NOTICE OF MEETING

OF THE

REGIONAL SEWERAGE PROGRAM
POLICY COMMITTEE

OF THE

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

WILL BE HELD ON

THURSDAY, DECEMBER 7, 2017

4:00 P.M.

BOARDROOM
AT THE OFFICE OF THE AGENCY
6075 KIMBALL AVENUE, BUILDING A
CHINO, CA 91710

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Regional Sewerage Program Policy Committee Meeting

AGENDA
Thursday, December 7, 2017
4:00 p.m.

Location
Inland Empire Utilities Agency
Boardroom
6075 Kimball Avenue
Chino, CA 91708

Call to Order

Pledge of Allegiance

Public Comment

Changes/Additions/Deletions to the Agenda

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

2. **Action Item**
   A. Approval of the November 2, 2017 Meeting Minutes
   B. RP-5 Aeration Diffuser Replacement Construction Contract Award

3. **Informational Items**
   A. Regional Contract Update/Renewal *(Oral)*
   B. RP-1 Capacity Recovery Project Consultant Contract Award
   C. Operations Update

4. **Receive and File**
   A. Building Activity Update
   B. Recycled Water Distribution – Operations Summary
   C. P&ER Annual Reports (10-Year Growth Forecast, Water Use, and Energy)
   D. Septic Feasibility Study Update

5. **Other Business**
   A. IEUA General Manager's Update
   B. Committee Member Requested Agenda Items for Next Meeting
   C. Committee Member Comments
   D. Next Meeting TBD – January 5, 2017/February 1, 2018

6. Adjournment

DECLARATION OF POSTING

I, Laura Mantilla, Executive Assistant of the Inland Empire Utilities Agency, A Municipal Water District, hereby certify that a copy of this agenda has been posted by 5:30 p.m. in the foyer at the Agency's main office, 6075 Kimball Avenue, Building A, Chino, CA on Monday, December 4, 2017.

Laura Mantilla

ACTION ITEM

2A

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Regional Sewerage Program
Policy Committee Meeting

MINUTES OF NOVEMBER 2, 2017 MEETING

CALL TO ORDER

A meeting of the IEUA/Regional Sewerage Program – Policy Committee was held on Thursday, November 2, 2017, at the Inland Empire Utilities Agency located at 6075 Kimball Avenue, Chino, California. Chairman Jesse Armendarez, City of Fontana, called the meeting to order at 4:09 p.m.

ATTENDANCE

Committee Members:

Eunice Ulloa	City of Chino
Kathy Tiegs	Cucamonga Valley Water District
Jesse Armendarez	City of Fontana
Trisha Martinez	City of Montclair
Jim Bowman	City of Ontario
Debbie Stone	City of Upland
Kati Parker	Inland Empire Utilities Agency

Absent Committee Members:

Peter Rogers	City of Chino Hills

Others Present:

Katie Gienger	City of Ontario
John Bosler	Cucamonga Valley Water District
Kathy Besser	Inland Empire Utilities Agency
Joseph Grindstaff	Inland Empire Utilities Agency
Sylvie Lee	Inland Empire Utilities Agency
Laura Mantilla	Inland Empire Utilities Agency
Craig Proctor	Inland Empire Utilities Agency
Shaun Stone	Inland Empire Utilities Agency
Christina Valencia	Inland Empire Utilities Agency

PLEDGE OF ALLEGIANCE

Committee Member Kathy Tiegs led those present in the pledge of allegiance to the flag. A quorum was present.

PUBLIC COMMENTS

There were no public comments.

1. **TECHNICAL COMMITTEE REPORT**

   Sylvie Lee/IEUA provided the Technical Report on behalf of Chuck Hays. Ms. Lee stated that the Technical Committee met on October 26, 2017, and unanimously approved the RP-4 trident filter rehabilitation construction contract award. Ms. Lee then provided the Regional Contract update and stated that Michael Harty and the facilitation team have interviewed most of the member agencies and will be done with interviews in the next couple of weeks. Once the interviews are completed they will provide a schedule and the next steps.

2. **ACTION ITEMS**

   A. **APPROVAL OF THE MINUTES OF OCTOBER 5, 2017 REGIONAL POLICY COMMITTEE MEETING**

   Motion: By Jim Bowman/City of Ontario and seconded by Kathy Tiegs/Cucamonga Valley Water District to approve the minutes of the October 5, 2017 Regional Policy Committee meeting.

   Motion carried: Unanimously.

   B. **RP-4 TRIDENT FILTER REHABILITATION CONSTRUCTION CONTRACT AWARD**

   Shaun Stone/IEUA stated that during the course of another project it was identified that the trident filters at RP-4 are in desperate need of rehabilitation and replacement. Mr. Stone stated that three of the eight filters are out of service and the fourth filter bay is showing signs of failure. He explained that if all four filters fail, 25% of the filtering capacity will be lost. In addition, the repair and rehabilitation work is needed to continue meeting plant operational and permit requirements. On September 12, 2017, IEUA received four bids from prequalified contractors with J.F. Shea Construction being the lowest responsive and responsible bidder at $3.8 million.

   Mr. Stone stated that this project is a portion of a larger rehabilitation project for RP-4. He noted that the $14.9 million is for construction which is slated for the remainder of the plant. The total project budget is $24 million, and staff estimates IEUA will be $500,000 short of the project budget; however, the rest of the design has not progressed as fast as the trident filters. Mr. Stone requested that the Technical Committee recommend to the IEUA Board of Directors to award the construction contract award to J.F. Shea Construction in the amount of $3.799 million.

   Motion: By Debbie Stone/City of Upland seconded by Trisha Martinez/City of Montclair to make recommendation to the IEUA Board of Directors to award the construction contract award to J.F. Shea Construction, Inc., in the amount of $3,799,000.

   Motion carried: Unanimously.

3. **INFORMATIONAL ITEMS**
   A. **REGIONAL CONTRACT UPDATE/RENEWAL**
   Ms. Lee provided the update in the Technical Committee Report.

4. **RECEIVE AND FILE**
   A. **BUILDING ACTIVITY UPDATE**
   The Building Activity Update was received and filed by the Committee.

   B. **RECYCLED WATER DISTRIBUTION – OPERATIONS SUMMARY**
   The Recycled Water Distribution Operations Summary was received and filed by the Committee.

   C. **ENGINEERING QUARTERLY PROJECT UPDATES**
   The Engineering Quarterly Project Updates was received and filed by the Committee.

5. **OTHER BUSINESS**
   A. **IEUA GENERAL MANAGER'S UPDATE**
   Joseph Grindstaff stated that Halla Razak will be starting at the end of the month and will be at the ACWA Conference. Her first day in the office will be on December 4th.

   B. **COMMITTEE MEMBER REQUESTED AGENDA ITEMS FOR NEXT MEETING**
   None.

   C. **COMMITTEE MEMBER COMMENTS**
   - Kathy Tiegs/CVWD encouraged the Committee be aware of what is happening in Sacramento regarding water and fees that are being proposed. Long term conservation will have a significant impact should things move forward in the direction that they are moving.
   - Debbie Stone and Trisha Martinez thanked Joseph Grindstaff for his contributions to IEUA.

   D. **NEXT MEETING – DECEMBER 7, 2017**

6. **ADJOURNMENT – Meeting was adjourned at 4:19 p.m.**

Transcribed by:

_____
Laura Mantilla, Executive Assistant

ACTION ITEM

2B

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Date: November 30, 2017/December 7, 2017

To: Regional Committees

From: Inland Empire Utilities Agency

Subject: RP-5 Aeration Diffuser Replacement Construction Contract Award

RECOMMENDATION

It is requested that the Regional Committees recommend to the IEUA Board of Directors to award the construction contract for the RP-5 Aeration Diffuser Replacement, Project No. PA17006.02, in the amount of $2,987,654 to Genesis Construction.

BACKGROUND

The largest consumer of electricity in treating wastewater is attributed to the substantial amounts of air being supplied to the secondary treatment process' aeration diffusers. It accounts for about one-fourth of the energy used at a facility. Over time, the aeration diffusers become less effective at producing small air bubbles due to aging and clogging, which negatively impacts the treatment process and increases electricity usage. This portion of the treatment process is a critical step in treating wastewater to discharge permit standards.

Regional Water Recycling Plant No.5 (RP-5) aeration diffusers are over ten years old and have reached the end of their useful life. This project is intended to remove and replace the diffusers at RP-5 and address other aging process components, including the replacement of failed utility water surface sprayer piping and non-operational mechanical mixers.

On October 4, 2017, a request for bids was advertised to the Pre-Qualified Contractors for construction projects under $2,000,000 through PlanetBids. On November 7, 2017, the following four bids were received:

Bidder's Name	Total Price
Genesis Construction	$ 2,987,654
J.F. Shea Construction, Inc.	$ 3,004,800
Environmental Construction, Inc.	$ 4,050,643
Mike Bubalo Construction Co., Inc.	$ 4,300,000
Engineer's Estimate	**$ 1,800,000**

Due to the difference in the low bid and engineer's estimate, IEUA staff contacted the two lowest bidders. The two lowest bidders, in good faith, compared their lump sum bid breakdowns directly with the IEUA project team. The difference was that the engineer's estimate was lower, when compared to either breakdown, for the surface sprayer piping replacement labor, aeration diffuser replacement labor, aeration basin dewatering, and stainless-steel material.

Genesis Construction was the lowest responsive and responsible bidder with a bid price of $2,987,654. Genesis Construction was pre-qualified by IEUA by presenting the required experience on performing similar projects with other utilities and cities with good workmanship and responsiveness. Genesis Construction successfully completed an aeration diffuser replacement maintenance project at RP-1 in 2013.

The following table is the anticipated project cost:

Description	Estimated Cost
Design Services	**$74,733**
IEUA Design Services (actual cost)	$74,733
Construction Services	**$149,383**
IEUA Construction Services (5%)	$149,383
Construction	**$3,286,419**
Construction Contract (this action)	$2,987,654
Contingency (~10%)	$298,765
Total Project Cost:	**$3,510,535**
Other Aeration Diffuser Replacement Projects	**$1,880,554**
Total Project Budget:	**$10,120,000**
Remaining Budget:	**$4,728,911**

The following is the project schedule:

Project Milestone	Date
Construction Contract Award	December 2017
Construction Completion	December 2018

The RP-5 Aeration Diffuser Replacement is consistent with *IEUA's Business Goal of Wastewater Management,* specifically the Asset Management objective that IEUA will ensure the regional sewer system and treatment facilities are well maintained, upgraded to meet evolving requirements, sustainably managed, and can accommodate changes in regional water use.

RP-5 Aeration Diffuser Replacement Construction Contract Award Project No. PA17006.02

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

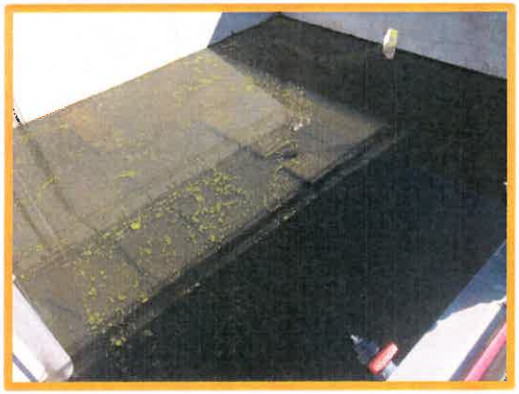
Shaun J. Stone, P.E.
November 2017/December 2017

Project Location

The Project

- Equipment and diffusers original from 2004
- Partial diffuser replacement of two zones in 2011
- Reduced process performance and reliability
- Increased process electricity usage
- Failed surface sprayers piping and mixers
- Replace diffusers, surface sprayer piping, and mechanical mixers

Aeration Basin Surface Boil



RP-5 Aeration Basin with Failed Diffusers

Out of Service Surface Sprayer Pipeline

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Contractor Selection

Four bids were received on November 7, 2017:

Bids Received

Bidder's Name	Total
Genesis Construction	$ 2,987,654
J.F. Shea Construction, Inc.	$ 3,004,800
Environmental Construction, Inc.	$ 4,050,643
Mike Bubalo Construction Co., Inc.	$ 4,300,000
Engineer's Estimate	**$ 1,800,000**

Project Budget and Schedule

Description	Estimated Cost
Design Services	**$74,733**
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Other Aeration Diffuser Replacement Projects	**$1,880,554**
Total Project Budget:	**$10,120,000**
Remaining Budget:	**$4,728,911**

Project Milestone	Date
Construction	
Construction Contract Award	December 2017
Construction Completion	December 2018

Recommendation

It is requested that the Regional Committees recommend the IEUA Board of Directors award the construction contract for the Regional Water Recycling Plant No. 5 Aeration Diffuser Replacement, Project No. PA17006.02, in the amount of $2,987,654 to Genesis Construction.

The RP-5 Aeration Diffuser Replacement is consistent with **IEUA's Business Goal of Wastewater Management**, specifically the Asset Management objective that IEUA will ensure the regional sewer system and treatment facilities are well maintained, upgraded to meet evolving requirements, sustainably managed, and can accommodate changes in regional water use.

INFORMATION
ITEM

3B

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Date:	November 30, 2017/December 7, 2017
To:	Regional Committees
From:	Inland Empire Utilities Agency
Subject:	RP-1 Capacity Recovery Project Consultant Contract Award

RECOMMENDATION

This is an informational item for the Regional Committees.

BACKGROUND

The existing Regional Water Recycling Plant No. 1 (RP-1) capacity is limited to approximately 32 MGD due to limitations in the secondary treatment system caused by increased wastewater strength coming into the plant. Beginning in June 2013, IEUA started a planning initiative to update the Wastewater Facilities Master Plan (WFMP). As part of the WFMP, IEUA planned facilities for growth and optimization of wastewater collection, treatment, and recycled water systems. The WFMP incorporated the wastewater flow projections, developed by the Integrated Water Resources Plan (IRP) and operational knowledge of the existing treatment systems, to develop a comprehensive facilities and operations plan. The WFMP confirmed the need to recover treatment capacity (defined as MGD of flow) in the RP-1 Liquids and Solids Treatment Systems due to increased wastewater strength observed in the RP-1 influent flow.

To investigate the current systems and detail system requirements, IEUA completed the RP-1 and Regional Water Recycling Plant No. 5 (RP-5) Expansion Preliminary Design Report (PDR) in March 2017. The PDR established the plan for the capacity recovery at RP-1, liquids treatment expansion at RP-5, the RP-5 Solids Treatment Facility, and the decommissioning required at RP-2. Additionally, the PDR details a project budget and schedule for each project component. The two main objectives of the RP-1 Capacity Recovery Project are:

1. Rehabilitate the RP-1 Liquids Treatment Systems to allow for the treatment of the ultimate influent sewer flow of 40 MGD.
2. Rehabilitate the RP-1 Solids Treatment Systems to allow for the treatment of the solids produced from both RP-1 and RP-4 at the total ultimate influent sewer flow of 60 MGD.

Based on the major recommendations resulting from the RP-1 Capacity Recovery Project PDR, the Project will consist of the following major components:

- Rehabilitate preliminary and primary treatment
- Expand the Intermediate Pump Station
- Convert the existing conventional activated sludge secondary system to a membrane bio-reactor (MBR) system including fine screening consistent with RP-5 Liquid Treatment Expansion
- Modify Lagoon No. 3 piping system to allow for secondary effluent equalization
- Replace the existing solids thickening systems with new rotary drum thickeners to improve solids thickening
- Construct three new smaller acid phase digesters to improve operational performance
- Add recuperative thickening to the digestion process to increase performance and eliminate the need to construct one additional digester
- Replace the existing odor control with a new two-stage bioscrubber with carbon polishing

In addition to the project components listed above, this contract award will include an alternative funding opportunities evaluation and a site master plan of RP-1.

The current Ten-Year Capital Improvement Plan (TYCIP) schedule for the project has the design beginning in 2023 with a construction completion date in 2029 to meet the WFMP 2030 requirement for capacity recovery. IEUA has been actively searching federal, state, and grant opportunities as well as exploring project delivery methods including progressive design build, construction management at risk, and public private partnerships. These funding opportunities typically require further developed project plans. For this reason, the TYCIP included budget in FY 17/18 to complete the RP-1 Capacity Recovery Project 30% design; completion of the 30% design will position IEUA to compete for funding should it become available.

On August 15, 2017, IEUA issued a Request for Proposals for Design Services for the RP-1 Capacity Recovery Project on *PlanetBids*. On October 12, 2017, four proposals were received from the qualified firms listed below:

- Black & Veatch/AECOM
- Carollo
- CDM Smith
- CH2M

The proposals were reviewed by a selection committee consisting of IEUA staff from Engineering and Construction Management, Operations and Maintenance, and Contracts and Procurement as well as representatives from Cucamonga Valley Water District, the City of Montclair, and the City of Ontario. IEUA greatly appreciates the support and dedication provided by these representatives in reviewing over 1,400 pages of proposal

documentation. The proposals were evaluated based on project team qualifications, experience with MBR systems, construction management at risk project delivery, understanding of the project scope, ability to provide innovative alternatives, and ability to meet the project schedule. Based on these criteria, the committee selected two consultants for interviews as listed below:

- Carollo
- CH2M

The selection committee conducted interviews on November 14, 2017. Each interview included a consultant presentation to introduce the project team as well as highlight noteworthy aspects of their proposal, a question-and-answer session to allow the selection committee to ask specific questions of each consultant as it pertained to their proposal, and a consultant final statement. Based upon the written proposal and interview, the selection committee unanimously determined that Carollo provided the best value to IEUA for this project. The major reasons for this selection included:

1. The proposal provided a clear vision for the RP-1 site master plan as the facility evolved from current conditions through ultimate build-out including impacts of major expansions and future repair and rehabilitation projects.
2. The project team created a comprehensive scope of work and project plan and provided a detailed month-by-month schedule of all work efforts, workshops, and deliverables to complete the 30% design on schedule.
3. The project approach included innovative and cost savings ideas, especially the consolidation of the primary effluent and return activated sludge pump stations to mitigate hydraulic constraints through the secondary treatment system.
4. The project team has proven experience with the design and construction of large MBR systems as well as successfully completing projects through the construction management at risk project delivery method.

The anticipated cost for the RP-1 Capacity Recovery Project is provided in the table below:

Description	Estimated Cost
Design Services	**$20,637,633**
Design Consultant (this item/not-to-exceed)	$13,637,633
Other Design Services (4%)	$7,000,000
Construction Services	**$ 14,100,000**
Engineering Services During Construction (3%)	$5,300,000
Other Construction Services (5%)	$8,800,000
Construction	**$ 176,000,000**
Construction	$135,400,000
Contingency (30%)	$40,600,000
Total Project Cost	**$210,737,633**
Total Project Budget	**$ 230,100,000**
Remaining Budget	**$19,362,367**

IEUA staff is currently in negotiations with Carollo to finalize the scope of work and fee. Carollo's fee proposal of $13,637,633 is within the project budget and the engineer's estimate of 8% of the construction value of the project. The contract award will be for the entirety of the design; however, a notice-to-proceed will only be issued for an alternative funding evaluation, site master plan, and the 30% design. Additionally, to maintain consistency in the project, it is staff's intention to amend Carollo's contract at the conclusion of the final design to include engineering services during construction, an estimated amendment value of $5,300,000, contingent upon Carollo's excellent performance throughout the final design.

A more detailed project schedule is provided below:

Project Milestone	Date
Design Contract Board Award/Approval	December 2017
Funding Evaluation	March 2018
RP-1 Site Master Plan	June 2018
30% Design Completion	December 2018
50%, 85%, 100% Design Completion	TBD

The RP-5 Liquids Expansion and Solids Treatment Facility projects are consistent with *IEUA's Business Goal of Wastewater Management* specifically the Water Quality objective that IEUA will ensure that systems are planned, constructed, and managed to protect public health, the environment, and meet anticipated regulatory requirements.

RP-1 Capacity Recovery Project
Consultant Contract Award

Project Nos. EN24001 and EN24002

Shaun J. Stone, P.E.

November 2017/December 2017

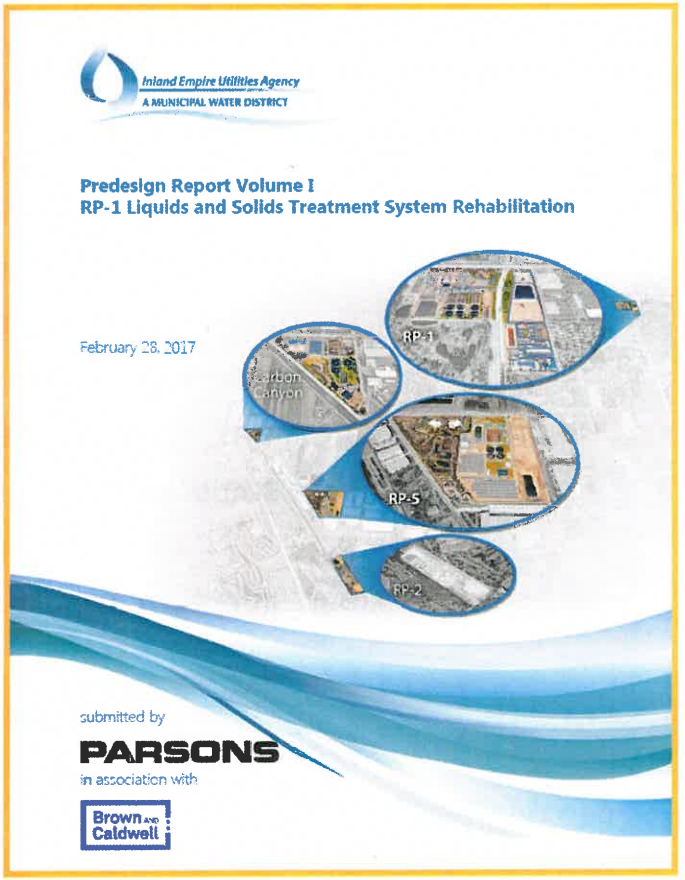
Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Project Location

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Project Background

- Wastewater Facilities Master Plan created from 2013 – 2015
- RP-1 and RP-5 Expansion Preliminary Design Report (PDR) created from 2016 – 2017
- TYCIP scheduled RP-1 Capacity Recovery design to begin in 2023 with construction being completed by 2030
- Potential future funding opportunities are more attainable with further developed project plans
- Staff has initiated the RP-1 Capacity Recovery Project 30% Design



Project Scope

Major Tasks

Site Master Plan

Liquids Capacity Recovery

Solids Capacity Recovery

- Existing Structure Utilization
- Site Master Plan
- Funding Opportunities
- Primary Effluent Equalization Conversion
- Headworks Improvements
- Primary Clarifier Rehab
- Intermediate Pump Station Expansion
- Aeration Basin Modifications
- Membrane Bio-Reactor (MBR)
- Rotary Drum Thickening
- Phased Digestion
- Liquids & Solids Odor Control
- Electrical System Improvements
- Utility System Rehabilitation

Consultant Selection

- Request for Proposals issued on August 15, 2017
- Four Proposals Received on October 12, 2017

Proposals Received
Black & Veatch/AECOM
Carollo
CDM Smith
CH2M

- Evaluation and Selection Committee
  - Engineering and Construction Management, Operations and Maintenance, Contracts and Procurement, Cucamonga Valley Water District, the City of Montclair, and the City of Ontario

Consultant Selection Continued

- Two Consultants invited for interviews on November 14, 2017

Consultant Interviews
Carollo
CH2M

- Carollo unanimously selected for the RP-1 Capacity Recovery Project:
  - Clear vision for RP-1 site master plan
  - Comprehensive scope of work, project plan, and detailed deliverable schedule
  - Project approach including innovative and cost saving alternatives
  - Project team experience with MBR and construction management at risk

Project Budget and Schedule

Description	Estimated Cost
Design Services	***$20,637,633***
Consultant Design Contract (this action/NTE)	$13,637,633
Other Design Services (4%)	$7,000,000
Construction Services	***$14,100,000***
Engineering Services During Construction (3%)	$5,300,000
Other Construction Services (5%)	$8,800,000
Construction	***$176,000,000***
Construction (estimate)	$135,400,000
Contingency (30%)	$40,600,000
Total Project Cost:	***$210,737,633***
Total Project Budget:	***$230,100,000***
Remaining Budget:	***$19,362,367***

Project Milestone	Date
Design	
Consultant Design Contract Award	December 2017
Funding Evaluation	March 2018
RP-1 Site Master Plan	June 2018
30% Design Completion	December 2018
50%, 85%, 100% Design Completion	TBD
Construction	
Construction Contract Award	TBD
Construction Completion	TBD

Questions

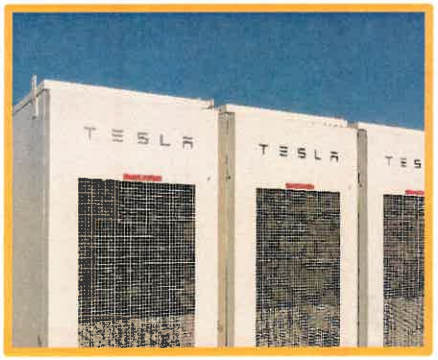
The RP-1 Capacity Recovery Project is consistent with the ***IEUA's Business Goal of Wastewater Management*** specifically the Water Quality objective that IEUA will ensure that systems are planned, constructed, and managed to protect public health, the environment, and meet anticipated regulatory requirements.

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

INFORMATION
ITEM

3C

Operations Division Update



Inland Empire Utilities Agency
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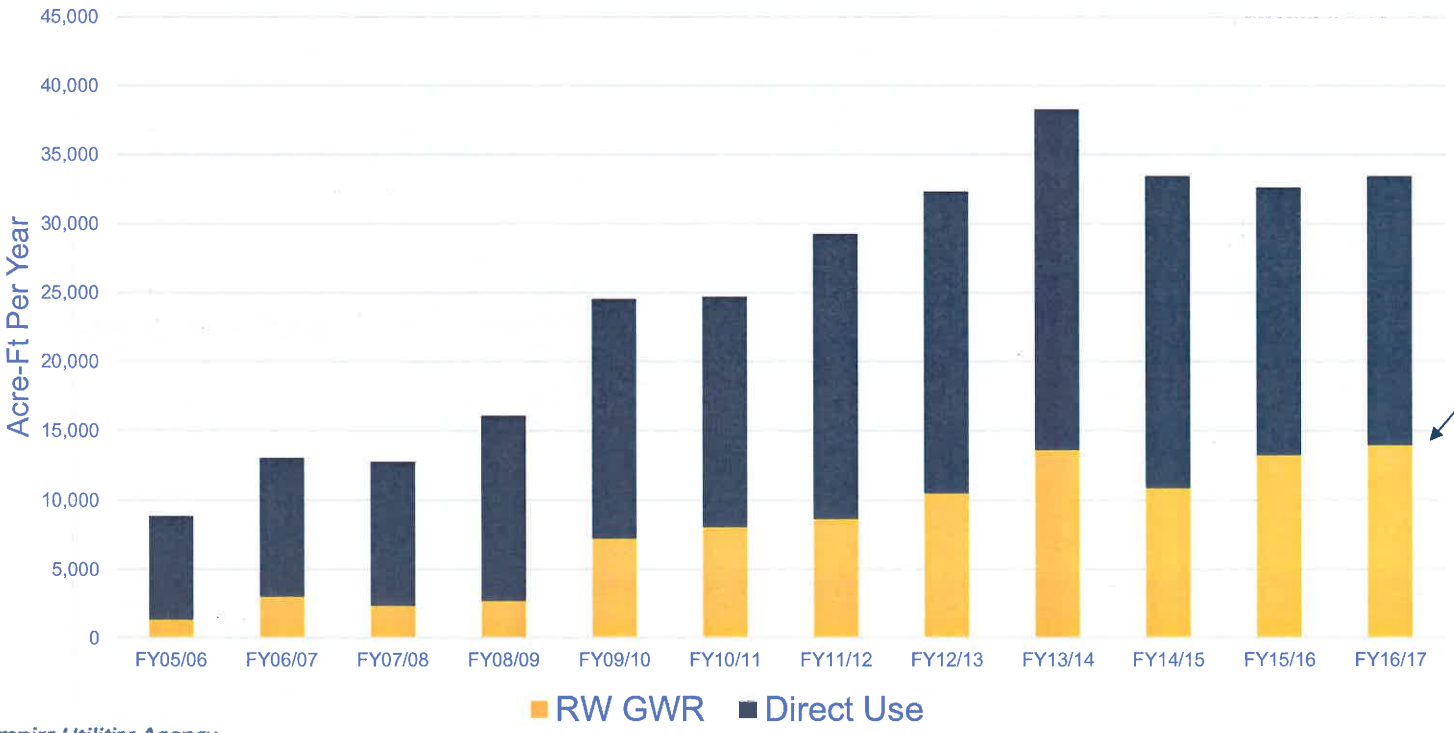
Randy Lee, Executive Manager of Operations/AGM
November 2017/December 2017

Groundwater Recharge FY 2016/17

IEUA Historical RW Deliveries
FY 05/06 to FY 16/17



* 13,943 AF, new record

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Staffing

- Retirements
  - Last 12 months: 12
  - Next 12 months: 6
- Volunteer/Intern Program
  - Operations
  - Maintenance
- Internal Promotions

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

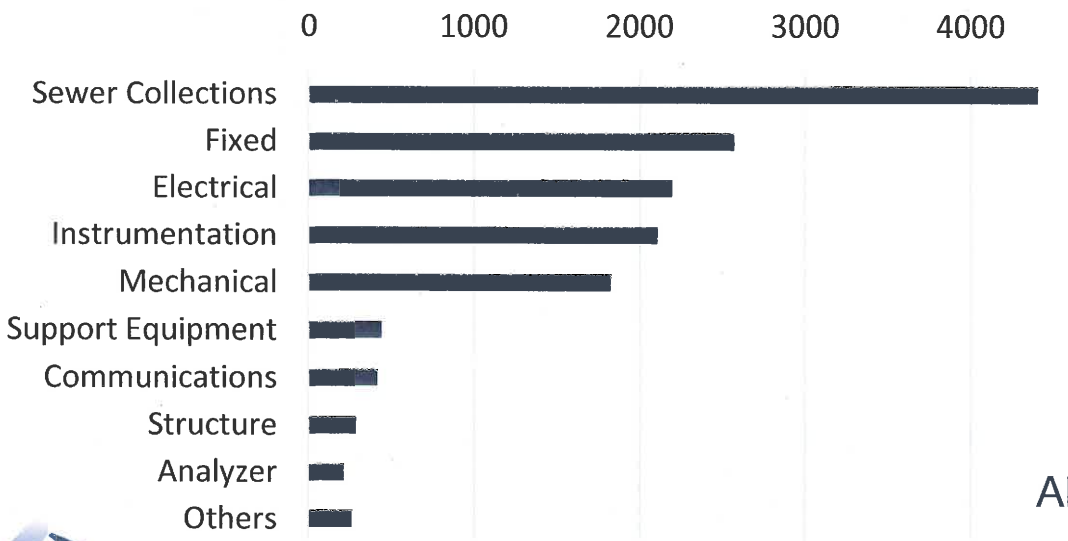
Intern and Volunteer
Wastewater/Water
Operator In Training Program

