

# This presentation premiered at WaterSmart Innovations

[watersmartinnovations.com](http://watersmartinnovations.com)



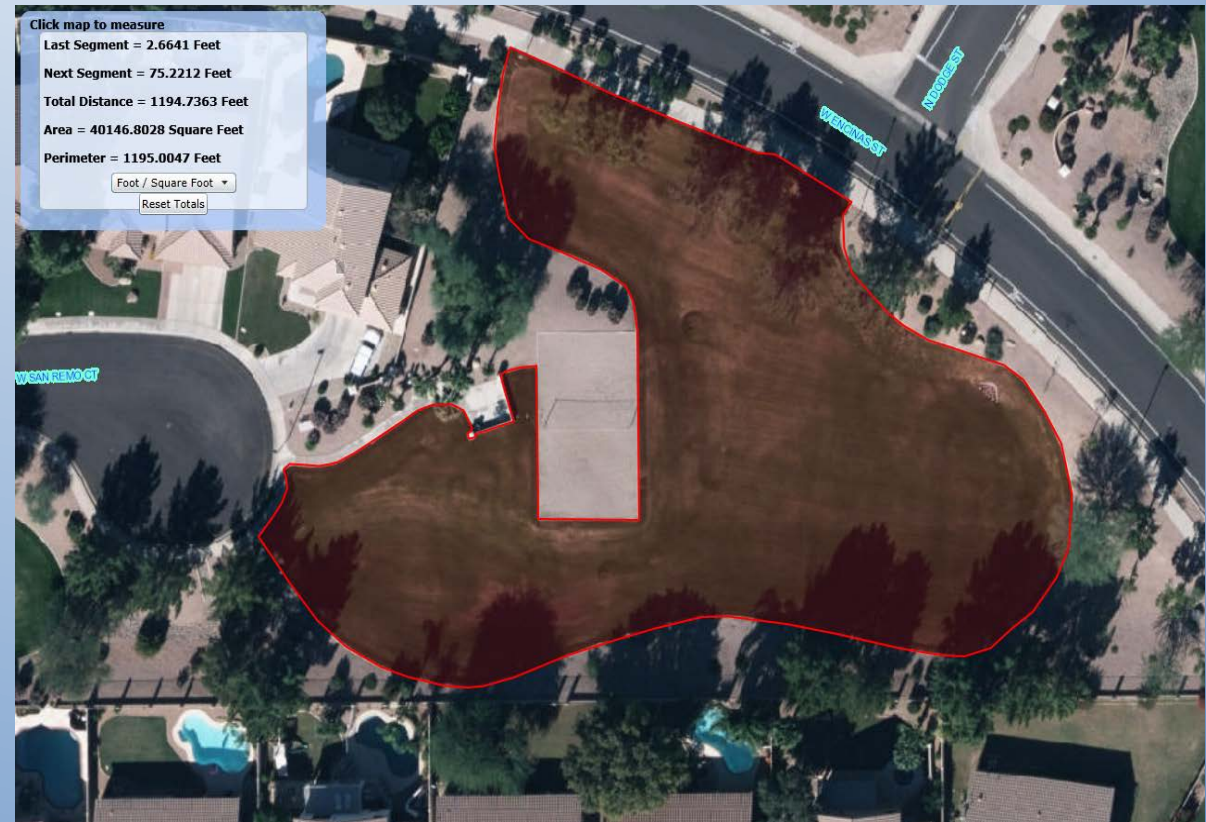
# Landscape Water Budget Program 2.0

Getting more efficient with efficiency



# A History of the Program

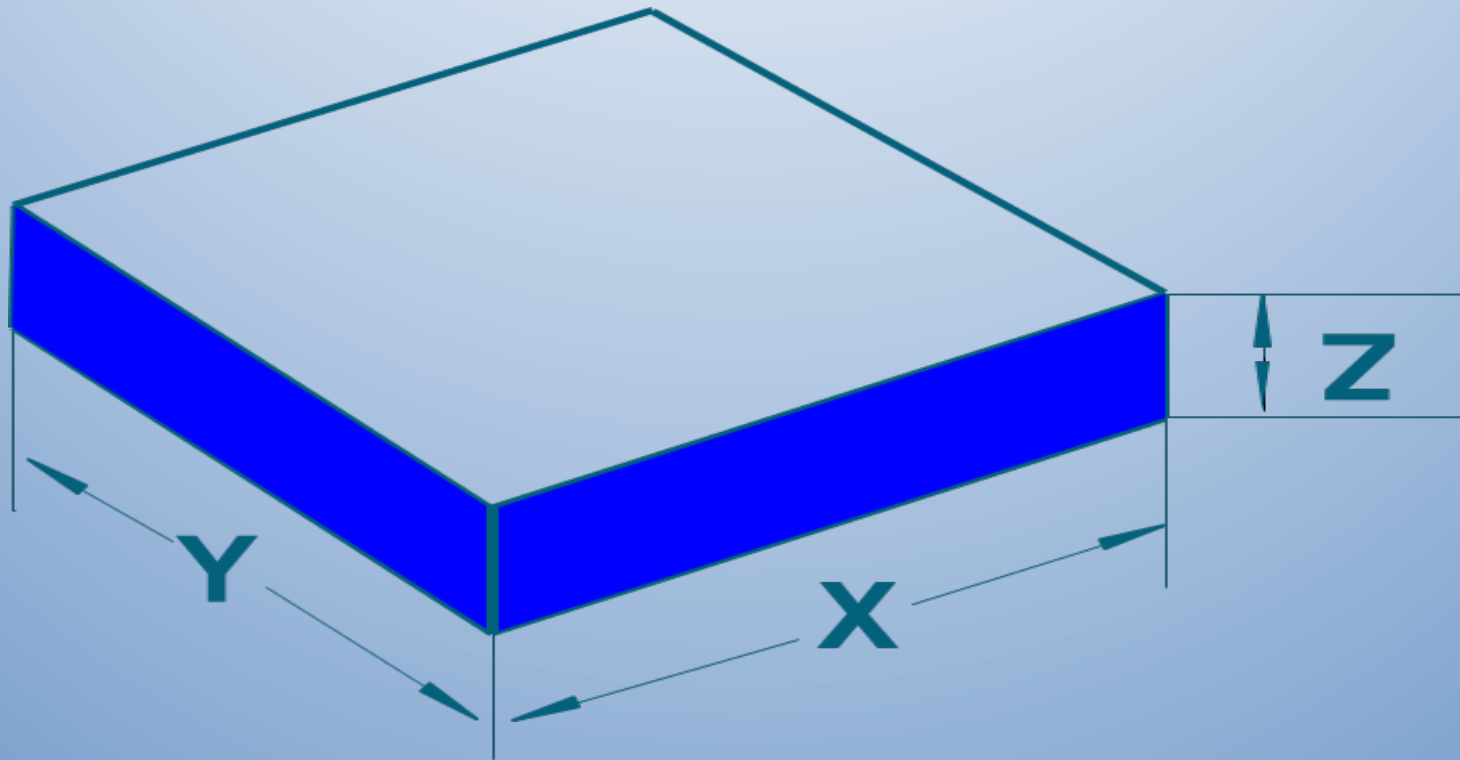
- In 2009 we looked at HOA water use
- 104 HOA communities with more than one acre of turf
- These are using potable water
- Turf was measured from aerial photos
- DG was estimated





# Creating the Budget

- Converting inches to gallons



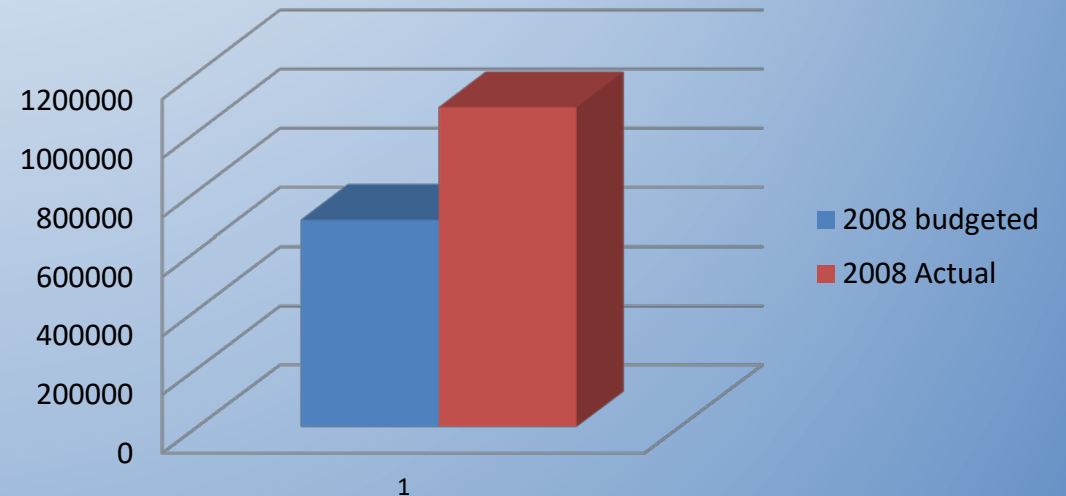
- Converting inches to gallons

The above figures are **estimates only**. These figures are not to be taken as exact amounts.

