AGENDA
IRVINE RANCH WATER DISTRICT
WATER RESOURCES POLICY AND COMMUNICATIONS COMMITTEE
THURSDAY, JANUARY 9, 2020

CALL TO ORDER 3:00 p.m., Committee Room, Second Floor, District Office
15600 Sand Canyon Avenue, Irvine, California

ATTENDANCE Committee Chair: Mary Aileen Matheis _____
Member: John Withers _____

ALSO PRESENT				
	Paul Cook	_____	Paul Weghorst	_____
	Beth Beeman	_____	Cheryl Clary	_____
	Fiona Sanchez	_____	Christine Compton	_____
	Mark Tettemer	_____	Amy McNulty	_____
	Wendy Chambers	_____	Kellie Welch	_____
	Ray Bennett	_____	Jo Ann Corey	_____
	_____	_____	_____	_____

NOTICE: If you wish to address the Committee on any item, please file your name with the Committee. Forms are provided at the meeting. Remarks are limited to three minutes per speaker on each subject.

COMMUNICATIONS

1. Notes: Weghorst

2. Public Comments

3. Determine the need to discuss and/or take action on item(s) introduced that came to the attention of the District subsequent to the agenda being posted.

4. Determine which items may be approved without discussion.

INFORMATION

5. STUDY OF IRWD'S FUTURE POTENTIAL WATER EFFICIENCY – HASTINGS / MCNULTY / SANCHEZ / WEGHORST

   Recommendation: Receive and file.

6. 2020 LEGISLATIVE AND REGULATORY UPDATE – COMPTON / COOK

   Recommendation: Receive and file.

OTHER BUSINESS

7. Directors' Comments

8. Adjourn

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Availability of agenda materials: Agenda exhibits and other writings that are disclosable public records distributed to all or a majority of the members of the above-named Committee in connection with a matter subject to discussion or consideration at an open meeting of the Committee are available for public inspection in the District's office, 15600 Sand Canyon Avenue, Irvine, California ("District Office"). If such writings are distributed to members of the Committee less than 72 hours prior to the meeting, they will be available from the District Secretary of the District Office at the same time as they are distributed to Committee Members, except that if such writings are distributed one hour prior to, or during, the meeting, they will be available at the entrance of the meeting room at the District Office.

The Irvine Ranch Water District Committee Room is wheelchair accessible. If you require any special disability-related accommodations (e.g., access to an amplified sound system, etc.), please contact the District Secretary at (949) 453-5300 during business hours at least seventy-two (72) hours prior to the scheduled meeting. This agenda can be obtained in an alternative format upon written request to the District Secretary at least seventy-two (72) hours prior to the scheduled meeting.

January 9, 2020
Prepared by: N. Hastings / A. McNulty
Submitted by: F. Sanchez / P. Weghorst
Approved by: Paul A. Cook

WATER RESOURCES POLICY AND COMMUNICATIONS COMMITTEE

STUDY OF IRWD'S FUTURE POTENTIAL WATER EFFICIENCY

SUMMARY:

A study of IRWD's Future Potential Water Efficiency was conducted to improve IRWD's understanding of the current extent and impacts of water use efficiency programs and device saturation, as well as to evaluate opportunities for future water savings and potential efficacy of programs. Findings from the study will inform the planning, design, and implementation of future water use efficiency programs and will support activities that will help ensure IRWD's compliance with statewide water use efficiency objectives. At the meeting, staff will provide an overview of the key findings and recommendations from the study.

BACKGROUND:

IRWD has a long history of implementing successful water use efficiency programs. In November 2018, the Board approved the execution of a Professional Services Agreement with EKI Environment & Water to conduct IRWD's Future Potential Water Efficiency Study that would illustrate the effect of past water use efficiency programs and guide efforts to maximize opportunities for future efficiency programs.

This study is complete, and the corresponding report provides an analysis of past program participation rates, water savings, and device saturation. It also identifies the potential of new programs to achieve additional water savings in a "business as usual" model and in a drought or water shortage context. The study methodology, key findings, and recommendations are included in the Executive Summary of the report, provided as Exhibit "A". Because the study contains many abbreviations and acronyms, these are listed in Exhibit "B" for reference.

Study Findings:

Key findings from the study include the following:

- Past water use efficiency programs have effectively targeted customers with the most potential for savings;
- Program participation rates are not consistent throughout the District and potential opportunities exist for more targeted outreach;
- Commercial, Industrial and Institutional (CII) customers remain a potentially untapped opportunity;
- Limited, cost-effective potential remains to further reduce indoor water use;
- Turf removal opportunities provide the most potential for additional outdoor potable water savings;

- Targeted marketing and education are more important than rebate amounts;
- Single-family residential (SFR) homes built after 2010 are the most efficient with indoor and outdoor water use. SFR homes built prior to 1993 have become increasingly more efficient than homes built from 1994 to 2009 because of targeted water use efficiency programs and natural replacement of indoor fixtures. The table below shows the 2019 average volume of monthly usage per SFR based on the year the homes were built:

Average Monthly Single-Family Home Water Use per CCF

Year Built	Indoor	Outdoor	Total
1993 or before	7.6	4.3	11.9
Between 1994 and 2009	7.8	4.7	12.5
2010 or after	7.5	3.0	10.5

- Customer water use within IRWD's service area has not fully rebounded to pre-drought levels because of permanent savings measures such as fixture and turf replacements. During future water shortages, the same levels of water savings may not be feasible due to this demand hardening; and
- Potential District-wide potable water savings in a future shortage are estimated at approximately 5,000 acre-feet.

Study Recommendations:

Based on the findings from the study, potential new programs, program modifications and other recommendations include the following:

- Recognize that the future focus of IRWD's water use efficiency efforts will increasingly shift from device based programs to programs that sustain the success of the District's budget based rate structure and continue to educate and motivate customers to use water efficiently;
- Prioritize outreach for the Residential Turf Removal Program by turf area size;
- Target the Residential Turf Removal Program to customers that reduced outdoor use during the most recent drought;
- Continue to target the Non-Residential Turf Removal Program to customers not served by recycled water;
- Develop a pilot Pressure Reducing Valve Program targeted to non-residential customers in high pressure zones; and
- Review and update IRWD's Water Shortage Contingency Plan, as necessary, to reflect the study findings related to customer demand hardening and the potential potable water savings that could be achieved in a future shortage.

The PowerPoint slides attached as Exhibit "C" will be discussed during the meeting.

FISCAL IMPACTS:

Not applicable.

ENVIRONMENTAL COMPLIANCE:

This item is not a project as defined in the California Environmental Quality Act as authorized under the California Code of Regulations, Title 14, Chapter 3, Section 15378.

RECOMMENDATION:

Receive and file.

LIST OF EXHIBITS:

Exhibit "A" – Future Potential Water Efficiency Study – Executive Summary
Exhibit "B" – List of Abbreviations and Acronyms
Exhibit "C" – Draft PowerPoint Presentation

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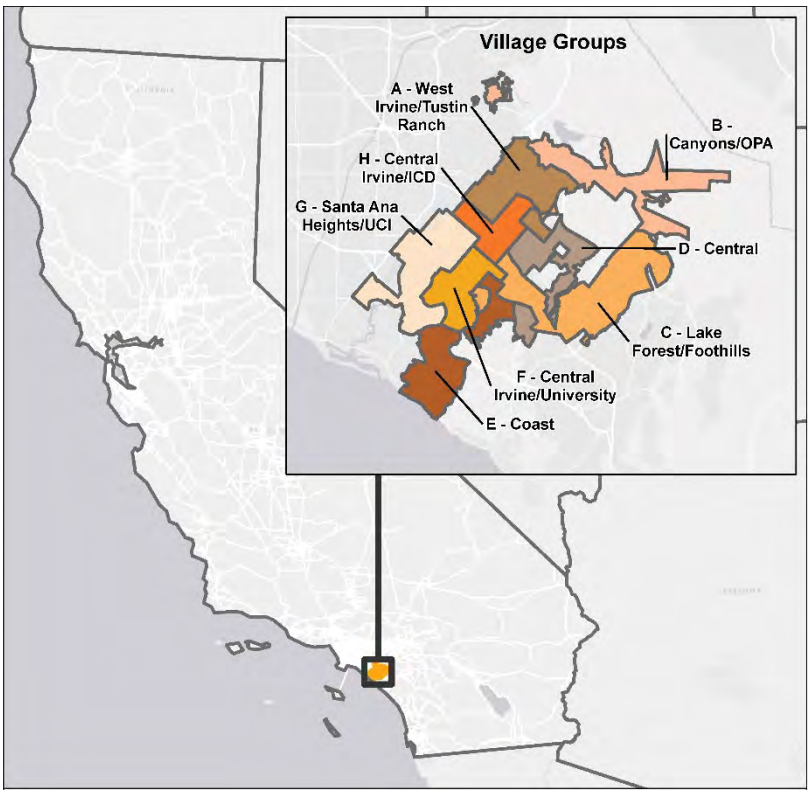
1. EXECUTIVE SUMMARY

The Irvine Ranch Water District (IRWD or District) provides water and wastewater service to over 115,000 connections across its approximately 181-square mile service area in Southern California (**Figure ES-1**).

Figure ES-1
IRWD Location and Village Groups



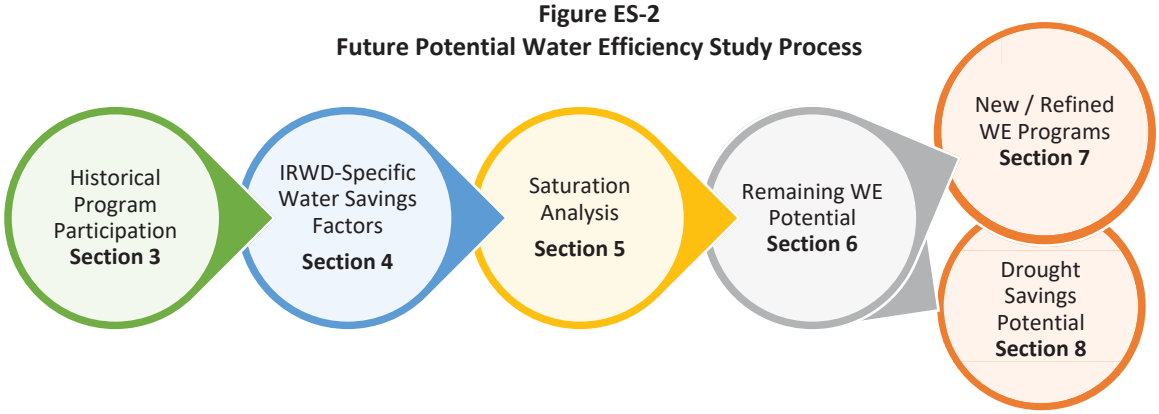
IRWD has a long and progressive history of providing innovative water use efficiency (WE) programs that have resulted in increased water efficiency by its customers for decades. At the same time, the State of California is increasing its water efficiency requirements for water suppliers including the development of new urban water use objectives under the *Making Water Conservation a California Way of Life* (AB-1668/SB-606) legislation. The methods for setting these new water use objectives are still in development., Urban retail water suppliers are supposed to begin reporting on and complying with the water use objectives in the 2023-2024 timeframe.

Given both IRWD's long history of WE and the uncertainty in the forthcoming State requirements, this *Future Potential Water Efficiency Study* (Study) was developed to take a thorough look at IRWD's progress to date in WE in order to: (1) identify the remaining WE potential in the IRWD service area, and (2) provide the District with a set of analyses and analytical tools that serve as a foundation to strategically inform and guide the District's future WE program planning efforts as the State requirements and other WE drivers evolve. **Figure ES-2** outlines the process documented in this Study to achieve these two objectives.

To address the first objective of identifying the remaining WE potential in the IRWD service area is, this Study includes: (1) analysis of past WE program participation and effectiveness, (2) an assessment of device saturation, (3) quantification of the water savings achieved through past WE program implementation, (4) identification of four specific future WE program strategies, (5) an assessment of the avoided water and embedded energy cost savings, and the cost-effectiveness of these strategies, and (6) an assessment of potential water savings that could be achieved during future droughts.

Per the second objective, the analyses presented throughout the document were designed to provide the District with a set of analytical tools that can serve as a foundation to strategically inform and guide the

Figure ES-2
Future Potential Water Efficiency Study Process



District's future WE program planning. The resulting work product is presented as both static figures and tables in this Study, and as dynamic tools through the raw data files, queries and other content provided as companion to this document.

This Executive Summary presents the key findings for each of the analyses conducted as part of this Study. Details describing the methodologies, assumptions, and additional results are presented in Sections 3 through 8 and the Study Appendices. For purposes of this Study, IRWD's 76 villages were grouped into eight "Village Groups" based on location and similar characteristics, as described in Section 2.3 and shown in **Figure ES-1**.

Based on the analyses performed for this Study, the largest remaining opportunities for water savings are in the outdoor water use across all customer sectors, particularly through continued turf removal, and potentially through the implementation of a Pressure Reducing Valve (PRV) program. Marketing and outreach has proven to drive customer participation in WE programs to date, as particularly evidenced by the increased participation rates observed in response to marketing efforts during the statewide 2013-2017 drought. In fact, these outreach and marketing efforts appear to have a much more significant effect on program participation than the dollar amounts of rebates (Section 3.7). Therefore, this Study recommends that WE efforts by the District focus on outdoor water savings potential and strategic ways to target the marketing and cross promote these programs.

Past Program Participation (Section 3)

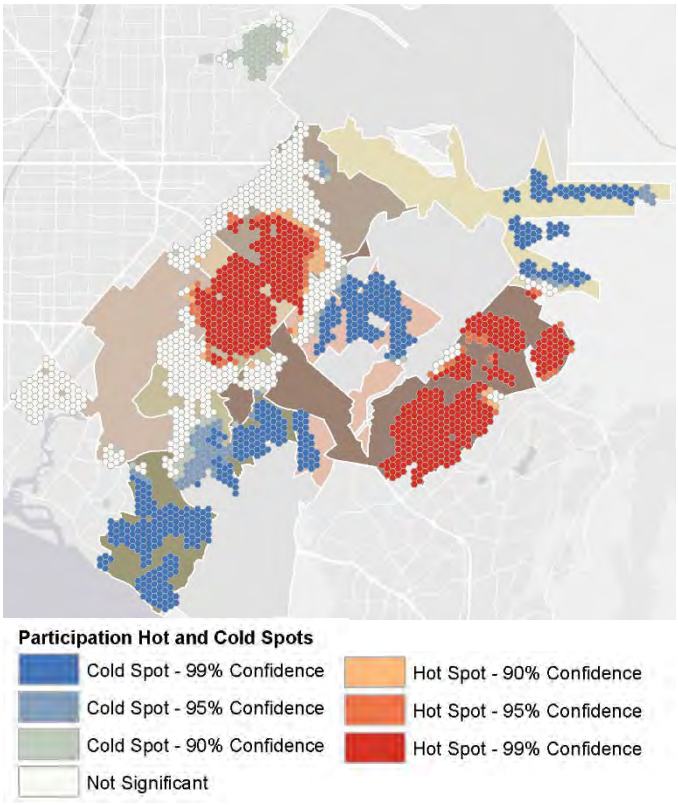
The District's customers are offered a wide range of WE programs, and the particular programs and suite of offerings are continually adapted to respond to a variety of drivers. A subset of programs offered to IRWD customers was selected for detailed geospatial and customer demographic trend analyses, including:

- Participation rates over time and by Village Group;
- Statistical "hot spot" or participation density analysis (see example shown in **Figure ES-3**);
- Analysis of building stock and landscape characteristics;
- Demographic factors including income and home-ownership;
- Participation in multiple programs;
- Land use and business type characteristics for large landscape and commercial, industrial, and institutional (CII) programs; and

- WE program funding levels (i.e., rebate values).

