

This presentation premiered at WaterSmart Innovations

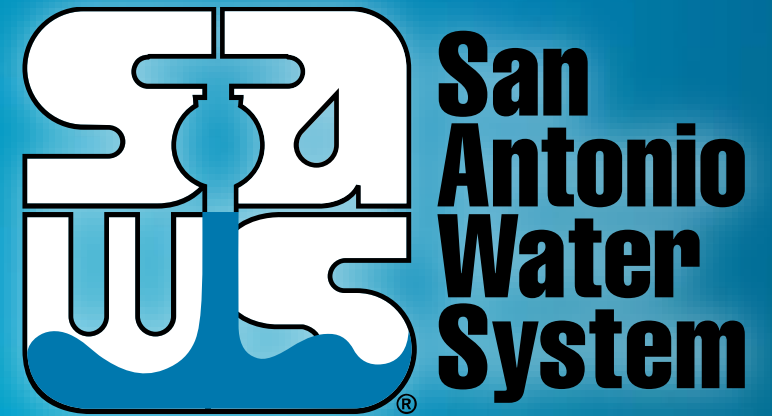
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Irrigation Rebates: Which Ones Saved Water?

Karen Guz

Conservation Director



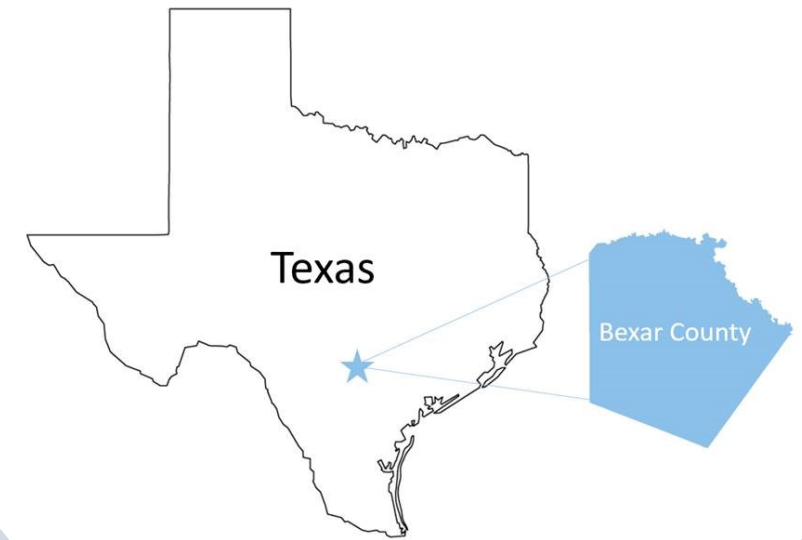
WaterSmart Innovations, 2019

MAKING SAN ANTONIO
WATERFUL



San Antonio Water System

- 1.8 million served water & wastewater
- Produce and deliver water
- Over 500,000 accounts
- Diverse Customer Base
 - 71% volume residential (indoor & outdoor)
 - 23% volume commercial/industrial
 - 6% volume commercial landscape irrigation
- Conservation Drivers:
 - Fast growing region
 - Drought prone with strict aquifer regulations
 - Part of San Antonio culture



GARDEN STYLE
SAN ANTONIO

Consults Key to Reaching High Use Customers

Average: 1,200-2,400 gallons/month reductions from irrigation system households

- Not an audit; customers prefer “consultation”
- Focus on capacity education & changing schedule
- Save more with targeted high users & during hot/dry months
- Key (popular) service to calm customers upset by summer bills



The SAWS Irrigation Consultant Team

2018 Team Results:

- 3,100 Irrigation Consults
- 500 Irrigation Rebates
- 41,000,000 Gallons Saved from consults alone
- 20% use rebate offer



- Licensed Irrigators
- Plant/Landscape Experts
- Great educators & Problem Solvers



Consult Includes:

- System Assessment
- GPM measure/zone
- Calculate monthly use
- Reset per advice
- Custom Rebate Offer
(based on GPM/zones)

Consult Analysis: What Correlates with Summer Usage?

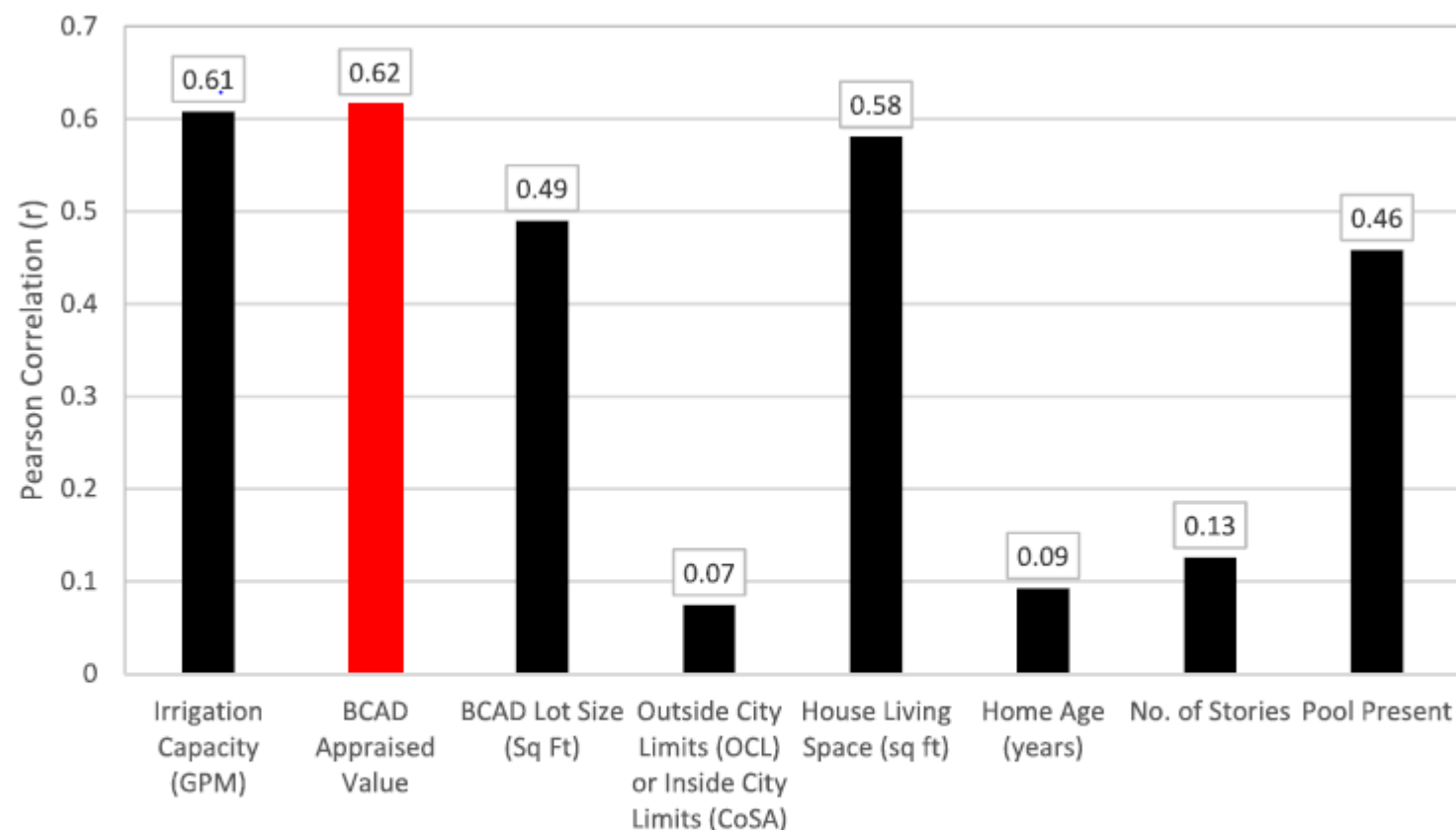
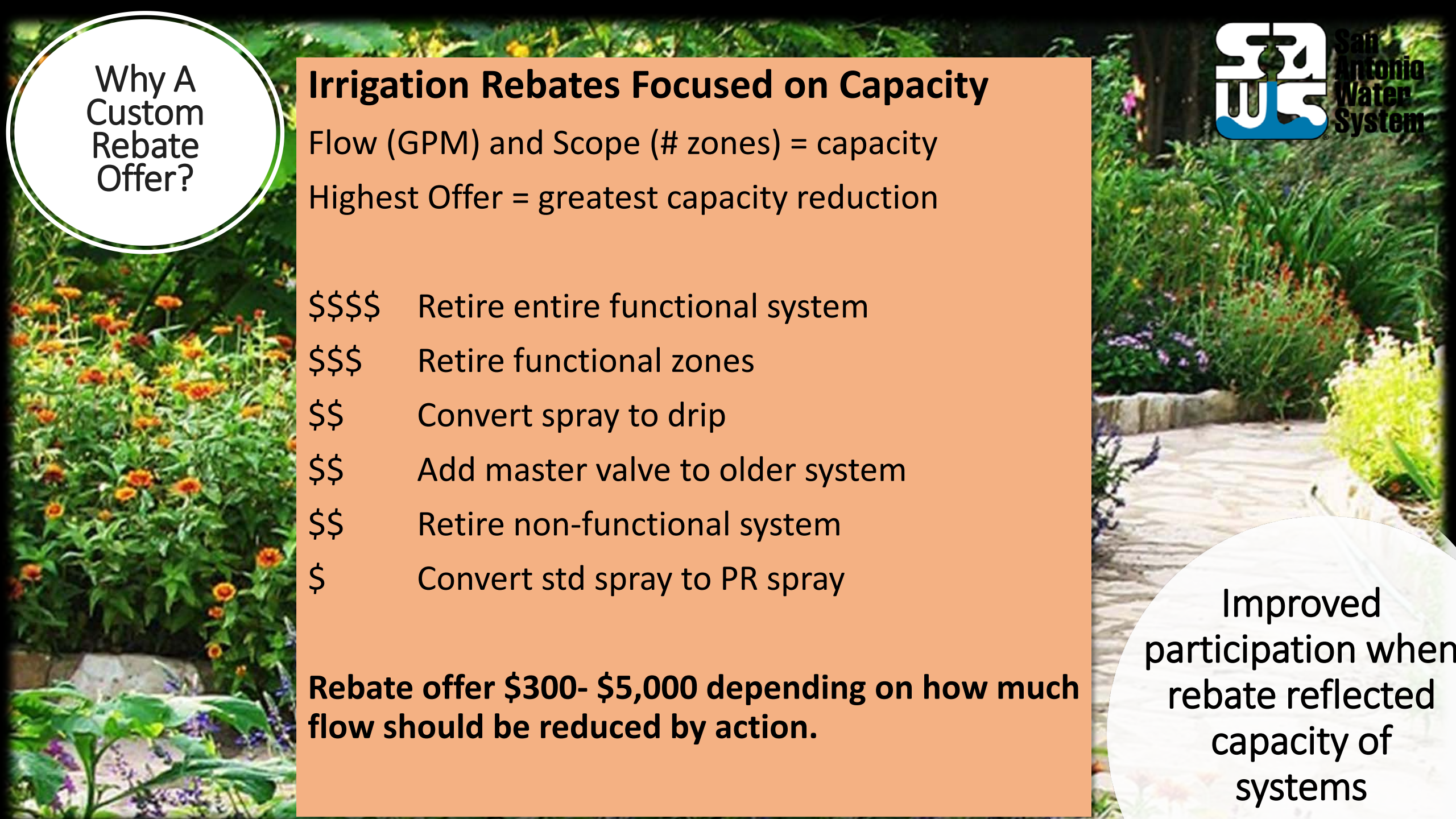


