

# BAWSCA Annual Water Conservation Report FY 2020-21

**A Summary of BAWSCA's  
Regional Water Conservation  
Program Implementation  
Efforts for Fiscal Year 2020-21**

**BAWSCA**  
Bay Area Water Supply & Conservation Agency

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# I. Introduction

The Bay Area Water Supply and Conservation Agency (BAWSCA) provides regional water supply planning, resource development, and conservation program services to enhance the water supply reliability of the *16 cities, eight water districts, one private water provider, and one university that provide water to over 1.8 million people and 40,000 commercial, industrial, and institutional accounts in Alameda, Santa Clara, and San Mateo Counties.*

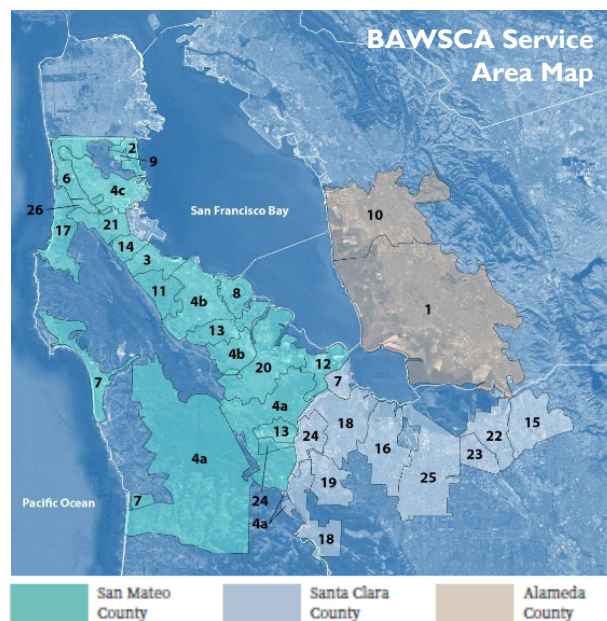
BAWSCA was established as a multicounty agency authorized to “*plan for and acquire supplemental water supplies, to encourage water conservation and use of recycled water on a regional basis....*” (Bay Area Water Conservation Agency Act, AB2058).

Consistent with the legislature’s intent, BAWSCA’s water management objective is to ensure a reliable supply of high-quality water at a fair price to protect the health, safety, and economic well-being of the people, businesses, and community organizations within its service area.

BAWSCA manages a Regional Water Conservation Program that is made up of several different programs and initiatives, and it supports and augments its member agencies and customers’ efforts to use water more efficiently. These efforts:

- ◆ *Extend limited supplies of water* that are available to meet both current and future water needs;
- ◆ *Increase drought reliability* of the existing water system; and
- ◆ *Save money* for both the member agencies and their customers.

In Fiscal Year (FY) 2020-21, BAWSCA continued to implement the **Regional Water Conservation Program** that builds upon both the Water Conservation Implementation Plan (WCIP, completed in September 2009) and the Regional Water Demand and Conservation Projections Project (Demand Study, completed in June 2020). These efforts included administering several regional water conservation programs and initiatives, including both **Core**



- |  |                                       |
|--|---------------------------------------|
| 1. Alameda County Water District         | 14. Millbrae, City of                 |
| 2. Brisbane, City of                     | 15. Milpitas, City of                 |
| 3. Burlingame, City of                   | 16. Mountain View, City of            |
| 4a. CWS – Bear Gulch                     | 17. North Coast County Water District |
| 4b. CWS – Mid Peninsula                  | 18. Palo Alto, City of                |
| 4c. CWS – South San Francisco            | 19. Purissima Hills Water District    |
| 5. Coastside County Water District       | 20. Redwood City, City of             |
| 6. Daly City, City of                    | 21. San Bruno, City of                |
| 7. East Palo Alto, City of               | 22. San Jose Municipal Water System   |
| 8. Estero Municipal Improvement District | 23. Santa Clara, City of              |
| 9. Guadalupe Valley MID                  | 24. Stanford University               |
| 10. Hayward, City of                     | 25. Sunnyvale, City of                |
| 11. Hillsborough, Town of                | 26. Westborough Water District        |
| 12. Menlo Park, City of                  |                                       |
| 13. Mid-Peninsula Water District         |                                       |

**Programs** (implemented regionally throughout the BAWSCA service area) and **Subscription Programs** (funded by individual member agencies that elect to participate and implemented within their respective service areas).

As can be seen in Table I-1, *all 26 member agencies benefitted from the Core conservation programs* implemented by BAWSCA. Additionally, *22 out of 26 member agencies participated in one or more of the Subscription Programs* offered by BAWSCA, including rebates, water loss management and large landscape audits, in FY 2020-21.

This report documents BAWSCA's continued implementation of the Regional Water Conservation Program, which includes conservation measures that: (1) are included as part of its annual work plan, and (2) are consistent with the objectives of the WCIP (2009) and the Demand Study.

In FY 2020-21, BAWSCA continued to refine its current suite of water conservation programs in an effort to increase participation among its member agencies and their residents. Additionally, BAWSCA decided to conclude the High-Efficiency Toilet Rebate Program in FY 2020-21 due to low activity and market saturation.

As evidenced in the data presented in this report, *participation in the BAWSCA Regional Water Conservation Program increased overall in FY 2020-21 as compared to FY 2019-20*. This increase is largely attributed to new agency participation, persistent dry conditions and drought messaging, a sizeable uptick in Rain Barrel and Lawn Be Gone! rebates, and several programs that gained additional popularity in their second year (i.e., Smart Controller rebate program and Customer Meter Testing Program). Compared to FY 2012-13, the year immediately preceding the drought, expenditures in FY 2020-21 were 5% lower. BAWSCA will continue to adjust the type and number of conservation measures that it offers to match the needs of its member agencies and their customers.

Due to the COVID-19 pandemic, BAWSCA continued several actions to keep programs active, and in some cases, even boosted participation rates. These actions included:

- ◆ Changing the Residential Landscape Education Program to a virtual format using Zoom. However, because of virtual meeting fatigue, BAWSCA experienced a decrease in participation. In FY 2020-21, the Residential Landscape Education Program participation dropped to 1,345, a decrease of 39% from FY 2019-20.
- ◆ Continuing to offer the Earthcapades Program in a virtual format. Although, Earthcapades was unable to hold in person shows at schools, they were still able to hold 167 shows, a 13% increase from FY 2019-20.
- ◆ Bringing Back the Natives Garden Tour was offered virtually and partly in person which resulted in a total of 2,400 live views and 9,400 views on Youtube. This change made it possible for a much larger audience to be able to view the gardens.

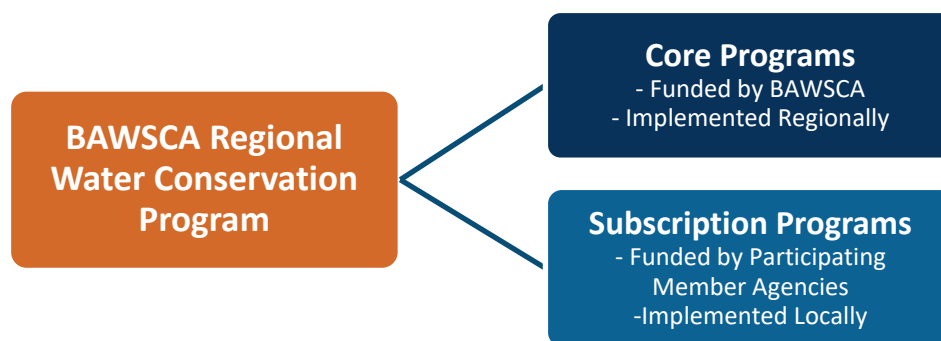
## 2. Overview of the BAWSCA Regional Water Conservation Program

BAWSCA follows several key principles in the development and implementation of its Regional Water Conservation Program:

- ◆ *Meet the specific needs and requirements* of the BAWSCA member agencies
- ◆ *Offer increased water savings at a lower cost* to the member agencies and their customers
- ◆ *Member agencies fund the Subscription conservation measures* they choose to implement

BAWSCA's Regional Water Conservation Program is a two-tier program that offers a "Core Program" and a "Subscription Program":

- ❖ The **Core Program** is *funded through BAWSCA's annual budget*; and features those *conservation measures that benefit from regional implementation and provide regional benefits*, irrespective of individual agency jurisdictions.
- ❖ The **Subscription Program** is *fully funded by the individual agency that elects to participate in the measure*, and funding is based on the agency's level of participation. The Subscription Program features *conservation measures whose benefits can be realized within individual water agency service areas*.



The following sections summarize the Core Programs and Subscription Programs that were offered as part of the BAWSCA Regional Water Conservation Program in FY 2020-21. In addition to the BAWSCA programs, *many of the member agencies administer additional water conservation measures independently or through another entity*, such as the Santa Clara Valley Water District (Valley Water).

## A. Core Programs

In FY 2020-21, BAWSCA implemented the following water conservation programs and initiatives as part of its Core Programs:

- ❖ Water Efficient Landscape Education Classes
- ❖ LEAK Work Group
- ❖ Advance Metering Infrastructure (AMI) Workshop
- ❖ Water-Wise Gardening in the Bay Area Landscape Educational Tool
- ❖ Native Garden Tours and Symposiums
- ❖ Water Conservation Database (WCDB)
- ❖ "Making Conservation a Way of Life" Strategic Plan
- ❖ Regional Water Demands and Conservation Projections (Demand Study)
- ❖ Public Outreach



## B. Subscription Programs

In FY 2020-21, BAWSCA implemented the following water conservation programs and initiatives as part of its Subscription Programs:

- ◆ Home Water Use Reports
- ◆ Lawn Be Gone! Turf Replacement Rebates
- ◆ Rain Barrel Rebates
- ◆ Large Landscape Audits
- ◆ Water-Wise School Education Kits and Curriculum
- ◆ EarthCapades Assemblies School Education Program
- ◆ Smart Controller Rebate Program
- ◆ WaterSense Fixtures Bulk Pricing Program
- ◆ Water Loss Management Program
- ◆ Customer Meter Testing Program

Each of these water conservation measures was administered by BAWSCA at the regional level in an *efficient, cost-effective* manner.