# HOAs In Gilbert

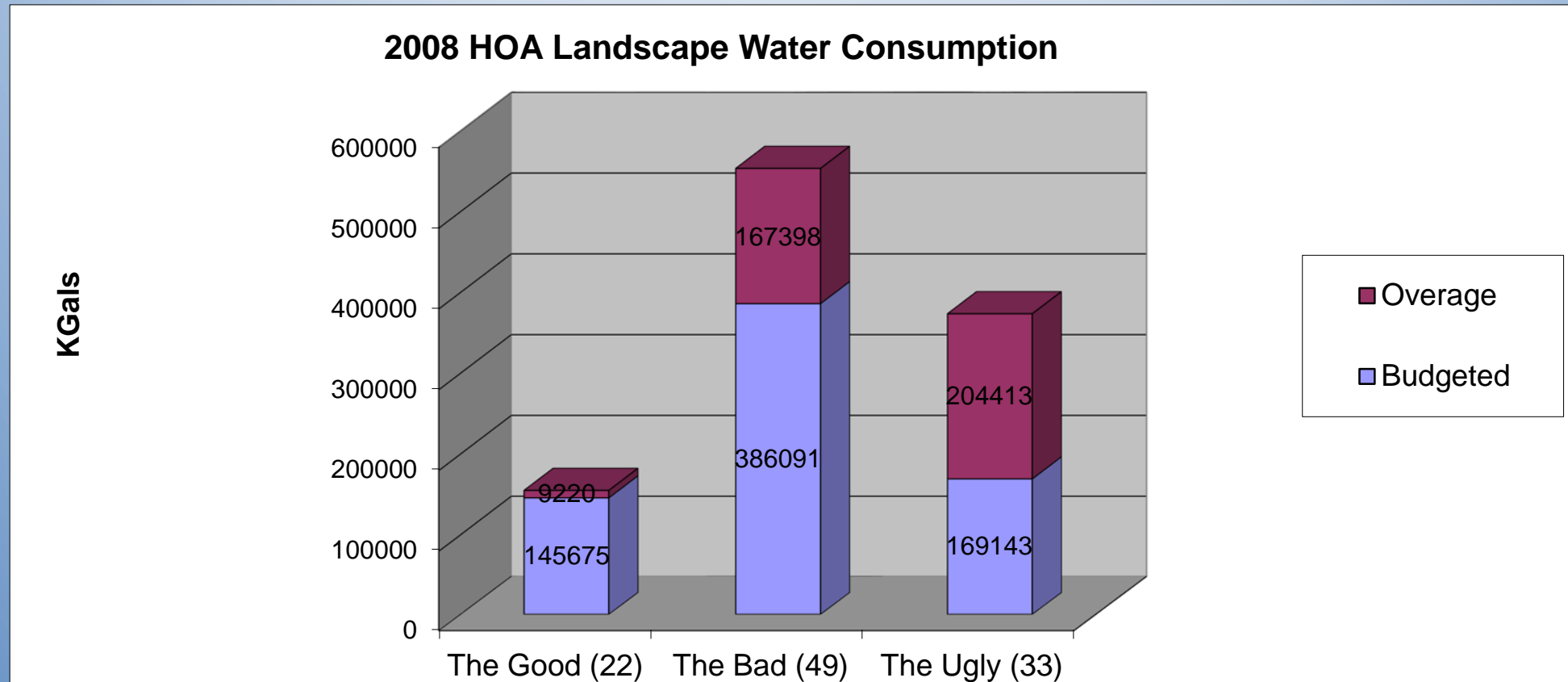
- 456 acres of turf
- 714 acres of decomposed granite
- 700,909,000 gallons budgeted
- 1,081,940,000 gallons used
- 381,031,000 gallons potential savings

2008 HOA water use comparison



# HOAs In Gilbert

- Who do we target?



# Water Budget Program 1.0


- Manually updated
- ~14 sites by 2012
- ~72 meters

Year: 2014														
Account Number:														
Address:	2633 S BUCKAROO	2531 S PONDEROSA	2736 S PONDEROSA	3457 E LOWELL	3234 E VERMONT	2706 E ATTLEBORO	2578 S CHAPARRAL	3346 E BOSTON	3419 E BOSTON	2641 S SUNNYVALE	2614 S PONDEROSA	3441 E CLIFTON	Totals:	
Jan	8	11	0	36	195	217	249	13	3	1	0	14	733	
Feb	6	7	0	26	146	92	130	11	2	0	0	10	420	
Mar	6	8	0	26	97	72	75	19	2	0	1	8	305	
Apr	6	7	0	41	253	218	166	58	2	0	2	2	751	
May	6	9	0	77	477	369	344	62	3	3	2	3	1350	
Jun	7	6	0	86	513	593	485	122	2	9	2	5	1823	
Jul	8	8	0	96	672	692	509	131	3	11	3	6	2130	
Aug	4	5	0	43	303	382	237	144	2	8	2	4	1128	
Sep	5	6	0	71	312	377	124	172	2	4	2	4	1073	
Oct	2	8	0	75	319	424	469	153	3	0	3	5	1453	
Nov	2	5	0	18	247	183	237	201	2	0	1	1	895	
Dec	1	5	0	9	88	58	185	69	2	0	1	0	417	



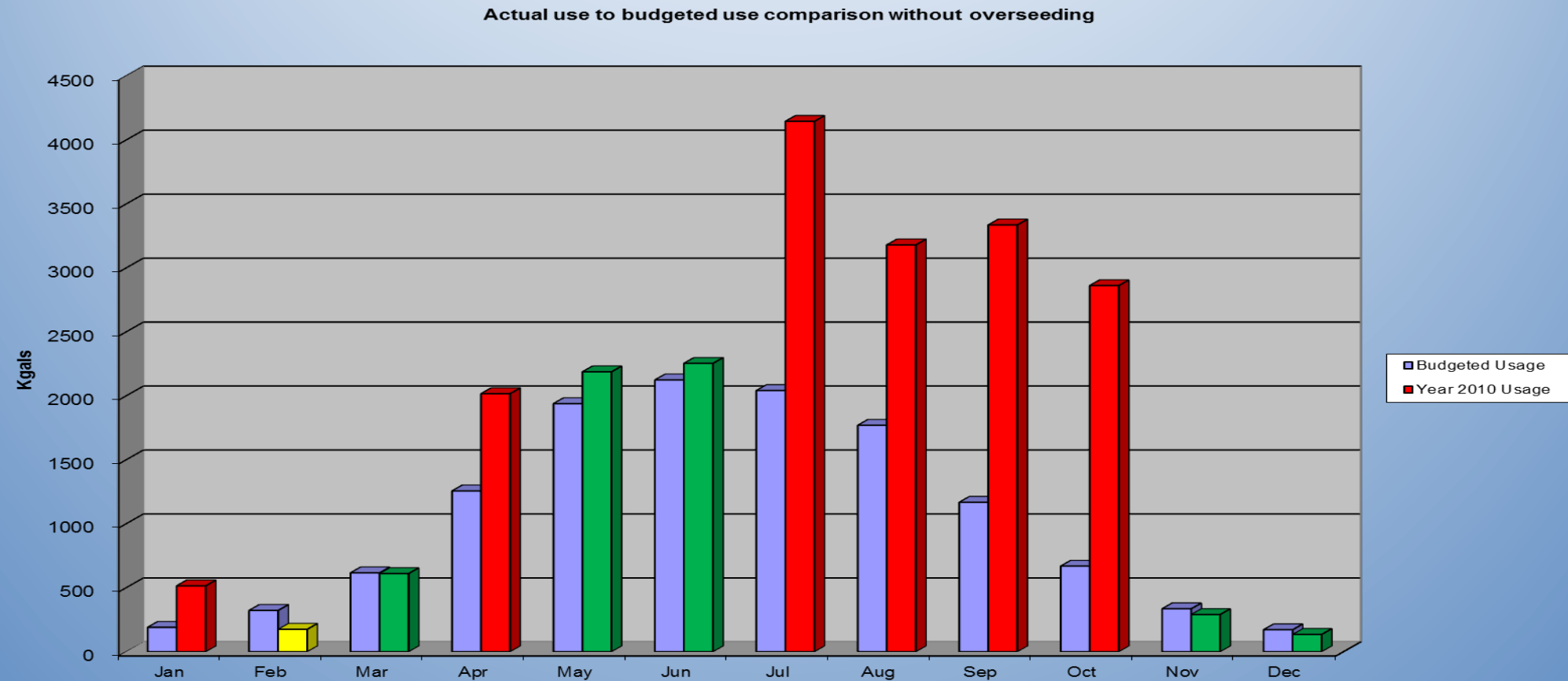
# Water Budget Program 1.0

- Water use comparison

Site X			
Budgeted Usage			
Month	Total Use Kgals	Cost Per Kgal	Water Cost Per Month
January	465	\$0.96-\$1.60*	\$728.67
February	612	\$0.96-\$1.60*	\$964.17
March	958	\$0.96-\$1.60*	\$1,517.45
April	1433	\$0.96-\$1.60*	\$2,277.84
May	1747	\$0.96-\$1.60*	\$2,780.05
June	1913	\$0.96-\$1.60*	\$3,046.75
July	1839	\$0.96-\$1.60*	\$2,927.59
August	1594	\$0.96-\$1.60*	\$2,536.04
September	1332	\$0.96-\$1.60*	\$2,116.12
October	1282	\$0.96-\$1.60*	\$2,035.72
November	637	\$0.96-\$1.60*	\$1,003.89
December	419	\$0.96-\$1.60*	\$654.90
	14,228		\$22,589.20
Year 2010 Usage			
Month	Total Use Kgals	Cost Per Kgal	Water Cost Per Month
January	515	\$0.96-\$1.60*	\$809.30
February	175	\$0.96-\$1.60*	\$265.30
March	611	\$0.96-\$1.60*	\$962.90
April	2017	\$0.96-\$1.60*	\$3,212.50
May	2188	\$0.96-\$1.60*	\$3,486.10
June	2254	\$0.96-\$1.60*	\$3,591.70
July	4146	\$0.96-\$1.60*	\$6,618.90
August	3180	\$0.96-\$1.60*	\$5,073.30
September	3336	\$0.96-\$1.60*	\$5,322.90
October	2862	\$0.96-\$1.60*	\$4,564.50
November	291	\$0.96-\$1.60*	\$450.90
December	135	\$0.96-\$1.60*	\$201.30
	21,710		\$34,559.60
Difference from Budget:			\$11,970.40
*Based on the current rate of:			
		\$0.96/kgal for up to 10 kgals	
		\$1.02/kgal 11-20 kgals	
		\$1.35/kgal 21-30 kgals	
		\$1.60 for all usage over 30 kgals	
			