July 2015

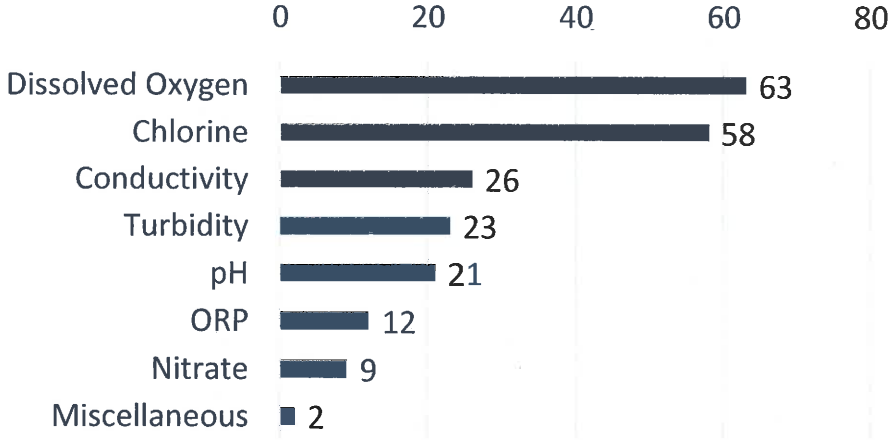
Operations & Maintenance by the Numbers

6 Treatment Plants + 1 Composting Facility + 19 GWR Sites + 2 Sewage Collection Systems
Produce 48 MGD Recycled Water + 12 MGD Potable Water

Equipment Count by Category
(Total: 14,721)



Analyzers
(Total: 214)



All of the equipment is operated and maintained by:
43 Operators + 43 Maintenance Staff
6 Sewage Collection Staff
4 Groundwater/Recycled Water Staff

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Operations & Maintenance Challenges

- CCWRF Trihalomethanes
- RP-5 Coliform

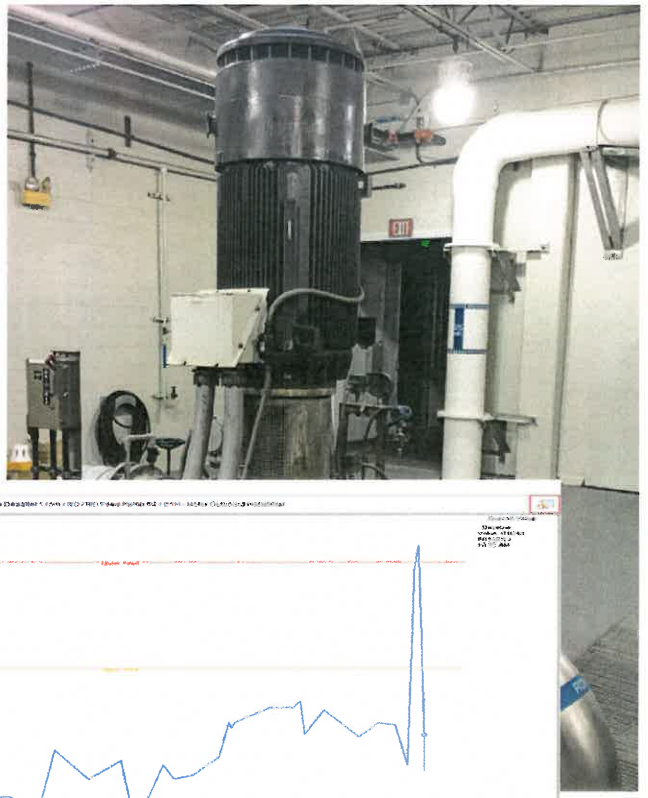
- RP-4 Headworks Fine Screen

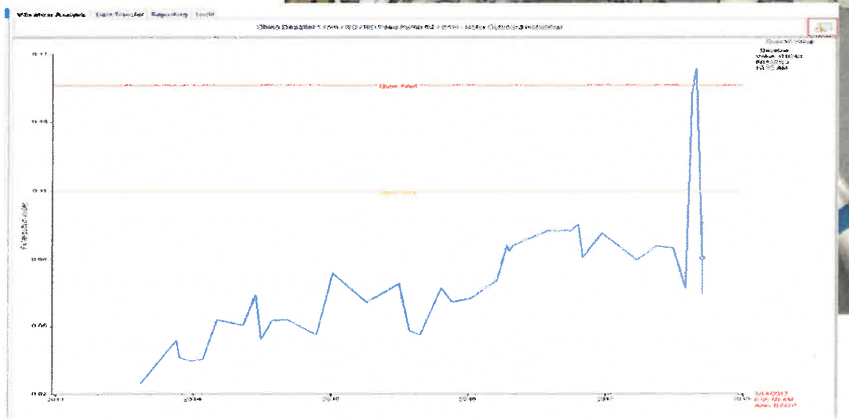
Operations & Maintenance Challenges

- Desalter Coating Project
  - Incident on 10/16/2017

IEUA Maintenance Philosophy

- Reliability Centered Maintenance
- Success Story:
  - CDA Desalter I: Reverse Osmosis Pump (350 HP)
    - 1.8 million gallons per day each train (4 total)
    - Vibration trending up
    - Pulled motor from service in time
    - Spare on hand and back in service in 1 day
    - Saved $150,000 potential replacement cost
    - Saved up to 18 weeks of down time

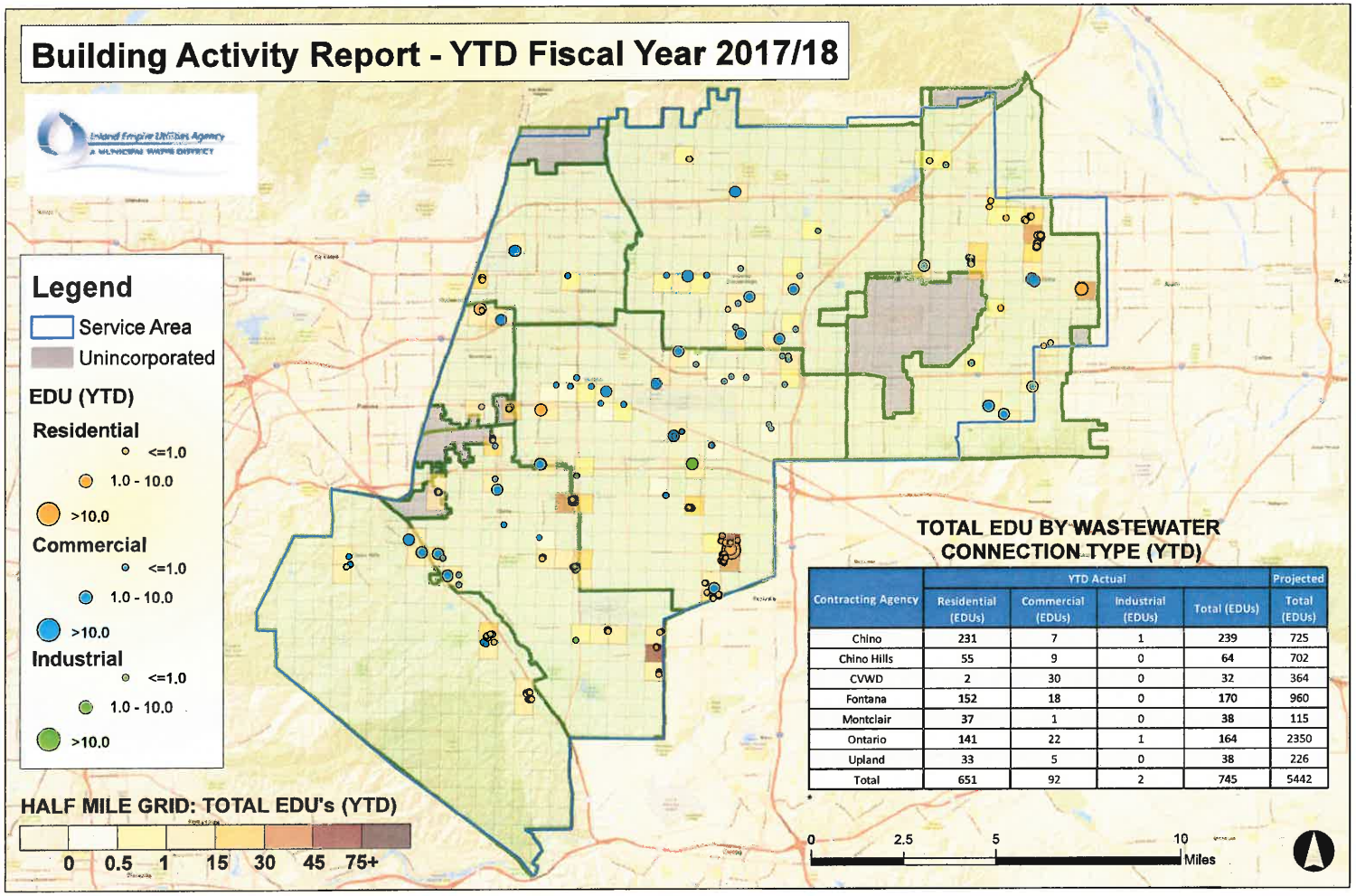




RECEIVE AND
FILE

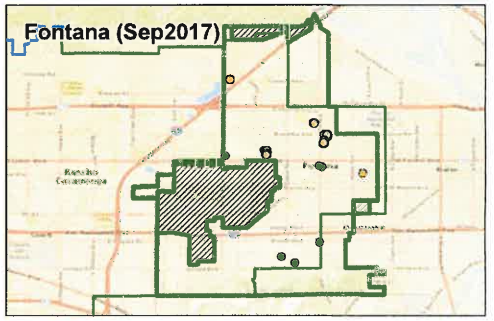
4A

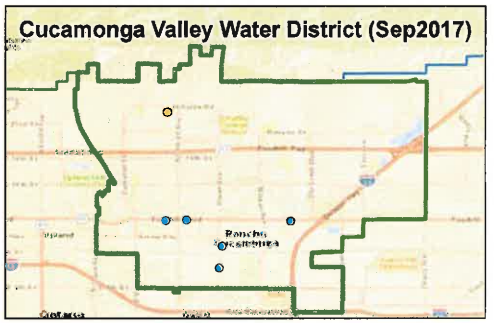
Building Activity Report - YTD Fiscal Year 2017/18



TOTAL EDU BY WASTEWATER CONNECTION TYPE (YTD)

Contracting Agency	YTD Actual				Projected
	Residential (EDUs)	Commercial (EDUs)	Industrial (EDUs)	Total (EDUs)	Total (EDUs)
Chino	231	7	1	239	725
Chino Hills	55	9	0	64	702
CVWD	2	30	0	32	364
Fontana	152	18	0	170	960
Montclair	37	1	0	38	115
Ontario	141	22	1	164	2350
Upland	33	5	0	38	226
Total	651	92	2	745	5442





RECEIVE AND
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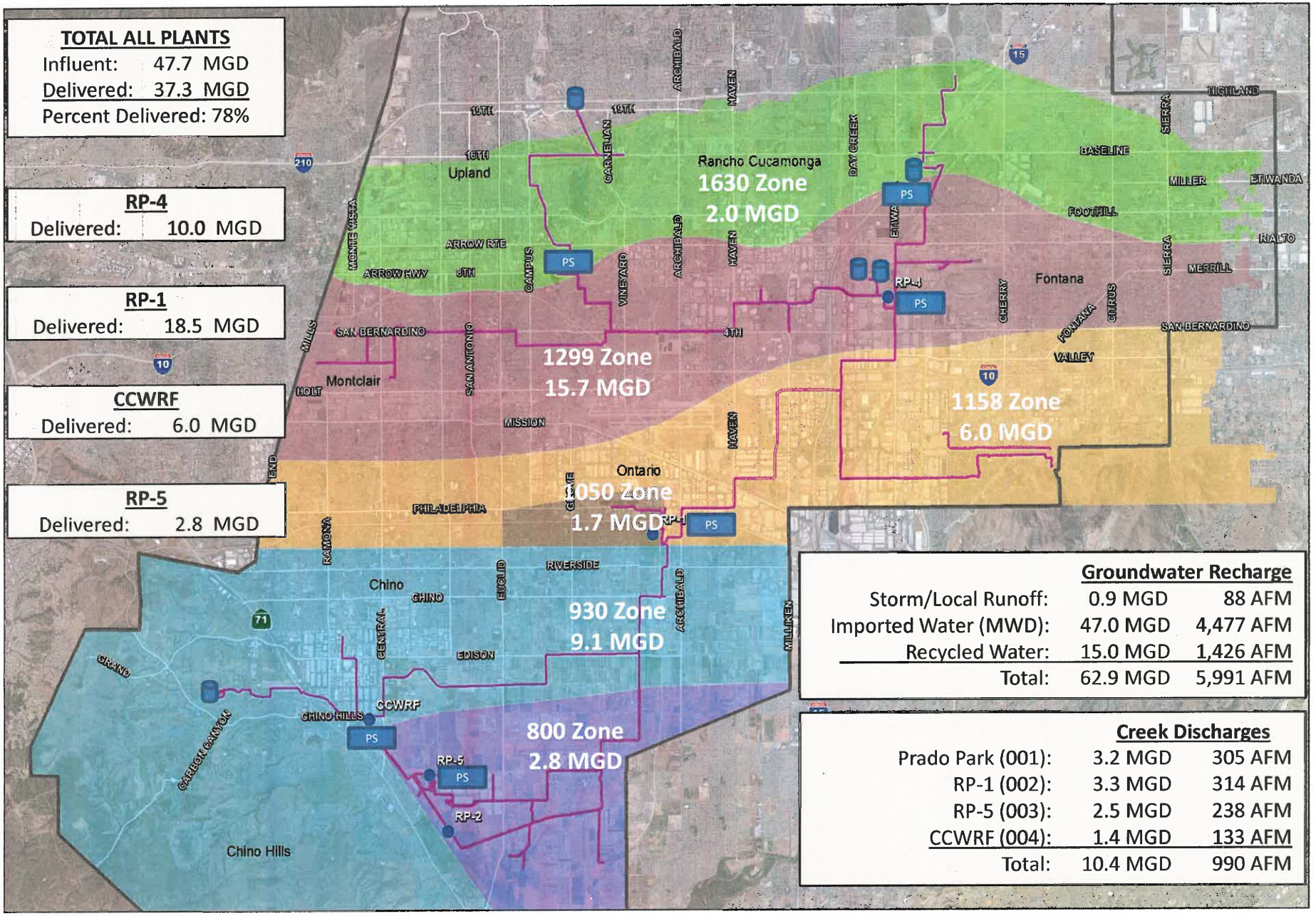
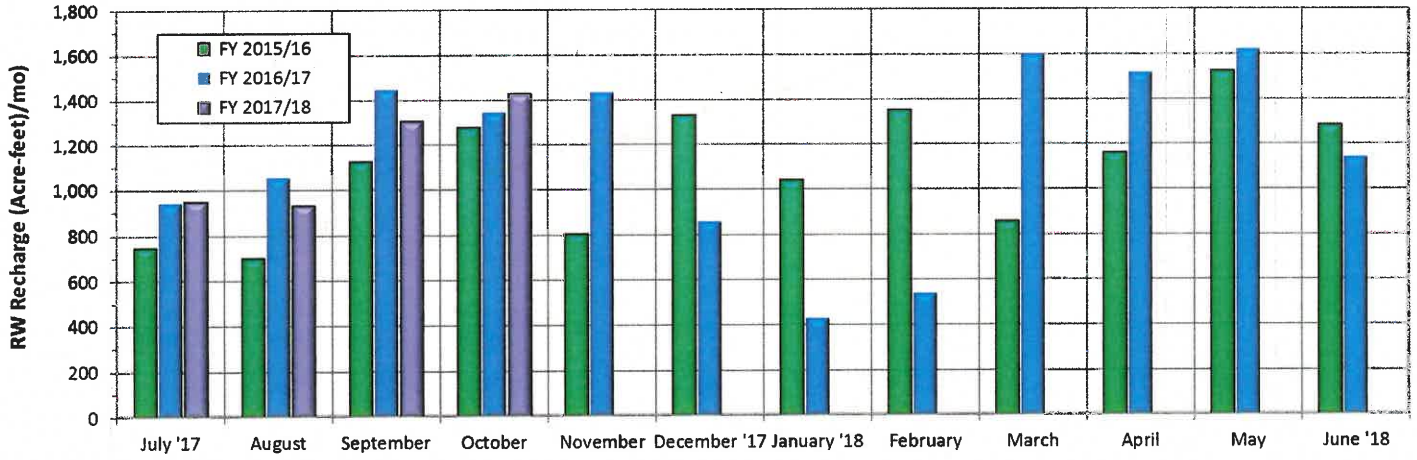
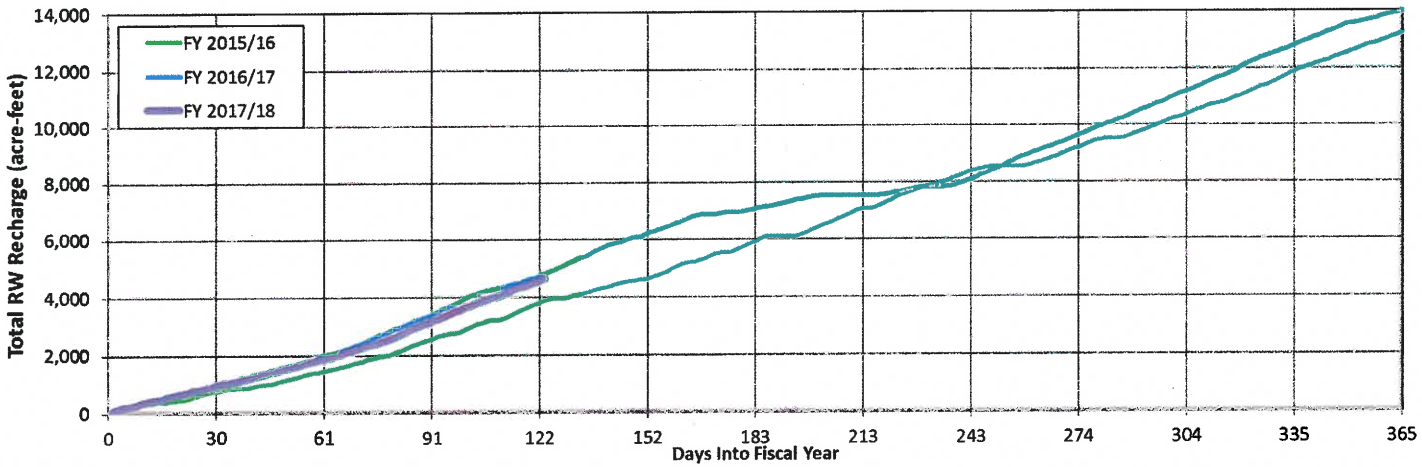
IEUA RECYCLED WATER DISTRIBUTION – OCTOBER 2017



Recycled Water Recharge Actuals / Plan - October 2017 (Acre-Feet)

Basin	10/1-10/7	10/8-10/14	10/15-10/21	10/22-10/28	10/29-10/31	Month Actual	FY To Date Actual	Deliveries are draft until reported as final.
Ely	51.8	1.0	9.1	27.3	2.0	91.2	368	
Banana	53.5	56.4	37.1	111.0	2.0	260.1	543	
Hickory	18.5	14.4	0.0	16.5	2.0	51.3	480	
Turner 1 & 2	42.2	50.3	72.9	55.4	2.0	222.8	582	
Turner 3 & 4	4.5	0.0	0.0	0.0	2.0	6.5		
8th Street	62.0	45.4	51.5	35.6	2.0	196.5	540	
Brooks	48.5	53.4	1.9	0.0	2.0	105.8	556	
RP3	48.4	80.3	82.2	61.2	2.0	274.1	957	
Declez	0.0	0.0	0.0	0.0	2.0	2.0	0	
Victoria	27.9	17.5	0.0	0.0	2.0	47.4	591	
San Sevaine	0.0	0.0	0.0	0.0	2.0	2.0	0	
Total	357.3	318.7	254.7	307.0	22.0	1,259.7	4,617	4,793 AF, Previous FY To Date Actual





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Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Date:	November 30, 2017/December 7, 2017
To:	Regional Committees
From:	Inland Empire Utilities Agency
Subject:	Planning & Environmental Resources Annual Reports (10-Year Growth Forecast, Water Use, and Energy)

RECOMMENDATION

This is an informational item for the Regional Committees to review.

BACKGROUND

This item was presented to the IEUA Board of Directors meeting on October 18, 2017.

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Date: October 18, 2017

To: The Honorable Board of Directors **From:** P. Joseph Grindstaff, General Manager

Committee: Engineering, Operations & Water Resources Committee *10/11/17*

Executive Contact: Chris Berch, Executive Manager of Engineering/AGM

Subject: Planning & Environmental Resources Annual Reports (10-Year Growth Forecast, Water Use, and Energy)

Executive Summary:

The Inland Empire Utilities Agency (IEUA) monitors and compiles water use data from each of its retail agencies to track overall water demands and sources of supply. Each year, this data is compiled into an Annual Water Use Report. Data includes monthly water use by retail agency and by source of supply, a five-year history of water use, and retail agency water usage as a percentage of the total water used in the service area. Total water consumption within IEUA's service area for FY 2016/17 is 184,060 AF, a 9% increase from FY 2015/16, however 20% less water than in FY 2013/14.

IEUA's energy consumption, renewable generation performance and savings, and energy efficiency projects are reported in the Annual Energy Report. IEUA on average consumed 73,884 MWh of electricity, of which 16% was generated by its renewable sources.

IEUA working with the Regional Contract member agencies, publishes a ten year forecast on building activity which is subsequently used in budget and rate forecasts. The member agency ten year growth forecast is 55,388 equivalent dwelling units, up from 41,782.

Staff's Recommendation:

This is an informational item for the Board of Directors to receive and file.

Budget Impact: N *Budgeted (Y/N):* N *Amendment (Y/N):* N *Requested Amount:*

Account/Project Name:

N/A

Fiscal Impact (explain if not budgeted):

N/A

Full account coding (internal AP purposes only): - - - Project No.:
- - -

Prior Board Action:

None

Environmental Determination:

Not Applicable

Business Goal:

Not Applicable

Attachments:

Attachment 1 - PowerPoint
Attachment 2 - IEUA FY 2016/17 Annual Water Use Report
Attachment 3 - IEUA Annual Energy Report FY 2016/17

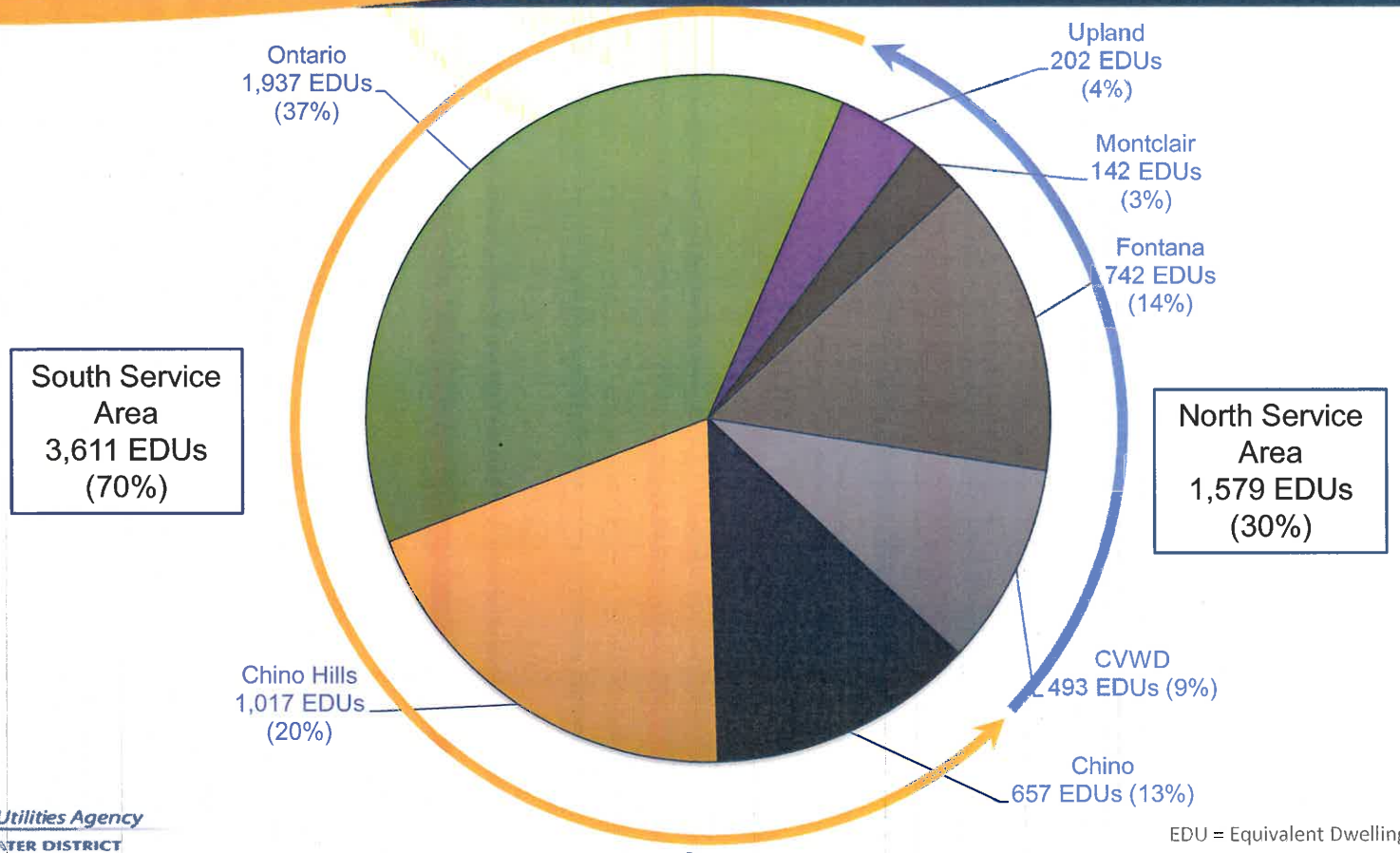
Planning & Environmental Resources Annual Reports
(10-YEAR GROWTH FORECAST, WATER USE, & ENERGY)

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

October 2017

FY16/17 Building Activity

5,189 EDUs Resulted in $29.9M in CCRA Funding



South Service Area
3,611 EDUs
(70%)

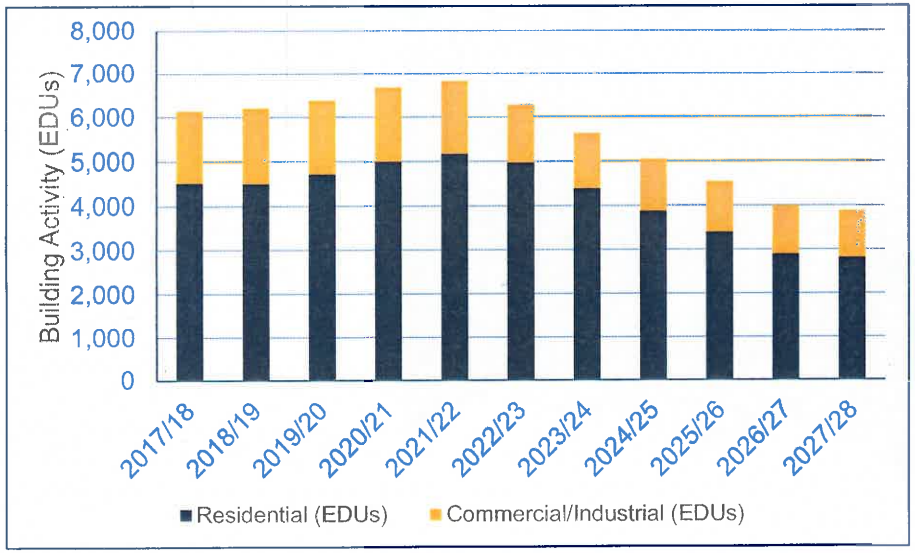
North Service Area
1,579 EDUs
(30%)

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

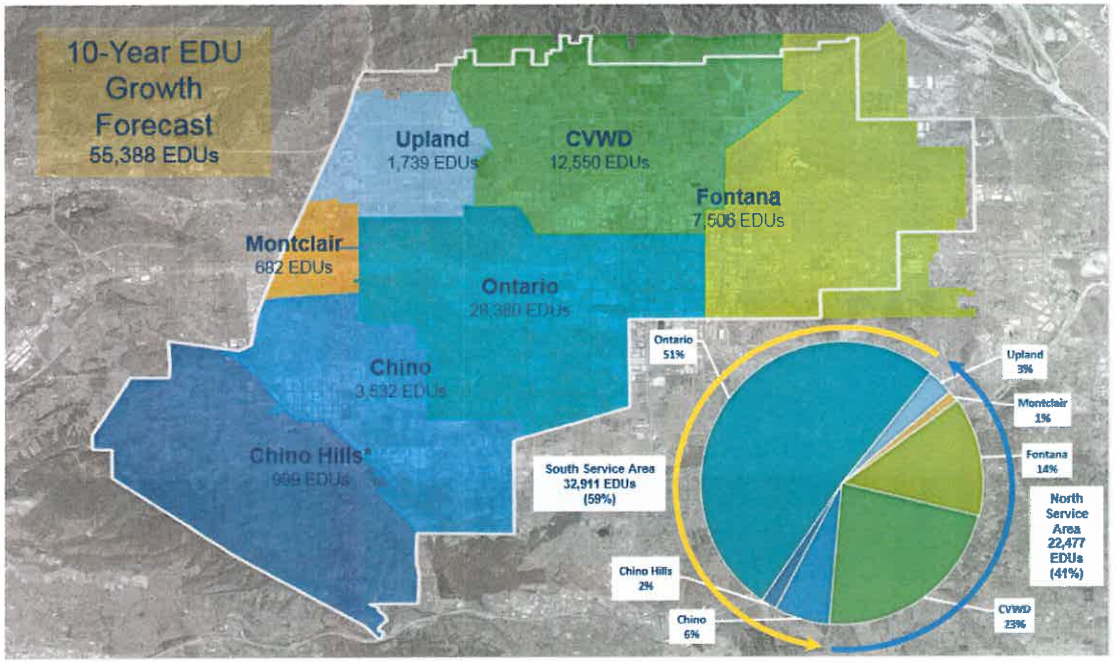
EDU = Equivalent Dwelling Unit or Single Family