The key take-aways relative to the historical performance of the WE programs that were reviewed and analyzed are summarized below:

Figure ES-3
Participation Density Hot Spot Analysis for Single Family Residential Turf Removal Rebates



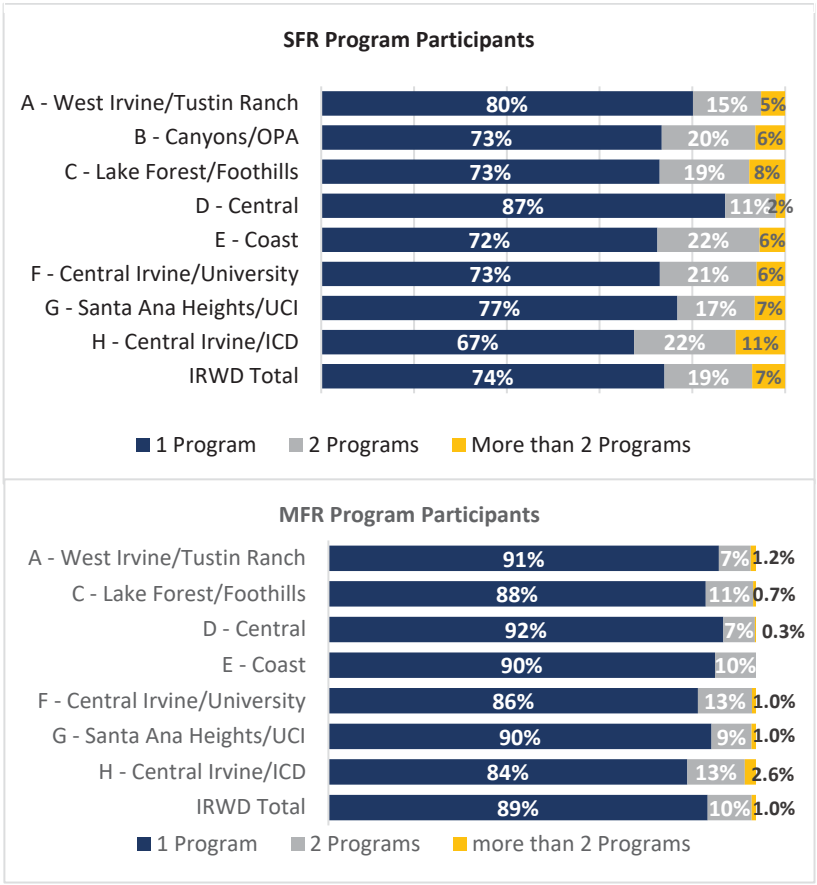
- **The WE programs appear to have effectively targeted customers with the most potential to achieve water savings** (i.e., service points [SPs] at older homes had a higher participation rate in indoor device replacement programs and SPs with larger-than-typical landscapes had a higher participation rate in irrigation efficiency device programs).
- **Program participation rates are not consistent throughout the District and reflect diverse demographic and property characteristics**, which can be generally correlated based on geographic location within the District (i.e., Village Groups). On the whole, the highest participation rates by Single-Family Residential (SFR) customers occurred in the Lake Forest/Foothills, Central Irvine/University, and Central Irvine/ICD Village Groups, and the lowest participation rates have been in the Canyons/OPA and Coast Village Groups. In addition, SFR customers in predominantly high income areas (median household income between $85,000 and $128,000) tended to participate at lower rates than those in very high income areas (median household income >$128,000/year). As such, there appear to remain potential opportunities for more targeted outreach to encourage increased WE program participation in certain areas and across certain demographics.
- **Different program models can broaden/accelerate participation.** As shown in **Figure ES-4**, although WE programs are made available to all customers, residential customers have generally tended to participate in only one program, typically replacing only one device. Of those customers that have participated in multiple programs, they have tended to do so over the course of multiple years with approximately half participating in both indoor and outdoor-focused programs. The One-Stop-Shop program was specifically targeted to a subset of SFR customers and, through a partnership with other local energy utilities, provided a suite of water and energy efficient devices to customers at no-cost. In its short lifetime, the One-Stop-Shop program was very successful at distributing a large number of devices and at reaching different subsets of customers. Specifically, participants in the One-Stop-Shop program tended to reflect a broader cross-section of SPs than was otherwise observed in the more traditional, primarily rebate-based, programs. While very

successful, programs that are "no-cost" to the customer, like the One-Stop-Shop, are very costly and resource-intensive for the District. However, if the goal is to accelerate progression towards water efficiency in a short period of time, comprehensive no-cost programs such as the One-Stop-Shop have proven more effective at increasing the change out of multiple WE devices than relying on a series of rebate-based, single-device programs.

- **CII and landscape irrigation customers remain a potential untapped opportunity**. In general, the overall participation rates and trends between Village Groups by non-residential landscape irrigation customers are similar to those of SFR customers. The highest participation in Weather-Based Irrigation Controller (WBIC) and Turf Removal Programs has been in the Lake Forest/Foothills and Central Irvine/ICD Village Groups, while the lowest level of participation relative to the total irrigated area has been in the Canyons/OPA and Santa Ana Heights/UCI Village Groups. Overall there has been relatively little participation in programs by CII customers compared to that by SFR and landscape irrigation customers. What participation there has been, has been primarily in West Irvine/Tustin Ranch Village Group for the Indoor Device Rebates and in Santa Ana Heights/UCI and Central Irvine/ICD Village Groups for the Turf Removal Rebates. As such, these areas of lower participation remain a potential opportunity for more targeted outreach to encourage increased WE program participation.

- **Opportunities have been identified for increased water savings through strategic WE program planning,** including strategic targeting based on program type, key customer demographics, and SP location within the District. Taken together, the analyses conducted as part of this Study suggest that, depending on IRWD's goals for its future WE programs, there remain large portions of the District for which there may be a substantial benefit in terms of WE program participation rates and associated water savings. Depending on IRWD's goals, these WE results can be achieved by modifying program design and/or focusing outreach in areas of the District and to

Figure ES-4
Participation by Residential Customers in Multiple WE Programs



customers that have had comparatively low levels of WE program participation to date, but for which opportunities for increased WE remain.

- **Unless a rebate increase is coupled with a substantial marketing and outreach effort, the actual rebate value does not appear to be a substantial driver for customer participation.** Given this finding, in order to increase WE program participation, increased marketing and outreach should be considered as well as the rebate value when considering WE program development and implementation.
- **The analyses included in this Study are intended to be tools that will support WE implementation into the future and as the State annual water use objectives are further developed.** This Study included multiple analyses, including hot spot/participation density, difference-in-difference water savings analysis, demographic, property characteristic and funding level trend assessments, and more that are well-documented and can provide a basis for future analysis by the District. In addition to the written Study, the tools developed as part of the Study (e.g., the database queries, GIS shapefiles, etc.) are provided to IRWD for on-going use.

Estimated Water Efficiency Program Water Savings (Section 4)

Per capita water use by IRWD's customers is declining in part due to the District's implementation of WE programs. However, passive water savings, regulatory requirements, drought conditions, economic influences, and a greater public awareness of responsible water use are likely also contributing to the observed water use reduction, all to varying degrees. In order to isolate and quantify the impact of IRWD's WE programs, the amount of water savings directly resulting from WE program participation was estimated using a Difference-in-Differences method.[1] The resultant water savings estimates on a per-participant and per-program basis are summarized in **Table ES-1**, and presented on a Village Group-by-Village Group basis in Section 4.

Table ES-1
Summary of IRWD-Specific Water Savings Factors for WE Program Implementation

Sector	Measure	IRWD-Specific Savings Factors
SFR	Turf Removal	3.0 AFY/ ac
SFR	WBIC	0.017 AFY/unit
SFR	HET	0.014 AFY/unit
SFR	PHET	0.013 AFY/unit
SFR	HECW	0.012 AFY/unit
SFR	One-Stop-Shop	0.046 AFY/SP
Landscape Irrigation, Potable	Turf Removal	0.38 – 0.77 AFY/ac based on size of landscape area
Landscape Irrigation, Potable	WBIC	0 – 0.017 AFY/ac based on size of landscape area

Of the WE programs considered in this analysis, the Turf Removal Rebate and One-Stop-Shop programs resulted in the largest per-participant water savings. However, it is noted that these are currently among

[1] The Difference-in-Difference method is a standard method used in economics and social science for quantitatively evaluating observational study data by studying the differential effect of a treatment on a "treatment group" versus a "control group," when a true controlled experiment cannot be performed.

the highest cost programs for the District to implement, which may limit their implementation and/or scalability.

The One-Stop-Shop program has been particularly effective in creating water savings because it has resulted in the change-outs of multiple device types[2] at a single account for over 60% of SFR participants and approximately 57% of multi-family residential (MFR) participants. By comparison, only about 25% of SFR customers and about 10% of MFR customers received more than one type of device/measure through participation in more than one of the WE programs that have been offered to date. This disparity in "multiple device changeout rates" points to an opportunity to either introduce a new multiple device program or to increase cross-promotion of WE programs at the time of customer engagement.

Among the programs that target large landscapes, the Turf Removal Rebate program appears to result in more savings per acre for smaller landscapes than for larger landscapes. This same size vs. savings relationship is not observed, however, for the WBIC Rebate program.

The IRWD-specific unit water saving factors differ somewhat from the general industry standard and regional savings rates that have historically been used to assess program cost-benefits (Section 4.7). Using IRWD-specific savings rates that have been developed as part of this Study and that reflect participation trends and intra-District customer variability can be used to improve local planning estimates and inform program prioritization, funding, targeting, and marketing.

Device Saturation Assessment (Section 5)

A key focus of this Study was to assess what the remaining water savings potential might be. There has been extensive participation in WE programs in the District to date, and the District was concerned that participation rates may have already achieved effective "saturation" (i.e., that the majority of high-water-using devices have already been replaced through natural replacement and/or WE program participation). Therefore, as presented below, the saturation levels of key devices and measures were estimated based on known program participation and estimates of natural device replacement.

- **Toilet Saturation** – Based on this assessment, very few pre-1994 toilets appear to remain within the District. It is estimated, however, that the majority (i.e., 70%) of the toilets installed in the 1994 to 2009 period remain; these present a potential opportunity for increased water efficiency through replacement with a premium high efficiency toilet (PHET). However, the relative amount of savings that would be realized by replacing a 1994 to 2009 era toilet (likely 1.6 gallons per flush [gpf]) with a PHET (~0.8 gpf) will be less substantial than that achieved by replacing a 3.5+ gpf pre-1994 toilet and may not be cost effective. For SFR accounts, nearly 60% of the remaining potential to effect toilet change-out rates is located in the West Irvine/Tustin Ranch and Coast Village Groups. For MFR accounts, nearly 70% of the remaining potential to effect toilet change-out rates is located in the West Irvine/Tustin Ranch, Coast, and Central Irvine/ICD Village Groups.

[2] The One-Stop-Shop program includes the replacement of faucet aerators, showerheads, toilets, weather-based irrigation controllers (WBICs) and lighting fixtures.

- **Clothes Washer Saturation** – It is estimated that between 35% and 56% of pre-2010 era clothes washers remain in the District.[3] For SFR accounts, nearly 50% of the remaining potential to effect clothes washer change-out rates is located in the Lake Forest/Foothills and Central Irvine/ICD Village Groups. For MFR accounts, nearly 70% of the remaining potential to effect clothes washer change-out rates is located in the Lake Forest/Foothills, Central Irvine/University, and Santa Ana Heights/UCI Village Groups.
- **Turf Removal** – Approximately 20% of the irrigated area (excluding agricultural and horse corral areas) within the District consist of turf areas. To date, turf removal programs have removed over 100 acres of turf, which amounts to approximately 5.6% of the irrigated turf area, where the total irrigated turf is estimated to be 1,863 acres (**Table 3-16)**.[4] Commercial and SFR uses comprise approximately 44% and 21% of irrigated turf area in the District, respectively, and represent an opportunity to reduce overall turf area and associated irrigation water use. Over 800 acres[5] of turf is associated with commercial land uses, with the majority located in the Coast, Central Irvine/University, and West Irvine/ Tustin Ranch Village Groups. Approximately 400 acres of turf is associated with the SFR sector, with over 200 acres associated with SFR customers with the largest overall turf sizes, based on a quartile analysis (**Table 6-2**). The majority of turf for the SFR customers with the largest turf areas is located in the Central Irvine/ICD and Lake Forest/Foothills Village Groups.

Based on these saturation rates, it is estimated that up to 3,800 acre-feet per year (AFY) of indoor savings were achieved through toilet and clothes washer change-outs by SFR and MFR customers from 2009 to 2018. Based on estimated device saturation alone, the opportunities for additional residential sector indoor WE appear to be limited. However, these are estimates based on a variety of assumptions and modeled values. To further confirm this finding, changes in indoor water use were evaluated in Section 6.

Between 2009 and 2018, over 100 acres of turf have been replaced by IRWD customers directly through WE programs, resulting in an estimated potable savings of 383 AFY (when the SFR multiplier effect is accounted for). Given the acreage of turf remaining in the District, outdoor WE programs that target the removal of turf present the greatest opportunity for increased WE.

Opportunities for Increased Water Efficiency (Section 6)

Overall, indoor water use has decreased throughout the IRWD service area over the last several decades and, based on the analysis conducted as part of this Study, is approaching the apparent "maximum

[3] Water use by clothes washers is measured by "water factor," or the number of gallons of water used per cycle per cubic foot of washer capacity. The lower the water factor, the more efficient a washer is. Clothes washers historically and currently available on the market have a wide range of water factors, and the market has been trending towards more efficient washers over time.

[4] It should be noted that while this is the best and most comprehensive available data for total turf area, the landscape classification dataset (from the 2016 Quantum Spatial Study) has certain key limitations that are expected to somewhat underrepresent the total turf area and a lower level of precision in attributing the landscape uses to specific customer accounts, particularly for non-SFR customers. These limitations are discussed in detail in Section 2.2.5.

[5] This estimate includes all turf assumed to be associated with commercial accounts, and includes some areas functional turf, including golf courses, that would not be a candidate for removal.

reasonable efficiency" based on current technology and practices. This finding suggests that limited cost-effective potential remains to further reduce indoor water use through implementation of WE programs.

Figure ES-5
Population Shift in Estimated Annual Indoor Water Use for SFR and MFR SPs

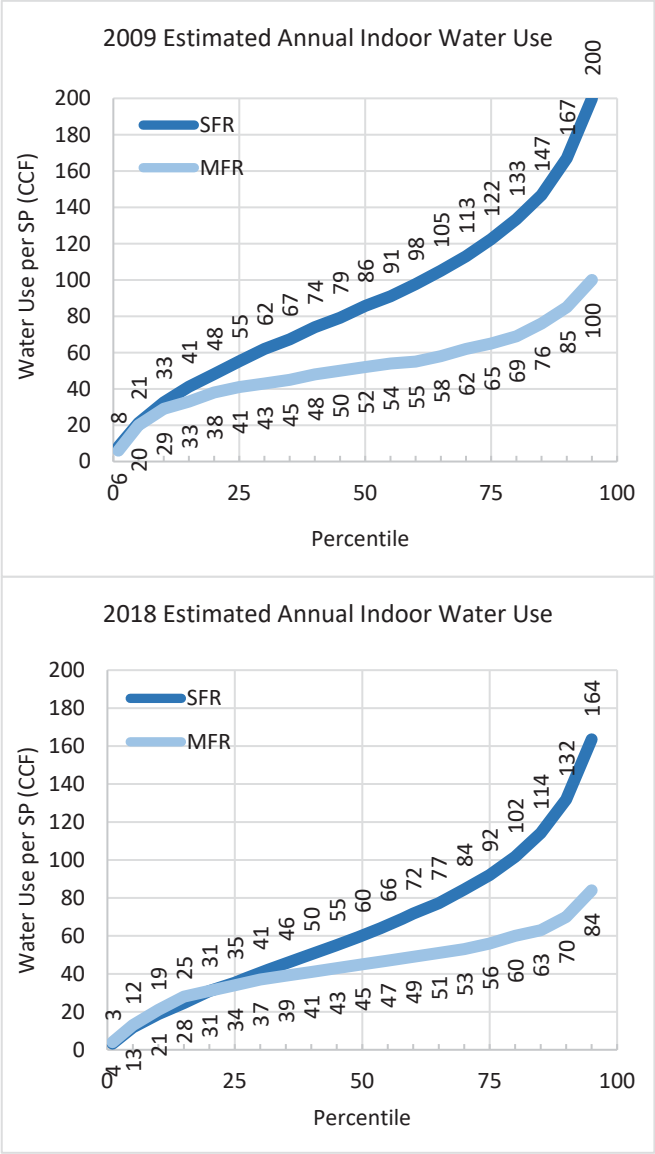


Figure ES-5 shows how estimated indoor water use by residential customers has changed over the last ten years. This shift reflects the increased efficiency due to IRWD's WE program success as well as passive savings due to natural changeout of fixtures and appliances, more proactive identification and repair of leaks, and changes in customer behavior, among other things. SFR customers tend to have a higher estimated indoor water use than MFR customers; however, estimated indoor water use within the two sectors appears to have converged for the lowest 30% of water users, and the gap appears to have narrowed for the remaining 70% of residential customers. This convergence is likely reflective of the large portions of the population that have reached a "maximum reasonable efficiency" based on current technology and practices.

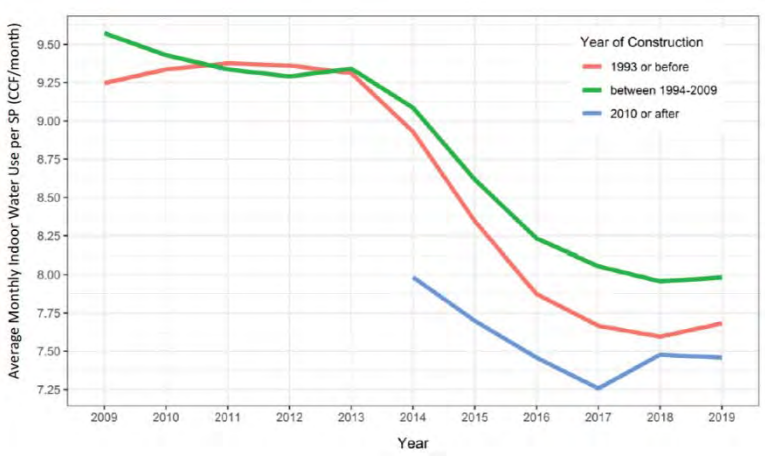
In further support of this, when indoor water use by SFR homes is compared relative to the age of the home, the newest constructed homes appear to be inherently more efficient than older homes, and that due to WE program efforts and natural replacement of fixtures, the oldest homes (pre 1994 homes) in the District have become more efficient over time (**Figure ES-6)**.

