

2017 WATER PROGRAMS



CENTER FOR
ReSource Conservation

ANNUAL *Report*

TOWN OF ERIE



CENTER FOR
ReSource Conservation

The **Center For ReSource Conservation** (CRC) goals are to tackle resource conservation issues in our community, to provide accessible and affordable conservation solutions, and to reduce the negative environmental impacts associated with non-sustainable practices. We educate and empower our community to put conservation into action in sustainable and measurable ways.



2017 Water Conservation Team

- Darren Nowels**, Water Programs Manager: Audit and Retrofit Programs
- Devon Booth**, Water Programs Coordinator: Garden In A Box
- Kate Larson**, Program Director: Water & Energy Programs
- Katie Koch**, Coordinator: Sustainability Programs
- Kylie Marchiori**, Customer Service Associate: Water Programs
- Morgan Shimabuku**, Senior Manager: Sustainability Programs
- Natalie Antonucci**, Senior Manager: Water Programs
- Neka Sunlin**, Field Coordinator: Water Programs
- Rada Kolmakova**, Water Programs Coordinator: Events & Turf Removal



2017 Field Technicians and Event Staff

- | | | | |
|---------------|-----------------|-------------------|------------------|
| Alex Boehler | Jessica Troy | Lauren Brueggeman | Reid Blankenship |
| Chris Marion | Kate Chambers | Marissa Major | Ryan Prinz |
| Edwin Schmidt | Kelsey Marzolf | Mark Barckholtz | Srujan Bethi |
| Jared Huxley | Kylie Marchiori | Max Hartmann | |

2017 WATER PROVIDER PARTNERS

- | | | | |
|-----------------------------|----------------------|---------------------------|---------------------|
| City of Arvada | Eagle River W & SD | Town of Lochbuie | City of Thornton |
| City of Boulder | Town of Erie | City of Longmont | City of Westminster |
| Boulder County | City of Fort Collins | City of Louisville | Willows WD |
| City of Brighton | Town of Frederick | Loveland Water & Power | Town of Windsor |
| City & County of Broomfield | City of Golden | City of Northglenn | |
| Castle Pines North MD | City of Greeley | Parker W & SD | |
| Castle Rock Water | City of Lafayette | South Adams County W & SD | |
| Centennial W & SD | Left Hand WD | SD | |
| Denver Water | Little Thompson WD | Town of Superior | |





CRC WATER PROGRAMS

Summary 2017

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Garden In A Box – Garden In A Box offers a simple approach to water-wise (xeric) gardening. By planting low-cost, professionally designed Xeriscape gardens, residents are able to replace turf and reduce their outdoor water use. Each garden kit includes starter plants, a Plant and Care Guide, and plant by number maps designed by an expert landscaper. Between spring and fall of 2017, CRC sold a total of 4,789 gardens in partnership with 20 Front Range water utilities.

Water-Wise Landscape Seminars – The Water-Wise Landscape Seminar Series educates residents about best landscaping practices that promote water conservation. This year CRC held 25 seminars in 13 communities across the Front Range, serving a total of 1,165 people.

Turf Removal Program – The Turf Removal Program incentivizes residents to remove 200 sq. ft. or more of maintained turfgrass and replace it with water-wise landscaping. Residents that attend the preliminary seminar and complete a full landscape transformation are provided with free plant materials and/or a credit on their water bill. In 2017, 41 people completed the program in Lafayette and Thornton, removing an average of 350 sq. ft. of turfgrass.

Landscape Consultations – Offered in partnership with two water utilities, the 2017 Landscape Consultation Pilot Program helped engage citizens in water conservation via landscape change by offering residents a free consultation with a professional landscape designer. Consultations provided the resources necessary to convert a portion of their landscape from high-water to low-water landscaping. CRC performed 184 consultations along with over 330 follow-up calls or emails to track the progress of residents' projects.

High-Efficiency Toilet Upgrade Program – The High-Efficiency Toilet Upgrade Program takes the hassle out of the traditional rebate process. In partnership with participating communities, CRC offers two easy installation options of the 0.8 gallon per flush (gpf) Niagara Stealth Toilet. This toilet model is highly rated and uses half as much water as a standard toilet. In 2017 CRC distributed a total of 779 high-efficiency toilets in Boulder County, Thornton, and Westminster.

