S A W P A

SANTA ANA WATERSHED PROJECT AUTHORITY
11615 Sterling Avenue, Riverside, California 92503 ● (951) 354-4220

NOTICE OF ADJOURNED REGULAR MEETING OF THE PROJECT AGREEMENT 22 COMMITTEE
Interregional Landscape Water Demand Reduction Program

Committee Members:
Halla Razak, General Manager, Inland Empire Utilities Agency
Doug Headrick, General Manager, San Bernardino Valley Municipal Water District
Paul D. Jones, General Manager, Eastern Municipal Water District, Chair
Michael Markus, General Manager, Orange County Water District, Vice Chair
Craig Miller, General Manager, Western Municipal Water District

TUESDAY, DECEMBER 18, 2018 – 8:30 A.M.

AGENDA

1. **CALL TO ORDER** (Paul D. Jones, Chair)

2. **PUBLIC COMMENTS**

   Members of the public may address the Committee on items within the jurisdiction of the Committee; however, no action may be taken on an item not appearing on the agenda unless the action is otherwise authorized by Government Code §54954.2(b).

4. **COMMITTEE DISCUSSION ITEMS**

   Presenter: Ian Achimore
   Recommendation: Approve Amendment No. 2 to the SAWPA Sub-Grantee Agreement with Orange County Coastkeeper.

   Presenter: Ian Achimore
   Recommendation: Receive and file.

   Presenter: Dean Unger
   Recommendation: Approve an increase not to exceed $15,000, to a total of $65,000, for ESRI ArcGIS GIS Server license fees to provide agency staff access to SAWPA aerial imagery and landscape measurement data.

5. FUTURE AGENDA ITEMS

6. ADJOURNMENT

PLEASE NOTE:

Americans with Disabilities Act: Meeting rooms are wheelchair accessible. If you require any special disability related accommodations to participate in this meeting, please contact (951) 354-4220 or kberry@sawpa.org. Notification at least 48 hours prior to the meeting will enable staff to make reasonable arrangements to ensure accessibility for this meeting. Requests should specify the nature of the disability and the type of accommodation requested.

Materials related to an item on this agenda submitted to the Commission after distribution of the agenda packet are available for public inspection during normal business hours at the SAWPA office, 11615 Sterling Avenue, Riverside, and available at www.sawpa.org, subject to staff's ability to post documents prior to the meeting.

Declaration of Posting

I, Kelly Berry, Clerk of the Board of the Santa Ana Watershed Project Authority declare that on Thursday, December 13, 2018, a copy of this agenda has been uploaded to the SAWPA website at www.sawpa.org and posted at the SAWPA office, 11615 Sterling Avenue, Riverside, California.

/s/

_____
Kelly Berry, CMC

2019 Project Agreement 22 Committee Regular Meetings
Fourth Thursday of Every Month
(Note: All meetings begin at 8:00 a.m., unless otherwise noticed, and are held at SAWPA.)

January		February	
1/24/19	Regular Committee Meeting	2/28/19	Regular Committee Meeting
March		**April**	
3/28/19	Regular Committee Meeting	4/25/19	Regular Committee Meeting
May		**June**	
5/23/19	Regular Committee Meeting	6/27/19	Regular Committee Meeting
July		**August**	
7/25/19	Regular Committee Meeting	8/22/19	Regular Committee Meeting
September		**October**	
9/26/19	Regular Committee Meeting	10/24/19	Regular Committee Meeting
November		**December**	
11/21/19*	Regular Committee Meeting*	12/26/19	Regular Committee Meeting

* Meeting date adjusted due to conflicting holiday.

PROJECT AGREEMENT 22 COMMITTEE
Interregional Landscape Water Demand Reduction Program
REGULAR MEETING MINUTES
October 25, 2018

COMMITTEE MEMBERS PRESENT

Paul D. Jones, General Manager, Eastern Municipal Water District [Chair]
Michael Markus, General Manager, Orange County Water District [Vice Chair]
Halla Razak, General Manager, Inland Empire Utilities Agency
Craig Miller, General Manager, Western Municipal Water District

COMMITTEE MEMBERS ABSENT

Doug Headrick, General Manager, San Bernardino Valley Municipal Water District

STAFF PRESENT

Rich Haller, Larry McKenney, Karen Williams, Mark Norton, Dean Unger, Rich Whetsel, Ian Achimore, Kelly Berry

1. CALL TO ORDER/PLEDGE OF ALLEGIANCE

The meeting was called to order at 8:01 a.m. by Chair Jones at the Santa Ana Watershed Project Authority, 11615 Sterling Avenue, Riverside, California.

2. PUBLIC COMMENTS

There were no public comments.

3. APPROVAL OF MEETING MINUTES: AUGUST 23, 2018

MOVED, approve the August 23, 2018 meeting minutes.

Result:	**Adopted (Unanimously)**
Motion/Second:	Markus/Miller
Ayes	Jones, Markus, Miller, Razak
Nays:	None
Abstentions:	None
Absent:	Headrick

4. COMMITTEE DISCUSSION ITEMS

A. SMARTSCAPE IMPLEMENTATION (PA22#2018.24)

Ian Achimore provided a PowerPoint presentation reviewing the Smartscape Program's budget, spending rates by task, and projections. It was noted that task implementation has been at a pace such that the project will likely not be completed in two years.

Recommendations to increase the pace of implementation were developed by the

SARCCUP Advisory Workgroup and presented to the Committee for feedback.

1. Orange County Coastkeeper/Inland Empire Waterkeeper can develop a landscape maintenance program whereby their staff adjust controllers sprinkler heads.

2. They can provide the outreach necessary to engage the public, which would entail reaching out to school districts and other public agencies.

3. They can offer their design services to customers at the same time they register for Metropolitan Water District of Southern California (MWD) turf removal rebates.

Garry Brown, Executive Director and CEO of OC Coastkeeper and IE Coastkeeper, encouraged staff to continue efforts toward completion of the Smartscape Program. Recommendation number one above will require more research from his staff; they will need to assess how many districts would be interested. He was supportive of the other two recommendations, and his staff is more than willing to accomplish them.

Chair Jones noted a local area had to have at least four audit requests within that area prior to sending OC Coastkeeper/IE Coastkeeper staff to perform an audit which has been a challenge. Jones recommended accelerating that audit process; Brown stated they could provide more outreach assistance and focus on the needs of an individual agency to realize an increase in audits.

Staff was directed to proceed with recommendations two and three and bring back recommendation number one as an actionable item at a future meeting.

This item was for informational and discussion purposes; no action was taken on Agenda Item No. 4.A.

B. **EMERGENCY DROUGHT GRANT PROGRAM SCHEDULE AND BUDGET UPDATE (PA22#2018.25)**

Ian Achimore provided a PowerPoint presentation on the Emergency Drought Grant Program schedule and budget update.

This item was for informational and discussion purposes; no action was taken on Agenda Item No. 4.B.

C. **SAWPA AERIAL IMAGERY AND LANDSCAPE MEASUREMENT DATA – ESRI ONLINE WEB APPLICATION AND CLOUD SERVICE – YEAR TWO OF SERVICE (PA22#2018.26)**

Rick Whetsel provided an oral report on ESRI online web application and cloud services. SAWPA staff is working with member agency staff to schedule onsite presentations to interested retail agencies to demonstrate the ESRI Customer Parcel Water Budget Tool. An update on other available SAWPA water conservation data tools will also be discussed.