Figure C-5. Pearson Correlation between Independent Variables and Average Summer Water Use

Irrigation capacity
correlates better
with summer usage
than lot size



Why A
Custom
Rebate
Offer?

Irrigation Rebates Focused on Capacity

Flow (GPM) and Scope (# zones) = capacity

Highest Offer = greatest capacity reduction

- \$\$\$\$ Retire entire functional system
- \$\$\$ Retire functional zones
- \$\$ Convert spray to drip
- \$\$ Add master valve to older system
- \$\$ Retire non-functional system
- \$ Convert std spray to PR spray

Rebate offer \$300- \$5,000 depending on how much flow should be reduced by action.



Improved
participation when
rebate reflected
capacity of
systems

Program Design Questions

Hesitate to make program changes without a detailed analysis

- Are we reducing capacity?
- Are rebates too generous for water saved?
- Even if we reduce capacity, does this translate to actual savings?
- Are drip rebates problematic? (bad drip & customer behavior)
- Some Pressure Reducing Spray Head rebates were not needed
- Definition of non-functional (limits on GPM from leaks?)

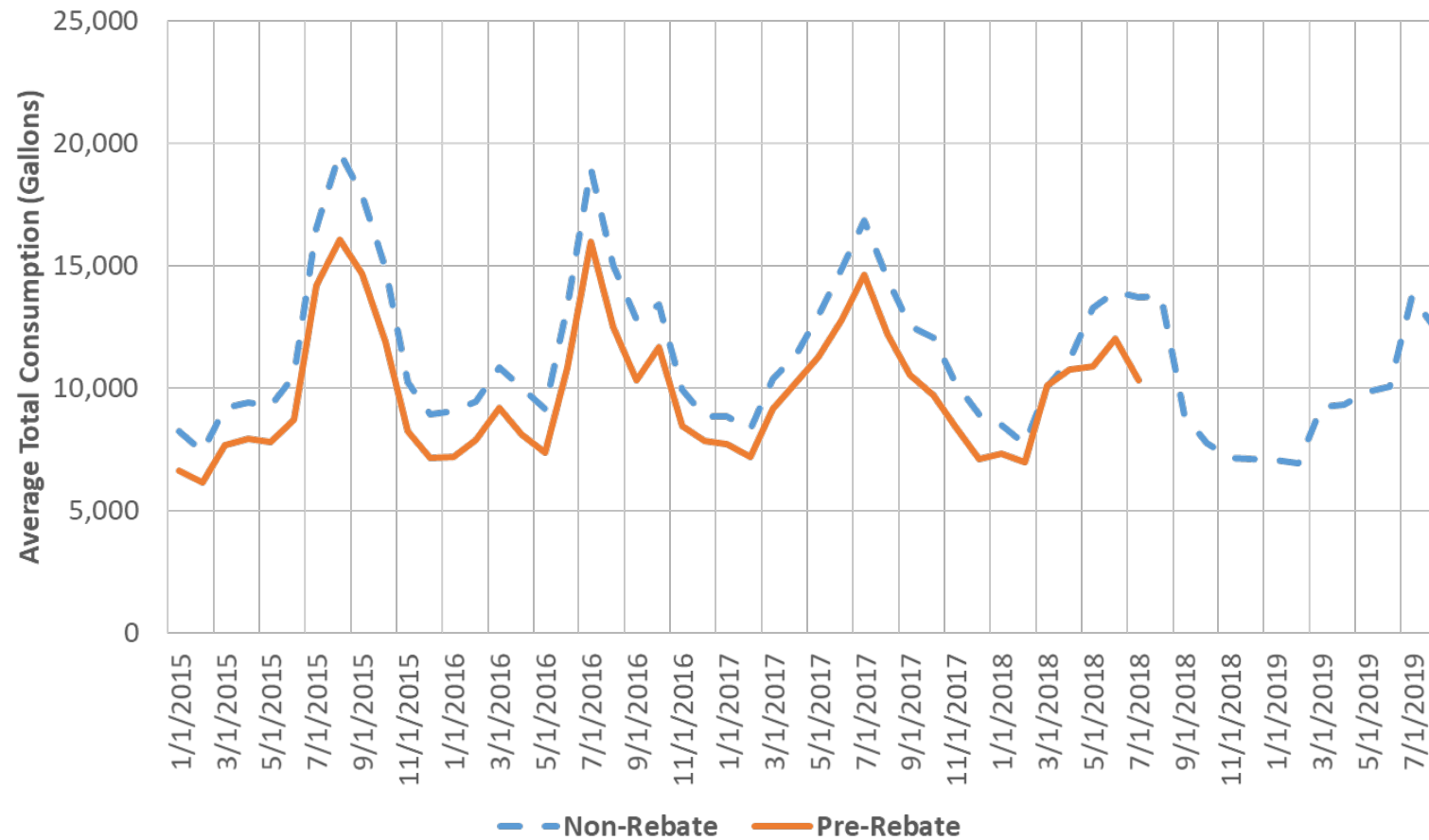
Did We Reduce Irrigation Capacity?

Irrigation Capacity Averages

	Count	Pre-Rebate Irrigation Capacity (GPM)	Post-Rebate Irrigation Capacity (GPM)	Decrease in Capacity (GPM)
Full Rebate Dataset	490	112.7	54.3	58.3
Non-Functional System Retired	33	0.0	0.0	0.0
Functional Irrigation System Retired	135	97.3	0.0	97.3
Drip Only	48	98.2	75.9	22.3
PRS Only	39	117.0	95.0	22.0
Capped Only	117	97.1	66.4	30.7