While outdoor water use has also decreased throughout the IRWD service area, potential appears to remain to reduce outdoor water use through implementation of WE programs, especially in some Village Groups where outdoor water use still accounts for 70% of total water use. As such, four potential programs were evaluated to assess potential for increased outdoor water use efficiency:

1. SFR Turf Removal Prioritized by Turf Size
2. SFR Turf Removal Targeted at Customers That Reduced Water Use During the Drought
3. Targeted Non-Residential Turf Removal Program
4. Potential Pressure Regulating Valve Program

SFR Turf Removal Rebate Programs: Based on the aerial imagery study conducted by Quantum Spatial (2016), approximately 400 acres of irrigated turf area associated with SFR accounts are present within the District. Two approaches for targeting and implementing SFR Turf Removal programs were identified:

Figure ES-6
Estimated SFR Average Monthly Indoor Water use by Year of Construction

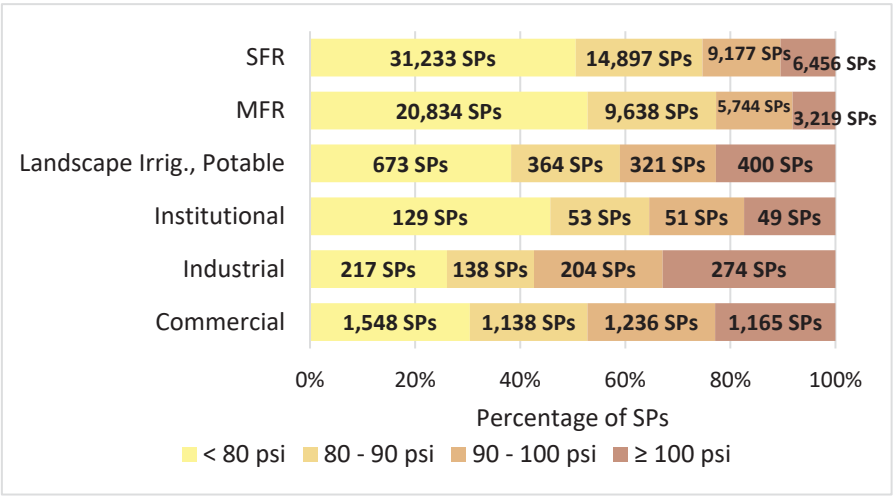


- Prioritize SFR Turf Removal Rebate program marketing by turf size. Approximately 60% of the SFR turf area (239 acres) is associated with one-quarter of SFR customers **Table 6-2**).
- Target SFR customers that decreased their outdoor water use during the drought, but have since increased their water use to pre-drought levels (i.e., likely let their lawns or other landscaping go brown during the drought). This represents approximately 23 acres of turf and 2,800 SPs.

Non-Residential Turf Removal Rebate Programs: Approximately 118 acres of irrigated turf associated with non-SFR uses (i.e., commercial, industrial, and potable landscape irrigation accounts) are present in areas of the District that are not currently served by recycled water.[6] Given that these areas are not served by recycled water, turf removal is the best option for reducing potable water use in these areas.

Pressure Reducing Valves: Pressure within the District's potable water distribution system ranges from 30 to 180 pounds per square inch (psi)[7], which exceeds the optimal design operating pressure of most water using devices (i.e., 40 to 60 psi) and can increase leakage rates (see **Figure ES-7**). Further, based on an analysis of water use by potable landscape irrigation accounts within

Figure ES-7
Number and Percentage of SPs by Average System Pressure



[6] As discussed in Section 2.2.5, due to data limitations, this is a rough estimate and may be an underestimation of actual turf area.
[7]Data provided by IRWD, *Potable Water System Average Water Pressure*, 10-psi contour shapefile, on 9 August 2019.

IRWD, an increase in water pressure of 10 psi is correlated with approximately 0.8 to 1.9 gallons of additional water use per square foot of landscape during the summer months due to increased irrigation inefficiency. The California Plumbing Code (§608.2) requires that property owners install pressure regulating valves or pressure reducing/regulating valves (PRVs) at service connections where the system water pressure exceeds 80 psi. However, not all SPs may have PRVs installed and not all PRVs may be regulating the pressure to the degree intended. Further, while the Plumbing Code requires an 80 psi PRV to be installed, use of PRVs in the 60 psi to 70 psi range may result in additional water savings, while still maintaining pressures within an ideal range for customers. To assess whether a new WE program designed to increase pressure regulation would have value, the District could consider implementing a pilot program to install 60 psi PRVs at SPs in targeted areas of the District and evaluate the resultant water savings.

Estimated Potential Savings by New / Refined Water Efficiency Programs (Section 7)

Based on the above analysis, the potential water and energy savings and the associated benefit-cost ratios for IRWD (i.e., expected savings in terms of reduced water and energy costs relative to the cost to implement the WE program) were calculated for four potential new or refined WE programs and associated implementation scenarios, as summarized below. Each WE program was evaluated at three implementation levels, generally consisting of (1) "business-as-usual", (2) "increased", and (3) "aggressive and targeted." These scenarios bracket a range of potential savings, which are dependent on how the programs are implemented. This analysis also shows that there are generally diminishing returns (i.e., a lower benefit/cost ratio) with increased intensity of implementation. Thus, the more aggressive scenarios are not recommended under normal conditions. However, the aggressive scenarios can be used to support planning for future extreme drought or other conditions. **Table ES-2** summarizes the relative benefit/cost ratios for each program and implementation scenario.

Table ES-2
Summary of Benefit/Cost Ratios for WE Program Implementation Scenarios

Program Approach	Benefit/Cost Ratio for Implementation Scenario		
	Business-As-Usual	Increased	Aggressive
SFR Turf - Targeting Largest Landscape Areas	**2.3**	**2.3**	**1.7**
SFR Turf -Targeting Drought-Reducing Customers	**2.3**	**2.0**	**2.0**
Non-Residential Turf Removal Rebate Targeting[8]	0.2	0.2	0.2
PRV Program Pilot Study for SFR SPs	0.6		
PRV Program Pilot Study for Potable Landscape Irrigation Accounts	**4.4**		

- **SFR Turf Removal Rebate Program Prioritized by Size**. The potential water savings for the SFR Turf Removal program, depending on implementation approach (i.e., from "business-as-usual" to "aggressive") ranges from 23 AFY to 79 AFY, for one year of implementation. The associated cost savings to IRWD, inclusive of water and embedded energy costs, is estimated to range from

[8] Based on this assessment, the Non-Residential Turf Removal Rebate program targeting areas of the District not served by recycled water was not found to be cost-effective.

approximately $33,000/year to $112,000/year. The associated benefit-cost ratio for IRWD for all scenarios over an assumed lifetime of 10 years ranges from 1.7 to 2.3.

- **SFR Turf Removal Rebate Targeted at Customers that Reduced Water Use During Drought**. By targeting SFR accounts that reduced their water use during the 2013-2017 drought but have since increased their water use to post-drought levels (and thus likely let their lawn or other landscaping go brown during the drought), the potential savings could range from 3.2 AFY to 14 AFY for one year of implementation, depending on the implementation approach. The associated cost savings to IRWD is estimated to range from approximately $4,700/year to $20,000/year. The associated benefit-cost ratio for IRWD for all scenarios over an assumed lifetime of 10 years ranges from 2.0 to 2.3.
- **Non-Residential Turf Removal Rebate Program**. By targeting commercial, industrial, and potable landscape irrigation accounts in the areas of the District that do not have access to recycled water, the identified potential savings ranges from 0.7 AFY to 15 AFY for one year of implementation, depending on the implementation approach. The associated cost savings to IRWD is estimated to range from approximately $1,000/year to $21,000/year. The associated benefit-cost ratio for IRWD for all scenarios over an assumed lifetime of 10 years is about 0.2, and thus not considered to be cost-effective by this assessment. Of the programs analyzed, the cost-effectiveness of this program is the least sensitive to varying levels of program participation and implementation.
- **PRV Pilot Programs**. Opportunities for a new WE program based on the installation of PRVs in high pressure zones within the IRWD service area are identified. Recommendations are made for implementation of a pilot program to help the District better quantify the specific opportunities and water savings potential for this potential new program. Based on a preliminary estimate, a benefit-cost ratio range of 0.6 was estimated for a pilot program targeting SFR accounts and a ratio of 4.5 was estimated for a pilot program targeting potable irrigation landscape accounts. Based on this assessment, only the program targeting potable irrigation landscape accounts is found to be cost-effective. However, it should be noted that the available water savings data on this program are more limited than the others evaluated, and thus further evaluation or a smaller scale SFR pilot study could be appropriate.

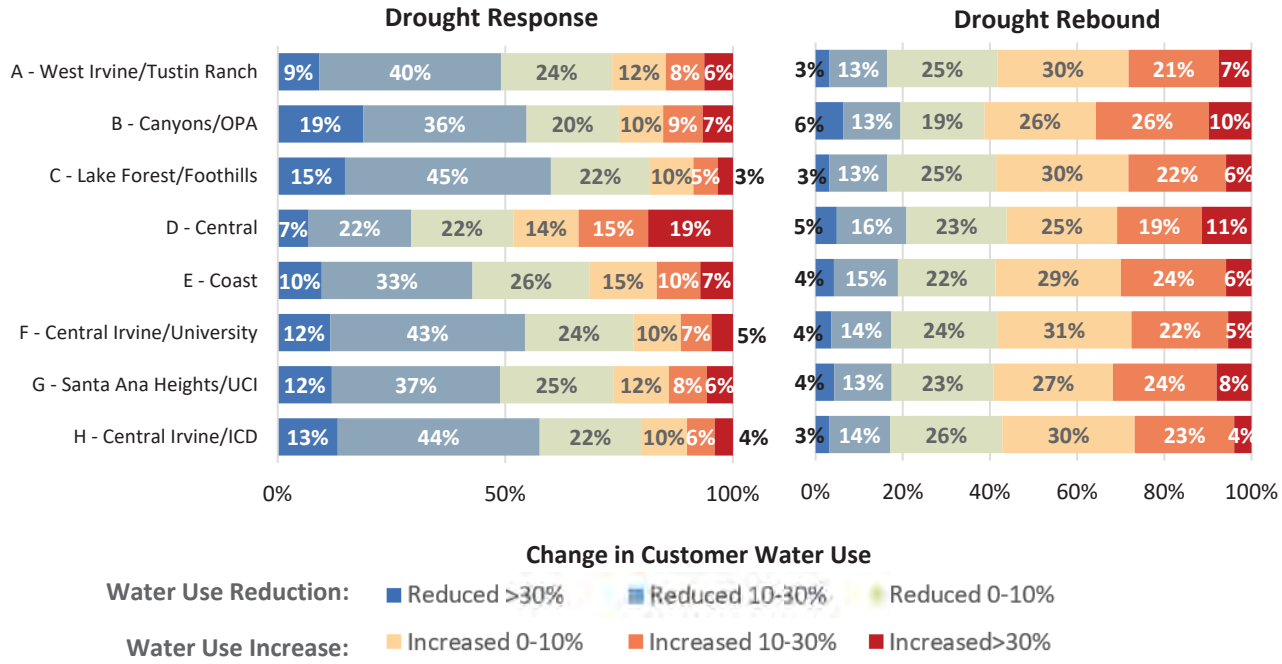
Drought Savings Opportunities (Section 8)

IRWD customers reduced their water use during the historic statewide 2013-2017 drought, and water use has not fully rebounded to pre-drought conditions. Water savings during the drought would have resulted from a combination of behavioral changes (such as irrigating less) and more permanent fixture/device changes (such as replacing old fixtures and removing turf). Customers whose water use has not rebounded are assumed to be "demand-hardened." The water use rebound by customers is identified and quantified as those savings that were likely the result of behavioral changes and represent the remaining potential for short-term savings opportunities in a future drought. Depending on the water savings needed in future droughts or water shortages, IRWD will likely need to increase outreach and other efforts to achieve the same results as during the 2013-2017 drought period, and even then, due to demand hardening, the same level of savings may not be feasible.

Figure ES-8 illustrates the changes in water use by SFR customers in response to the drought and in rebound from the drought, where water use in 2013 is considered pre-drought water use, water use in

2016 is the drought response, and 2018 is the drought rebound.[9] This analysis was performed for all sectors, but SFR is provided as an example. Accounting for the demand hardening based on the limited rebound to date, if drought outreach and messaging were conducted at levels similar to that done in the 2013-2017 drought timeframe, it is estimated that approximately 15% water savings could be achieved in the SFR sector, 11% in the MFR sector, and 19% in the potable landscape irrigation sector. This represents approximately 5,000 AFY of potential potable water drought conservation savings.

Figure ES-8
Summary of Drought Response and Rebound by SFR SPs



Conclusions

The WE programs implemented to date by IRWD have been successful, with over 150,000 devices and over 100 acres of turf replaced by District customers through participation in the wide variety of WE programs offered over the last ten years. Participation in these WE programs coupled with natural replacement with newer more efficient devices has resulted in measurable water savings and a substantial reduction in water use per account.

Based on the analyses performed for this Study, the largest remaining opportunities for water savings are in outdoor water use across all customer sectors, particularly through continued turf removal, and potentially through the implementation of a PRV program. Marketing and outreach has proven to drive customer participation in WE programs to date, as particularly evidenced by the increased participation rates observed in response to marketing efforts during the 2013-2017 drought. In fact, these outreach

[9] The change in water use patterns calculation was normalized by ET zone but not explicitly normalized by annual ET. As shown in **Table 6-1**, the evapotranspiration rate has been consistent each year, and between 2013, 2016, and 2018 has varied at most by 0.1 inch within each of the three ET zones. The method applied controls for the variation between ET zones, which over the period evaluated varied by more than 10 inches.

and marketing efforts appear to have a much more significant effect on program participation than the dollar amounts of rebates (Section 3.7). Therefore, the WE program opportunities and scenarios evaluated in this Study focused on the outdoor water savings potential and strategic ways to target the marketing of these programs. As new technologies and devices are developed and available on the market, more water savings opportunities may arise.

In addition to the specific conclusions and recommendations detailed herein, the analyses and associated raw files developed as part of this Study provide an extensive set of data and analytical tools that will serve as a foundation to strategically inform and guide the District's WE program planning efforts as the new State WE requirements and other WE drivers evolve.

How this Study Supports IRWD's Future WE Efforts

In support of IRWD's future WE planning efforts, this detailed and comprehensive Study:

- Documents the estimated water savings achieved through IRWD's implementation of WE programs over the last 10 years;
- Provides a detailed evaluation of WE program participation drivers and trends based on past participation, and in terms of intra-District geography and key demographic and property characteristics;
- Provides IRWD-specific water savings factors for WE key programs that reflect participation trends and intra-District customer variability and can be used to improve local planning estimates and inform WE program prioritization, funding, targeting and marketing;
- Provides a framework for periodic future analyses to monitor changes in WE program performance (e.g., by evaluating participation density/hot spot analyses change over time);
- Documents analyses that will serve to support future targeted marketing outreach efforts, grant applications, and documentation of WE program implementation to the State;
- Provides an assessment of device saturation based on historical WE program implementation, natural replacement rates, and the observed changes in customer water use;
- Concludes that residential indoor WE devices are highly saturated and little opportunity for increased water savings remains, based on both a device saturation assessment and an analysis of change in estimated indoor water use;
- Concludes that the greatest potential WE remains in outdoor water use and identifies four new and refined WE programs and a cost-benefit analysis of the associated implementation scenarios targeting these opportunities: (1) SFR Turf Removal Rebate Program Prioritized by Size, (2) SFR Turf Removal Rebate Targeted at Customers that Reduced Water Use During Drought,[10] (3) Non-Residential Turf Removal Rebate Program, and (4) PRV Pilot Programs; and
- Evaluates the demand hardening that has occurred since the statewide 2013-2017 drought and estimates that the maximum conservation savings that could be achieved in a future similar drought or water shortage scenario is approximately 5,000 AFY of potable water.

[10] Based on this assessment, the Non-Residential Turf Removal Rebate program targeting areas of the District not served by recycled water was not found to be cost-effective.