Below is the tentative schedule for these presentations:

EMWD	12:30 p.m. Monday, November 5, 2018
IEUA	Tentatively scheduled for 10:30 a.m. Wednesday, Nov. 28th or Jan 23rd
MWDOC	12:30 p.m. Thursday, December 6, 2018
SBVMWD	10:00 a.m. Wednesday, December 21, 2018
WMWD	2:30 p.m. Tuesday, November 13, 2018

Vice Chair Markus requested the agendas for these presentations be distributed to the

member agencies and General Managers ahead of time.

This item was for informational and discussion purposes; no action was taken on Agenda Item No. 4.C.

The Committee next considered Agenda Item No. 4.E.

D.   RETAIL WATER AGENCY METER GEOCODING AND BUSINESS TYPE CLASSIFICATION PROGRAM (PA22#2018.27)

Doug Mende, Miller Spatial, provided a PowerPoint presentation updating the Committee on the Retail Water Agency Meter Geocoding and Business Type Classification Program.

SAWPA staff is researching a method utilized by California State University of San Bernardino to estimate the number of people in a household by reverse engineering the census tract. This would help to calculate an accurate headcount of population for indoor water use.

This item was for informational and discussion purposes; no action was taken on Agenda Item No. 4.D.

The Committee next considered Agenda Item No. 5.

E.   CONSERVATION-BASED WATER RATES UPDATE (PA22#2018.28)

Ian Achimore provided a PowerPoint presentation with a conservation-based water rates update. SAWPA has been assisting the City of Chino, City of Chino Hills and City of Hemet by providing a fact sheet; SAWPA is currently developing informational webpages that will include a fillable form where retailers can sign up to receive technical assistance on utilizing the ESRI and Miller Spatial tools.

Committee Member Razak was interested in hearing feedback from customers in the City of Chino Hills when they implement their new rates in February.

This item was for informational and discussion purposes; no action was taken on Agenda Item No. 4.E.

The Committee next considered Agenda Item No. 4.F.

F.   UPDATE ON OUTREACH TO DEPARTMENT OF WATER RESOURCES (DWR) REGARDING THE RECENTLY ADOPTED WATER USE EFFICIENCY LEGISLATION, ASSEMBLY BILL 1668 AND SENATE BILL 606 (PA22#2018.29)

Ian Achimore provided a PowerPoint presentation updating the Committee on outreach to DWR regarding the recently adopted Water Use Efficiency Legislation, Assembly Bill 1668 and Senate Bill 606. SAWPA staff met with Peter Brostrom, DWR's Water Use Efficiency Program Manager, and briefed him on the recently developed Customer Parcel Water Budget Tool and the 2015 aerial imagery. Brostrom appreciated the update and suggested a study to evaluate the water saving benefits of the Tool.

Chair Jones suggested evaluating the Tool's usefulness within disadvantaged communities and asked staff to develop a risk and reward analysis on the study. Vice Chair Markus suggested the study could incentivize DWR to make changes in water policy and recommended staff first evaluate potential outcomes of the overall study.

This item was for informational and discussion purposes; no action was taken on Agenda Item No. 4.F.

The Committee next considered Agenda Item No. 4.D.

5. <u>FUTURE AGENDA ITEMS</u>

There were no proposed future agenda items.

6. <u>ADJOURNMENT</u>

There being no further business for review, Chair Jones adjourned the meeting at 9:08 a.m.

Approved at an Adjourned Regular Meeting of the Project Agreement 22 Committee on Tuesday, December 18, 2018.

_____
Paul D. Jones II, Chair

Attest:

_____
Kelly Berry, CMC
Clerk of the Board

PA 22 COMMITTEE MEMORANDUM NO. 2018.30

DATE: December 18, 2018

TO: SAWPA Project Agreement 22 Committee

SUBJECT: Smartscape Sub-Grantee Agreement Amendment

PREPARED BY: Ian Achimore, Senior Watershed Manager

RECOMMENDATION

Approve Amendment No. 2 to the SAWPA Sub-Grantee Agreement with Orange County Coastkeeper.

DISCUSSION

At the October PA 22 Committee meeting, the Committee asked staff and Orange County Coastkeeper to finalize the costs and scope for a proposed landscape maintenance task that was presented to the Committee. Through this new task, the lead implementer for the Smartscape Program, Coastkeeper, would make minor repairs to retail water agency customer's irrigation systems. Over the past month, Coastkeeper and Inland Empire Utilities Agency (IEUA), who recommended this task, worked with landscape contractor, ConServ Inc., to develop the following scope of work and costs provided below. This task would be added to the existing list of 11 tasks (A through K shown in the attachment to this memorandum) and can be implemented upon request by IEUA and the other Smartscape participating SAWPA member agencies. As shown in the table below, the subcontractor ConServ Inc., which has worked with IEUA on various projects, would implement the irrigation improvements while Coastkeeper would be the primary project manager for the task.

Task	Scope of New Task	Costs	Cost Assumptions
L)	Conduct residential irrigation audits and "tune-ups" to include: a) Scheduling and follow-up. b) Recommend repairs and upgrades to resident c) Controller evaluation and training to set water schedules. d) Valve repair - replacement, leaks and wiring. 1 valve for Small Sites; 3 valves for Large Sites e) Sprinkler repair - Raise, replace and adjust. Up to 6 pop-ups/nozzles for Small Site, Up to 12 pop-ups/nozzles for Large Site. f) Repair of one minor lateral irrigation line; not to exceed 4 feet of existing PVC pipe. g) Repair to drip irrigation - includes flushing and replacing 6 couplers/ emitters.	a) $402 - Small Site; less than 10,000 sq ft b) $575 - Large Site; over 10,000 sq ft (up to one acre)	Program Management costs for Inland Empire Waterkeeper Reflected in Costs a) Small Sites = $52 included b) Large Sites = $75 included

The amount of funding provided to Coastkeeper through its Sub-Grantee Agreement is approximately $400,000, which is $122,000 in grant and $278,000 in match. As shown in the attachment, the

Smartscape Spending Rates by Task, approximately 12% ($47,325) has been expended. This amendment adds this additional task that agencies such as IEUA can have Coastkeeper implement; it does not increase the contracted amount. This would be the second amendment to the Sub-grantee agreement, the first was approved in June 2018 and added the eleventh task, Task K, to the list whereby Coastkeeper was provided with funding to demonstrate its customer workshops to the SAWPA member agencies and interested retail water agencies.

BACKGROUND
The Santa Ana River Conservation and Conjunctive Use Program (SARCCUP) includes several projects including the water use efficiency focused Smartscape Program. Smartscape was designed to continue the momentum of the various turf removal rebates that were offered by the Emergency Drought Grant Program and train water agency customers to maintain their drought-tolerant landscapes. In 2017, Coastkeeper developed a list of 10 tasks with input from the PA 22 Committee's Conservation Advisory Workgroup and is under contract to complete the project in two years, ending in March 2020. These tasks include landscape design assistance to residential customers, landscape designs, site surveys with feedback on plant type and irrigation, and leading workshops.