Compare Consult Only to Rebate Households

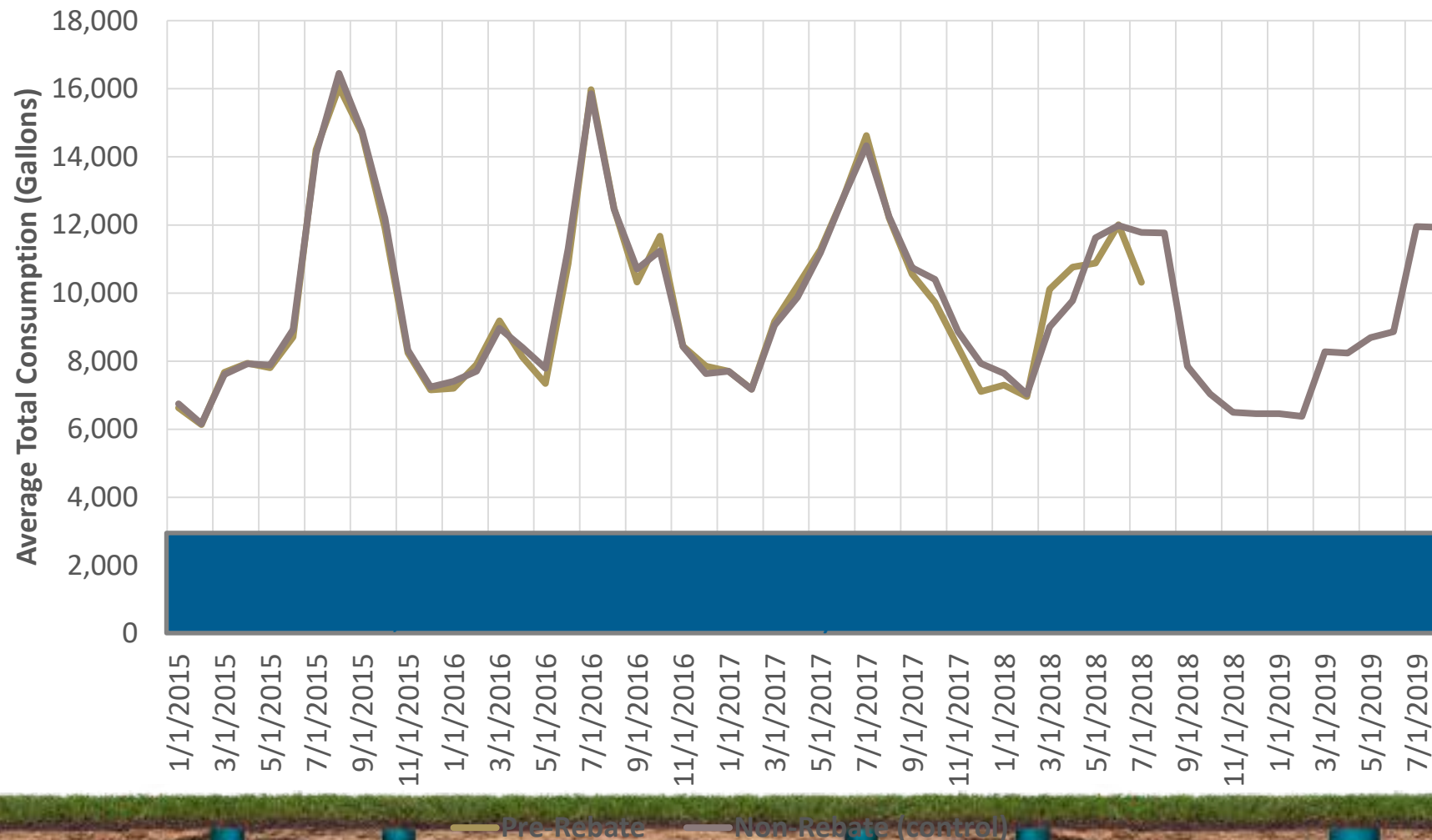
Treat “consult only” as the control group to assess savings



- Similar in lot size
- Similar in home value
- BUT: water usage patterns are very different
- NOT a good control group yet

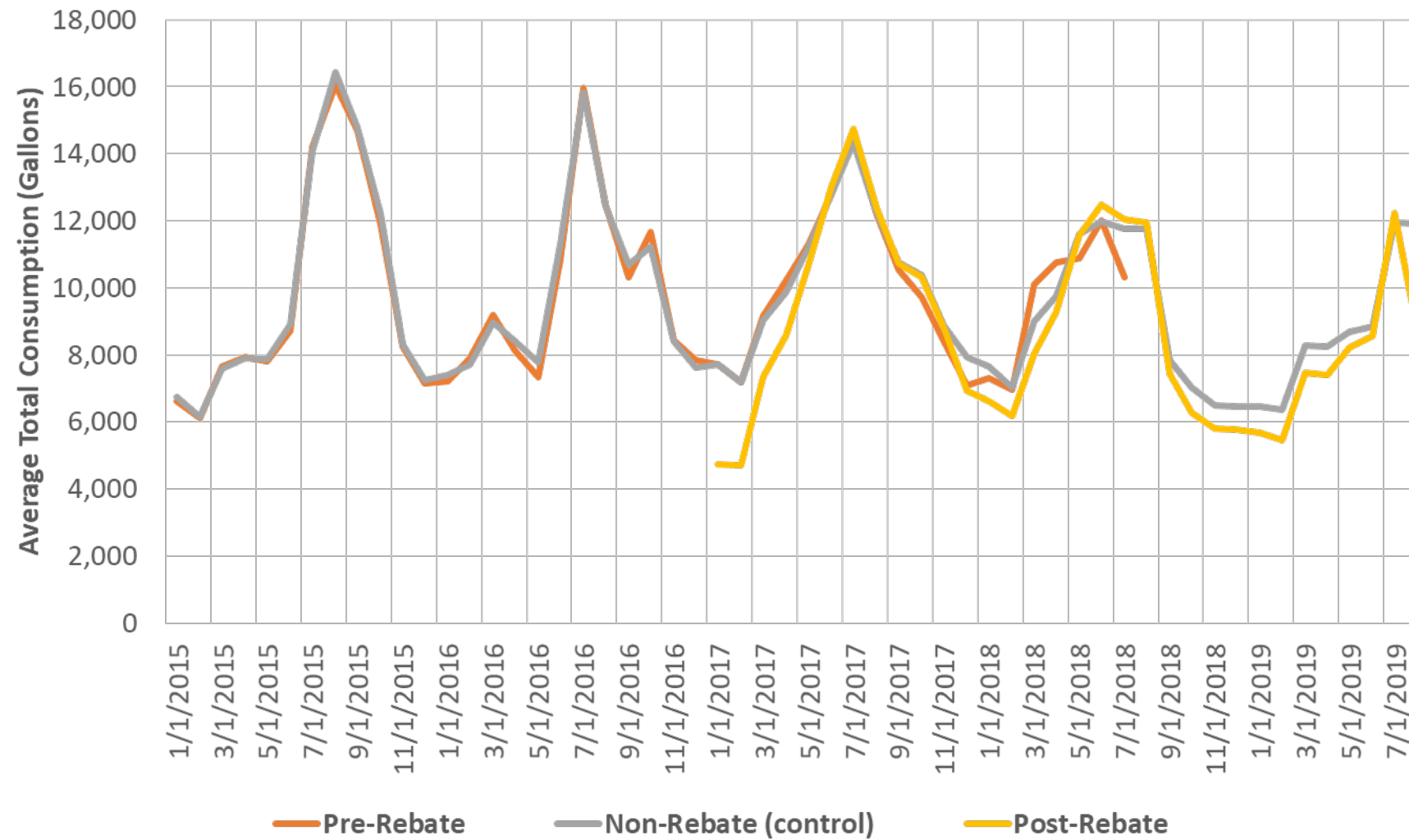
Getting to Equivalency

Elimination of “outlier households” from consult only data set

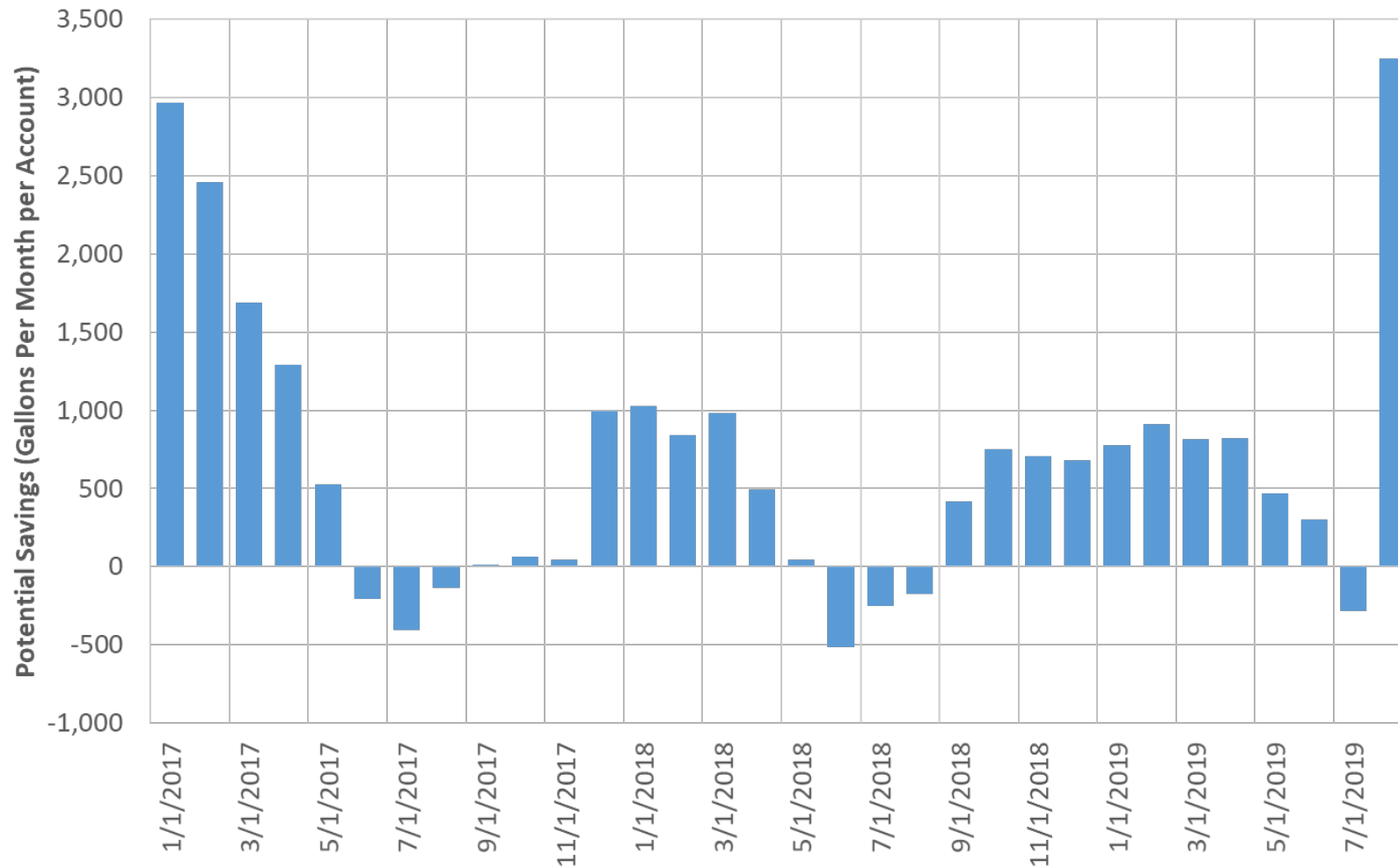


- Removed “Consult Only” households with over 1 million gallons/year
- Control n = 4,668
- Rebate n = 575

