

WATERVIEW
Water Efficiency Software



Agenda

Introduction

Landscape Area Measurement & Classification Project
Recap/Update

WaterView™ Overview

Early Adopter: Marisela Lopez – Monte Vista WD

Early Adopter: Rob Whipple – Western MWD

DWR Pilot District - Early Adopter

Preparing for Framework implementation

Coming Soon ... WaterView CII

Q&A



SB606 & AB1668 Landscape Area Measurement & Classification Process

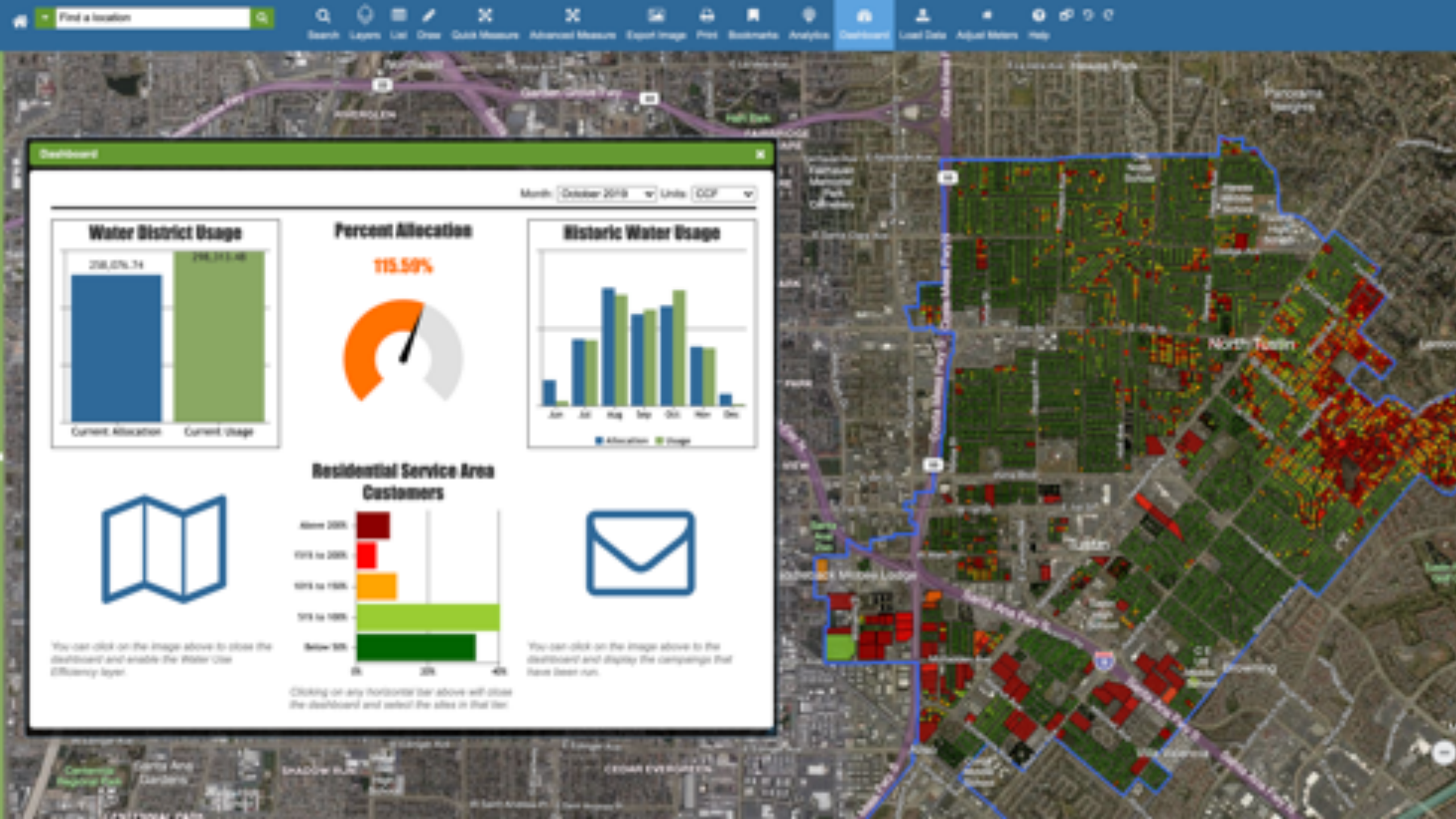


WATERVIEW™

A data management tool, custom designed to help water professionals meet the efficiency and allocation requirements established under the new long term California water conservation legislation.

WaterView allows water agencies to analyze total water allocation at the parcel level, in compliance with new DWR standards; help spot water use trends, track and manage over allocation users within each district; and aid in upcoming DWR reporting requirements





Total Service Area

Projected Residential Indoor/Outdoor Allocation

$$(OIA \times ET \times SC) + (Population \times IA) \times DF$$

[Mirrors the formula used by the state]

Cross referenced and tracked
along with **actual** water use – provided by the
water agency

Instant **water use efficiency** reading:
What % of the total water allocation has been
used?

Identification of **water use trends** across the
service area:
Historic Allocation Vs. Usage

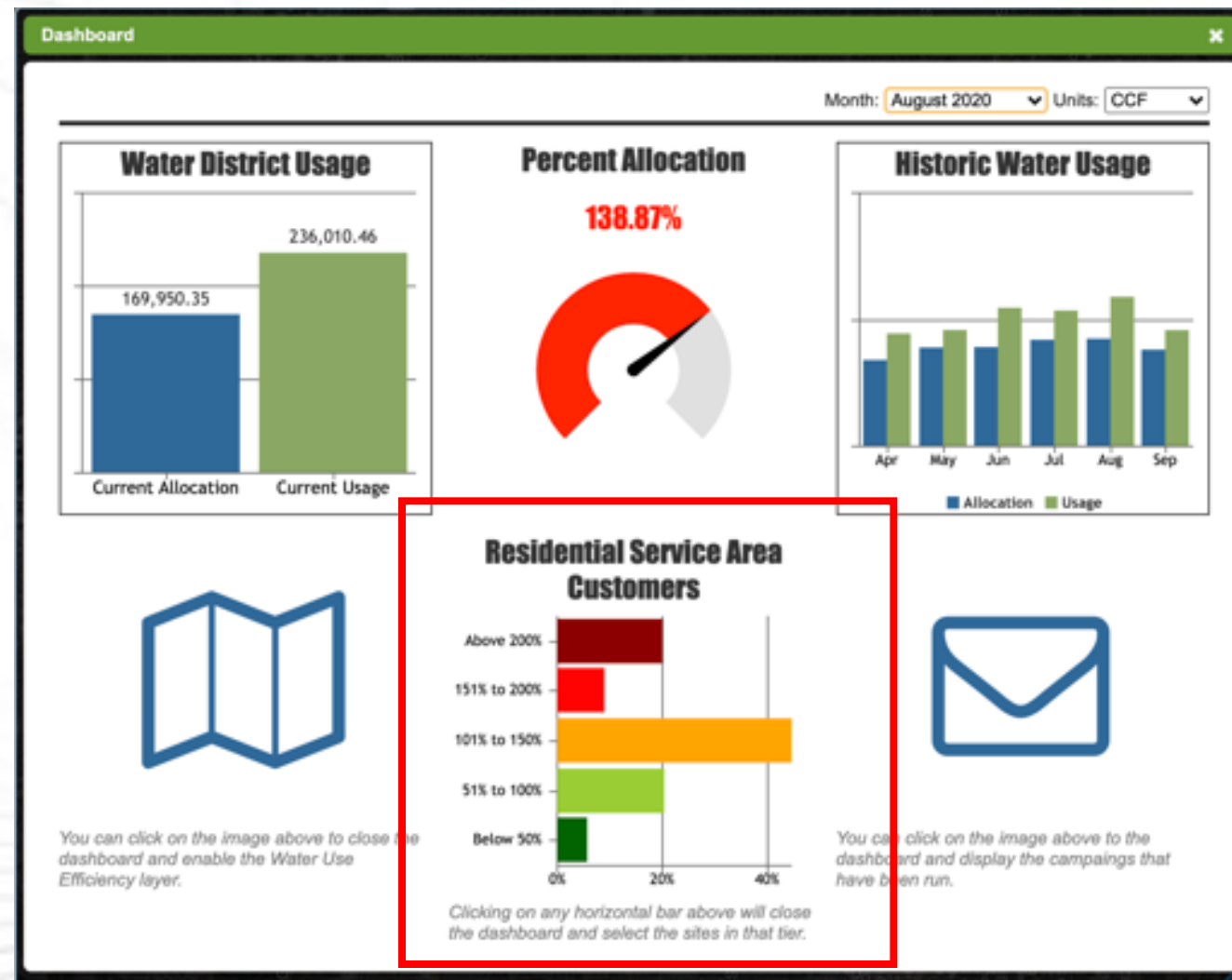


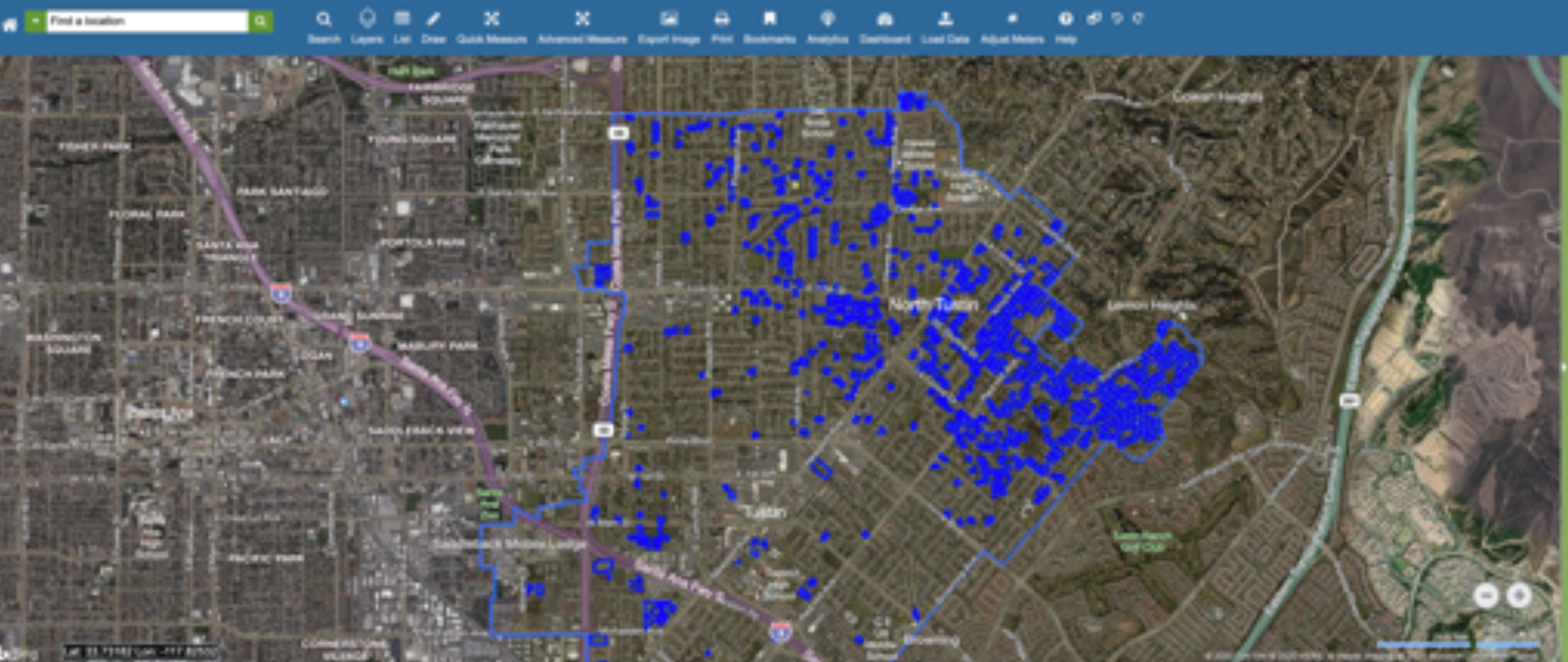
Parcel Level Calculations

Projected Residential Indoor/Outdoor Allocation
calculated at the parcel level

Cross referenced and tracked
along with **actual** water use – provided by the
water agency