Unfortunately, task implementation has been at a pace such that the project cannot likely be completely completed in two years. Due to this rate of implementation, two of the five original Coastkeeper Smartscape staff have left for other employment opportunities. The reason for the slow pace include the saturation of the market in the Metropolitan Water District (MWD) service area for workshops and design assistance, the time needed to engage customers to register for Smartscape services, and the lack of interest from residential customers who previously received turf removal rebates.

To help address this issue of slower paced implementation, the Conservation Advisory Group developed recommendations that were presented to the Committee in October:

1. Coastkeeper develop a landscape maintenance program whereby staff adjusts controllers and makes minor adjustments to sprinkler heads. This option may require Coastkeeper, or a sub-contractor, to have a C-27 Landscaping Contractor license. This was recommended by IEUA's member agencies who already receive many of the Coastkeeper services from MWD and IEUA.
2. Instead of agency staff time being devoted to registering Smartscape customers, Coastkeeper can provide the outreach necessary to engage the public. This was recommended by EMWD and would entail reaching out to school districts, other public agencies and possibly residential customers.
3. Coastkeeper can offer their design services to customers at the same time they register for MWD turf removal rebates. This was recommended by WMWD and would establish an automated way for customers to receive Smartscape services and use the momentum of the rebate program to educate customers on maintenance.

Recommendations 2 and 3 can be implemented without a Sub-Grantee Agreement amendment while recommendation 1 requires the amendment before the Committee. Since this new task involves equipment and labor to make physical improvements to an irrigation system, a labor compliance program (LCP) is required per the grant conditions and IEUA has volunteered to oversee the LCP. At the Committee meeting in October during the discussion of recommendation 3, a projection of the amount of turf removal projects that would be in the MWD turf rebate queue was requested. The projection, which was developed using the amount of existing projects in the queue through a four month period, is provided below.

8

WMWD Retail Water Agencies Participating in MWD Turf Rebate Program	Residential Turf Projects (4 Month Period – Actuals)	Residential Turf Projects (Annual Projection)
Corona, City of	5	15
Elsinore Valley Municipal Water District	66	198
Jurupa Community Services District	12	36
Norco, City of	1	3
Riverside Public Utilities	14	42
Western Municipal Water District Retail	16	48
Grand Total	**114**	**342**
Drop Out Rate (Grand Total x 50% = Projection)	50%	50%
Projection	**57**	**171**

Currently just WMWD's retail area is participating in the landscape design services task outlined in recommendation 3 but if additional projects are needed to finalize the Smartscape Program in the WMWD service area, WMWD will start marketing the program to the other retail water agencies in its wholesale service area that are participating in the MWD rebate program. As shown in the attachment Smartscape Spending Rates by Task document, approximately 93 of the design services are needed to close out the WMWD portion of the Smartscape Program.

CRITICAL SUCCESS FACTORS

- Administration of the OWOW process and plan in a highly efficient and cost-effective manner.
- Data and information needed for decision-making is available to all.

RESOURCE IMPACTS
None.

Attachments:
1. List of Smartscape Tasks and Costs
2. Smartscape Spending Rates by Task

Smartscape Task List

Task	Scope of Task	Costs	Cost Assumptions
A	Conduct site visits and introductory and follow up phone calls.	a) $250 for residential b) $250 per hour for commercial, industrial or institutional	Multi Family is commercial.
B	Develop brief written material with graphics and photographs	a) $3,500 per 2000 brochures b) $1,200 per 3000 flyers	Includes development, design, printing and distribution. A brochure is a folded product a flyer is onepage unfolded
C	Develop brief educational videos	$3,000 to $5,000	Costs in range will depend on length, venue and editing.
D	Develop and distribute training manuals	Price based on design/content. Printing only- $10 each based on a run of 250 copies	N/A
E	Develop landscape design documents such as drawings, plans and specifications	a) $1,000 for residential b) $1,000 per 1,200 square feet for commercial, industrial and institutional	a. Includes simple custom designs based on existing Sub-Grantee themes. Assumes landscape size of equal to or less than 1,200 square feet b. Both residential and commercial services
F	Develop signage with graphics and photographs	Varies by sign size and material.	Metal yard signs are approximately $100 each (including design and manufacture).
G	Lead, plan and execute workshops and outreach	a) $1,000 for community outreach events b) $1,500 to $3,500 for residential-focused workshops c) $500 to $2,000 for presentations at conferences d) $3,500 for landscape professionals workshops	a) Includes staffing, booth and supplies. b) Includes planning, promotion, venue, speakers, supplies and giveaways. c) Costs in range depend on conference fee, travel and lodging. d) Includes planning, promotion, venue, speakers, supplies and giveaways.
H)	Develop and edit articles in local print media.	$250 per article	Includes development of written materials, editing and coordination with media.
I)	Social media post development	$150 per post	Includes development of written materials, graphics and photos, editing and coordination with entity posting material.
J)	Outreach to local schools through assemblies or field trips.	$3,000 per event	Includes coordination time, transportation and venue costs and materials.

Task	Scope of Task	Costs	Cost Assumptions
K)	Project Management: Coordination of deliverables with Project Partners	$500	Includes coordination, preparation and presentations to project partners

Smartscape Spending Rates By Task

Actuals

	EMWD	IEUA	SBMVWD	WMWD	Total
Actual To Date - Costs					
2018Q1			$ 1,000		$ 1,000
2018Q2	$ 2,375	$ 500	$ 33,700	$ 3,000	$ 39,575
2018Q3	$ -	$ 750	$ 5,500	$ 500	$ 6,750
Totals	$ 2,375	$ 1,250	$ 40,200	$ 3,500	$ 47,325
Allocations	$96,509	$96,509	$96,509	$96,509	$386,034
Remaining	**$94,134**	**$95,259**	**$56,309**	**$93,009**	**$338,709**
Actual To Date - Task* Amounts					
Workshops			2		2
Advanced Site Visits					
Site Visits	9	5	18	14	46
Designs			8		8
Written Material			3		3
Signage			5		5
Totals	9	5	36	14	64

Projections - How Many Tasks Need to Be Completed in Project Time Frame**

	EMWD	IEUA	SBMVWD	WMWD	Total		Costs per Task
Workshops	63		8		70		$ 1,500
Audit/Tune-Up		195			195		$ 489
Site Visits			45		45		$ 250
Designs			11	93	104		$ 1,000
Written Material			9		9		$ 1,200
Signage			6		6		$ 2,000
Total Projection	$ 94,134	$ 95,259	$ 56,309	$ 93,009	$ 338,709		

*Tasks shown are those being actively implemented.

**Time frame end March 2020.

PA 22 COMMITTEE MEMORANDUM NO. 2018.31

DATE: December 18, 2018

TO: SAWPA Project Agreement 22 Committee

SUBJECT: Emergency Drought Grant Program Schedule and Budget Update

PREPARED BY: Ian Achimore, Senior Watershed Manager

RECOMMENDATION

Receive and file.