Partial EDU rounded to the nearest whole number

Regional Contracting Agencies EDU Projections

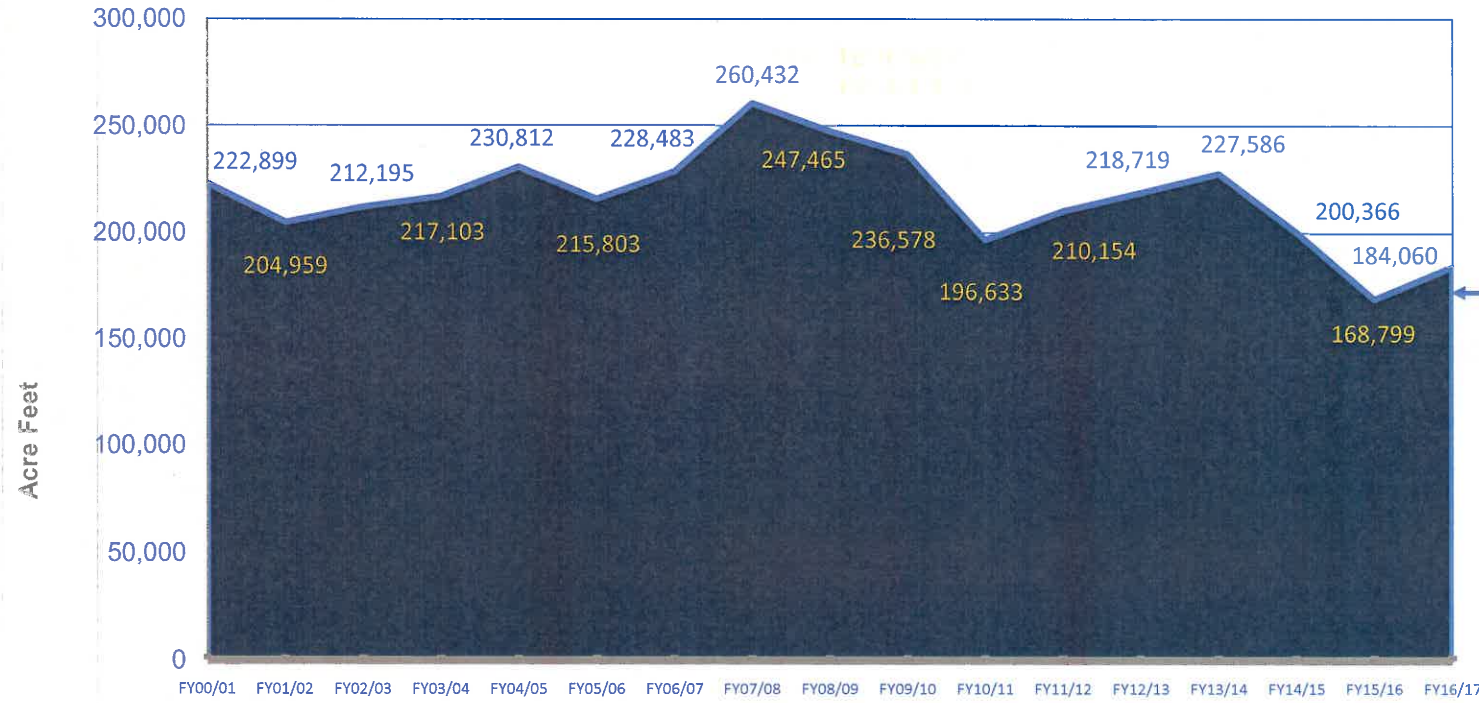


2016 Ten Year Growth Forecast: 41,782 EDU
2017 Ten Year Growth Forecast: 55,388 EDU



Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Regional Water Use Trend

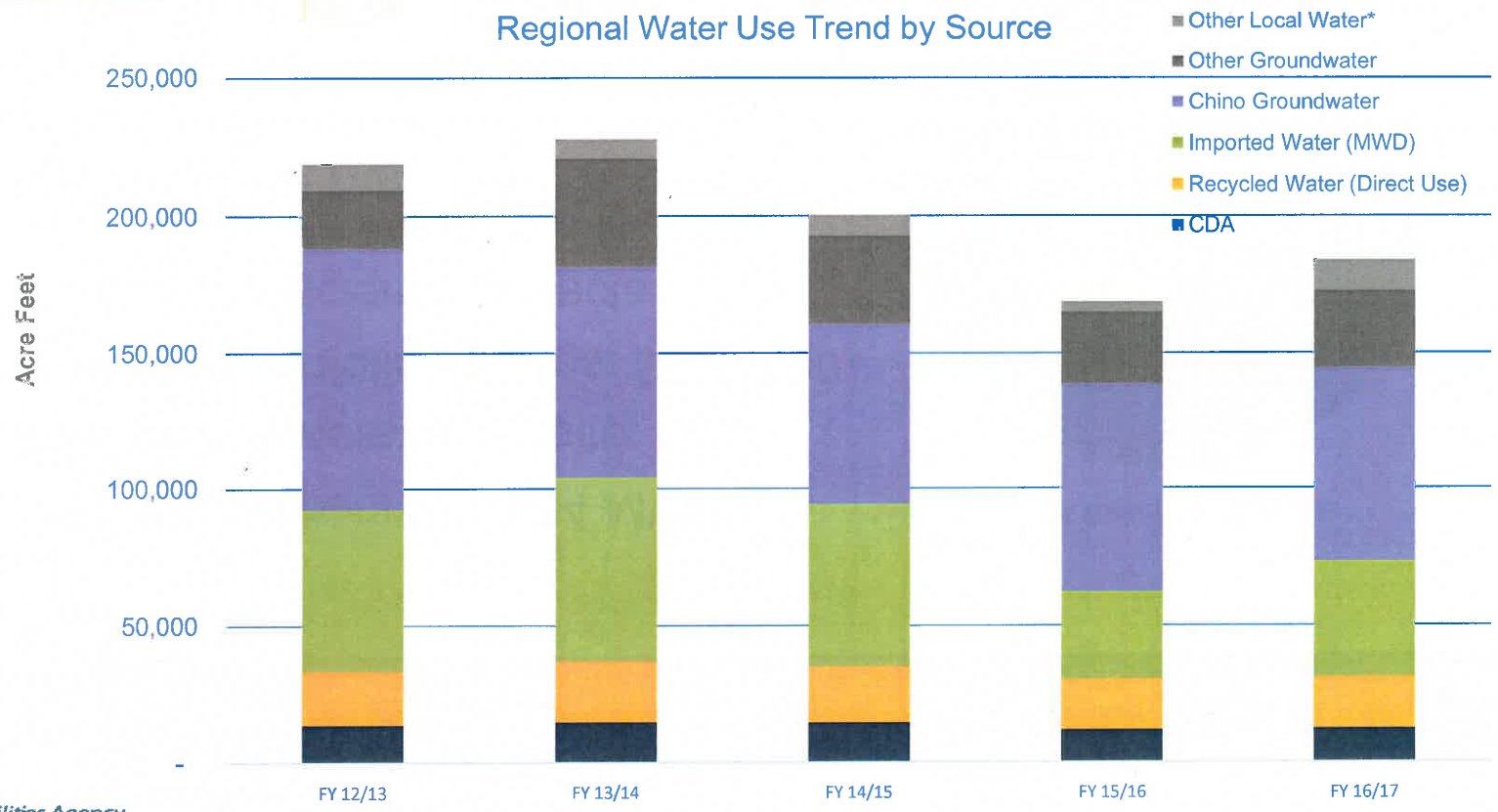


- 20% reduction from FY 13/14 usage
- 9% increase from FY15/16

- Note: Total Water Use Data includes imported water, surface water, groundwater, recycled and desalter production. Excludes IEUA groundwater recharge

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Regional Water Use Trend By Source

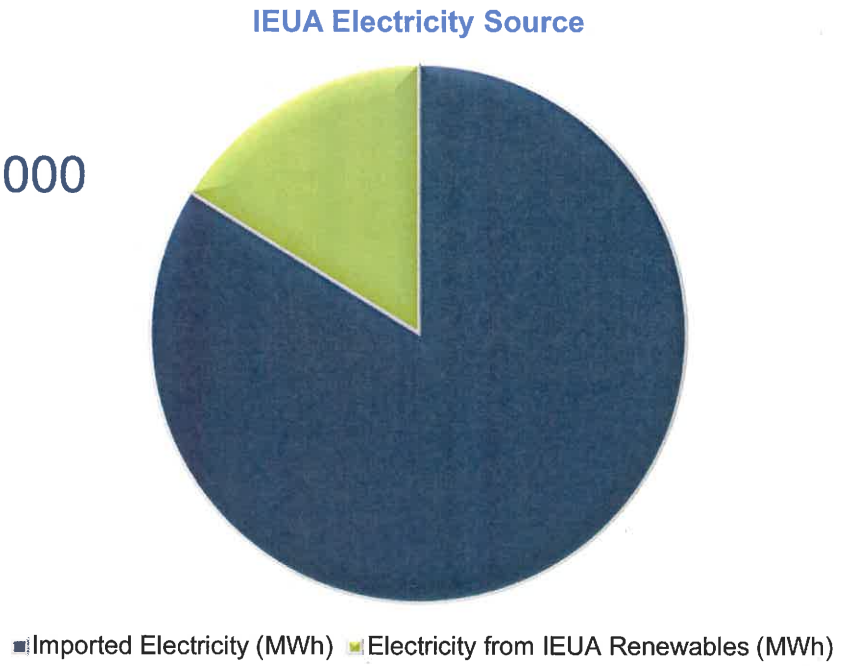


*Water purchased from other local water companies (such as SAWCo or WECWC) and surface flows

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

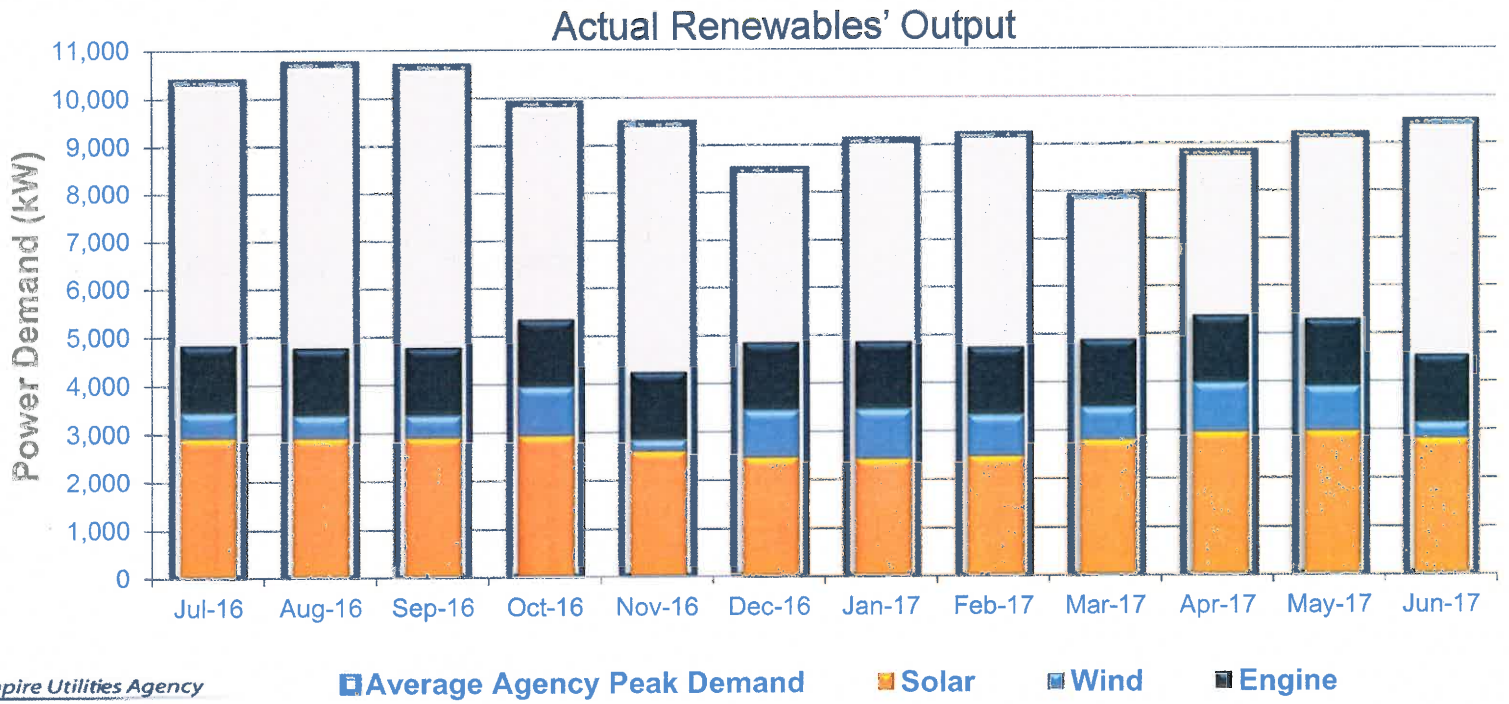
Energy (FY 16/17)

- Agency wide consumption: 73,884 MWh
- Annual renewable generation onsite: 16%
- Annual renewable portfolio savings: $370,000
- Completed energy efficiency projects
  - Lighting and pump replacements/retrofits
  - Energy savings: 1,185 MWh/year
  - Power reduction: 110 kW
  - Savings $142,000/year



Progress Towards Peak Power Independence by 2020

Output from renewables is approximately 50% of the summer peak demand



Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

2017

IEUA FY 2016-2017 Annual Water Use Report:

Retail Agency Water Use and Five Year History

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

Table of Contents

Preface

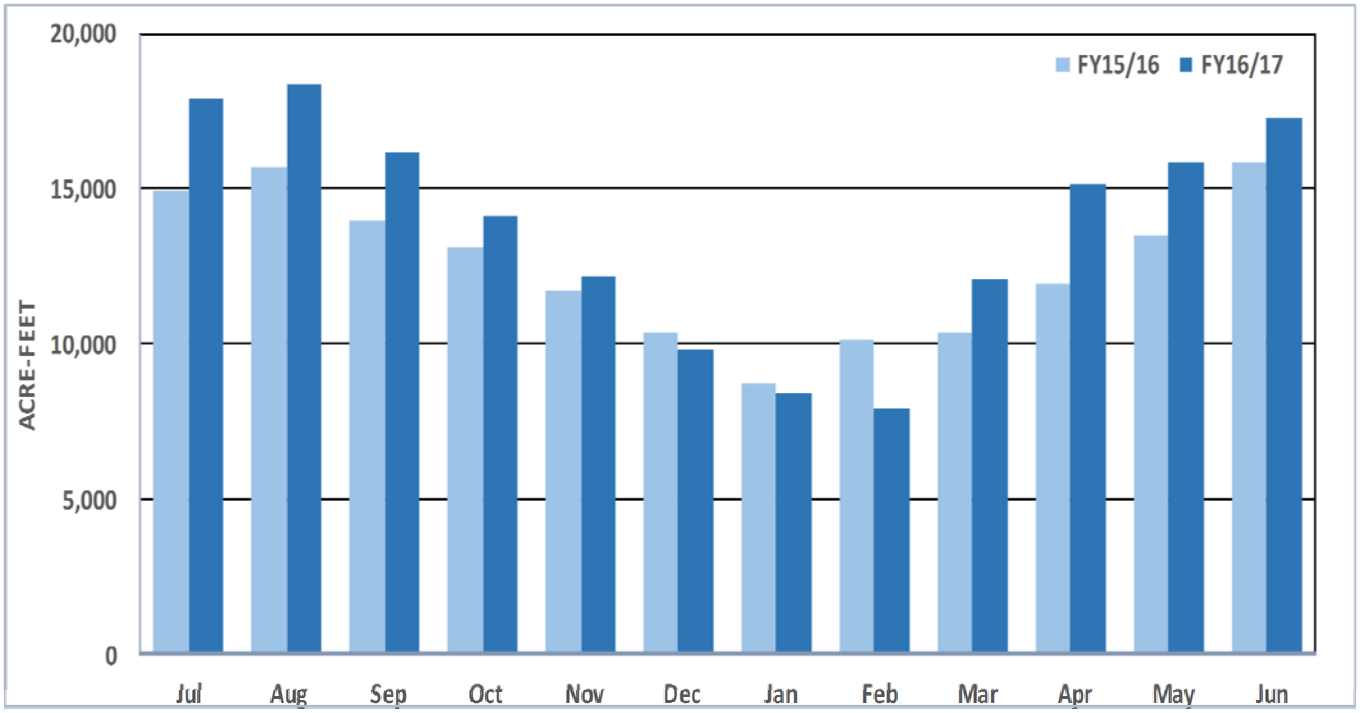
FY 2016-17 Water Use Summary Report

Inland Empire Utilities Agency (IEUA) monitors and compiles water use data from each of its retail agencies to track overall water demands and sources of supply. Each year, this data is compiled into an Annual Water Use Report. Data includes monthly water use by member agency and by source of supply, a five-year history of water use, and retail agency water usage as a percentage of the total water used in the service area.

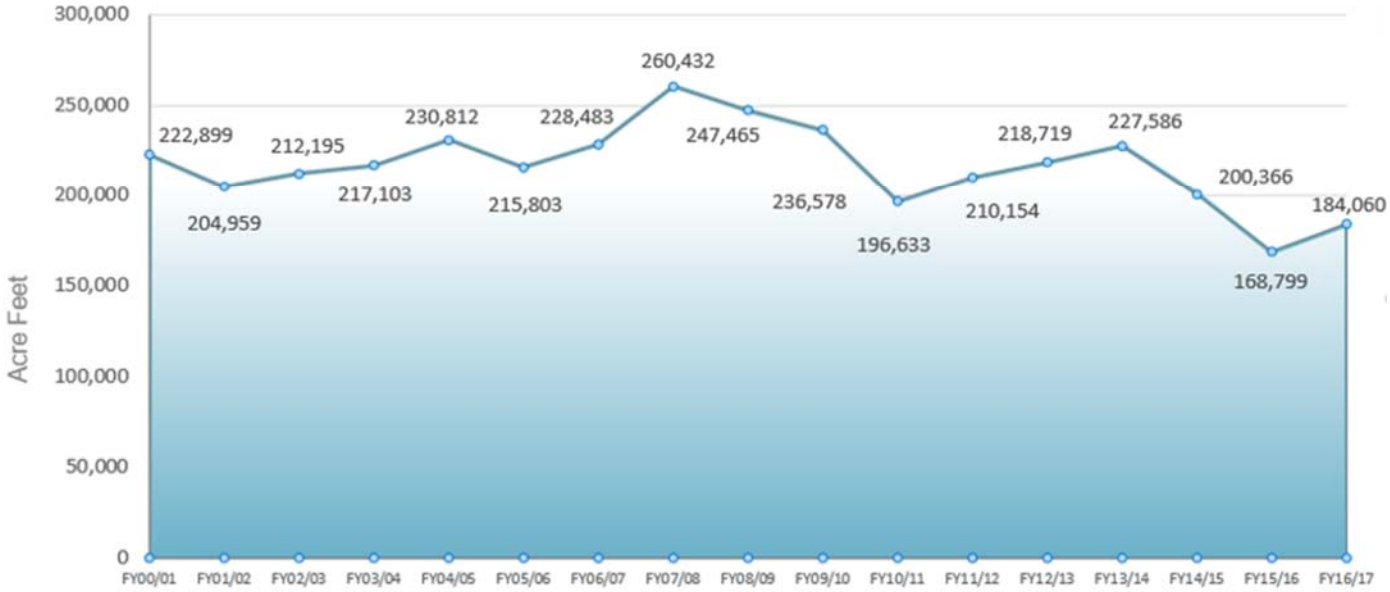
Following unprecedented water conservation and plentiful winter rain and snow, Governor Brown ended the drought state of emergency in April 2017. The drought, which lasted from winter 2012 through 2016, included the driest four-year statewide precipitation on record combined with the lowest snowpack on record in the Sierra-Cascades, and extraordinarily high temperatures (2014, 2015 and 2016 were California's first, second and third warmest year in terms of statewide average temperatures). Monthly water reporting requirements and prohibitions on wasteful practices, such as watering during or right after rainfall, that were established during the multi-year drought have continued to be in effect. Initiatives to "Make Conservation a California Way of Life" by establishing water use targets and eliminating water waste are under debate.

Total water consumption within IEUA's service area for FY 16/17 is 184,060 AF. This is a 9% increase (15,261 AF) from FY 2015/16, however the region is still using approximately 20% less water than in FY 13/14. This increase is primarily the result of a 33% increase in imported water purchases

Regional Monthly Total Water Usage FY 16/17 Comparison to FY15/16



IEUA Member Agency Overall Total Water Use Trend

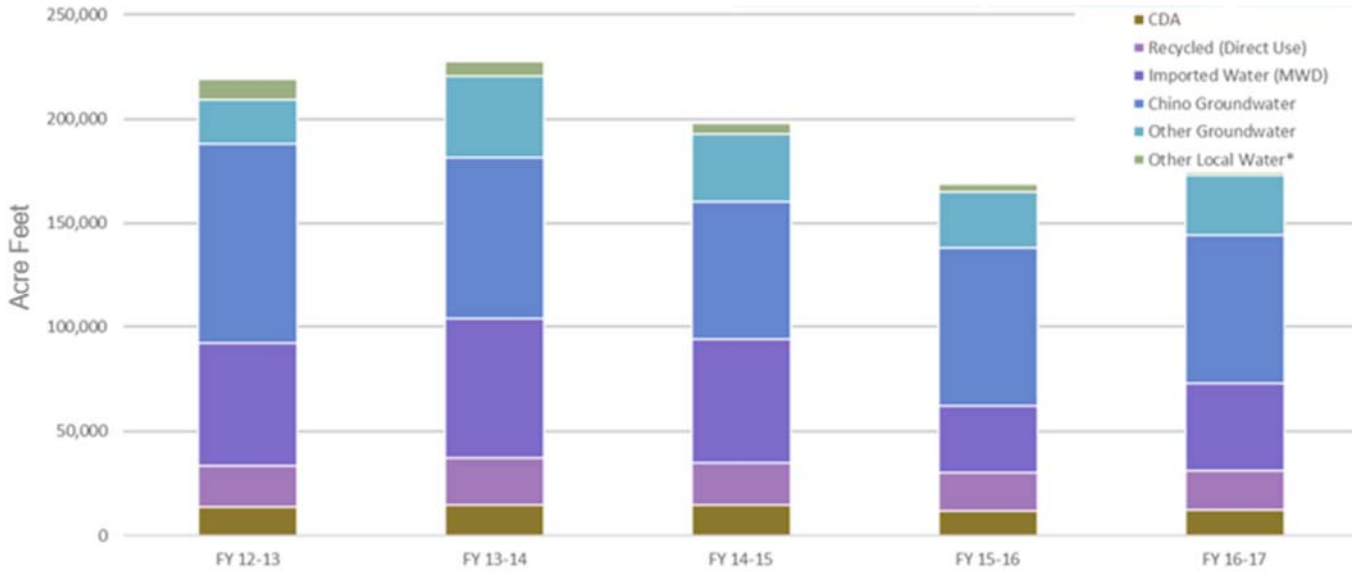


Note: Total Water Use Data includes imported water, surface water, groundwater, recycled and desalter production. Excludes IEUA groundwater recharge

as a result of the MWD Water Supply Allocation being lifted, and an increased availability of local surface water supplies due to increased rainfall. Overall imported water purchases are still 63% below purchases in FY 13/14. Groundwater extraction has remained relatively constant, with a slight (7%) reduction in extraction from the Chino Groundwater Basin.

IEUA anticipates a slight trend of increasing usage as a response to high temperatures and the end of

Regional Water Use Trend by Source



*Other Local Water includes purchases from local water companies such as SAWCo and WECWC and surface flows

the drought. However, although development is anticipated to continue and growth may rebound at the end of the drought, long-term demands are not expected to greatly increase. This analysis came from demand modeling conducted as part of IEUA's 2015 Integrated Resources Plan (IRP) and Urban Water Management Plan (UWMP) which found that new developments in the region tend to be more water efficient due to changes in the plumbing code, higher density developments with less landscaping, and compliance with the existing model landscape ordinance requirements set forth in AB1881. It should also be noted that water usage has remained below projections made in the IRP and UWMP as a result of the drought.

In addition, the region is continuing to diversify and maximize local resource development, expand water use efficiency programs, and assist interested member agencies with the development of budget based rate structures. These efforts will continue to prepare the service area to cope with future dry years and increase regional resiliency in the face of climate change.

Below is a summary and update on the region's major water supply efforts and programs:

- IEUA has completed the Facilities Master Plan Final Programmatic Environmental Impact Report, which includes conceptual regional water supply projects from the IRP.

- IRP Phase II is underway and has compiled over 200 water supply projects from member agencies. These projects will be used to conduct a gap-assessment of the portfolios modeled during Phase I, and develop an implementation schedule, and financial plan. Phase II also included the development of a regional water supply schematic that may be used to identify infrastructure constraints, discuss potential improvements, and assess how programs such as water banking and SARCCUP would work.

- Construction of the Wineville Recycled Water Pipeline has been completed and begun service the city of Fontana. Total direct recycled water deliveries to member agencies have slightly increased from 18,336 AF in FY15/16 to 18,703 AF in FY16/17. Additional details about the recycled water program are available in the IEUA FY 2016-2017 Recycled Water Annual Report.

- IEUA launched a Home Pressure Regulation Program in June which will reach out to 500 residential sites and correct high pressure problems by either making adjustments or installing a new regulator. In FY16/17 the program had 141 participants.

- IEUA is continuing to work with the Agricultural Pool to identify appropriate farm sites for water efficiency upgrades. This will help maintain a sustainable Chino Basin groundwater supply.

- IEUA and its member agencies are working towards completing the Phase III expansion of the Chino Desalters. In June 2016, IEUA received $7.2 million in support of this project. The expansion is excepted to create an additional 10,6000 AF of water per year. In FY16/17 IEUA agency's share of the production was 12,292 AF.

- IEUA and its member agencies continue to implement the water use efficiency programs outlined in the 2015-2020 Regional Water Use Efficiency Business Plan completed in June 2016. This document serves as the blueprint for the Agency's existing regional programs while providing the guidance for developing new cost-effective initiatives. Future conservation targets are set to achieve 16,095 AF savings in the next 5 years, with a lifetime savings of 31,226 AF. If two member agencies implement budget based rates these savings increase to 33,554 AF by 2020 with an estimated 147,836 AF lifetime savings. The cities of Chino and Chino Hills participated in SAWPA's budget-based rate (BRR) evaluation program. Chino is moving forwards with implementing BBR in FY 18/19. City of Chino Hills is doing a partial BBR using water use and parcel data to establish an efficiency metric. CVWD is currently participating in SAWPA's BBR evaluation program.

IEUA would like to thank its member agencies for their assistance in compiling the data contained in this report.