Slow the Flow Outdoor – The Slow the Flow Outdoor Program offers sprinkler inspections at no cost to both residential and commercial customers in 23 participating areas across the Front Range and Western Slope. The appointment includes a report with a suggested watering schedule by one of CRC's technicians. In 2017 CRC completed 1,782 residential and 42 commercial appointments, with an estimated 8.9 million gallons of expected water savings from residential properties alone.

Slow the Flow Indoor – The Slow the Flow Indoor Program offers inspections on residential water usage at no cost to the homeowner. CRC technicians measure outputs from faucets, toilets, and shower-heads and can install high-efficiency shower-heads and faucet aerators. Participants are left with a customized list of recommendations to conserve water. In 2017 CRC performed 157 indoor inspections in seven communities.

GARDEN

In A Box

GARDENS

Program Overview

One of CRC's most popular water conservation programs, Garden In A Box offers a simple and affordable way for residents to learn about and plant water-wise gardens. Regardless of expertise, community members can save water and beautify their properties by purchasing professionally designed perennial gardens that use xeric (low water) plants. Now offered during the spring and fall planting seasons, these professionally designed, do-it-yourself garden kits come with 14 to 30 starter plants, a comprehensive Plant and Care Guide, and 1 to 3 plant by number maps. Gardens are offered in partnership with local and regional water utilities in support of their commitment to water conservation. They are also available to customers outside of these partnerships and are very competitively priced.

Program IMPACT

- **Xeric landscapes use up to 60% less water than traditional turf lawns.**
- Through 2017, CRC has helped convert over **1.5 million sq. ft.** of landscape to low water gardens.
- The estimated cumulative lifetime savings of all gardens sold through 2017 is **107 million gallons** of water.



2017 Summary

In partnership with **20 Colorado communities**, CRC offered a total of **13 Xeric Garden In A Box kits** and **1 Vegetable Garden In A Box kit** in 2017. Gardens contained 14 to 30 plants, covered 16 to 100 sq. ft., and cost between \$74 and \$149 each. Residents in participating communities received an additional \$25 off all xeric gardens purchased (excluding the Xeric Greatest Hits gardens).

In 2017, CRC sold **3,822 xeric gardens** and **381 vegetable gardens** in the spring plus **586 xeric gardens** in the fall for a grand total of **4,789 gardens**. 2017 gardens converted over **327,000 sq. ft.** of Colorado landscape to Xeriscape, and are expected to save **3.4 million gallons** of water!



GARDEN IN A BOX

TOTAL ERIE GARDENS PURCHASED IN 2017			
	Spring	Fall	Total
Total Gardens Sold	110	6	116
Total Contracted \$25 Discounts	80	N/A	80
Total Discounts Used	80	N/A	80

2017 GARDEN IN A BOX COLLECTION						
Garden Name	Exposure	Square Feet	# of Plants	#of Maps	Price*	Season Offered
Butterfly Daydream	Full Sun	60	17	1	\$116	Spring
Honey Bee Heaven	Full Sun	72	23	1	\$129	Spring
Mountain Moonlight	Part Shade	60	18	1	\$116	Spring
Mountain Shadows	Part Shade	98	28	1	\$149	Fall
Native Nectar	Full Sun	98	28	1	\$149	Fall
Pollinators' Paradise	Full Sun	60	15	1	\$104	Spring
Rocky Mountain Retreat	Full Sun	96	28	3	\$144	Spring
Seasons of Shade	Part Shade	95	29	1	\$149	Spring
Spaghetti Dinner - veggie garden	Part-Full Sun	16	30	1	\$74	Spring
Sunset Garden	Full Sun	100	28	1	\$144	Spring
Western Horizon	Full Sun	70	15	1	\$106	Fall
Xeric Greatest Hits	Full Sun	50-60	14	0**	\$74	Fall
Xeric Greatest Hits I	Full Sun	50-60	14	0**	\$74	Spring
Xeric Greatest Hits II	Full Sun	50-60	14	0**	\$74	Spring