		Town of Gilbert Water Conservation 480-503-6098	

# Water Budget Program 1.0

- Water use graph



# Water Budget Program 1.0

- Monthly updates

All,

I hope everyone had enjoyable holidays. The **meter read period** for this update was between 11/25 and 12/29 so it was a 33 day read cycle. The budget calculates that 465,000 gallons were needed and 370,000 gallons were used. That's about **20% below the calculated water requirements**, especially for a longer read cycle but **there was some rainfall** during that period. The nearest Rainlog gauge shows that **1.15"** of rain fell, with most of it happening on 12/4. Responding to rainfall is a great way to beat the budget and still have a healthy landscape.

**For the year** the calculated water requirement was 14,308,000 gallons and 14,572,000 gallons were used. That is **1.8%** off of the calculated budget and well within the **10% variance we consider to be exceptional** landscape water management. With the exception of May, the monthly water use looks really good for the year. It's not just how much water is used it's when and how it's applied that makes a successful landscape water management program. Taking advantage of the rainfall that happened in September put you in a great position to not have the extra water associated with overseeding overrun the annual water use comparisons.

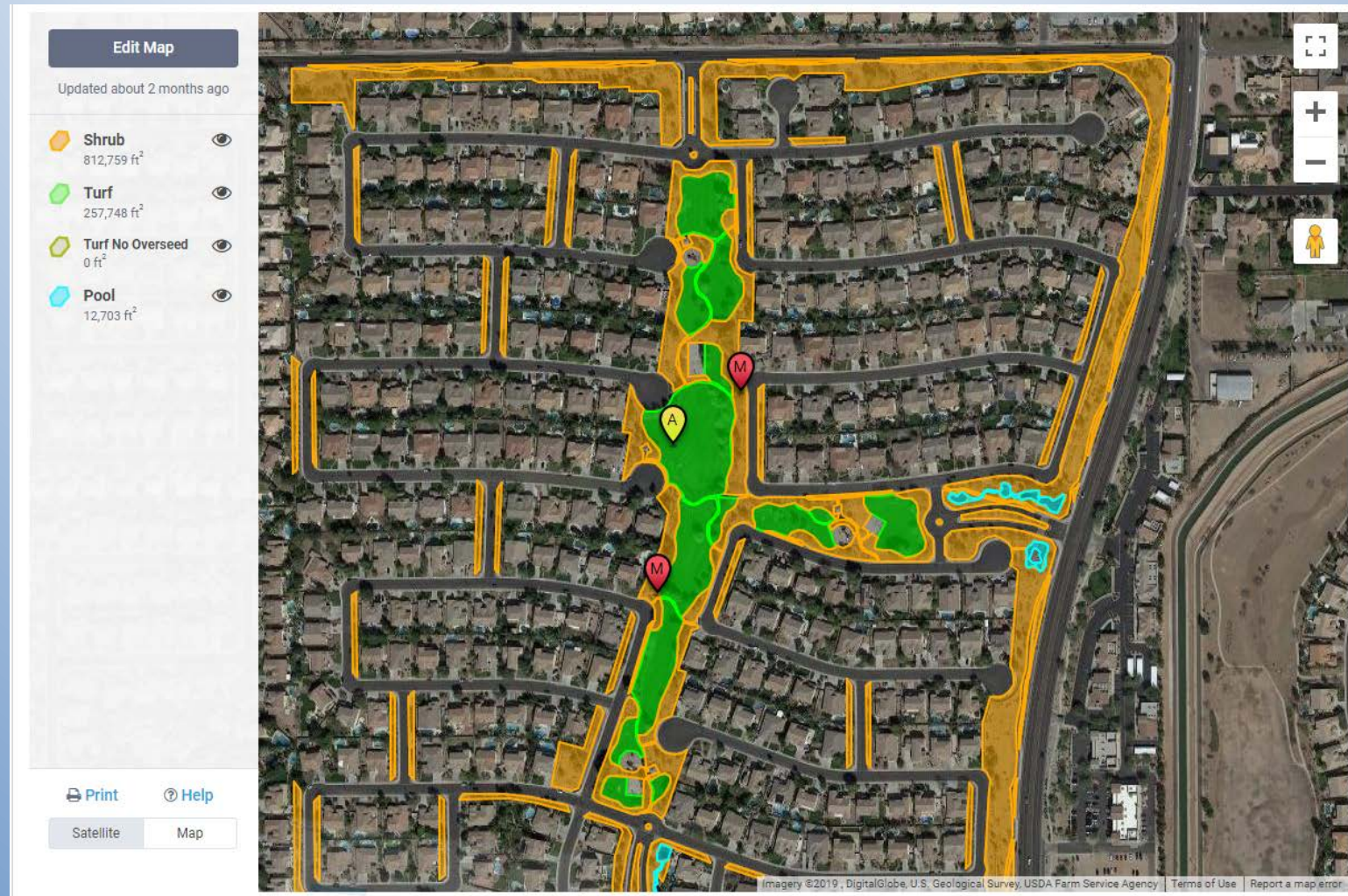
**Great job everyone!**

As always if you have any questions or need any help please feel free to ask.