SECTION 1

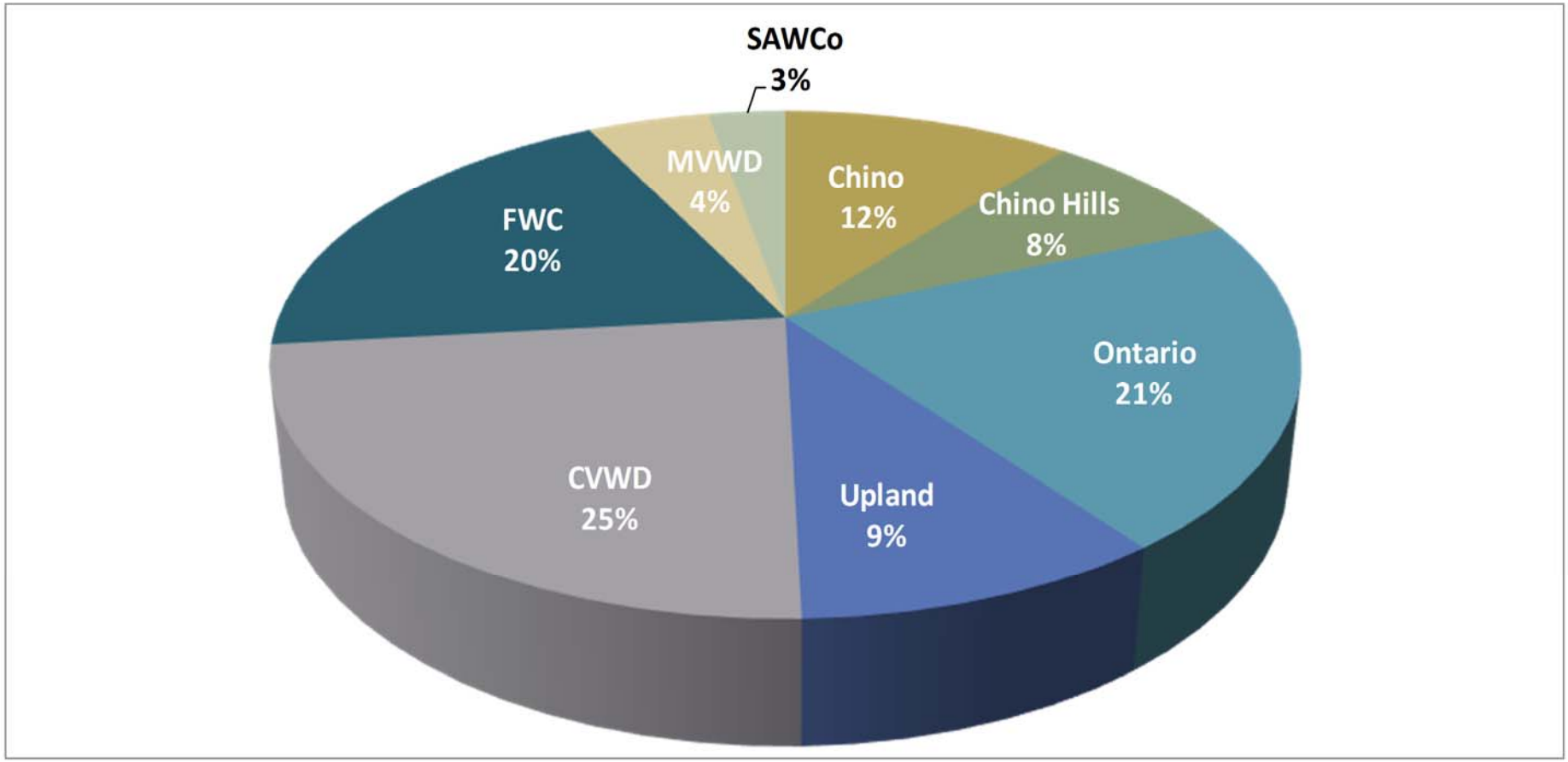
Total Water Resources Data from FY 16/17

Total IEUA Service Area Water Use For FY 16/17

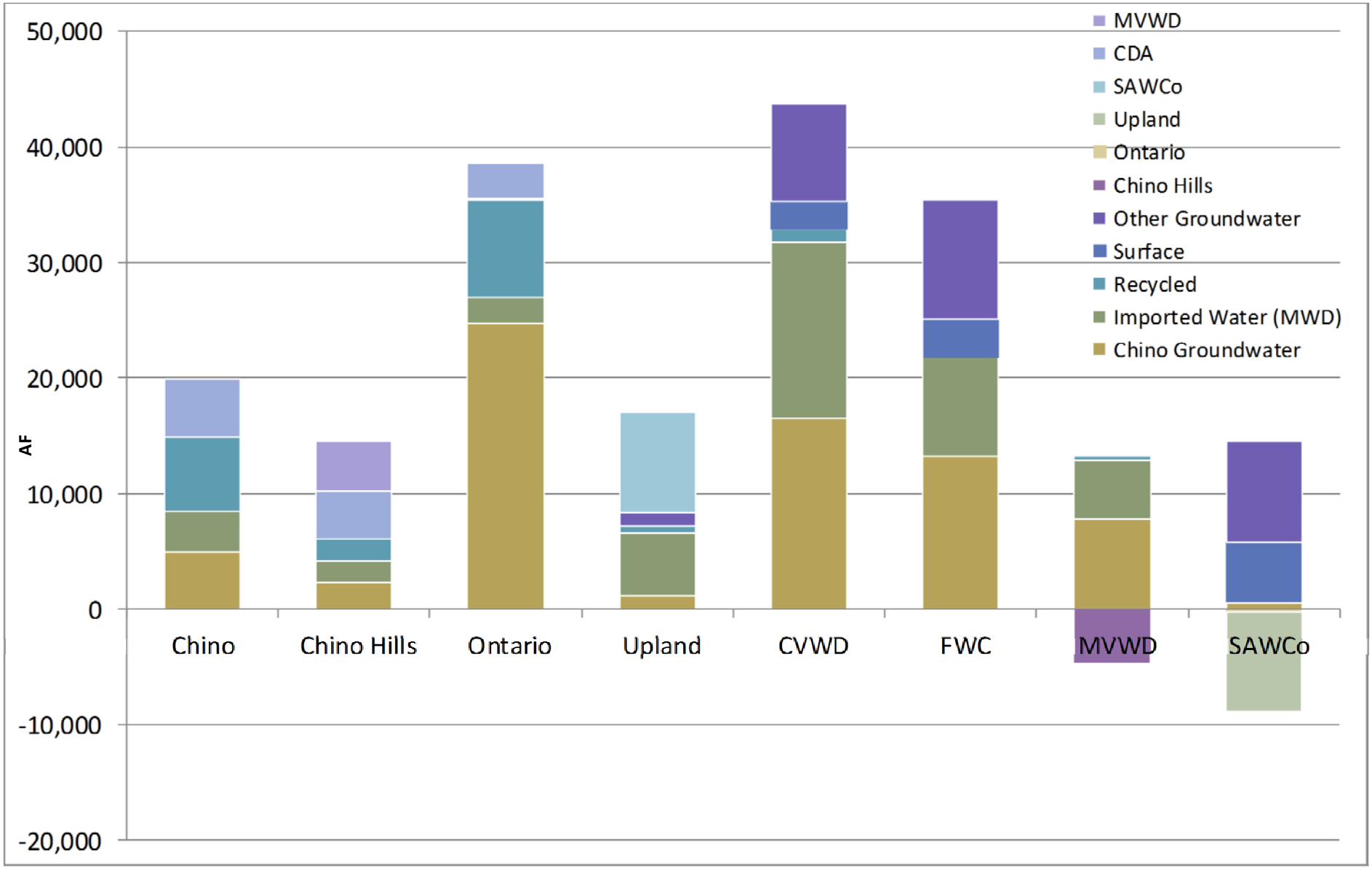
		Total IEUA Service Area Water Use by Retail Agency for FY 16-17 (AFY)								
		CHINO	CHINO HILLS	ONTARIO	UPLAND	CVWD	FWC	MVWD	SAWCo	TOTAL
Purchases from IEUA	Imported Water (MWD)	3,469	1,954	2,364	5,406	15,288	8,510	5,105	0	42,096
	Recycled (Direct Use)	6,447	1,838	8,352	652	1,056	52	306	0	18,703
Subtotal		**9,916**	**3,792**	**10,716**	**6,058**	**16,344**	**8,562**	**5,411**	**0**	**60,799**
Production	Chino Groundwater	4,972	2,245	24,672	1,259	16,549	13,251	7,786	537	71,272
	Other Groundwater	0	0	0	1,026	8,386	10,338	0	8,739	28,490
	Local Surface Water	0	0	0	0	2,448	3,230	0	5,282	10,960
Subtotal		**4,972**	**2,245**	**24,672**	**2,228**	**27,384**	**26,818**	**7,786**	**14,558**	**110,721**
Purchases from Other Agencies	CDA	5,008	4,206	3,077	0	0	0	0	0	12,292
	MVWD	0	4,237	0	0	0	0	0	0	4,237
	SAWCo Water	0	0	171	8,791	0	0	0	0	8,961
	West End	0	0	0	1,068	0	0	0	0	1,068
	CVWD	0	0	0	0	0	39	0	0	39
Subtotal		**5,008**	**8,444**	**3,248**	**9,858**	**0**	**39**	**0**	**0**	**26,597**
Sales to Other Agencies*	Chino Hills	0	0	0	0	0	0	-4,818	0	-4,818
	Ontario	0	0	0	0	0	0	0	-171	-171
	Upland	0	0	0	0	0	0	0	-8,791	-8,791
	MVWD	0	0	0	0	0	0	0	-278	-278
Subtotal		**0**	**0**	**0**	**0**	**0**	**0**	**-4,818**	**-9,240**	**-14,058**
	Total	**19,896**	**14,481**	**38,636**	**18,203**	**43,728**	**35,419**	**8,379**	**5,318**	**184,060**

Note: All recycled water numbers in this report are based off IEUA operations data and are for direct use only. Recycled water used for groundwater recharge may be found in the Recycled Water Report.

Total IEUA Service Area Water Use For FY 16/17



Total IEUA Service Area Water Use For FY 16/17

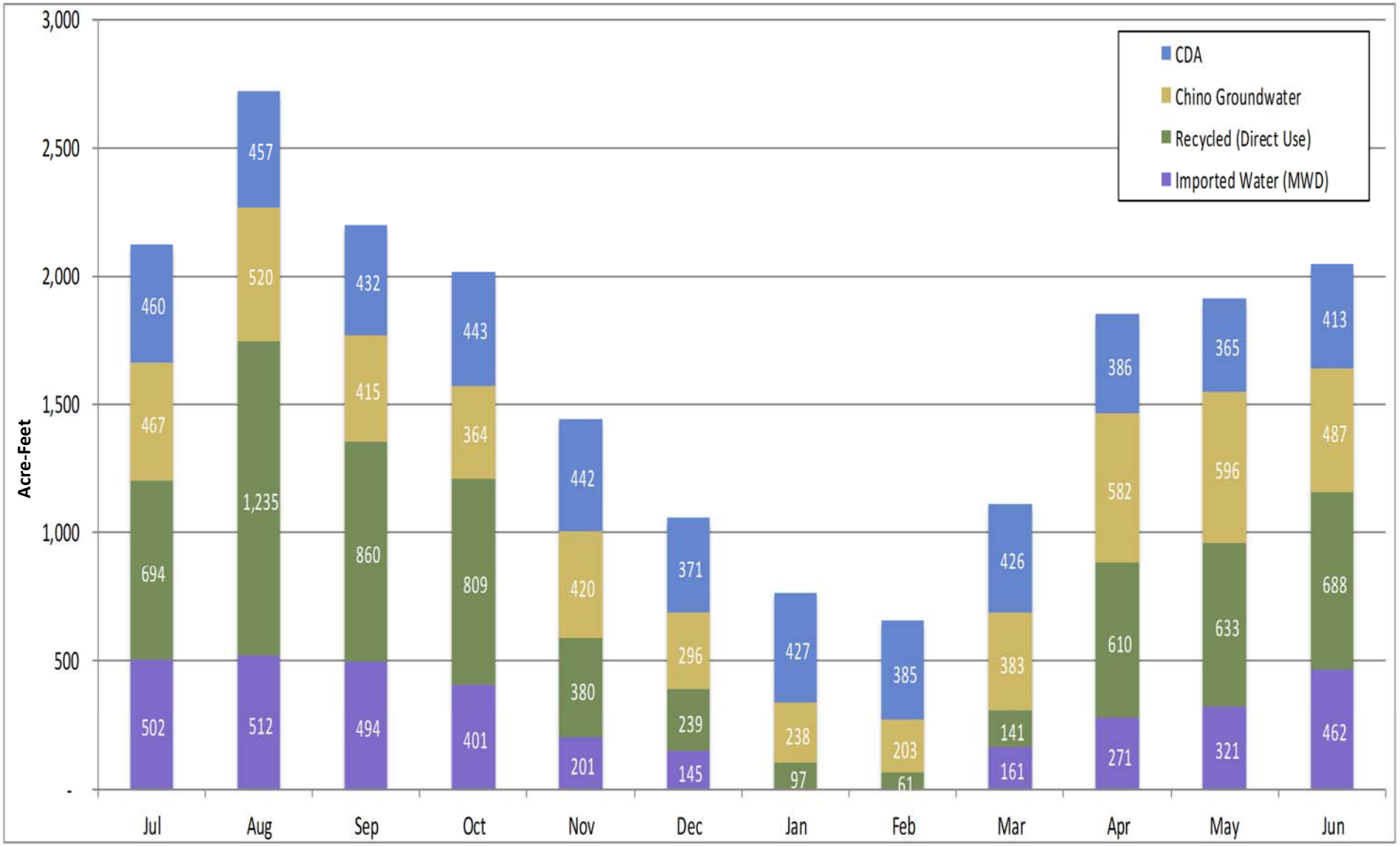


SECTION 2

Retail Water Use Data from FY 16/17 by Agency

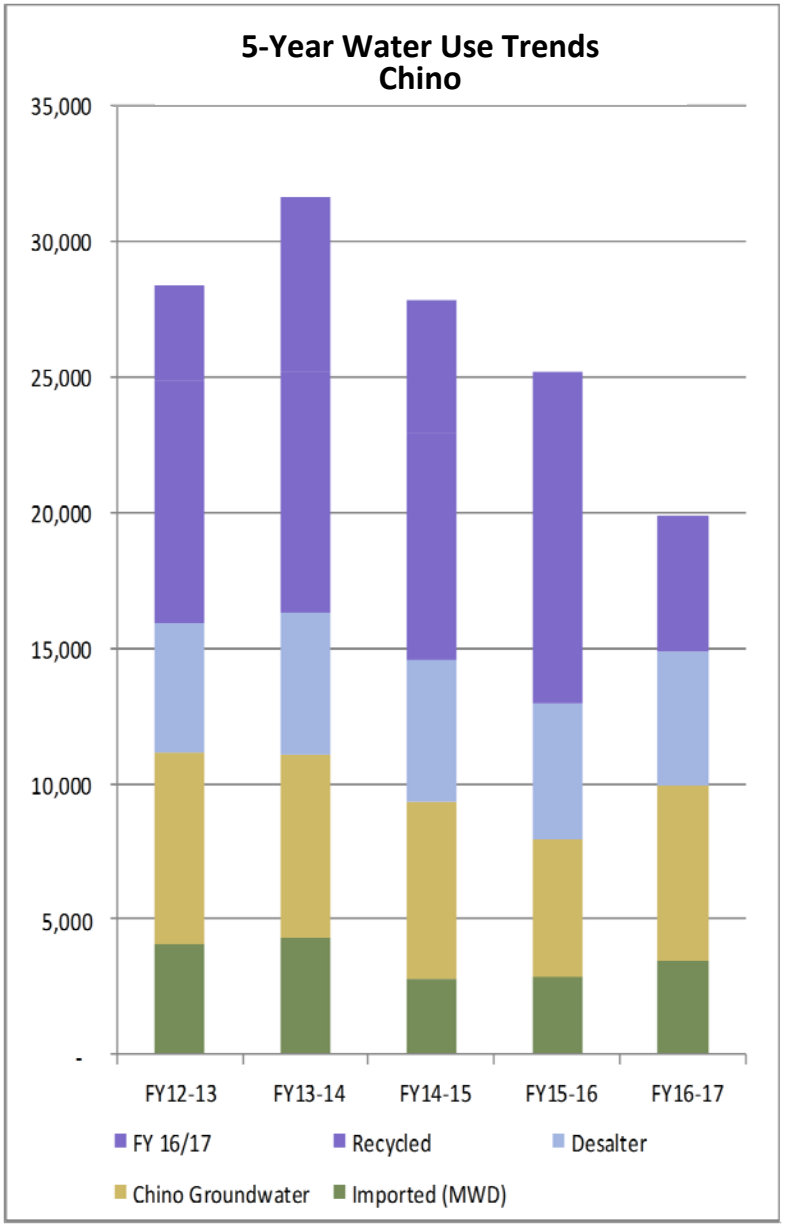
City of Chino

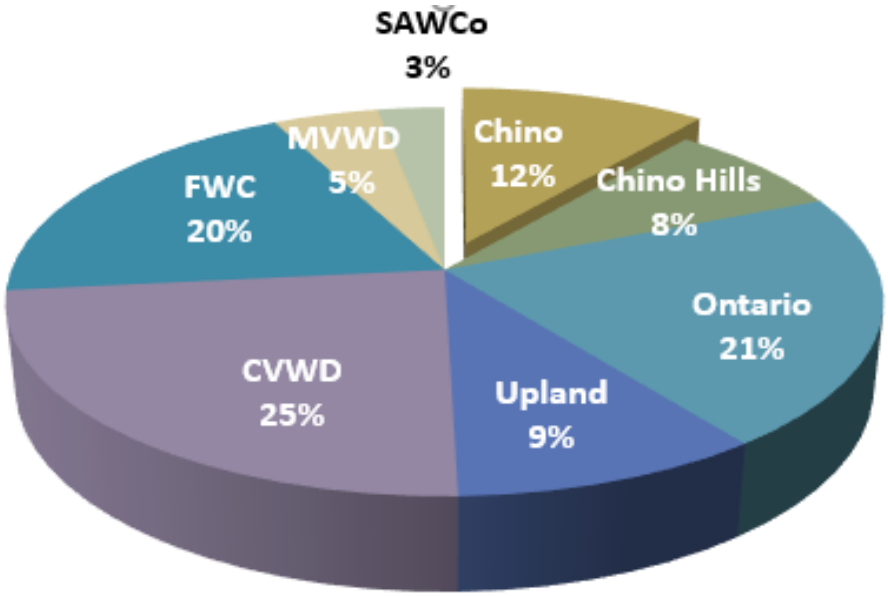
FY 2016/17 Monthly Water Usage



City of Chino

FY 2016/17 Water Use Report





In FY 2016/17, The City of Chino used 12% (19,896 AF) of 184,060 AF used in the IEUA service area.

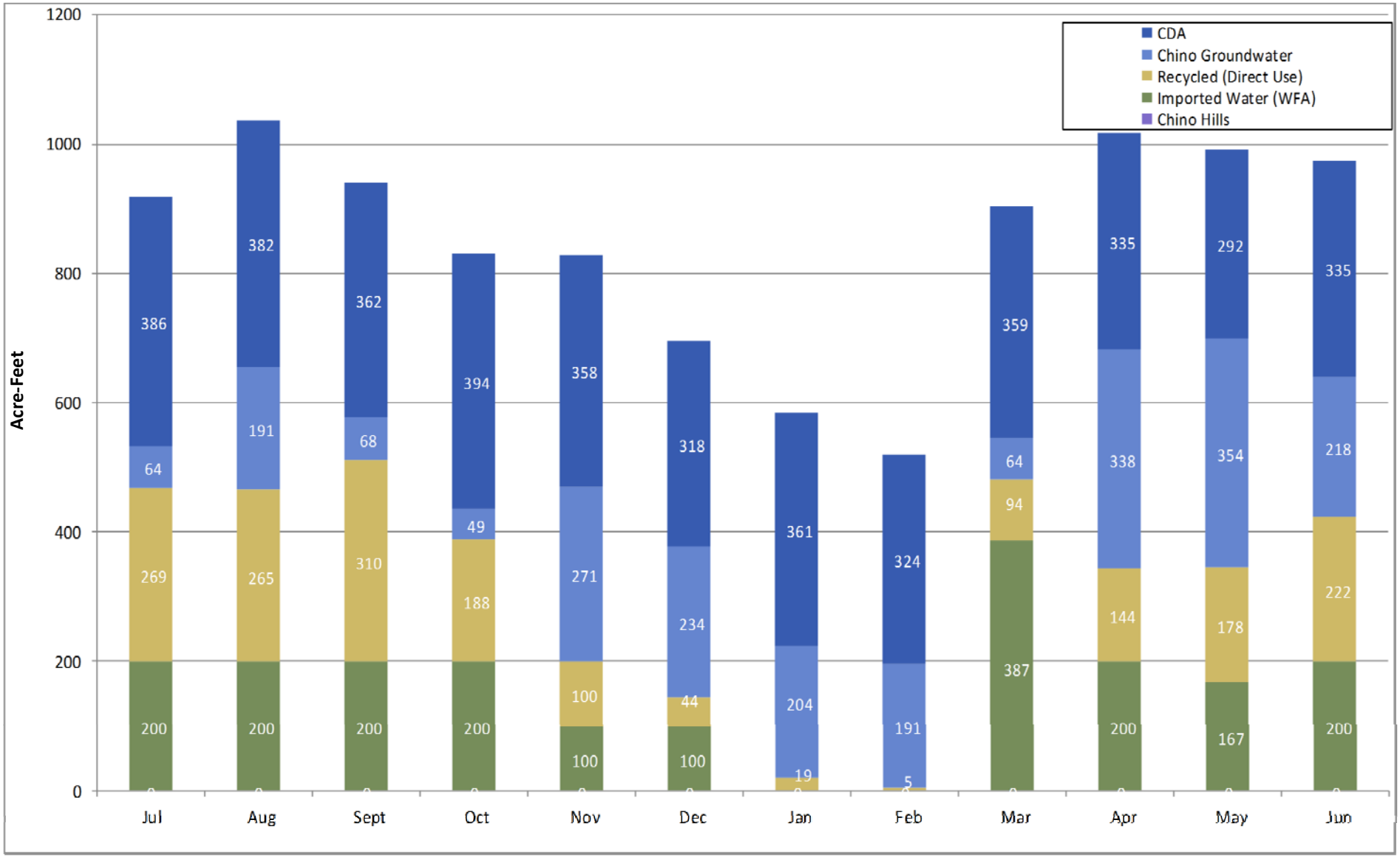
City of Chino

FY 2016/17 Monthly Water Usage

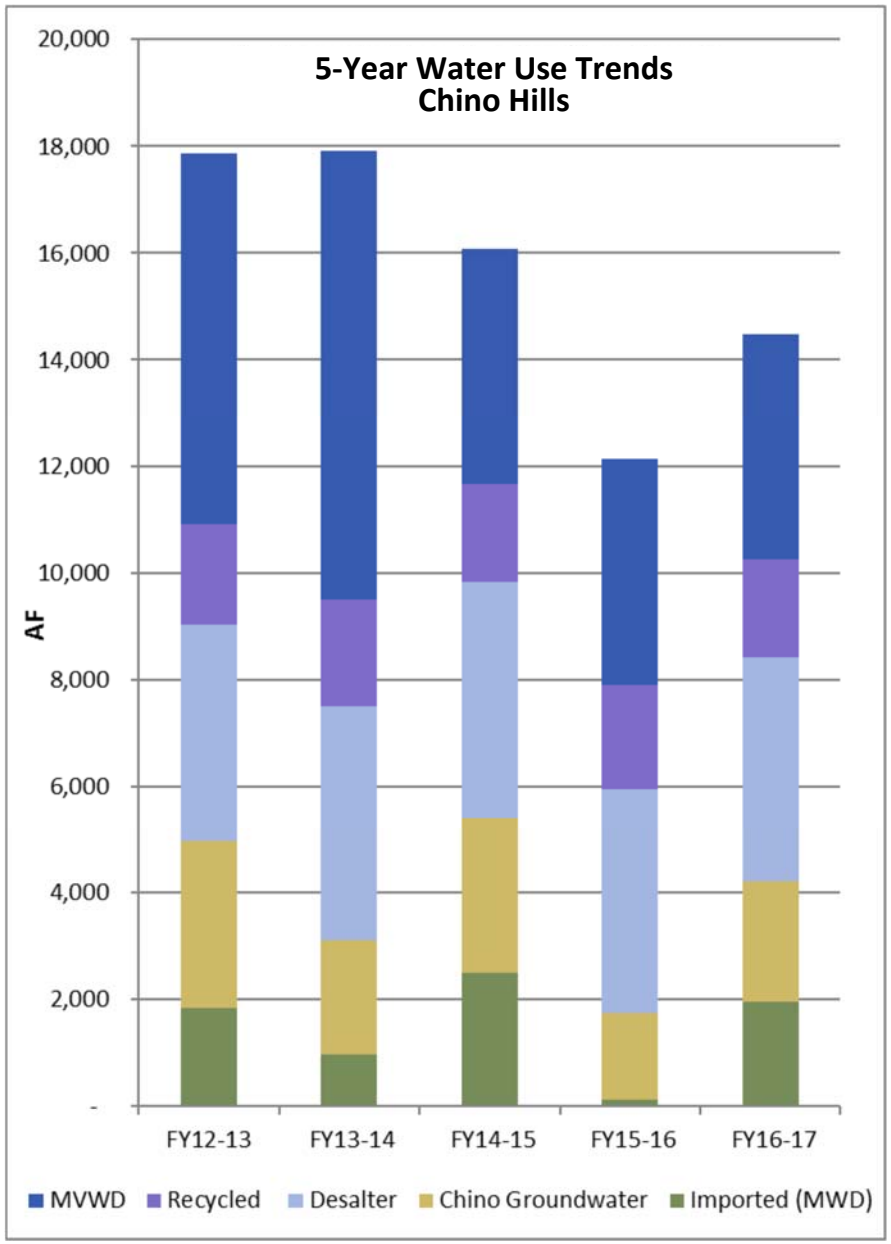
		Total IEUA Service Area Water Use By Agency for FY16-17 (AF)										Chino		
		July	August	September	October	November	December	January	February	March	April	May	June	Total
Purchases from IEUA	Imported Water (WFA)	502	512	494	401	201	145	-	-	161	271	321	462	3,469
	Recycled (Direct Use)	694	1,235	860	809	380	239	97	61	141	610	633	688	6,447
Subtotal		1,196	1,747	1,354	1,210	581	384	97	61	302	881	954	1,150	9,916
Production	Chino Groundwater	467	520	415	364	420	296	238	203	383	582	596	487	4,972
Subtotal		467	520	415	364	420	296	238	203	383	582	596	487	4,972
Agencies	CDA	460	457	432	443	442	371	427	385	426	386	365	413	5,008
Subtotal		460	457	432	443	442	371	427	385	426	386	365	413	5,008
Total		2,123	2,725	2,202	2,017	1,442	1,051	762	649	1,111	1,849	1,915	2,049	19,896

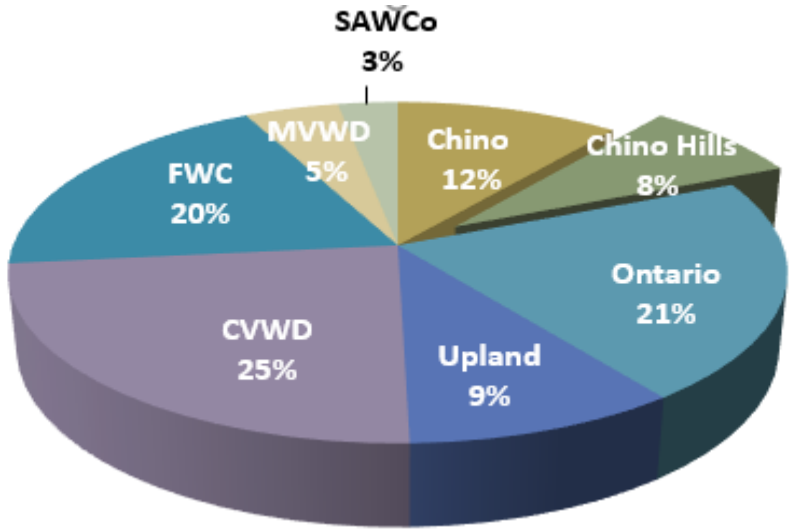
City of Chino Hills

FY 2016/17 Monthly Water Usage



City of Chino Hills
FY 2016/17 Water Use Report





In FY 2016/17, The City of Chino Hills used 8%
(14,481 AF) of 184,060 AF used in the IEUA service area.