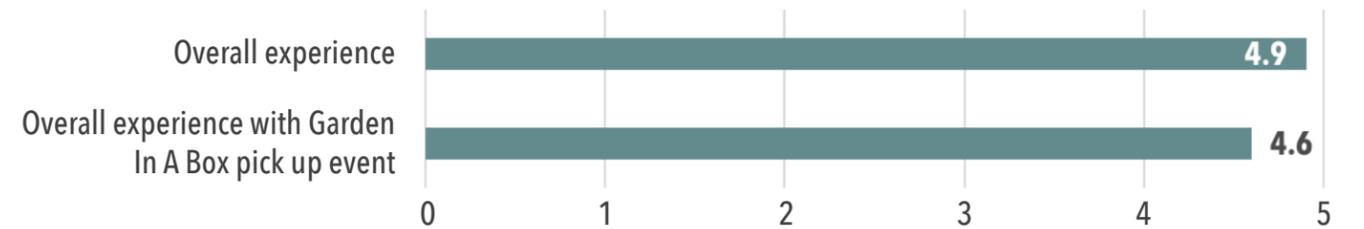
*Pricing does NOT include the \$25 discount. **Does not include a plant by number map. Instead, participants are encouraged to use this garden to supplement pre-existing xeric gardens.

Customer Feedback

In 2017 CRC sent out 2,794 Garden In A Box customer satisfaction surveys to participants, and received 916 responses. Of those responses, **37** were Town of Erie water customers. The survey responses represented in the graphs below are from these 37 Town of Erie customers.

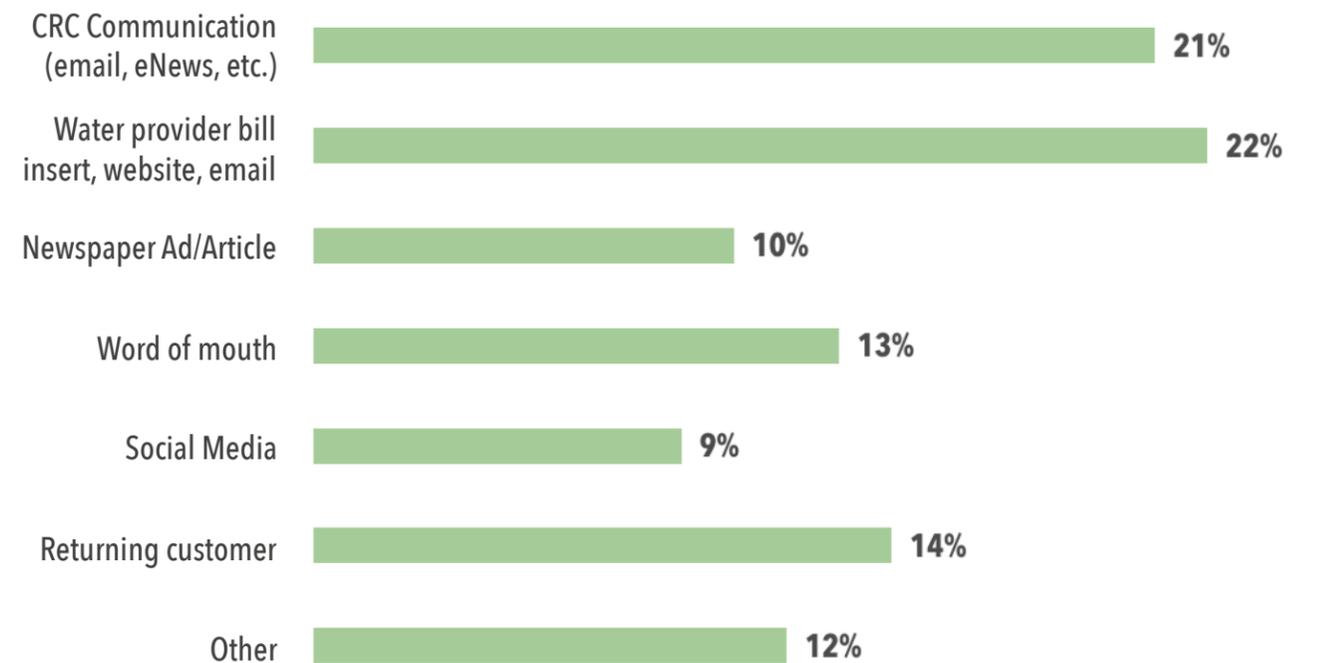
Garden In A Box participants were asked to rate their overall satisfaction with the program. On a scale of 1 to 5, with 5 being "Very Satisfied" and 1 being "Very Dissatisfied", participants rated their experience as follows:

Overall Satisfaction with Garden In A Box



When participants were asked how they found out about the program, they responded as follows:

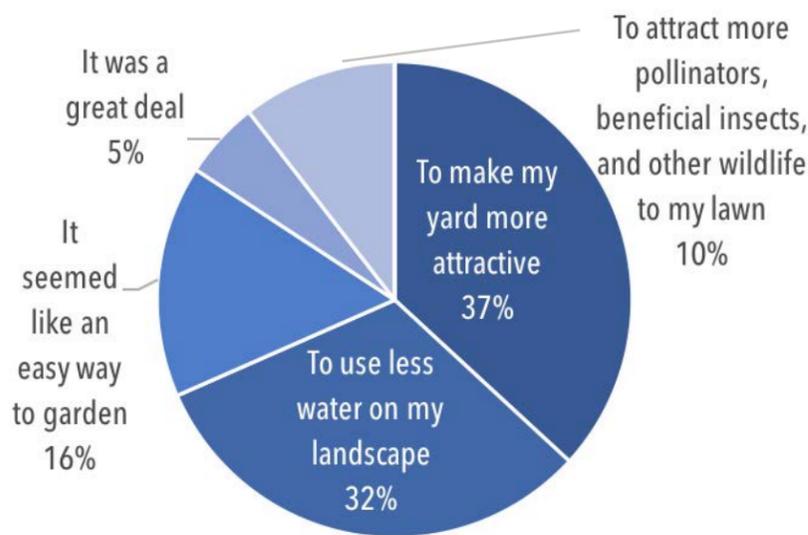
How Did You Hear about Garden In A Box?



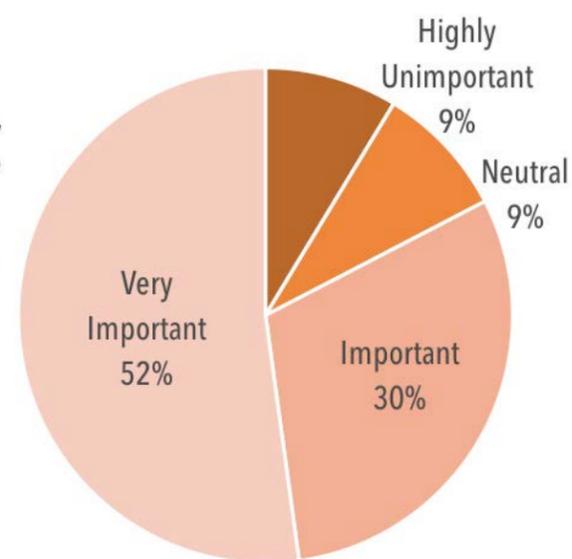
Customer Feedback

CRC also asked Garden In A Box participants, "What was your primary reason for purchasing a Garden In A Box?" and "How important is it that your water provider invest in water conservation programs like Garden In A Box?" Results are shown below.

Primary Reason for Purchasing



Importance of Investing in Programs like Garden In A Box



Customer COMMENTS

- ” *“My plants look fantastic. We put a soaker hose attached to our drip line and are hoping within the next year or two we'll be able to turn it off for big parts of the summer to conserve on water. Thank you so much.” – Erie resident*
- ” *“We love Garden In A Box and we think what you are doing is crucial to our communities.” – Erie resident*
- ” *“The whole process from discount, choices of boxes, pick up and planting has been pain free and fun.” – Erie resident*
- ” *“The process to order and pick up the gardens was simply amazing! Cannot wait to watch the gardens grow! Thank you so much!” – Erie resident*

Fall GARDENS

Customer Feedback

As a response to the continued demand and success of the spring Garden In A Box season, the fall program was born. In 2016, CRC piloted the first run of the fall Garden In A Box program, selling more than 100 xeric gardens in less than 48 hours! After a successful pilot, CRC began offering the fall program in