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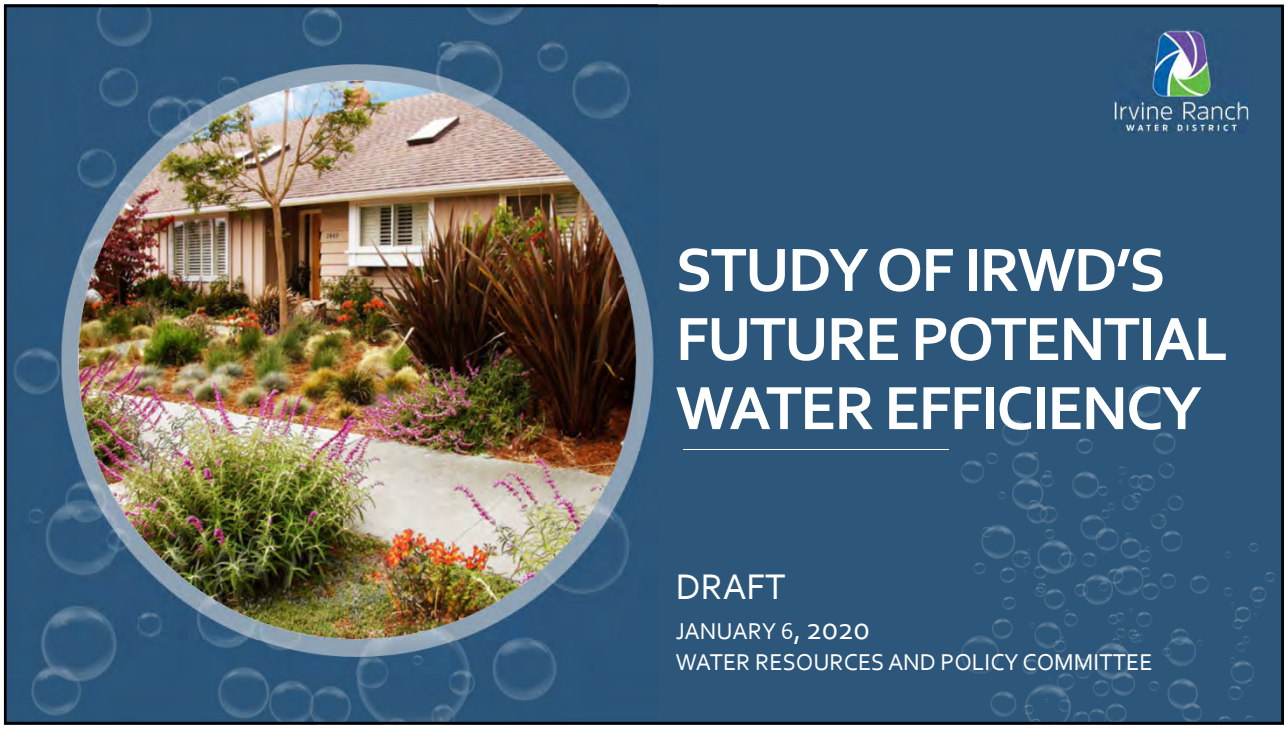
Water Efficiency Potential Study
Irvine Ranch Water District

ABBREVIATIONS AND ACRONYMS

ac	acre
ACS	American Community Survey
AFY	acre-feet per year
AFY/ac	acre-feet per year per acre
AWE	Alliance for Water Efficiency
CA	California
CCF	one-hundred cubic feet
CEC	California Energy Commission
CII	commercial, industrial, and institutional
DU	dwelling unit
DWR	Department of Water Resources
EPA	Environmental Protection Agency
ET	evapotranspiration
FMR	Metro Fair Market Rents
FY	fiscal year
gpd	gallons per day
gpf	gallons per flush
gpm	gallons per minute
gpy	gallons per year
HECW	high efficiency clothes washer
HET	high efficiency toilet
HUD	Housing and Urban Development
ID	identifier
IRWD	Irvine Ranch Water District
KWhr	kilowatt hour
MFR	multi-family residential
MWD	Metropolitan Water District
MWDOC	Municipal Water District of Orange County
OPA	Orange Park Acres
PHET	premium high efficiency toilet
PRV	pressure regulating (reducing) valves
psi	pounds per square inch
SFR	single-family residential
SP	service point
sq ft	square feet
TSV	thermostatic shut-off valve
UCI	University of California Irvine
UWMP	Urban Water Management Plan

WBIC	weather-based irrigation controller
WE	water efficiency
WF	water factor

EXHIBIT "C"



PRESENTATION AGENDA

- Purpose of the Study
- Programs Evaluated
- Water Savings Methodology
- Key Findings
- Future Potential Programs
- Conservation during a Shortage
- Next Steps

Irvine Ranch WATER DISTRICT

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PURPOSE OF THE STUDY

To determine the scope of and targets for IRWD's future water efficiency efforts.

- Which customers participate in IRWD's programs?
- Is IRWD's service area saturated with efficient indoor plumbing fixtures?
- Do we get the same volume of savings from all customers?
- What are IRWD's future water use efficiency programs and targeting strategies?
- How much water conservation can customer achieve in a water shortage?

Irvine Ranch WATER DISTRICT

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STUDY PERIOD AND DATA SOURCES

- Study Period
  - Past program participation (2006-2018)
  - Future potential water conservation programs
- Data Sources
  - Monthly water use and program participation (2006-2018)
  - Orange County Assessor parcel data
  - Evapotranspiration (ET) zones
  - Embedded energy zones
  - Landscape classifications
  - "Village" boundaries

Irvine Ranch WATER DISTRICT

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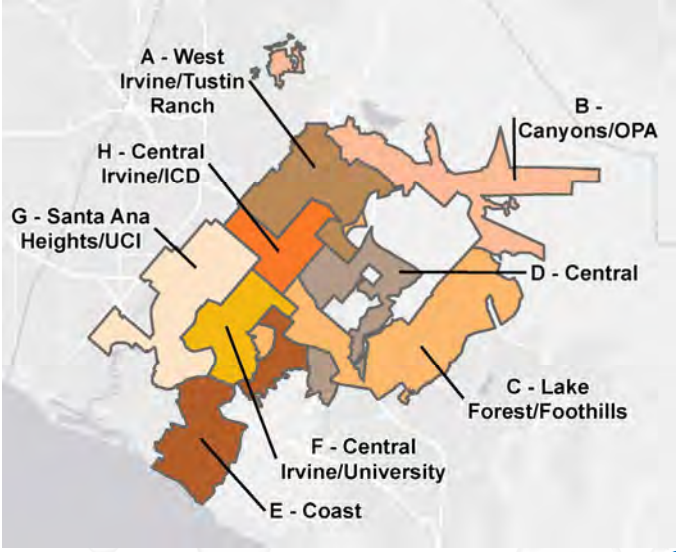
VILLAGE GROUPINGS

- 76 villages grouped into eight (8) similar village groups
- Based on geographic location and building construction date



Irvine Ranch WATER DISTRICT

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VILLAGE GROUPINGS

Group	Group Name	Neighborhoods
A	West Irvine/Tustin Ranch	Eastwood, Northpark, Orchard Hills, Stone Gate, Stone Gate East, Tustin Ranch, Tustin Ranch North, West Irvine
B	Canyons/OPA	Modjeska Canyon, Orange Park Acres, Santiago, Silverado Canyon, Williams Canyon
C	Lake Forest/Foothills	Baker Ranch, Foothill Ranch, IIC East, Lake Forest, Portola Hills, Trabuco Canyon
D	Central	Cypress Village, Heritage Fields, Hidden Canyon, Laguna Altura, Lambert Ranch, Los Olivos, Portola Springs, Portola Springs North, Woodbury, Woodbury East
E	Coast	Crystal Cove, Newport Coast, Oak Creek, Quail Hill, Shady Canyon, Turtle Ridge
F	Central Irvine/University	Culverdale, Deane Homes, Orangetree, Parkwest Apts., Parkwood Apts., Rancho San Joaquin, The Terrace, Turtle Rock, University Park, University Town, Woodbridge
G	Santa Ana Heights/UCI	IIC West, Newport Beach, Riviera, Santa Ana Heights, Tustin Legacy, Westpark, Windwood
H	Central Irvine/ICD	Cal Homes, College Park, Deerfield, Greentree, Heritage Park, Irvine Grove, Laurelwood, Northwood, peppertree, Racquet Club, The Colony, The Ranch, Tustin Industry, Willows

Irvine Ranch WATER DISTRICT

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PAST PROGRAM EVALUATION

	Program Name & Start Date	Customer Sector
1	Turf Removal Rebates (2010)	Single Family Residential
2	Weather Based Irrigation Controller Rebates (2005)	Single Family Residential
3	Weather Based Irrigation Controller – One Stop Shop (2017)	Single Family Residential
4	High Efficiency Toilet Rebates (2013)	Single Family Residential
5	High Efficiency Toilets – One Stop Shop (2017)	Single Family Residential
6	High Efficiency Clothes Washer Rebates (2005)	Single Family Residential
7	Turf Removal Rebates (2010)	Potable Large Landscape Non-Potable Large Landscape
8	Weather Based Irrigation Controller Rebates (2009)	Potable Large Landscape Non-Potable Large Landscape
9	Turf Removal Rebates (2010)	Commercial, Industrial, Institutional (CII)
10	Indoor Rebates (2011)	Commercial, Industrial, Institutional (CII)

Irvine Ranch WATER DISTRICT

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PROGRAM ANALYSIS

Ascertain trends in program participation such as:

- Participation rates over time and by village group (i.e., hot and cold spots)
- Building stock and landscape characteristics
- Demographic factors
- Participation in multiple programs
- Land use and business type characteristics (Commercial and Landscape)
- Funding levels

Irvine Ranch WATER DISTRICT

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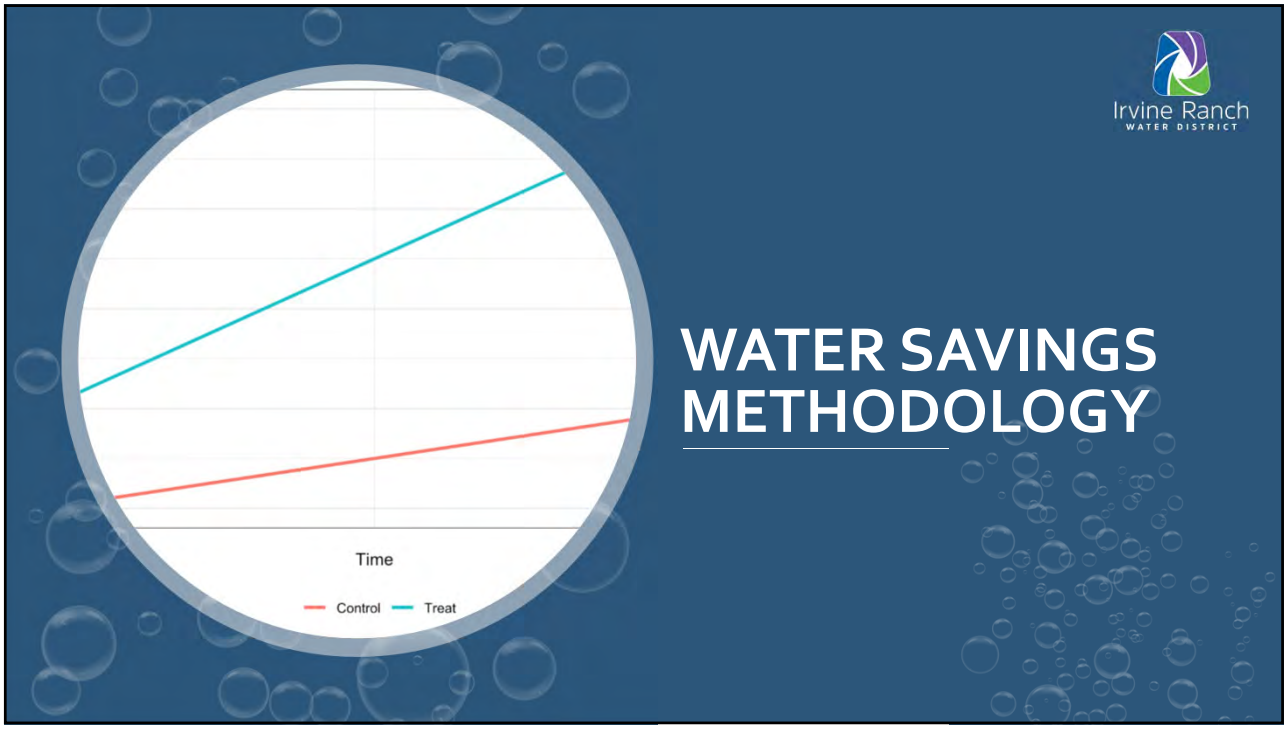
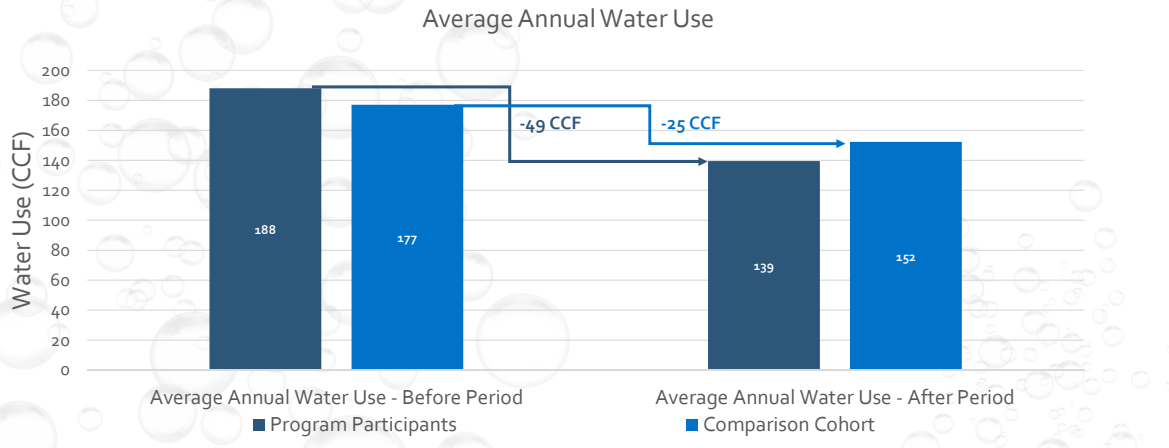


DIFFERENCE-IN-DIFFERENCES ESTIMATION
TURF REMOVAL PROGRAM - SINGLE FAMILY RESIDENTIAL



Irvine Ranch WATER DISTRICT

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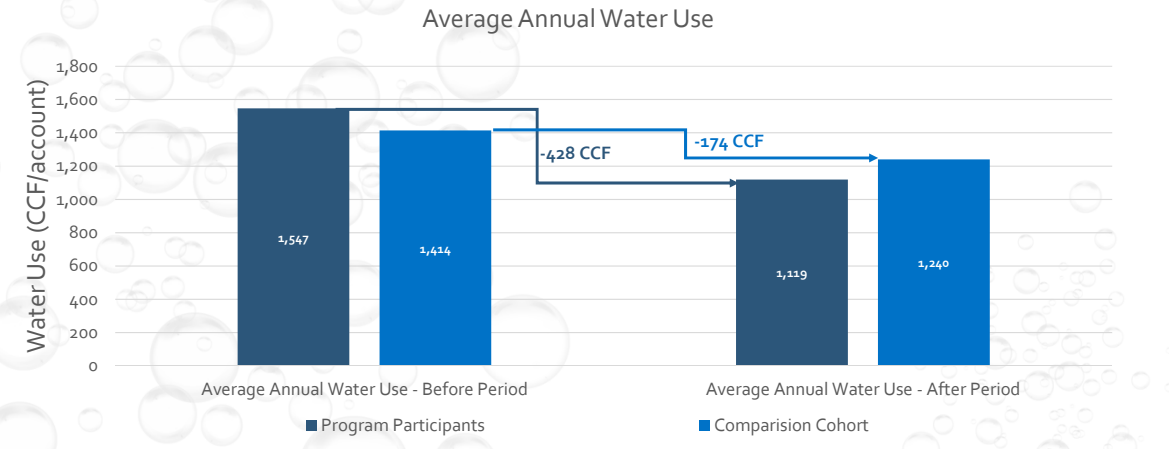
DIFFERENCE-IN-DIFFERENCES ESTIMATION
TURF REMOVAL PROGRAM - POTABLE LANDSCAPE ACCOUNTS



Irvine Ranch WATER DISTRICT

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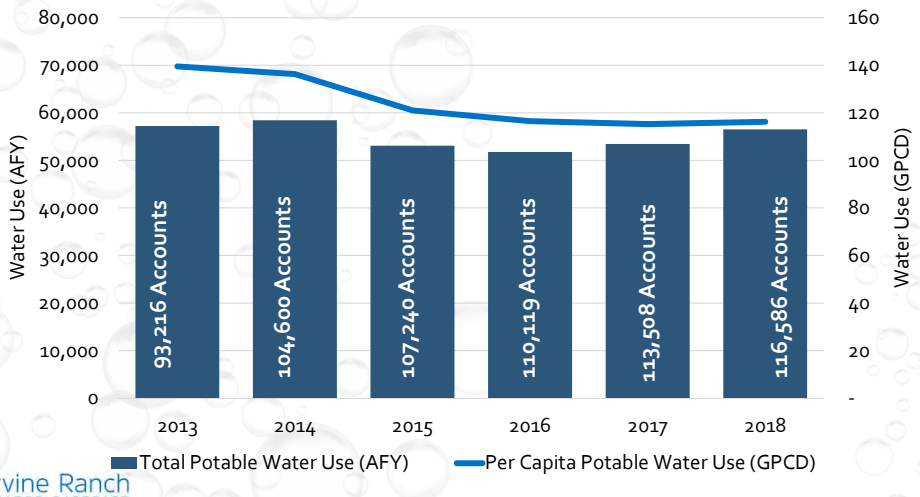
WATER USE (DROUGHT/POST DROUGHT)



Irvine Ranch WATER DISTRICT

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WATER USE REDUCTIONS (2009-2018)

- 30% — Single Family Residential **Indoor** Water Use
- 14% — Multi-Family Residential **Indoor** Water Use
- 23% — Single Family Residential **Outdoor** Water Use
- 17% — Multi-Family Residential **Outdoor*** Water Use

Overall, water use has declined approximately 27% on a per capita basis since 2013.