DISCUSSION

The following information provides an overview of the scheduled completion dates of each of the Emergency Drought Grant Program's components, and the status of Program spending in comparison to the overall budget in the Proposition 84 Grant Agreement. There are two sub-projects included in the Program:

- Project 1: Conservation Based Reporting Tools and Rate Structure Implementation.
- Project 2: High Visibility Turf Removal and Retrofit.

Project 1 includes the project components: 1) Aerial Mapping, 2) Conservation Based Rates, 3) Meter Geocoding & Business Type Classification, 4) Web-Based Information Tool, 5) ESRI Customer Parcel Water Budget Tool. Project 2 includes the turf removal and retrofit component.

The dates and funding amounts provided for project completion recognize that the DWR Grant Agreement amendment was approved on June 7, 2018 and extended the schedule for implementation of both Projects from June 30, 2018 to June 30, 2019.

The funding amounts for Project 2 show that the Sub-Grantee agreements have been amended, per the approval of the PA 22 Committee on August 24, 2017. That action increased the funding available to Eastern Municipal Water District, Inland Empire Utilities Agency and Western Municipal Water District. The memo reflects the latest invoices that have been submitted to SAWPA by October 31, 2018.

PROGRAM STATUS

	Grant	Required Funding Match	Total
In Grant Agreement	$ 12,860,110	$ 7,051,533	$ 19,911,643
Invoiced ($)	$7,235,073	$ 5,943,834	$13,178,907
Invoiced (%)	**56%**	**84%**	**66%**

INDIVIDUAL PROJECT STATUS

Grant Funds Invoiced

■ Invoiced   ■ Not Invoiced

44%

56%

Overall Program - Grant
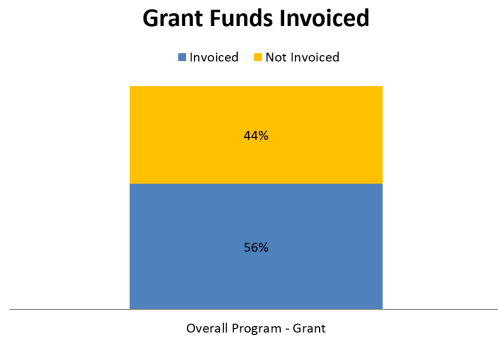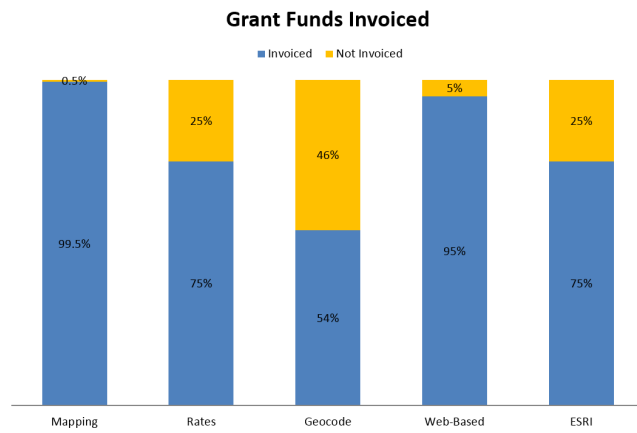
Scheduled dates of completion:

- Project 1: April 2019
- Project 2: March 2019

PROJECT 1 STATUS BY INDIVIDUAL COMPONENTS

Grant Funds Invoiced

■ Invoiced   ■ Not Invoiced

0.5%	25%	46%	5%	25%
99.5%	75%	54%	95%	75%
Mapping	Rates	Geocode	Web-Based	ESRI

Scheduled dates of completion:

- Aerial Mapping: (Completed) July 2017
- Conservation Based Rates: April 2019
- Meter Geocoding and Business Type Classification: June 2019
- Web-Based Information Tool: (Completed) June 2018
- ESRI Customer Parcel Water Budget Tool: (Completed) October 2018

14

PROJECT 2 STATUSES BY INDIVIDUAL SUB-GRANTEES

Grant Funds Invoiced
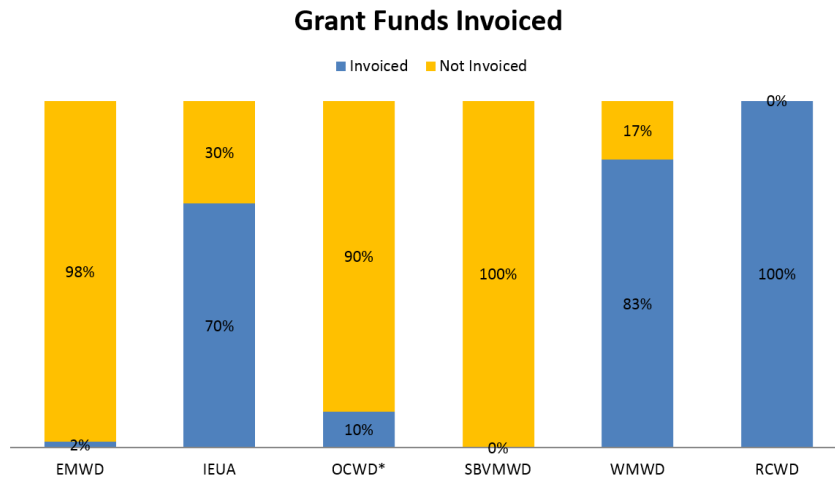
* SAWPA has a Sub-Grantee agreement with OCWD; OCWD has an agreement with MWDOC that passes down the conditions from their Sub-Grantee agreement to MWDOC.

As discussed in previous PA 22 Committee meeting, although invoices have not been received, the Sub-Grantees are making major progress on the High Visibility Turf Removal and Retrofit Project component. Some of the agencies are choosing to hold invoices until their overall turf removal program in their service area is complete. By holding invoices, a final and comprehensive invoice package that includes an agency's total turf removal costs can be submitted to SAWPA, which is beneficial for accounting and administration.

Scheduled date of completion:

- Turf Removal: March 2019

CRITICAL SUCCESS FACTORS

- Administration of the OWOW process and plan in a highly efficient and cost-effective manner.
- Data and information needed for decision-making is available to all.

RESOURCE IMPACTS
None.

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PA 22 COMMITTEE MEMORANDUM NO. 2018.32

DATE: December 18, 2018

TO: SAWPA Project Agreement 22 Committee

SUBJECT: SAWPA Aerial Imagery and Landscape Measurement Data - ESRI GIS Server License

PREPARED BY: Dean Unger, Information Technology Manager

RECOMMENDATION

Approve an amount not to exceed $15,000, to a total of $65,000, for ESRI ArcGIS GIS Server license fees to provide agency staff access to SAWPA aerial imagery and landscape measurement data.

DISCUSSION

Providing agency staff access to SAWPA aerial imagery and landscape measurement data through the ESRI on-line web application requires significant use of server bandwidth. In August 2018, the PA22 Committee authorized the use of $50,000 for ESRI license fees, on-line web application and cloud services as part of an on-going effort to provide agency staff access to SAWPA aerial imagery and landscape measurement data. In addition to the costs identified in August, staff recommends the purchase if an annual ArcGIS GIS Server License for $15,000. This ESRI service will provide the necessary server bandwidth, as well as avoid impacts to SAWPA's internet services.