Consult Only Vs. Consult Plus Rebate



Savings Estimate Based on Control/Rebate



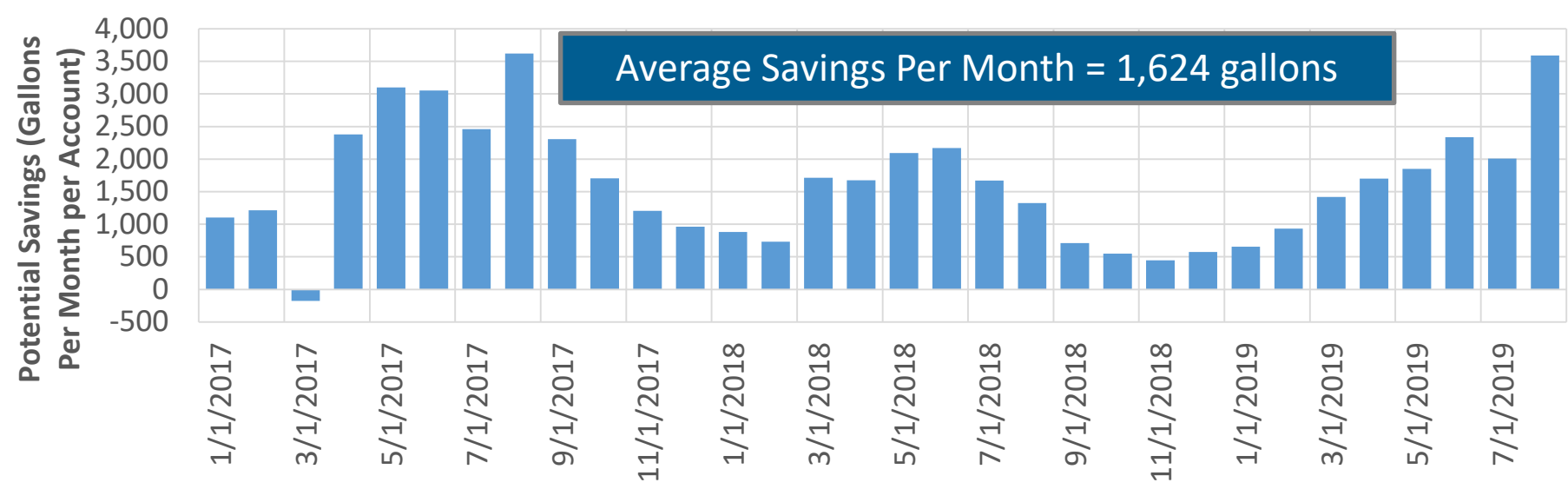
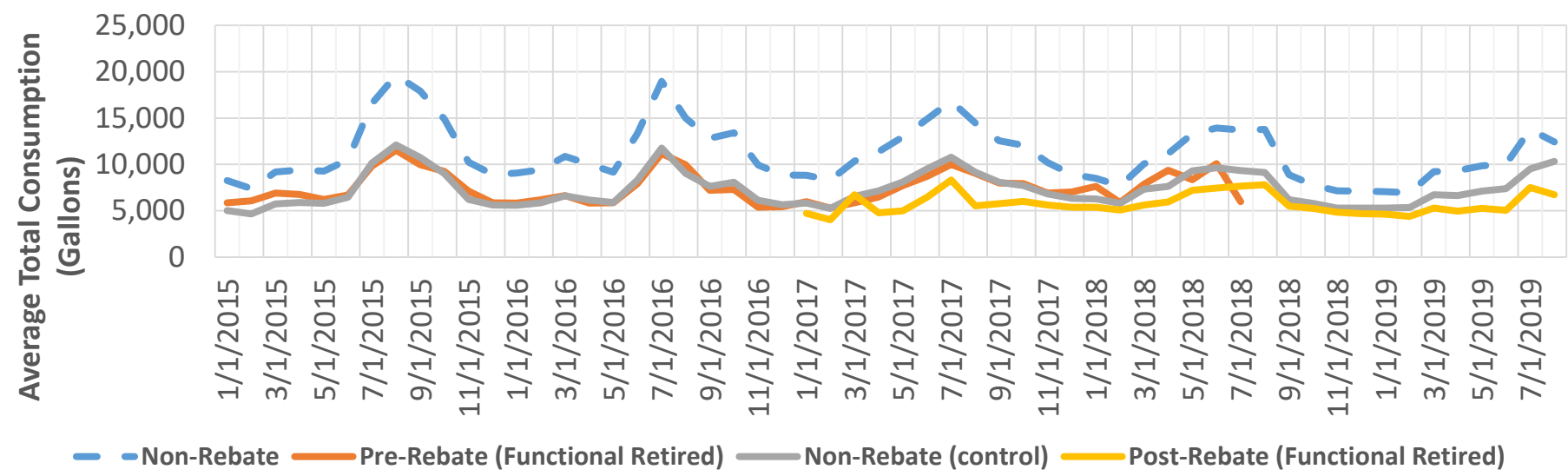
- Ave/month = 666 gallons
- Better winter/shoulder savings than peak summer
- This is for ALL rebates; not yet broken down by type of rebate

Which Rebates Saved the Most?

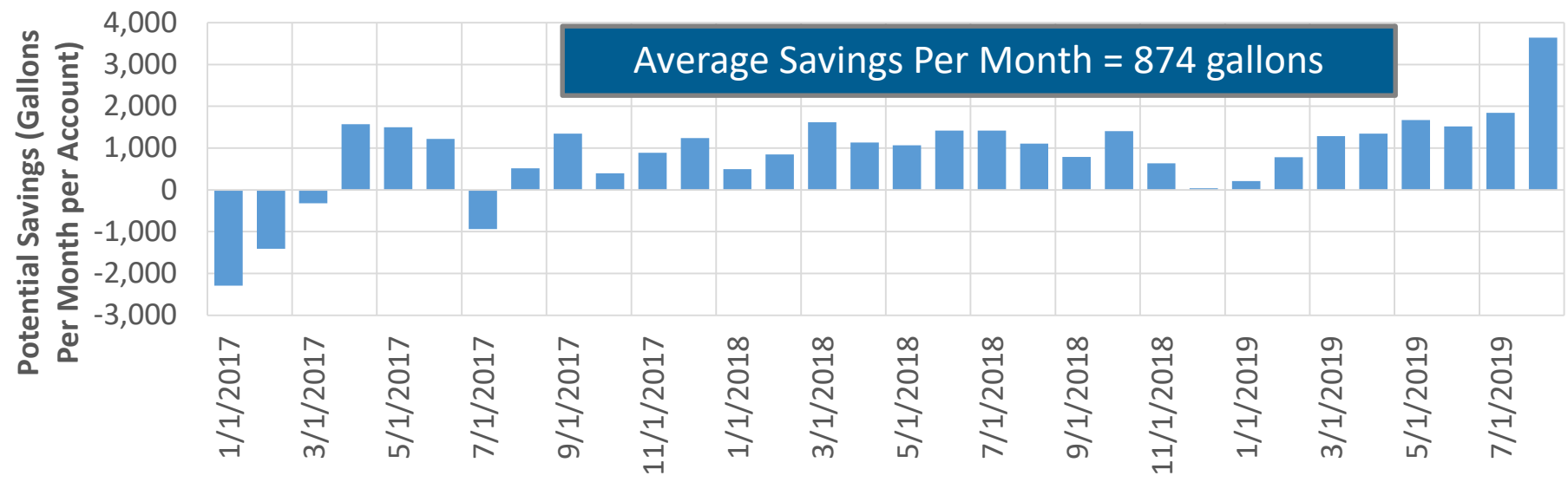
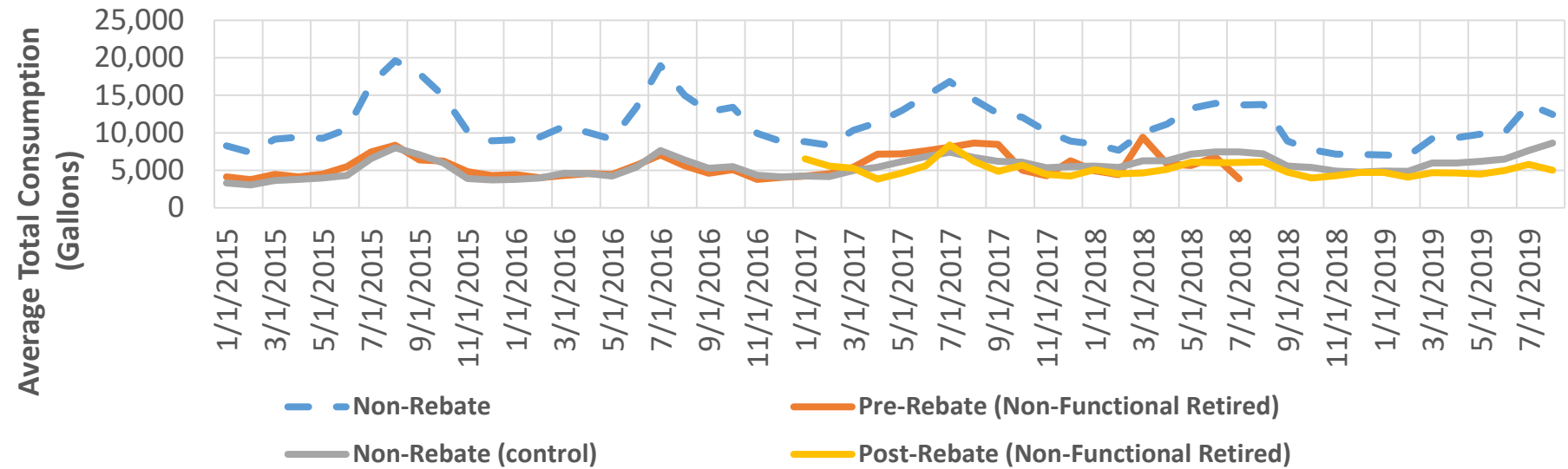
- Looked at consult control vs. rebate type for categories
- Had to analyze the characteristics and water use households using each type of rebate
 - Usage pattern
 - Lot size
 - Home value