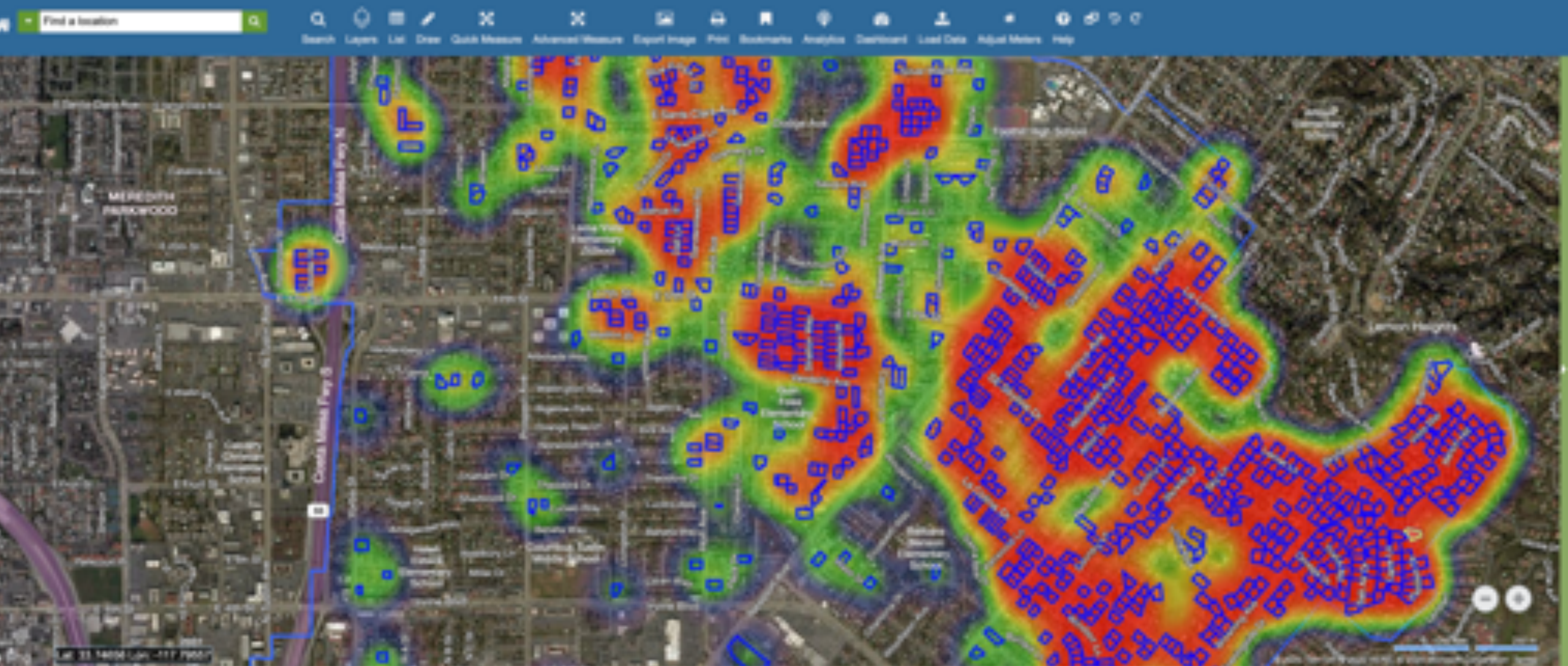
Broken down into interactive **water use
efficiency tiers** based on the % of allocation used
by the residential customer





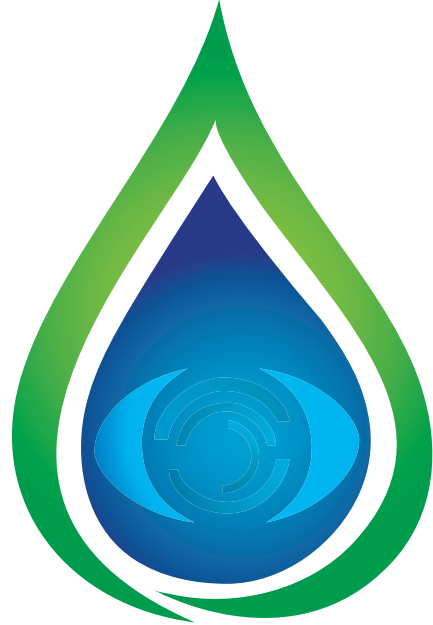
Current % of Allocation (955 Records)

Options	#	Site Drop ID	Percent	ENTRY DATE	USAGE	ALLOCATION	CONSERVATION SCORE	Draw Type
0	1	96288623_101	00000102_110016705	Tue Oct 01 2019 00:00:00 GMT-0700 (Pacific Daylight Time)	31.51411	11.211743288667	1.4044762100671	
0	2	96288623_110	00000102_110024813	Tue Oct 01 2019 00:00:00 GMT-0700 (Pacific Daylight Time)	18.90993	11.491267676	0.8088340007014	
0	3	96288623_111	00000102_110024816	Tue Oct 01 2019 00:00:00 GMT-0700 (Pacific Daylight Time)	17.89995	11.70189676	0.76270521082434	
0	4	96288623_114	00000102_110024826	Tue Oct 01 2019 00:00:00 GMT-0700 (Pacific Daylight Time)	39.47541	11.170010011003	1.2730284900081	
0	5	96288623_117	00000102_110024839	Tue Oct 01 2019 00:00:00 GMT-0700 (Pacific Daylight Time)	39.18003	11.391749676	1.6002760007144	
0	6	96288623_119	00000102_110024851	Tue Oct 01 2019 00:00:00 GMT-0700 (Pacific Daylight Time)	38.54829	11.43211011003	1.2191008077111	
0	7	96288623_12	00000102_110017944	Tue Oct 01 2019 00:00:00 GMT-0700 (Pacific Daylight Time)	17.2121	11.070143288667	0.762705149971563	
0	8	96288623_120	00000102_110024856	Tue Oct 01 2019 00:00:00 GMT-0700 (Pacific Daylight Time)	39	11.070143288667	1.3923080210417	



Current % of Allocation (205 Records)

Options	#	Site Drop ID	Parcel	ENTRY DATE	USAGE	ALLOCATION	CONSERVATION SCORE	Draw Type
	752	96214882_349	511099338_101136	Tue Oct 01 2019 08:00:00-DPT-0700 (Pacific Daylight Time)	25.508046	11.2517673756667	1.18476048888112	
	753	96214882_35	009660192_21961812	Tue Oct 01 2019 08:00:00-DPT-0700 (Pacific Daylight Time)	21.107094	19.453879602	1.0847604172023	
	754	96214882_350	511099338_101137	Tue Oct 01 2019 08:00:00-DPT-0700 (Pacific Daylight Time)	21.500007	21.8652904380333	1.25770142762748	
	755	96214882_352	511099338_101139	Tue Oct 01 2019 08:00:00-DPT-0700 (Pacific Daylight Time)	25.500011	20.965579305	1.21638003933966	
	756	96214882_353	511099338_101141	Tue Oct 01 2019 08:00:00-DPT-0700 (Pacific Daylight Time)	25.258073	21.6755180756667	1.18354995749025	
	757	96214882_356	511099338_101143	Tue Oct 01 2019 08:00:00-DPT-0700 (Pacific Daylight Time)	64.385964	21.613529605	2.84733196387096	
	758	96214882_359	511099338_101147	Tue Oct 01 2019 08:00:00-DPT-0700 (Pacific Daylight Time)	47.571435	20.910212705	2.27465074910641	
	759	96214882_36	009660192_21961724	Tue Oct 01 2019 08:00:00-DPT-0700 (Pacific Daylight Time)	26.999989	19.126299353334	1.2679620901082	



WATERVIEW
Water Efficiency Software

Marisela Lopez

Water Use Efficiency Analyst

Monte Vista Water District



How We Use WaterView™:

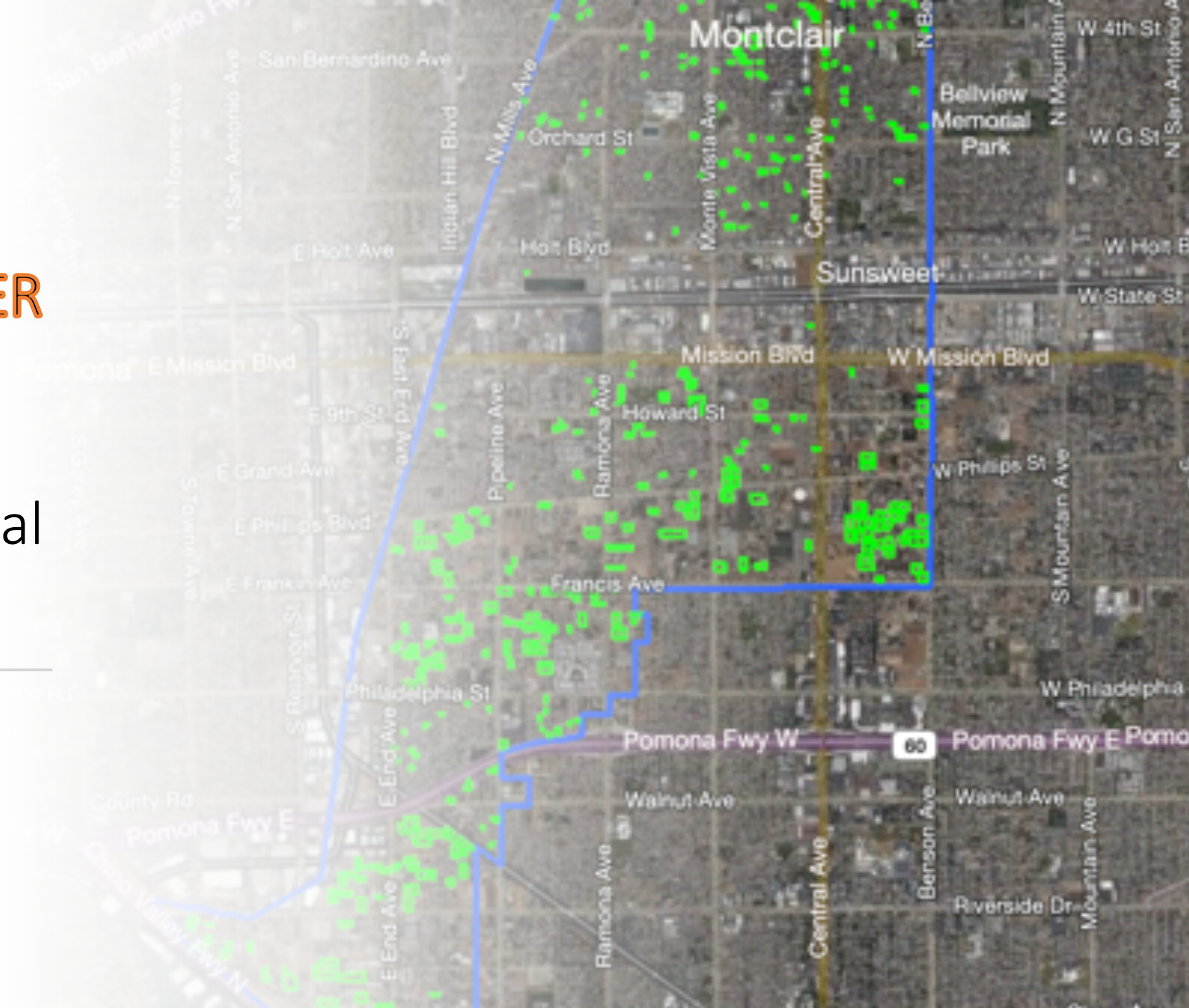
What we like the best

- Queries
- Data mining tools
- Target groups = Effective Outreach

How we intend to expand
with WaterView™

All parcels using **OVER
200% Allocation**

Result: **448** residential
parcels

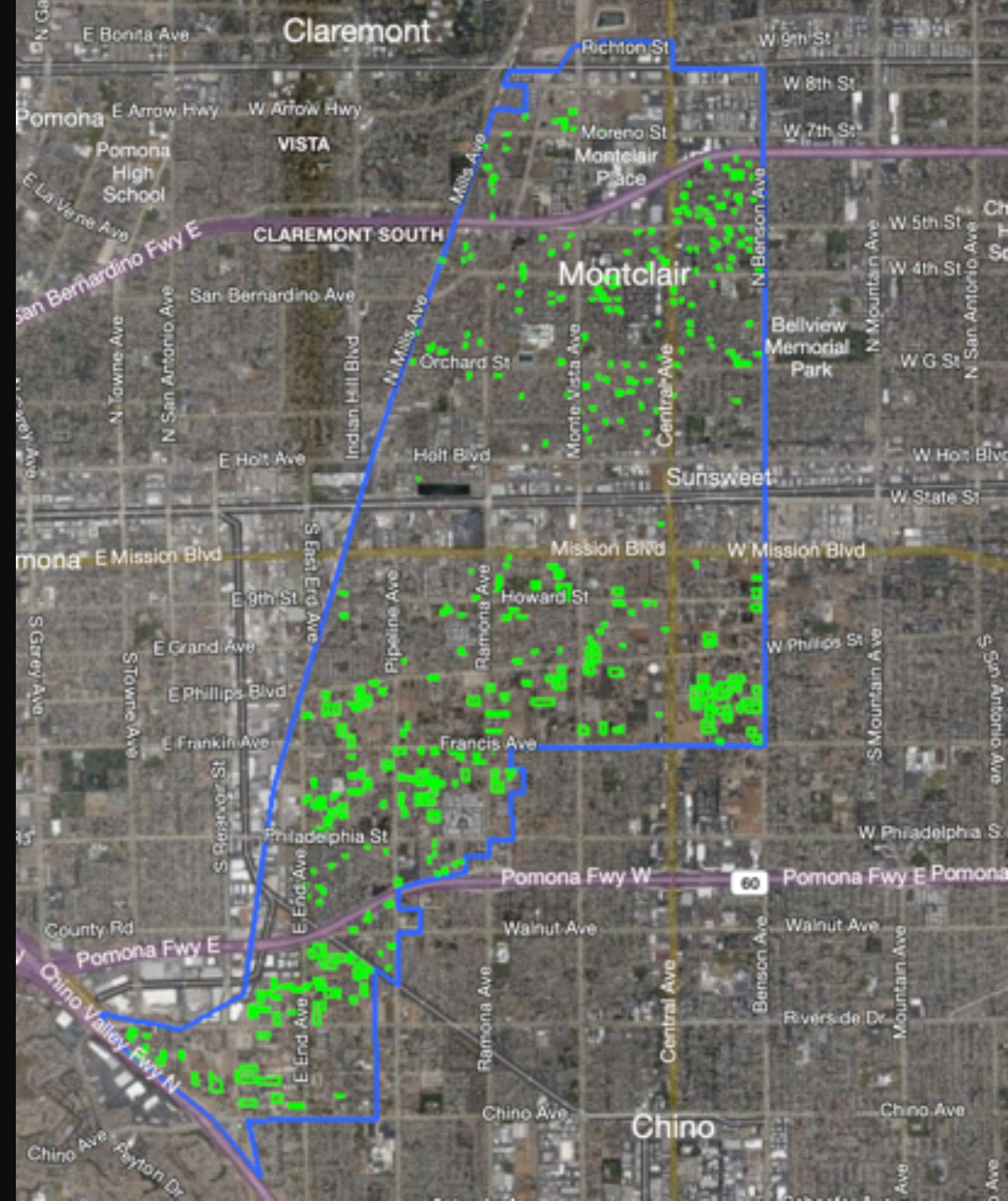


All parcels using **OVER 200% Allocation**

+

Using **OVER 35 CCF's** p/month

Result: **435** residential parcels

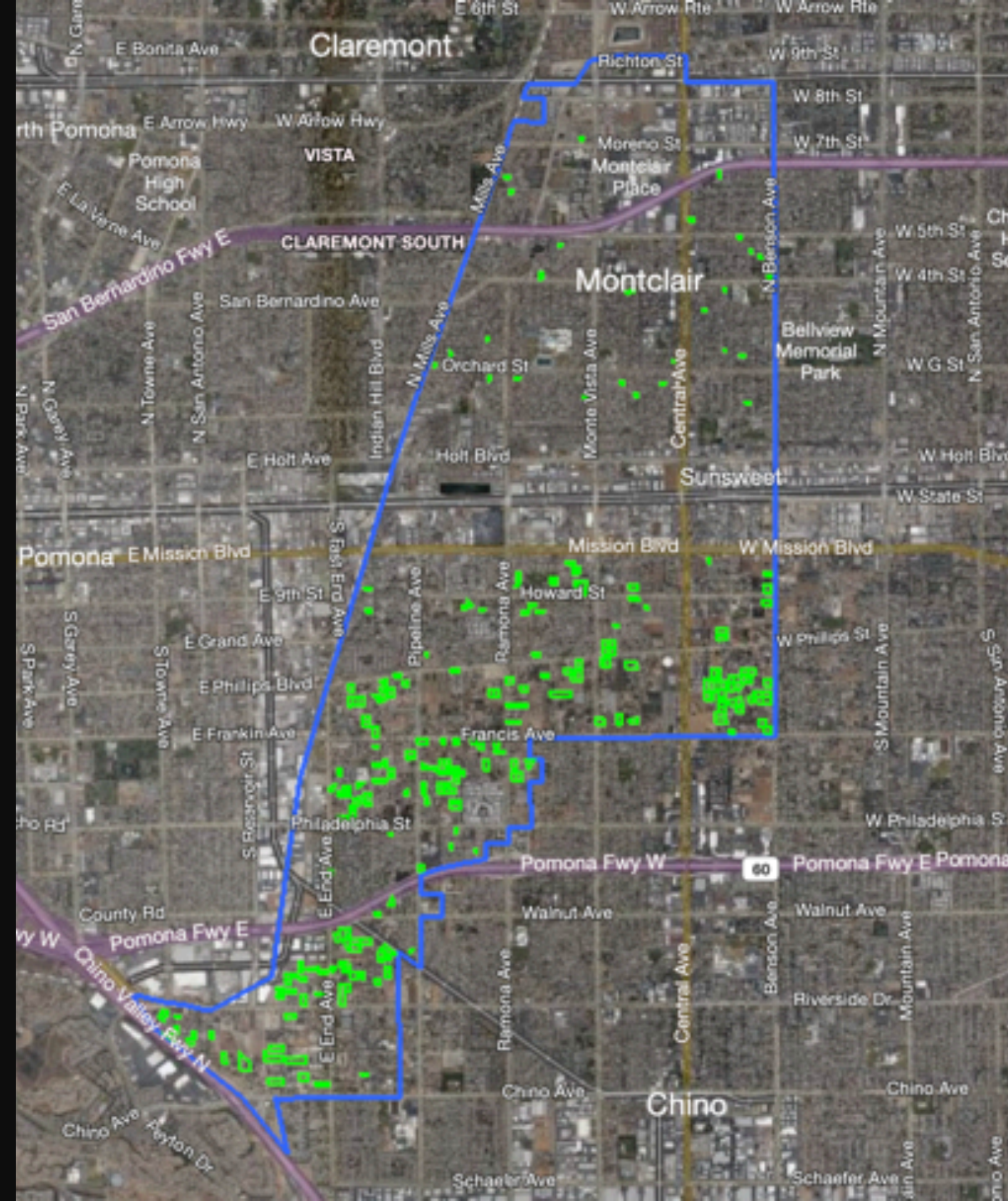


All parcels using **OVER 200% Allocation**

+

Using **OVER 55 CCF's** p/month

Result: **252** residential parcels



Export List to CSV

- Customer Name
- Address
- Queried Data
 - Allocation
 - Water Use
 - Conservation Score

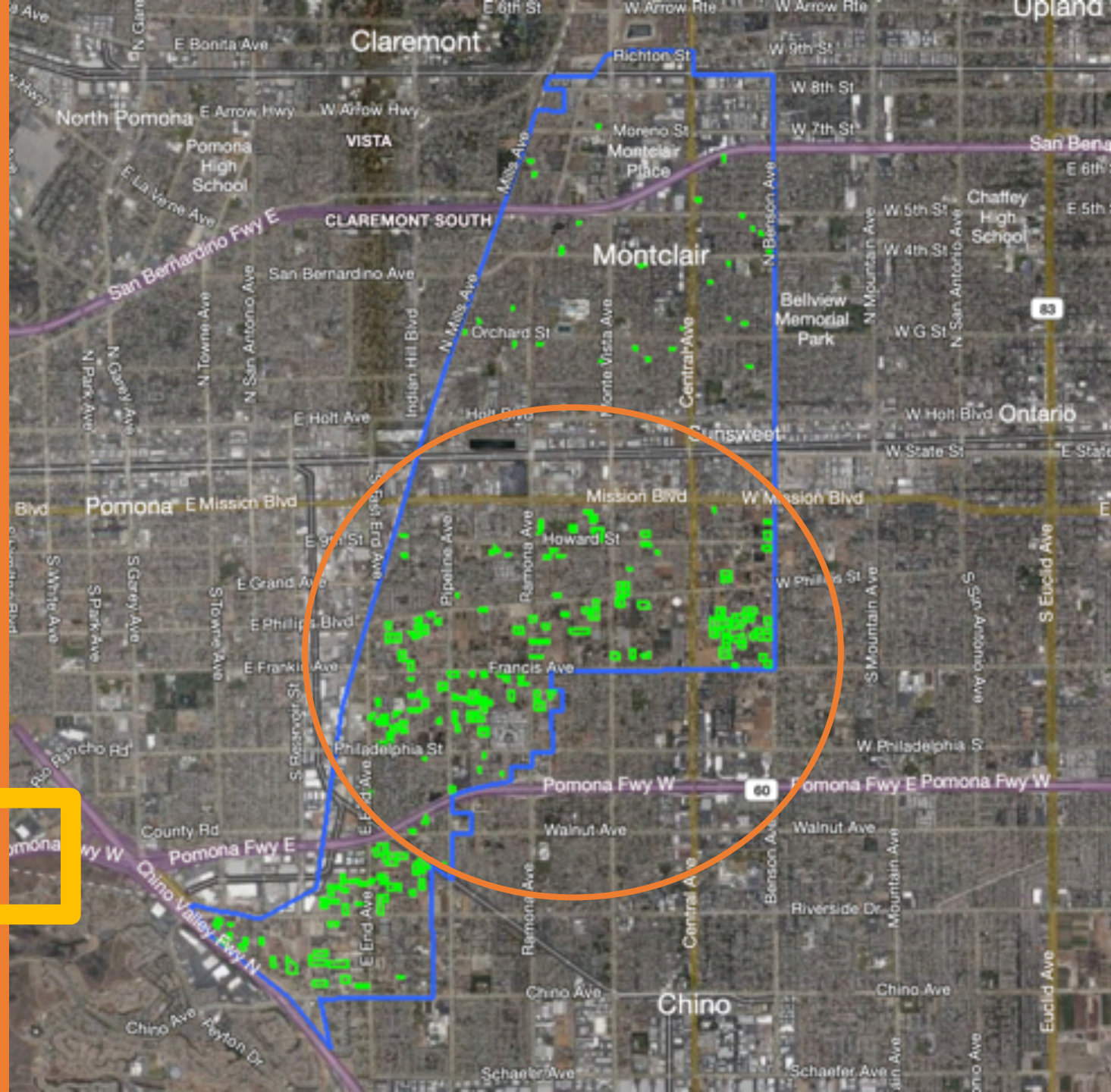
100660192_183594105	7/1/2020 12:00:00 AM	88.796617	34.80232624	2.55145637069345	FALSE
100660192_183594108	7/1/2020 12:00:00 AM	63.050838	28.76705384	2.19177251694538	FALSE
100660192_183594143	7/1/2020 12:00:00 AM	61.474581	29.21312284	2.10434814986045	FALSE
100660192_183594302	7/1/2020 12:00:00 AM	59.539685	24.2933031733333	2.45086823208778	FALSE
100660192_183594401	7/1/2020 12:00:00 AM	92.015874	26.8401984133333	3.42828590843388	FALSE
100660192_183594498	7/1/2020 12:00:00 AM	68.888882	34.3833729466667	2.00355218514647	FALSE
100660192_183594499	7/1/2020 12:00:00 AM	66.428567	32.0437428133333	2.07305892407672	FALSE
100660192_183594753	8/1/2020 12:00:00 AM	73.75861	30.6233408133333	2.40857489878719	FALSE
100660192_183594754	8/1/2020 12:00:00 AM	57.189668	25.41708108	2.25004861179756	FALSE
100660192_183594763	8/1/2020 12:00:00 AM	99.948278	36.2788168533334	2.7550037919943	FALSE
100660192_183594770	8/1/2020 12:00:00 AM	88.189668	34.28909152	2.57194530652878	FALSE
100660192_183594810	8/1/2020 12:00:00 AM	151.25861	34.9077552533333	4.33309472070841	FALSE
100660192_183594836	7/1/2020 12:00:00 AM	101.111389	31.7344382533334	3.18617232776696	FALSE
100660192_183594837	8/1/2020 12:00:00 AM	97.810332	32.3679480533333	3.02182677254783	FALSE
100660192_183594842	7/1/2020 12:00:00 AM	95.747118	31.59887892	3.03007958739316	FALSE
100660192_183594846	8/1/2020 12:00:00 AM	82.310332	31.1593360533334	2.64159454036873	FALSE
100660192_183594855	8/1/2020 12:00:00 AM	74.293112	31.90133792	2.32884000621877	FALSE
100660192_183594877	8/1/2020 12:00:00 AM	86.051722	33.98687232	2.53191069153042	FALSE
100660192_183594880	8/1/2020 12:00:00 AM	75.362054	30.9917461866667	2.43168144015139	FALSE
100660192_183594881	8/1/2020 12:00:00 AM	77.5	34.4629264533333	2.24879335493878	FALSE
100660192_183594883	8/1/2020 12:00:00 AM	110.637946	31.27357472	3.5377454285469	FALSE
100660192_183594890	8/1/2020 12:00:00 AM	67.344834	30.91212352	2.17858970304736	FALSE
100660192_183594898	8/1/2020 12:00:00 AM	82.310332	30.91212352	2.66272007960713	FALSE
100660192_183594950	8/1/2020 12:00:00 AM	84.982749	30.9812560533333	2.74303755966849	FALSE
100660192_183594952	8/1/2020 12:00:00 AM	86.051722	23.70449552	3.63018575642735	FALSE
100660192_183594953	8/1/2020 12:00:00 AM	121.862054	23.78401872	5.12369484041509	FALSE