BACKGROUND

On June 22, 2017, the PA 22 Committee authorized a Task Order with ESRI to develop an on-line web application and managed cloud services to provide water agency staff access to our high resolution aerial imagery and landscape vegetation measurement data. Cloud services hosted by ESRI enable SAWPA to deliver up to fourteen terabytes of raster imagery in a scalable cloud computing environment made available both directly to current ESRI clients and through a custom ArcGIS Online application.

Contracting with ESRI, SAWPA is utilizing our existing relationship and leveraging the existing ESRI license agreements of our member agencies in order to achieve a significantly (approximately 50%) lower cost for hosting and serving this dataset. Additionally, through the cloud services hosted by ESRI, SAWPA and its member agencies will also enjoy the benefit of access to this immense data set without tying up their agencies' own computer data storage/networking services.

The on-line web application developed by ESRI using a number of predefined tools will enable water retail agency staff to access SAWPA's aerial imagery and the results of our landscape analysis performed under the Prop 84 Emergency Drought Grant Program. Making these data available through an on-line web application eliminates the need and associated costs to store this large data for all agencies and for those lacking GIS capabilities provides a platform to use the data. Additionally, this will provide the foundation for which future data may be added and shared, both among agency staff and between agencies.

The on-line web application will include many of the capabilities of the original data, allowing the user to view the background imagery in three modes: Natural Color, False Color Infrared and Normalized Difference Vegetation Index (NVDI). Additionally, the user will have access to the results of SAWPA's work to analyze the watershed's landscape using aerial imagery and remote sensing analysis. The results of the landscape analysis will be able to be viewed at both the parcel level, as well as the agency level, which will include a summary of the landscape statistics by land use type.

On August 23, 2018, the Project Agreement (PA) 22 Committee authorized the use of $50,000 to support the on-going effort to provide agency staff access to SAWPA aerial imagery and landscape measurement data, particularly providing outreach and license access for smaller agencies without their own GIS resources. The Committee suggested that staff should carry on with this effort and make program adjustments according to demand, emphasizing outreach to agencies to promote use of the tools. This effort will be significantly improved by acquiring an ArcGIS GIS Server License, the annual fee for which is $15,000 in addition to the costs previously estimated.

CRITICAL SUCCESS FACTORS
The following OWOW critical success factors are addressed by this action:

1. Administration of the OWOW process and plan in a highly efficient and cost-effective manner.
2. Data and information needed for decision-making is available to all.

RESOURCE IMPACTS
This action will be grant funded. Funding will come from the projected cost savings remaining from the Proposition 84 IRWM Drought Grant, Project 1 Conservation Based Reporting Tools and Rate Structure Implementation.

Attachment:

1. PA22 Committee minutes August 23, 2018 excerpt

retrofit) is March 2019.

This item was for informational and discussion purposes; no action was taken on Agenda Item No. 4.A.

B. **UTILIZING $83,605 IN COST SAVINGS FOR HIGH VISIBILITY TURF REMOVAL IN ORANGE COUNTY (PA22#2018.20)**

Ian Achimore provided a PowerPoint presentation regarding the utilization of $83,605 (earlier budgeted contingency) in cost savings for high visibility turf removal in Orange County. An advisory group met and determined MWDOC/OCWD should utilize the funding as they had remaining projects in the queue. Vice Chair Markus noted that initially it was challenging for Orange County to spend their funding until the criteria was opened to HOAs, public agencies, and commercial projects.

Committee Member Razak asked what conditions are attached to this funding to ensure the drought tolerant landscaping remains and is not removed in the future in favor of grass. Achimore advised the program mirrors the conditions of the individual agencies, and there is a stated 5-year useful life of the project in each individual contract. Quality assurance measures ensure the placement of drought tolerant landscaping.

MOVED, (1) Approve utilizing $83,605 in cost savings from the Proposition 84 Drought Grant for Orange County Water District and the Municipal Water District of Orange County's High Visibility and Turf Removal and Retrofit Project, and, (2) Authorize SAWPA to execute a Sub-Grantee Agreement amendment with Orange County Water District to add the $83,605 of grant cost savings to their current funding amount of $880,894.

Result:	**Adopted (Unanimously; 3-0)**
Motion/Second:	Headrick/Razak
Ayes	Headrick, Markus, Razak
Nays:	None
Abstentions:	None
Absent:	Jones, Miller

C. **SAWPA AERIAL IMAGERY AND LANDSCAPE MEASUREMENT DATA – ESRI ON-LINE WEB APPLICATION AND CLOUD SERVICE – YEAR TWO OF SERVICE (PA22#2018.19)**

Rick Whetsel provided a revised version of the PowerPoint presentation contained in the agenda packet (pages 19-22) regarding the ESRI online web application and cloud service. Staff will be developing a flyer and presenting a workshop to provide information regarding the purpose and utilization of this tool. A discussion ensued regarding the number of and cost per license. The cost is $500 per license annually; as to the number needed, we will know more after the workshop. Smaller water agencies most likely will not have the license; if more licenses are needed than have been budgeted, then that would be brought back to the Committee at a future date. Committee Member Razak noted perhaps we should first hold the workshop, and then determine the number of licenses needed. An incentive for agencies to utilize the tools developed needs to be in place. Vice Chair Markus suggested it would be more appropriate for them to pay out of their budgets to access the tool and then they can utilize the tool for as long as they determine it is useful, rather than to subsidize it upfront. Larry McKenney indicated that would occur in the long term; initially this is an

outreach effort so agencies can see the value of the tool that might not have access to that software. They can make a value judgment in the future as to whether or not they want to pay for the software and continue utilizing the tool. Committee Member Razak suggested SAWPA consider how we will utilize these developed tools to help our agencies adhere to the legal requirements, and to take it a step further to become a model the state could utilize. Whetsel advised that staff has had discussions with DWR regarding collaborative utilization of aerial imagery and tools in meeting the new water efficiency regulations, and DWR has asked staff to provide an agency to serve as part of their next pilot round. Committee Member Razak noted it is our obligation to seek out agencies to educate them on these tools we have developed, and to provide examples specific to their needs as to how the tools can be utilized.

MOVED, approve an amount not to exceed $50,000 for ESRI license fees, on-line web application and cloud services as part of an on-going effort to provide agency staff access to SAWPA aerial imagery and landscape measurement data.

Result:	Adopted (Unanimously; 3-0)
Motion/Second:	Razak/Headrick
Ayes	Headrick, Markus, Razak
Nays:	None
Abstentions:	None
Absent:	Jones, Miller

D. WEB-BASED WATER CONSUMPTION REPORTING AND CUSTOMER ENGAGEMENT PROJECT – FINAL PROJECT REPORT (PA22#2018.18)

Rick Whetsel provided an oral presentation and briefly reviewed the agenda packet materials.

This item was for informational and discussion purposes; no action was taken on Agenda Item No. 4.D.

E. CONSERVATION-BASED WATER RATES UPDATE (PA22#2018.21)

Ian Achimore provided a PowerPoint presentation with a conservation-based water rates update. A $15,150 Change Order with CV Strategies has been executed to assist in outreach regarding rates and marketing of tools with SAWPA website development, graphics, content, and forms retail agencies can utilize. A demonstration will be provided at a future meeting; timeframe is anticipated to be 4-6 weeks.

