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Water Check 2024 report



2024 Water Check Program Report

Prepared for the Metropolitan Water District of Salt Lake and Sandy

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2024 WATER CHECK PROGRAM OVERVIEW

In 2024, the Water Check Program supported 3 teams of Water Checkers to conduct residential, commercial, and institutional Checks. Two of the teams were sponsored by Metropolitan Water District of Salt Lake and Sandy (MWDSL) and the other was sponsored by the Salt Lake City Department of Public Utilities (SLCDPU). The SLCDPU team focused on Checking city properties and continued to work with Sugar House Park to complete a Water Check of the entire property. We started the 2024 season on May 13th and ended on August 26th.

The early season was focused on contacting all participants who requested Checks following the completion of the 2023 season. These requests were organized by location and date of request and contacted in the order in which they were received. Three means of communication were utilized (phone, text, email) and at least 3 separate contacts were made (very often 9) to ensure that those who still wanted a Water Check received one. This process began in March/April and continued throughout the season as we received more requests.

We continued to have the occasional “no show” or cancellation due to illness this year and so continued to provide employees with face masks and sanitizing products. In the event that program participants requested the use of masks, employees were able to comply.

THE WATER CHECK PROCEDURE

In addition to the ongoing COVID-19 safety measures, the Water Check process consisted of five steps:

- Conducting a site walk-through;
- Conducting catch cup, pressure, soil/root depth tests;
- Analyzing site information and test data using a tablet-based application;
- Preparing a customized watering schedule, and;
- Explaining and summarizing Water Check results with the participant.

WATER CHECK PROGRAM DATA

Data collected in the program included, but was not limited to:

- Participant information (i.e. own vs. rent, number of individuals in household);
- Landscape and parcel data (i.e. square footage of parcel, turf, hardscape);
- Irrigation system data (i.e. existing irrigation schedule, location of broken heads), and;
- Program marketing data (i.e. how did participants learn about the program).

PARTICIPATION DATA

The number of residential Checks completed in Salt Lake City in 2024 was 162, while the number of residential Checks completed in Sandy City was 104. In addition, 11 CII Checks were completed in Salt Lake City and 8 CII Checks were completed in Sandy City. Of the CII Checks in Salt Lake City, 4 were parks, 2 were HOAs, and 5 were other city properties. Of the CII Checks in Sandy City, 3 were parks, 4 were city properties, and 1 was a theater.

Since 2005, 3,967 residential Water Checks have been conducted in MWDSLS service area, along with 211 CII Checks (Table 1).

Table 1. Number of residential and CII Water Checks for the MWDSLS service area, 2005-2024. Numbers in parentheses indicate the number of HOA units represented (participant numbers for previous years may be found in previous year's reports).

	SLCDPU		Sandy City		MWDSLS	
	Residential	CII	Residential	CII	Residential	CII
2005	50	0	34	2	84	2
2006	62	7	29	1	91	8
2007	58	13	29	0	87	13
2008	170	2	52	1	222	3
2009	158	5	76	1	234	6
2010	203	14	50	1	253	15
2011	104	6	38	0	142	6
2012	104	0	45	0	149	0
2013	185	4	52	2	237	6
2014	206	1	44	0	250	1
2015	141	8	46	0	187	8
2016	104	2	53	0	157	2
2017	64	0	121	1	185	1
2018	79	1	53	14	132	15
2019	43	1	25	0	68	1
2020	67	34	54	5	121	39
2021	166	26	51	1	217	27
2022	421	14 (199)	233	3 (36)	654	17 (235)
2023	157	22 (251)	74	0	231	22 (251)
2024	162	11 (258)	104	8	266	19 (258)
Total	2704	171	1263	40	3967	211

LANDSCAPE AND PARCEL DATA

Parcel size data as it relates to landscaped and irrigated area are essential for detailed analyses of water use on a per-parcel basis. Among 162 residential participants within the SLCDPU service area, average parcel size was 12,544 ft², and irrigated landscape area as a percentage of lot size was 49% (Table 2). These numbers reflect an increase from the average size of landscapes evaluated in 2023 (11,494 ft²), and a similar percentage of irrigated landscape area (51%).