## C. Other Activities

To augment the Regional Water Conservation Program in FY 2020-21, BAWSCA continued to:

- ◆ Conduct *public outreach* promoting water awareness and conservation
- ◆ Develop and foster *regional partnerships*
- ◆ Investigate *grant funding* alternatives and other financial support
- ◆ Support member agencies' water conservation *reporting and budgeting* efforts
- ◆ Provide *technical support and training* to the member agencies
- ◆ Provide *legislation analysis* for the member agencies



BAWSCA continued to evaluate and analyze the Department of Water Resources' (DWR) Water Use Efficiency Legislation workshops in FY 2020-21. As a part of this effort, BAWSCA also hosted an October 2020 workshop and invited Eagle Aerial, a consultant working with DWR on the state's Landscape Area Measurements, to present. They provided updates on:

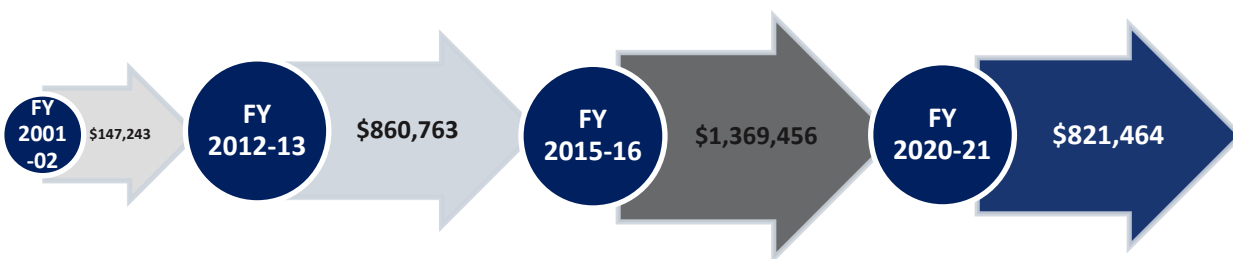
- ◆ DWR's Irrigated Vegetation Project and District Water Allocation processes
- ◆ The data that the agencies would be receiving from the State Project
- ◆ Water use reporting requirements
- ◆ A demonstration of the WaterView portal for both residential and CII accounts.



BAWSCA will continue to offer its agencies additional resources to help meet AB 1668 and SB 606 water use efficiency objectives.

## D. Program Participation and Budget Overview

The following section provides a comparison of the participation and associated expenditures in BAWSCA's Core and Subscription Programs each year since FY 2001-02. *In FY 2020-21, overall expenditures increased by 15%.* The main reason for this increase is due to the uptick in rebates issued as well as several new agencies joining the suite of water conservation subscription programs. In comparison to the \$147,243 expended in FY 2001-02, when BAWSCA first began offering regional programs, total expenditures are currently up by 458%, reflecting the increased focus on water conservation among the BAWSCA member agencies. BAWSCA will continue to evaluate the effectiveness of each of its conservation program offerings as part of its Regional Water Conservation Program management.



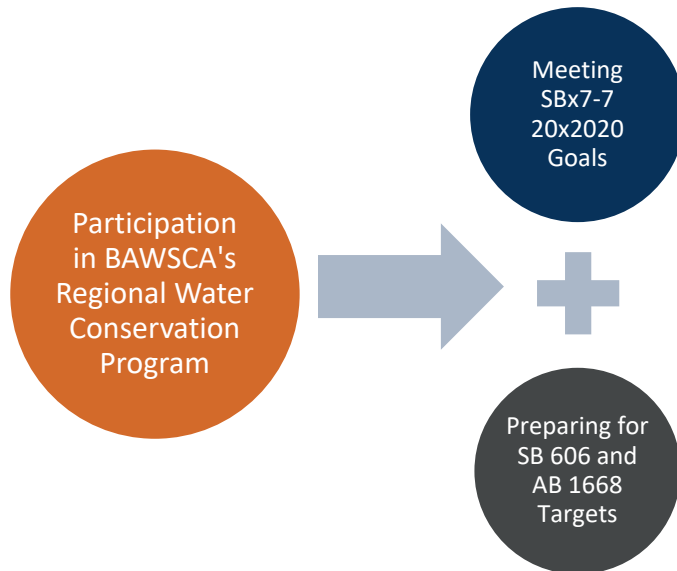
Many of BAWSCA's subscription conservation programs largely remained the same in terms of program participation. However, the launch of the Smart Controller Rebate Program as well as the Customer Meter Testing Program contributed to an increase in program activity by several member agencies. Program participation has largely returned to pre-drought levels, which is likely due to decreased customer interest and lower agency budgets for water conservation activities following a surge in activity during the 2014-2017 drought. BAWSCA's rebate programs, including the Lawn Be Gone Program, the Smart Irrigation Controller program and Rain Barrel Rebate program have increased compared to last year, but have also experienced overall downward trends in participation since the last drought. These downward trends can be attributed to lower customer interest surrounding high efficiency devices when water supplies are relatively strong. However, the launch of BAWSCA's two most recent programs exemplified further agency interest to provide their residents with additional resources to achieve higher levels of conservation. Compared to FY 2012-13, the most recent non-drought year, conservation program activity decreased by 5%. This is primarily due to Cal Water ending participation in BAWSCA's subscription programs after FY 2012-13.



Table 2-1, Table 2-2, and Table 2-3 detail the level of participation, as measured by member agency funding, for each Core and Subscription water conservation measure. Table 2-1 presents the annual BAWSCA Water Conservation Program budgets since FY 2001-02. Table 2-2 shows BAWSCA's regional Core Water Conservation Program summary since FY 2005-06. Table 2-3 shows select BAWSCA program expenditures from FY 2001-02 through FY 2020-21.

## E. Member Agency Support for BAWSCA's Water Conservation Programs

In June 2020, BAWSCA completed a Regional Water Demand and Conservation Projections Study (Demand Study) as Phase 3 of its "Making Conservation a Way of Life" Strategic Plan to identify additional ways to support the BAWSCA agencies in complying with new water use efficiency requirements in a cost-effective manner. As part of its work plan, BAWSCA is actively working with its members agencies to implement and expand the WCIP (2009) and the Demand Study. BAWSCA is currently tracking the Water Use Efficiency legislation and have taken steps to provide resources to its member agencies. *BAWSCA agencies have expressed a continued desire to participate in new and ongoing conservation measures offered by BAWSCA. Participation in BAWSCA's Regional Water Conservation Program assists agencies in meeting the existing Senate Bill x7-7 (SB x7-7) requirements for achieving a 20% reduction in urban water use by 2020 and will support agencies in complying with new water use efficiency targets to be implemented per SB 606 and AB 1668.*



### 3. BAWSCA Core Water Conservation Programs

The following sections provide detailed information regarding the conservation measures and initiatives implemented as part of BAWSCA's Core Programs in FY 2020-21.

#### A. Water Efficient Landscape Education Program

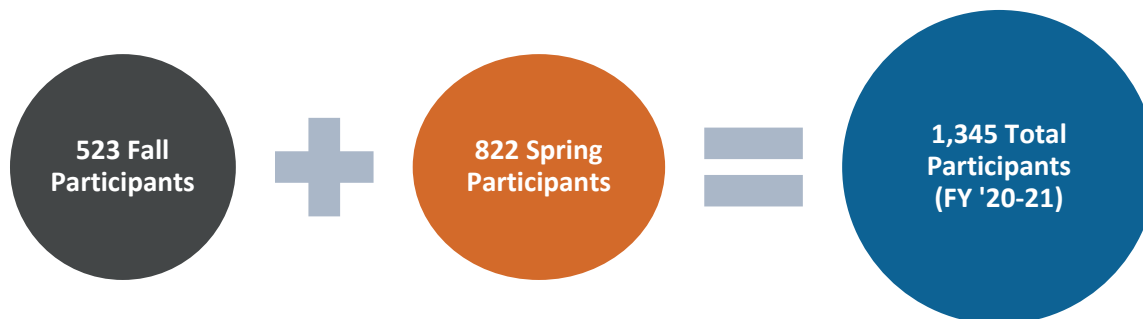


In FY 2020-21, BAWSCA partnered with the member agencies to provide the **Water Efficient Landscape Education Program**. Classes are offered to the public for free during the Spring and Fall seasons. *The classes are designed to introduce homeowners and landscape professionals to the concepts of sustainable landscape design with a focus on creating beautiful, water-efficient gardens as an alternative to lawns.* The types of classes include: (1)

lecture classes, where attendees receive an informative presentation and/or demonstration; (2) hands-on workshops, where attendees help install or maintain a water-efficient garden; and (3) virtual courses, which were instituted this fiscal year due to the COVID-19 pandemic.

BAWSCA offered *15 Fall landscape classes and hands-on workshops* from September through November 2020. The most requested topics by attendees included native and drought tolerant plants, design and planning, water wise edibles/gardening, and alternative to lawns. The classes with the highest levels of participation focused on maintaining healthy landscapes, native and drought-tolerant planting, and pruning and dead heading. *Approximately 523 people attended the 2020 Fall series.*

BAWSCA offered *17 Spring landscape classes* from March 2021 through the beginning of June 2021. Because of the COVID-19 pandemic, BAWSCA moved the Residential Landscape Education Program to an online format. This resulted in less classes offered due to cancellations but a high participation rate. Class topics included alternatives to lawn, gardening with succulents, native and drought tolerant planting, irrigation equipment upgrades, and natural pest deterrents. *Approximately 822 people attended the 2021 Spring Landscape Education Program series, a decrease of 39% from the 2020 Spring Landscape Education Program.*



As shown in Table 2-2, participation in the Water Efficient Landscape Education Program decreased from FY 2019-20. This could be due to online format fatigue or a higher focus in alternative conservation programs by BAWSCA agencies. However, overall interest and participation in the classes remain high among BAWSCA member agencies. BAWSCA continues to explore new class structures and marketing techniques to ensure the program meets the needs of customers. Due to the popularity of online learning, BAWSCA will continue the virtual format to offer residents the flexibility to attend these workshops from the comfort of their home.