This item was for informational and discussion purposes; no action was taken on Agenda Item No. 4.E.

F. CONFERENCE PANEL AND PRESENTATION ON THE DROUGHT GRANT'S TOOLS (PA22#2018.22)

Ian Achimore provided a PowerPoint presentation regarding SAWPA's participation in bringing together a conference panel to showcase and discuss the drought tools developed, which will occur during the ACWA Fall Conference, November 27-30 in San Diego. Committee Members encouraged SAWPA staff to continue to work on creatively getting the word out in the watershed relative to the development and purpose of these tools, showing the tools and providing specific examples of their usefulness.

PA 22 COMMITTEE MEMORANDUM NO. 2018.33

DATE: December 18, 2018

TO: SAWPA Project Agreement 22 Committee

SUBJECT: Risk and Rewards Analysis for Aerial Imagery Partnership Study with the Department of Water Resources

PREPARED BY: Ian Achimore, Senior Watershed Manager

RECOMMENDATION
Receive and file.

DISCUSSION

As discussed at the October PA 22 Committee meeting and at the direction of the Committee, SAWPA has engaged the Department of Water Resources (DWR) on future opportunities to partner on data and water use efficiency efforts. Through SAWPA's outreach to the agency, DWR recommended a study whereby SAWPA ensures approximately three retailers use the 2015 aerial imagery data via the ESRI Customer Parcel Water Budget Tool and upload their billing data to compare customer budgets to the volume of water used per customer. By involving the retail agency partners, DWR would be interested in understanding:

    I.   How many customers are over budget,
   II.   How many customers are under budget, and
  III.   What's the most effective way to let customers know they are over budget?

During the October meeting, the PA 22 Committee asked for a risks and rewards analysis that assessed the potential outcomes of the study. The following analysis is provided below.

The study could result in the following (Risks):

    A. The State being interested in water agencies collecting new categories of data that are not required under legislation or current regulations. New categories could potentially include HOA irrigated boundary areas, urban-wildland interface boundary areas, individual parkway measurement data and comprehensive local precipitation data.
    B. The State developing state regulatory standards, or possibly legislation, that are more stringent than what the majority of urban water agencies can realistically achieve. The new water conservation legislation, Senate Bill 606 and Assembly Bill 1668, sets standards for indoor residential use and requires the State Water Board, in coordination with DWR, to adopt efficiency standards for outdoor residential use, water losses, and Commercial, Industrial and Institutional (CII) outdoor landscape areas.
    C. The State describing the data out-of-context, thus reflecting a poor image of the three retail agencies who may seem unprepared for the new water conservation legislation.

The study could result in the following (Rewards):

A. A thorough demonstration that urban water agencies have difficulty in matching meter data to landscape data. This could provide regulatory relief for some agencies as it demonstrates that they cannot realistically analyze the outdoor water budget data provided by the State and identify their inefficient water users.

B. The need to develop more variance categories giving urban water agencies additional flexibility in meeting the new water conservation legislation's water budget targets. The legislation requires DWR to analyze eight variance categories. DWR and the State Water Board have already identified possible variance categories such as evaporative coolers, populations of horses and other livestock, and significant fluctuations in seasonal populations.

C. Our region taking a leadership role related to water use efficiency state policy and aerial imagery. This supports our standing as a leader in this field that the State and other water agencies will look to for advice on developing regulations and programs.

D. Helping us refine imagery collection and related water use efficiency tools by understanding retail water agency needs and limitations so future tools can be developed strategically.

It is difficult to estimate the outcome of the study, as the retailers have not been selected, but a possible result is that it will demonstrate that a small portion of customers exceed their water budget and that it is difficult to change their water usage habits. It will be interesting to understand whether their parcels are well irrigated, what range of lot size they have and whether their water usage patterns correspond with factors such as weather conditions.

Staff looked for an existing study with a similar scope but there is limited research in this field. A related study includes the 2015 *Outdoor Water Savings Research Initiative Study* conducted by the Alliance for Water Efficiency. It found that reporting of outdoor water savings in this study area varies and there is a lack of geographic and climate variability in the research. Another related study is the OmniEarth/ EagleView final report from February 2018 that evaluated the deployment of the grant funded Technology Based Information System Tool. One major finding of the study was that the higher the percentage of turf a service area had, the more likely the water agency was either highly efficient or inefficient. It also demonstrated that efficiencies in outdoor watering was a strong indicator for the agency's overall efficiency. And a 2011 study from the American Society of Photogrammetry and Remote Sensing Journal, *Quantifying Urban Landscape Water Conservation Potential Using High Resolution Remote Sensing and GIS*, found that more commercial properties applied water in excess of estimated needs compared to residential ones, and that small percentages of users accounted for most of the excess irrigation.

SAWPA plans to develop a draft scope and budget for this study and present it to the Committee at a future meeting. Funding is currently available through the One Water One Watershed Proposition 1 Integrated Regional Water Management (IRWM) Implementation grant and eligible projects include decision support tools to model regional water management strategies to account for climate change and other changes in regional demand and supply projections. Staff will be meeting with the Committee's Advisory Workgroup of Conversation Managers to discuss developing a possible grant application to fund an updated high resolution aerial mapping for the watershed, a small study comparing the water budgets created with lower versus higher resolution aerial data, and development of an in-house updated version of the Customer Parcel Water Budget Tool with more features that support decision making by retailers. Staff will also discuss with the Workgroup the possibility of applying for a Proposition 1 IRWM grant to fund commercial turf retrofit projects in the watershed through a partnership with the Pacific Institute called the Sustainable Landscape Program. Local match may be available through partnering

commercial businesses that the Pacific Institute has established relationships with through their networks. The Program would monitor the benefits of the commercial projects and market the water savings to other commercial entities in order to promote further turf removal in the watershed.

CRITICAL SUCCESS FACTORS

1. Administration of the OWOW process and plan in a highly efficient and cost-effective manner.
2. Data and information needed for decision-making is available to all.

RESOURCE IMPACTS
Developing a draft scope and budget will results in minor staff costs.

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PA 22 COMMITTEE MEMORANDUM NO. 2018.34

DATE: December 18, 2018

TO: SAWPA Project Agreement 22 Committee

SUBJECT: Update on ACWA Fall Presentation and New SAWPA Water Use
                        Efficiency Webpages

PREPARED BY: Ian Achimore, Senior Watershed Manager

RECOMMENDATION
Receive and file.

DISCUSSION
Per PA 22 Committee feedback, staff served on a panel at the Association of California Water Agencies
(ACWA) Fall Conference on November 28 and presented the various tools available through the
Emergency Drought Grant Program including:

1. The 2015 SAWPA aerial imagery and analysis, and meter matching,
2. Conservation-based water rates support for retail water agencies, and
3. The ESRI Customer Parcel Water Budget Tool.

The panel was entitled "Making Water Use Data and Technology a California Way of Life" and focused
on the new water conservation legislation (Assembly Bill 1668 and Senate Bill 606) and lessons learned
from SAWPA, the Department of Water Resources (DWR) and other water agencies on implementing
water use efficiency programs. Chino Hills Public Works Director Nadeem Majaj served on the panel and
thanked SAWPA and the PA 22 Committee for the support provided for their conservation-based water
rates program. DWR's Water Use Efficiency Program Manager Peter Brostrom also discussed the aerial
imagery that the State is procuring in order to provide urban water agencies outdoor water budgets so they
can comply with the new water conservation legislation.