# Water Budget Program 2.0

- Mapping





# Water Budget Program 2.0

- Currently 233 sites as of 8/13/2019
- Currently 661 water meters

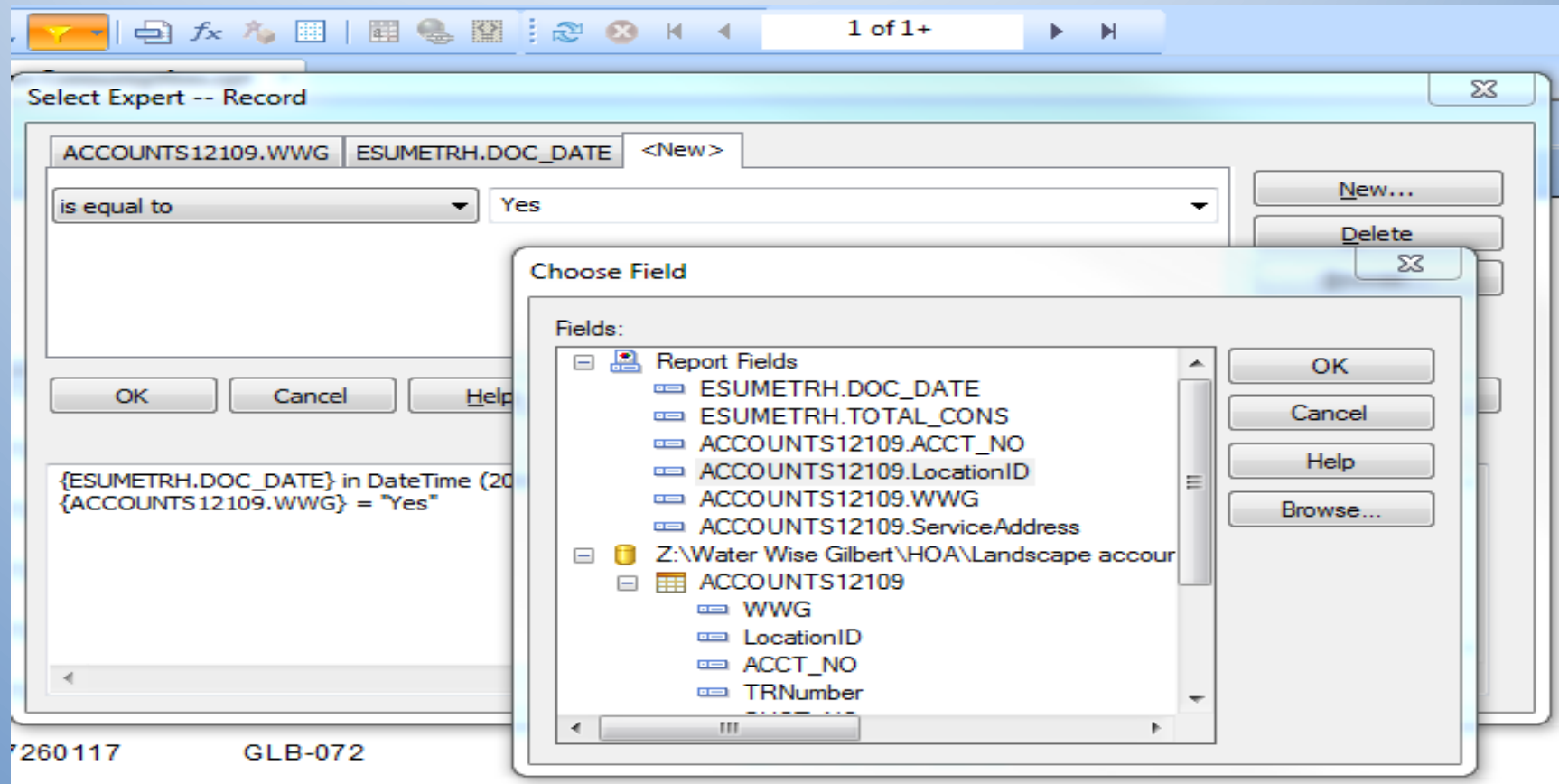
Active WWG Contact Information											
WWG	LocationID	Site Type	BillingName1		CommunityManager	LandscapeContractor					
Yes	GLB-013	HOA	HIGHLAND RANCH III BLUEJAY HOA		Heather Taveras	Blade Cutters Landscaping					
Yes	GLB-014	HOA	HIGLEY MANOR COMMUNITY HOA		Rhett Homan	Gothic					
Yes	GLB-015	HOA	HOLLIDAY FARMS HOA		Jonathan Tutelo	Peak Landscape					
Yes	GLB-016	HOA	ISLANDS COMMUNITY HOA		Ginny Gapen	Desert Classic					
Yes	GLB-017	HOA	LA ALDEA HOA		Patrick Raturzo	Green Innovations					
Yes	GLB-018	HC	ACCOUNTS12109								
Yes	GLB-019	HC	WWG	LocationID	ACCT NO	TRNumber	CUST NO	BillingName1	ServiceAddress	Latitude	Longitude
Yes	GLB-020	HC	Yes	GLB-057				ARROWPOINT	264 W HOUSTON AVE		
Yes	GLB-021	HC	Yes	GLB-057				ARROWPOINT	1403 N GOLDEN KEY ST		
Yes	GLB-022	HC	Yes	GLB-001				ARTEMINA HOA	41 S CAMBRIDGE ST		
			Yes	GLB-001				ARTEMINA HOA	293 S CAMBRIDGE ST		
			Yes	GLB-001				ARTEMINA HOA	172 S CAMBRIDGE ST		
			Yes	GLB-002				ASHLAND RANCH COMMUNITY ASSC	1660 S ASHLAND RANCH RD		
			Yes	GLB-002				ASHLAND RANCH COMMUNITY ASSC	1226 E OXFORD LN		
			Yes	GLB-002				ASHLAND RANCH COMMUNITY ASSC	1101 E ARLINGTON AVE		
			Yes	GLB-002				ASHLAND RANCH COMMUNITY ASSC	2070 S ASHLAND RANCH RD		
			Yes	GLB-002				ASHLAND RANCH COMMUNITY ASSC	2300 S ASHLAND RANCH RD		
			Yes	GLB-002				ASHLAND RANCH COMMUNITY ASSC	1525 E PATRICK ST		
			Yes	GLB-002				ASHLAND RANCH COMMUNITY ASSC	1455 E LOS ALAMOS ST		
			Yes	GLB-003				ASHLEY HEIGHTS HOA	1658 S JACANA LN		
			Yes	GLB-003				ASHLEY HEIGHTS HOA	4396 E FRANKLIN AVE		
			Yes	GLB-003				ASHLEY HEIGHTS HOA	4287 E PATRICK ST		
			Yes	GLB-003				ASHLEY HEIGHTS HOA	4016 E PATRICK CT		
			Yes	GLB-003				ASHLEY HEIGHTS HOA	4132 E MCCOY BLVD		

# Water Budget Program 2.0

- Current areas in program as of 8/13/2019
- 552.3 acres of overseeded turf
- 363.4 acres of non overseeded turf
- 1,359.9 acres of DG
- 49.2 acres of water surface areas

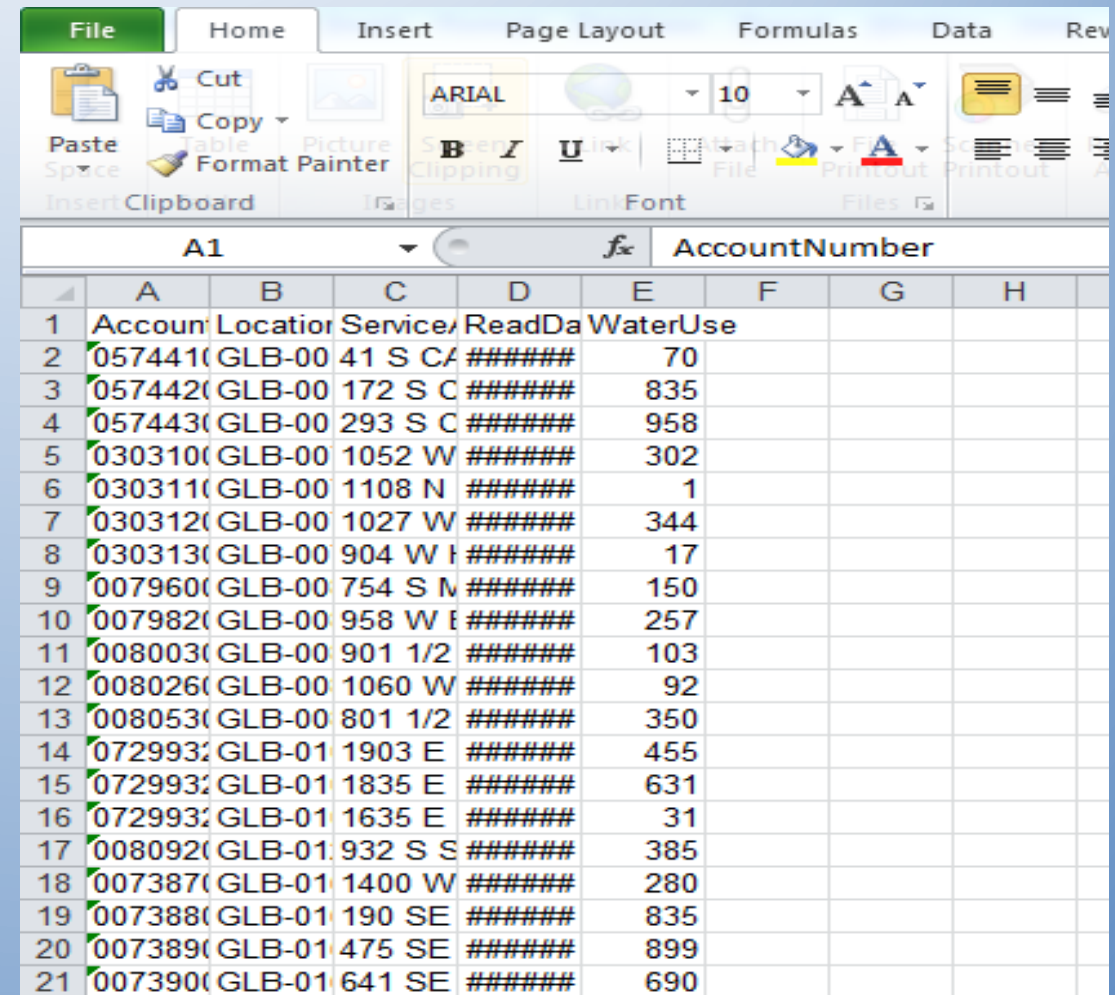
# Water Budget Program 2.0

- Run one monthly report



# Water Budget Program 2.0

- Export to Excel and email
- About a 5 minute process



A1					fx AccountNumber				
	A	B	C	D	E	F	G	H	
1	Account	Location	Service	ReadDa	WaterUse				
2	0574410	GLB-00	41 S CA	#####	70				
3	0574420	GLB-00	172 S C	#####	835				
4	0574430	GLB-00	293 S C	#####	958				
5	0303100	GLB-00	1052 W	#####	302				
6	0303110	GLB-00	1108 N	#####	1				
7	0303120	GLB-00	1027 W	#####	344				
8	0303130	GLB-00	904 W I	#####	17				
9	0079600	GLB-00	754 S N	#####	150				
10	0079820	GLB-00	958 W I	#####	257				
11	0080030	GLB-00	901 1/2	#####	103				
12	0080260	GLB-00	1060 W	#####	92				
13	0080530	GLB-00	801 1/2	#####	350				
14	0729932	GLB-01	1903 E	#####	455				
15	0729932	GLB-01	1835 E	#####	631				
16	0729932	GLB-01	1635 E	#####	31				
17	0080920	GLB-01	932 S S	#####	385				
18	0073870	GLB-01	1400 W	#####	280				
19	0073880	GLB-01	190 SE	#####	835				
20	0073890	GLB-01	475 SE	#####	899				
21	0073900	GLB-01	641 SE	#####	690				