## B. Water Wise Gardening in the Bay Area – Landscape Education Tool

In FY 2020-21, BAWSCA member agencies continued to promote the popular landscape education tool, **Water-Wise Gardening in the Bay Area**. This resource is now available online via BAWSCA's website so it can be readily accessed by the public. *It contains information on how to create and maintain a beautiful, low-water-use garden and includes photographs of water-efficient gardens with links to the plants featured in the gardens.* Most of the gardens are located within the Bay Area, specifically within the BAWSCA service area.

*In FY 2020-21, the Water-Wise Gardening in the Bay Area website had approximately 4,753 unique visitors and 5,749 total visits. This number represents a 47% increase in total visits from FY 2019-20. Since FY 2017-18, a total of 18,432 users have visited the Landscape Education Tool website.*

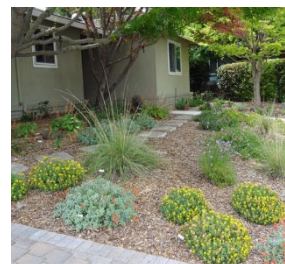




## C. Native Garden Tours and Symposiums

BAWSCA co-sponsored two garden tours in Spring of FY 2020-21. *Each tour was designed to showcase local homes that have beautiful water-conserving gardens comprised primarily of California native plants.* The tours take place throughout the Bay Area, although many gardens featured in the tours were located within the BAWSCA service area.

- ❖ **Going Native Garden Tour.** The seventeenth annual Going Native Garden Tour took place virtually throughout FY 2020-21. *There were 5 virtual tours held with a total of 312 participants. Additionally, 2,345 people in total viewed the recordings on YouTube.* Participants provided many positive comments about the tour and talks. Several gardens made special videos of varying lengths or slide shows that can be viewed at any time by going to the GNGT.org website and clicking on “2021 Gardens.”



- ❖ **Bringing Back the Natives Garden Tour.** The seventeenth annual Bringing Back the Natives Garden Tour took place on April 25, May 2, May 16, and May 23, 2021, and showcased gardens and nurseries located in 16 cities and unincorporated areas of Alameda and Contra Costa Counties. The tour took place virtually due to the COVID-19 pandemic. *The program had 2,400 live views and 9,400 total views to 25 open gardens and nurseries.* Over 50 talks and demonstrations were given at the showcased gardens and nurseries on tour.



## D. Regional Water Conservation Database

Since FY 2010-11, BAWSCA has operated and maintained a **Water Conservation Database** (WCDB) that serves as the repository for BAWSCA member agency water use and water conservation program information. BAWSCA utilized the database in FY 2020-21 to support several work efforts including the Demand Study.

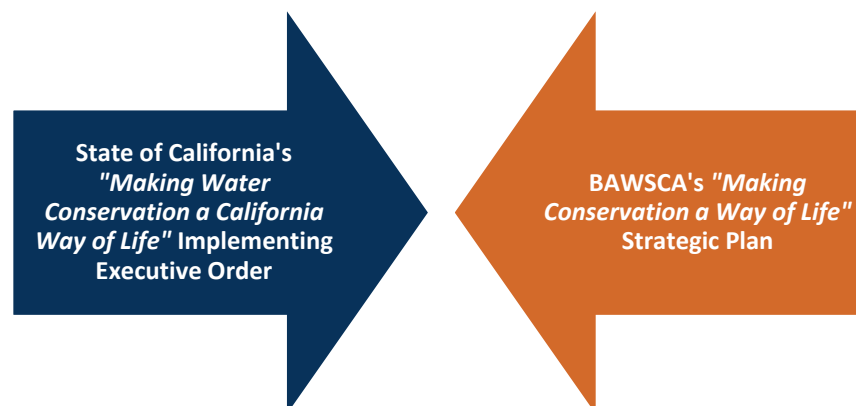
The purpose of the WCDB is to: (1) streamline data collection to *support tracking of water conservation activities* in the region; (2) *monitor quantifiable water savings* in the BAWSCA region; and (3) *facilitate data collection and data management* to support the following activities:



- ◆ Internal agency reporting and budgeting
- ◆ BAWSCA Annual Survey Report
- ◆ DSS Model updates
- ◆ “Making Conservation a Way of Life” Strategic Plan development
- ◆ DWR UWMP and annual Public Water Supervision System reporting requirements

## E. BAWSCA’s “Making Conservation a Way of Life” Strategic Plan

On April 7, 2017, the State of California released the “*Making Water Conservation a California Way of Life, Implementing Executive Order B-37-16*” Final Framework Report<sup>1</sup> (State Framework Report). The State Framework Report, which builds upon Governor Brown’s call for new long-term water use efficiency requirements in Executive Order B-37-16, outlines the State’s proposed approach for implementing new long-term water conservation requirements. *A key element of the report is new water use targets for urban water suppliers that go beyond existing SB x7-7 requirements*<sup>2</sup> and are based on strengthened standards for indoor residential per capita use;



outdoor irrigation; commercial, industrial, and institutional (CII) water use; and water loss.

**BAWSCA’s “Making Conservation a Way of Life” Strategic Plan (Plan)** *is being developed to support BAWSCA agencies in the implementation of proposed new water use targets.* BAWSCA contracted with Maddaus Water Management (MWM) and its team, consisting of

<sup>1</sup> California Department of Water Resources, et al. *Making Water Conservation a California Way of Life, Implementing Executive Order B-37-16*, April 2017. Online:

[http://www.water.ca.gov/wateruseefficiency/conservation/docs/20170407\\_EO\\_B-37-16\\_Final\\_Report.pdf](http://www.water.ca.gov/wateruseefficiency/conservation/docs/20170407_EO_B-37-16_Final_Report.pdf)

<sup>2</sup> SB X7-7, also known as the Water Conservation Act of 2009, was introduced after the drought of 2007-2009 due to the California Governor’s call for a statewide 20% reduction in urban water use by the year 2020. See the California Department of Water Resources website for more information:

[www.water.ca.gov/wateruseefficiency/sb7/](http://www.water.ca.gov/wateruseefficiency/sb7/)

Brown and Caldwell, Water Systems Optimization, Waterfluence, and Western Policy Research to complete Phase I.

Phase I of the Plan, completed in FY 2017-18, had two primary goals:

- ✓ *Evaluate the feasibility of implementing the proposed water use targets and the associated cost impacts to BAWSCA agencies.*
- ✓ *Identify actions to support BAWSCA agencies in preparing for and implementing the proposed water use targets.*

Phase I assessed BAWSCA agencies' current practices and water industry best practices for the components of the proposed new requirements that present the greatest level of uncertainty and potential risk to the BAWSCA agencies. Phase I identified five actions which were implemented in FY 2018-19 based upon: (1) their direct connection to known legislative requirements; and (2) their potential to provide key information to inform BAWSCA input into the public processes to develop water efficiency standards. These completed actions include:

- ✓ *Conducted a study to review current residential indoor and outdoor water use trends to determine current levels of water use and additional water savings potential.*
- ✓ *Organized an AMI symposium to enable information exchange, including case studies, implementation strategies, and data analysis techniques.*
- ✓ *Implemented a regional commercial, industrial, and institutional (CII) customer audit pilot program.*
- ✓ *Implemented a regional program for water loss control to help BAWSCA agencies comply with regulatory requirements and implement cost-effective water loss interventions.*
- ✓ *Engaged with the SFPUC to optimize meter testing and calibration practices for SFPUC's meters at BAWSCA agency turnouts.*

In FY 2018-19, BAWSCA completed Phase II of the BAWSCA "Making Conservation a Way of Life" Strategic Plan. Phase II of the Strategic Plan that had the following objectives:

- ◆ *Complete a Residential Water Use Study in order to provide insight into the current breakdown of indoor and outdoor water use among residential customers within the BAWSCA service area.*
- ◆ *Implement a CII Audit Program Pilot Project meant to evaluate the potential for the successful implementation of a Regional CII Audit Program.*

The Residential Indoor/Outdoor Water Use Study results were utilized in the development of BAWSCA agency demand projections as part of the Demand Study, which was completed in June of 2020. The following steps included: (1) setting up a Work Group of interested BAWSCA member agencies to discuss the development of a list of parameters to collect data; and (2) the continuation of AMI symposiums to discuss meter selection, implementation, data

collection, and data analysis. BAWSCA has since initiated work with the SFPUC on meter testing.

The CII Pilot Study was completed in FY 2019-20. BAWSCA's CII Pilot Tool accomplishments include a target industry being selected, the creation of an online survey tool on the BAWSCA website, the launch of the formal survey, and the analysis of survey results.

In FY 2020-21, BAWSCA continued to update its agencies on AB 1668 & SB 606 implementation progress. Although DWR was to provide urban water suppliers with landscape area measurements in January 2021, BAWSCA hosted a demonstration by Eagle Aerial, a key consultant working with DWR on this effort, in October 2020. Eagle Aerial provided:

- ◆ *An update on DWR Irrigated Vegetation Project and District water allocation process.*
- ◆ *An overview of their verification portal and data to be received by each district from DWR*
- ◆ *Water use reporting requirements*
- ◆ *A WaterView (Water Conservation Software) demo for both residential and commercial accounts. This tool helps agencies sort through LAM data provided by DWR and determines which parcels are included and which are left out.*

BAWSCA also hosted a Landscape Area Measurements (LAM) Workshop in April 2021 which covered:

- ◆ *An update on DWR's technical workgroup held on April 14, 2021.*
- ◆ *LAM data reviews recommendations and resources.*
- ◆ *An overview of California Data Collaboratives' (an outside consultant) water use objective tools.*
- ◆ *Waterfluence's CII LAM resources and BAWSCA's Large Landscape Program scope for FY 20-21.*

BAWSCA continued to provide regular updates at Water Resources Committee meetings throughout the fiscal year including timelines, expectations, DWR's options for setting the outdoor water use efficiency standards, techniques to help agencies review parcel accuracy, and options for outside consultant support. BAWSCA is currently evaluating several subscription programs to assist agencies in meeting their Urban Water Use Objectives.