Drill Down Further

So far we know:
what households are using
MORE than **DOUBLE**
their **allocation**

+

of those households,
which are using
the **MOST WATER**



NEXT

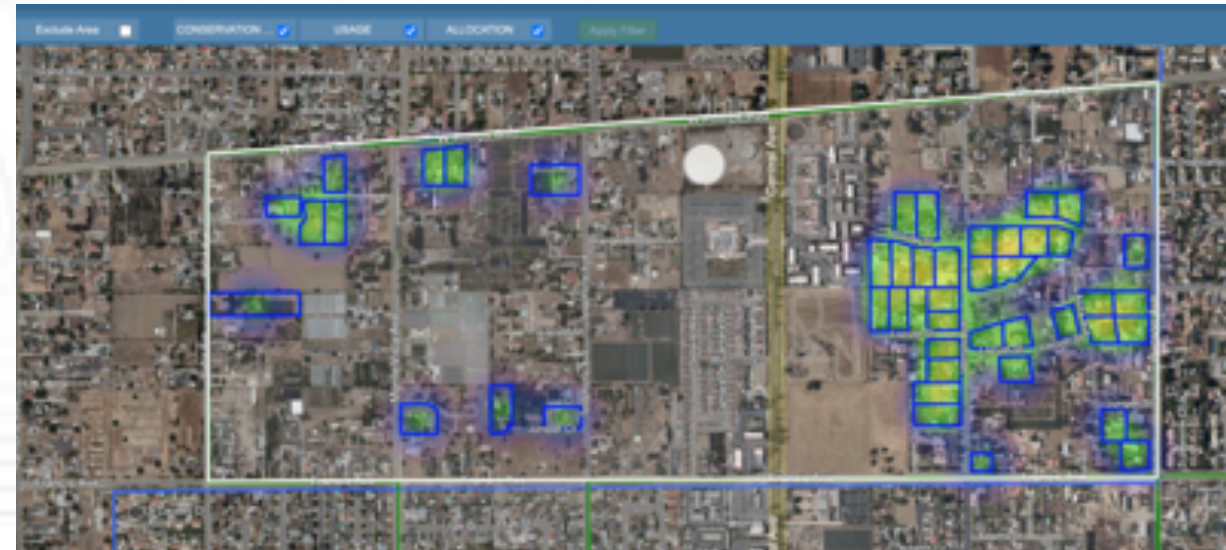
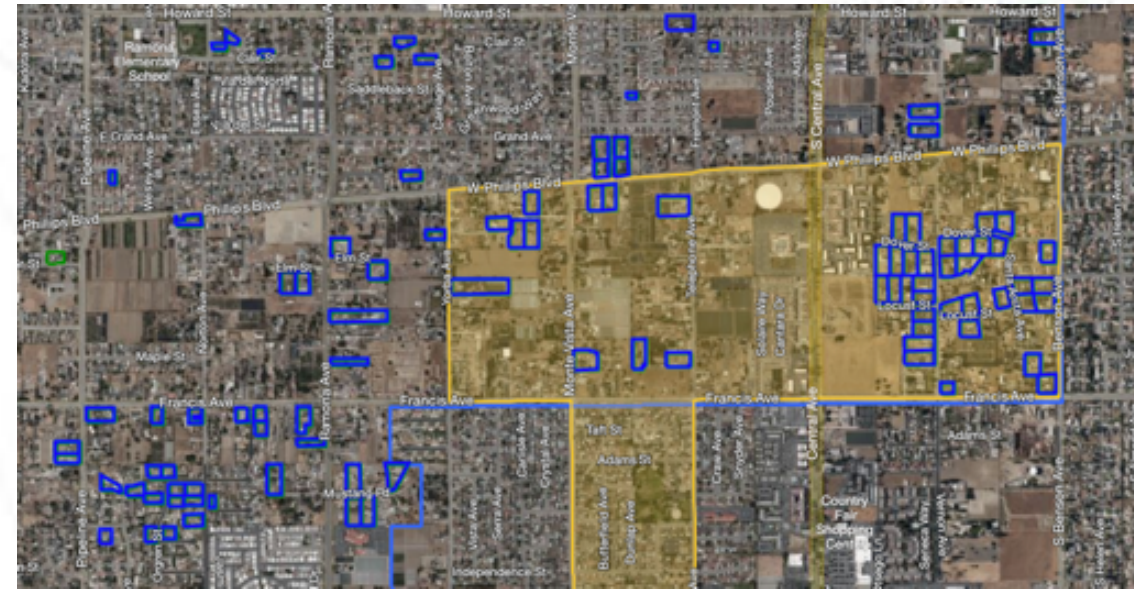
Cross query demographics:
who has **LESS** than **3 people** in their household

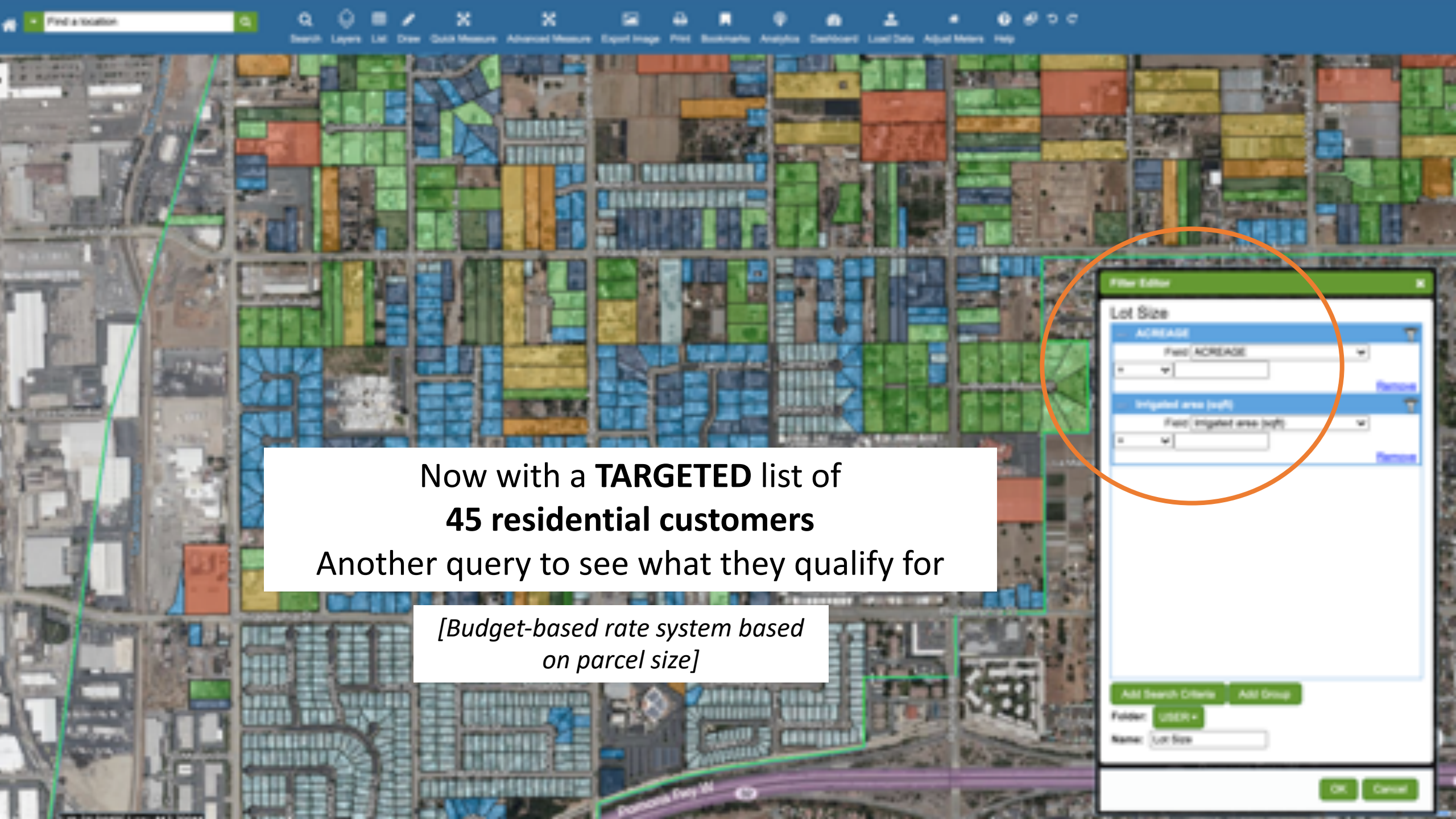
GOAL

Identify the residential parcels
that have the **LEAST** amount of people
in their household
BUT are using the **MOST WATER**

RESULT

Targeted list of **45 Residential Parcels**





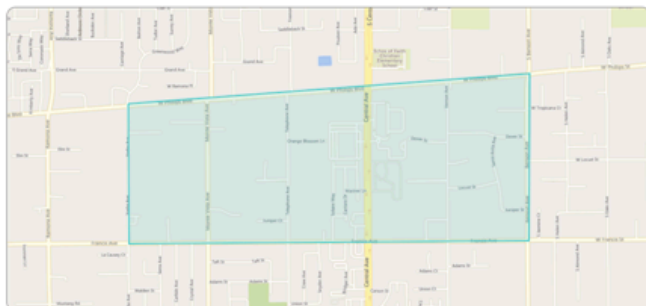
Now with a **TARGETED** list of
45 residential customers
Another query to see what they qualify for