Type Of Rebate
All
Functional System Retired
N/F System Retired
Drip Only
PRS Only
Capped Only
Mixed
Capped and Drip
Drip and PRS
Capped and PRS
All Three

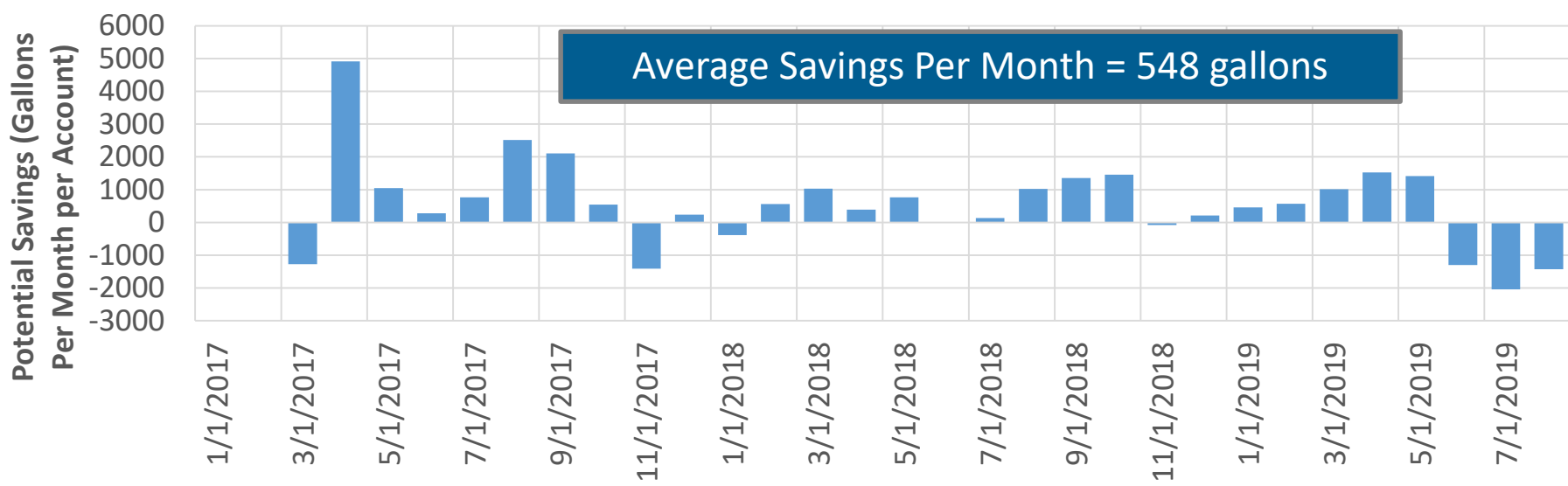
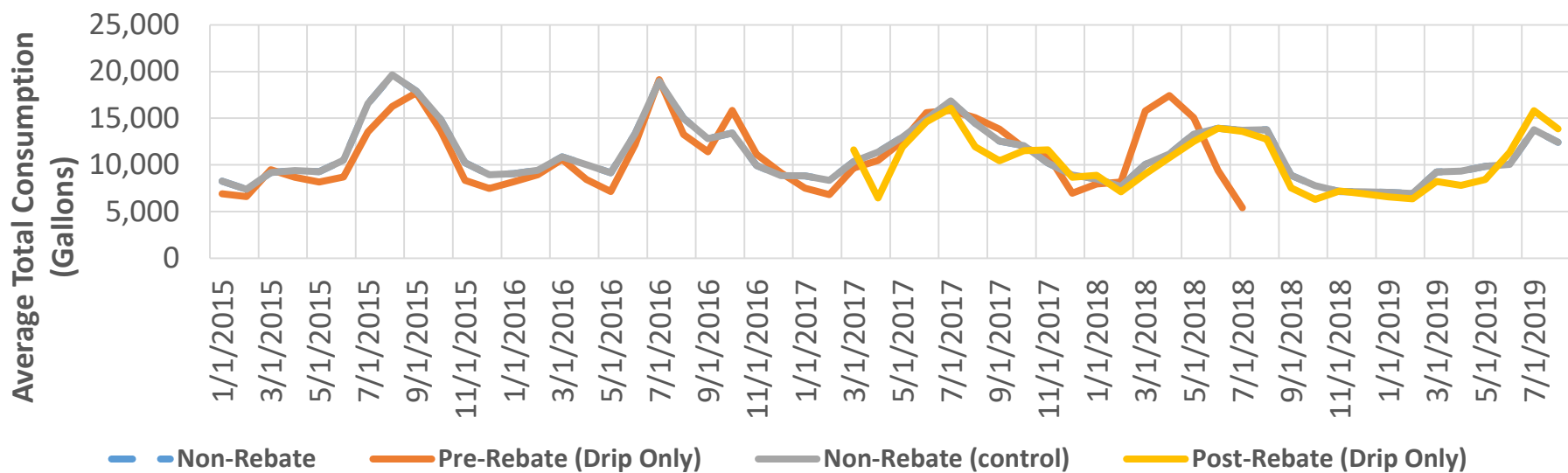
Functional System Retired