## F. Qualified Water Efficient Landscaper Training Program



In 2019, BAWSCA contracted with the California Water Efficiency Partnership (CalWEP) to offer its member agencies the Spring 2020 Qualified Water Efficient Landscaper (QWEL) Training program within the BAWSCA service area. QWEL is a local training and certification program that provides landscape professionals, designers, architects, and others with 20

hours of classroom and hands-on training on topics related to water-efficient landscape installation and management.

In addition to 20 hours of classroom and hands-on training taught by QWEL certified instructors, the program provides a certification test for participants to receive a QWEL certified professional designation. The class is formatted to meet once weekly for four weeks and includes three 6.5-hour days and one 3.5-hour day, and can be offered in English or Spanish.

**BE WATER EFFICIENT**  
BECOME A QUALIFIED WATER EFFICIENT LANDSCAPER



Regional objectives for QWEL include: (1) increasing landscape professionals' awareness of and compliance with local water-use restrictions, and (2) reducing long-term landscape water use through wider adoption of proper care, irrigation management and other maintenance practices for water-efficient landscapes.

In FY 2020-21, in response to the COVID-19 pandemic, CalWEP began offering QWEL trainings online as part of the Bay Area Regional QWEL training program. As of May 2021, CalWEP completed 9 online QWEL trainings: 8 English and 1 Spanish pilot. Attendance was open to landscape and water conservation professionals conducting work within counties serviced by participating agencies. In total, *405 individuals enrolled in an online QWEL training between October 2020 and April 2021. Enrollment for the eight English trainings totaled 390 and 15 enrolled in the Spanish pilot. On average 49 students registered per online English QWEL training versus 38 students per in-person QWEL training.*

## G. Regional Demand and Conservation Savings Projections

BAWSCA utilizes **Decision Support System (DSS) Models**, developed for each member agency, as part of the Regional Demand and Conservation Projections Project (Demand Study). The Demand Study, completed in June 2020, developed *transparent, defensible, and uniform demand and conservation projections for each BAWSCA member agency*. These projections were used to support the development of BAWSCA's Long-Term Reliable Water Supply Strategy (Strategy) as well as other regional and agency-specific efforts. The objectives of the Demand Study were to:

- ◆ *Quantify the total average-year water demand* for each BAWSCA member agency through 2045.
- ◆ *Quantify the passive and active conservation water savings potential* for each BAWSCA member agency through 2045.
- ◆ *Identify conservation programs* for further consideration of regional implementation by BAWSCA.
- ◆ *Provide each member agency with a user-friendly model* that can be used to support ongoing demand and conservation planning efforts.



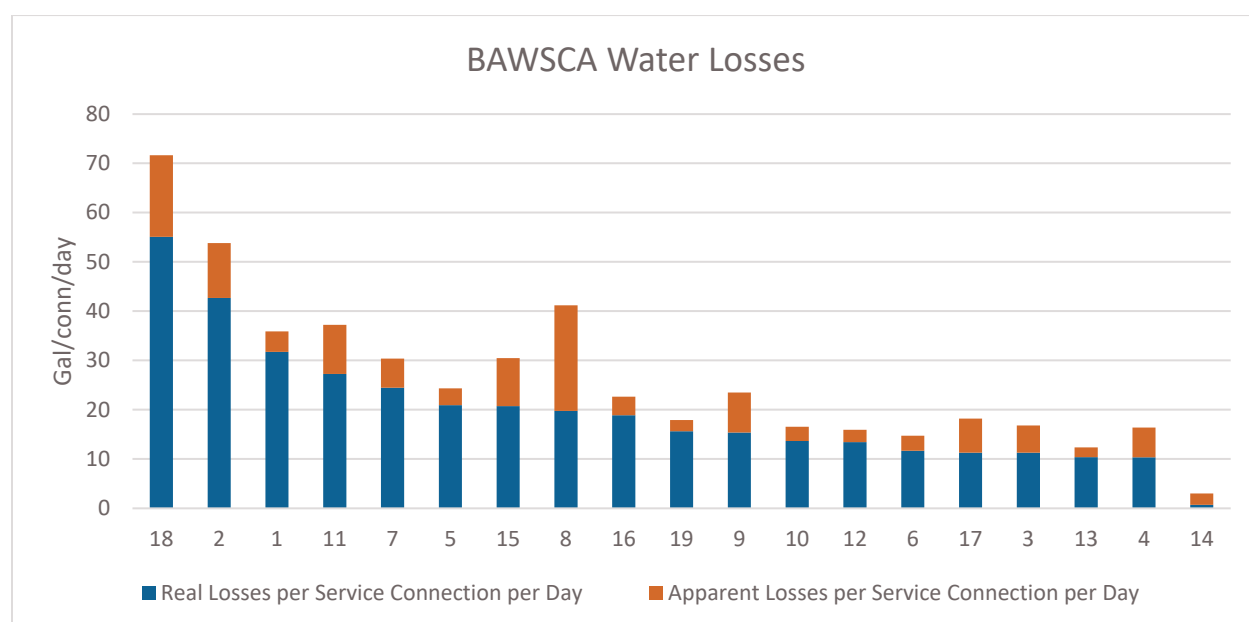
The intent of the update to the previous Demand Study, published in September 2014, was to revisit the estimate of water demand patterns and conservation savings potential for the BAWSCA agencies. In addition, it would produce necessary information to support individual agency efforts such as compliance with the new State water efficiency requirements and completion of UWMPs. The update was an 18-month work effort, aligned with the State's UWMP submittal schedule, and was completed in June 2020.

BAWSCA produced a final report that depicted updated service area populations, demand projections and potential new conservation measures through 2045. BAWSCA will utilize the results of the Demand Study to support implementation of its Long-Term reliable Water Supply Strategy. In particular, the Demand Study results will support decisions as to which new conservation measures to incorporate in BAWSCA's Regional Water Conservation Program. The results of the updated Demand Study are reflected in the FY 2020-21 BAWSCA Annual Survey.

## H. LEAK Workgroup

The Loss Evaluation & Knowledge (LEAK) Workgroup is a Core Program which provides water loss control education and peer-to-peer learning opportunities for BAWSCA member agencies. In FY 2020-21, the third LEAK Workgroup was held in February 2021. Topics included:

- ◆ *Water Loss Updates including AWWA's Free Water Audit Software v 6.0.*
- ◆ *Water Loss Standards Updates & Compliance including basics, timeline, and resources*
- ◆ *BAWSCA Program Offerings – Water Loss Management Program*
- ◆ *Prop I Grant Funding for Component Analysis*



## I. AMI Workshop

The purpose of BAWSCA's Advanced Metering Infrastructure (AMI) workshop series is to support member agency efforts to advance the implementation of AMI within their respective service areas, provide guidance on using AMI data to improve water use efficiency, provide a forum for information sharing between agencies, and identify potential opportunities for AMI planning and implementation.

Two workshop sessions were held in FY 2020-21 and are summarized in the sections below:

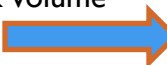
◆ ***June 10, 2021 – Pre-AMI Implementation Topics***

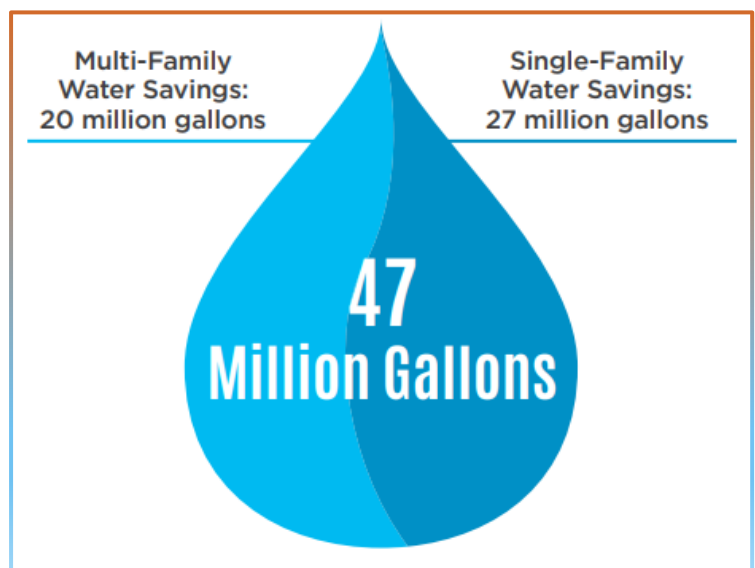
Key Takeaways

- ◆ AMI provides multiple benefits, including building trust with customers, identifying customer water use trends, helping to target outreach to customers, validating water savings and demands, and supporting enforcement actions.
- ◆ Feasibility studies for AMI can provide a range of options that help inform decision making, outlining benefits and costs to inform a payback period assessment.
- ◆ Additional benefits from AMI data include water loss mass balance, meter failure prediction, inputs for demand curves to support load shifting, and identifying properties with mixed meters.

◆ ***June 15, 2021 – Post-AMI Implementation Topics***

Key Takeaways

- ◆ Leak alert programs can be significant – SFPUC’s single-family and multi-family program saves **47 MG/year** (**47-54%** reduction in leak volume from having no program). 
- ◆ Customers who receive alerts via multiple communication methods rather than a mailed letter fix leaks faster and are more likely to take measurable steps to investigate the leak.
- ◆ Data is very important and useful for identifying and solving customer water use issues and for support during customer contacts.





## 4. BAWSCA Subscription Water Conservation Programs

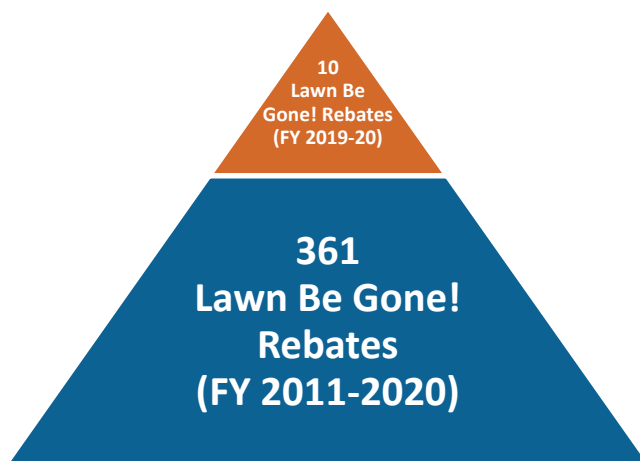
The following sections present detailed information on the individual conservation programs that constituted BAWSCA's Subscription Program in FY 2020-21.