*[Budget-based rate system based
on parcel size]*

DEMOGRAPHIC REPORT

Pivotal in accurately designing an outreach campaign
and creating accurate customer profiles

Single Site Demographics Highest Water Users (0.6 sq mi)



Description	
Population	
Population	2,172
Male Population	1,066
Female Population	1,106
Households	
Households	737
Household Size	2.9
Age	
Median Age	40
% Children (under 5)	7%
% Seniors (age 65+)	1%
Higher Education	
Bachelor's Degree	6%



Business

Total Businesses	240
Total Employees	3,592

Income

Average HH Income	\$105,597
Under \$15,000	5%
\$15,000 - \$24,999	8%
\$25,000 - \$34,999	9%
\$35,000 - \$49,999	14%
\$50,000 - \$74,999	19%
\$75,000 - \$99,999	7%
\$100,000 - \$124,999	6%
\$150,000 - \$199,999	8%
\$200,000 & over	8%

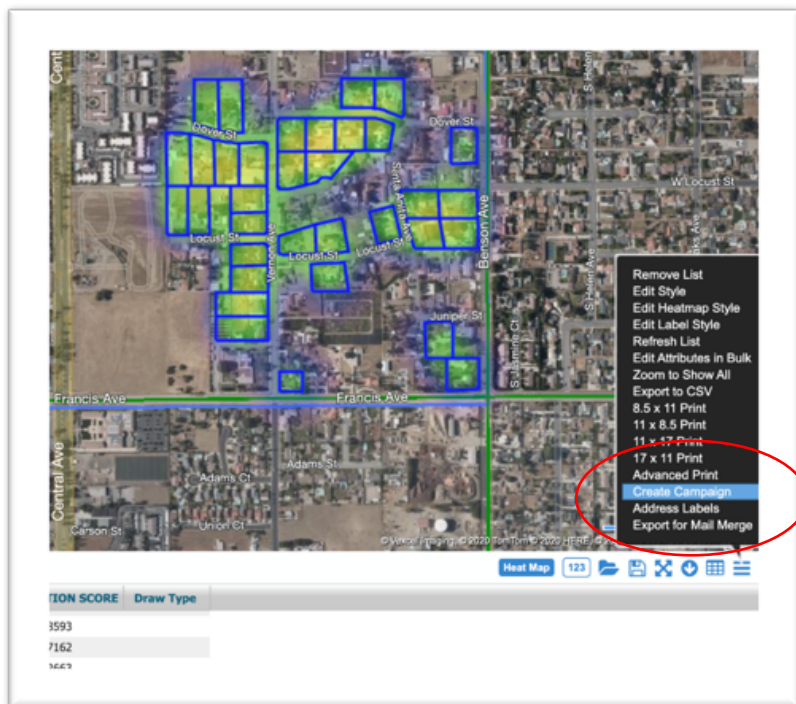
Population by Race/Ethnicity

White	48%
Black	5%
Native American	1%
Asian	10%
Some Other Race	31%
Two or More Races	6%
Hispanic Origin	60%



NEXT STEPS

Create an **outreach campaign** and **track the water use behavior change over time**



Create Campaign

Title

Fall 2020

Category

Over 200%

Subcategory

Conservation Score

Action Date

Notes

September 2020

Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

WV - Outreach Module

Monitor the group included in the outreach effort

Filter Editor

Change over Time

Field: CONSERVATION SCORE w

Start of Range: 0

End of Range: 0

Criteria

Field: ENTRY DATE w

Starting Date: 3/30/2019

Ending Date: 10/31/2019



Add Search Criteria Add Group

Folder: **LOGS**

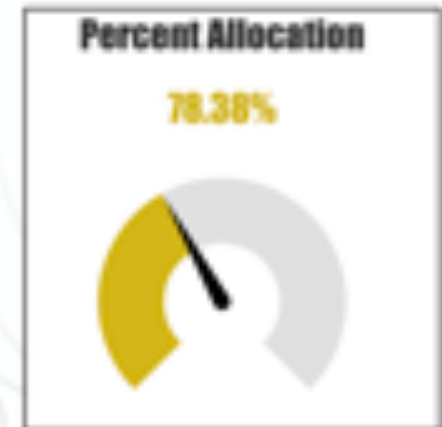
Name: **Change Over Time**

OK Cancel

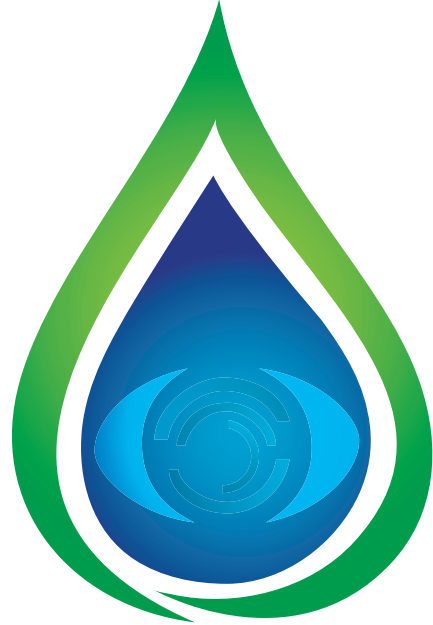
Watch water use behavior changes over time