The new SAWPA water use efficiency webpages were also finalized, and staff is sharing them at the
various ESRI Customer Parcel Water Budget Tool workshops led by Rick Whetsel and at the ACWA
conference. The webpages are available at: http://www.sawpa.org/water-use-efficiency/.

A new one-page brochure was also developed under a contract with Woodard & Curran who was hired
under the SAWPA Request for Qualification for grant and technical writing services, which is not being
funded by the grant. The factsheet is also being distributed as part of the workshops.

The webpages were developed through the $40,150 contract with CV Strategies. As of October 31, 2018,
there is still approximately $16,000 remaining on their contract. Additional work will be done by CV
Strategies such as developing a brochure that shows the step-by-step process to implement conservation-
based rates and a video associated with the ESRI Customer Parcel Water Budget Tool.

CRITICAL SUCCESS FACTORS

1. Administration of the OWOW process and plan in a highly efficient and cost-effective manner.
2. Data and information needed for decision-making is available to all.

RESOURCE IMPACTS
None.

Attachments:
1. SAWPA's Presentation from the ACWA Conference
2. One page brochure developed with Woodard & Curran

MAKING WATER CONSERVATION A REGIONAL WAY OF LIFE

November 28, 2018

Ian Achimore
Santa Ana Watershed Project Authority

1

PRESENTATION OUTLINE

1. About the Santa Ana Watershed Project Authority (SAWPA)
2. Drought Grant Tools Developed for our Region
    1. Aerial Imagery, Analysis and Meter Matching
    2. Budget Based Rates Program
    3. Customer Parcel Water Budget Tool

Funded by 2014 IRWM Drought Grant
Implemented by SAWPA

3. Lessons Learned and Takeaways

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SANTA ANA WATERSHED PROJECT AUTHORITY (SAWPA)
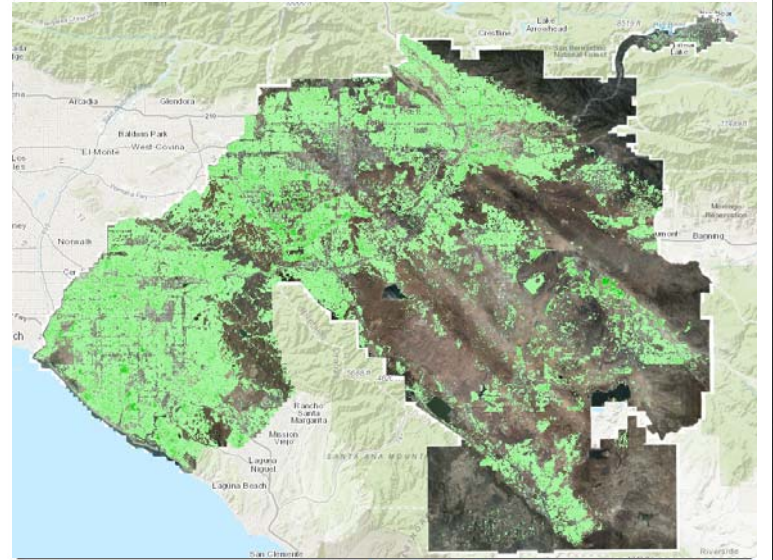
◇ Joint Powers Authority (JPA) established in 1974.

⬦ Five members agencies are special districts (below).

⬦ Implements projects related to water quality, watershed health, water supply and water use efficiency.

◇ SAWPA's service area, the Santa Ana River Watershed, has 70 retail water agencies.

3

DROUGHT GRANT STEP 1: REGIONAL MAPPING

◇ **Scope:**

⬦ Use high resolution 3 inch aerial imagery to digitize irrigable and irrigated areas.

⬦ Areas clipped by parcel and by retail water agency.

◇ **Lessons learned:**

⬦ Analysis performed on aerial imagery of same date is critical.

⬦ Long narrow flight paths hard to compile for irregular agency boundaries.

Flight dates: May-July 2015
Area mapped: 2,400 mi^2 (1.5M parcels)

4

28

## DROUGHT GRANT STEP 2: MATCH METERS TO LANDSCAPE DATA

◈ Scope:

   ◇ Digitize meter locations for retail water agencies.

   ◇ Match meter locations data to irrigable/irrigated landscape data to create water budgets by meter.

   ◇ Enter into memorandum of understanding with retail water agencies (third party consultant handles meter data).
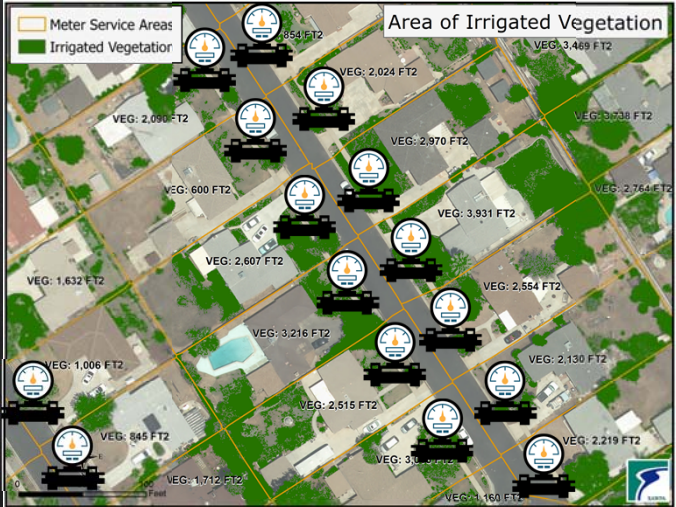
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DROUGHT GRANT STEP 3: ENSURE ALL RETAILERS CAN USE DATA
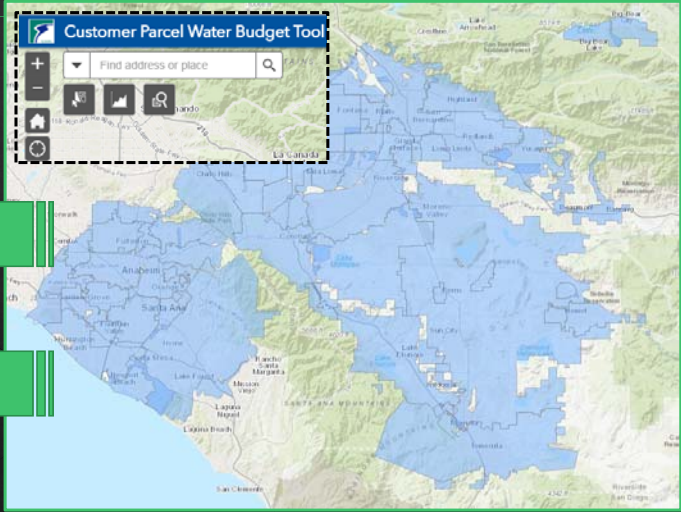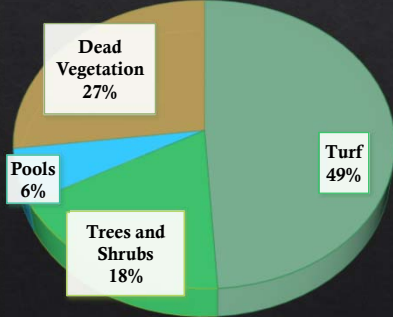

Tool available, upon request, via ArcGIS online.