Irvine Ranch WATER DISTRICT

*Individually metered condominiums

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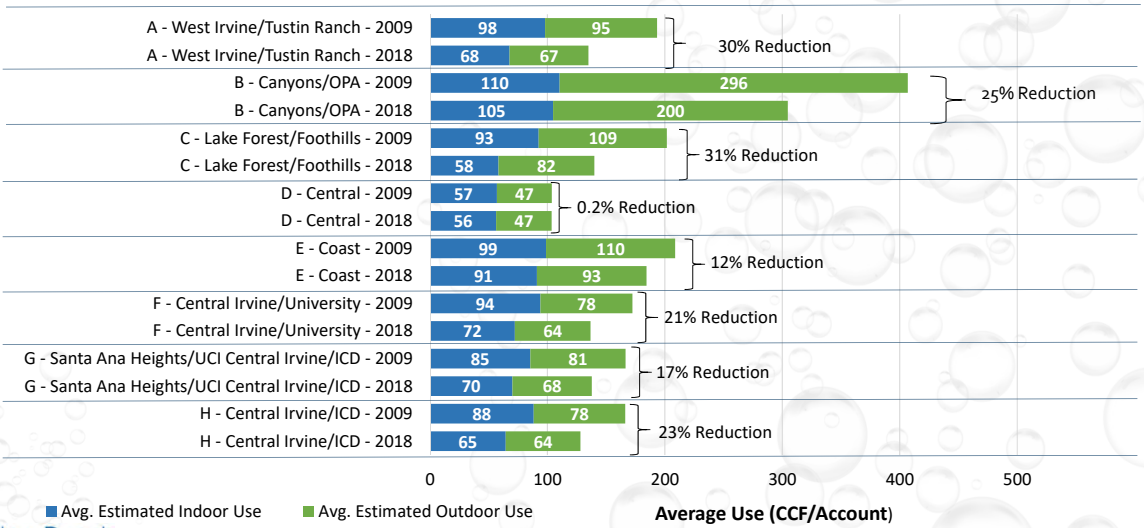
CHANGE IN TOTAL SINGLE FAMILY WATER USE BY VILLAGE GROUP (2009-2018)



Irvine Ranch WATER DISTRICT

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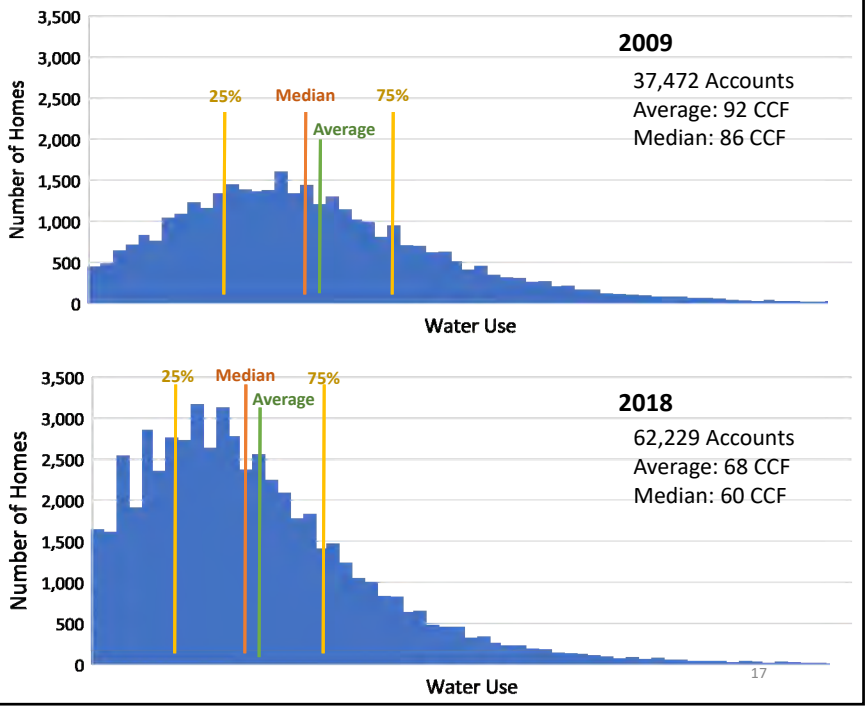
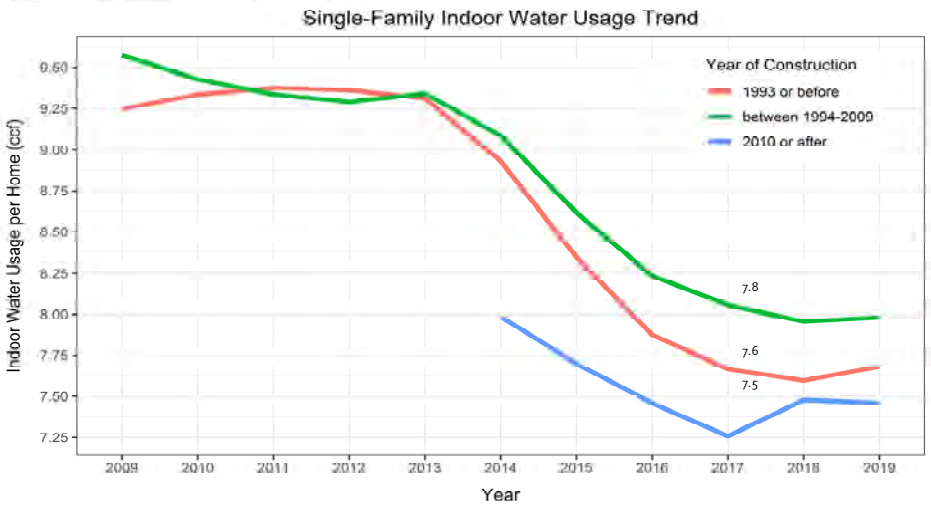
ESTIMATED ANNUAL INDOOR WATER USE PER SINGLE-FAMILY HOME



INDOOR WATER EFFICIENCY BY YEAR OF CONSTRUCTION



Irvine Ranch WATER DISTRICT

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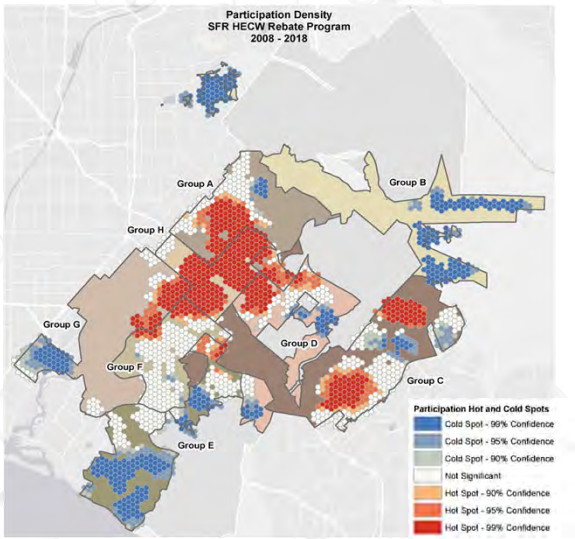
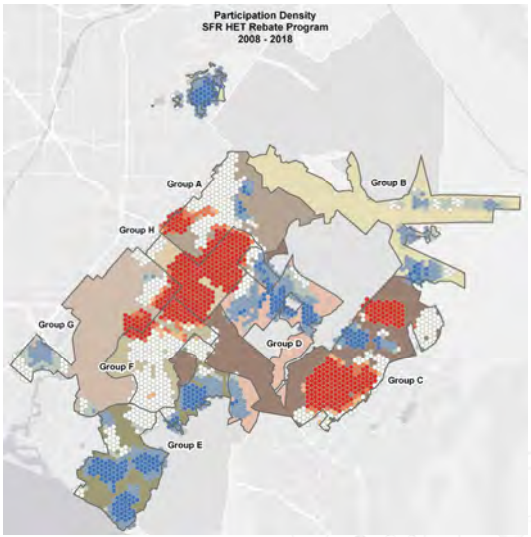
INDOOR PROGRAM PARTICIPATION RATES (2008-2019)

High Efficiency Clothes Washer



High Efficiency Toilets



Irvine Ranch WATER DISTRICT

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RESIDENTIAL INDOOR WATER USE

"Maximum reasonable indoor water use efficiency" achieved.

- Effective targeting of older and less efficient homes
- Water savings from toilet and clothes washer change outs*
  - Single Family Residential - Approximately 257 AFY
  - Multi-family Residential - Approximately 193 AFY

* From 2009-2018 and does not account for natural replacement.

Irvine Ranch WATER DISTRICT

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OUTDOOR WATER SAVINGS

- Turf Removal
  - Approximately 100 acres of irrigated turf removed to date (5.6%).
  - Average turf area replaced by single family homes is approximately 800 square feet.
  - Approximate potable water savings 127 acre-feet per year (AFY).
    - 383 AFY w/multiplier effect of 2.6
- Weather-Based Irrigation Controllers
  - Approximate water savings 64 AFY
  - Coast Village Group highest participation

Irvine Ranch WATER DISTRICT

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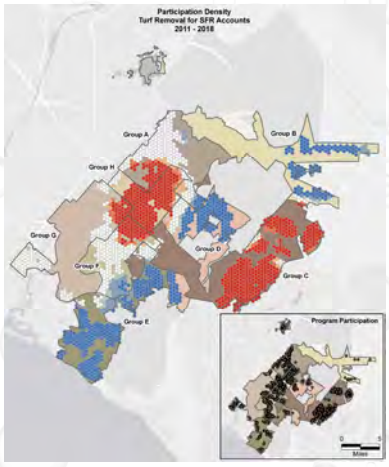
TURF REMOVAL PROGRAM PARTICIPATION (2011-2018)

Single-Family | **Dedicated Landscape** | **Commercial**



Irvine Ranch WATER DISTRICT

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KEY FINDINGS

Demographic	Program Participation
Older homes	High Efficiency Toilet; Turf Removal; Weather-based Irrigation Controller
Newer homes	Weather-based Irrigation Controller; High Efficiency Clothes Washer
Renters	High Efficiency Clothes Washer; One Stop Shop
Low Income	Lowest participation rates
Very High Income	More likely to participate than "high" income

Irvine Ranch WATER DISTRICT

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KEY FINDINGS, CONTINUED

Program Water Savings

- Ten programs evaluated for the study resulted in over 2,300 AF of water savings per year.
- IRWD cost of approximately $250/AF
- Weather-Based Irrigation Controllers save more water in larger landscapes than smaller landscapes.
- Turf removal saves more water per acre in smaller landscapes.
- Turf removal and One Stop Shop resulted in the largest savings for individual participation but are among the highest cost programs to implement.

Irvine Ranch WATER DISTRICT

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KEY FINDINGS, CONTINUED

Program Effectiveness

- Multiple device programs are more effective than single-device programs
- Past programs have successfully targeted customers with the most potential for savings

Irvine Ranch WATER DISTRICT

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KEY FINDINGS, CONTINUED

Village Groups

- Central Village Group - lowest overall single family water use.
- Canyons/OPA Village Group - highest overall single family water use.
- Lake Forest/Foothills Village Group - greatest reduction in water use (2009-2018) for single family (31%).
- Central Irvine/ICD Village Group - greatest reduction in water use (2009-2018) for multi-family (34%).

Irvine Ranch WATER DISTRICT

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KEY INSIGHTS

- Maximum reasonable water use efficiency for residential indoor water use achieved
- Marketing and promotion has a greater effect on program participation than rebate amount
- Programs that offer multiple devices are more effective than single-device programs
- Areas with lower participation remain a potential opportunity for more targeted outreach
- Customer education is crucial for outdoor water use efficiency

Irvine Ranch WATER DISTRICT

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FUTURE POTENTIAL PROGRAMS

POTENTIAL PROGRAMS

Turf Removal
Single Family Residential

- Prioritize by turf size
- Potential to remove nearly 400 acres of turf

Turf Removal
"Former Brown Lawns"

- Customers less dedicated to their landscape
- Potential to remove 23 acres of turf

Turf Removal
Non-Residential

- Commercial, Industrial and Large Landscape
- Potential to remove 118 acres of turf

Pressure Regulating Valve
Potable Landscape

- Develop pilot program
- 60% of accounts exceed 80 psi
- Increase of 10 psi = 0.8 to 1.9 gallons per square feet

Irvine Ranch WATER DISTRICT

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WATER CONSERVATION AND WATER EFFICIENCY

CONSERVATION

- Reduction in water using behavior
- Often temporary
- Examples: taking shorter shower, letting lawn go brown during a water shortage

WATER EFFICIENCY

- Using the least water to accomplish tasks
- Long-term demand reduction
- Examples: replacing old plumbing fixtures, replacing lawn with drought tolerant landscaping

Irvine Ranch WATER DISTRICT

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FUTURE DROUGHT CONSERVATION POTENTIAL

- Water use during and after 2013-2017 drought
  - 76% of single family customers decreased water use during the drought
  - Only a portion (58%) increased water use following the drought
- Approximately 5,000 acre-feet potential water savings remain:
  - 15% savings in Single Family Residential
  - 11% savings in Multi Family Residential
  - 19% savings in Potable Landscape Irrigation

Irvine Ranch WATER DISTRICT

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NEXT STEPS

Develop marketing strategy

- Turf removal programs

Develop educational campaigns

- Weather-based irrigation controllers, native plants and irrigation system maintenance

Develop a Pressure Reducing Valve pilot program

- Potable landscape customers in high pressure zones

Update Water Shortage Contingency Plan

Irvine Ranch WATER DISTRICT

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January 9, 2020
Prepared and
submitted by: C. Compton
Approved by: Paul A. Cook

WATER RESOURCES POLICY AND COMMUNICATIONS COMMITTEE

2020 LEGISLATIVE AND REGULATORY UPDATE

SUMMARY:

This report provides an update on the 2020 state and federal legislative sessions and IRWD priorities. As legislation and regulations develop, staff will provide updates and recommendations to the Water Resources Policy and Communications Committee and to the Board, as appropriate. Staff recommends that the Board receive and file the report.

BACKGROUND:

2020 State Legislative and Regulatory Update:

The 2019-2020 State Legislature reconvened on January 6, 2020, for the second year of the two-year session. As with the second year of any session, pending legislative business remaining from 2020 will be taken up quickly in order to meet legislative deadlines. The bills remaining at the close of the 2019 legislative year will need to meet the January 17 policy committee deadline if they are still in their house of origin. Other upcoming legislative deadlines include:

- Last day for the Governor to submit a budget proposal to the Legislature – January 10
- Last day for bills introduced in 2019 to be passed out of their house of origin – January 31
- Last day for bills to be introduced – February 21

At the end of the State 2019 legislative year, a number of bills became two-year bills and a number of large policy areas were left for 2020. IRWD's 2020 Legislative Matrix is attached as Exhibit "A." Additionally, a number of regulatory actions, studies, and reports of interest to IRWD continue to be developed by the State Water Resources Control Board, the Department of Water Resources (DWR), and other state agencies. At the meeting, staff will provide more detailed information regarding these items and will also discuss the following items:

- *Governor's Water Resilience Portfolio* – On January 3 the Administration released its draft of the Governor's Water Resilience Portfolio. (IRWD's adopted policy position regarding the Water Resilience Portfolio is attached as Exhibit "B".) The Portfolio outlines the Administration's water priorities and will undoubtedly generate interest in the Legislature;
- *2020 Resilience Bond Proposals* – There are currently three resilience bonds before the Legislature. Those proposals are AB 352 (E. Garcia, D-Coachella), AB 1298 (Mullin, D-San Mateo), and SB 45 (Allen, D-Redondo Beach). It appears that there is political will to pass and place a resilience bond on the November 2020 ballot. Policy discussions in early 2020 will focus on the programs and level of funding contained in the bond. All three proposals currently contain some water funding. Staff is engaged with IRWD's

associations and other industry stakeholders interested in influencing the programmatic water funding and levels of water funding included in a resilience bond; and

- *Fees on Residential Housing Development, including connections fees* – AB 1484 (Grayson, D-Vallejo) proposes a number of changes to the laws governing fees charged to new housing developments, including connection fees. Staff continues to engage with IRWD's associations and industry partners to seek the removal of connections fees from the scope of AB 1484.