Export the new results



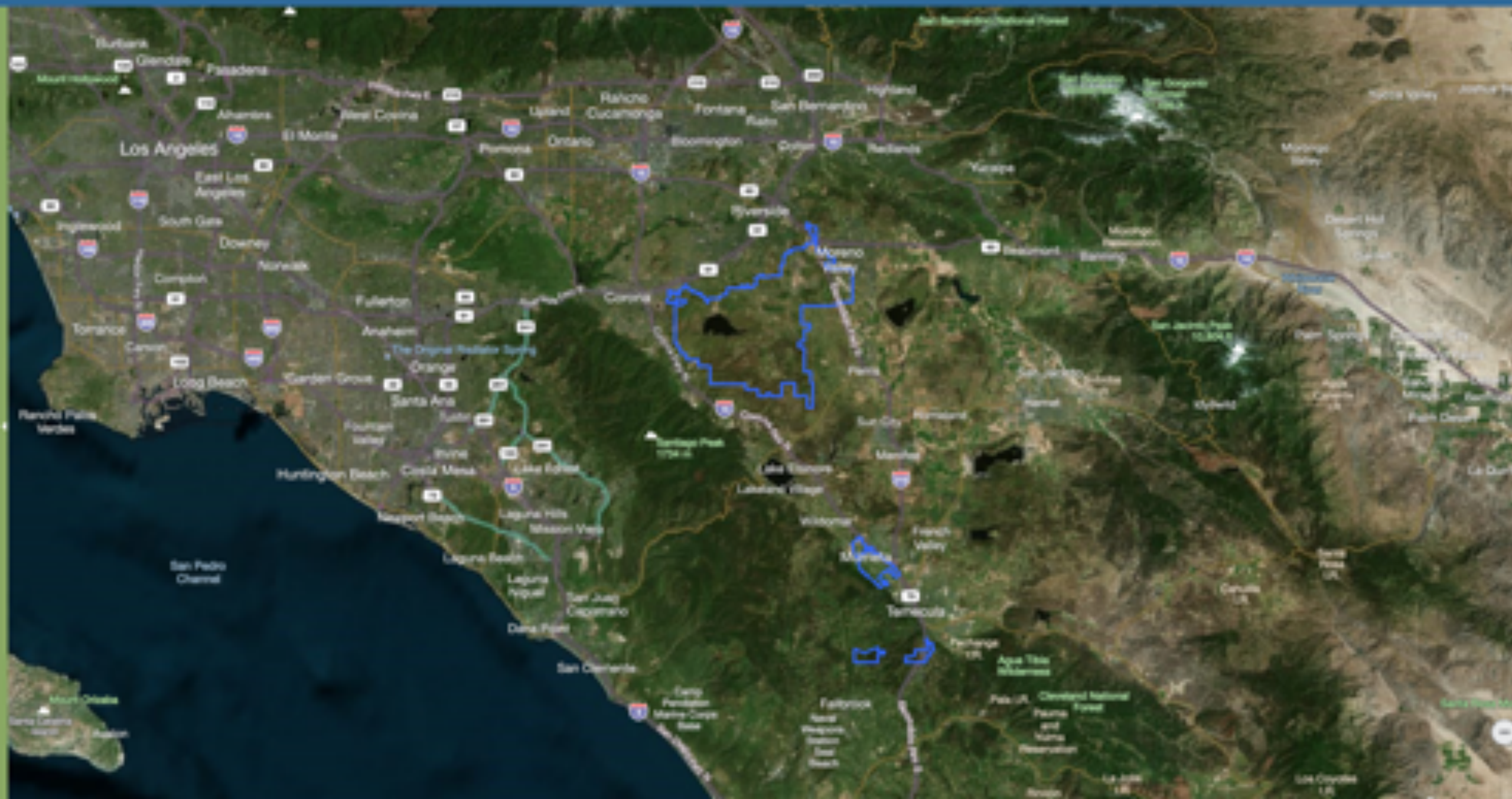
Report change

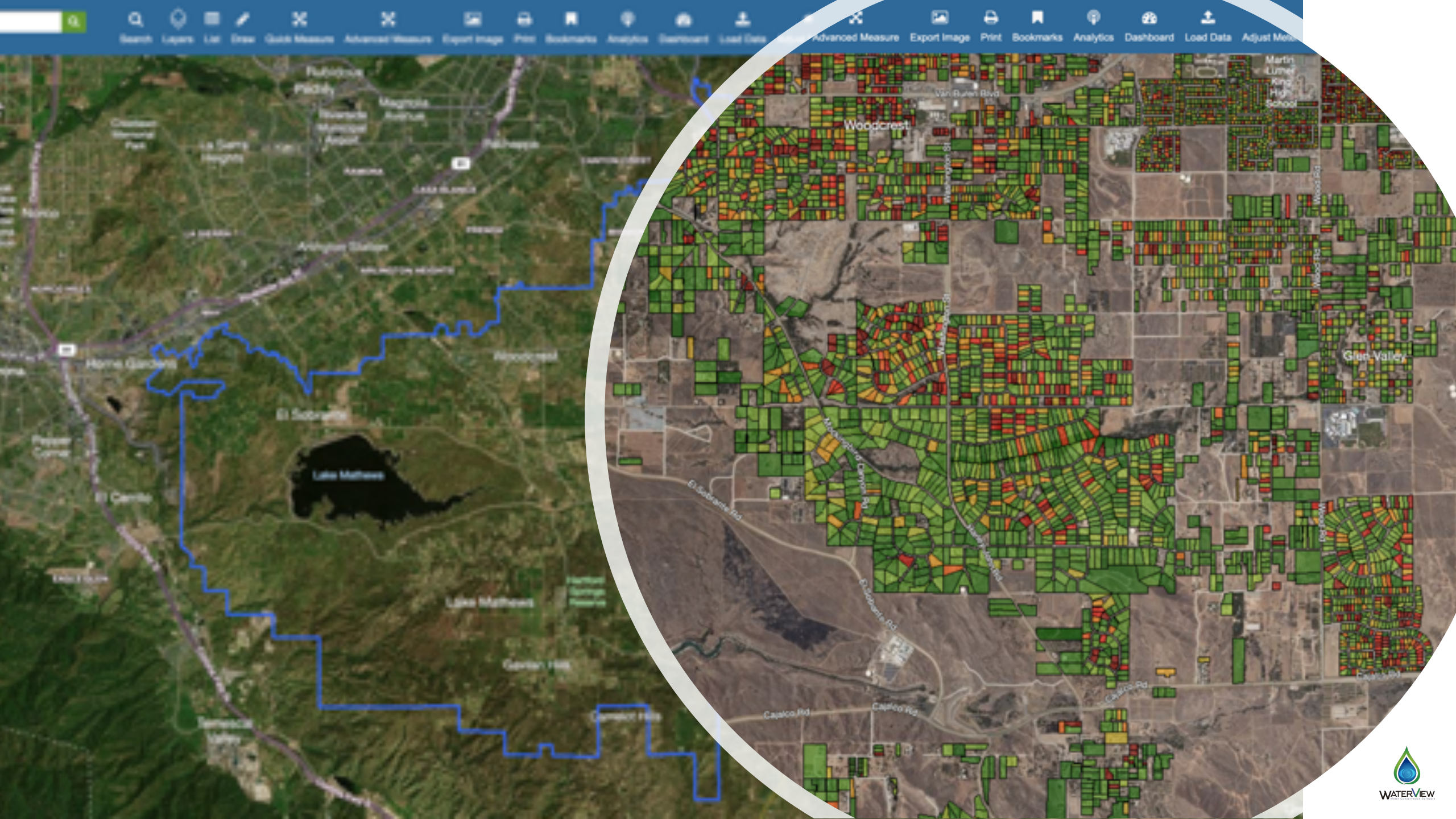


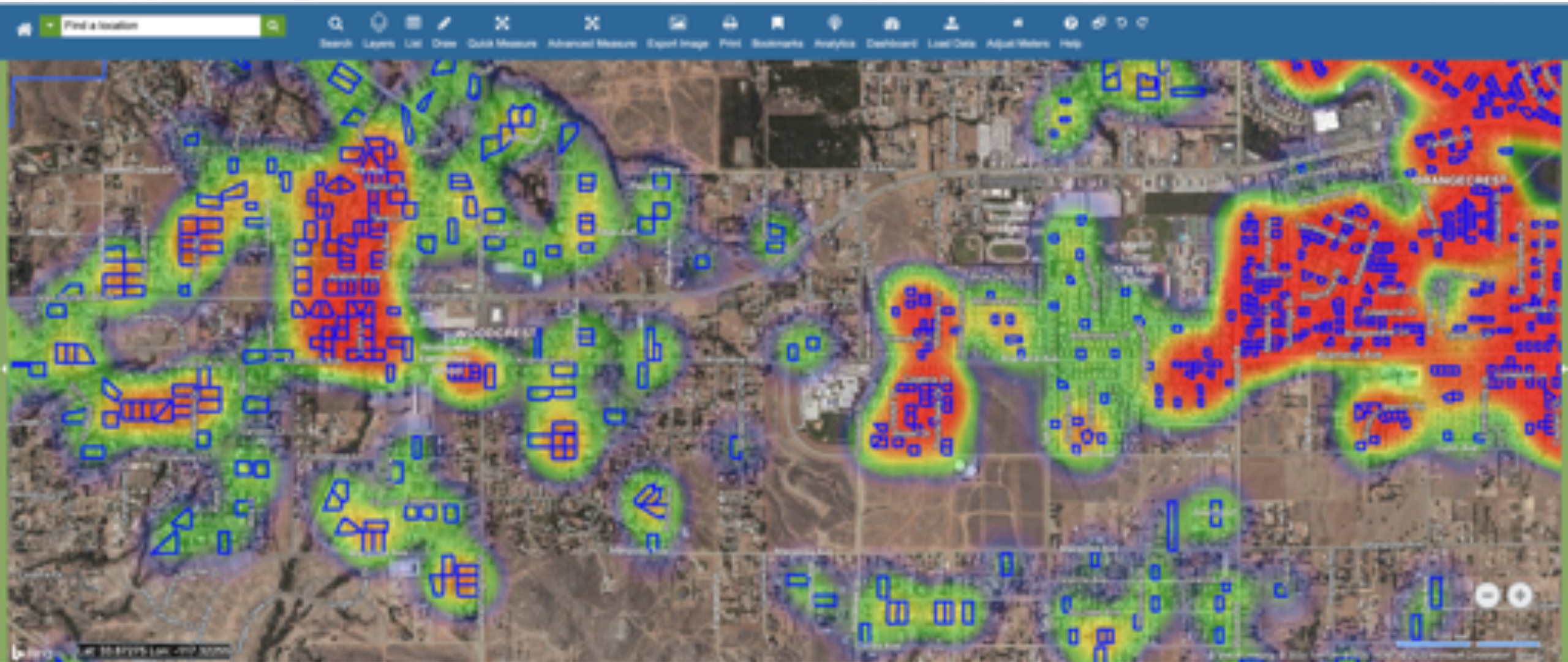
WATERVIEW
Water Efficiency Software

Rob Whipple

Water Resources Specialist II
Western Municipal WD

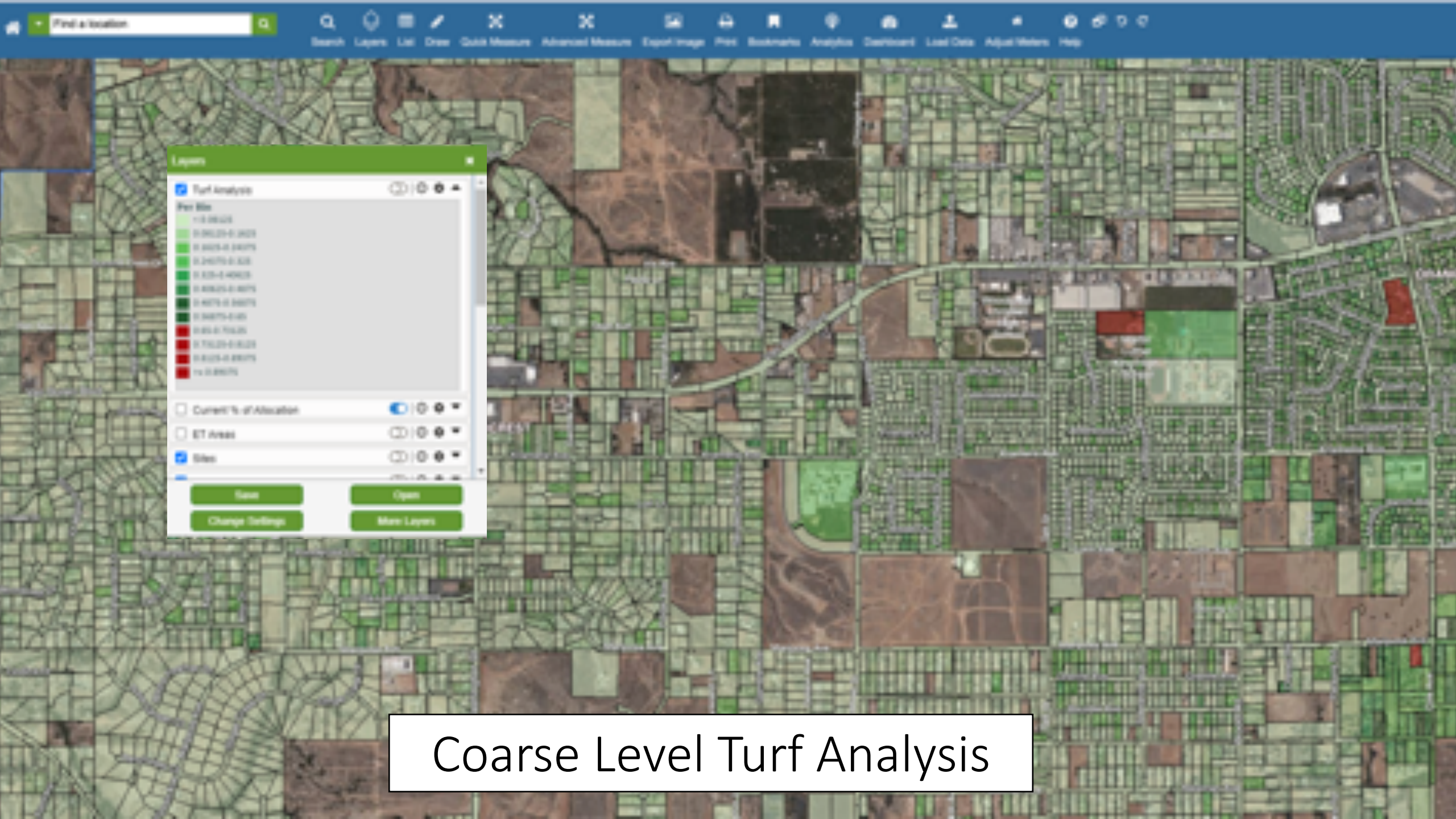






Current % of Allocation (4000 Records)

Options	#	Parcel	USAGE	ALLOCATION	CONSERVATION SCORE	Draw Type
+1	3082	100K01012_180107404	338.629038	41.0586194000007	2.54046791134041	
+1	3083	100K01012_180107405	177.21438	43.3561868	4.50863621791787	
+1	3084	100K01012_180107406	37.68762	16.740416	3.44603874912547	
+1	3085	100K01012_180107407	38.22649	16.7679176666667	2.17625588131368	
+1	3086	100K01012_180107408	49.35049	21.9938743333333	2.14802817946138	
+1	3087	100K01012_180107409	48.94623	21.0125820000007	2.12888991135471	
+1	3088	100K01012_180107407	43.20486	16.7679176666667	2.173330012236294	
+1	3089	100K01012_180107408	37.1907	16.3762076666667	2.26688290702957	



Coarse Level Turf Analysis

Search: **Turf Analysis**

Area Bin

Area Bin >

Per Bin

Per Bin >

Lucdsc

Lucdsc

- ☐ APARTMENT HOUSE (5+ UNITS)
- ☐ CONDOMINIUM UNIT (RESIDENTIAL)
- ☐ MISC RESIDENTIAL IMPROVEMENT
- ☐ MISCELLANEOUS (GENERAL)
- ☐ MOBILE/MANUFACTURED HOME (REGARDLESS OF LAND OWNERSHIP)
- ☐ MULTI-FAMILY DWELLINGS (GENERIC, ANY COMBINATION 2+)
- ☐ PLANNED UNIT DEVELOPMENT (PUD) (RESIDENTIAL)
- ☐ RESIDENTIAL (GENERAL) (SINGLE)
- ☐ RESIDENTIAL-VACANT LAND
- ☐ RURAL/AGRICULTURAL RESIDENCE
- ☐ SINGLE FAMILY RESIDENTIAL