### A. Lawn Be Gone! Program

Since 2010, BAWSCA's **Lawn be Gone! Program** has provided rebates to customers who replace turf with water-efficient landscaping. *In FY 2020-21, the program provided customers with rebates of \$1-\$4 per square foot of turf replaced, as determined by the participating BAWSCA member agency.* Per the Lawn Be Gone! Program terms, the new landscape must include at least 50% live plant coverage, with the remainder completed in permeable hardscape. All plants must be low water use plants from the BAWSCA-Approved Plant List.



Participation in this program provides BAWSCA members a way to offer their customers an incentive, via rebates, to reduce their outdoor water use and create long-term water savings. This program also has an educational element – demonstrating to the public that low water use landscapes can be an attractive alternative to lawns.



*Eight agencies participated in the Lawn Be Gone! Program in FY 2020-21 (see Table 4-1). In total, the BAWSCA member agencies issued 18 rebates in FY 2020-21 and supported the conversion of 16,963 square feet of turf grass to water-efficient landscaping.* The total program expenditure, including administration costs, was approximately \$42,922. A total of \$557,001 in rebates have been paid to customers within the BAWSCA service area since the program began in 2010.

In FY 2020-21, BAWSCA partnered with the San Mateo Countywide Water Pollution Prevention Program (SMCWPPP) to offer Lawn Be Gone! Participants an additional \$300 for the installation of a rain garden as a part of their project. A rain garden is a shallow landscaped depression that captures, cleans, and absorbs rainwater from a roof, driveway or street. In order to qualify for the rain garden rebate, applicants must apply to the Lawn Be Gone! Program and install a rain garden according to the minimum requirements listed in BAWSCA's terms and conditions. *In FY 2020-21, BAWSCA issued just 2 rain garden rebates through the Lawn*

*Be Gone! Program.* BAWSCA anticipates that the Rain Garden rebate will become more popular in the second year of the expansion as the program becomes more widely recognized in San Mateo County.

As part of its administration of the Lawn be Gone! Program, BAWSCA performed the following activities for the participating member agencies:

- ◆ Proposition 84 grant administration
- ◆ Development and production of promotional materials
- ◆ Development of the BAWSCA-Approved Plant list, which includes over 1,600 plants and denotes whether they are appropriate for the Coast, Peninsula or East Bay climates, as well as their water demand
- ◆ Advertising and outreach
- ◆ Hosting information on the BAWSCA website
- ◆ Coordinating management of rebate distribution and approvals in collaboration with customers and the participating agencies
- ◆ Tracking progress against individual agency conservation targets
- ◆ Initiating development of an online rebate application system

As seen in Table 4-1, *the cost-effectiveness of the BAWSCA Lawn Be Gone! Program in FY 2020-21 is estimated to be \$2,058 per AF of water saved.*

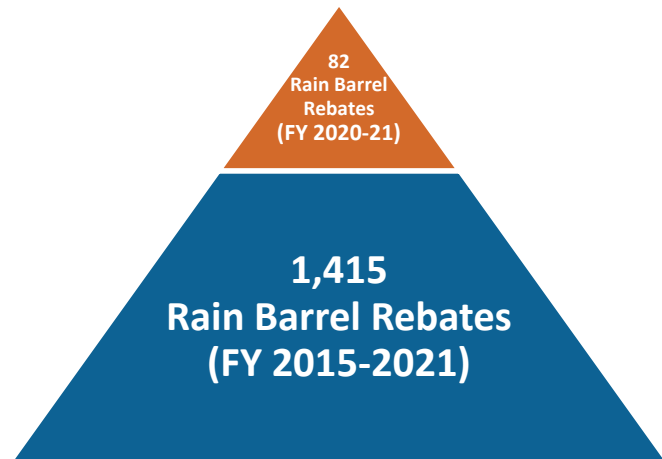


## B. Rain Barrel Rebate Program



Since 2014, BAWSCA has partnered with the San Mateo Countywide Water Pollution Prevention Program (SMCWPPP) on the **Rain Barrel Rebate Program**, to offer rebates of up to \$200 for the purchase and installation of rain barrels. Rain barrels are used to collect rainwater from hard surfaces, such as rooftops, to be stored for later use in watering landscapes. *In FY 2020-21, the SMCWPPP provided tiered rebates (based on capacity) of up to \$150 per rain barrel for installations within San Mateo County. Participating BAWSCA member agencies provided additional rebates of up to \$50 per rain barrel, for a total maximum customer rebate of \$200 in areas where both rebates were offered.*

Eleven agencies participated in the Rain Barrel Rebate Program in FY 2020-21 (see Table 4-2). In total, the BAWSCA program issued 82 rain barrel rebates (126 barrels totaling 19,939 gallons). 16 of these rebates were inside the BAWSCA service area in San Mateo County and received all funding from the SMCWPPP. Total expenditures were \$14,181. The water savings associated with each rain barrel installation is dependent on a variety of factors, including precipitation and time between rain events.



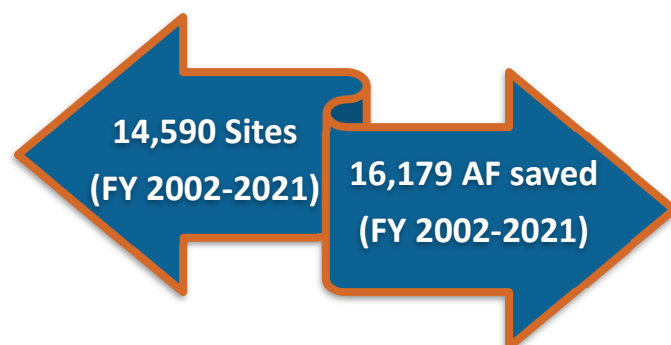
## C. Large Landscape Program

BAWSCA has offered the **Large Landscape Program** to its member agencies since FY 2002-03. This measure enables participating BAWSCA agencies to reduce the amount of water used for outdoor landscaping and to cost-effectively meet the requirements of the California Urban Water Conservation Council's (CUWCC) Programmatic Best Management Practice that targets large landscape customers.



*The Large Landscape Program measure provides landscape surveys to assess watering needs and distributes monthly landscape water budgets for select accounts.* This work is done by Waterfluence, under contract with BAWSCA, and includes audits to qualifying commercial and residential accounts. A key component of the measure implementation is the ongoing tracking of actual water use and estimated water savings at surveyed sites.

*A total of 1,433 sites in nine different member agency service areas participated in the BAWSCA Large Landscape Program measure in FY 2020-21, as shown in Table 4-3.* Additional BAWSCA member agencies also offer this program, contracting with Waterfluence independently or through Valley Water.



*The 2021 Waterfluence Annual Report found that overwatering at participating sites has dropped significantly since 2002, reaching a low point in 2015 during a statewide drought.* Overwatering has rebounded in subsequent years but is still below 2013 levels. Significant reductions in overwatering can still be made at commercial sites, sites with less than one acre of landscaping, sites planted predominantly with shrubs, and sites not including their landscape contractor as an online viewer.

As part of its administration of the Large Landscape Program measure for the participating member agencies, BAWSCA performed the following activities:

- ◆ Hosting information on the BAWSCA website
- ◆ Contract negotiation with Waterfluence
- ◆ Service as liaison between agencies and Waterfluence
- ◆ Managing agency invoicing

As can be seen in Table 4-4, *the unit cost of water saved by the Large Landscape Program measure in FY 2020-21 is conservatively estimated at \$98 per AF.*<sup>3</sup> Thus, this measure continues to be very cost effective, especially when compared to the wholesale cost of purchasing water from the SFPUC, which was \$1,960 per AF for FY 2020-21.

## D. School Education – Water Wise School Program

Since 2005, BAWSCA has contracted with Resource Action Programs (RAP) to implement the **Water Wise School Education Program**. *This program provides 5th grade students with educational, in-class water conservation materials and free indoor/outdoor water conservation kits (i.e., Water Wise Kits) designed to be used at home.* RAP has since transitioned to AM Conservation Group (AMCG) who works directly with teachers and schools to provide turnkey, in-class program and free Water Wise Kits.



The Water Wise curriculum is designed to be easily implemented by teachers and taken into the home by participating students. Each Water Wise Kit includes a water audit that students can perform at home with their parents as well as water-saving devices that can be

installed at the student's home (e.g., low-flow showerheads and faucet aerators). The materials provided to the teachers



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<sup>3</sup> The unit cost of water saved for this program varies year to year based on weather, observed water savings, the number of landscape surveys completed, and changes in program offerings and cost.



and students also include methods for calculating water savings resulting from the installation of equipment contained in the kit and performing the recommended water-saving actions.

After the student performs the audit and installs the water and energy-saving devices, affidavits signed by the parents are returned to the school, collected by the teacher, and forwarded to AMCG. This documentation allows AMCG to measure program implementation and quantify water savings that results from the program. RAP then prepares a final report for distribution to the participating agencies.

*RAP reports that participation in the FY 2020-21 Water Wise School Education Program is expected to result in savings of over 73 AF of water over the next 10 years.*

In addition to helping member agencies save water, the Water Wise school education measure assists participating agencies in implementing the CUWCC Foundational Education Programs, which include Public Information and School Education, as well as the CUWCC Programmatic Best Management Practice that targets residential customers. *In FY 2020-21, a total of 1,272 kits were distributed.*

This decrease is largely attributed to the COVID-19 pandemic as it prevented kits from being delivered when schools were shut down. Since the program's inception in FY 2005-06, a total of 40,766 students and teachers have participated in the Water Wise School Education Program. This yields an estimated total lifetime water savings of up to 6,273 AF. See Table 4-4.