Staff will also be available to discuss other bills and policy areas of interest to IRWD including:

- DWR's and the State Board's efforts to implement the "Making Water Conservation a California Way of Life" legislation;
- State Board data and information requests included through the Electronic Annual Report and the State Board's Proposed Reporting Regulation; and
- State Board's Water Loss Performance Standards Regulations.

2020 Federal Legislative and Regulatory Update:

As compared to year's past, in 2020 the District's federal advocacy efforts will focus largely on seeking federal funding for the Kern Fan Groundwater Storage Project and advocating for increased funding authorization for the federal Water Storage Program. Staff will discuss the approach and strategy staff will be taking to best position the Kern Fan Groundwater Storage Project for federal funding this year.

FISCAL IMPACTS:

Not applicable.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

RECOMMENDATION:

Receive and file.

LIST OF EXHIBITS:

Exhibit "A" – IRWD Legislative Matrix
Exhibit "B" – IRWD Policy Paper on the California Water Resilience Portfolio

EXHIBIT "A"
IRWD 2020 LEGISLATIVE MATRIX
Updated 01/03/2020

Bill No. Author	Title	IRWD Position	Summary/Effects	Status
AB 11 Chiu (D)	Community Redevelopment Law		Requires the Director of Finance to adjust the percentage of General Fund revenues appropriated for school districts and community college districts for computing the minimum amount of revenues that the state is required to appropriate for the support thereto in a manner that ensures that the division of taxes authorized by the Community Redevelopment Law ave no net fiscal impact upon the total amount of the General Fund revenue and local property tax revenue allocated to such.	04/24/2019 - From ASSEMBLY Committee on LOCAL GOVERNMENT: Do pass to Committee on APPROPRIATIONS.
AB 64 Fong (R)	State Project Audits		Requires the California State Auditor to examine and audit a state contract involving the expenditure of public funds in excess of $500,000,000 entered into by a state agency, board, commission, or department within one year of the date of final payment under the contract.	04/04/2019 - To ASSEMBLY Committee on ACCOUNTABILITY AND ADMINISTRATIVE REVIEW.;04/04/2019 - From ASSEMBLY Committee on ACCOUNTABILITY AND ADMINISTRATIVE REVIEW with author's amendments.;04/04/2019 - In ASSEMBLY. Read second time and amended. Re-referred to Committee on ACCOUNTABILITY AND ADMINISTRATIVE REVIEW.
AB 69 Ting (D)	Land Use: Accessory Dwelling Units	WATCH	Requires the department to propose small home building standards governing accessory dwelling units smaller than 800 square feet, junior accessory dwelling units, and detached dwelling units smaller than 800 square feet, as specified, and to submit the small home building standards to the California Building Standards Commission for adoption on or before a specified date.	09/05/2019 - In SENATE. To Special Consent Calendar.;09/05/2019 - In SENATE. From Special Consent Calendar. To third reading.;09/05/2019 - In SENATE. From third reading. To Inactive File.
AB 71 Melendez (R)	Independent Contractors and Employees		Requires a determination of whether a person is an employee or an independent contractor to be based on a specific multifactor test, including whether the person to whom the service is rendered has the right to control the manner and means of accomplishing the result desired.	02/25/2019 - From ASSEMBLY Committee on LABOR AND EMPLOYMENT with author's amendments.;02/25/2019 - In ASSEMBLY. Read second time and

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				amended. Re-referred to Committee on LABOR AND EMPLOYMENT.
AB 100 Budget Cmt	Drinking Water	WATCH	Establishes the Safe and Affordable Drinking Water Fund in the State Treasury to help water systems provide an adequate and affordable supply of safe drinking water in both the near and the long terms. Authorizes the state board to provide for the deposit into the fund of federal contributions, voluntary contributions, gifts, grants, and bequests and would continuously appropriate the moneys in the fund to the state board for grants, loans, contracts, or services to assist eligible recipients.	09/13/2019 - Re-referred to SENATE Committee on BUDGET AND FISCAL REVIEW.
AB 134 Bloom (D)	Safe Drinking Water Restoration	WATCH	Requires each regional engineer to arrange for a prescribed comprehensive assessment of each failed water system in the region of the drinking water regional office to be completed. Requires the board, upon adoption of an assessment of funding need, to convey to each regional engineer a list of at-risk water systems in that region and additional information. Requires the board by a specified date of each year to review the assessment of funding need and to prioritize the public water systems.	06/13/2019 - To SENATE Committees on ENVIRONMENTAL QUALITY and NATURAL RESOURCES AND WATER.
AB 196 Gonzalez (D)	Paid Family Leave		Revises the formula for determining benefits available pursuant to the family temporary disability insurance program for periods of disability by redefining the weekly benefit amount.	06/06/2019 - To SENATE Committee on LABOR, PUBLIC EMPLOYMENT AND RETIREMENT.
AB 202 Mathis (R)	Endangered Species: Conservation: Safe Harbor Program		Extends the operation of the California State Safe Harbor Agreement Program Act indefinitely, which encourages landowners to manage their lands voluntarily, by means of state safe harbor agreements approved by the Department of Fish and Wildlife, to benefit endangered, threatened, or candidate species.	04/24/2019 - To SENATE Committee on NATURAL RESOURCES AND WATER.
AB 223 Stone (D)	California Safe Drinking Water Act: Microplastics		Requires the State Water Resources Control Board, to the extent possible, and where feasible and cost effective, to work with the State Department of Public Health in complying with requirements to adopt a standard methodology to be used in the testing of	02/04/2019 - To ASSEMBLY Committee on ENVIRONMENTAL SAFETY AND TOXIC MATERIALS.

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			drinking water for microplastics and requirements for 4 years of testing and reporting of microplastics in drinking water.	
AB 231 Mathis (R)	Environmental Quality Act: Exemption: Recycled Water		Exempts from the California Environmental Quality Act a project to construct or expand a recycled water pipeline for the purpose of mitigating drought conditions for which a state of emergency was proclaimed by the Governor if the project meets specified criteria.	05/09/2019 - From ASSEMBLY Committee on NATURAL RESOURCES without further action pursuant to JR 62(a).
AB 254 Quirk-Silva (D)	Warewashing Machines: Water Reuse		Authorizes water from a warewashing machine at a retail food business to be reused on the same warewashing machine, for prerinse purposes only, if an attendant is onsite to control the reuse of the water for prerinse purposes and a written disclosure notice is posted.	07/09/2019 - In SENATE Committee on HEALTH: Not heard.
AB 292 Quirk (D)	Recycled Water: Raw Water and Groundwater Augmentation	SUPPORT	Eliminates the definition of direct potable reuse and instead substitutes the term groundwater augmentation for indirect potable reuse for groundwater recharge in definitions. Requires the State Water Resources Control Board to adopt uniform water recycling criteria for raw water augmentation.	08/30/2019 - In SENATE. From third reading. To Inactive File.
AB 322 Gallagher (R)	Political Reform Act: Online Filing System		Requires a local government agency to post on its internet website a copy of any specified statement, report, or other document filed with that agency in paper format. Requires that the statement, report, or other document be made available for four years from the date of the election associated with the filing.	05/16/2019 - In ASSEMBLY Committee on APPROPRIATIONS: Not heard.
AB 352 Garcia E (D)	Wildfire Prevention, Safe Drinking Water		Enacts the Wildfire Prevention, Safe Drinking Water, Drought Preparation, and Flood Protection Bond Act of 2020, which, if approved by the voters, would authorize the issuance of bonds in the amount of $3,920,000,000 pursuant to the State General Obligation Bond Law to finance a wildlife prevention, safe drinking water, drought preparation, and flood protection program.	08/14/2019 - From SENATE Committee on ENVIRONMENTAL QUALITY with author's amendments.;08/14/2019 - In SENATE. Read second time and amended. Re-referred to Committee on ENVIRONMENTAL QUALITY.

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AB 400 Lackey (R)	State Mandates		Amends existing law which authorizes a local agency or school district, by February 15, to file an annual reimbursement claim detailing state-mandated costs. Extends that date to March 1.	02/28/2019 - To ASSEMBLY Committee on LOCAL GOVERNMENT.
AB 418 Kalra (D)	Evidentiary Privileges: Union Agent-Worker Privilege		Establishes a privilege between a union agent and a represented employee or represented former employee to refuse to disclose any confidential communication between the employee or former employee and the union agent made while the union agent was acting in the union agent's representative capacity, except as specified.	09/12/2019 - In SENATE. From third reading. To Inactive File.
AB 435 Fong (R)	High-speed Rail Bonds: Water		Provides that no further bonds shall be sold for high-speed rail purposes pursuant to the Safe, Reliable High-speed Passenger Train Bond Act for the 21st Century, except as specifically provided with respect to an existing appropriation for high-speed rail purposes for early improvement projects in the Phase I blended system.	03/19/2019 - From ASSEMBLY Committee on TRANSPORTATION with author's amendments.;03/19/2019 - In ASSEMBLY. Read second time and amended. Re-referred to Committee on TRANSPORTATION.
AB 510 Cooley (D)	Local Government Records: Destruction of Records	SUPPORT	Exempts the head of a department of a county or city, or the head of a special district from recording retention requirements if the county, city, or special district adopts a records retention policy governing recordings of routine video monitoring and recordings of telephone and radio communications.	02/21/2019 - To ASSEMBLY Committee on LOCAL GOVERNMENT.
AB 533 Holden (D)	Income Tax: Exclusion: Turf Removal Water Conservation	SUPPORT	Extends the operative date of the provisions excluding from gross income specified amounts received in a turf removal water conservation program to taxable years beginning before a specified date. Requires the Department of Finance to include an analysis of these exclusions in its annual tax expenditure report provided to the Legislature and further provides that taxpayer information collected pursuant to this requirement is subject to the limitation on the collection and use of that information.	05/16/2019 - In ASSEMBLY Committee on APPROPRIATIONS: Not heard.
AB 626 Quirk-Silva (D)	Conflicts of Interest		Prohibits an officer or employee from being deemed interested in a contract, as described above, if the interest is that of an engineer,	05/30/2019 - In ASSEMBLY. From third reading. To Inactive File.

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			geologist, architect, landscape architect, land surveyor, or planner, performing specified services on a project, including preliminary design and preconstruction services, when proposing to perform services on a subsequent portion or phase of the project, if the work product for prior phases is publicly available.	
AB 636 Gray (D)	State Water Resources Control Board: Objectives		Prohibits the State Water Resources Control Board from implementing water quality objectives for which the state board makes a certain finding relating to environmental quality until it has submitted the water quality objectives and a statement of that finding to the appropriate policy committees of the Legislature and each committee has held a hearing on these matters.	03/14/2019 - To ASSEMBLY Committee on ENVIRONMENTAL SAFETY AND TOXIC MATERIALS.
AB 654 Rubio (D)	Public Records: Utility Customers: Personal Information		Authorizes a local agency to disclose the name, utility usage data, and home address of utility customers to an officer or employee of another governmental agency when the disclosure is not necessary for the performance of the other governmental agency's official duties but is to be used for scientific, educational, or research purposes, and the requesting agency receiving the disclosed material agrees to maintain it as confidential in accordance with specified criteria.	02/28/2019 - To ASSEMBLY Committee on JUDICIARY.
AB 841 Ting (D)	Drinking Water: Contaminants		Requires the Office of Environmental Health Hazard Assessment to adopt and complete a work plan within prescribed timeframes to assess which substances in the class of perfluoroalkyl and polyfluoroalkyl substances should be identified as a potential risk to human health.	06/19/2019 - In SENATE Committee on ENVIRONMENTAL QUALITY: Not heard.
AB 937 Rivas R (D)	Waste Discharge Requirements: Produced Water		Authorizes a regional board to approve a waste discharge requirement for the use or reuse of produced water from an oil and gas operation for agricultural purpose or for groundwater recharge, only if, after a public hearing, it finds that the California Council on Science and Technology has reviewed the best available independent scientific evidence and has found the use will not pose	03/04/2019 - To ASSEMBLY Committee on ENVIRONMENTAL SAFETY AND TOXIC MATERIALS.

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			a significant risk to the public from contaminants in the produced water.	
AB 992 Mullin (D)	Open Meetings: Local Agencies: Social Media		Provides that the Ralph M. Brown Act does not apply to the participation, as defined, in an internet- based social media platform, as defined, by a majority of the members of a legislative body, provides that a majority of the members do not discuss among themselves the business o a specific nature that is within subject matter jurisdiction of the legislative body.	05/01/2019 - In ASSEMBLY Committee on LOCAL GOVERNMENT: Failed passage.;05/01/2019 - In ASSEMBLY Committee on LOCAL GOVERNMENT: Reconsideration granted.
AB 1035 Mayes (R)	Personal Information: Data Breaches		Requires a person or business that owns or licenses computerized data that includes personal information to disclose any breach of the security of the system in the most expedient time possible and without unreasonable delay. Requires an agency that was the source of a security breach to offer, in the notice of the breach, appropriate identity theft prevention and mitigation services at no cost to potential or actual victims of the breach.	05/23/2019 - From SENATE Committee on JUDICIARY with author's amendments.;05/23/2019 - In SENATE. Read second time and amended. Re-referred to Committee on JUDICIARY.
AB 1045 Chen (R)	Public Works: Prevailing Wages		Increase the threshold to require the payment of a prevailing rate of per diem wages.	03/19/2019 - From ASSEMBLY Committee on LABOR AND EMPLOYMENT with author's amendments.;03/19/2019 - In ASSEMBLY. Read second time and amended. Re-referred to Committee on LABOR AND EMPLOYMENT.
AB 1151 Daly (D)	Fire Damages: Civil Actions: Pecuniary Damages		Provides that in a civil action seeking damages caused by a fire, pecuniary damages must be quantifiable and not unreasonable in relation to the prefire fair market value of the damaged property or the prefire market value of similar property. Provides that these provisions are not intended to limit or change the ability of a public agency to recover costs arising from a fire, as provided in other specified provisions of law.	03/28/2019 - To ASSEMBLY Committees on JUDICIARY and NATURAL RESOURCES.;03/28/2019 - From ASSEMBLY Committee on JUDICIARY with author's amendments.;03/28/2019 - In ASSEMBLY. Read second time and amended. Re-referred to Committee on JUDICIARY.

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AB 1194 Frazier (D)	Sacramento-San Joaquin Delta		Increases the membership of the Delta Stewardship Council to 13 members, including 11 voting members and 2 nonvoting members.	04/09/2019 - In ASSEMBLY Committee on WATER, PARKS AND WILDLIFE: Held in committee.
AB 1204 Rubio (D)	Public Water Systems: Primary Water Standards	SUPPORT	Relates to the California Safe Drinking Water Act. Requires the adoption or amendment of a primary drinking water standard for a contaminant in drinking water not regulated by a federal primary drinking water standard or that is more stringent than a federal primary drinking water standard to take effect 3 years after the date on which the state board adopts or amends the primary drinking water standard.	03/11/2019 - To ASSEMBLY Committee on ENVIRONMENTAL SAFETY AND TOXIC MATERIALS.
AB 1241 Quirk-Silva (D)	Contracts Between Public and Private Entities		Requires an agency that contracts with a person or private entity that owns or licenses an electronic database that contains the personal information of individuals for the purpose of hiring and training specified individuals, to do so only if the contract requires the person or private entity to comply with the requirements for disclosure and maintenance of personal information that are applicable to an agency pursuant to the Information Practices Act.	03/11/2019 - To ASSEMBLY Committee on PRIVACY AND CONSUMER PROTECTION.
AB 1298 Mullin (D)	Bond Act		Enact the Climate Resiliency, Fire Risk Reduction, Recycling, Groundwater and Drinking Water Supply, Clean Beaches, and Jobs Infrastructure Bond Act which would authorize the issuance of bonds in an unspecified amount pursuant to the State General Obligation Bond Law to finance a climate resiliency, fire risk reduction, recycling, groundwater and drinking water supply, clean beaches, and jobs infrastructure program.	09/06/2019 - Re-referred to ASSEMBLY Committee on WATER, PARKS AND WILDLIFE.
AB 1323 Stone (D)	Public Utilities Information: Confidentiality		Relates to the Public Utilities Act. Requires the information to be open to the public inspection unless federal or state law or an order of the commission based on a specified finding requires the information to be closed to inspection, or the withholding of that information is ordered by the commission, a commissioner, or an administrative law judge in the course of a hearing or proceeding.	04/02/2019 - From ASSEMBLY Committee on UTILITIES AND ENERGY with author's amendments.;04/02/2019 - In ASSEMBLY. Read second time and amended. Re-referred to Committee on UTILITIES AND ENERGY.