City

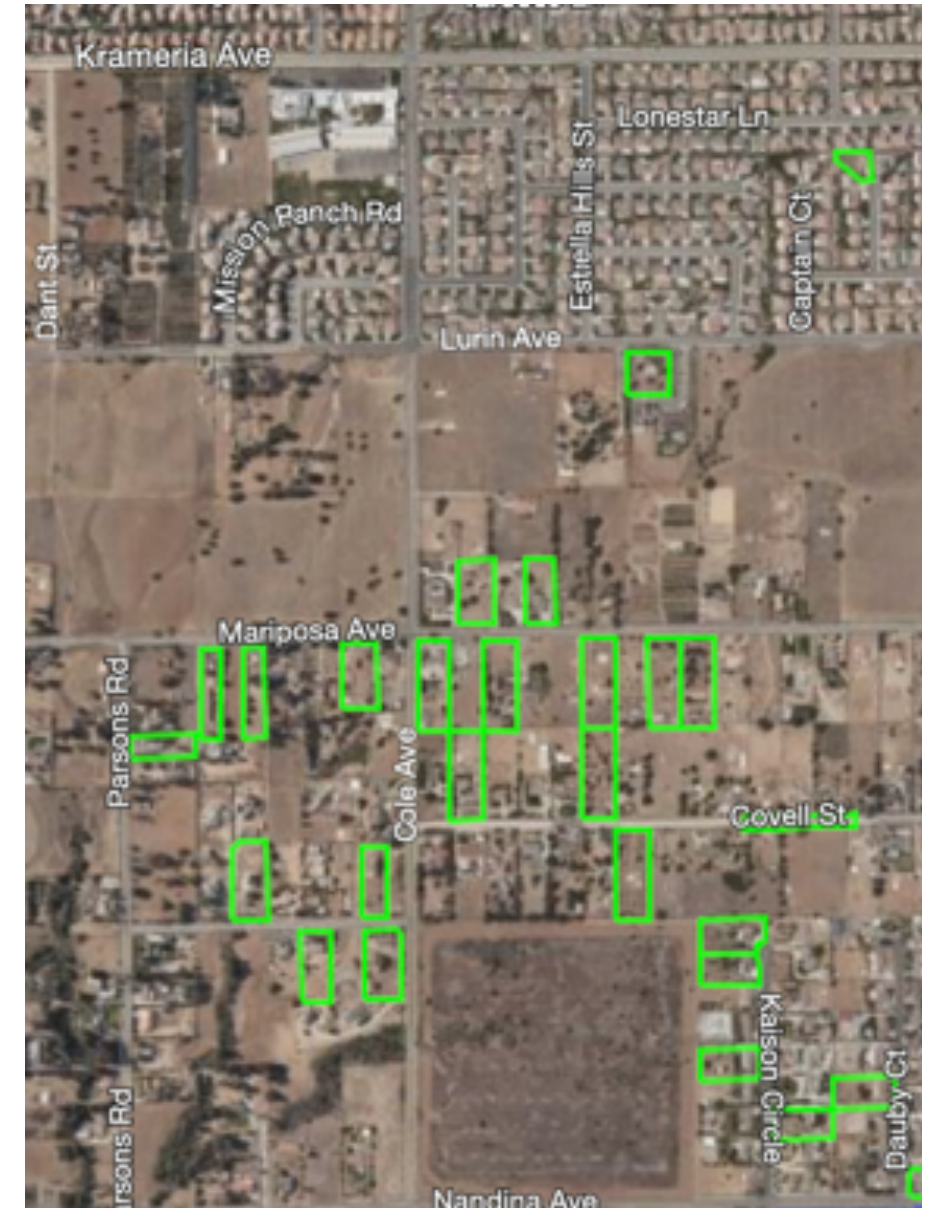
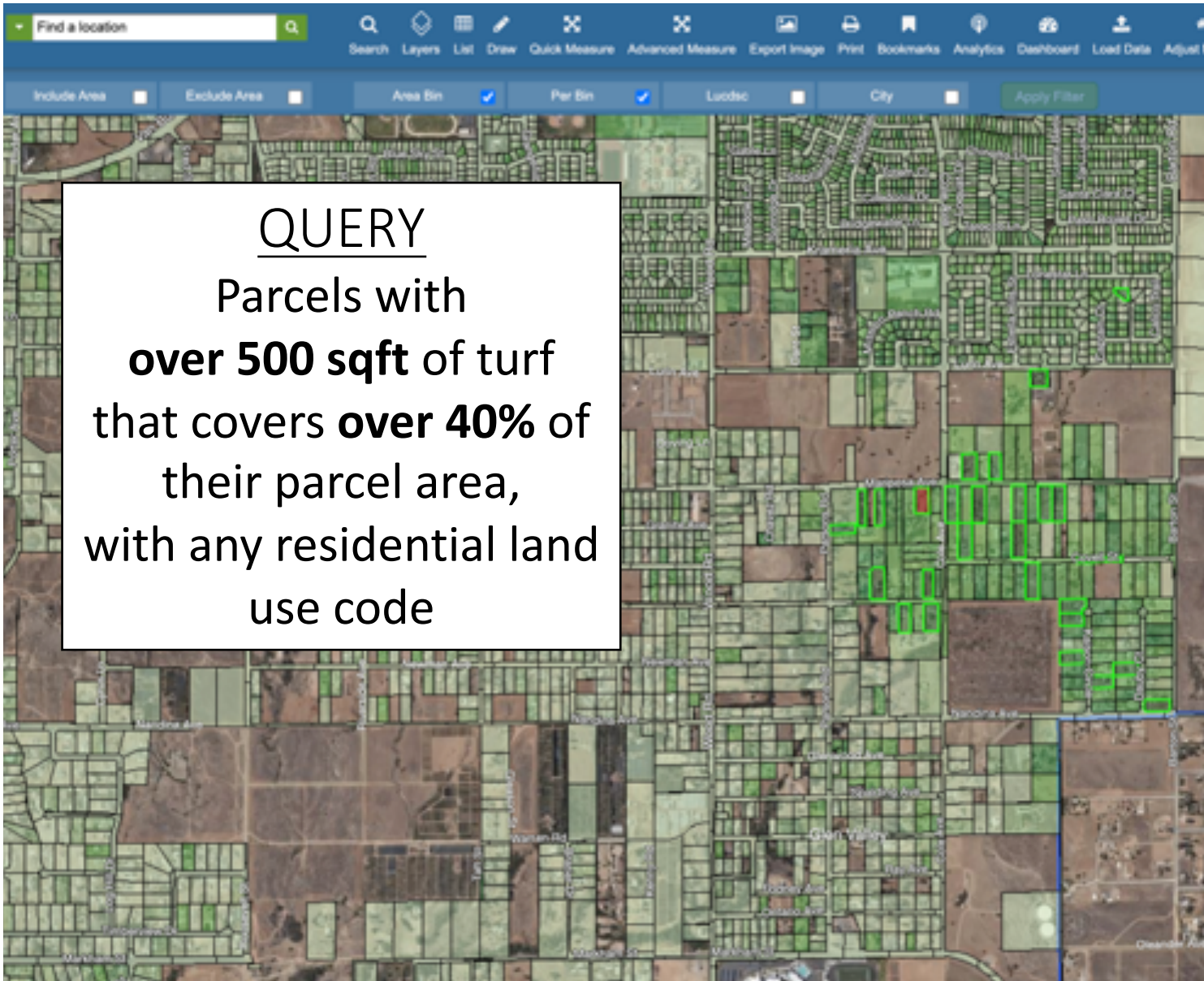
City

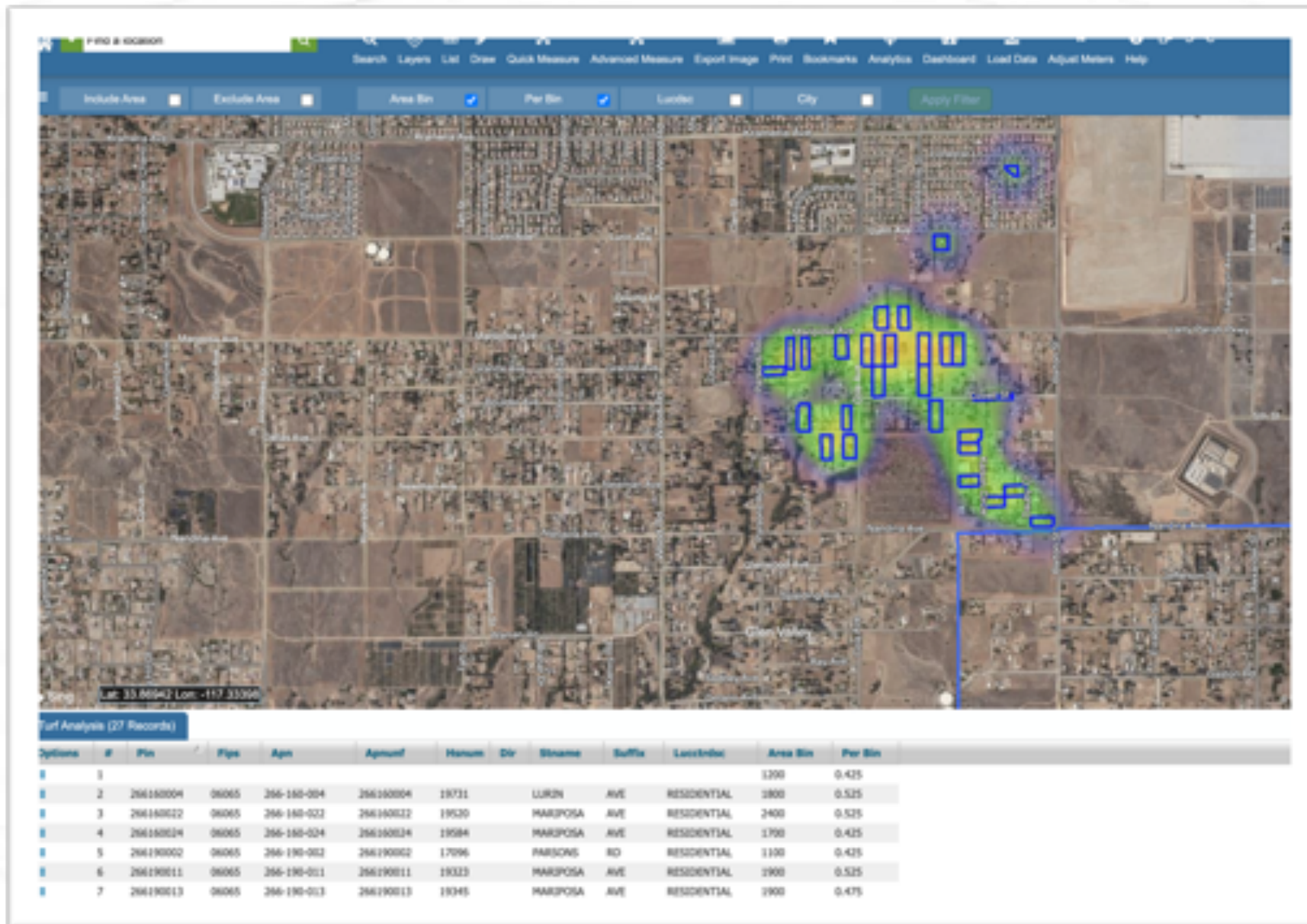
- ☐ CANYON LAKE
- ☐ CATHEDRAL CITY
- ☐ CORONA
- ☐ FALLBROOK
- ☐ LAKE ELSINORE
- ☐ MORENO VALLEY
- ☐ MURRIETA
- ☐ PERRIS
- ☐ RIVERSIDE
- ☐ TEMECULA



DRILL DOWN – GET MORE INFO

Query: SqFt of turfed area + % of parcel is turf + LUC





QUERY

- **Identify** an area
- **Create** a list
- Start an **outreach campaign**
- **Monitor** over time

OR...

Keep Drilling down...

CROSS QUERY WITH

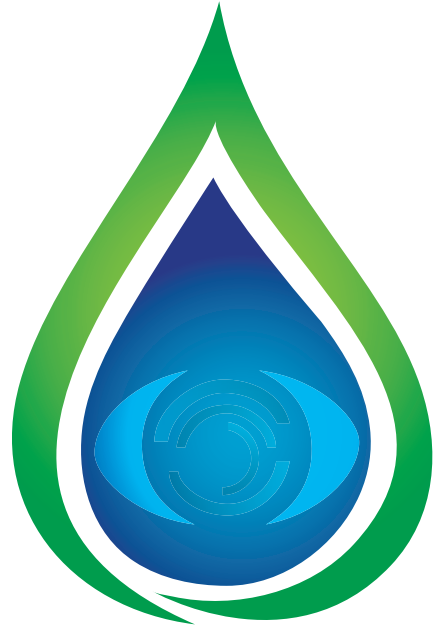
- Water Use
- Allocation
- Conservation Score



IDENTIFY

- Who is using over 200% of their allocation
- Uses over 65 ccf's p/month
- 40% or more of their parcel area is turf