As part of its administration of the Water Wise School Education Program for the participating member agencies, BAWSCA performed the following activities:

- ◆ Development and production of BAWSCA-specific promotional materials to insert into the Water Wise kits
- ◆ Hosting information on the BAWSCA website
- ◆ Contract negotiation with AM Conservation Group
- ◆ Serving as liaison between agencies and AMCG
- ◆ Managing agency invoicing
- ◆ Tracking progress against individual agency conservation targets

In FY 2020-21 BAWSCA provided an incentive to participating classrooms and students to increase participation in, and results from, the Water Wise School Education Program. Incentives were distributed by AMCG based on the following criteria:

- ◆ A \$100 cash prize was given to classrooms whose teachers enrolled in the Water Wise School Education Program and returned at least 80% the Water Wise home surveys.

- ◆ A gift valued at up to \$5 was given to students who completed the Water Wise surveys, documenting whether they installed the water conserving-devices from the kits in their homes, completed all the homework, and/or scored above 80% on the final written test given as part of the Water Wise school education measure.

As shown in Table 4-4, *the cost-effectiveness of the Water Wise School Education Program in FY 2020-21 is estimated at \$716 per AF of water saved*. Thus, this measure continues to be a very cost-effective means of achieving water conservation savings and educating students, especially when compared to the wholesale cost of purchasing water from the SFPUC, which was \$1,960 per AF for FY 2020-21.

## E. School Education – EarthCapades Assemblies

BAWSCA's school education efforts for FY 2020-21 included a school assembly program run by EarthCapades.

**EarthCapades Assemblies** *combine age-appropriate state science standards with circus skills, juggling, music, storytelling, comedy, and audience participation to teach environmental awareness, water science and conservation to students in grades K-8*. The EarthCapades assemblies are designed to include local water source and watershed education information as well as select information the participating member

agencies would like to share with their customers. BAWSCA and the participating member agencies provide specific information to EarthCapades regarding the San Francisco Regional Water System and other topics (e.g., recycled water). EarthCapades integrates this information into a custom script used during the assemblies conducted within the participating member agencies' service areas.



"I am SO IMPRESSED and SO APPRECIATIVE that you made this a virtual visit for us. The photo backgrounds made great connections for the kids, and they commented about how much they liked them. "

-Teacher, City of Hayward

*In FY 2020-21, 14 agencies sponsored 167 shows throughout the BAWSCA service area for a total expenditure of \$98,555 including BAWSCA administration fees. A total of 33,004 children attended the assemblies from 97 different schools within the BAWSCA service area.* The shows were generally very well received by the schools and agencies alike. Due to the COVID-19 pandemic, many of the shows were offered virtually, which was a driver for the

increased participation. This resulted in a larger capacity for shows and the ability to reach more students and schools.

As part of its administration of the EarthCapades school education measure for the participating member agencies, BAWSCA performed the following activities:

- ◆ Hosting information on the BAWSCA website
- ◆ Contract negotiation with EarthCapades
- ◆ Serving as liaison between agencies and EarthCapades
- ◆ Managing agency invoicing
- ◆ Tracking progress against individual agency conservation targets



## F. Smart Irrigation Controller Rebate Program

In 2020, BAWSCA, in partnership with Rachio, Inc. (Rachio) and Regional Water Authority (RWA), implemented a Regional Smart Controller Program which offers residential water customers of participating member agencies an instant rebate on the purchase of smart irrigation controllers. The goal of the program is to increase residential outdoor water use efficiency through better management of irrigation practices.

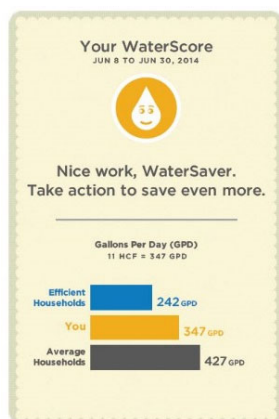
The Program enables customers to purchase smart controllers directly from Rachio on a website specifically developed for the Program. The smart controller selected for the Program is the Rachio 3 model, an EPA WaterSense labeled controller designed to help homeowners better understand their irrigation and make saving water easy and transparent. The Rachio 3 is offered at a total cost of \$174.99 plus applicable sales tax. Of this cost, the participating agency pays \$74.99, and the customer pays the remaining \$100 plus sales tax.



The Program also provides BAWSCA and each participating agency with a web-based online platform to provide information on the number of active Rachio controllers in each region, irrigation schedules, and weather data. The platform displays information for all Rachio controllers active in a participating agency's service area and provides the ability to distinguish between controllers activated independently by homeowners and controllers activate through the Program.

In FY 2020-21, seven agencies participated in the Smart Irrigation Controller Rebate Program. *In total, the participating BAWSCA member agencies issued 504 (a 96% increase from last year) controller rebates totaling \$41,385 in rebates paid to customers. As seen in Table 4-6, the estimated annual water savings of the BAWSCA Smart Irrigation Controller Rebate Program in FY 2020-21 is estimated to be 11.6 acre-feet.*

## G. Home Water Use Reports Program



In 2014, BAWSCA began contracting with WaterSmart Software to administer a **Home Water Use Reports Program**. *The Program provides customer water use portals and/or individual household reports that use data analytics and behavioral science techniques to provide customized water consumption information, messaging, and water-saving recommendations to customers.* The objective of the Program is to motivate customers to improve their water use efficiency through changes in behavior or adoption of more water efficient technology. The reports utilize social norms to motivate behavior change by comparing a household's water usage to that of their peers.

*Four agencies participated in the Home Water Use Reports Program in FY 2020-21. During that time, approximately 72,589 residential accounts received access to the customer portal or home water reports, yielding approximate 359 acre-feet in water savings.* As shown in Table 4-5, the unit cost of water saved in FY 2020-21 is estimated at \$762 per AF of water saved. Thus, this measure provides a cost-effective means of achieving water conservation savings and increasing customer engagement. This cost is lower than the wholesale cost of purchasing water from the SFPUC, which was \$1,960 per AF in FY 2020-21.



## H. WaterSense Fixtures Bulk Purchase Program

*The **WaterSense Fixtures Bulk Purchase Program**, launched in 2015, enables BAWSCA member agencies to purchase water conservation fixtures, devices, and giveaway items from AM Conservation through BAWSCA at a pre-negotiated bulk rate.* Participating agencies then distribute these devices to their customers, free of charge, to support customers in using water efficiently. Devices available through this program include low-flow showerheads, faucet aerators, hose nozzles, toilet leak detection tablets, shower timers, and soil moisture meters. Agencies may participate in the program on a rolling basis, placing orders through BAWSCA as needed throughout the year.



In FY 2020-21, two BAWSCA member agencies participated in the WaterSense Fixtures Bulk Purchase Program. *Participants purchased a total of 3,023 water-efficient fixtures.* These purchases included 120 shower heads, 240 faucet aerators, 135 shower timers, 120 hose nozzles, 288 moisture meters and 2,120 leak detection dye tablets.

## I. Water Loss Management Program

BAWSCA's Water Loss Management Program (WLMP) launched in 2018. The program, a recommended action in BAWSCA's "Making Conservation a Way of Life" Strategic Plan, supports participating BAWSCA agencies in reducing water losses to an economically optimized level and in complying with water loss requirements implemented by the State Water Resources Control Board (SWRCB) per SB 555. The WLMP includes two components:

- ◆ *The Loss Evaluation & Knowledge (LEAK) workgroup, which is a Core Program to provide water loss control education and peer-to-peer learning opportunities for BAWSCA member agencies.*
- ◆ *The WLMP Subscription Program, which provides individual support to BAWSCA agencies on water audit completion, validation, and other tasks associated with water loss management.*

BAWSCA member agencies can choose from a range of tasks to participate in. These tasks and subtasks include:

- ◆ *Support in compiling water audits & associated data.*
- ◆ *Level 1 Validation of audits to comply with SWRCB requirements.*
- ◆ *Component Analysis of real losses and apparent losses.*
- ◆ *Meter Accuracy Testing.*
- ◆ *Comprehensive Leak Detection.*

In FY 2020-21, 17 BAWSCA member agencies participated in the Water Loss Management Program. As seen in Table 2-3, expenditures for the program totaled \$125,475.

## J. Customer Meter Testing Program

In 2019, as part of the Water Loss Management Program, BAWSCA launched the Customer Meter Testing Program. BAWSCA's contractor, M&M Backflow &



Meter Maintenance, supports participating BAWSCA agencies in reducing water losses to an economically optimized level and in complying with water loss requirements implemented by the State of California. The Program has two key components: (a) bench testing of small meters (up to 2-inch diameter) and (b) field testing of large meters (greater than 2-inch diameter).

In FY 2020-21, five BAWSCA member agencies participated in the Customer Meter Testing Program. As seen in Table 4-7, *a total of 716 meters were tested totaling \$17,280 in program expenditures.*



Table I-1: BAWSCA Agency Participation in BAWSCA Regional Conservation Program (FY 2020-21)

Agency	BAWSCA Core Conservation Programs			BAWSCA Subscription Water Conservation Program									
	Landscape Education Class Participants	WaterWise Garden On-Line Tool	Public Outreach (c)	Smart Irrigation Controller Rebates	School Education: WaterWise Kits	School Education: EarthCapades Assemblies	Large Landscape Audits (d)	Rain Barrel Rebates (e)	Lawn Be Gone! Landscape Rebates	Customer Meter Testing Program	WaterSense Fixtures Bulk Order	Water Loss Management Program	Home Water Use Reports
<b>Alameda County</b>													
Alameda CWD	X	X	X	X			X	X					
Hayward	X	X	X		X	X	X	X				X	
<b>San Mateo County</b>													
Brisbane/GVMID	X	X	X			X	X	X	X				
Burlingame	X	X	X	X	X	X		X				X	
CalWater-BG	X	X	X										
CalWater-MidPen	X	X	X										
CalWater-SSF	X	X	X										
Coastside CWD	X	X	X			X						X	
Daly City	X	X	X			X		X			X	X	
East Palo Alto	X	X	X										
Estero MID	X	X	X		X	X	X		X	X		X	X
Hillsborough	X	X	X	X	X	X					X	X	X
Menlo Park	X	X	X	X	X	X	X		X			X	
Mid-Peninsula WD	X	X	X	X	X	X	X	X	X			X	
Millbrae	X	X	X	X		X	X	X	X	X		X	
North Coast CWD	X	X	X		X	X		X	X				
Redwood City	X	X	X	X	X	X	X	X	X	X		X	
San Bruno	X	X	X			X	X		X			X	
Westborough WD	X	X	X									X	
<b>Santa Clara County</b>													
Milpitas	X	X	X										
Mountain View	X	X	X			X		X				X	X
Palo Alto	X	X	X							X		X	
Purissima Hills WD	X	X	X									X	
San Jose	X	X	X									X	X
Santa Clara	X	X	X									X	
Stanford	X	X	X										
Sunnyvale	X	X	X									X	

**Notes:**

(a) Tables includes an "X" if an agency has participated in a specific measure in the last fiscal year.