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AB 1347 Boerner Horvath (D)	Electricity: Renewable Energy		Establishes the policy of the state that eligible renewable energy resources and zero carbon resources supply a percentage of all retail sales of electricity to state and local government buildings by a certain date, and to all the State end use customers by a certain date.	03/11/2019 - To ASSEMBLY Committees on UTILITIES AND ENERGY and NATURAL RESOURCES.
AB 1381 Salas (D)	Safe Drinking Water Plan		Requires the State Water Resources Control Board, in its Safe Drinking Water Plan, to identify public water systems that fail to deliver water that meets all applicable standards under the Safe Drinking Water Act, specified areas in which persons have limited access to, or ability to pay for, safe and affordable drinking water, and strategies to address the changing needs of current and future populations. Requires the plan to include a publicly accessible map that identifies such areas.	03/18/2019 - To ASSEMBLY Committee on ENVIRONMENTAL SAFETY AND TOXIC MATERIALS.;03/18/2019 - From ASSEMBLY Committee on ENVIRONMENTAL SAFETY AND TOXIC MATERIALS with author's amendments.;03/18/2019 - In ASSEMBLY. Read second time and amended. Re-referred to Committee on ENVIRONMENTAL SAFETY AND TOXIC MATERIALS.
AB 1389 Eggman (D)	Special Districts: Organization: Revenue Loss		Authorizes the local agency formation commission to propose, as part of the review and approval of a proposal for the establishment of new or different functions or class of services, or the divestiture of the power to provide particular functions or class of services, that the special district, to mitigate any loss of property taxes, franchise fees, and other revenues to any other affected local agency, provide payments to the affected local agency.	03/14/2019 - To ASSEMBLY Committee on LOCAL GOVERNMENT.
AB 1439 Melendez (R)	Policy for Water Quality Control		Makes nonsubstantive changes to the Porter-Cologne Water Quality Control Act.	02/22/2019 - INTRODUCED.
AB 1445 Gloria (D)	Climate Change: Emergency Declaration and Policy		Declares that it is the policy of the State of California to restore an optimal safe climate and to provide maximum protection from climate change to all people and species, globally, including the most vulnerable.	02/22/2019 - INTRODUCED.

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AB 1484 Grayson (D)	Mitigation Fee Act: Housing Developments		Prohibits a local agency from imposing a housing impact requirement adopted by the local agency on a housing development project, as defined, unless specified requirements are satisfied by the local agency, including that the housing impact requirement be roughly proportional in both nature and extent to the impact created by the housing development project.	09/09/2019 - In SENATE. Read second time. To third reading.;09/09/2019 - In SENATE. Senate Rule 29.10(b) suspended.;09/09/2019 - Re-referred to SENATE Committee on RULES.
AB 1574 Mullin (D)	Lobbying Expenditures		Requires reports regarding lobbying expenditures to be filed on a monthly basis.	04/24/2019 - In ASSEMBLY Committee on APPROPRIATIONS: To Suspense File.
AB 1640 Boerner Horvath (D)	Local Government Finance: Budget Reserves.		Requires a local government by September 1, 2020, and annually thereafter, to submit a written report to the State Controller's office on how it plans to spend any of its budget reserves, as defined, on specified priorities over a 5-year fiscal period, including, among others, mental and behavioral health services and affordable housing.	03/18/2019 - To ASSEMBLY Committee on LOCAL GOVERNMENT.
AB 1672 Bloom (D)	Solid Waste: Flushable Products	SUPPORT	Prohibits a covered entity, as defined, from labeling a covered product as safe to flush, safe for sewer systems, or safe for septic systems, unless the product is a flushable wipe that meets certain performance standards. Requires nonflushable products to be labeled clearly and conspicuously to communicate that they should not be flushed.	05/16/2019 - In ASSEMBLY Committee on APPROPRIATIONS: Not heard.
ACA 3 Mathis (R)	Clean Water for All Act	WATCH	Requires not less than a certain percent of specified state revenues to be set apart for the payment of principal and interest on bonds authorized pursuant to the Water Quality, Supply, and Infrastructure Improvement Act. Relates to water supply, delivery, and quality projects administered by the Department of Water Resources and water quality projects administered by the State Water Resources Control Board.	04/30/2019 - In ASSEMBLY Committee on WATER, PARKS AND WILDLIFE: Failed passage.;04/30/2019 - In ASSEMBLY Committee on WATER, PARKS AND WILDLIFE: Reconsideration granted.
SB 43 Allen (D)	Carbon Intensity and Pricing: Retail Products		Requires the state board, no later than January 1, 2022, to submit a report to the Legislature on the findings from a study, as specified,	07/08/2019 - In ASSEMBLY Committee on REVENUE AND

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			to determine the feasibility and practicality of assessing the carbon intensity of all retail products subject to the tax imposed pursuant to the Sales and Use Tax Law, so that the total carbon equivalent emissions associated with such retail products can be quantified.	TAXATION: Failed passage.;07/08/2019 - In ASSEMBLY Committee on REVENUE AND TAXATION: Reconsideration granted.
SB 45 Allen (D)	Wildfire Prevention, Drinking Water, Drought, and Flood		Enacts the Wildfire Prevention, Safe Drinking Water, Drought Preparation, and Flood Protection Bond Act, which, if approved by the voters, would authorize the issuance of bonds to the State General Obligation Bond Law to finance projects for a wildfire prevention, safe drinking water, drought preparation, and flood protection program.	09/10/2019 - From SENATE Committee on APPROPRIATIONS with author's amendments.;09/10/2019 - In SENATE. Read second time and amended. Re-referred to Committee on APPROPRIATIONS.
SB 101 Budget and Fiscal Review Cmt	Drinking Water		Establishes the Safe and Affordable Drinking Water Fund in the State Treasury to help water systems provide an adequate and affordable supply of safe drinking water in both the near and the long terms. Prohibits a person from operating a public water system unless the person first submits an application to the state board and receives a permit to operate the system.	06/24/2019 - From ASSEMBLY Committee on BUDGET with author's amendments.;06/24/2019 - In ASSEMBLY. Read second time and amended. Re-referred to Committee on BUDGET.
SB 133 Galgiani (D)	Wildfires: Detection		States the intent of the Legislature to enact legislation to create and fund a program for installing remote infrared cameras that can help in detecting wildfires.	01/24/2019 - To SENATE Committee on RULES.
SB 204 Dodd (D)	State Water Project: Contracts	WATCH	Requires the Department of Water Resources to provide at least 10 days' notice to the Joint Legislative Budget Committee and relevant policy and fiscal committees of the Legislature before holding public sessions to negotiate any potential amendment of a long-term water supply contract that is of projectwide significance with substantially similar terms intended to be offered to all contractors, or that would permanently transfer a contractual water amount between contractors.	06/06/2019 - To ASSEMBLY Committee on WATER, PARKS AND WILDLIFE.

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SB 335 Hurtado (D)	Provision of Sewer Service: Onsite Treatment System		Authorizes the property owner of an affected residence to opt out of the provision of sewer service for a maximum of 5 years if the adequate onsite sewage treatment system was installed no more than 5 years prior to the issuance of the order.	02/28/2019 - To SENATE Committees on ENVIRONMENTAL QUALITY and GOVERNANCE AND FINANCE.
SB 341 Morrell (R)	Public Employment and Retirement		Requires the Board of Administration of the Public Employees' Retirement System to report a calculation of liabilities based on a discount rate equal to the yield on a 10-year United States Treasury note in the year prior to the report. Requires the Teacher's Retirement Board to provide a description of the discount rate the board uses for reporting liabilities, a calculation of liabilities based on a discount rate that is 2% below the long-term rate of return.	03/27/2019 - In ASSEMBLY Committee on LABOR AND EMPLOYMENT: Failed passage.;03/27/2019 - In SENATE Committee on LABOR, PUBLIC EMPLOYMENT AND RETIREMENT: Reconsideration granted.
SB 378 Wiener (D)	Electrical Corporations: Deenergization Events		Requires an electrical corporation to annually report to the commission, the Office of Emergency Services, the Department of Forestry and Fire Protection, the Independent System Operator, and county governments within its service territory on the age, useful life, and condition of the electrical corporation's equipment, including the date of most recent inspection and maintenance records.	09/06/2019 - From SENATE Committee on RULES with author's amendments.;09/06/2019 - In SENATE. Read second time and amended. Re-referred to Committee on RULES.
SB 615 Hueso (D)	Public Records: Disclosure		Permits any person to institute proceedings for injunctive or declarative relief or a writ of mandate in any court of competent jurisdiction to enforce their right to inspect or to receive a copy of any public record or class of public records covered by the California Public Records Act. Requires a person to meet and confer in good faith with the agency in an attempt to informally resolve each issue.	03/14/2019 - To SENATE Committee on JUDICIARY.
SB 629 McGuire (D)	Air Districts: Hearing Boards: Notice Requirements		Relates to the Ralph M. Brown Act. Requires a hearing board to send a notice of hearing not less than a specified number of hours before the hearing to any person who requests the notice.	05/30/2019 - To ASSEMBLY Committee on NATURAL RESOURCES.

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SB 668 Rubio (D)	Fire Hydrants: Water Suppliers: Regulations		Requires an urban water supplier, to review and revise its emergency response plan as required by federal law. Requires the Office of Emergency Services to establish emergency response and recovery plans in coordination with urban water suppliers.	09/12/2019 - In ASSEMBLY. To Inactive File.
SB 732 Allen (D)	South Coast Air Quality Management District	WATCH	Authorizes the South Coast District Board to impose a transactions and use tax within the boundaries of the south coast district.	05/13/2019 - In SENATE Committee on APPROPRIATIONS: Not heard.
SB 762 Jones (R)	Groundwater Storage		Makes a nonsubstantive change in provisions relating to groundwater storage.	03/14/2019 - To SENATE Committee on RULES.
HR 535 Dingell D (D)	Hazardous Substances Designation		Requires the Administrator of the Environmental Protection Agency to designate per- and polyfluoroalkyl substances as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980.	11/20/2019 - In HOUSE Committee on ENERGY AND COMMERCE: Consideration and mark-up session held.;11/20/2019 - In HOUSE Committee on ENERGY AND COMMERCE: Ordered to be reported as amended.
HR 1162 Napolitano (D)	Water Recycling and Reuse Projects Grant Program	SUPPORT	Establishes a grant program for the funding of water recycling and reuse projects.	06/13/2019 - Subcommittee on WATER, POWER AND OCEANS hearings held.
HR 1417 Lawrence (D)	Water and Sewer Infrastructure Trust Fund		Establishes a trust fund to provide for adequate funding for water and sewer infrastructure.	03/27/2019 - In HOUSE Committee on AGRICULTURE: Referred to Subcommittee on CONSERVATION AND FORESTRY.
HR 1567 Lujan (D)	Water Contamination From Military Installations		Authorizes the Department of Defense to temporarily provide water uncontaminated with perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) for agricultural purposes to areas affected by contamination from military installations, authorizes the Secretary of the Air Force to acquire real property to extend the contiguous geographic footprint of any Air Force base that has shown signs of contamination from PFOA and PFOS due to activities on the base.	03/07/2019 - In HOUSE Committee on TRANSPORTATION & INFRASTRUCTURE: Referred to Subcommittee on WATER RESOURCES AND ENVIRONMENT.

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HR 1764 Garamendi (D)	Federal Water Pollution Control Permitting Terms	SUPPORT	Amends the Federal Water Pollution Control Act with respect to permitting terms.	03/15/2019 - In HOUSE Committee on TRANSPORTATION & INFRASTRUCTURE: Referred to Subcommittee on WATER RESOURCES AND ENVIRONMENT.
HR 1976 Kildee (D)	Perfluorinated Compounds Survey		Requires the Director of the United States Geological Survey to perform a nationwide survey of perfluorinated compounds.	06/13/2019 - Subcommittee on WATER, POWER AND OCEANS hearings held.
HR 2377 Boyle B (D)	Drinking Water Maximum Contaminant Level		Amends the Safe Drinking Water Act, requires the Administrator of the Environmental Protection Agency to publish a maximum contaminant level goal and promulgate a national primary drinking water regulation for total per- and polyfluoroalkyl substances.	09/26/2019 - Subcommittee on ENVIRONMENT consideration and mark-up session held.;09/26/2019 - Forwarded by Subcommittee on ENVIRONMENT to full committee.
HR 2500 Smith A (D)	National Defense Authorization Act for Fiscal Year 2020		Provides for the National Defense Authorization Act for specified Fiscal Year.	07/12/2019 - In HOUSE. HA 560 Amendment offered by Representative Thompson.;07/12/2019 - In HOUSE. HA 561 Amendment offered by Representative Malinowski.;07/12/2019 - In HOUSE. HA 562 Amendment offered by Representative Dingell.;07/12/2019 - In HOUSE. HA 562. Representative Dingell amendment agreed to on HOUSE floor.;07/12/2019 - In HOUSE. HA 563 Amendment offered by Representative Jayapal.;07/12/2019 - In HOUSE. HA 564 Amendment offered by Representative Smith.;07/12/2019 - In HOUSE. HA 564. Representative Smith amendment agreed to on HOUSE floor.;07/12/2019 - In HOUSE. HA 538. Representative Lee amendment failed on HOUSE floor.;07/12/2019 - In HOUSE. HA

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				539. Representative Amash amendment failed on HOUSE floor.;07/12/2019 - In HOUSE. HA 552. Representative Tipton amendment agreed to on HOUSE floor.;07/12/2019 - In HOUSE. HA 553. Representative Turner amendment failed on HOUSE floor.;07/12/2019 - In HOUSE. HA 554. Representative Khanna amendment agreed to on HOUSE floor.;07/12/2019 - In HOUSE. HA 555. Representative Lee amendment agreed to on HOUSE floor.;07/12/2019 - In HOUSE. HA 556. Representative Lee amendment agreed to on HOUSE floor.;07/12/2019 - In HOUSE. HA 557. Representative Garcia amendment failed on HOUSE floor.;07/12/2019 - In HOUSE. HA 558. Representative Ocasio-Cortez amendment failed on HOUSE floor.;07/12/2019 - In HOUSE. HA 559. Representative Ocasio-Cortez amendment failed on HOUSE floor.;07/12/2019 - In HOUSE. HA 560. Representative Thompson amendment agreed to on HOUSE floor.;07/12/2019 - In HOUSE. HA 561. Representative Malinowski amendment agreed to on HOUSE floor.;07/12/2019 - In HOUSE. HA 563. Representative Jayapal amendment agreed to on HOUSE

Bill No. Author	Title	IRWD Position	Summary/Effects	Status
				floor.;07/12/2019 - In HOUSE. Passed HOUSE. *****To SENATE.
HR 2533 Pallone (D)	Community Water Systems Contamination		Assists community water systems affected by perfluoroalkyl substances (PFAS) contamination.	09/26/2019 - Subcommittee on ENVIRONMENT consideration and mark-up session held.;09/26/2019 - Forwarded by Subcommittee on ENVIRONMENT to full committee.
HR 2566 Soto (D)	Environmental Protection Agency Safer Choice Standard		Requires the Administrator of the Environmental Protection Agency to revise the Safer Choice Standard to provide for a Safer Choice label for pots, pans, and cooking utensils that do not contain polyfluoroalkyl substances (PFAS).	09/26/2019 - Subcommittee on ENVIRONMENT consideration and mark-up session held.;09/26/2019 - Forwarded by Subcommittee on ENVIRONMENT to full committee.
HR 2570 Rouda (D)	Water Treatment Costs		Ensures that polluters pay ongoing water treatment costs associated with contamination from perfluoroalkyl and polyfluoroalkyl substances.	09/26/2019 - Subcommittee on ENVIRONMENT consideration and mark-up session held.;09/26/2019 - Forwarded by Subcommittee on ENVIRONMENT to full committee.
HR 2577 Delgado (D)	Toxics Release Inventory Inclusion		Amends the Emergency Planning and Community Right-To-Know Act of 1986, includes per- and polyfluoroalkyl substances on the Toxics Release Inventory.	09/26/2019 - Subcommittee on ENVIRONMENT consideration and mark-up session held.;09/26/2019 - Forwarded by Subcommittee on ENVIRONMENT to full committee.
HR 2591 Khanna (D)	Polyfluoroalkyl Substance Waste Prohibition		Prohibits the waste incineration of per- and polyfluoroalkyl substances.	09/26/2019 - Subcommittee on ENVIRONMENT consideration and mark-up session held.;09/26/2019 - Forwarded by Subcommittee on ENVIRONMENT to full committee.
HR 2596 Kuster (D)	Polyfluoroalkyl Substances Manufacturing and Processing		Amends the Toxic Substances Control Act with respect to manufacturing and processing notices for per- and polyfluoroalkyl substances.	09/26/2019 - Subcommittee on ENVIRONMENT consideration and mark-up session held.;09/26/2019 - Forwarded by Subcommittee on ENVIRONMENT to full committee.
HR 2600 Dean (D)	Per and Polyfluoroalkyl Substances Regulation		Regulates per- and polyfluoroalkyl substances under the Toxic Substances Control Act.	09/26/2019 - Subcommittee on ENVIRONMENT consideration and

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Updated 01/03/2020

Bill No. Author	Title	IRWD Position	Summary/Effects	Status
				mark-up session held.;09/26/2019 - Forwarded by Subcommittee on ENVIRONMENT to full committee.
HR 2605 Stevens (D)	Hazardous Air Pollutants Classification		Directs the Administrator of the Environmental Protection Agency to issue a final rule adding as a class all perfluoroalkyl and polyfluoroalkyl substances with at least one fully fluorinated carbon atom to the list of hazardous air pollutants under section 112(b) of the Clean Air Act (42 U.S.C. 7412(b)).	09/26/2019 - Subcommittee on ENVIRONMENT consideration and mark-up session held.;09/26/2019 - Forwarded by Subcommittee on ENVIRONMENT to full committee.
HR 2608 Maloney S (D)	Toxic Substances Testing		Requires the testing of perfluoroalkyl and polyfluoroalkyl substances under the Toxic Substances Control Act.	09/26/2019 - Subcommittee on ENVIRONMENT consideration and mark-up session held.;09/26/2019 - Forwarded by Subcommittee on ENVIRONMENT to full committee.
HR 2626 Upton (R)	Water Contamination Remediation Agreements		Encourages Federal agencies to expeditiously enter into or amend cooperative agreements with States for removal and remedial actions to address PFAS contamination in drinking, surface, and ground water and land surface and subsurface strata.	09/26/2019 - Subcommittee on ENVIRONMENT consideration and mark-up session held.;09/26/2019 - Forwarded by Subcommittee on ENVIRONMENT to full committee.
HR 2638 Fletcher (D)	Firefighting Foam Use		Directs the Administrator of the Environmental Protection Agency to issue guidance on minimizing the use of firefighting foam containing PFAS.	09/26/2019 - Subcommittee on ENVIRONMENT consideration and mark-up session held.;09/26/2019 - Forwarded by Subcommittee on ENVIRONMENT to full committee.
HR 2800 Slotkin (D)	Drinking Water Substance Monitoring		Amends the Safe Drinking Water Act, requires continued and expanded monitoring of perfluoroalkyl and polyfluoroalkyl substances in drinking water.	05/16/2019 - INTRODUCED.;05/16/2019 - To HOUSE Committee on ENERGY AND COMMERCE.
S 611 Sanders (I)	Water and Sewer Infrastructure Funding		Provides adequate funding for water and sewer infrastructure.	02/28/2019 - INTRODUCED.;02/28/2019 - In SENATE. Read second time.;02/28/2019 - To SENATE Committee on ENVIRONMENT AND PUBLIC WORKS.