WATERVIEW
Water Efficiency Software

Early Adopter

Pilot District – DWR

Landscape Area Measurement and Classification Project

Data delivery IN PROGRESS

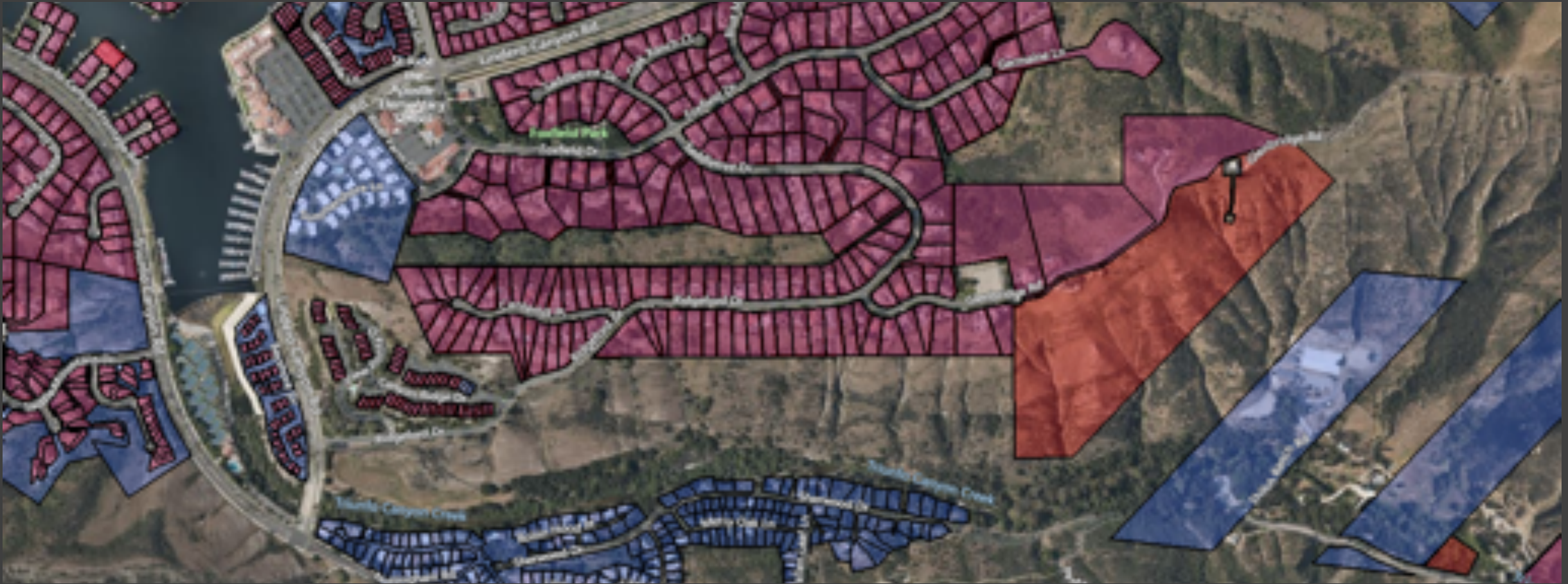
Working with the Early Adopters to support in-depth QCing
and review of the data

What DWR considers a residential parcel

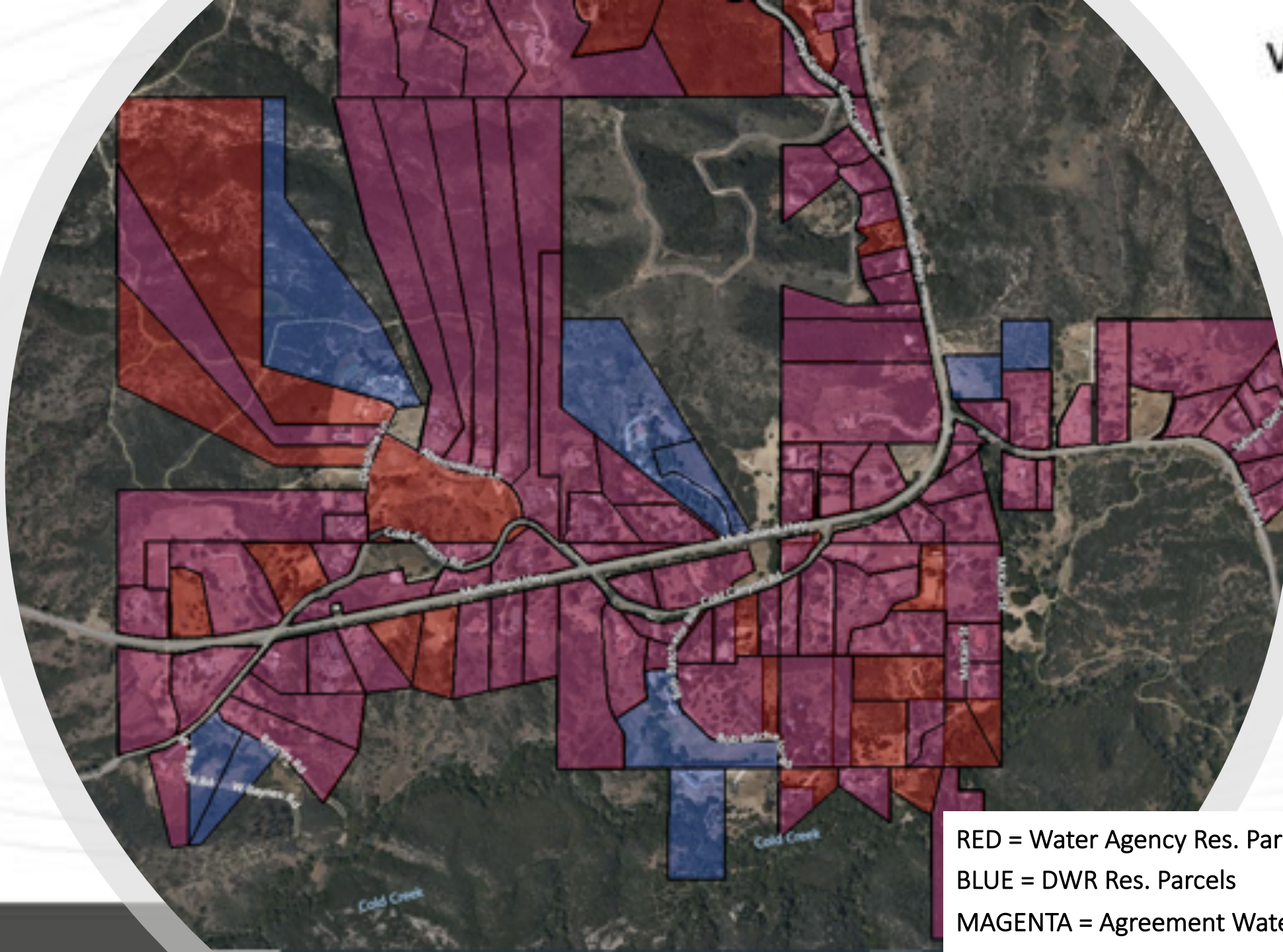
Vs.

What the water agency considers a residential parcel





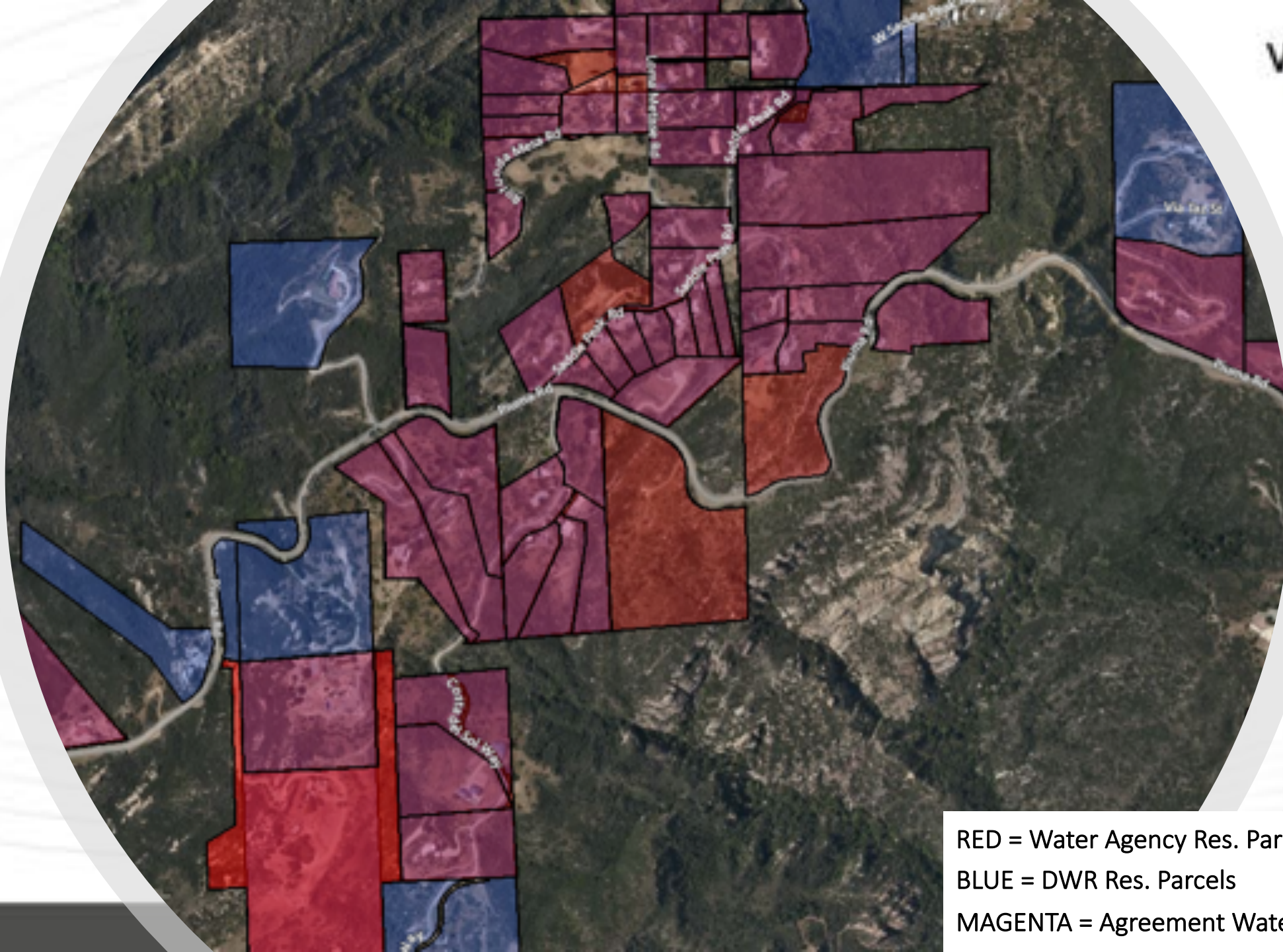
- **RED = Water Agency Res. Parcels**
- **BLUE = DWR Res. Parcels**
- **MAGENTA = Agreement Water Agency & DWR**



RED = Water Agency Res. Parcels

BLUE = DWR Res. Parcels

MAGENTA = Agreement Water Agency & DWR



RED = Water Agency Res. Parcels

BLUE = DWR Res. Parcels

MAGENTA = Agreement Water Agency & DWR

Working with all WaterView™ subscribers to prepare for framework implementation

Outdoor data is being released, how to prepare, what to do next

$$(OIA \times ET \times ETAF) + (Population \times IA) \times DF$$

OIA = Outdoor Irrigable (a sum of Irrigated Area & Irrigable Area) Area

ET = Daily Evapotranspiration in inches

ETAF = ET adjustment factor

Population = Population per Census Data

IA = Daily Indoor allocation per person

DF = Drought Factor *(If/when applicable)*



Current
ETAF = .80
GPCD = 55 gal

Adjusted
ETAF = .60
GPCD = 45 gal





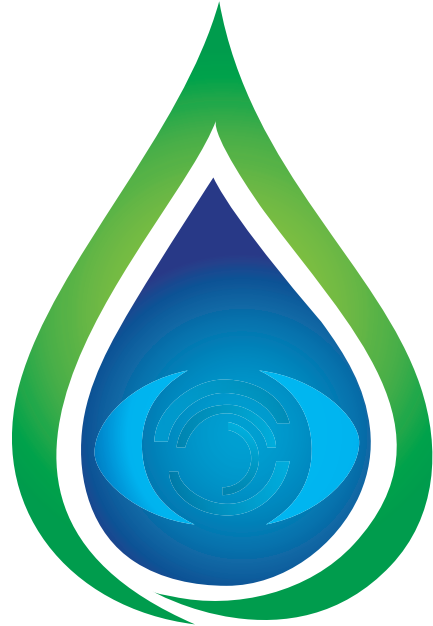
WATERVIEW
Water Efficiency Software

Commercial Industrial Institutional

Coming Soon



Questions



WATERVIEW
Water Efficiency Software

Contact Information

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