# Water Budget Program 2.0

- Review on Waterfluence portal

Score	Annual Budget	Site ID	Site Name	Agency	Rate Code	Type	Acres	Main Org	Last View	Active	Field Survey	Alerts
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	0%	GLB-383	Fire Station 9	Gilbert	GLB	Commercial	1.5	Gilbert Fire Stations	Feb-19	Yes		
<input type="text"/>	0%	GLB-415	Fire Station 9 Indoor...	Gilbert	GLB-I	Commercial	0.1	Unknown		Yes		
100	88%	GLB-403	Fry's 64 Indoor EC	Gilbert	GLB-I	Commercial	0.7	Unknown		Yes		😊
99	84%	GLB-305	Fire Station 11	Gilbert	GLB-I	Commercial	0.2	Gilbert Fire Stations	Feb-19	Yes		
99	96%	GLB-047	Vintage Ranch HOA	Gilbert	GLB	HOA	24.9	Vision Communit...	Feb-19	Yes		😊
99	90%	GLB-402	Fry's 15 Indoor EC	Gilbert	GLB-I	Commercial	0.6	Unknown		Yes		
98	89%	GLB-412	Fire Station 6 Indoor...	Gilbert	GLB-I	Commercial	0.2	Unknown		Yes		
98	84%	GLB-350	Arete: Great Hearts...	Gilbert	GLB	School	3.3	Great Hearts	Feb-19	Yes		😊
98	97%	GLB-405	Fry's 624 Indoor EC	Gilbert	GLB-I	Commercial	3.4	Unknown		Yes		
98	92%	GLB-039	Silverhawke HOA	Gilbert	GLB	HOA	23.6	First Service Resi...	Mar-19	Yes		
98	71%	GLB-032	Sahara And Playa P...	Gilbert	GLB	HOA	13.2	Sahara and Playa ...	Nov-17	Yes		
97	80%	GLB-413	Fire Station 7 Indoor...	Gilbert	GLB-I	Commercial	0.1	Unknown		Yes		
97	99%	GLB-022	Morrison Ranch Hig...	Gilbert	GLBr	HOA	78.9	CCMC	Mar-19	Yes		
97	91%	GLB-034	San Tan Ranch HOA	Gilbert	GLB	HOA	58.3	Vision Communit...	Feb-19	Yes		
97	88%	GLB-048	Vista Estancia HOA	Gilbert	GLB	HOA	3.1	Vista Estancia HOA	Jan-19	Yes		

# Water Budget Program 2.0

- Filter by type

Score ▼	Annual Budget	Site ID	Site Name	Agency	Rate Code	Type	Acres	Main Org	Last View	Active	Field Survey	Alerts
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="----"/>	<input type="text" value="----"/>	<input type="text" value="HOA"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="----"/>	<input type="button" value="Filter"/>
99	96%	GLB-047	Vintage Ranch HOA	Gilbert	GLB	HOA	24.9	Vision Communit...	Feb-19	Yes		😊
98	71%	GLB-032	Sahara And Playa P...	Gilbert	GLB	HOA	13.2	Sahara and Playa ...	Nov-17	Yes		
98	92%	GLB-039	Silverhawke HOA	Gilbert	GLB	HOA	23.6	First Service Resi...	Mar-19	Yes		
97	88%	GLB-048	Vista Estancia HOA	Gilbert	GLB	HOA	3.1	Vista Estancia HOA	Jan-19	Yes		
97	91%	GLB-034	San Tan Ranch HOA	Gilbert	GLB	HOA	58.3	Vision Communit...	Feb-19	Yes		
97	99%	GLB-022	Morrison Ranch Hig...	Gilbert	GLBr	HOA	78.9	CCMC	Mar-19	Yes		
96	100%	GLB-052	The Cove At Vincenz	Gilbert	GLB	HOA	7.8	Associated Asset	Feb-19	Yes		
92	84%	GLB-073	Breckenridge Manor	Gilbert	GLB	HOA	1.8	Heywood Manage...	Feb-19	Yes		
92	93%	GLB-077	The Bridges	Gilbert	GLBr	HOA	99.2	Renaissance Com...		Yes		
87	102%	GLB-020	Morrison Ranch Lak...	Gilbert	GLBr	HOA	57.0	CCMC	Mar-19	Yes		
79	108%	GLB-001	Artemina HOA	Gilbert	GLB	HOA	16.7	Sentry Managem...	Feb-19	Yes		
78	109%	GLB-046	Val Vista Place HOA	Gilbert	GLB	HOA	10.0	Premier Communi...	Feb-19	Yes		
77	109%	GLB-021	Morrison Ranch Lak...	Gilbert	GLBr	HOA	109.1	CCMC	Mar-19	Yes		

# Water Budget Program 2.0

- Filter by score
  - Scores calculated by water comparison
- And ranked against all sites

Score ▲	Annual Budget	Site ID
<input type="text"/>	<input type="text"/>	<input type="text"/>
4	322%	GLB-075
8	254%	GLB-035
12	214%	GLB-023
16	193%	GLB-029
16	189%	GLB-059
17	190%	GLB-067
17	187%	GLB-076
19	169%	GLB-028
20	170%	GLB-043
23	160%	GLB-071
23	144%	GLB-026
25	148%	GLB-024
25	145%	GLB-007

# Water Budget Program 2.0

- Contractor rankings

## Landscape Leaderboard

February 2019

Maricopa County

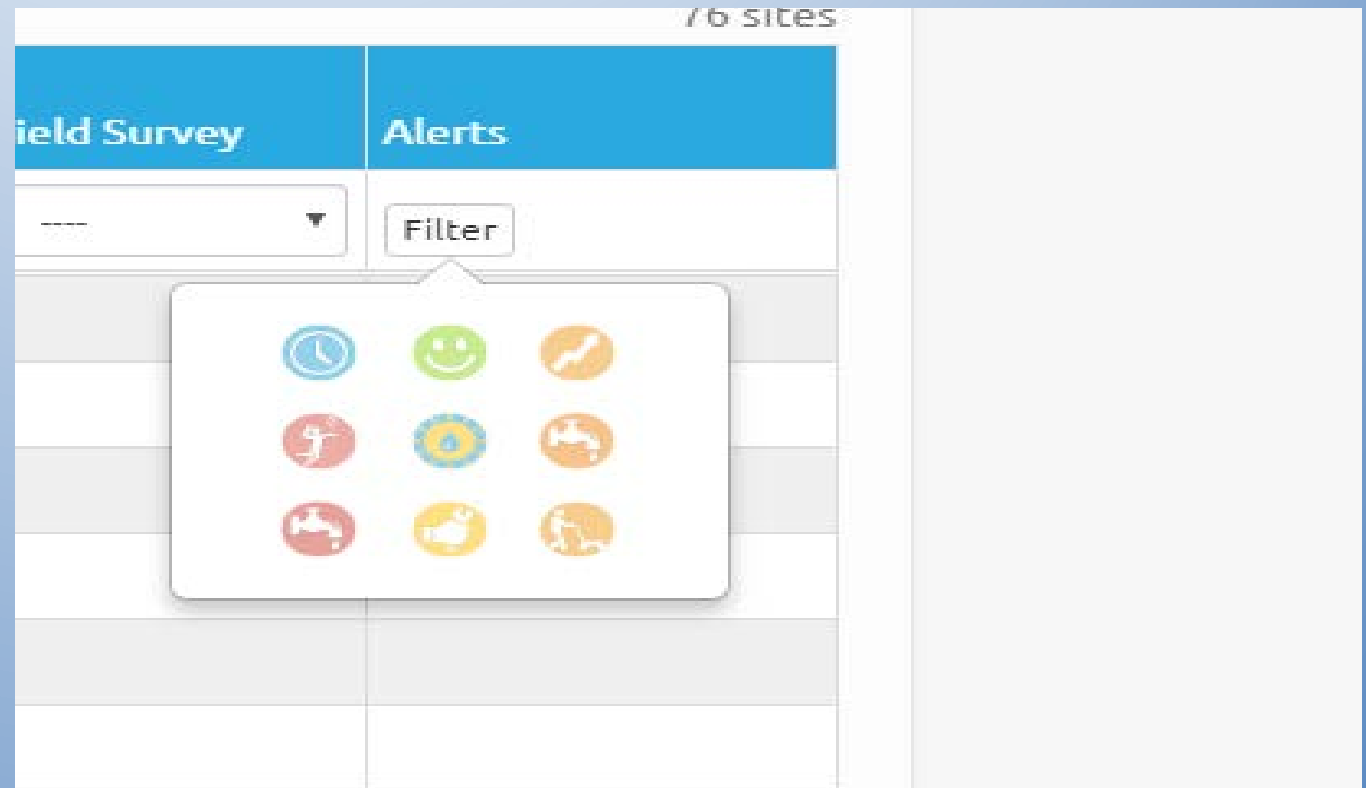
Maricopa ▼

Current Rank	Landscape Contractor	Average Site Score
1	<a href="#">MMM Landscape</a>	87.0
2	<a href="#">RH Dupper Landscaping</a>	79.8
3	<a href="#">Four Peaks Landscape Management</a>	63.0
4	<a href="#">Peak Landscape</a>	61.0
5	<a href="#">Landscape Management Professionals</a>	58.0
6	<a href="#">Genesis Landscape Solutions</a>	54.5
7	<a href="#">Aztec Landscape Maintenance</a>	50.0
8	<a href="#">Terra Verde Landscape</a>	48.0
9	<a href="#">Desert Classic Landscaping</a>	48.0