6

29

DROUGHT GRANT STEP 4 (Optional): PROVIDE DATA FOR RATE DESIGN

Purpose and Scope

◈ Provide agencies incentive to adopt **budget-based rate** structure.

◈ Funding provided in two phases (50% of rate structure if analyzed, remaining 50% if adopted).

◈ Nine agencies participated, three adopted.

◈ Agencies used aerial imagery to define outdoor water budgets.

Rate Structure Design*
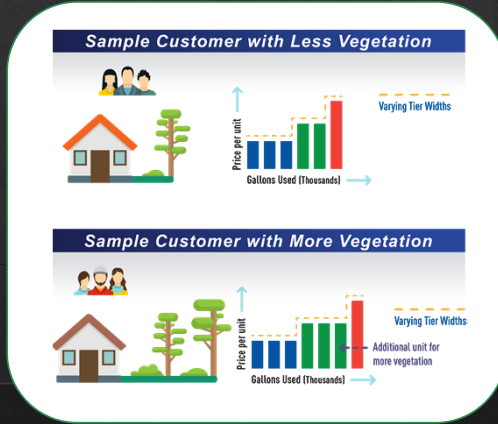
*More description in Chino Hills presentation.

7

LESSONS LEARNED

"We could have implemented these [water use efficiency] programs, but you offered them at the wrong time – right during the drought."

-Water agency representative

◈ Buy-in from **all water agency departments** needed on these water use efficiency regional partnerships – billing, finance, GIS and public works.

◈ Some smaller agencies were **very busy during the recent drought**, important to establish relationships early.

◈ **Billing systems** are major stumbling blocks to these partnerships.

　◇ Effort to modify systems, or just download a usable water consumption dataset, vary greatly by agency.

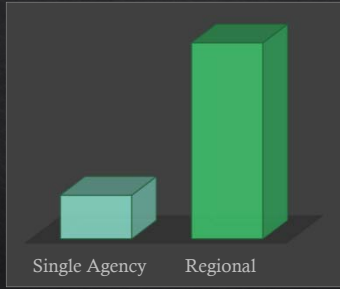　◇ Some agencies have in-house billing system and fewer hurdles.

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LESSONS LEARNED

Aerial Imagery Cost Comparison

Single Agency   Regional

Per parcel (or per mile) is 4 to 1.

◈ **IRWM grant** and DWR's buy-in on regional and innovative programs is crucial to our success.

◈ **Regional** aerial imagery acquisition greatly reduces the costs, but cost sharing arrangements take time.

◈ Agencies' capacity to use tools varies widely as some do not have GIS staff.

9

PARTNERING WITH SAWPA (AT NO COST TO YOUR AGENCY)

◈ Water Budget Tool: Available through Fall 2019.

FIRST COME FIRST SERVED
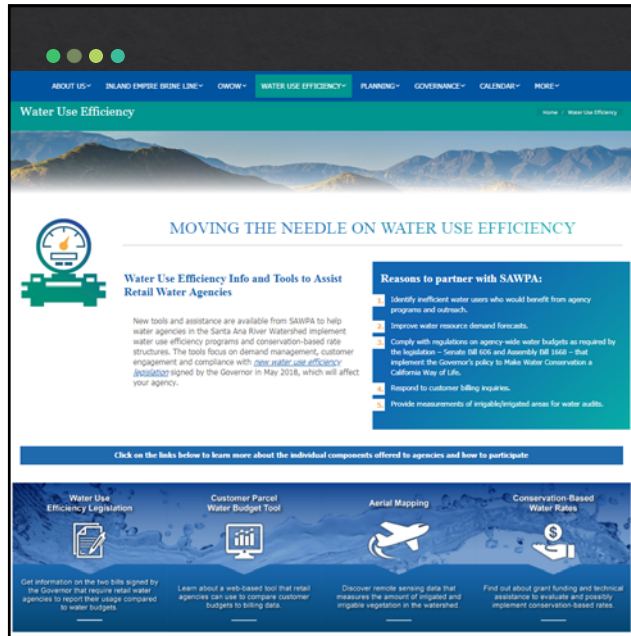◈ Meter Matching: Contact SAWPA by February 2019.

FIRST COME FIRST SERVED
◈ Water Rates: Partner with SAWPA by Summer 2019.

◈ Aerial Imagery: Contact SAWPA about future flights.

10

31

11

AVAILABLE WATER USE EFFICIENCY TOOLS

How Are SAWPA's Water Use Efficiency Tools Helpful to Agencies?

The tools help water agencies with the following:

1. Identify inefficient water users who would benefit from agency programs and outreach.
2. Improve water resource demand forecasts.
3. Comply with regulations on agency-wide water budgets as required by SB 606 and AB 1668.
4. Respond to customer billing inquiries.
5. Provide measurements of irrigated areas for water audits.

What is the new "Making Water Conservation a California Way of Life" legislation?

(SB 606 and AB 1668)

Senate Bill 606 and Assembly Bill 1668 were enacted in May 2018 to implement permanent water use reporting and agency-wide targets for urban water suppliers. Tools developed by SAWPA can help agencies comply with these regulations.

Aerial Imagery Program: In 2015, with the support of Proposition 84 grant funding, SAWPA collected high resolution aerial imagery for 2,400 square miles of the urbanized Santa Ana River Watershed to support retail water agencies in estimating outdoor water budgets. Aerial Imagery was used to conduct an analysis of vegetated landscapes at the parcel level. **Contact SAWPA for the data.**

Water Meter and Business Type Geocoding: SAWPA has partnered with Miller Spatial Services to help water agencies to digitally link their customer's account information to parcel data. This includes linking NAICS business codes to Commercial, Institutional, and Industrial customer parcel data.

Contact SAWPA by February 2019

Customer Parcel Water Budget Tool: SAWPA has partnered with ESRI to create an interactive web tool to examine parcel level landscape and water budget data. This tool provides water managers easy access to over 14 terabytes of GIS spatial data without the need of GIS software, GIS expertise, or space for computer storage. **Contact SAWPA to get the tool.**

Conservation-Based Water Rates: SAWPA has Proposition 84 grant funds available to assist water agencies in the Santa Ana River Watershed with the cost of studying and implementing a conservation-based water rate structure, also known as budget-based rates.

Partner with SAWPA by Summer 2019

Updated Aerial Imagery: SAWPA is working with its partners to develop an updated aerial dataset to update customer budgets in the watershed.

Ongoing Tool Updates: SAWPA will continue to engage with the State and fine tune tools as specific standards are developed.

Future Compliance: Tools can help agencies avoid potential fines if agencies do not meet their water use objective starting in 2027.

Need more information?

Navigate to 🖥 **www.sawpa.org/water-use-efficiency** for info on how to use these tools at no cost to your agency.
Questions? Contact Ian Achimore at ✉ **IAchimore@sawpa.org**
33