Among Sandy City’s 104 residential participants in 2024, average parcel size was 11,930 ft², and irrigated landscape area as a percentage of lot size was 54% (Table 2). These numbers reflect an increase from the average size of landscapes evaluated in 2023 (11,518 ft²), and a slight increase in the percentage of irrigated landscape area (52%).

Across the MWDSLS service area, average parcel size was 12,237 ft², and irrigated area as a percent of lot size was 51% (Table 2). These numbers reflect an increase from the average size of landscapes evaluated in 2023 (11,506 ft²) but are the same in terms of percentage of irrigated landscape area (51%).

For landscapes in Salt Lake City, the percentage of turfgrass decreased from 33% to 31%. For landscapes in Sandy City, the percentage of turfgrass was the same as 2023 (38%).

Table 2. Average residential parcel and landscaped areas in the MWDSLS service area (2023).

	SLCDPU		Sandy City		MWDSLS	
	ft ²	% of Parcel	ft ²	% of Parcel	ft ²	% of Parcel
Avg. Parcel Area	12,544		11,930		12,237	
Avg. Hardscape Area	5645	45%	4517	38%	5081	41%
Avg. Turfgrass Area	3916	31%	4544	38%	4230	35%
Avg. Other Irrigated Area	2249	18%	1993	17%	2121	17%
Avg. Total Irrigated Area	6165	49%	6435	54%	6300	51%

IRRIGATION SYSTEM DATA

Water Check Program employees tested the precipitation rates, distribution uniformities and dynamic pressures of “testable” zones for each irrigation system evaluated. Precipitation rate is the rate at which irrigation water is applied per unit of time measured in inches per hour (in/hr). Distribution uniformity (DU) refers to how evenly the irrigation system applies water to a given

area and is often expressed as a percentage or a decimal. Dynamic pressure is defined as a property of a moving flow of liquid expressed as pounds per square inch (psi).

Overhead spray irrigation heads are designed to apply a continuous stream of water and are fitted with nozzles. These heads are generally designed to cover relatively small areas with spray radii between 3 and 15 feet, and a specified operating pressure between 15 and 30 psi. Spray head precipitation rates generally vary from 1 to 2.5 inches per hour.

Rotor heads provide single or multiple streams of water to the landscape and distribute water in an arc pattern, typically ranging from 40 to 360 degrees. The spray radius for most rotor heads is 20 to 150 feet with a precipitation rate between 1 to 1.5 inches per hour. Additionally, rotor heads operate under a wide range of dynamic pressures, ranging from 20 and 100 psi.



Figure 1. Examples of a rotor sprinkler head (L) and an overhead spray sprinkler head (R).

Average sprinkler precipitation rates were variable across the SLCDPU and Sandy City service areas, with spray heads applying higher precipitation rates than rotor heads or MSMT heads. In the SLCDPU service area, average precipitation rate for residential properties was 1.16 in/hr and average DU was 53%. In the Sandy City service area, average precipitation rate for residential properties was 1.09 in/hr and average DU was 52%. Distribution uniformities in both service areas were less than what is achievable according to manufacturer's specifications, regardless of head type (65% and 75% DU are considered achievable for spray and rotor heads, respectively).

The highest DU observed in the SLCDPU service area was 81% (a residential property) and the highest DU observed in the Sandy City service area was 76% (also a residential property).

Though it is not a standard or recommended design practice, we continue to observe spray, rotor, and MSMT sprinkler heads being operated in the same zone on many properties.

PROGRAM MARKETING DATA

Each year, we ask program participants how they learned about the program and why they participated. In 2024, 35% of participants learned of the program through a website, 37% learned of the program through their water provider or by word of mouth, and 5% learned of the program through TV, radio, or newspaper advertisement. Fifteen percent of participants learned of the program through a combination of methods (Figure 2).