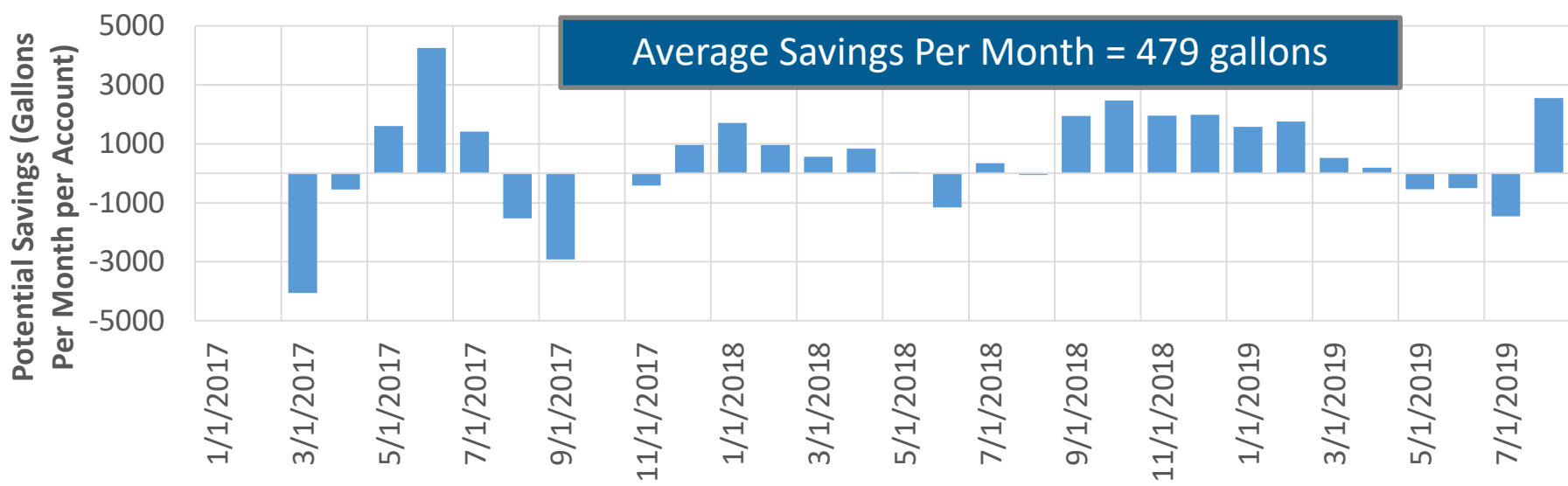
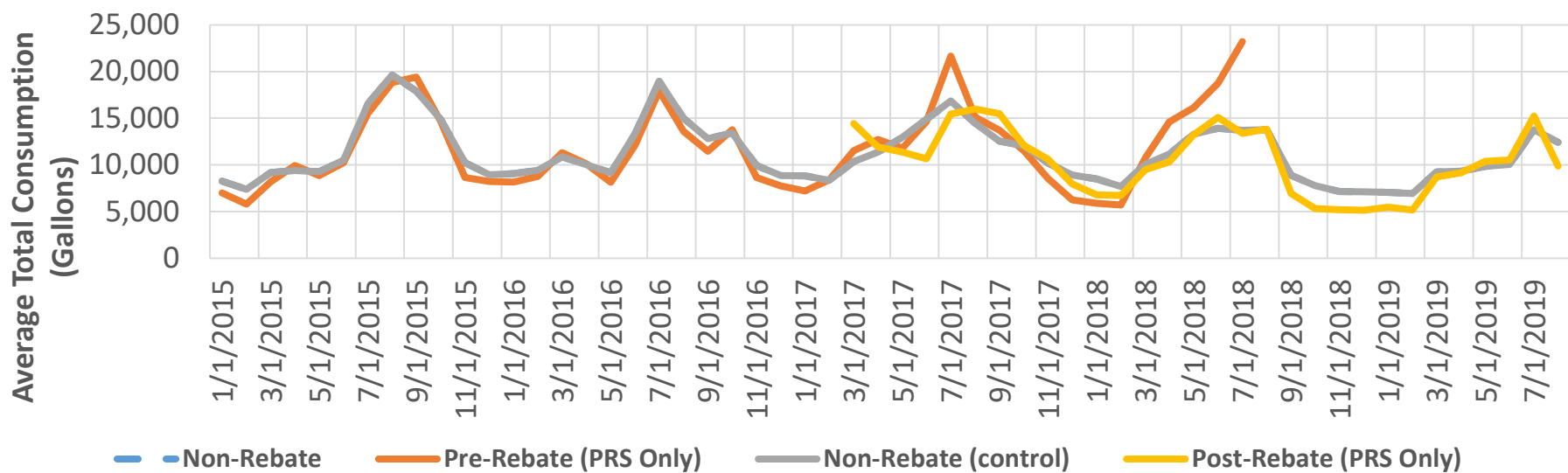


Non-Functional System Retired



Drip Only





Summary of Savings



Type Of Rebate	Count	Estimated Savings (gallons/month)
All	571	666
Functional System Retired	140	1,624
N/F System Retired	34	874
Drip Only	55	548
PRS Only	41	479
Capped Only	128	580
Mixed		
Capped and Drip	52	1,317
Drip and PRS	25	2,768
Capped and PRS	35	197
All Three	61	325

Additional Questions

Getting to success requires continual adjustment based on results

- Does percent of system changed matter?
- How happy are the customers with the change?
- Can we account for low savings of PR heads and drip; adjust rules?



Follow Up?

Email us for more complete
Rebate Analysis Report

Weather Based Controller
Retrofits? Pilot results
available.

Meet the consult team at:
GardenStyleSA.com

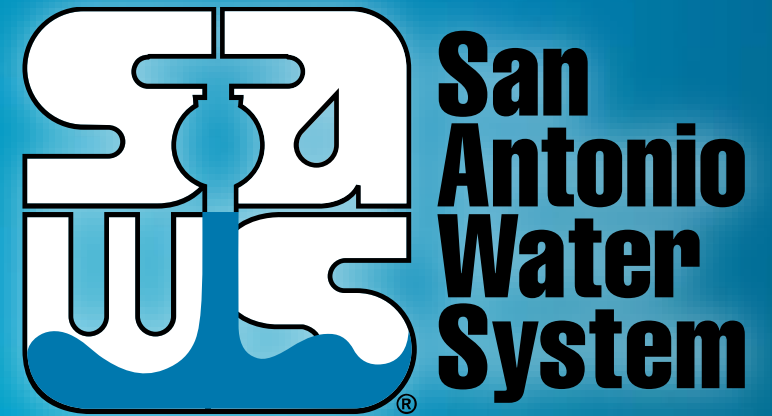
More programs also at:
Saws.org/conservation

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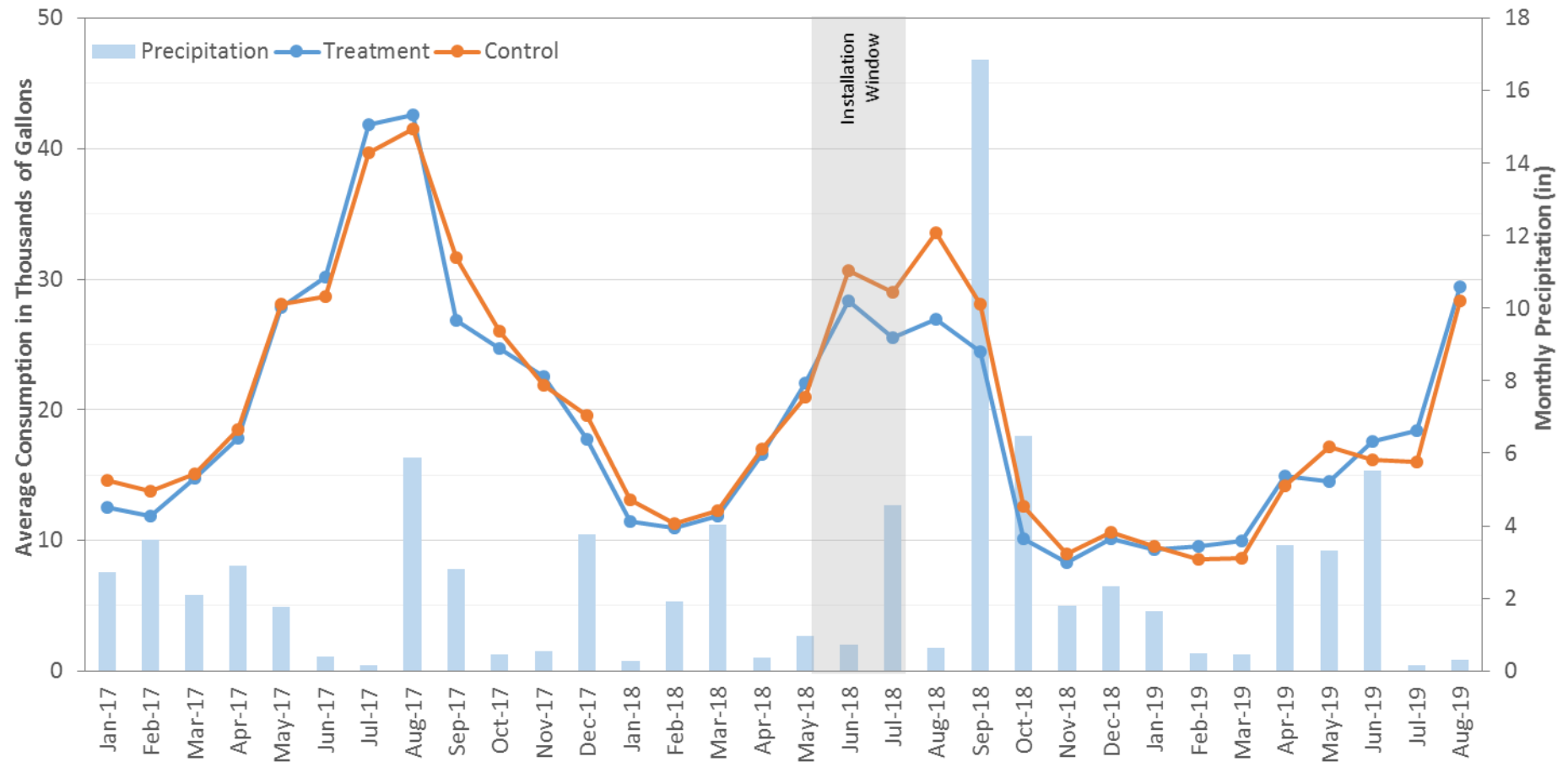
What About Smart Controllers?