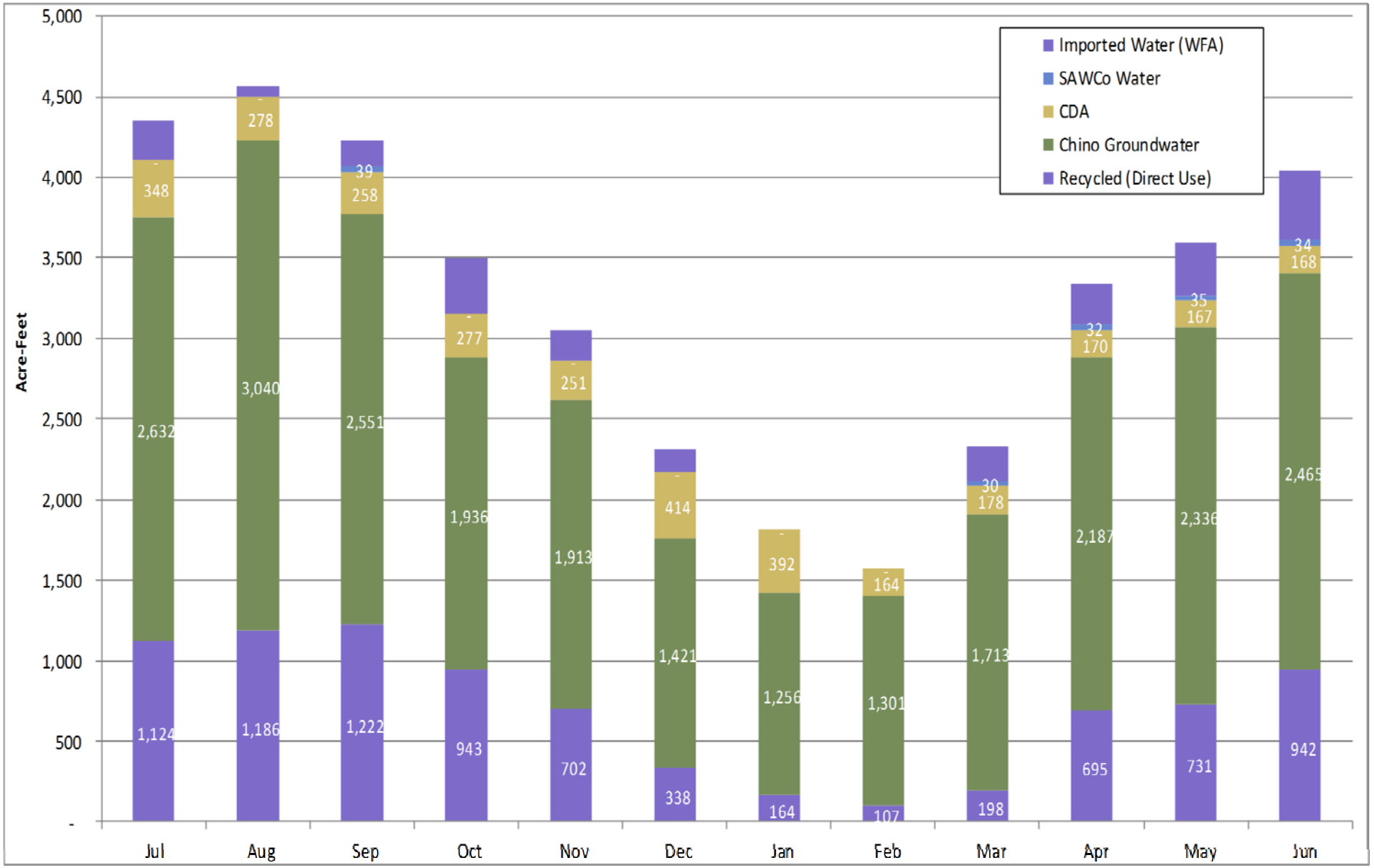
City of Chino Hills

FY 2016/17 Monthly Water Usage

		Total IEUA Service Area Water Use By Agency for FY16-17 (AF)										Chino Hills		
		July	August	September	October	November	December	January	February	March	April	May	June	Total
Purchases from IEUA	Imported Water (WFA)	200	200	200	200	100	100	-	-	387	200	167	200	1,954
	Recycled (Direct Use)	269	265	310	188	100	44	19	5	94	144	178	222	1,838
Subtotal		469	465	510	388	200	144	19	5	481	344	345	422	3,792
Production	Chino Groundwater	64	191	68	49	271	234	204	191	64	338	354	218	2,245
Subtotal		64	191	68	49	271	234	204	191	64	338	354	218	7,786
Purchases from other agencies	CDA	386	382	362	394	358	318	361	324	359	335	292	335	4,206
	MVWD	772	720	718	490	259	60	-	-	38	232	397	552	4,237
Subtotal		1,157	1,102	1,080	884	617	378	361	324	397	567	689	887	8,444
Total		1,690	1,758	1,658	1,320	1,088	756	585	520	942	1,249	1,388	1,527	14,481

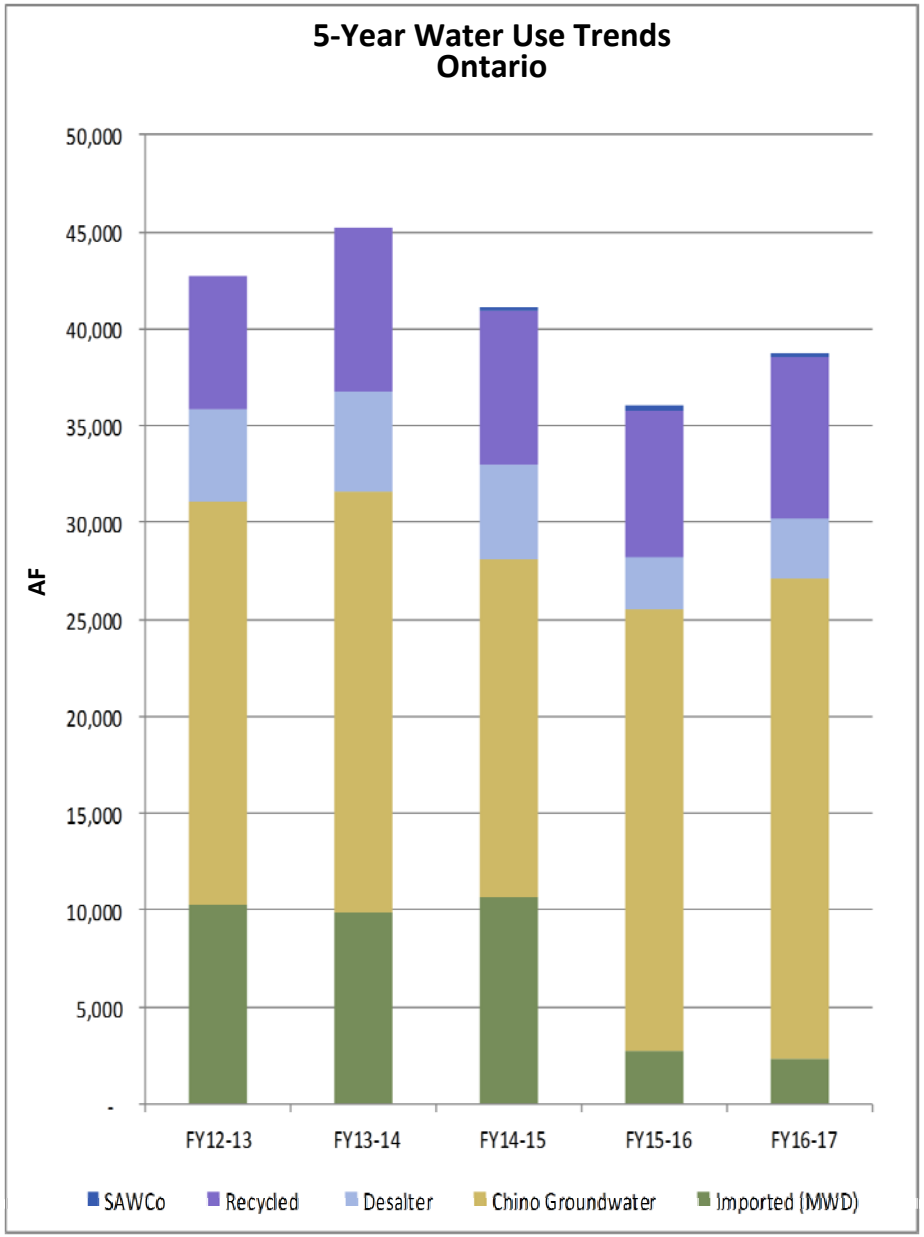
City of Ontario

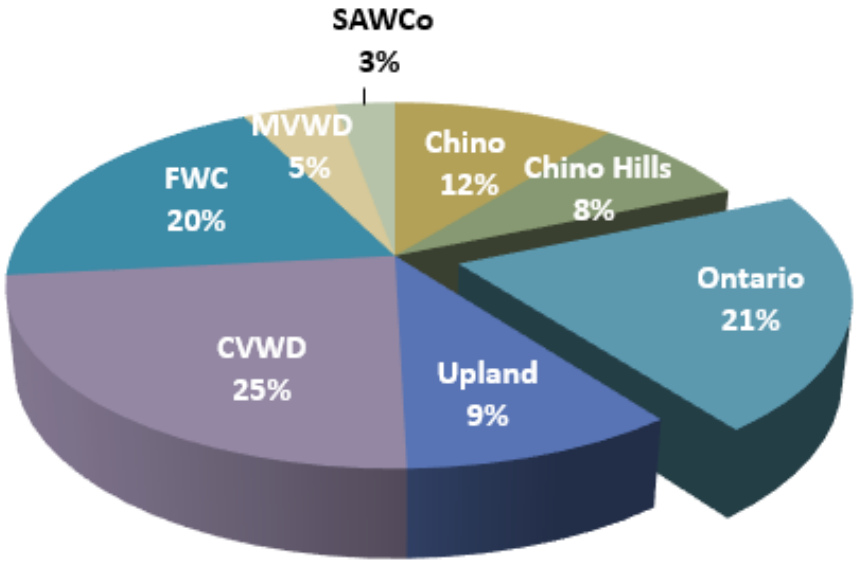
FY 2016/17 Monthly Water Usage



City of Ontario

FY 2016/17 Water Use Report





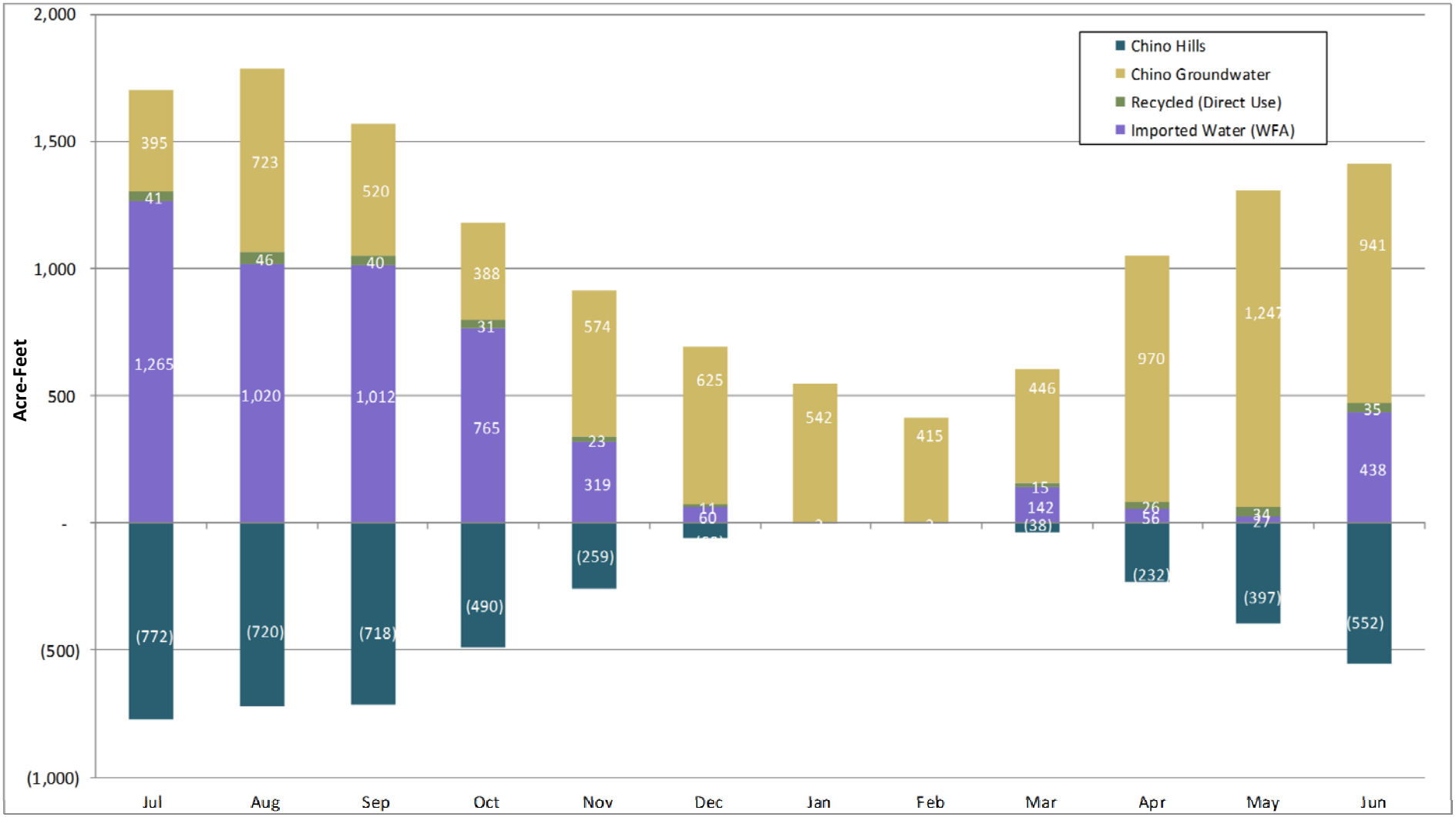
In FY 2016/17, The City of Ontario used 21% (38,636 AF) of 184,060 AF used in the IEUA service area.

City of Ontario

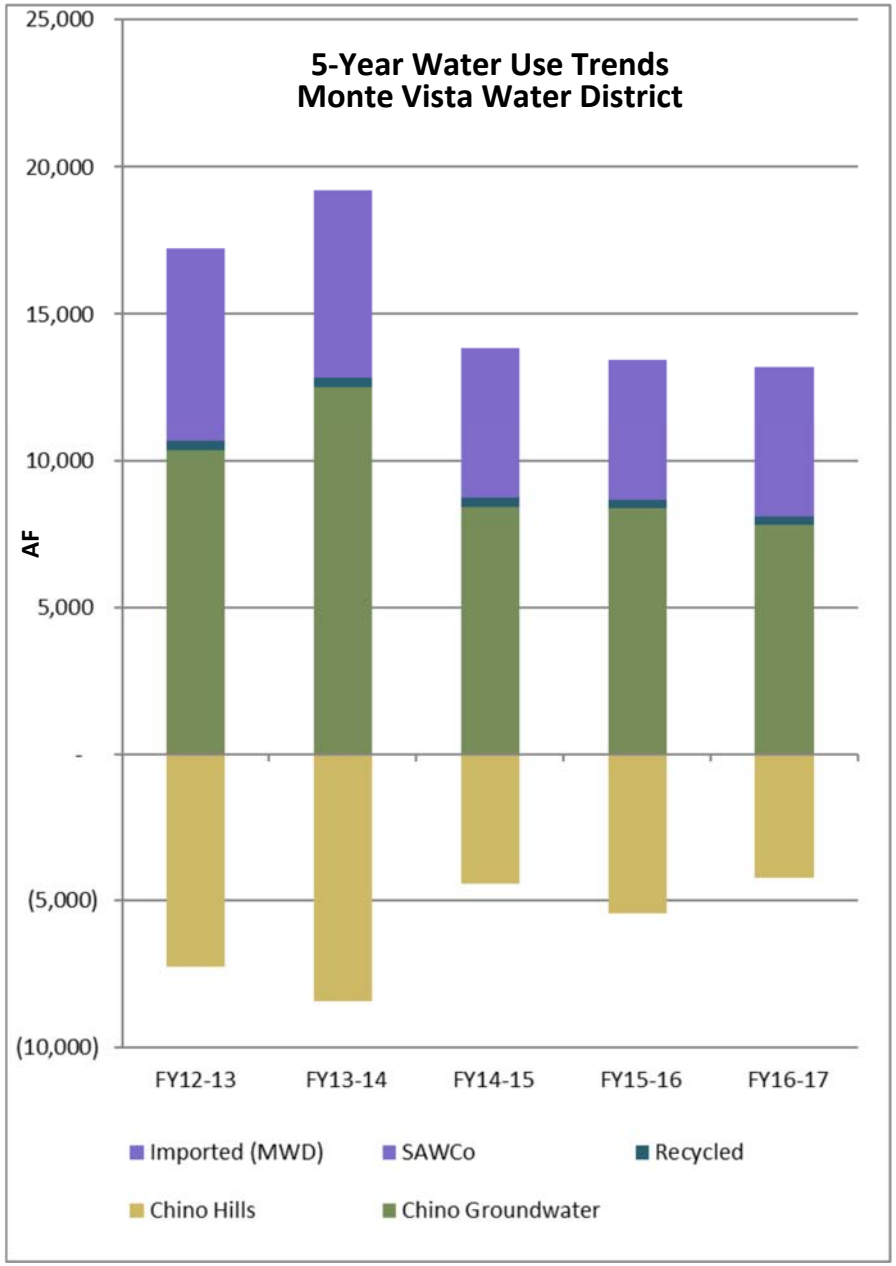
FY 2016/17 Monthly Water Usage

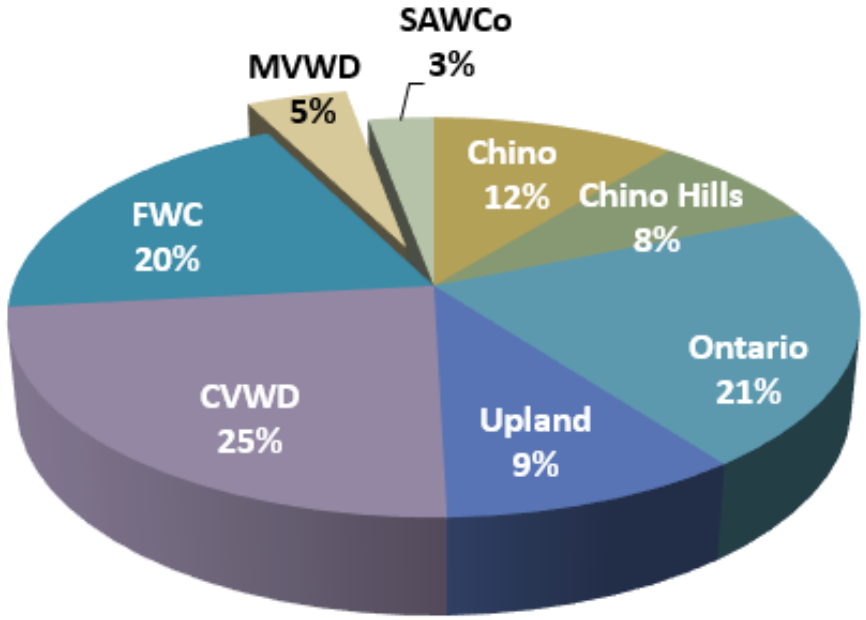
		Total IEUA Service Area Water Use By Agency for FY16-17 (AF)										Ontario		
		July	August	September	October	November	December	January	February	March	April	May	June	Total
Purchases from IEUA	Imported Water (WFA)	246	62	159	341	182	138	-	-	215	257	327	437	2,364
	Recycled (Direct Use)	1,124	1,186	1,222	943	702	338	164	107	198	695	731	942	8,352
Subtotal		1,370	1,248	1,381	1,284	884	476	164	107	413	952	1,058	1,379	10,716
Production	Chino Groundwater	2,632	2,950	2,551	1,936	1,913	1,421	1,264	1,301	1,713	2,190	2,336	2,465	24,672
Subtotal		2,632	2,950	2,551	1,936	1,913	1,421	1,264	1,301	1,713	2,190	2,336	2,465	24,672
Purchases from other agencies	CDA	348	289	258	277	251	414	392	164	178	170	167	168	3,077
	SAWCo Water	-	-	39	-	-	-	-	-	30	32	35	34	171
Subtotal		348	289	298	277	251	414	392	164	208	202	202	202	3,248
Total		4,350	4,487	4,230	3,497	3,049	2,311	1,820	1,572	2,333	3,345	3,597	4,046	38,636

Monte Vista Water District
FY 2016/17 Monthly Water Usage



Monte Vista Water District





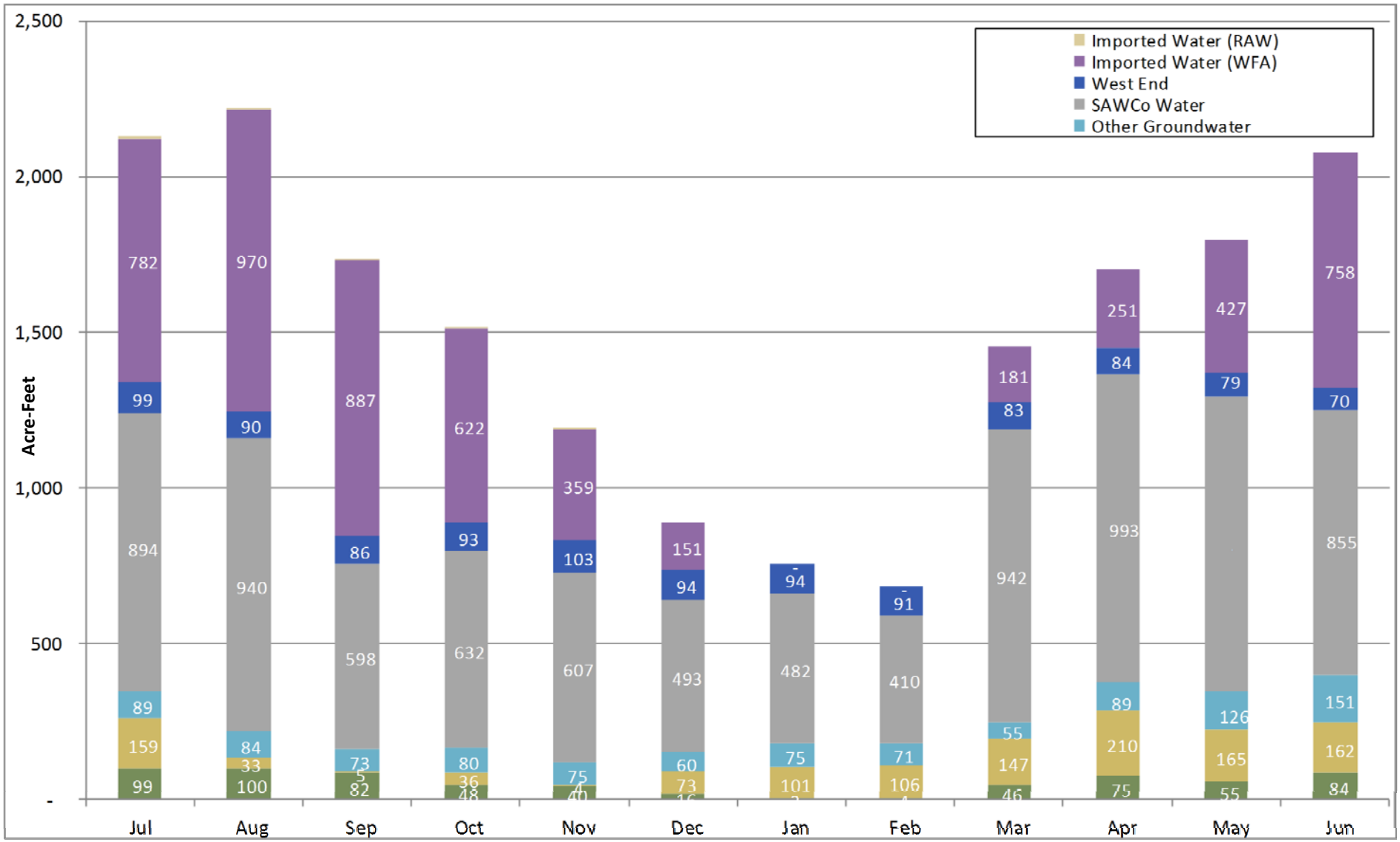
In FY 2016/17, Monte Vista Water District used 5% (8,379 AF) of 184,060 AF used in the IEUA service area.

Monte Vista Water District
FY 2016/17 Monthly Water Usage

		Total IEUA Service Area Water Use By Agency for FY16-17 (AF)										MVWD		
		July	August	September	October	November	December	January	February	March	April	May	June	Total
Purchases from IEUA	Imported Water (WFA)	1,265	1,020	1,012	765	319	60	-	-	142	56	27	438	5,105
	Recycled (Direct Use)	41	46	40	31	23	11	2	2	15	26	34	35	306
Subtotal		1,306	1,066	1,052	796	342	71	2	2	157	82	61	473	5,411
Production	Chino Groundwater	395	723	520	388	574	625	542	415	446	970	1,247	941	7,786
Subtotal		395	723	520	388	574	625	542	415	446	970	1,247	941	7,786
Sales to other agencies	Chino Hills	(771)	(893)	(759)	(490)	(312)	(183)	(29)	-	(41)	(320)	(481)	(539)	(4,818)
Subtotal		(771)	(893)	(759)	(490)	(312)	(183)	(29)	-	(41)	(320)	(481)	(539)	(4,818)
Total		930	896	813	694	604	512	515	417	562	733	828	874	8,379

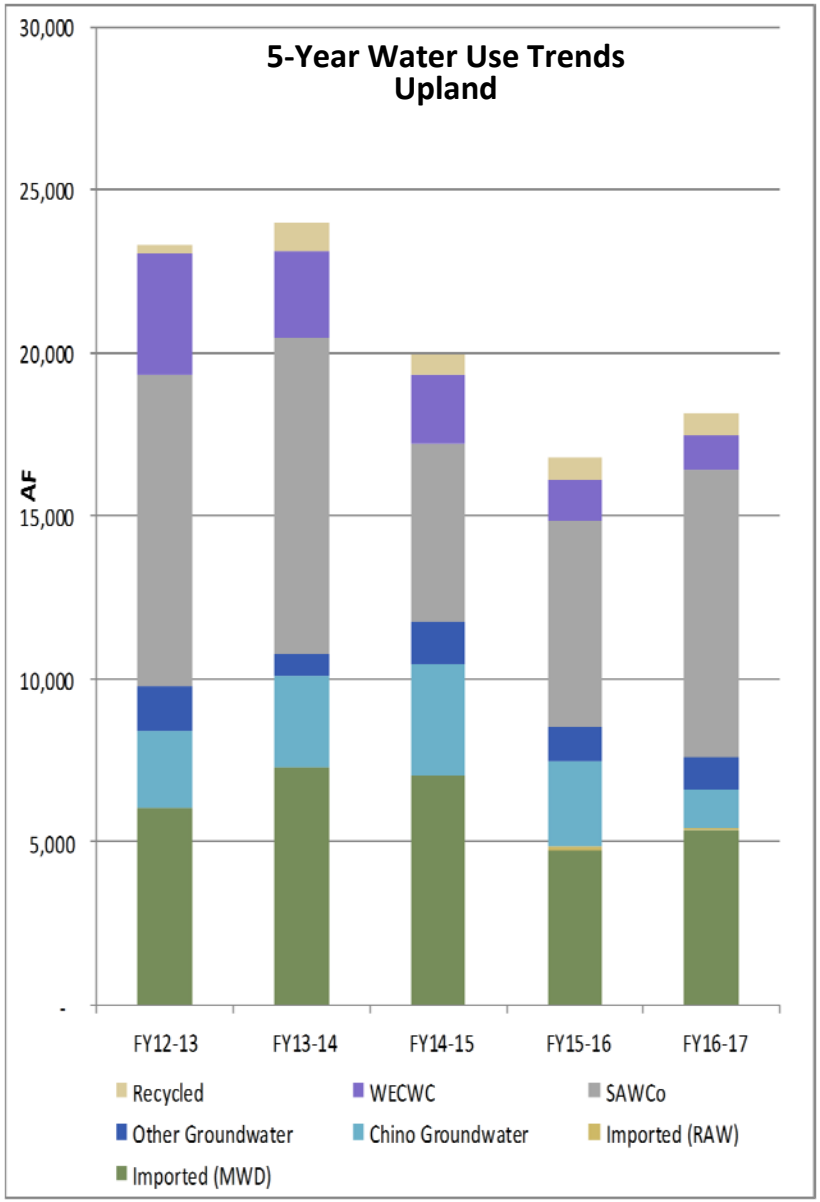
City of Upland

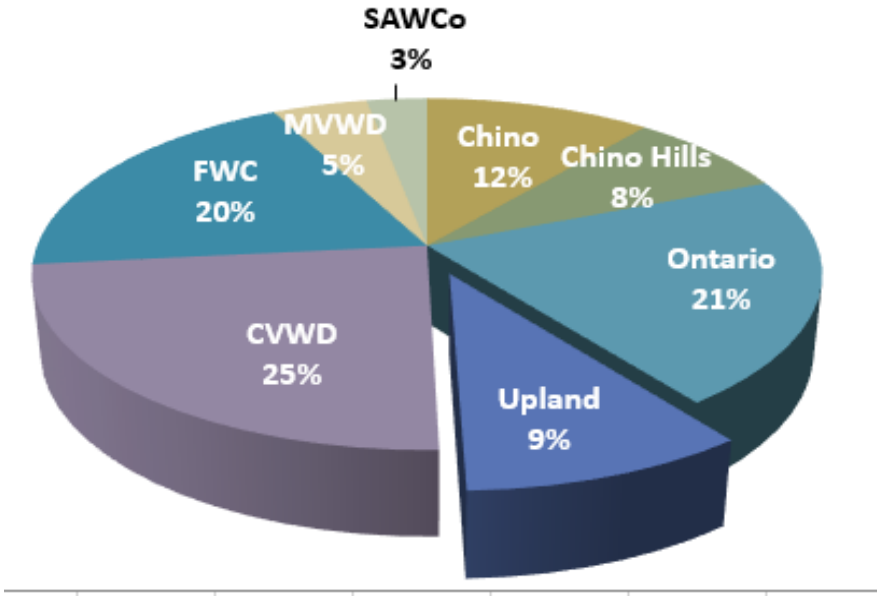
FY 2016/17 Monthly Water Usage



City of Upland

FY 2016/17 Water Use Report





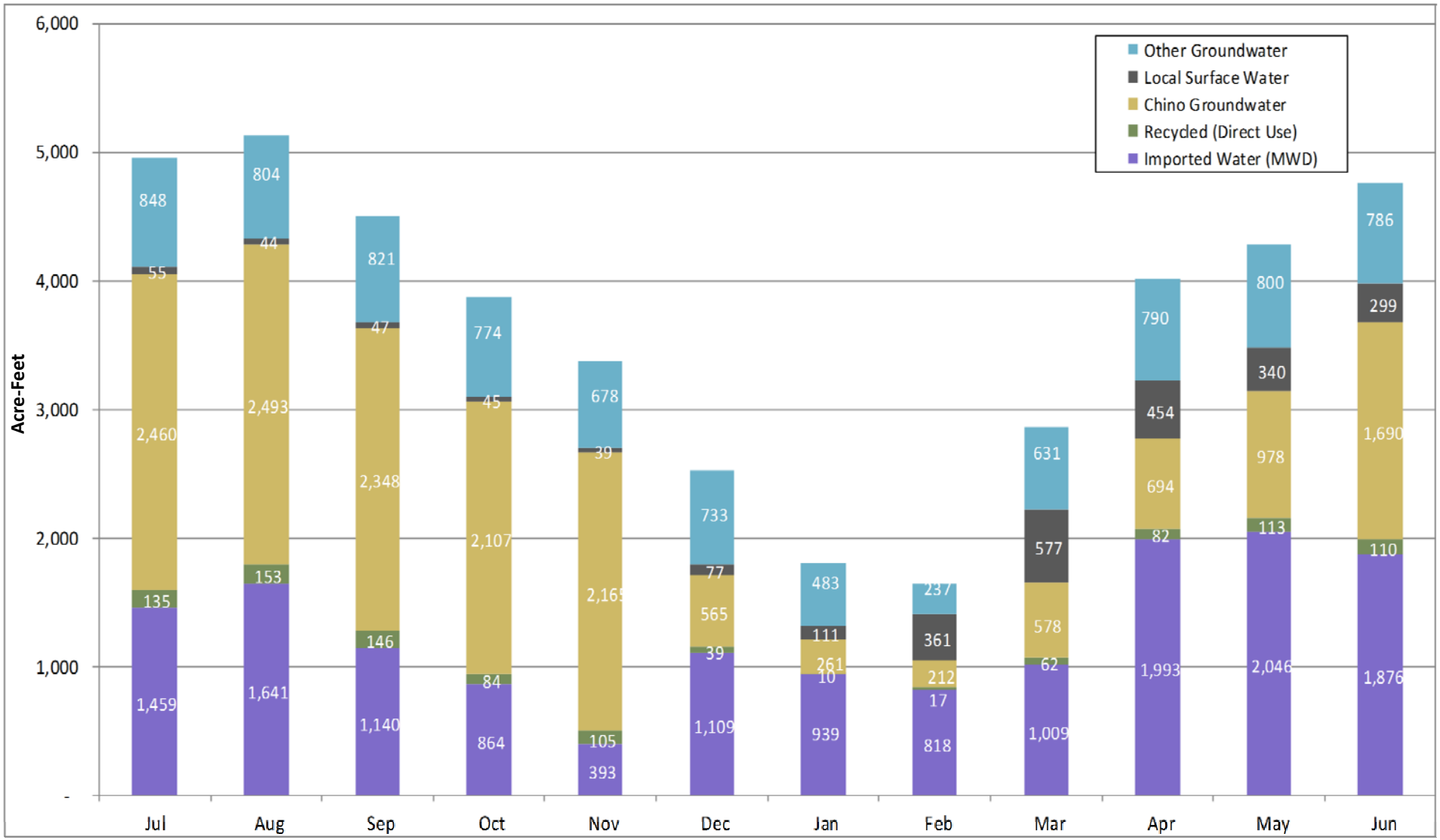
In FY 2016/17, The City of Upland used 9% (18,203 AF) of 184,060 AF used in the IEUA service area.