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Bill No. Author	Title	IRWD Position	Summary/Effects	Status
S 638 Carper (D)	Hazardous Substances Designation		Requires the Administrator of the Environmental Protection Agency to designate per- and polyfluoroalkyl substances as hazardous substances under the Comprehensive Environmental Response, Compensation, Liability Act of 1980.	02/28/2019 - INTRODUCED.;02/28/2019 - In SENATE. Read second time.;02/28/2019 - To SENATE Committee on ENVIRONMENT AND PUBLIC WORKS.
S 675 Udall T (D)	Water Contamination From Military Installations		Authorizes the Department of Defense to temporarily provide water uncontaminated with perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) for agricultural purposes to areas affected by contamination from military installations, authorizes the Secretary of the Air Force to acquire real property to extend the contiguous geographic footprint of any Air Force base that has shown signs of contamination from PFOA and PFOS due to activities on the base.	03/06/2019 - INTRODUCED.;03/06/2019 - In SENATE. Read second time.;03/06/2019 - To SENATE Committee on ARMED SERVICES.
S 950 Stabenow (D)	Perfluorinated Compounds Survey		Requires the Director of the United States Geological Survey to perform a nationwide survey of perfluorinated compounds.	03/28/2019 - INTRODUCED.;03/28/2019 - In SENATE. Read second time.;03/28/2019 - To SENATE Committee on ENVIRONMENT AND PUBLIC WORKS.
S 1251 Shaheen (D)	Emerging Contaminants Public Health Response Assistance		Improves coordinate interagency Federal actions, provides assistance to States for responding to public health challenges posed by emerging contaminants.	04/30/2019 - INTRODUCED.;04/30/2019 - In SENATE. Read second time.;04/30/2019 - To SENATE Committee on ENVIRONMENT AND PUBLIC WORKS.
S 1372 Stabenow (D)	Water Contamination Remediation Agreements		Encourages Federal agencies to expeditiously enter into or amend cooperative agreements with States for removal and remedial actions to address polyfluoroalkyl substances (PFAS) contamination in drinking, surface, and ground water and land surface and subsurface strata.	05/08/2019 - INTRODUCED.;05/08/2019 - In SENATE. Read second time.;05/08/2019 - To SENATE Committee on ENVIRONMENT AND PUBLIC WORKS.

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Bill No. Author	Title	IRWD Position	Summary/Effects	Status
S 1473 Gillibrand (D)	Drinking Water Maximum Contaminant Levels		Amends the Safe Drinking Water Act, requires the Administrator of the Environmental Protection Agency to set maximum contaminant levels for certain chemicals.	05/15/2019 - INTRODUCED.;05/15/2019 - In SENATE. Read second time.;05/15/2019 - To SENATE Committee on ENVIRONMENT AND PUBLIC WORKS.
S 1507 Capito (R)	Toxics Release Inventory Inclusion		Includes certain perfluoroalkyl and polyfluoroalkyl substances in the toxics release inventory.	06/19/2019 - In SENATE Committee on ENVIRONMENT AND PUBLIC WORKS: Ordered to be reported with an amendment in the nature of a substitute.;06/19/2019 - From SENATE Committee on ENVIRONMENT AND PUBLIC WORKS: Reported by Sen. Barrasso with an amend. in the nature of a substitute.;06/19/2019 - In SENATE. Placed on SENATE Legislative Calendar under General Orders.
S 1932 Gardner (R)	Reclamation States Water Infrastructure Support	SUPPORT	Supports water infrastructure in Reclamation States.	07/18/2019 - Subcommittee on WATER AND POWER hearings held.

Irvine Ranch Water District

August 26, 2019

California's Water Resilience Portfolio

Issue Summary

On April 29, 2019, Governor Gavin Newsom signed Executive Order N-10-19. The order directed three state agencies – the California Natural Resources Agency, the California Environmental Protection Agency, and the California Department of Food and Agriculture – to develop a comprehensive strategy to build a climate-resilient water system and ensure healthy waterways in light of climate change. The agencies are to develop a Water Resilience Portfolio that identifies the key priorities for the Administration's water portfolio moving forward.

As a state and federal leader in water resources public policy and governance, the Irvine Ranch Water District (IRWD) works to promote policy initiatives that allow IRWD, along with other water purveyors in California, to enhance the quality, reliability and resiliency of water supplies. IRWD also works to advance policies that would build resiliency into California's water systems and enhance the health of the state's waterways. As a means of providing input into the discussions surrounding the Water Resilience Portfolio, IRWD has compiled the following policy principles.

Definition of Water Resilience

California has a climate that cycles between periods of large amounts of precipitation and times of drought. While the future impacts of climate change on California's weather cycles are not known with complete certainty, it appears that changes to weather cycles will result in more rainfall and less snow in the mountains, earlier snowmelt, more intense rain events, and increasingly frequent droughts.

Evidence suggests changes to California's weather cycles are already affecting water resources throughout the state, which in turn negatively impact ecosystems, economies, and communities. California can and should take action to build water resilience into its water resource management and planning that accounts for these changes.

A Definition of California Water Resilience

Water resilience for California means moving the state to better water resource management through cost-effective infrastructure investments, flexible systems operations, and changes in policy and regulations that result in water systems, communities, ecosystems, and economies adapting to and mitigating for the impacts of climate change to water supplies and watersheds.

A Water Resilience Portfolio must recognize the complex nature of California's water resource infrastructure and management which includes funding constraints and balancing the water needs of people, businesses, agriculture, and the environment. The portfolio must also recognize the diversity of communities across the state; the importance of flexible water resource management and diverse water supply development; and the need for actions that acknowledge, coordinate and work within the different roles, powers and limitations that exist among the various water resource managers.

The ultimate outcome of the portfolio should be a list of proposed actions that will ensure California manages water resources effectively and flexibly, thereby promoting healthy watersheds and water supplies for our communities and businesses in the 21st century.

Policy Principles

The California Water Resilience Portfolio should position California to obtain and consider the best science and data available to analyze, model, and then develop and implement the changes necessary to meet current and future water supply needs in an era of climate change. The following are issue areas and associated actions that should be included in the Water Resilience Portfolio to help ensure California builds water resilience due to climate change:

1) **Enhance Weather Forecasting and Optimize Storage through Integration:**
   Improve California's ability to capitalize on and prepare for the impacts of climate change and greater variability in our weather.

INITIAL ACTIONS NEEDED:

- Create and fund a California Atmospheric River Weather Center to improve weather modeling and forecasting to ensure California can predict with more lead time and accuracy the strength, frequency, duration and volumes of water anticipated from atmospheric rivers;

- Strengthen data collection of on-the-ground snowpack and runoff conditions in the Sierra Nevada and other snow-covered areas of the state to create more accurate runoff estimates and a more accurate water picture each year;

- Complete an analysis of how to optimize the state's existing conveyance and water storage facilities through enhanced surface and groundwater storage integration, and an analysis of what additional water storage and conveyance facilities and improvements are needed to ensure the state adapts to a climate with less snowpack and more extreme hydrologic volatility; and

- Change reservoir and conveyance operations while maintaining public safety, and amend regulatory rules to improve surface and groundwater storage integration, as indicated by the analysis, to optimize the capture and storage of wet-year water, which would otherwise be lost to the ocean, to maximize benefits to agricultural, urban communities, and the environment in drier times.

2) Focus on Climate Change-Driven Disaster and Its Environmental Impacts:

Increased climate-driven wildfires and flooding are expected impacts of climate change in California. Mitigating and preparing for climate-driven wildfire and flooding can increase water resilience, enhance and protect watershed health, and prepare ecosystems and communities to better withstand climate change-driven disasters.

INITIAL ACTIONS NEEDED:

- Provide state funding for a single, standardized fire camera system for each county, prioritizing high fire areas and the wildland-urban interface, to ensure fires are spotted and responded to more quickly, lessening the chance for wildfires, particularly wind-driven wildfires in Southern California, to become catastrophic wildfires;

- Improve forest health and resiliency to wildfires through active watershed and wide-scale fuels management that puts California on a path to obtaining and maintaining forest health statewide, as this will increase water supply, water quality, slow runoff, improve ecosystems, build forest resiliency to wildfires and reduce catastrophic wildfires; and

- Assess how California's flood plains can be restored, where it makes sense, and how floodwaters captured can be directed to surface storage and groundwater recharge.

3) Improve Water Transfers and Exchanges to Capture More Water in Wet Years:

With climate change driving greater hydrologic volatility in California, it is essential that the state improve the ability of water rights holders, and state and federal project contractors, to transfer and exchange water for the benefit of urban communities, agriculture and the environment. Additionally, the state needs to modify its transfer and exchange approval process to ensure that more water that would otherwise be lost to the ocean (i.e., "new water") can be captured in the form of rain during wetter years, and moved to storage for use in dryer years.

INITIAL ACTIONS NEEDED:

- Develop standardized Department of Water Resources-approved template agreements to expedite approval of short-term water transfers and exchanges to make short-term water transfers and exchanges easier to complete, thereby maximizing the beneficial use of water resources in the state;

- Prioritize and expedite agreements for transfers or exchanges that have a storage component to enable the state's storage network to capture more precipitation in the form of rainfall, or are designed to reduce losses to the ocean while providing drought protection, emergency supplies, and environment enhancements;

- Integrate the operations of surface and groundwater storage programs to provide opportunities for environmental enhancements while optimizing water supply benefits to agricultural and urban communities; and

- Encourage stakeholder discussion and state and federal action to expand water rights consolidated places of use. Optimizing the use of consolidated places of use should be done with stakeholder agreement to maximize water resource benefits to the environment and the state's agricultural and urban communities.

4) <u>Evaluate and Build California's Water System Resilience:</u>

Actions should be undertaken to move all California water systems, with a combination of existing and future water supply projects and water efficiency measures, to be able to meet 80% of daily residential and business demands at build-out 95% of the time under the reasonably foreseeable climate change scenarios. System reliability targets should be set for water systems serving agricultural operations based on the composition of the agricultural operations they serve.

<u>INITIAL ACTIONS NEEDED:</u>

- Encourage regional evaluations and studies of water supply and system reliability under various climate change scenarios through regional collaborations between retail and wholesale water agencies utilizing existing planning documents such as Urban Water Management Plans, Agricultural Water Management Plans and Groundwater Sustainability Plans. Such collaborative studies should be conducted in a manner that is consistent with the roles, responsibilities and policies of participating agencies and should be used to inform supplier actions to improve resiliency;

- Implement "Making Water Conservation a California Way of Life" legislation to achieve reasonable *water use efficiency* statewide and in a manner that preserves *water conservation* as a tool water suppliers will use to respond to droughts;[1]

- Move forward with a long-term Delta solution that addresses enhanced conveyance and environmental protection in the Delta, supports a safe and secure water supply for the entire state, and mitigates climate impacts on the Delta's ecosystem. Within the next 10 years, construction on enhanced conveyance and environmental protection should be well underway; and

- Evaluate and reform regulatory frameworks and processes pertaining to water resources to avoid regulatory decisions being made in silos. Decision-making in a silo can exacerbate climate change impacts on urban and agricultural water systems and the environment without realizing needed improvements in water resiliency.

5) <u>Incentivize the Investment in and Development of Emergency Water Supplies:</u>

With climate change likely bringing more frequent and intense droughts to California, the state needs to evaluate how it will ensure sufficient water supplies during times of shortage. Development of emergency water supplies will aid the state in mitigating the impacts of more frequent droughts. Unfortunately, few water suppliers have made these investments. The state needs to adjust policies and statutes to encourage the investment in emergency supply development and to provide assurances that water suppliers will have access emergency supplies they develop for this purpose. [2]

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[1]Water use efficiency is the use of water more efficiently and reducing inefficiencies for a given set of beneficial uses, but not necessarily a reduction in the total volume used within a community. Water conservation is a temporary or permanent reduction in total amount of water used regardless of the use, typically in response to a shortage.

[2] An emergency water supply is a supply that has been developed by a water supplier to enhance its water supply reliability during times of shortage and is in addition to the water supplies that the supplier draws upon during non-shortage times to meet water demands within its service area (e.g., IRWD's Strand Ranch Water Banking Project.).

INITIAL ACTIONS NEEDED:

- Amend the Urban Water Management Planning Act to specifically recognize emergency water supplies as a category of supply a water supplier may discuss and assess in an Urban Water Management Plan, in addition to base load supplies and contingency supplies;
- As the Department of Water Resources develops the structure and reporting requirements for the Annual Water Supply and Demand Assessment, include emergency water supplies in the reporting structure, and in the calculation of water supply compared to water demand;
- Amend the Urban Water Management Planning Act to provide that an emergency water supply can be used in a Water Shortage Contingency Plan as part of the planned water supplier response to a water shortage; and
- Establish as state policy that state agencies shall allow a water supplier that develops and establishes an emergency supply to use that supply during a water shortage or drought consistent with its Water Shortage Contingency Plan.

6) Expand Water Recycling, a Non-Hydrologically Dependent Supply:

As a non-hydrologically-dependent water supply, expanding water recycling in the state would allow California to develop new water supplies without putting greater pressure on supplies stressed by climate change. The water community is prepared to expand reuse and use of water recycling as one means of adapting to and mitigating climate change, but regulatory certainty is needed from the state.

INITIAL ACTIONS NEEDED:

- Update the Title 22 Water Recycling Criteria (CCR, Title 22, Division 4, Chapter 3), which has not been updated in nearly 20 years, to remove outdated and overly prescriptive requirements for non-potable recycled water that are not needed to protect public health -or the environment;
- Fund and complete the research needed for the State Water Resources Control Board to develop regulations for raw water augmentation by 2023;
- Fund and complete the research needed for the State Water Resources Control Board to develop regulations for treated drinking water augmentation by 2025; and
- Modify existing regulatory structures to ensure that recycled water is regulated as a resource and not a waste, and take a "fit for purpose" regulatory approach for recycled water, appropriately balancing public health and safety with how the water is used.

Conclusion

Achieving water resilience in California requires that state and local agencies work together to adapt to and mitigate for the impacts of climate change. The water infrastructure and operational changes that we already know need to be made to adapt to and mitigate for the impacts of climate change on our water resources should be included in the Portfolio. The initial actions recommended above are actions needed to build water resilience due to climate change. They will place California on the path to achieving water resilience, but other actions, not related to climate change, are also needed (e.g., addressing safe drinking water in disadvantaged communities, cleaning up groundwater contamination, and fully implementing the Sustainable Groundwater Management Act).

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Irvine Ranch WATER DISTRICT

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