- In April 2021, SCE with the support of IEUA staff replaced the primary metering cabinet at RP-1 to improve safety and reliability.

RP-5 Solids Handling Facility (SHF) Feasibility Study

- IEUA conducted a business case study to evaluate future uses of the RP-5 SHF, developing the following project alternatives:
    - Status quo – Idle assets and land
    - Lease for organics processing
    - Sell for organics processing
    - Lease as logistics hub
    - Sell as logistics hub
- The study concluded that the preferred alternative at this time is the Status Quo because of the benefits of using the facility as a construction staging site and contractor parking area for the RP-5 Expansion Project, and the costs associated with moving the RP-5 expansion contractor elsewhere.

Upcoming Projects

Aeration Blower Replacement

- These projects will replace the existing aeration blowers with energy efficient blowers at RP-4 and CCWRF, which are expected to be completed in February 2022 and November 2023, respectively. In total, both projects are expected to save the Agency an estimated 1,900 MWh/year or $232,000/year.

CCWRF Odor Control Equipment Replacement

- The CCWRF Improvements project will replace the existing odor control system with biotrickling filters by November 2023. In addition to continuing to address plant odor, the measure will also provide energy savings of about 247 MWh/year or $31,000/year.

Process Optimization

- Automated ammonia controls will be installed at RP-4 and CCWRF by June 2022 and November 2023, respectively. The ammonia controls will optimize operation and reduce power consumption of the aeration blowers. These projects would result in an estimated savings of 570 MWh/year or $71,000/year.

SCE Charge Ready 2 Program

- Through the Charge Ready 2 program, SCE will design, construct, and install electric vehicle (EV) charging infrastructure. The customer is only required to purchase and install the EV chargers. IEUA has submitted applications for charging infrastructure across 4 facilities.

Beneficial Use of Biogas

- IEUA evaluated opportunities to beneficially use the biogas generated at RP-1 in addition to onsite use for digesters heating. Staff plans on updating the study to consider new technologies, and incorporate recent changes in funding, capital and energy costs.

Other Energy Related Activities

Isle Energy Management & Optimization Partnership

- IEUA has partnered with Isle Utilities along with several agencies nationwide to discuss the challenges and successes of implementing energy optimization projects. Isle will invite vendors who will propose successful technologies and practices to reduce and optimize energy usage and onsite renewable generation.

Statewide Grid Emergency

- In August and September 2020, the State of California experienced extreme heat waves resulting in investor-owned utilities requesting their customers to reduce their load during peak hours to avoid rotating power outages. IEUA responded by shifting 2 MW of load and the battery storage discharged 1 MW to lessen the strain on the grid. Due to the likelihood of future extreme heat events occurring, the California Public Utilities Commission (CPUC) created the Enhanced Statewide Emergency Load Reduction Program, which is a demand response program that compensates customers for reducing loads during these events. IEUA explored the viability of participating in the program. Since IEUA is currently enrolled in other demand response programs with the battery storage systems, the Agency is not eligible for dual participation.

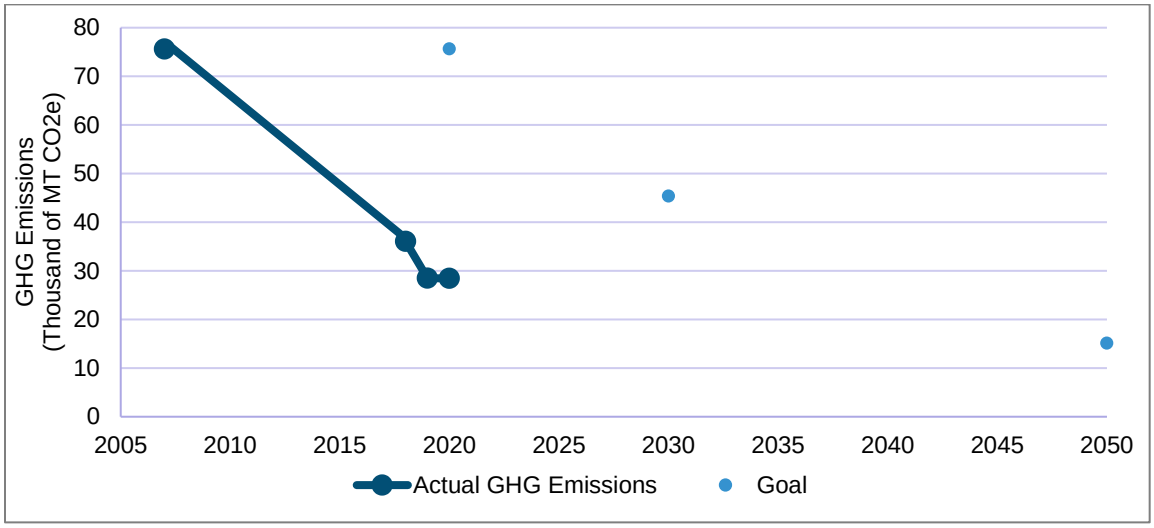
SCE Rate Increases

- During the FY 2020/21, SCE increased their rates by an estimated 20% based on facility billing. In mid-August 2021, the California Public Utilities Commission approved an additional 8% increase in rates that is expected to be implanted in Fall 2021. Staff is working with SCE to validate the billing accuracy and will continue to collaborate with the utility to enroll in the most cost-effective available rate.

Climate Change Action Plan

- In 2018, IEUA staff developed a Climate Change Action Plan that described the vision and direction needed to bolster IEUA's water management system and minimize its carbon footprint. IEUA is following AB 32 standards using the oldest emission baseline data available to reduce GHG levels to 2007 levels by 2020, 40 percent below 2007 levels by 2030, and 80 percent below 2007 levels by 2050. 2020 greenhouse gas emissions (GHG) were similar to 2019, which is 62% below the 2007 baseline levels.

Figure 3: Greenhouse Gas Emissions Actuals and Goals



- IEUA is planning to implement capital projects and will continue to optimize operations and maintenance activities to allow the Agency to continue to prepare its system for the effects of climate change by focusing on increasing the use of zero-carbon energy sources and reducing energy consumption. The majority of the projects being explored fall into four categories, solar, hydropower, biogas (renewable methane), and energy efficiency. The current list of projects being explored by IEUA, are in varying degrees of planning and review with some being feasible for pre-design as soon as 2022 while others are 10 or more years out.

- Potential projects
    - Solar: favorable outlook for the carport solar because of the forecasted SCE rate increase and higher facility load.
    - Hydropower: a feasibility study conducted in FY 19/20 at two proposed locations deemed the project to be not feasible. Staff will re-evaluate in the future.
    - Biogas: staff will update the RP-1 Beneficial Use of Biogas Feasibility Study to evaluate cost effective alternative consistent with the Agency's Business Goals.
    - Energy efficiency: multiple ongoing expected to be completed by 2023, RP-4 blowers and ammonia controls expected to be online in 2022.