City of Upland

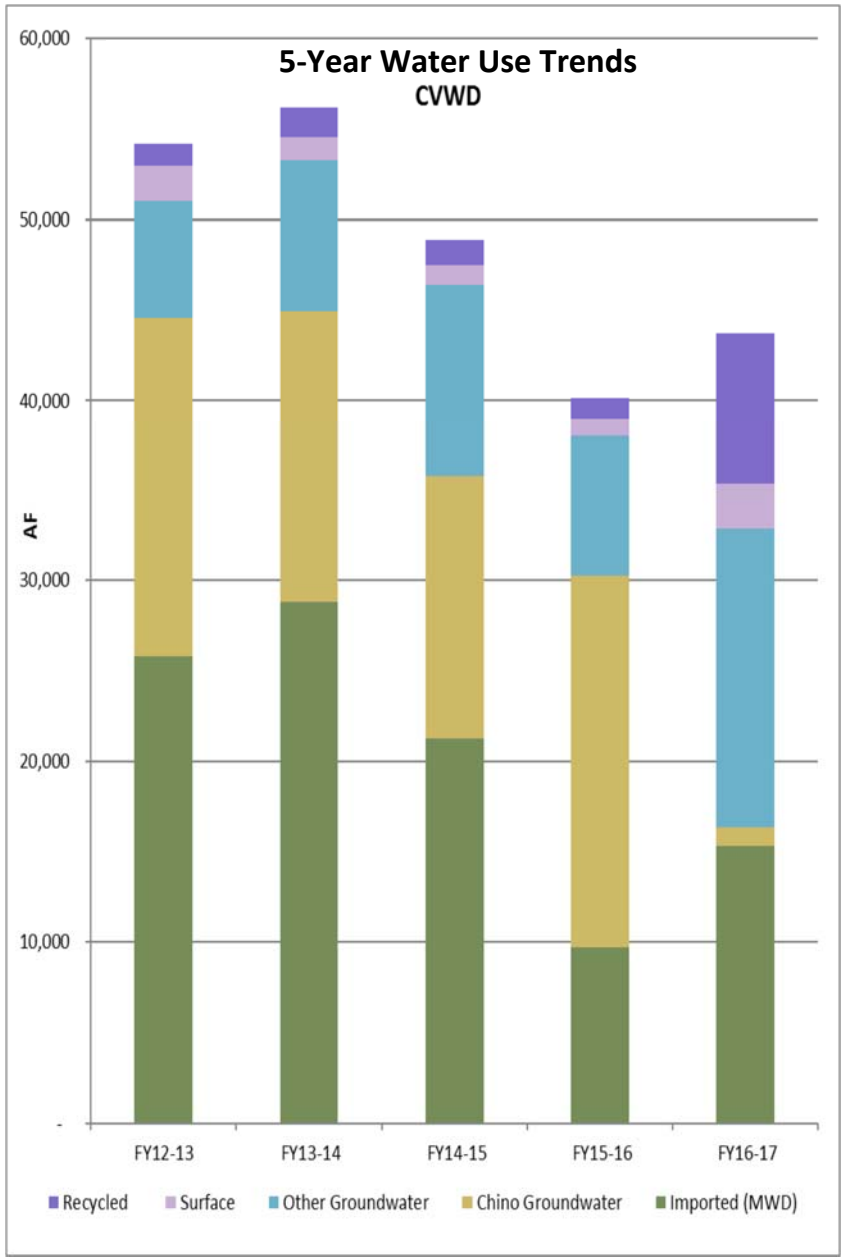
FY 2016/17 Monthly Water Usage

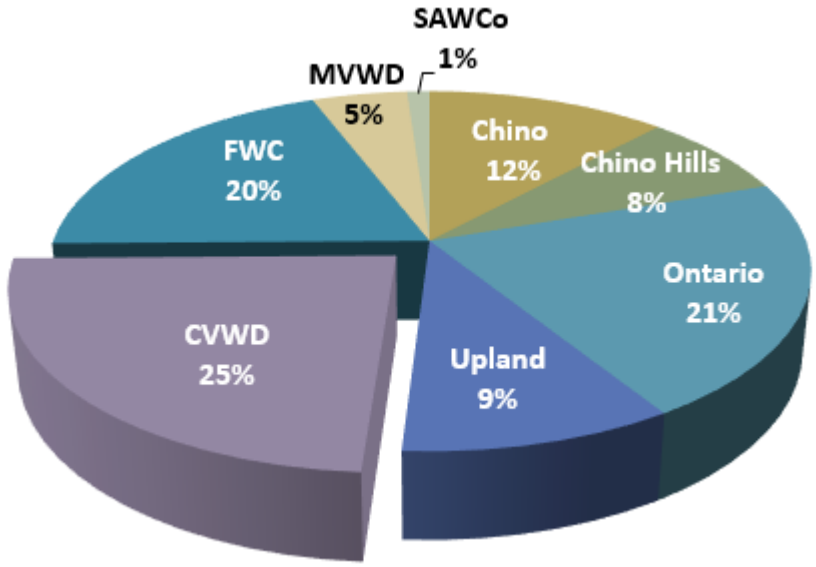
		Total IEUA Service Area Water Use By Agency for FY16-17 (AF)										Upland		
		July	August	September	October	November	December	January	February	March	April	May	June	Total
Purchases from IEUA	Imported Water (WFA)	782	970	887	622	359	151	-	-	181	251	427	758	5,389
	Recycled (Direct Use)	99	100	82	48	40	16	3	4	46	75	55	84	652
	Imported Water (RAW)	11	2	1	0	4	-	-	-	-	-	-	-	18
Subtotal		891	1,072	970	670	404	167	3	4	227	326	482	842	6,058
Production	Chino Groundwater	159	33	5	36	62	73	101	106	147	210	165	162	1,260
	Other Groundwater	89	84	73	80	75	60	75	71	55	89	126	151	1,026
Subtotal		248	117	77	116	137	133	176	176	202	299	292	313	2,286
Purchases from other agencies	SAWCo Water	894	940	598	632	607	493	482	410	942	993	945	855	8,791
	West End	99	90	86	93	103	94	94	91	83	84	79	70	1,068
Subtotal		993	1,031	684	726	710	587	576	502	1,025	1,077	1,024	925	9,858
Total		2,132	2,219	1,732	1,512	1,251	887	755	682	1,455	1,702	1,797	2,080	18,203

Cucamonga Valley Water District
FY 2016/17 Monthly Water Usage



Cucamonga Valley Water District
FY 2016/17 Water Report



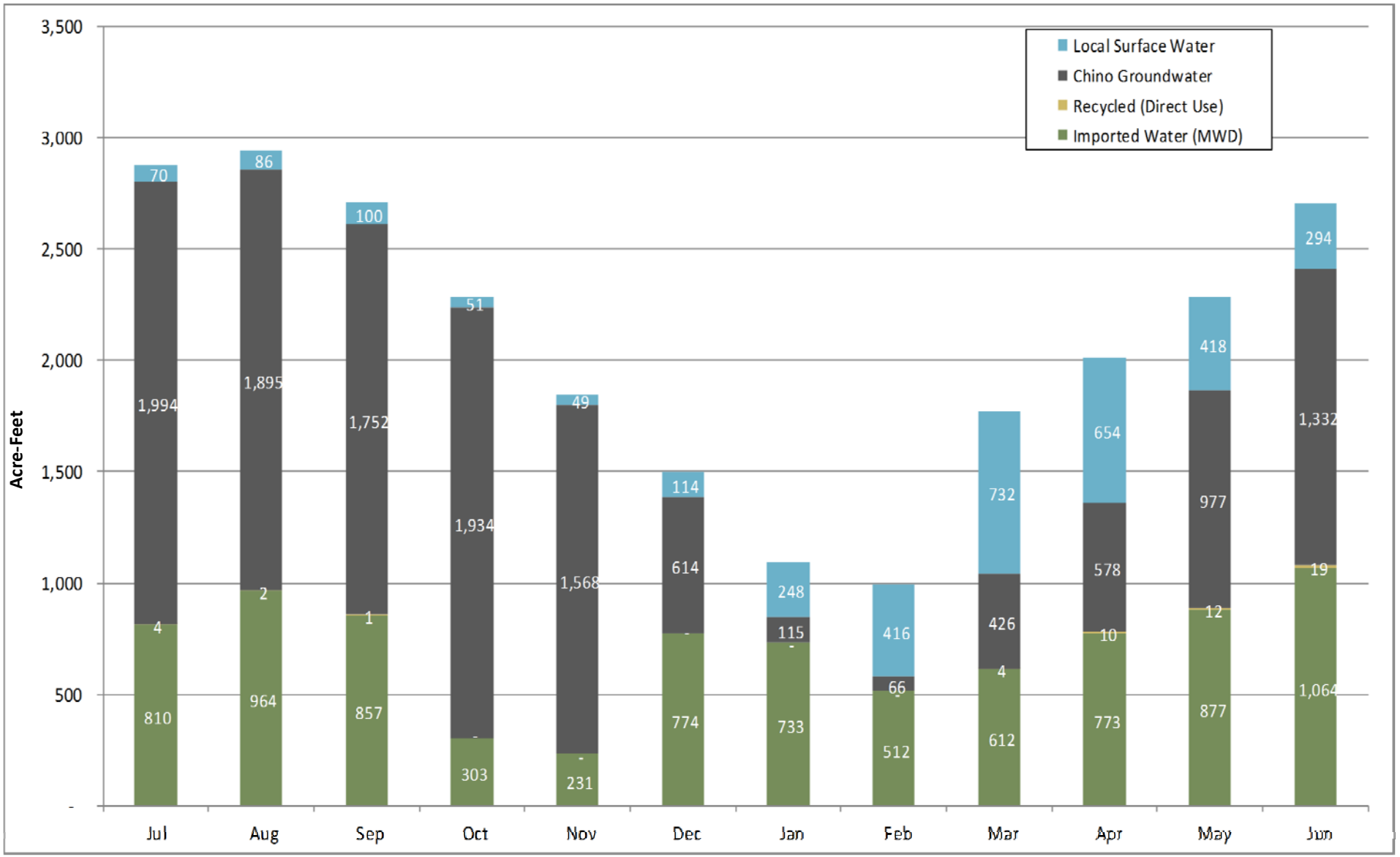


In FY 2016/17, Cucamonga Valley Water District used 25% (43,728 AF) of 184,060 AF used in the IEUA service area.

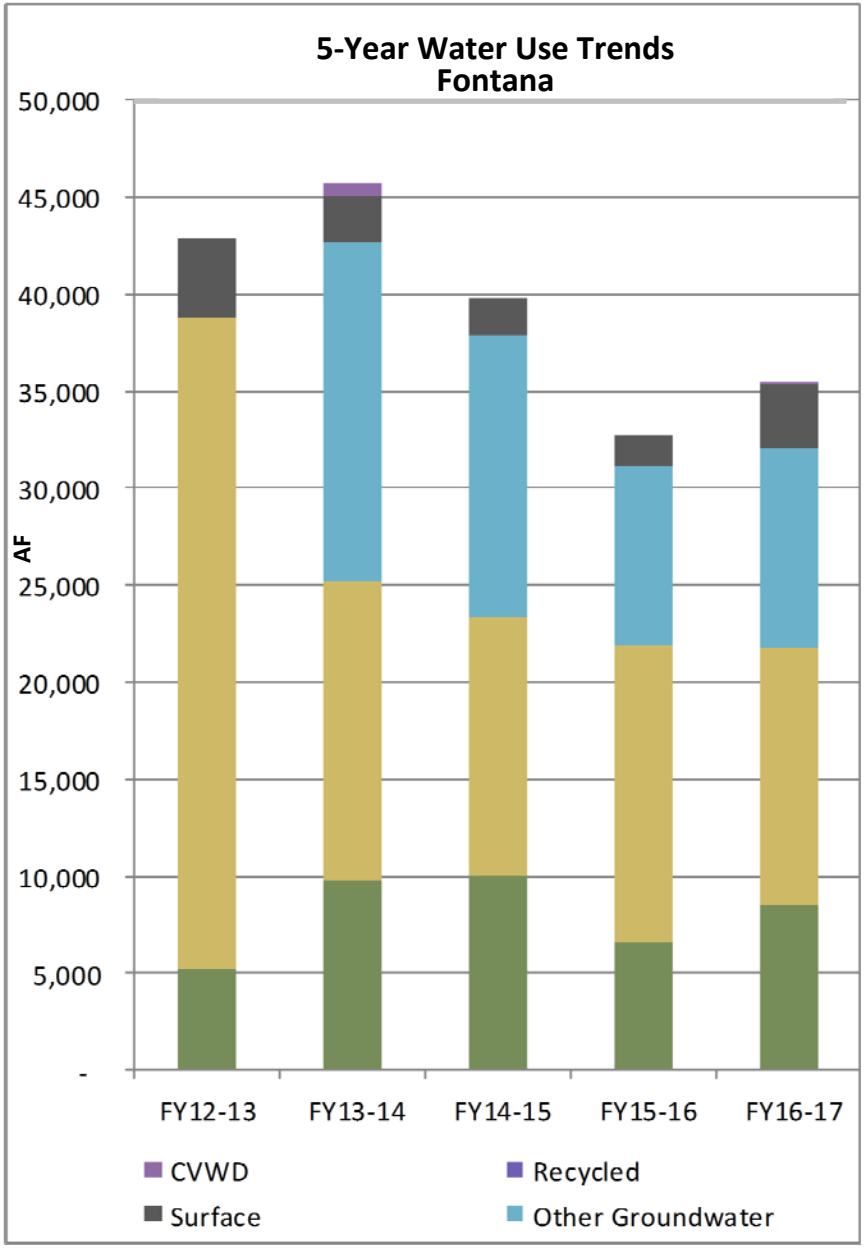
Cucamonga Valley Water District
FY 2016/17 Monthly Water Usage

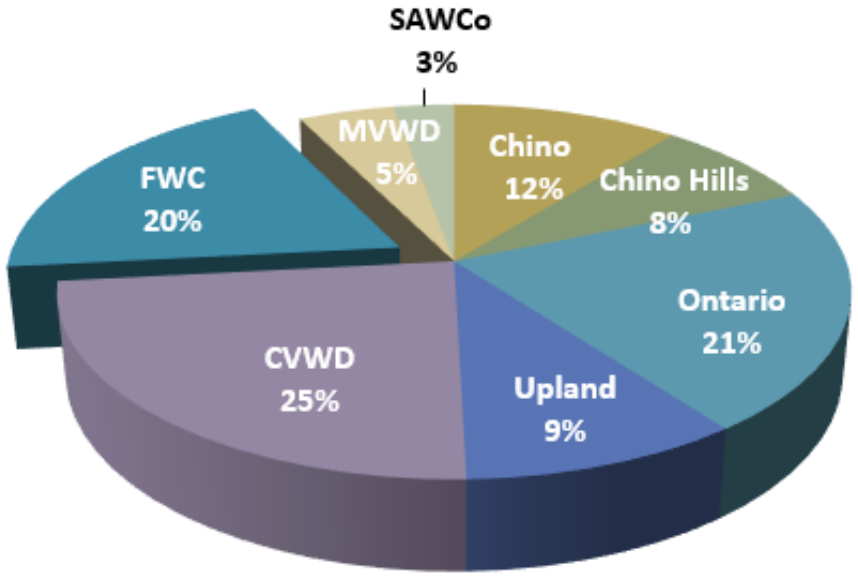
		Total IEUA Service Area Water Use By Agency for FY16-17 (AF)										CVWD		
		July	August	September	October	November	December	January	February	March	April	May	June	Total
Purchases from IEUA	Imported Water (WFA)	1,459	1,641	1,140	864	393	1,109	939	818	1,009	1,993	2,046	1,876	15,288
	Recycled (Direct Use)	135	153	146	84	105	39	10	17	62	82	113	110	1,056
Subtotal		1,594	1,794	1,286	948	498	1,148	949	835	1,071	2,075	2,159	1,986	16,344
Production	Chino Groundwater	2,460	2,493	2,348	2,107	2,165	565	261	212	578	694	978	1,690	16,549
	Local Surface Water	55	44	47	45	39	77	111	361	577	454	340	299	2,448
	Other Groundwater	848	804	821	774	678	733	483	237	631	790	800	786	8,386
Subtotal		3,363	3,341	3,216	2,925	2,882	1,375	855	809	1,787	1,938	2,119	2,774	27,384
Total		4,957	5,135	4,502	3,874	3,380	2,523	1,804	1,645	2,857	4,013	4,278	4,760	43,728

Fontana Water Company
FY 2016/17 Monthly Water Usage



Fontana Water Company
FY 2016/17 Water Use Report





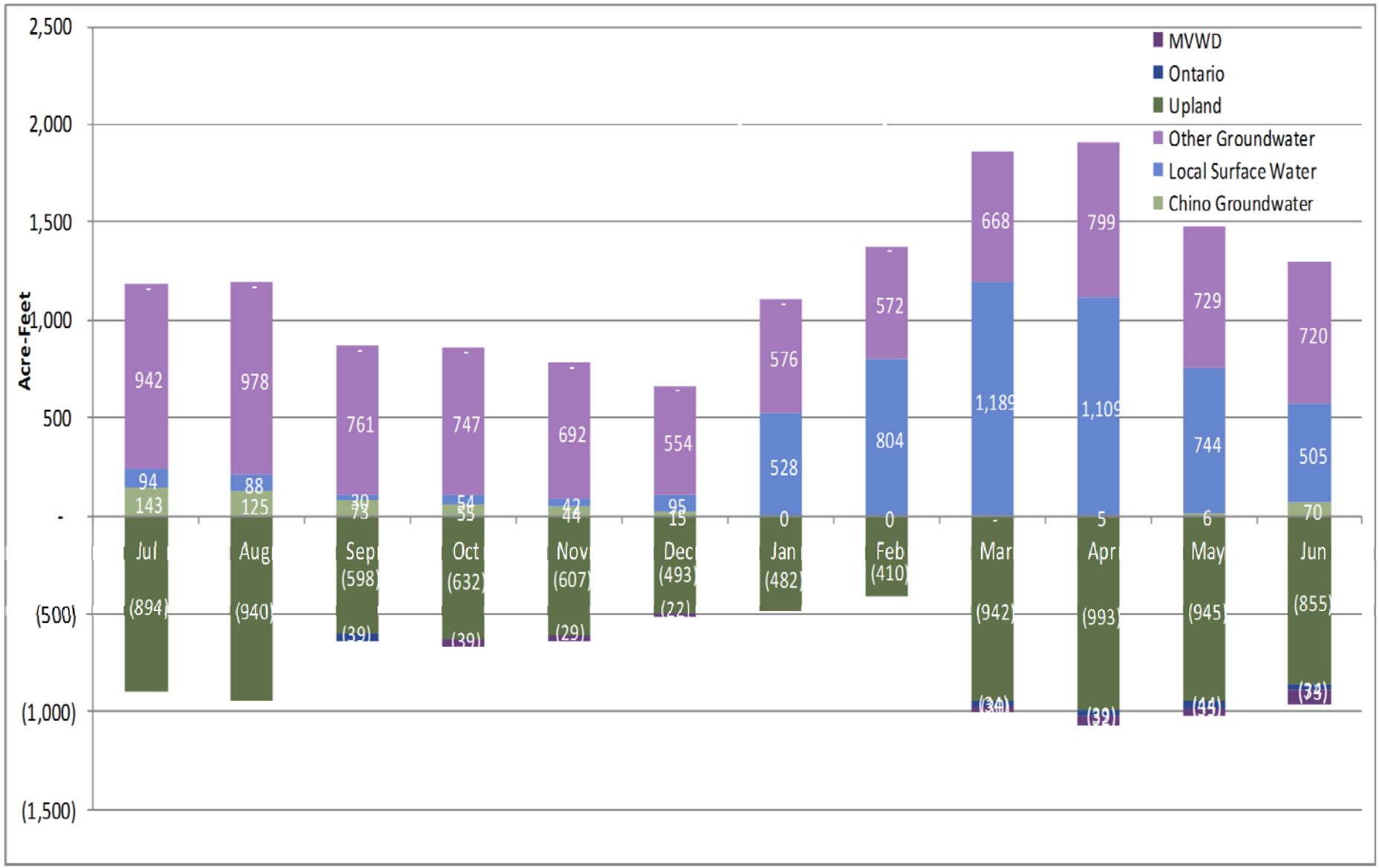
In FY 2016/17, The Fontana Water Company used 20% (35,419 AF) of 184,060 AF used in the IEUA service area.

Fontana Water Company

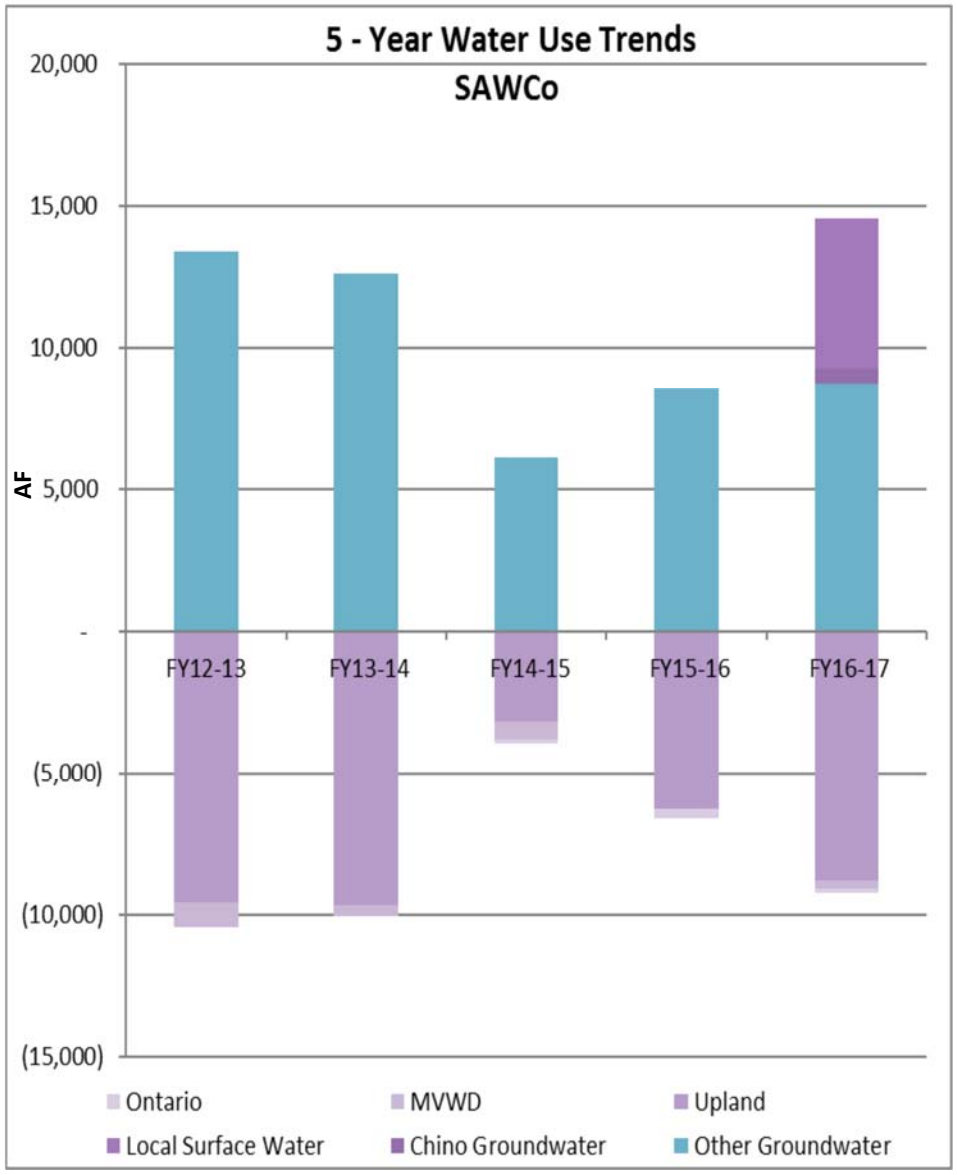
FY 2016/17 Monthly Water Usage

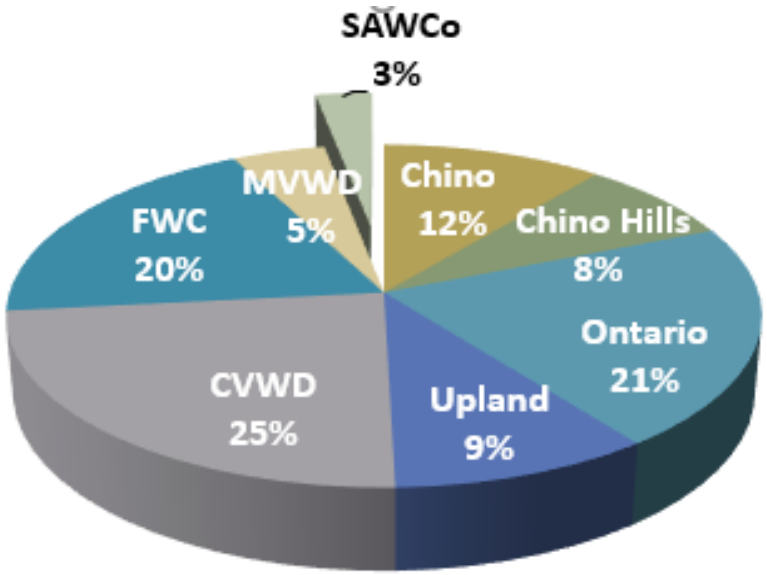
		Total IEUA Service Area Water Use By Agency for FY16-17 (AF)										FWC		
		July	August	September	October	November	December	January	February	March	April	May	June	Total
Purchases from IEUA	Imported Water (WFA)	810	964	857	303	231	774	733	512	612	773	877	1,064	8,510
	Recycled (Direct Use)	4	2	1	-	-	-	-	-	4	10	12	19	52
Subtotal		814	966	858	303	231	774	733	512	616	783	889	1,083	8,562
Production	Chino Groundwater	1,994	1,895	1,752	1,934	1,568	614	115	66	426	578	977	1,332	13,251
	Local Surface Water	70	86	100	51	49	114	248	416	732	654	418	294	3,230
	Other Groundwater	915	826	752	857	797	793	756	704	787	1,068	1,075	1,007	10,338
Subtotal		2,978	2,806	2,605	2,841	2,414	1,521	1,119	1,186	1,946	2,299	2,470	2,633	26,818
Purchases from other agencies	CVWD	-	39	-	-	-	-	-	-	-	-	-	-	39
Subtotal		-	39	-	-	-	-	-	-	-	-	-	-	39
Total		3,793	3,811	3,463	3,145	2,645	2,295	1,852	1,698	2,562	3,082	3,358	3,716	35,419

San Antonio Water Company
FY 2016/17 Monthly Water Usage



San Antonio Water Company
FY 2016/17 Water Use Report





In FY 2016/17, The San Antonio Water Company used 3% (5,318 AF) of 184,060 AF used in the IEUA service area.