# Water Budget Program 2.0

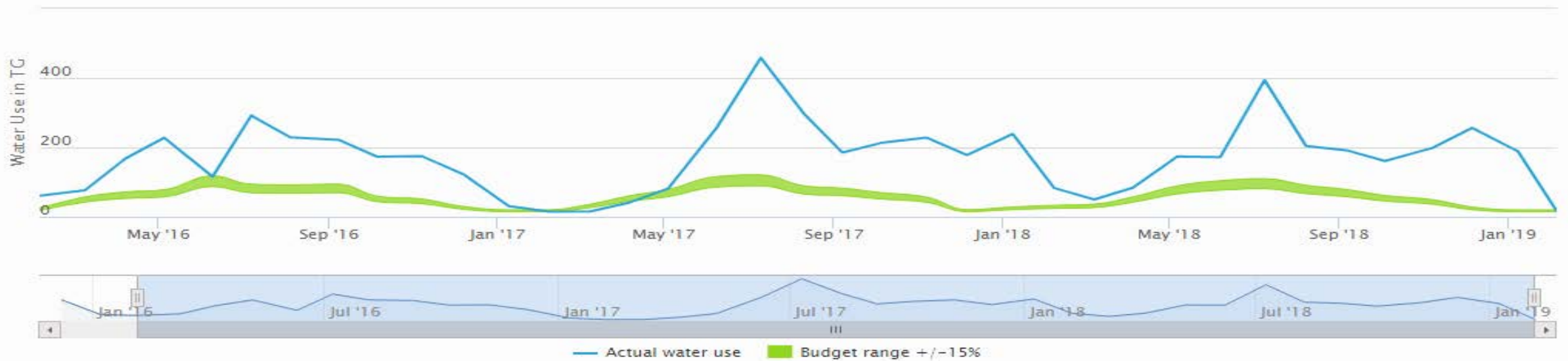
- Filter by alerts
- Landscape contact needed
- Monthly spike
- For AMI daily leaks
- For AMI daily spikes
- Top site



# Water Budget Program 2.0

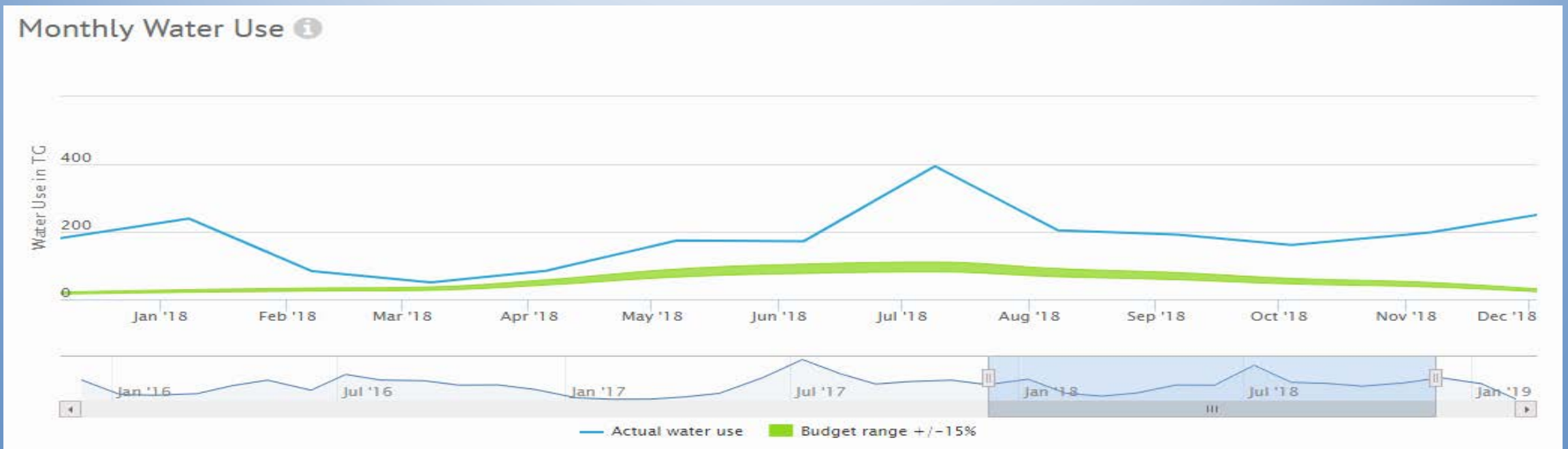
- Review individual sites

Monthly Water Use ⓘ



# Water Budget Program 2.0

- Adjust timeframe



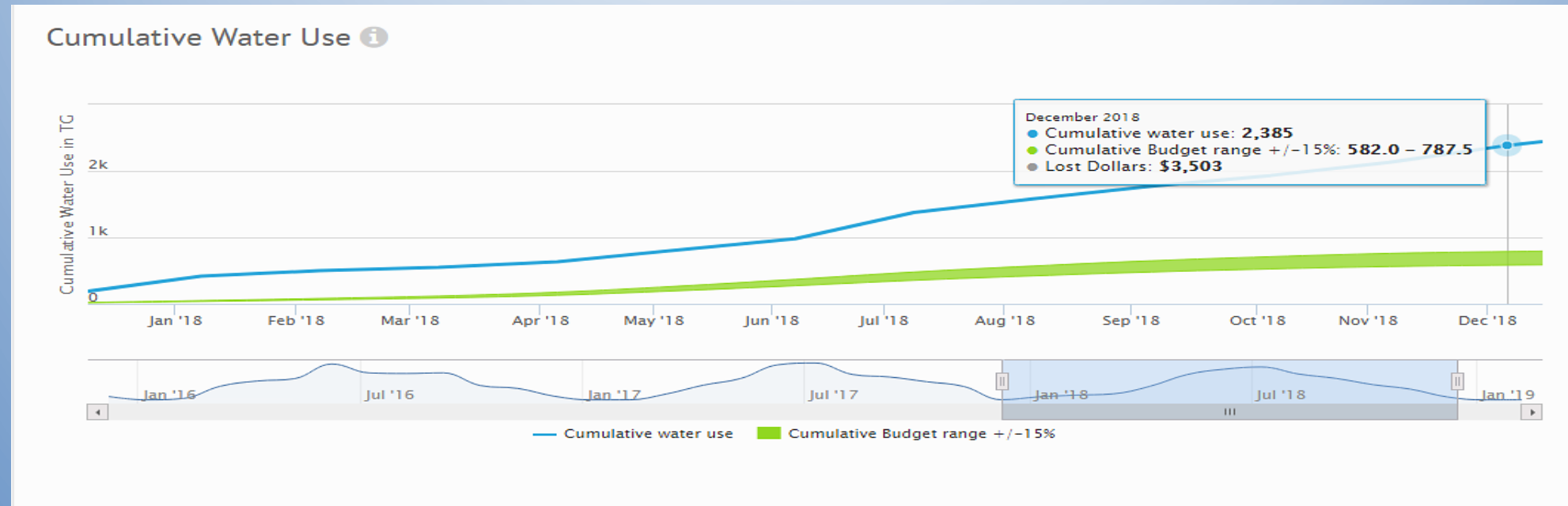
# Water Budget Program 2.0

- View cumulatively



# Water Budget Program 2.0

- See gallons and water cost





# Water Budget Program 2.0

- Stakeholder communication

## Message Board

Date	Message	Author	Role
------	---------	--------	------



SITE MAP



BADGE



RESOURCES



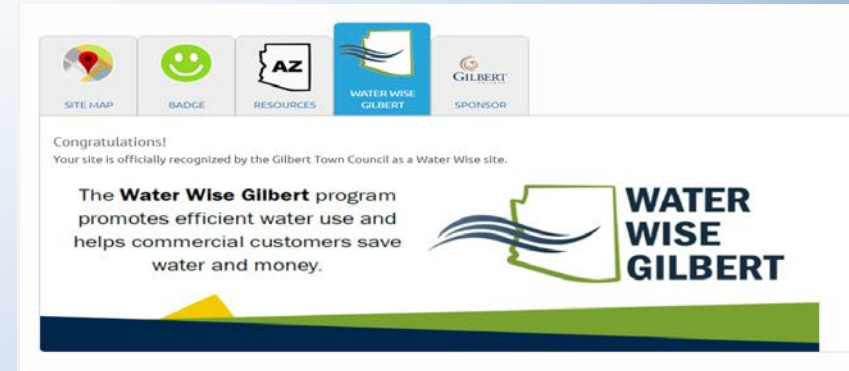
WATER WISE  
GILBERT



SPONSOR

# Water Budget Program 2.0

- Recognition





# Water Budget Program 2.0

- Recognition
- 85 sites in 2018



# Upgrading to 2.0

## Version 1.0

- 14 sites
- Manual updates
- Monthly emails
- Historical weather
- Matching when the water was used
- Meter read cycles
- No saved maps

## Version 2.0

- 233 sites
- Automated updates
- One monthly email
- Actual weather
- Actual time period
- Actual days of the read cycles
- Map files
- More time for outreach
- More time for site visits