Top Residential User Pilot (recruited very high use households)



Random Control Pilot

- Two identical groups
- One gets WBIC
- WBIC group used less 1st summer
- WBIC group using same 2nd summer



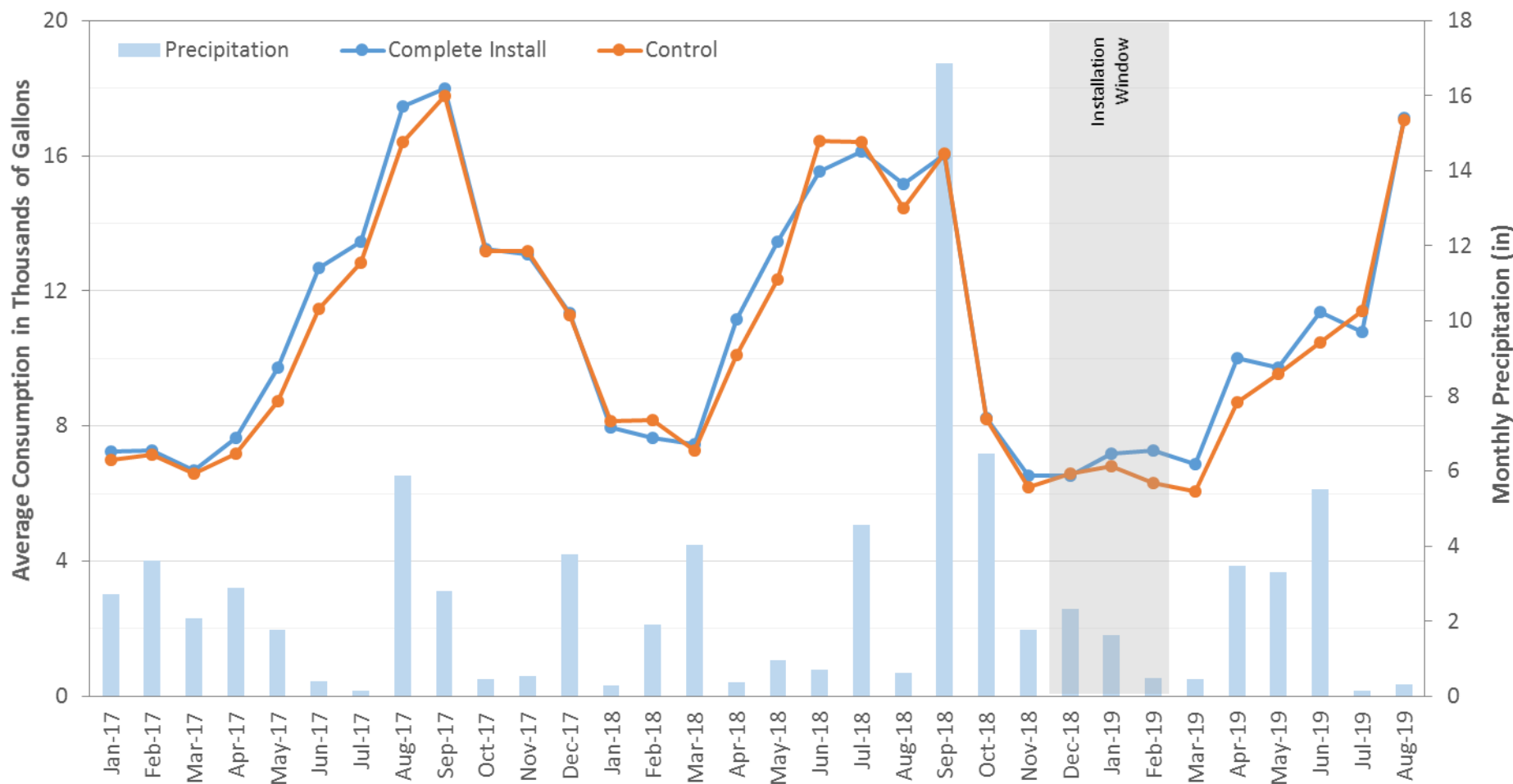
What About Smart Controllers?

High/Middle Irrigation Household Pilot: (Usage level 50% of top user pilot) IRRIGATION FLOW SENSOR INCLUDED

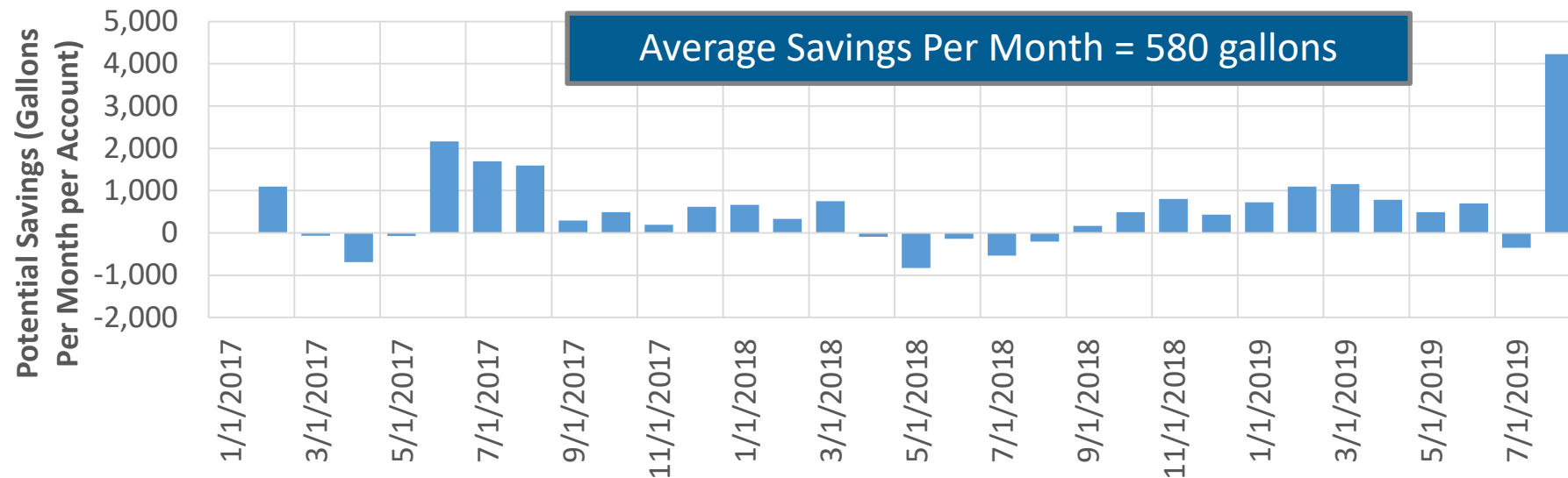
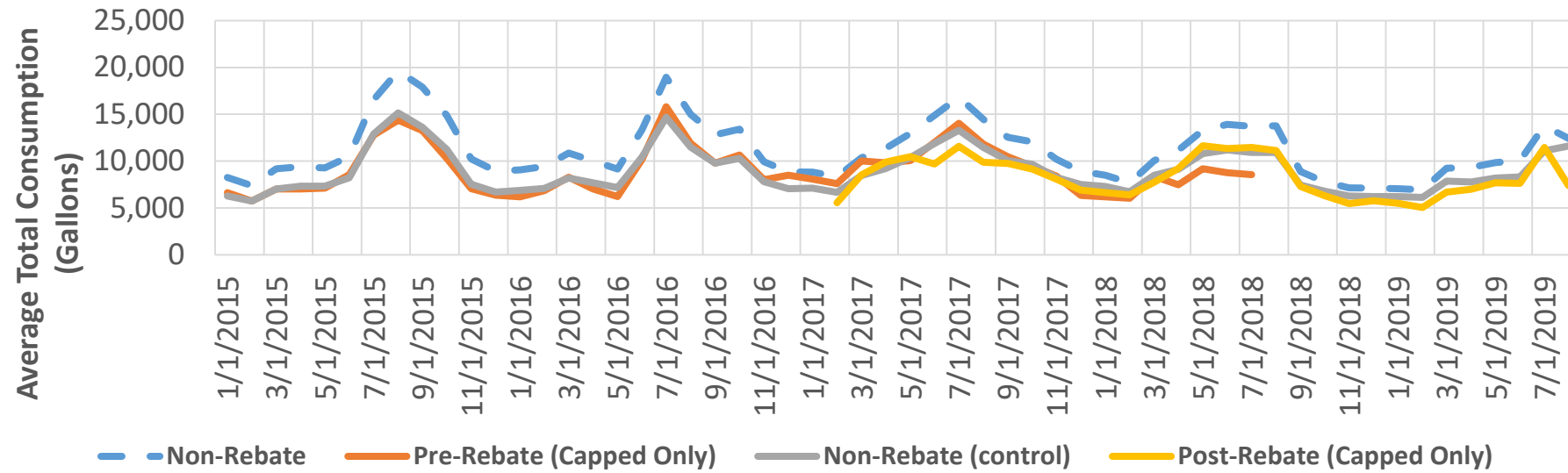