(b) An absence of an "X" may not mean that agency does not implement a measure, just that it does not participate through BAWSCA on that measure.

(c) Includes several different programs that benefit the region, including Garden Tours, Outreach Events, and Sponsorships.

(d) Cal Water and Hillsborough Large Landscape Audit programs began with BAWSCA but were administered by the agencies starting in FY 2013-14.

(e) Through the San Mateo Countywide Water Pollution Prevention program, all San Mateo county residents were eligible for a \$50 rain barrel rebate. Only those agencies that offered a matching rebate are listed.

Table 2-1: BAWSCA Water Conservation Program Budgets

Fiscal Year	Budget	% Change
FY 2001-02	\$147,243	--
FY 2002-03	\$435,163	196%
FY 2003-04	\$229,734	-47%
FY 2004-05	\$453,605	97%
FY 2005-06	\$485,177	7%
FY 2006-07	\$602,599	24%
FY 2007-08	\$687,063	14%
FY 2008-09	\$980,225	43%
FY 2009-10	\$1,635,110	67%
FY 2010-11	\$1,299,502	-21%
FY 2011-12	\$967,075	-26%
FY 2012-13	\$860,763	-11%
FY 2013-14	\$831,155	-3%
FY 2014-15	\$1,060,118	28%
FY 2015-16	\$1,357,352	28%
FY 2016-17	\$722,483	-47%
FY 2017-18	\$712,444	-1%
FY 2018-19	\$806,112	13%
FY 2019-20	\$717,056	-11%
FY 2020-21	\$821,464	15%
<b>Total</b>	<b>\$15,811,442</b>	

Table 2-2: BAWSCA Core Regional Water Conservation Program Summary – FY 2020-21

Fiscal Year	Landscape Education Classes (# of classes)			Native Garden Tours, Conferences & Symposiums		WaterWise Gardening Website	
	Number of Classes	Number of Attendees	Expenditures	Number of Agencies	Expenditures	Number of Agencies	Expenditures
FY 2005-06 (a)	12	87	\$3,173	--	\$0	--	\$1,500
FY 2006-07 (a)	12	110	\$3,150	all	\$3,000	all	\$13,500
FY 2007-08 (b)	13	150	\$3,620	all	\$4,000	all	--
FY 2008-09 (c), (f)	17	320	\$7,199	all	\$5,000	all	\$5,000
FY 2009-10 (d)	41	918	\$20,059	all	\$5,814	all	\$5,100
FY 2010-11 (e), (f)	56	1,283	\$25,780	all	\$6,500	all	\$5,000
FY 2011-12	57	1,498	\$26,618	all	\$9,739	all	\$6,500
FY 2012-13	52	1,306	\$25,401	all	\$8,184	all	\$5,000
FY 2013-14	51	1,191	\$29,098	all	\$7,000	all	\$5,000
FY 2014-15 (g)	64	1,629	\$35,104	all	\$6,020	all	\$11,500
FY 2015-16	71	1,625	\$31,397	all	\$2,500	all	\$5,000
FY 2016-17	68	1,396	\$21,232	all	\$2,500	all	\$5,000
FY 2017-18	48	816	\$24,071	all	\$2,500	all	\$5,000
FY 2018-19	61	1,699	\$21,216	all	\$2,500	all	\$5,000
FY 2019-20	39	2,197	\$17,696	all	\$2,500	all	\$5,000
FY 2020-21	32	1,345	\$13,421	all	\$2,500	all	\$5,000

**Notes:**

(a) In FY 2005-06 and FY 2006-07 BAWSCA partnered with member agencies to offer 4 landscape classes. However, BAWSCA also helped promote 8 additional classes that were being held by other member agencies (i.e., a total of 12 classes).

(b) In FY 2007-08, BAWSCA co-sponsored 7 classes and co-promoted 13.

(c) In FY 2008-09 BAWSCA co-sponsored 10 classes and co-promoted 17.

(d) In FY 2009-10 BAWSCA co-sponsored 38 classes and co-promoted 3.

(e) In FY 2010-11 BAWSCA co-sponsored 55 classes and co-promoted 1.

(f) The \$5,000 per year licensing fee for the GardenSoft software for FY 2010-11 was actually paid for in FY 2008-09 because of the terms of the Agreement.

(g) In FY 2014-15 Water-Wise Gardening Website expenditures include a licensing fee (\$5,000) and website redesign and enhancement costs.

Table 2-3: BAWSCA Regional Subscription Water Conservation Program Summary – FY 2020-21

Subscription Program		Fiscal Year											
		FY 2009-10	FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Smart Controller Rebate Program	Number of Agencies	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6	7
	Expenditures	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$21,020	\$41,385
High-Efficiency Toilet Rebates (b)	Number of Agencies	14	14	14	15	12	14	14	13	15	12	11	N/A
	Expenditures	\$393,786	\$317,282	\$161,543	\$170,676	\$201,096	\$314,917	\$335,737	\$125,788	\$57,095	\$41,202	\$36,769	\$ -
Lawn Be Gone! Landscape Rebates	Number of Agencies	--	9	9	10	12	12	10	10	8	8	8	8
	Expenditures	\$0	\$6,751	\$17,778	\$8,611	\$11,392	\$141,832	\$177,170	\$64,236	\$36,618	\$67,430	\$17,608	\$42,922
Rain Barrel Rebates	Number of Agencies	--	--	--	--	--	8	10	9	8	8	8	11
	Expenditures	\$0	\$0	\$0	\$0	\$0	\$34,537	\$46,484	\$12,256	\$12,719	\$10,255	\$6,008	\$14,181
Large Landscape Audit	Number of Agencies	12	9 (a) (b)	9 (a) (b)	9 (a) (b)	8 (a) (b) (c)	9 (a) (b) (c)	10 (a) (b) (c)	9	9	9	9	9
	Expenditures	\$163,879	\$103,948	\$100,789	\$67,377	\$86,816	\$63,381	\$100,992	\$92,663	\$86,977	\$94,900	\$110,652	\$132,833
School Education - EarthCapades Assemblies	Number of Agencies	--	12	13	12	13	13	13	10	10	11	13	14
	Expenditures	\$0	\$53,295	\$64,305	\$64,110	\$58,565	\$52,180	\$64,575	\$58,895	\$62,695	\$58,270	\$82,800	\$98,555
School Education - Water Wise Kits	Number of Agencies	12	11	8	6	8	8	8	8	8	8	8	8
	Expenditures	\$104,091	\$121,990	\$112,172	\$70,003	\$87,415	\$90,562	\$99,582	\$99,505	\$92,984	\$78,566	\$52,767	\$50,732
Customer Meter Testing Program	Number of Agencies	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4	5
	Expenditures	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$4,570	\$17,280
Home Water Use Reports	Number of Agencies	--	--	--	--	--	--	3	4	4	4	4	4
	Expenditures	\$0	\$0	\$0	\$0	\$0	\$0	\$325,751	\$235,530	\$311,207	\$282,374	\$216,429	\$274,276
WaterSense Fixtures Bulk Purchase Program (c)	Number of Agencies	--	--	--	--	--	--	--	5	3	4	2	2
	Expenditures								\$4,877	\$20,578	\$5,042	\$4,382	\$2,903
Water Loss Management Program	Number of Agencies	--	--	--	--	--	--	--	--	--	16	16	17
	Expenditures	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$139,358	\$138,855	\$125,476

**Notes:**

(a) Cal-Water continues to offer the program, but now implements the program independently because it has taken the BAWSCA program state-wide in all of its districts, and is not included herein.

(b) HET Program ended in FY 2019-20

(c) FY 2017-18 expenditures includes purchases by Ecology Action, a non-profit organization installing water-efficient fixtures in disadvantaged communities in the BAWSCA service area.

Table 4-1: Lawn Be Gone Rebates Summary – FY 2020-21

Fiscal Year	Number of Participating BAWSCA Agencies	Total Rebates Issued	Total Square Feet Converted	Estimated Annual Water Savings (acre-feet, AF) (a)	BAWSCA Administrative Cost (b)	Program Cost (Rebates Paid to Customers) (c)	Unit Cost of Water Saved (\$/AF) (d)
FY 2010-11	9	16	17,079	0.98	\$1,734	\$5,017	--
FY 2011-12	9	16	37,635	2.09	\$3,760	\$14,018	\$434
FY 2012-13	10	16	10,226	0.70	\$2,914	\$5,697	\$628
FY 2013-14	12	17	11,852	0.82	\$2,420	\$8,972	\$709
FY 2014-15	12	100	89,349	6.2	\$10,329	\$131,503	\$1,168
FY 2015-16	10	93	102,461	5.9	\$3,540	\$173,630	\$1,459
FY 2016-17	10	42	40,025	2.3	\$840	\$63,396	\$1,428
FY 2017-18	8	23	23,430	1.3	\$1,380	\$35,238	\$1,370
FY 2018-19	8	28	55,094	3.2	\$1,472	\$65,958	\$1,089
FY 2019-20	8	10	9,063	0.5	\$1,198	\$16,410	\$1,728
FY 2020-21	8	18	16,963	0.97	\$5,760	\$37,162	\$2,058
<b>Totals</b>	<b>--</b>	<b>379</b>	<b>413,177</b>	<b>25.0</b>	<b>\$35,347</b>	<b>\$557,001</b>	<b>--</b>

**Notes:**

- (a) Estimated water savings based on water use differential between a turf grass (assumed to use 3.5 acre-feet per acre) and either water-efficient plantings (assumed to use 1.0 acre-feet per acre) or permeable hardscape, which is assumed to use no water.
- (b) Includes BAWSCA staff hours, database management, materials design and printing and other administrative services.
- (c) In FY 2014-15, the cost to agencies was \$1 to \$2 per square foot of turf grass replaced. In FY 2015-16 to present, the cost to agencies was \$1 to \$4 per square foot of turf replaced.
- (d) Assumes a 15-year project life and 15 years of resultant water savings. Assumes a discount rate of 3.01% and a cost of water of \$1,960 per acre-foot each, which represents the SFPUC FY 20-21 rate including bond surcharges.