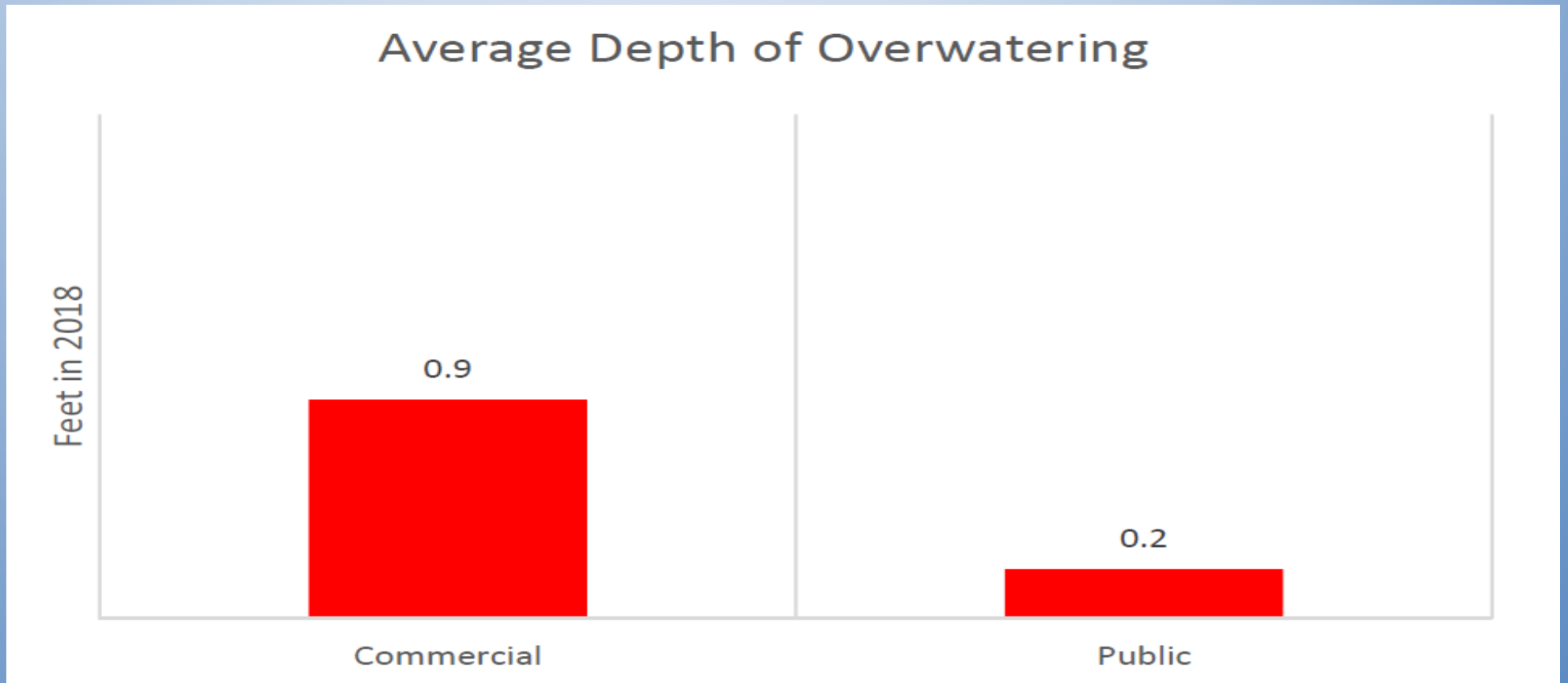
# Program Costs and Savings

- 187,000,000 gallons average annual savings (574 AF)
- \$336,600 in avoided water costs
- \$12,300 portal vendor cost
- ~\$10,000 annual staffing cost
- ~\$0.09 per Kgal saved
- Below current water rate (\$2.06/Kgal)
- 1.0 was \$0.23/Kgal saved
- Future water acquisition costs expected to be ~\$16.16/Kgal