San Antonio Water Company
FY 2016/17 Monthly Water Usage

		Total IEUA Service Area Water Use By Agency for FY16-17 (AF)										SAWCo		
		July	August	September	October	November	December	January	February	March	April	May	June	Total
Purchases from IEUA	Chino Groundwater	143	125	73	55	44	15	0	0	-	5	6	70	537
	Local Surface Water	94	88	30	54	42	95	528	804	1,189	1,109	744	505	5,282
	Other Groundwater	942	978	761	747	692	554	576	572	668	799	729	720	8,739
Subtotal		1,180	1,190	865	856	779	664	1,104	1,376	1,857	1,913	1,480	1,295	14,558
Sales to other agencies	Upland	(894)	(940)	(598)	(632)	(607)	(493)	(482)	(410)	(942)	(993)	(945)	(855)	(8,791)
	Ontario	-	-	(39)	-	-	-	-	-	(30)	(32)	(35)	(34)	(171)
	MVWD	-	-	-	(39)	(29)	(22)	-	-	(34)	(39)	(44)	(73)	(278)
Subtotal		(894)	(940)	(637)	(671)	(636)	(515)	(482)	(410)	(1,005)	(1,064)	(1,024)	(962)	(9,240)
Total		286	250	227	185	143	149	623	966	852	849	456	333	5,318

APPENDIX A

Five year Historical Data Summary

FY 16-17		Total IEUA Service Area Water Use by Retail Agency for FY 16-17 (AFY)								
		CHINO	CHINO HILLS	ONTARIO	UPLAND	CVWD	FWC	MVWD	SAWCo	TOTAL
Purchases from IEUA	Imported Water (MWD)	3,469	1,954	2,364	5,406	15,288	8,510	5,105	0	42,096
	Recycled (Direct Use)	6,447	1,838	8,352	652	1,056	52	306	0	18,703
Subtotal		**9,916**	**3,792**	**10,716**	**6,058**	**16,344**	**8,562**	**5,411**	**0**	**60,799**
Production	Chino Groundwater	4,972	2,245	24,672	1,259	16,549	13,251	7,786	537	71,272
	Other Groundwater	0	0	0	1,026	8,386	10,338	0	8,739	28,490
	Local Surface Water	0	0	0	0	2,448	3,230	0	5,282	10,960
Subtotal		**4,972**	**2,245**	**24,672**	**2,228**	**27,384**	**26,818**	**7,786**	**14,558**	**110,721**
Purchases from Other Agencies	CDA	5,008	4,206	3,077	0	0	0	0	0	12,292
	MVWD	0	4,237	0	0	0	0	0	0	4,237
	SAWCo Water	0	0	171	8,791	0	0	0	0	8,961
	West End	0	0	0	1,068	0	0	0	0	1,068
	CVWD	0	0	0	0	0	39	0	0	39
Subtotal		**5,008**	**8,444**	**3,248**	**9,858**	**0**	**39**	**0**	**0**	**26,597**
Sales to Other Agencies*	Chino Hills	0	0	0	0	0	0	-4,818	0	-4,818
	Ontario	0	0	0	0	0	0	0	-171	-171
	Upland	0	0	0	0	0	0	0	-8,791	-8,791
	MVWD	0	0	0	0	0	0	0	-278	-278
Subtotal		**0**	**0**	**0**	**0**	**0**	**0**	**-4,818**	**-9,240**	**-14,058**
	Total	**19,896**	**14,481**	**38,636**	**18,203**	**43,728**	**35,419**	**8,379**	**5,318**	**184,060**

FY 15-16		Total IEUA Service Area Water Use by Retail Agency for FY 15-16 (AFY)								
		CHINO	CHINO HILLS	ONTARIO	UPLAND	CVWD	FWC	MVWD	SAWCo	TOTAL
Purchases from IEUA	Imported Water (MWD)	2,843	110	2,755	4,890	9,712	6,613	4,799	0	31,722
	Recycled (Direct Use)	7,217	1,410	7,566	719	1,146	0	278	0	18,336
Subtotal		**10,060**	**1,520**	**10,321**	**5,609**	**10,857**	**6,613**	**5,078**	**0**	**50,058**
Production	Chino Groundwater	5,104	1,630	22,755	2,601	20,524	15,317	8,371	0	76,302
	Other Groundwater	0	0	0	1,054	7,783	9,253	0	8,517	26,607
	Local Surface Water	0	0	0	0	1,002	1,497	0	0	2,499
Subtotal		**5,104**	**1,630**	**22,755**	**3,655**	**29,309**	**26,067**	**8,371**	**8,517**	**105,408**
Purchases from Other Agencies	CDA	5,000	4,201	2,682	0	0	0	0	0	11,883
	MVWD	0	5,642	0	0	0	0	0	0	5,642
	SAWCo Water	0	0	338	6,297	0	0	0	0	6,635
	West End	0	0	0	1,246	0	0	0	0	1,246
Subtotal		**5,000**	**9,843**	**3,020**	**7,543**	**0**	**0**	**0**	**0**	**25,406**
Sales to Other Agencies	Chino Hills	0	0	0	0	0	0	-5,437	0	-5,437
	Ontario	0	0	0	0	0	0	0	-338	-338
	Upland	0	0	0	0	0	0	0	-6,297	-6,297
Subtotal		**0**	**0**	**0**	**0**	**0**	**0**	**-5,437**	**-6,635**	**-12,072**
	Total	**20,163**	**12,993**	**36,096**	**16,807**	**40,166**	**32,681**	**8,012**	**1,882**	**168,799**

FY 14-15		Total IEUA Service Area Water Use by Retail Agency for FY 14-15 (AFY)								
		CHINO	CHINO HILLS	ONTARIO	UPLAND	CVWD	FWC	MVWD	SAWCo	TOTAL
Purchases from IEUA	Imported Water (MWD)	2,830	2,494	10,703	7,047	21,306	9,994	4,530	0	58,905
	Recycled (Direct Use)	8,324	1,827	8,018	636	1,400	0	308	0	20,513
Subtotal		**11,154**	**4,321**	**18,721**	**7,684**	**22,705**	**9,994**	**4,838**	**0**	**79,418**
Production	Chino Groundwater	6,497	2,904	17,426	3,416	14,490	13,344	8,407	0	66,485
	Other Groundwater	0	0	0	1,291	10,631	14,500	0	6,091	32,513
	Local Surface Water	0	0	0	0	1,076	1,969	0	0	3,044
Subtotal		**6,497**	**2,904**	**17,426**	**4,708**	**26,196**	**29,813**	**8,407**	**6,091**	**102,042**
Purchases from Other Agencies	CDA	5,232	4,426	4,827	0	0	0	0	0	14,485
	MVWD	0	4,436	0	0	0	0	0	0	4,436
	SAWCo Water	0	0	172	5,461	0	0	612	0	6,246
	West End	0	0	0	2,139	0	0	0	0	2,139
Subtotal		**5,232**	**8,862**	**5,000**	**7,601**	**0**	**0**	**612**	**0**	**27,306**
Sales to Other Agencies	Chino Hills	0	0	0	0	0	0	-4,439	0	-4,439
	MVWD	0	0	0	0	0	0	0	-612	-612
	Ontario	0	0	0	0	0	0	0	-172	-172
	Upland	0	0	0	0	0	0	0	-3,177	-3,177
Subtotal		**0**	**0**	**0**	**0**	**0**	**0**	**-4,439**	**-3,961**	**-8,400**
	Total	**22,884**	**16,087**	**41,147**	**19,992**	**48,902**	**39,807**	**9,419**	**2,129**	**200,366**

FY 13-14		Total IEUA Service Area Water Use by Retail Agency for FY 13-14 (AFY)								
		CHINO	CHINO HILLS	ONTARIO	UPLAND	CVWD	FWC	MVWD	SAWCo	TOTAL
Purchases from IEUA	Imported Water (MWD)	4,342	962	9,904	7,265	28,825	9,792	5,965	0	67,055
	Recycled (Direct Use)	8,916	2,002	8,428	869	1,652	0	339	0	22,205
Subtotal		**13,258**	**2,964**	**18,332**	**8,134**	**30,477**	**9,792**	**6,304**	**0**	**89,261**
Production	Chino Groundwater	6,725	2,138	21,723	2,822	16,122	15,378	12,522	0	77,430
	Other Groundwater	0	0	0	704	8,324	17,454	0	12,610	39,092
	Local Surface Water	0	0	0	0	1,254	2,405	0	0	3,658
Subtotal		**6,725**	**2,138**	**21,723**	**3,526**	**25,700**	**35,236**	**12,522**	**12,610**	**120,180**
Purchases from Other Agencies	CDA	5,198	4,396	5,141	0	0	0	0	0	14,735
	CVWD	0	0	0	0	0	757	0	0	757
	MVWD	0	8,427	0	0	0	0	0	0	8,427
	SAWCo Water	0	0	0	9,662	0	0	400	0	10,063
	West End	0	0	0	2,653	0	0	0	0	2,653
Subtotal		**5,198**	**12,824**	**5,141**	**12,316**	**0**	**757**	**400**	**0**	**36,636**
Sales to Other Agencies	Chino Hills	0	0	0	0	0	0	-8,428	0	-8,428
	MVWD	0	0	0	0	0	0	0	-400	-400
	Upland	0	0	0	0	0	0	0	-9,662	-9,662
Subtotal		**0**	**0**	**0**	**0**	**0**	**0**	**-8,428**	**-10,063**	**-18,490**
	Total	**25,181**	**17,926**	**45,196**	**23,975**	**56,177**	**45,785**	**10,798**	**2,547**	**227,586**

FY 12-13		Total IEUA Service Area Water Use by Retail Agency for FY 12-13 (AFY)								
		CHINO	CHINO HILLS	ONTARIO	UPLAND	CVWD	FWC	MVWD	SAWCo	TOTAL
Purchases from IEUA	Imported Water (MWD)	4,085	1,822	10,244	6,067	25,845	5,215	5,737	0	59,013
	Recycled (Direct Use)	8,957	1,890	6,894	264	1,231	0	327	0	19,562
Subtotal		**13,042**	**3,711**	**17,138**	**6,331**	**27,075**	**5,215**	**6,063**	**0**	**78,575**
Production	Chino Groundwater	7,022	3,134	20,801	2,358	18,740	33,576	10,325	0	95,956
	Other Groundwater	0	0	0	1,349	6,420	0	0	13,376	21,145
	Local Surface Water	0	0	0	0	1,921	4,059	0	0	5,980
Subtotal		**7,022**	**3,134**	**20,801**	**3,707**	**27,081**	**37,635**	**10,325**	**13,376**	**123,081**
Purchases from Other Agencies	CDA	4,805	4,075	4,792	0	0	0	0	0	13,671
	MVWD	0	6,949	0	0	0	0	0	0	6,949
	SAWCo Water	0	0	0	9,594	0	0	841	0	10,435
	West End	0	0	0	3,692	0	0	0	0	3,692
Subtotal		**4,805**	**11,024**	**4,792**	**13,286**	**0**	**0**	**841**	**0**	**34,747**
Sales to Other Agencies	Chino Hills	0	0	0	0	0	0	-7,249	0	-7,249
	MVWD	0	0	0	0	0	0	0	-841	-841
	Upland	0	0	0	0	0	0	0	-9,594	-9,594
Subtotal		**0**	**0**	**0**	**0**	**0**	**0**	**-7,249**	**-10,435**	**-17,684**
	Total	**24,868**	**17,869**	**42,731**	**23,324**	**54,157**	**42,850**	**9,980**	**2,941**	**218,719**

APPENDIX B

Definitions

Chino Basin Groundwater – Water pumped from the Chino Basin Aquifer and treated by retail water agencies for all potable uses within the IEUA service area.

Desalter Water – Water pumped from Chino Basin Desalter I owned and operated by the Chino Basin Desalter Authority (CDA). Groundwater, with high levels of dissolved solids, is treated and distributed to several retail agencies within the IEUA's service area for potable uses.

Imported Water (MWD) – Water from Northern California and supplied by the Metropolitan Water District of Southern California (MWD), and water transferred from other groundwater basins to retail water agencies operating within the IEUA service area. All Tier I and Tier II deliveries are included in this category.

Other Groundwater – Water produced from other local groundwater basins to retail water agencies operating within IEUA's service area.

Surface Water – Water collected by retail water agencies from mountain runoff and storm flows, which is collected and treated for potable use.

Recycled Water – Title 22 recycled water produced by the IEUA at its water recycling plants for distribution through separate pipelines to retail water agency customers for all non-potable uses.

WECWC– West End Consolidated Water Company supplies some water to the City of Upland.

WVWD – West Valley Water District

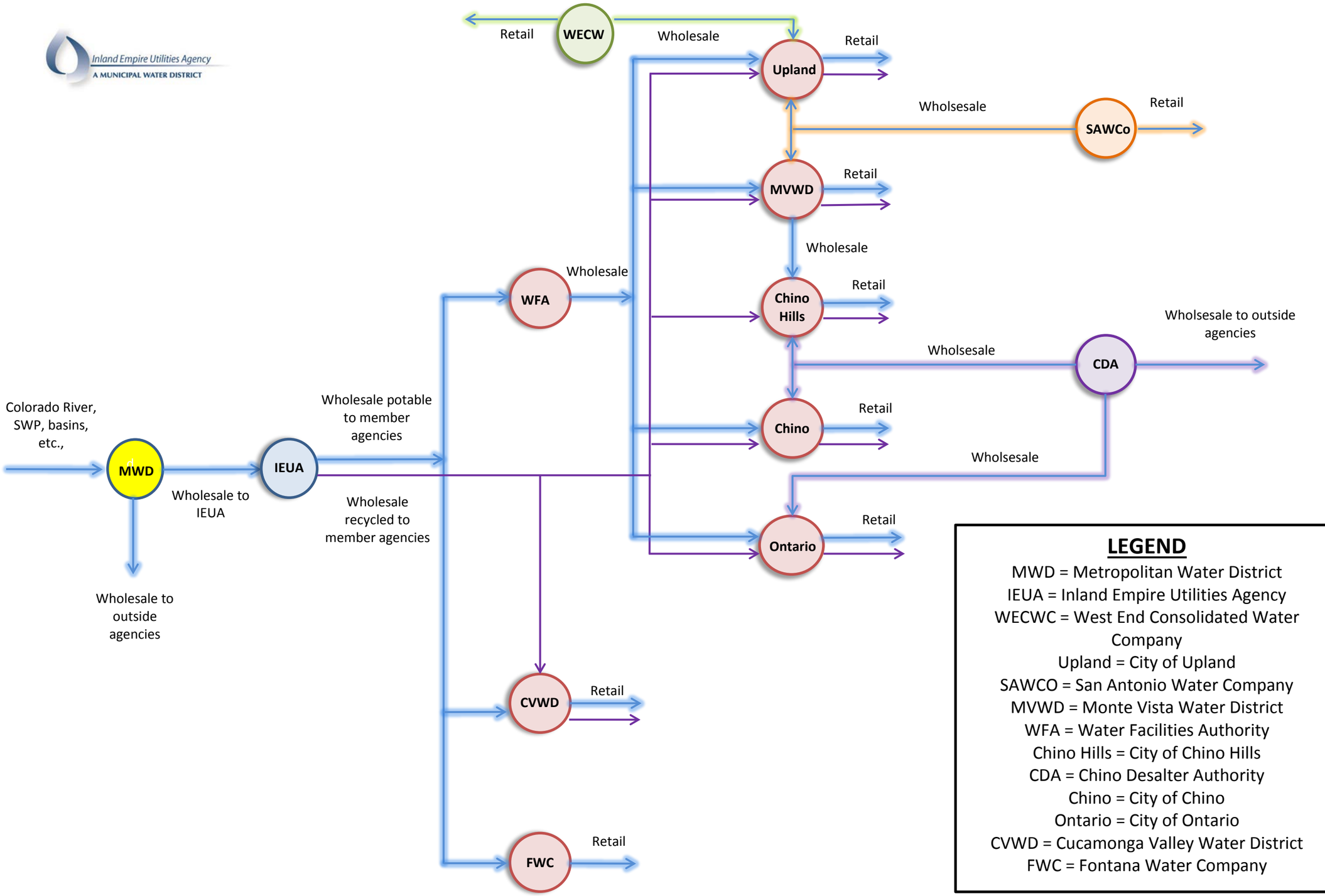
Production – Amount of water Agencies produce from their groundwater, surface water, or other water supplies that they have rights or jurisdiction over.

Use – Amount of water used within a member agency's jurisdiction, as reported by them to IUEA.

APPENDIX C

Member Agency Organizational Chart

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT



LEGEND

MWD = Metropolitan Water District
IEUA = Inland Empire Utilities Agency
WECWC = West End Consolidated Water Company
Upland = City of Upland
SAWCO = San Antonio Water Company
MVWD = Monte Vista Water District
WFA = Water Facilities Authority
Chino Hills = City of Chino Hills
CDA = Chino Desalter Authority
Chino = City of Chino
Ontario = City of Ontario
CVWD = Cucamonga Valley Water District
FWC = Fontana Water Company

IEUA FY 2016-2017 Annual Energy Report

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

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FIGURES

TABLES

IEUA is committed to optimizing facility energy use and effectively managing renewable resources to achieve peak power independence and contain future energy costs.

Introduction

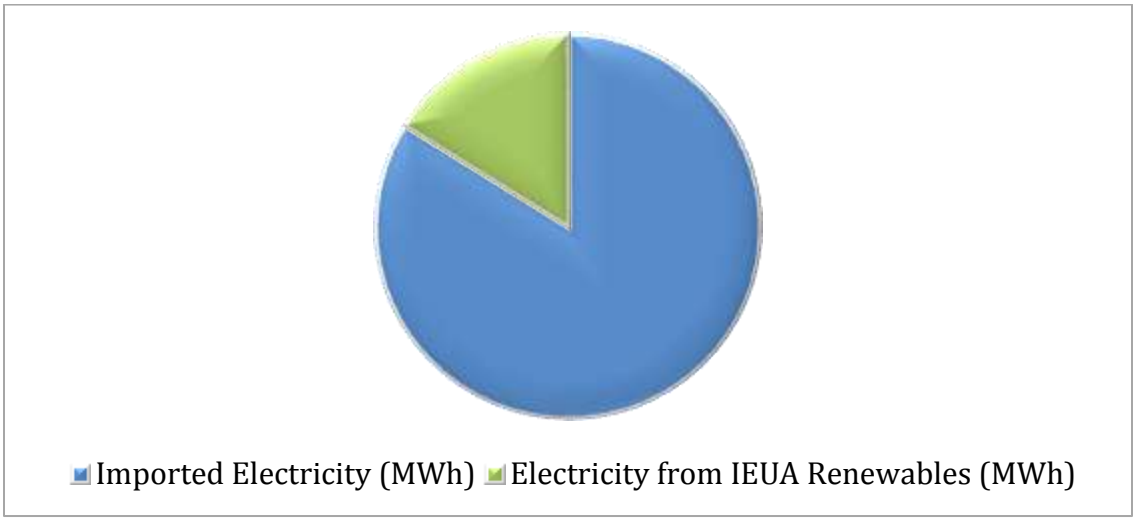
The 2016/17 Energy Report tracks IEUA's energy consumption, renewable generation performance and savings, and energy efficiency projects for the fiscal year. The report concludes with a glimpse of upcoming projects that will be further discussed in subsequent reports.

Summary

In 2016/17, IEUA:

- Consumed 73,884 MWh of electricity (Figure 1)
- Generated 16% of the electricity consumed from renewable energy resulting in $370,000 in savings for the fiscal year (Figure 1). Savings to date since 2008 is approximately $895,000.
- Spent $8.6 million for electricity
- Completed the following energy efficiency projects
    - Lighting Project (Phase 1)
    - CCWRF Sludge Pump Replacement
    - Pumping Project (Phase 1)

Figure 1: IEUA Electricity Source for 2016/17



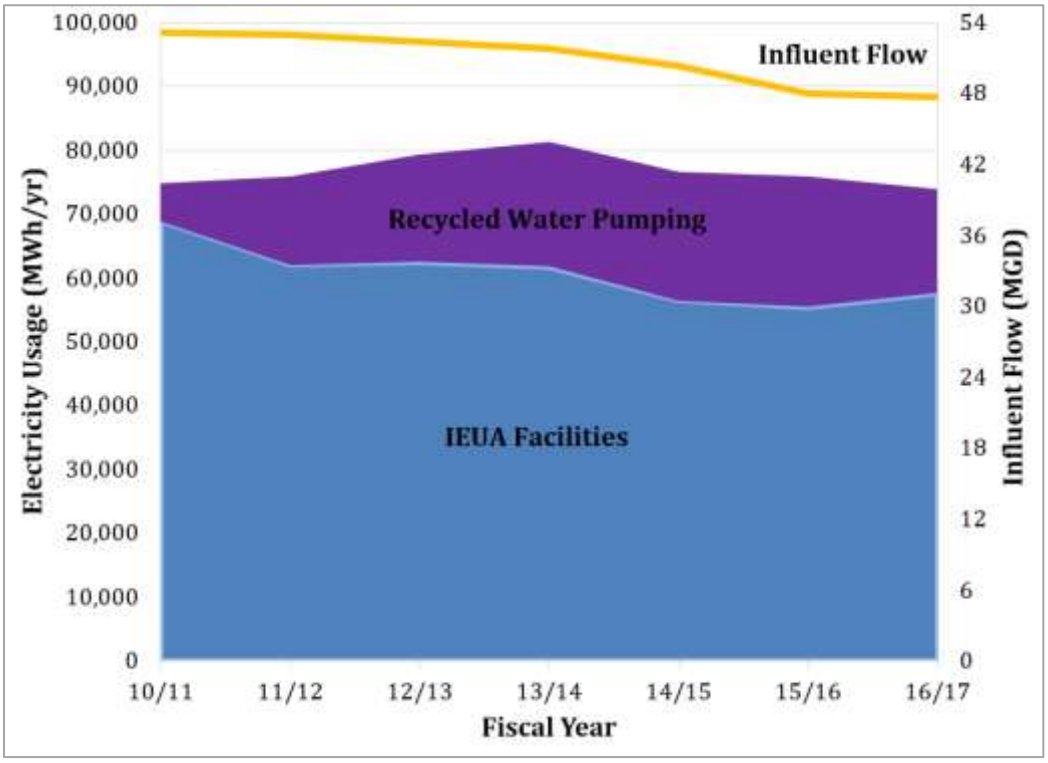
Did you know?

** A typical household uses 10,812 kWh per year (U.S. Energy Information Administration).*
** The renewable energy generated by IEUA would be able to provide electricity to at least 1,100 homes.*

Flow and Energy Consumption

- In 2016/17, the annual average influent flow to the regional wastewater facilities was 47.7 MGD which was a decrease of 0.6% as compared to the previous fiscal year of 48 MGD (Figure 2). The decrease was due to increased water conservation.
- In 2016/17, IEUA facilities which include the regional wastewater facilities, composting facility, and recycled water pumping used approximately 73,884 MWh of electricity (Figure 2). The electricity consumption for 2016/17 decreased by 2.5% as compared to the previous fiscal year of 75,795 MWh.

Figure 2: IEUA Electricity Use and Regional Influent Flows



Power Demand

- During the fiscal year, agency-wide demand ranged from 8,000 kW during the winter months and 10,700 kW during the summer months (Figure 4 and 5). The large seasonal variation in the power demand is attributed to the recycled water demand and the related recycle water pumping.

Expenditure

- In 2016/17, the annual cost for electricity was $8.6 million which was a decrease of 11% as compared to the previous fiscal year of $9.7 million. A portion of the savings is due to the current favorable energy market and direct access contract with Shell Energy North America, IEUA's energy service provider. The cost of electricity

remains the highest non-labor operations and maintenance (O&M) expenditure for IEUA.

Renewable Energy Production and Storage

- IEUA's diverse renewable portfolio consists of 3.5 MW solar, 1.0 MW of wind, 2.8 MW fuel cell, 3.0 MW of engines, and 0.5 MW battery. If fully operational, onsite generation would provide enough electricity to satisfy agency-wide demand during peak hours (Figure 4); current output is approximately 50% of the summer peak demand (Figure 5). In order to move closer to the goal of peak power independence by 2020, IEUA's renewable portfolio is expected to grow with additional solar and batteries. This would allow IEUA to be able to operate completely off the grid during peak energy usage periods.

Figure 3: IEUA's Diverse Renewable Portfolio

- IEUA's renewable portfolio generated 16% of the electricity used in 2016/17. Of the electricity consumed by IEUA;
  - 7.6% was produced by the Renewable Energy Efficiency Project (REEP) engine at RP-5;
  - 8.0 % was produced by the solar across IEUA facilities; and
  - 0.5% was produced by the wind turbine at RP-4.
- The biogas engine at RP-2 was shut down in March 2016 in order to comply with more stringent emission limits established by the local air district. As such, the renewable generation from the RP-2 engine is no longer part of the renewable portfolio for 2016/17.

- In 2016/17, 12,000 MWh of electricity was generated on site, 42% less than 2015/16. This decrease was primarily due to the fuel cell being offline for the fiscal year due to the fuel cell performance.
- Despite Power Purchase Agreement (PPA) average rates were typically higher than the average grid price in 2016/17, renewable energy projects provided overall $370,000 in savings, as a result of lower standby charges compared to the facility demand charge rate.
- Generated solar electricity varies between the summer and winter seasons, as generation increases in summer months, which have more sunlight hours each day than winter months (Figure 5).
- Overall, during the winter months, the wind turbine produced more consistently (Figure 5).
- Engine was able to produce consistently throughout the year with stable gas production and quality (Figure 5).
- The battery at RP-5 provided IEUA at least $8,000 in savings despite being in test mode from June 2016 – November 2016.

Figure 4: Connected Renewables' Capacities vs. Agency-Wide Power Demand

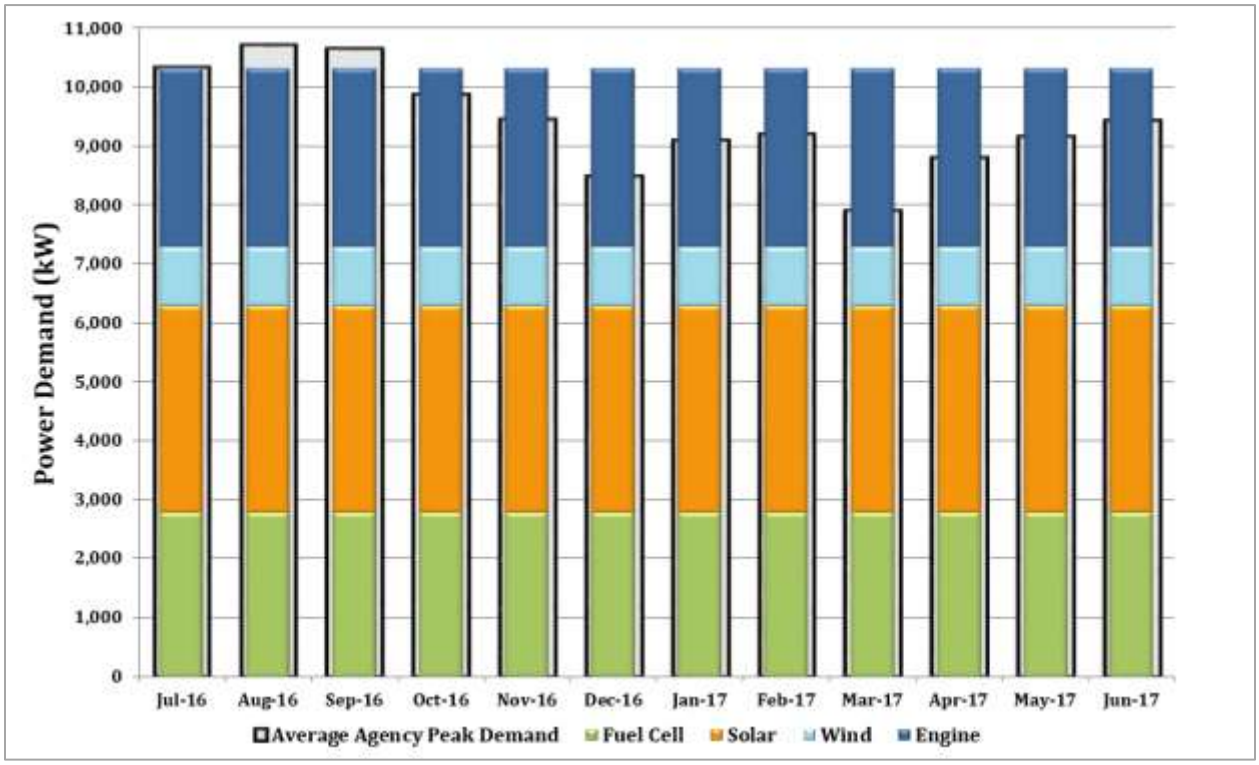
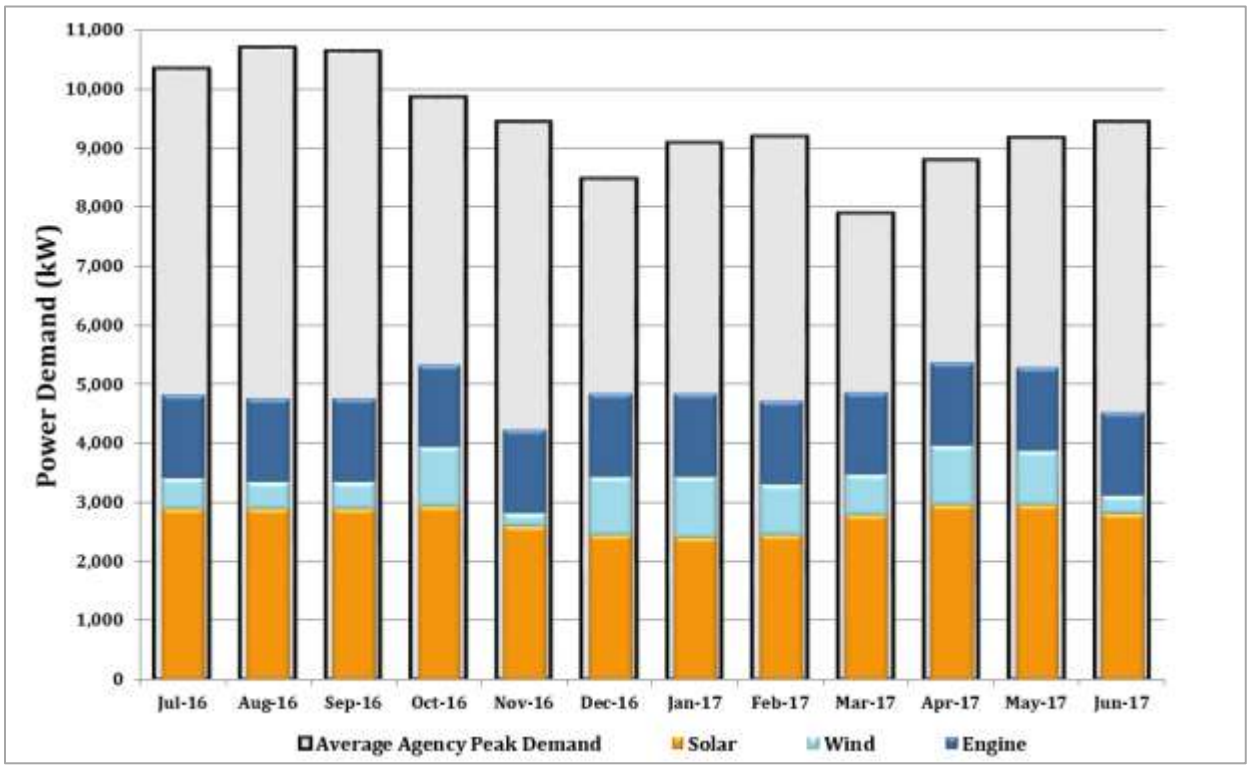


Figure 5: Actual Renewables' Output

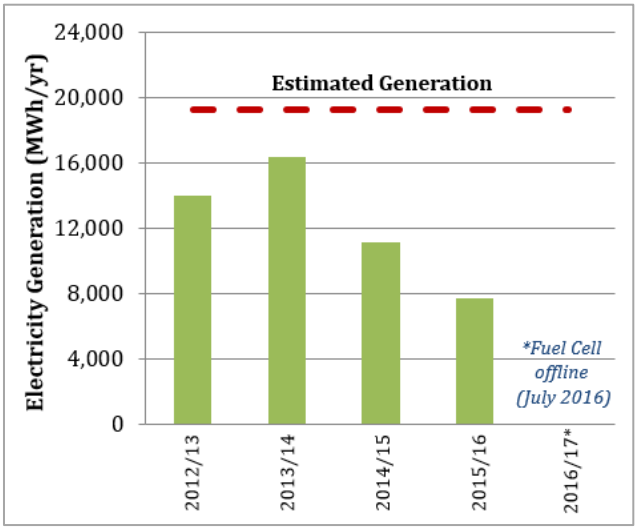


Fuel Cell

Fuel Cell Performance

- The fuel cell is assumed to have not generated any renewable energy in 2016/17, although the fuel cell operated for less than a month in the fiscal year. IEUA is unable to obtain data for the month due to the ongoing litigation.