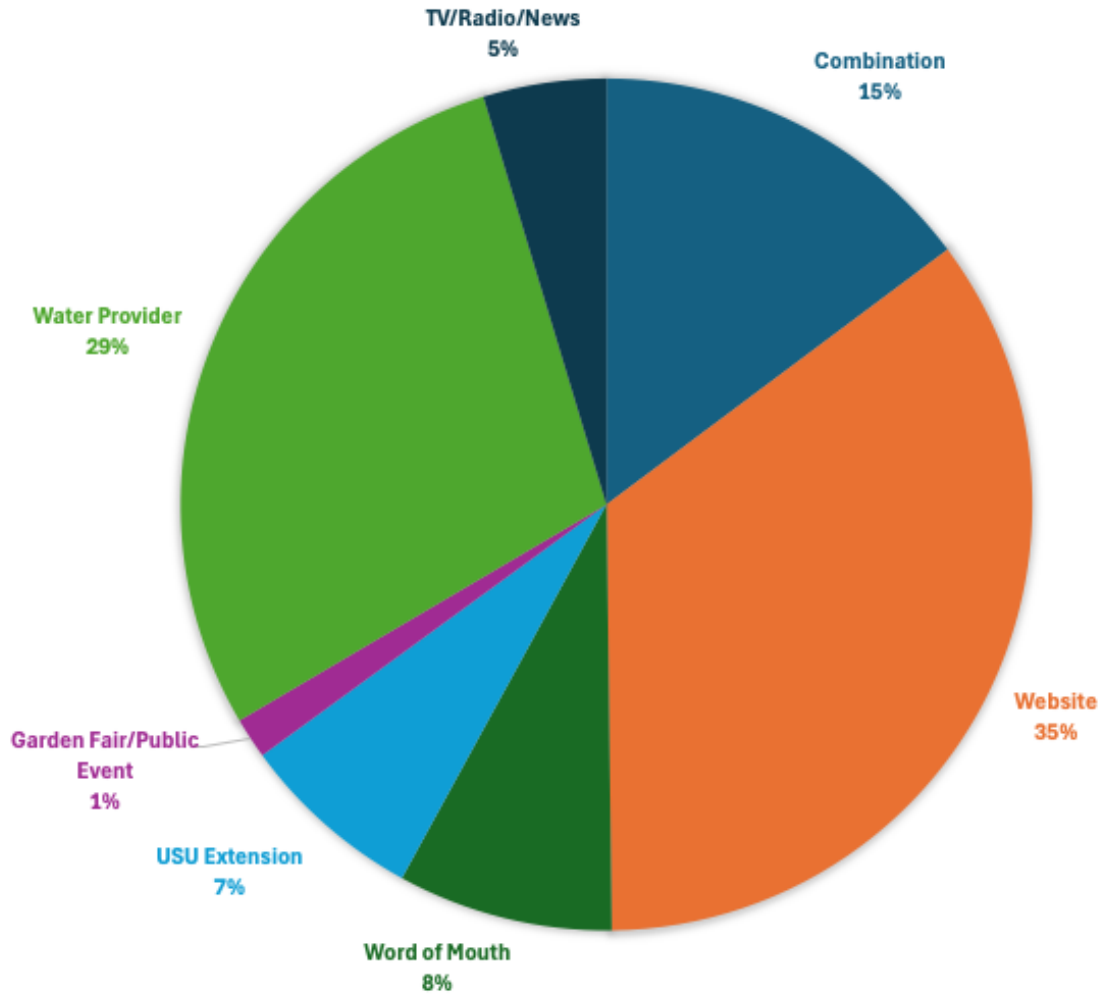


Figure 2. How participants learned about the program in the MWDSLs service area (2024).

In 2024, participants participated to save water (21%), followed by interest in gaining knowledge/education (6%), addressing landscape problems (5%), saving money (3%), or having a new home (1%). Sixty-four percent of participants wanted to participate for a combination reasons (Figure 3).