Random Control Pilot

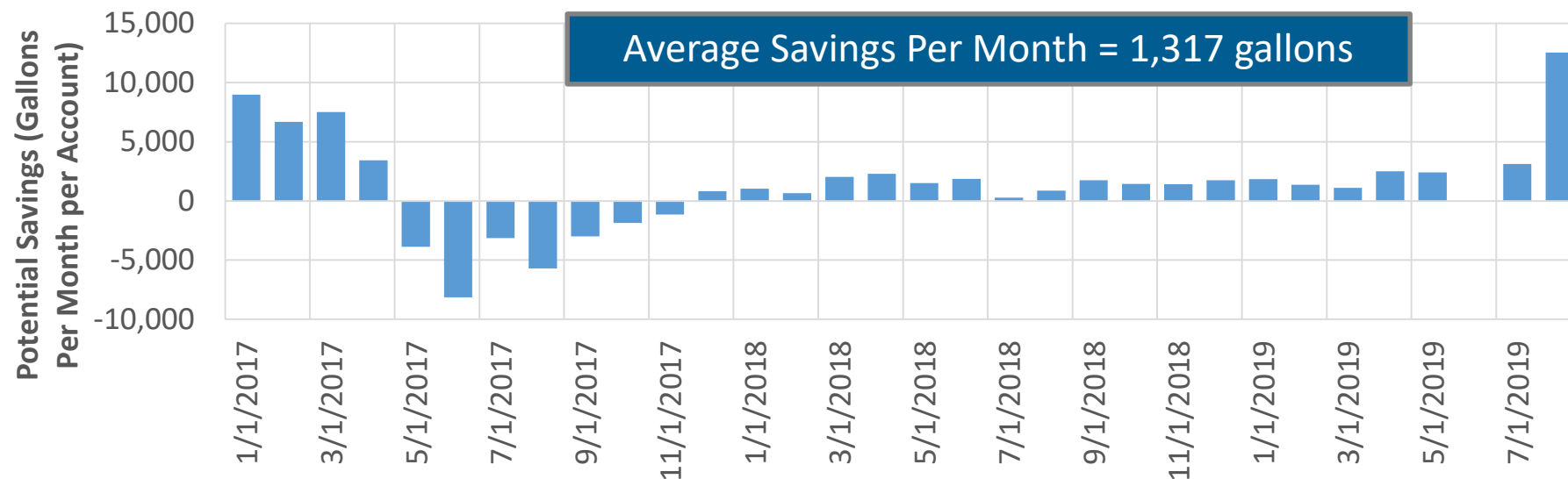
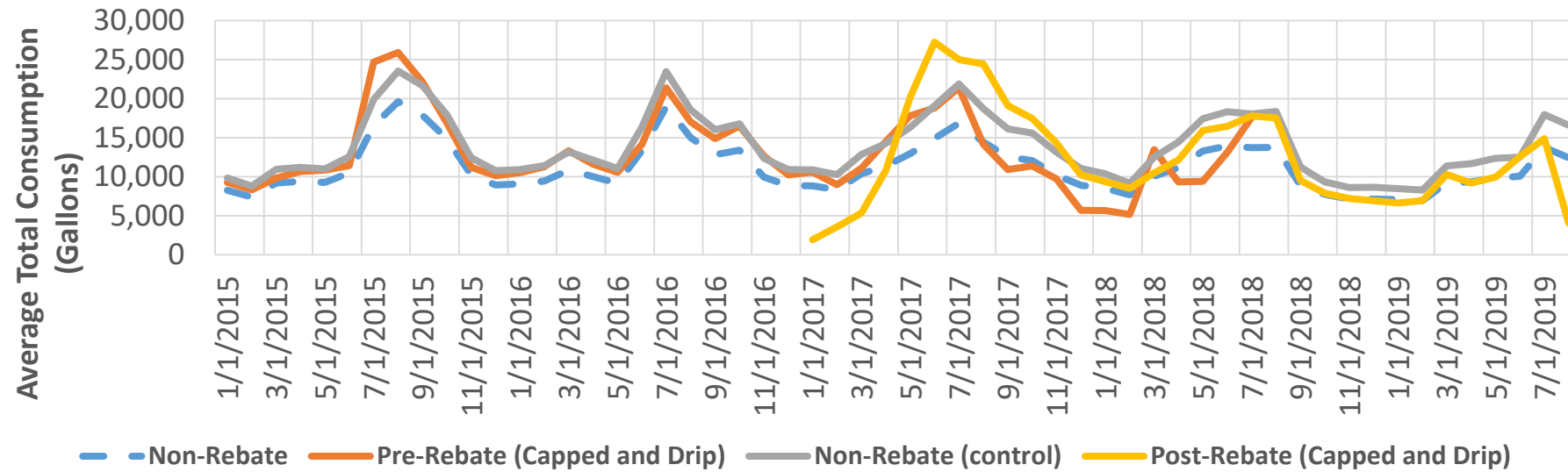
- Identical groups
- One gets WBIC
- WBIC group using more Spring & Summer
- Assessing settings of WBIC group



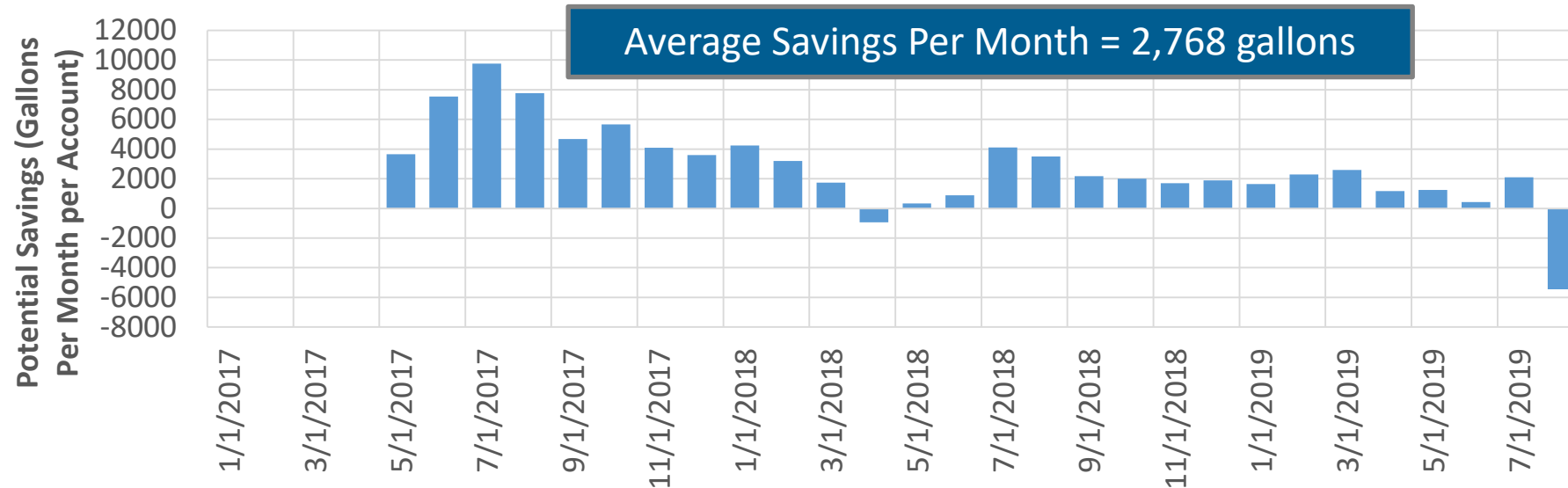
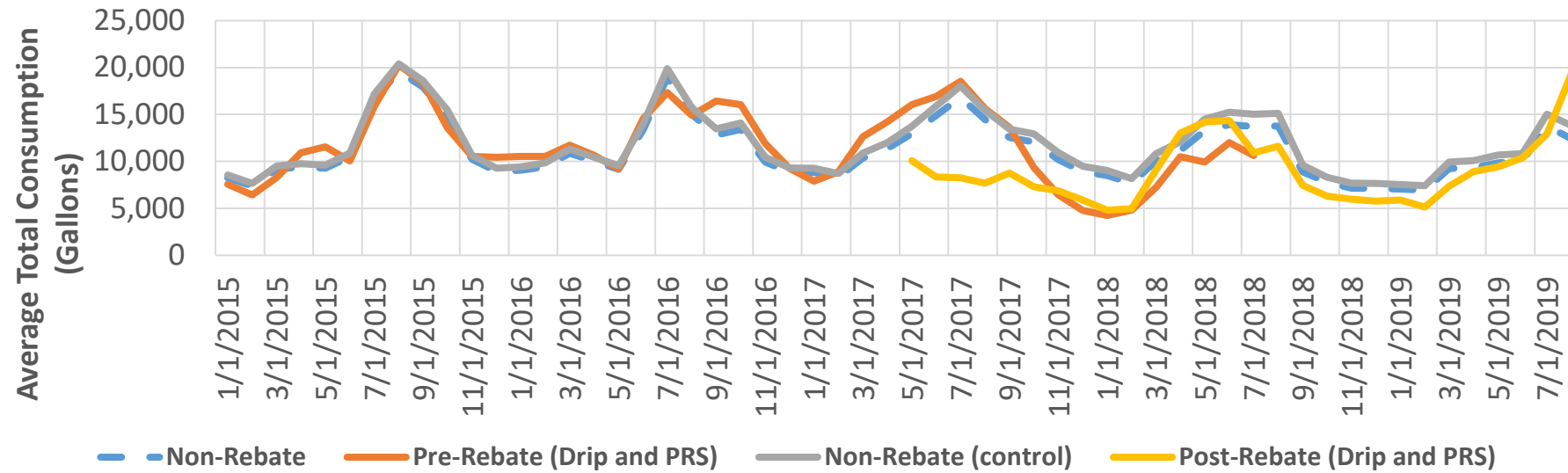
Capped Only



Capped and Drip Mixed



Drip and PRS Mixed



Capped and PRS Mixed