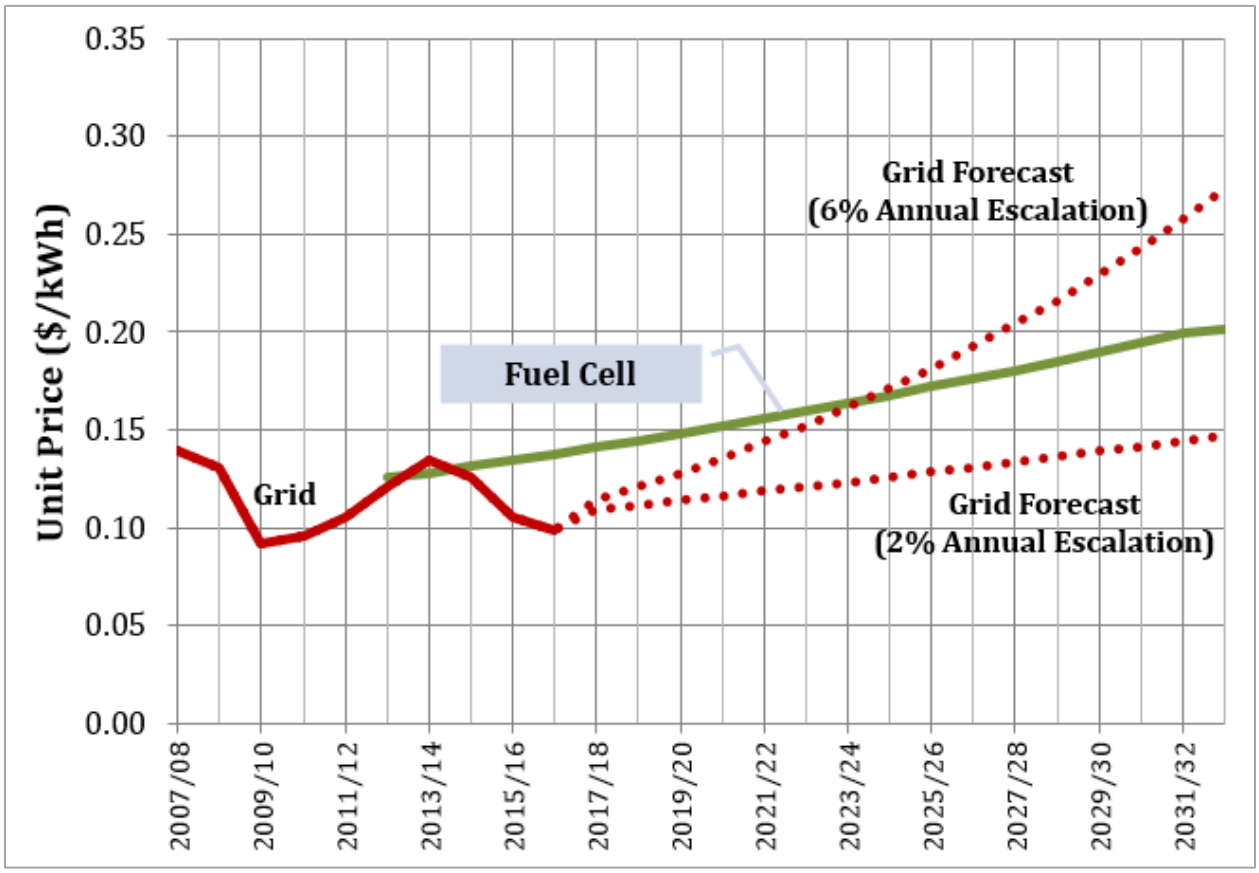
Figure 6: Fuel Cell Electricity Output



Fuel Cell Cost

- For 2016/17, the PPA rate for the fuel cell was higher than the average grid price. Figure 7 depicts the unit price of electricity from the fuel cell PPA as compared to the average grid price.

Figure 7: Cost of Fuel Cell Power vs Grid Import



- Despite PPA average rates have been typically higher than the average grid price since 2014/15, the fuel cell project provided to date approximately $628,000 in savings, as result of lower standby charges compared to the facility demand charge rate. Table 1 provides the cumulative savings and the savings throughout the PPA term with a grid forecast of 2% and 6% escalation per year.

Table 1: Savings from Fuel Cell Power

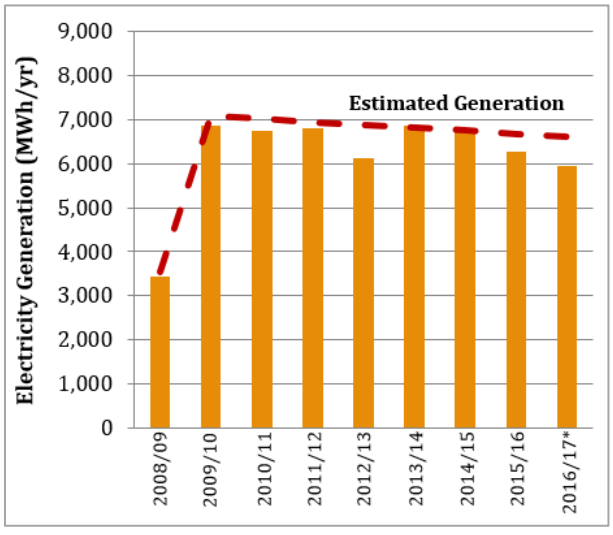
Savings FY 12/13 – FY 16/17	$628,000
Range of Savings PPA Term (FY 12/13 – FY 32/33)	-$11,206,000 (2% Esc) $5,261,000 (6% Esc)

Solar

Solar Performance

- Solar across IEUA facilities generated 5,945 MWh of renewable energy, 5.4% less than 2015/16. The solar generation for 2016/17 is an estimate due to a metering issue and will be updated as soon as the issue has been resolved.

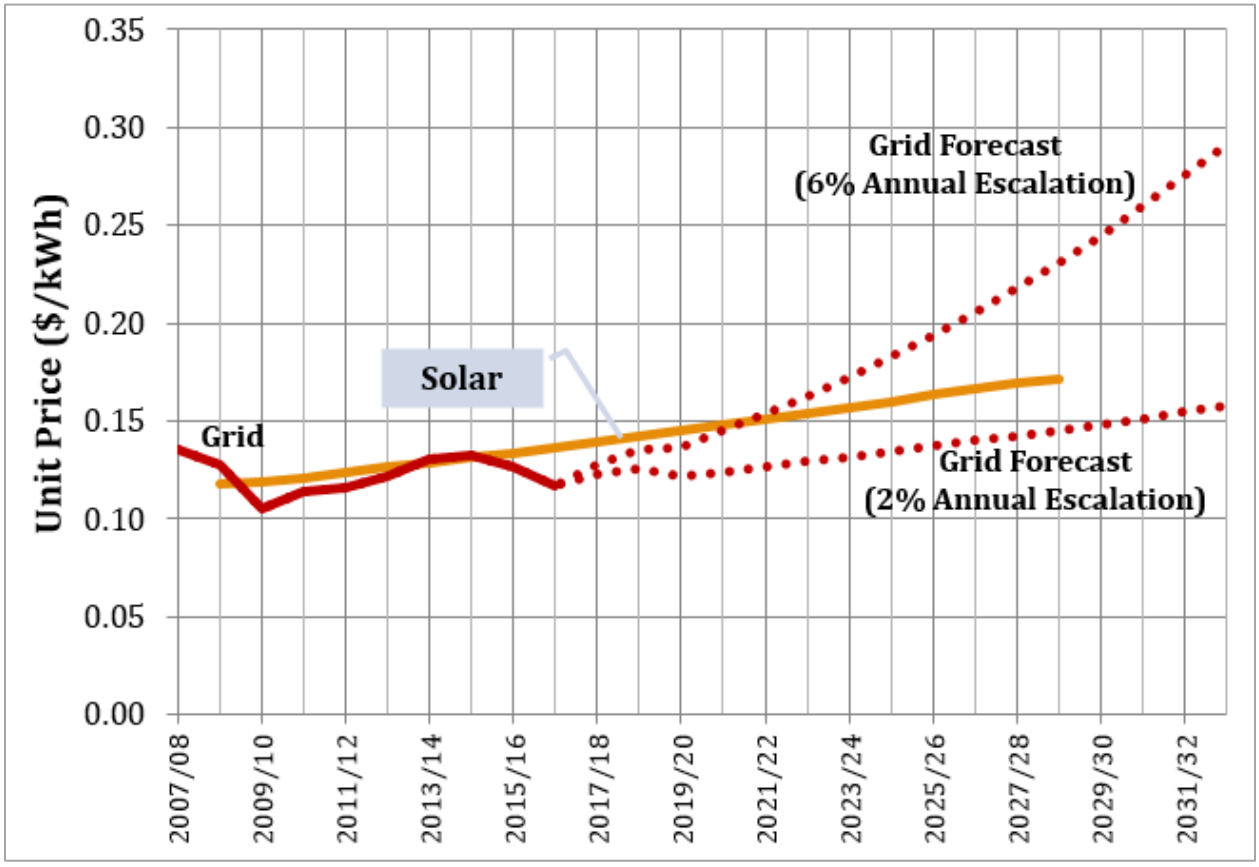
Figure 8: Solar Electricity Generation



Solar Cost

- For 2016/17, the PPA rate for the solar was higher than the average grid price.

Figure 9: Cost of Solar Power vs Grid Import



- Solar generated $145,000 from 2008/09 to 2016/17.

Table 2: Savings from Solar Power

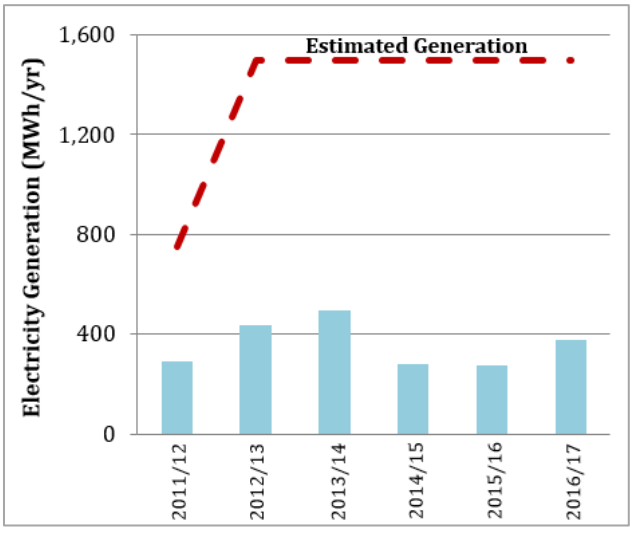
Savings FY 08/09 – FY 16/17	$145,000
Range of Savings PPA Term (FY 08/09 – FY 28/29)	$477,000 (2% Esc) $3,635,000 (6% Esc)

Wind

Wind Performance

- The wind turbine at RP-4 generated 2,150 MWh of renewable energy, 21% higher than 2015/16.

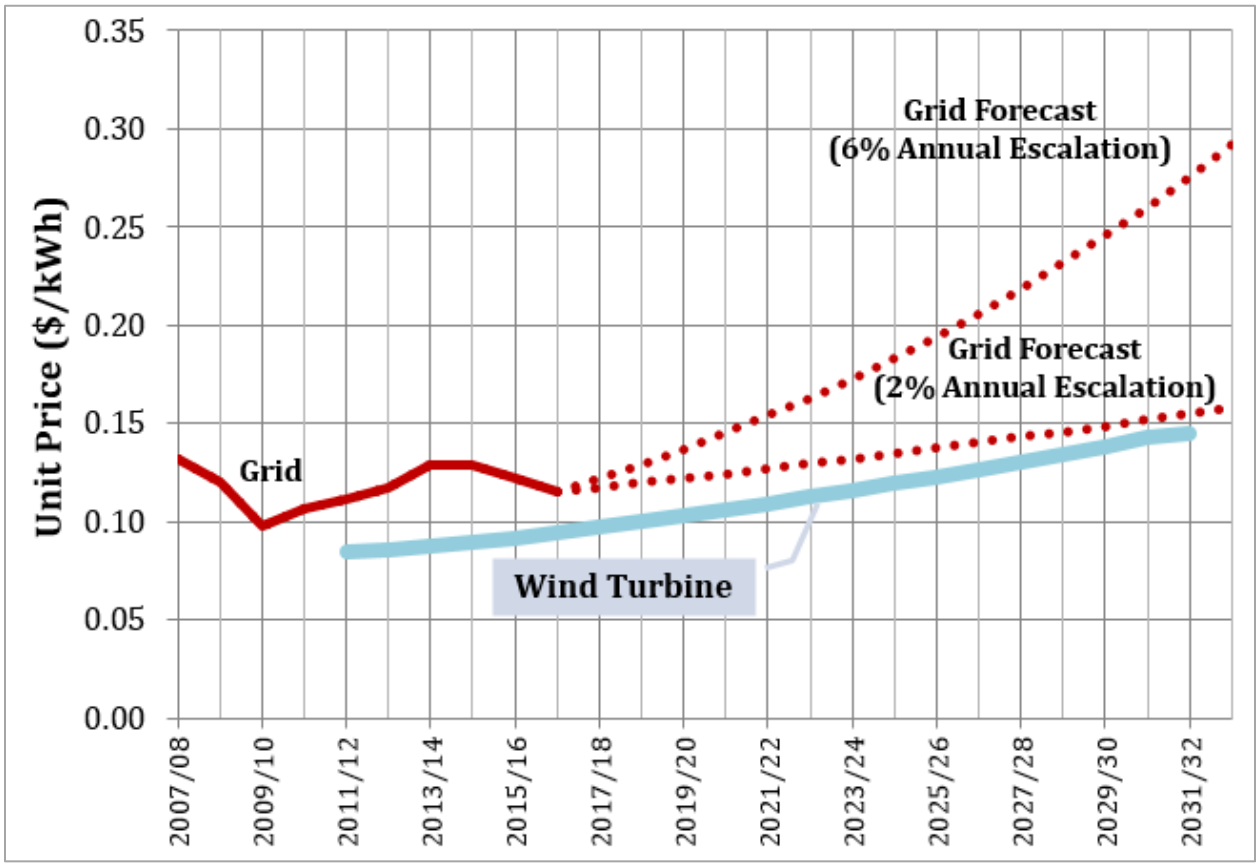
Figure 10: Wind Electricity Generation



Wind Cost

- For 2016/17, the PPA rate for the wind turbine was 22% lower than the average grid price.

Figure 11: Cost of Wind Power vs Grid Import



- Wind generated $61,000 in savings from 2011/12 to 2016/17.

Table 3: Savings from Wind Power

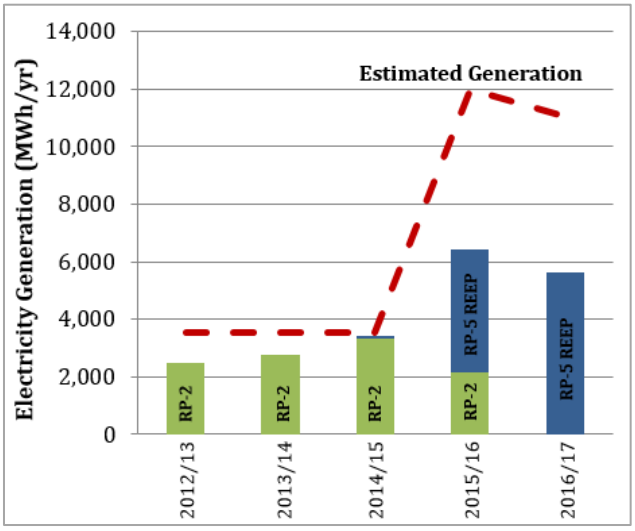
Savings FY 11/12 – FY 16/17	$61,000
Range of Savings PPA Term (FY 11/12 – FY 31/32)	$151,000 (2% Esc) $477,000 (6% Esc)

Engine

Engine Performance

- Renewable energy generated by engines decreased by 12% in 2016/17 because the engine at RP-2 was shut down in 2015/16.
- Similar to 2015/16, one of the two Renewable Energy Efficiency Project (REEP) engines at RP-5 was in operation in 2016/17 because RP-5 SHF was unable to produce sufficient biogas to operate both engines. In 2016/17, the engine produced 5,640 MWh of renewable electricity, 33% higher than the previous fiscal year.

Figure 12: Engine(s) Electricity Generation



Engine Cost

- The rate for the REEP engines remains 5% lower than the average grid price, consistent with the lease agreement with Inland Bioenergy, LLC (IBE).

Figure 13: Cost of Engine Power vs Grid Import

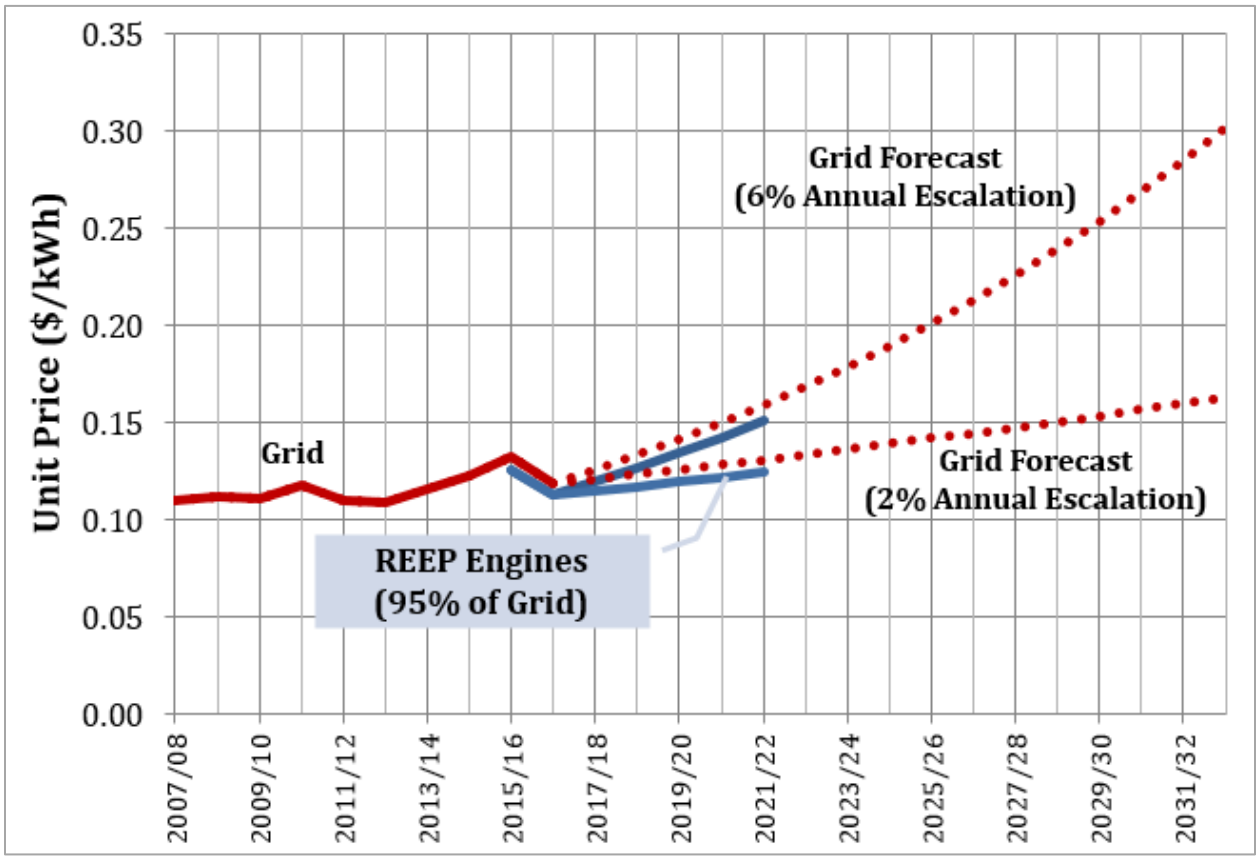


Table 4: Savings from Engine Power

Savings FY 11/12 – FY 16/17	$61,000
Range of Savings PPA Term (FY 11/12 – FY 21/22)	$295,000 (2% Esc) $325,000 (6% Esc)

Energy Efficiency Projects

- IEUA continues to work with Southern California Edison (SCE) and The Energy Network to conduct comprehensive energy audits and to implement projects to reduce electricity consumption throughout its facilities and operations. In FY 16/17, several lighting replacements and pump overhauls and retrofits were completed that will result in an annual electricity savings of 1,185,000 kWh/year, an avoided power usage of 110 kW, and an annual savings of $142,000/year assuming the average price for electricity is $0.12/kWh. Project highlights include:

Lighting Project (Phase 1)

- This project was completed in August 2016 in which 522 lighting fixtures at RP-4/IERCF and CCWRF were replaced with efficient LED fixtures.
- Expected annual savings: 515,135 kWh and $61,800
- Avoided power usage: 22 kW

LEDs installed at RP4's chemical storage room

CCWRF Sludge Pumps

- This project consisted of replacing old sludge pumps at CCWRF with new high efficiency pumps.
- Completed: February 2017
- Expected annual savings: 8,779 kWh and $1,000
- Avoided power usage: 2.13 kW

Pumping Project (Phase 1)

- This project consisted of refurbishing two recycled water pumps at RP-1, a recycled water pump at RP-4, and the pump at the Intermediate Pump Station (IPS) at RP-1. The project also replaced a sewage pump at the Philadelphia Lift Station.
- Completed: April 2017
- Expected annual savings: 660,994 kWh and $ 79,000
- Avoided power usage: 86.7 kW

Upcoming Projects

Renewable Natural Gas Feasibility Study

- On July 19, 2017, IEUA's Board of Directors approved the Memorandum of Understanding (MOU) between IEUA and Anaergia for the development of a renewable natural gas project at RP-1. IEUA is working with Anaergia to develop a feasibility study of the economic and technical viability of a renewable natural gas facility at RP-1 for the export of biomethane. The feasibility study is expected to be completed in the first quarter of 2018.

IERCF Rooftop Solar

- On July 19, 2017, the Board of Directors authorized the General Manager to negotiate and execute the agreement between the Inland Empire Regional Composting Authority (IERCA) and IEUA for the installation of a solar photovoltaic power plant, subject to engineering evaluation. Advanced Microgrid Solutions (AMS) who will design, install, and manage the project plans to install 1.5 MW of solar subsequent to further engineering evaluation of the roof structure.

Energy Storage Installation

- AMS plans to install a total of 3.5 MW of batteries at RP-4, RP-1 and CCWRF. The installation of a 1.5 MW battery at RP-4 will be completed in February 2018; a 1.0 MW battery at RP -1 will be completed in April 2018; and a 1.0 MW battery at CCWRF will be completed in June 2018. The batteries will efficiently integrate IEUA's renewable generation facilities, improve energy load management, and provide cost savings by shifting electricity use away from expensive peak hours.
- AMS provided a minimum net savings assurance to IEUA and IERCA combined of approximately $178,000 per year for 20 years.

Lighting Project (Phase 2)

- This project consists of replacing interior and exterior lights at RP-1, RP-5, CCWRF, and IEUA's Headquarter Building with Light Emitting Diodes (LEDs). At least 2,000 lights will be replaced.

Pumping Project (Phase 2)

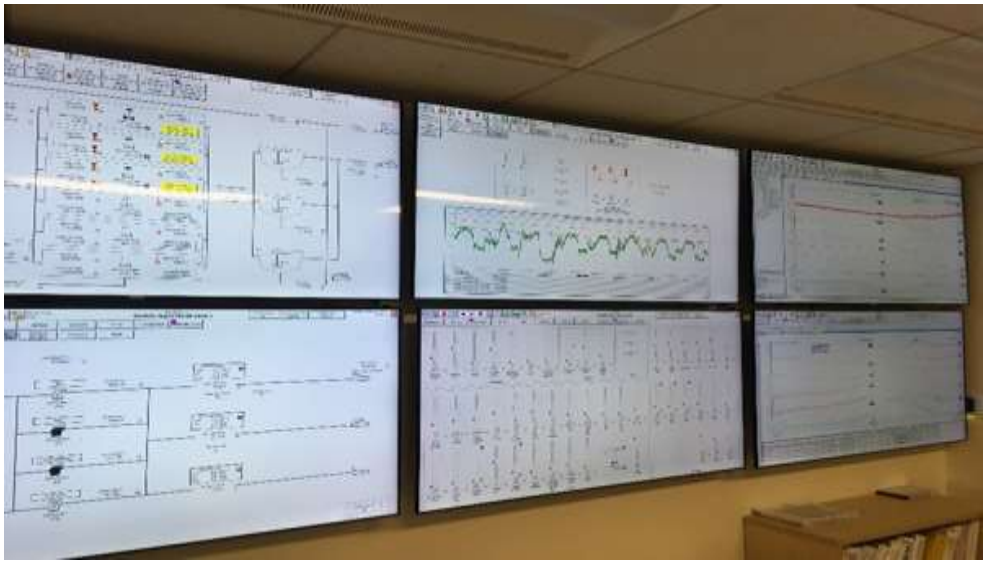
- This project will replace a sewage pump at the Philadelphia Lift Station and will refurbish three recycled water pumps at RP-1 and a recycled water pump at RP-4. The project is expected to be completed in December 2017.

Greenhouse Gas Emissions Annual Reporting

- IEUA will continue to voluntarily report its greenhouse gas emissions to The Climate Registry.

UCR Energy Demand Management

- IEUA will continue to work with University of California, Riverside (UCR) to demonstrate and deploy energy management, data acquisition, and supervisory control strategies to improve efficiency and reduce both peak loads and electricity costs at CCWRF.



CCWRF's control screens provide operators with instantaneous facility power demand and the monthly peak demand. This information allows operators to reduce power (e.g. reduce pumping temporarily) to avoid setting a new peak demand, thereby reducing electricity cost.

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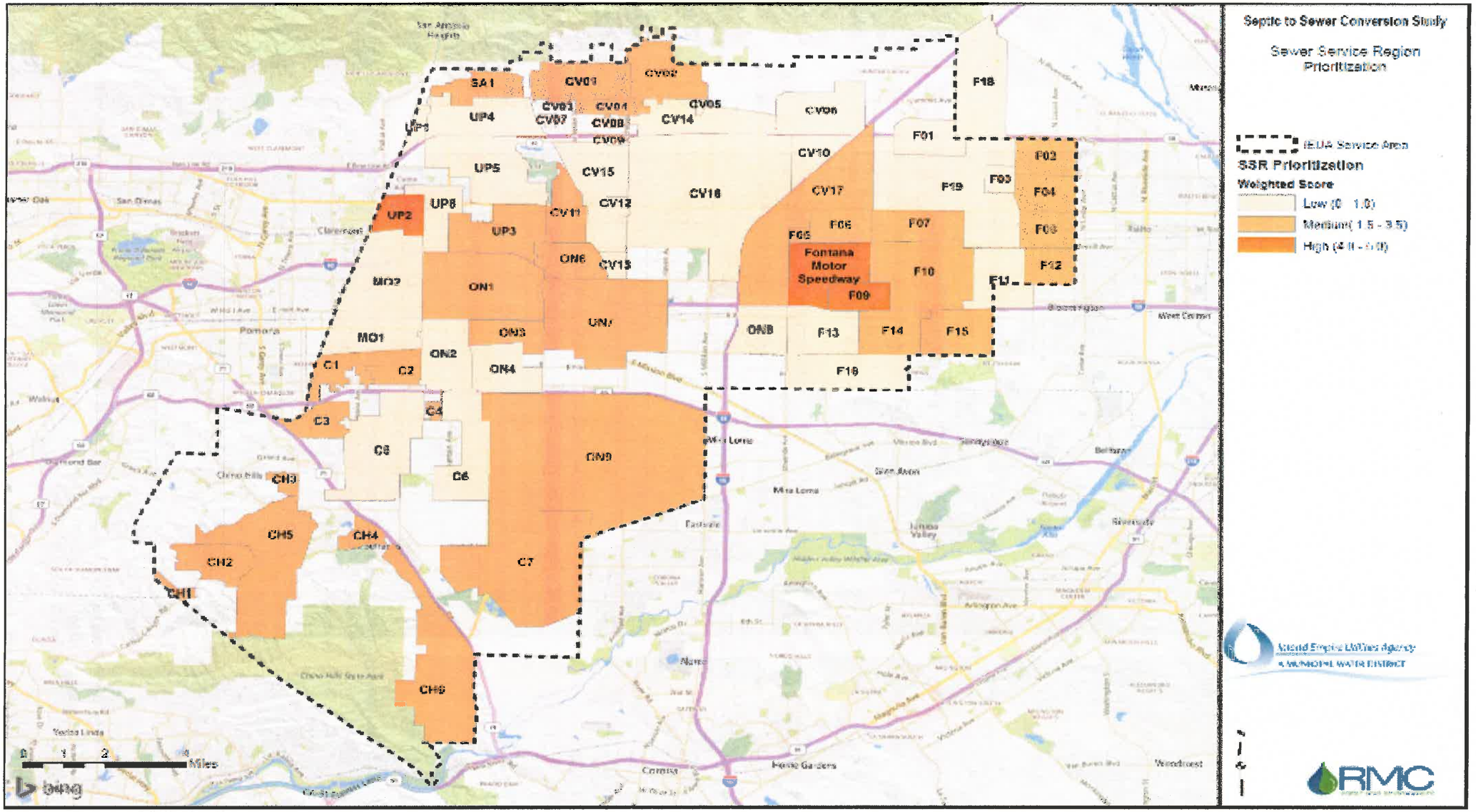
Septic to Sewer Feasibility Study Update

Inland Empire Utilities Agency
A MUNICIPAL WATER DISTRICT

November 2017/December 2017

Project Update

- Sewer Service Regions (SSRs)
  - SSR Factsheets for Contracting Agency service areas complete.
  - Contracting Agency representatives to comment
  - Initial SSR prioritization complete
- Cost Estimates Factsheets
  - Cost estimate factsheets for SSRs complete
  - Contracting Agency representatives to comment
  - SSR Cost prioritization in progress
- Grant Application
  - State Water Resources Control Board (SWRCB) Planning Grant Update
    - Project does not meet requirements per the SWRCB Intended Use Plan for the Wastewater Grant.
  - Grants Group pursuing further grant opportunities
    - Prop 1 Groundwater Grant Program
    - SAWPA IRWM Program



Project Update – Cost Summary

	Chino	Chino Hills	CVWD	Fontana	Montclair	Ontario	Upland*
# of Septic Systems	1,887	625	4689	11,352	511	685	1,626
Sewer Lines (LF)	132,476	84,676	375,154	639,625	24,674	116,237	95,295
Estimated Construction Cost	$102.2M	$65.3M	$283.6M	$541.8M	$21.8M	$64.5M	$80.0M
Connection Fees**	$13.5M	$4.7M	$35.7M	$84.8M	$3.5M	$4.9M	$12.3M
Total Estimated Cost	$115.7M	$70.0M	$319.3M	$626.6M	$25.3M	$69.4M	$92.3M
Estimated Cost/Septic Tank	$61,000	$101,000	$68,000	$53,000	$50,000	$105,000	$57,000

* Includes San Antonio Heights

** Includes IEUA Connection Fee and Contracting Agency Sewer Impact Fees

Next Steps

- Implementation of Contracting Agency Comments for Factsheets
- Re-prioritization of SSRs based on Cost Estimates
- Draft Feasibility Study for Contracting Agency Comment
- Finalization of Septic to Sewer Feasibility Study – December 2017