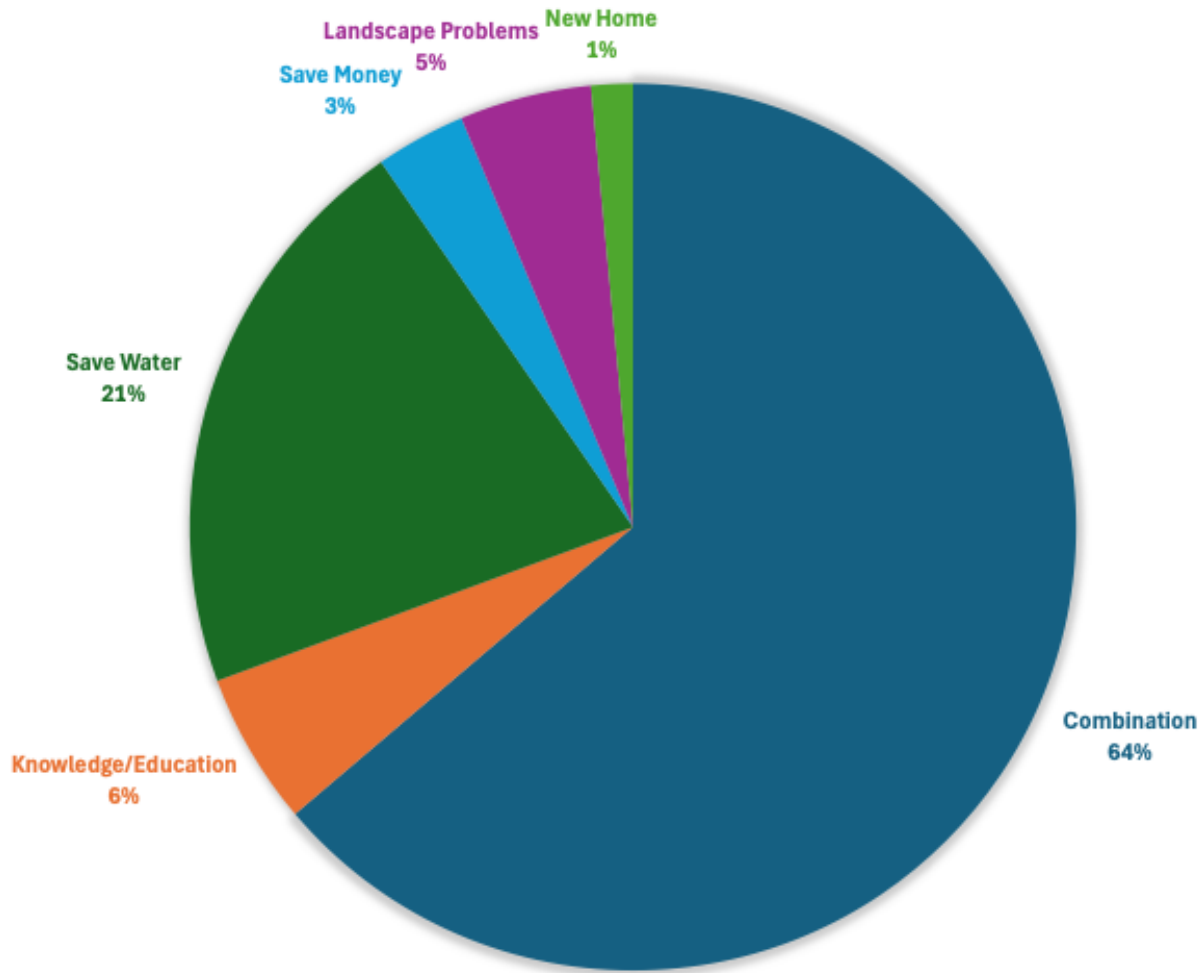


Figure 3. Why participants participated in the program in the MWDSLS service area (2024).

PROGRAM DEVELOPMENTS & RECOMMENDATIONS

In 2024, online program sign-ups continued through USU CWEL's website (cwel.usu.edu/watercheck) and the program was also promoted through the Utah Water Savers website (utahwatersavers.com). Although we did not ask participants specifically about Utah Water Savers, there was an increase in the number of participants who learned of the program through a website which may reflect this additional program promotion.

Voice messaging to the main CWEL phone number was also continued for individuals wishing to receive a Water Check, although we receive far fewer phone requests than online requests. We continued with our revamped scheduling process this year to meet the goal of accommodating every request we received and were able to do so until our season ended. Individuals signing up later in the season who could not be accommodated this year will be contacted first next year.

This year was particularly challenging in terms of employee scheduling due to the amount of time off employees requested throughout the season. We had to constantly juggle team assignments and at times sent Water Checkers out on their own, which is not our preferred practice. We are considering how to address this type of situation should it arise in the future and are considering adjusting our hiring practices as a result.