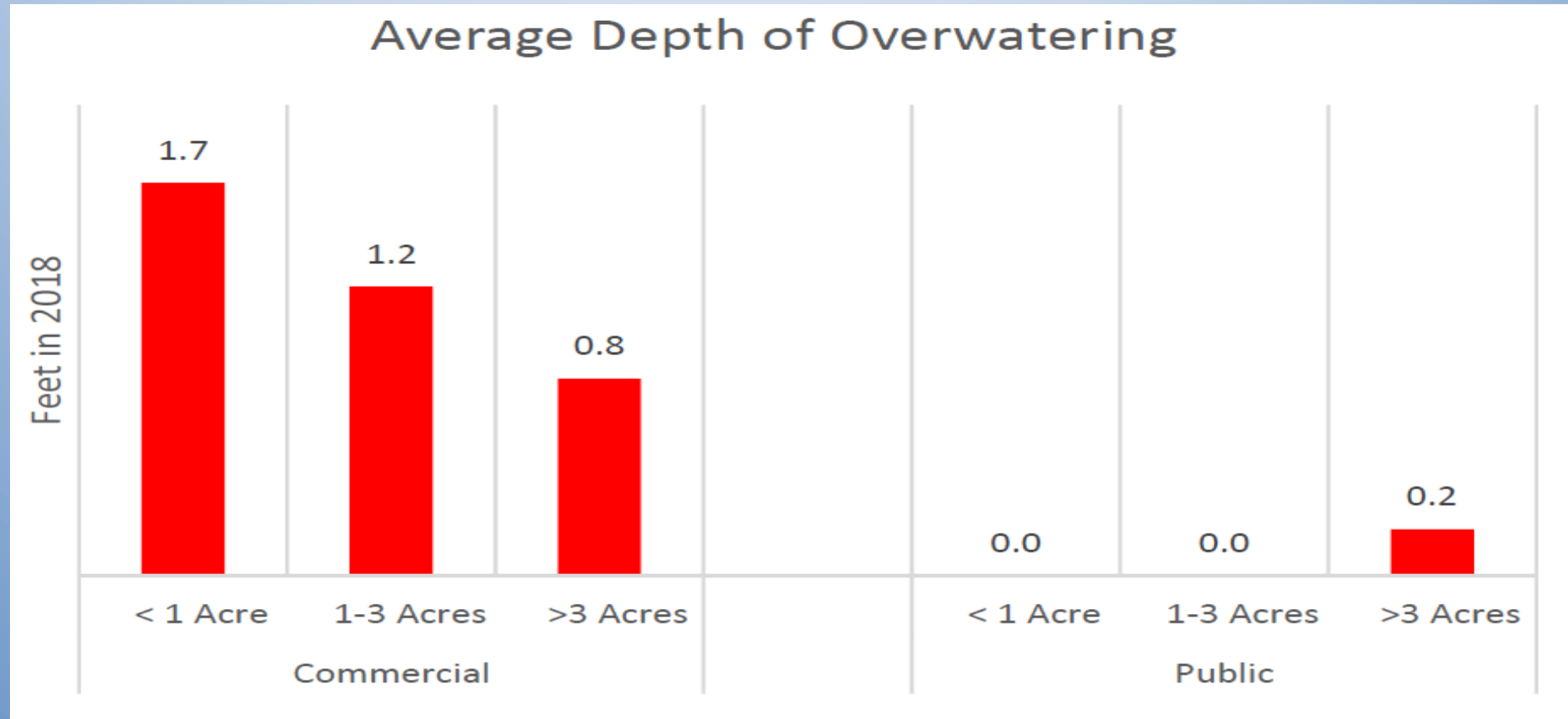
# Interesting Metrics

- Water use information



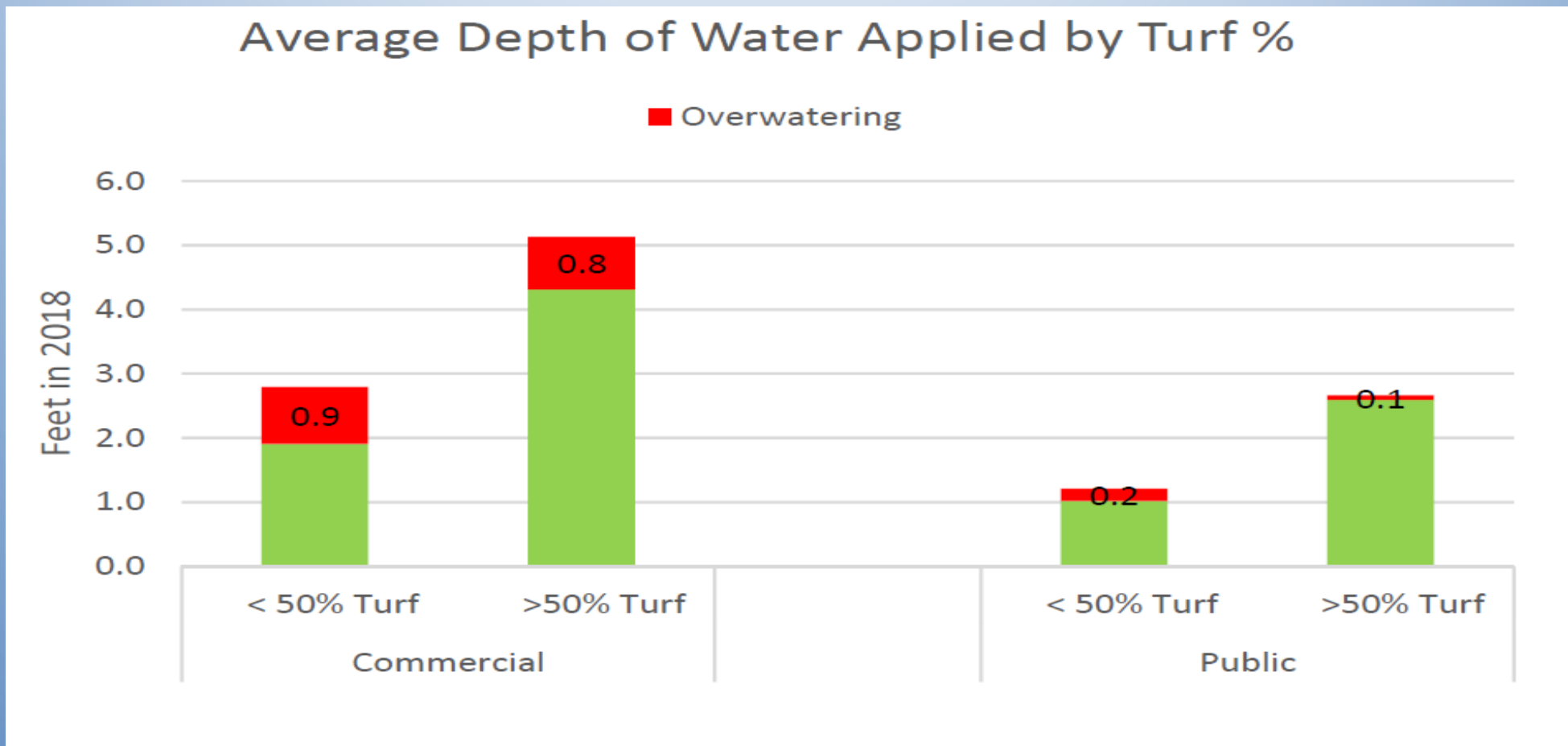
# Interesting Metrics

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# Interesting Metrics

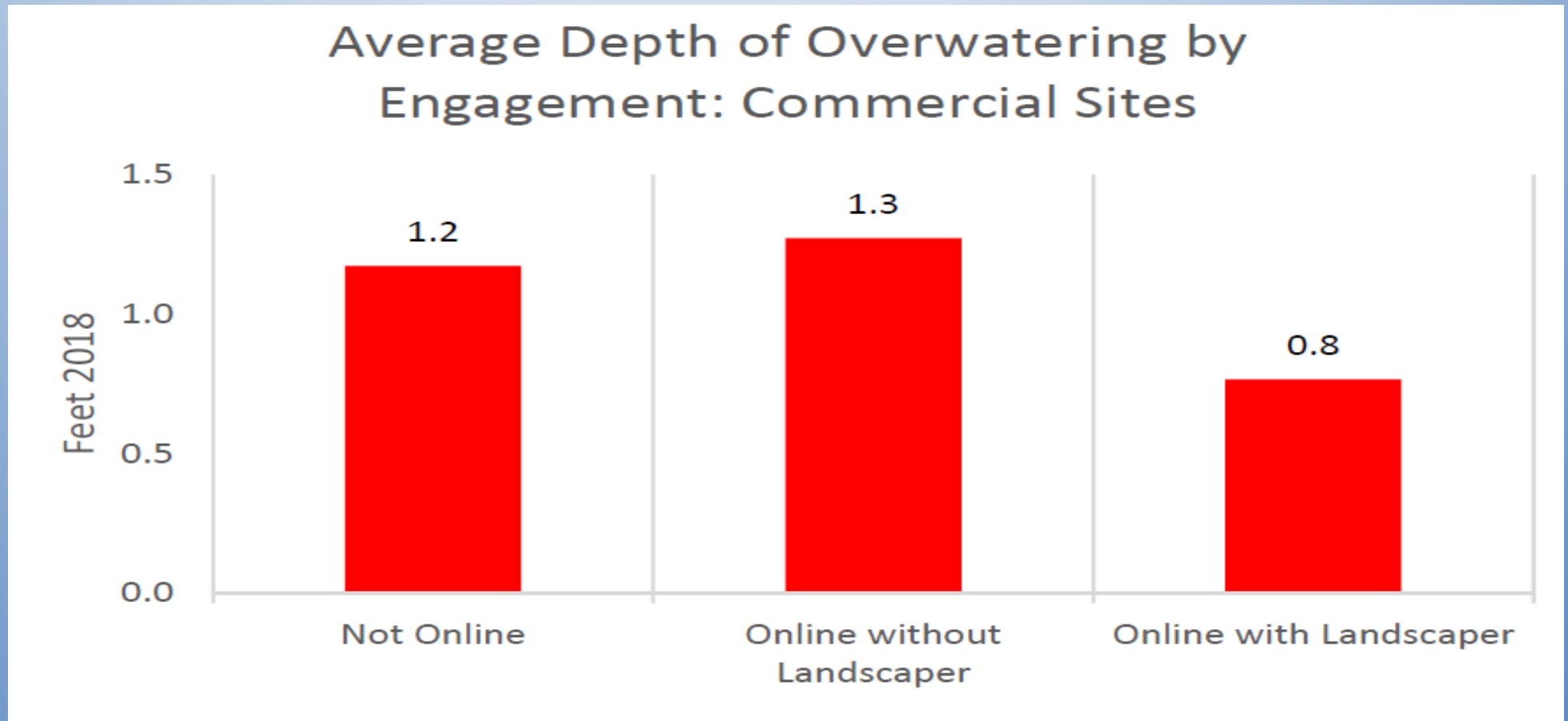
- Water use information





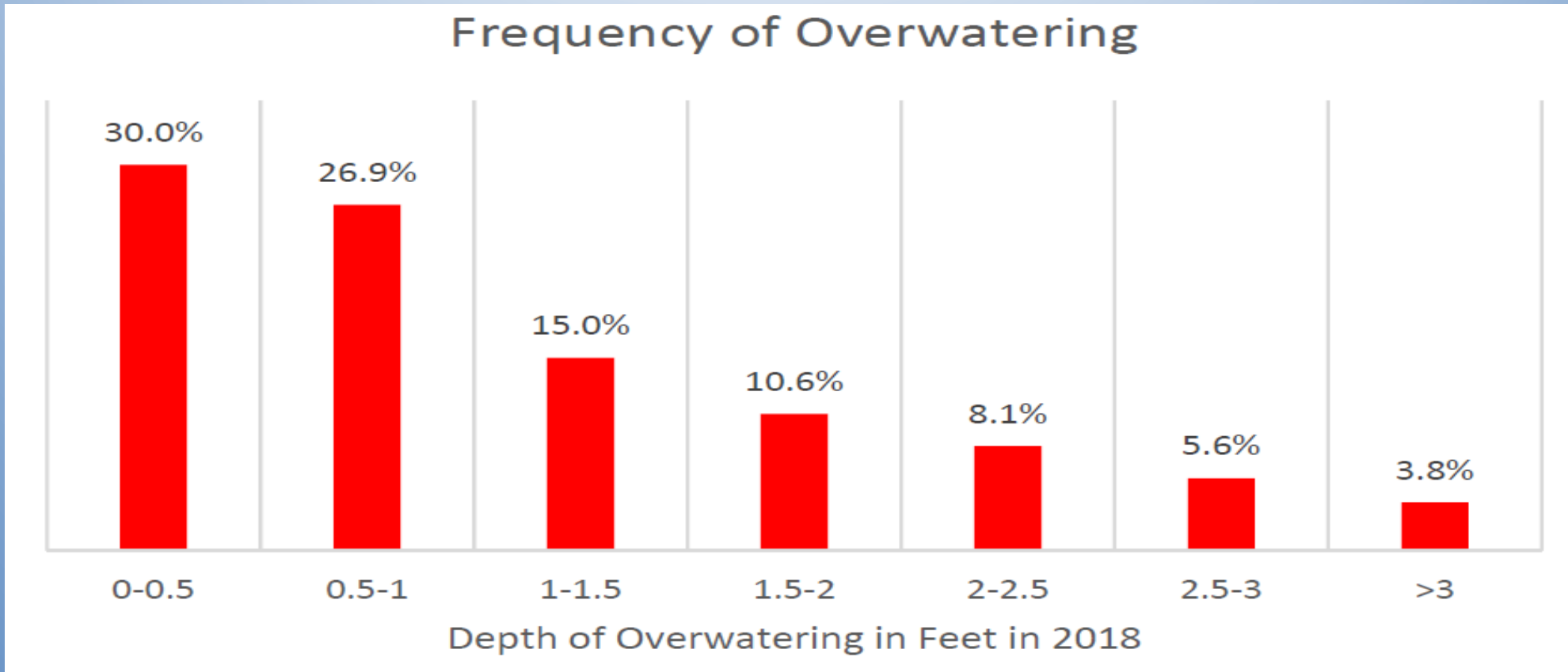
# Interesting Metrics

- Water use information



# Interesting Metrics

- Water use information



# The Whole Enchilada

- All Monitored landscapes in the Program
- Overseeded Turf: 552.3 Acres
- Non-Overseeded Turf: 363.4 Acres
- DG: 1,359.9 Acres
- Water Surface Area: 49.2 Acres

# The Whole Enchilada

- Historical ET Water budget:
- 1,743,945,000 gallons
- +20% Variance: 2,092,734,000 gallons
- 2018 Consumption: 2,414,248,000 gallons
- Overall: 13.4% above 20% variance
- Some sites recently joined so no savings yet



# The Future

- 2018 Monitored Consumption: 2,414,248,000 gallons (includes internal)
- All Non-SFR 2018 Landscape Consumption: 7,431,314,000 gallons
- 32.4% of All Non-SFR landscape water use is monitored
- 5,017,066,000 gallons to go
- A 10% reduction is 501,706,600 gallons (1,540 AF)

# Seize The Savings!