Table 4-2: Rain Barrel Rebates Summary – FY 2020-21

Fiscal Year	Number of Participating BAWSCA Agencies	Rebates Issued by BAWSCA Agencies	Additional Rebates Issued by SMCWPPP (b)	Total Barrels Rebated (c)	Total Barrel Capacity (gallons) (c)	BAWSCA Administrative Cost	Program Cost (Rebates Paid to Customers)
FY 2014-15 (a)	8	331	110	N/A	N/A	\$6,808	\$27,729
FY 2015-16	10	445	122	N/A	N/A	\$8,436	\$38,048
FY 2016-17	9	74	37	N/A	N/A	\$4,562	\$7,694
FY 2017-18	8	69	37	N/A	N/A	\$5,259	\$7,460
FY 2018-19	8	53	13	N/A	N/A	\$4,551	\$5,704
FY 2019-20	8	38	4	N/A	N/A	\$3,100	\$2,908
FY 2020-21	11	66	16	126	19,939	\$3,990	\$10,191
<b>Totals</b>	<b>--</b>	<b>1076</b>	<b>339</b>	<b>126</b>	<b>19,939</b>	<b>\$36,706</b>	<b>\$99,733</b>

**Notes:**

(a) Program launched on October 1, 2014

(b) Rebates within San Mateo County, outside the service area of a participating BAWSCA member agency, are funded entirely by the SMCWPPP.

(c) With the launch of the Droplet Rebate Portal, BAWSCA began tracking total number of barrels and total barrel capacity in FY 2020-21

Table 4-3: Large Landscape Audit Summary – FY 2020-21

Program Information	Number of Participating BAWSCA Agencies	Number of Landscaping Sites (f)	Estimated Annual Water Savings (acre-feet, AF) (a)	BAWSCA Administrative Cost (d)	Program Cost	Unit Cost of Saved Water (\$/AF) (e)
FY 2002-03	4	240	N/A	--	\$65,132	N/A
FY 2003-04	5	240	299	--	\$23,802	\$80
FY 2004-05	4	258	212	--	\$29,663	\$140
FY 2005-06	5	258	520	--	\$24,720	\$48
FY 2006-07	6	273	543	--	\$23,362	\$43
FY 2007-08	9	630	602	--	\$84,425	\$63 - 124
FY 2008-09 (b)	11	712	435	--	\$108,382	\$83 - 125
FY 2009-10 (c)	12	958	1,080	\$1,776	\$162,103	\$58
FY 2010-11	9	646	632	\$1,332	\$102,764	\$82
FY 2011-12	9	711	786	\$1,332	\$66,045	\$131
FY 2012-13	9	810	990	\$1,332	\$66,045	\$90
FY 2013-14	8	787	865	\$1,184	\$85,632	\$99
FY 2014-15	9	1248	2,204	\$1,332	\$62,049	\$29
FY 2015-16	9	973	1,432	\$1,184	\$99,808	\$71
FY 2016-17	9	967	923	\$1,184	\$91,479	\$100
FY 2017-18	9	994	949	\$1,184	\$85,793	\$92
FY 2018-19	9	1017	971	\$1,332	\$94,900	\$99
FY 2019-20	9	1435	1,370	\$1,332	\$110,652	\$82
FY 2020-21	9	1433	1,368	\$1,332	\$132,833	\$98
<b>Totals</b>	<b>--</b>	<b>14,590</b>	<b>16,179</b>	<b>15,836</b>	<b>\$1,519,589</b>	<b>--</b>

**Notes:**

- (a) Water savings estimated on a calendar year basis. Savings reflect the difference between reporting year's water use and pre-program annual water use.
- (b) For FY 2008-09, includes water use for the sites that have been in the program since 2004.
- (c) For FY 2009-10, includes water use for the sites that have been in the program prior to 2009.
- (d) Includes BAWSCA staff hours, materials printing and other administrative services.
- (e) For FY 2007-08 through FY 2012-13, unit cost of saved water from Landscape Program Summary Reports (2008; 2009; 2010; 2011; 2012; 2013).
- (f) Does not include California Water Service sites beginning in FY 2015-16.

Table 4-4: Water Wise School Education Summary – FY 2020-21

Fiscal Year	Number of Participating BAWSCA Agencies	Number of Participants	Estimated Annual Water Savings (gallons per kit) (a) (b)	Estimated Lifetime Savings for Kits Installed (acre-feet, AF) (a) (b)	BAWSCA Administrative Cost (c)	Program Costs (Kit Distribution)	Unit Cost of Saved Water (\$/AF) (b)
FY 2005-06	6	1,554	17,451	499	--	\$51,671	\$103
FY 2006-07	11	2,871	17,451	922	--	\$93,023	\$101
FY 2007-08	14	3,737	17,451	1,201	--	\$126,819	\$106
FY 2008-09	14	3,685	9,785	975	--	\$111,515	\$114
FY 2009-10	12	2,903	6,475	512	--	\$104,091	\$203
FY 2010-11 (d)	8	3,342	4,844	316	\$4,887	\$117,103	\$385
FY 2011-12 (d)	8	3,221	3,892	262	\$3,221	\$108,951	\$427
FY 2012-13 (d)	6	2,144	5,110	165	\$2,144	\$67,859	\$425
FY 2013-14 (d)	8	2,668	4,324	184	\$2,668	\$84,747	\$474
FY 2014-15 (d)	8	2,676	4,965	216	\$2,676	\$87,886	\$420
FY 2015-16 (d)	8	2,452	5,284	228	\$2,452	\$97,130	\$437
FY 2016-17	8	2,519	5,709	261	\$2,519	\$96,986	\$382
FY 2017-18	8	2,315	5,284	228	\$2,315	\$90,669	\$408
FY 2018-19	7	2,037	3,891	136	\$2,037	\$76,529	\$580
FY 2019-20	8	1,370	4,126	96	\$1,370	\$51,397	\$552
FY 2020-21	8	1,272	3,206	73	\$1,272	\$50,732	\$716
<b>Totals</b>	--	<b>40,766</b>	<b>119,249</b>	<b>6,273</b>	<b>\$27,561</b>	<b>\$1,417,107</b>	--

**Notes:**

(a) For years prior to FY 2008-09, water savings estimated based on an assumed 60 percent installation rate and a 10 year lifetime.

(b) For FY 2008-09 through FY 2013-14, water savings estimated based on actual reported installation rate and a 10 year lifetime. (Resource Action Reports, 2009; 2010; 2011; 2012).

(c) Includes BAWSCA staff hours, materials design and printing and other administrative services.

(d) Starting in 2010 water savings estimates were modified to reflect updated estimates by EPA WaterSense.

Table 4-5: Home Water Use Reports Program FY 2020-21

Fiscal Year	Number of Participating BAWSCA Agencies	Number of Households Enrolled	BAWSCA Administrative Cost (a)	Program Costs	Unit Cost of Saved Water (\$/AF)
FY 2015-16	3	50,350	\$0	\$325,751	\$1,305
FY 2016-17	4	56,300	\$600	\$234,930	\$841
FY 2017-18	4	73,205	\$600	\$311,207	\$857
FY 2018-19	4	73,275	\$600	\$282,374	\$777
FY 2019-20	4	72,589	\$600	\$216,429	\$601
FY 2020-21	4	72,589	\$600	\$274,276	\$762
<b>Totals</b>	<b>--</b>	<b>--</b>	<b>\$3,000</b>	<b>\$1,644,967</b>	<b>--</b>

**Notes:**

(a) BAWSCA administration not charged in first program year. Ongoing cost is \$150 per agency.

Table 4-6: Smart Irrigation Controller Rebate Program FY 2020-21

Fiscal Year	Number of Participating BAWSCA Agencies	Controllers Issued by BAWSCA Agencies	Estimated Annual Water Savings (acre-feet, AF) (c)	Estimated Lifetime Savings for Kits Installed (acre-feet, AF) (d)	BAWSCA Administrative Cost	Program Cost (Rebates Paid to Customers)	Unit Cost of Saved Water (\$/AF)
FY 2019-20	6	256	5.9	58.9	\$0	\$21,020	\$3,570
FY 2020-21	7	504	11.6	115.9	\$1,000	\$41,385	\$3,656
<b>Totals</b>	<b>--</b>	<b>760</b>	<b>17.48</b>	<b>174.8</b>	<b>\$1,000</b>	<b>\$62,405</b>	<b>\$7,226</b>

**Notes:**

(a) Program launched on February 18, 2020

(b) Program runs from February - February due to RWA's funding structure.

(c) Estimated Water Savings assumptions: Estimating 55 annual inches of water, the project falls within Climate Zones 13 and 14 as identified by DWR California Irrigation Management Information System Stations which have an ETo of 57 and 54 inches respectively. Homes in the area average about 2,000 square feet (sq ft) of landscaping. The total estimated applied water for cool season turf grass is 68,530 gallons per site. This is calculated by (55 inches per year) \* 2,000 sq ft \* 0.623 (inches/sq ft/gallons) = 68,530 gallons used per site. Finally, 30% savings is estimated from SMART Controllers and efficiency upgrades (drip systems, etc.) installation. Water Savings estimated at 0.023 AF per controller.

(d) Lifetime savings assumes a 10-year project life



Table 4-7: Customer Meter Testing Program FY 2020-21

Fiscal Year	Number of Participating BAWSCA Agencies	Customer Meters Tested	BAWSCA Administrative Cost (a)	Program Cost
FY 2019-20	4	225	\$512	\$4,570
FY 2020-21	5	716	\$640	\$17,280
<b>Totals</b>	<b>--</b>	<b>941</b>	<b>\$1,152</b>	<b>\$21,850</b>
<b>Notes:</b>				
(a) BAWSCA administration fee waived for first year of the program.				