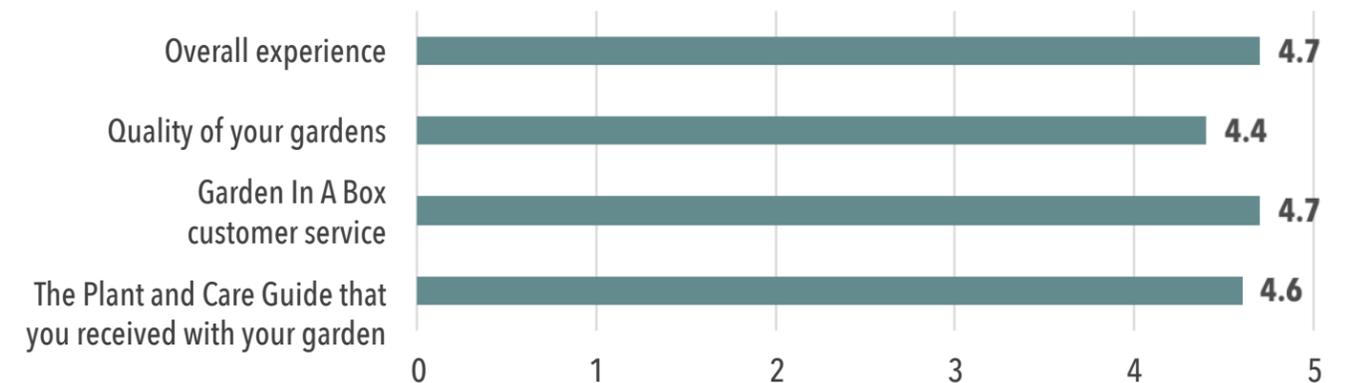
partnership with water utilities in 2017, marking the first official year for this program. Below are highlights from the fall 2017 season.

FALL GARDEN IN A BOX OVERVIEW	
Total Gardens Sold	586
Total Garden In A Box Kits Offered*	4
Number of Water Utility Partners	8

In October 2017, CRC sent out 399 Garden In A Box customer satisfaction surveys to participants and received **96 responses**. The overall satisfaction of the fall program is represented in the graph below.

Garden In A Box participants were asked to rate their overall satisfaction with the program. On a scale of 1 to 5, with 5 being "Very Satisfied" and 1 being "Very Dissatisfied", participants rated their experience as follows:

Overall Satisfaction with Fall Garden In A Box



Customer COMMENTS

- ” *“I LOVED the layout that you included with the Garden In A Box. That made it so easy!” – Lafayette resident*
- ” *“Very appreciative this program exists for Sod Removal. THANK YOU.” – Longmont resident*



279 MILLION

Gallons of Water Saved

In collaboration with like-minded partners, CRC programs provide impactful and practical ways to conserve Colorado's most precious resource: Water. We would like to offer a huge THANK YOU to all of our utility partners. It is due to your support and commitment that we are on track to achieve our goal of conserving: 1 Billion Gallons of Water by 2020!

1,400 PEOPLE SERVED



just in 2017

WATER-WISE LANDSCAPE Seminars



LANDSCAPE SEMINARS Program Overview

Each year, CRC partners with local water providers to offer an educational Water-Wise Landscape Seminar Series on Xeriscaping and other sustainable landscaping practices. Seminars are 2 to 3 hours in length, expert led, and offered at no cost to the community. Customized to the unique needs of each water utility, seminars cover a wide range of topics including: Xeriscaping, irrigation installation, turf removal methods, pollinator-attracting plants, the basics of veggie gardening, and rain garden design.

Program IMPACT

- In 2017 CRC offered **25 seminars** in **13 communities** across the Front Range.
- A total of **1,165 people attended** the seminars, nearly doubling the 2016 attendance of 624 people, with an average of **47 people per seminar**.

Customer Feedback

In 2017, CRC sent out over 1,000 surveys to the Water-Wise Landscape Seminar attendees and received **208 responses**. Overall, the feedback was extremely positive. Based on survey results, **93%** of seminar attendees **rated their overall satisfaction with the seminars as a 4 or 5** out of 5 and **95%** of attendees said that they would be either **“Likely” or “Very Likely” to recommend the seminars to a friend**.

Customer COMMENTS

- ” *“This is important stuff! Keep us educated!”* – Thornton resident
- ” *“Professional, fact-based and interesting.”* – Lafayette resident
- ” *“I’m looking forward to attending more!”* – Louisville resident
- ” *“I learned so much in just 2 hours! Great seminar!”* – Longmont resident
- ” *“Very informative. I want to do Xeriscape landscaping in my yard for the beauty of it and for conserving water.”* – Thornton resident



2017 WATER-WISE LANDSCAPE SEMINARS

Date	Topic	Utility	# of Attendees
March 6, 2017	Transforming Your Lawn into a Xeriscape Garden	Lafayette	110
March 15, 2017	H2Overhaul: A Water-Wise Landscape Transformation	Thornton	132
March 30, 2017	Jump Start Your Landscape: Spring Maintenance	Boulder	42
April 3, 2017	Xeriscape: Landscaping for the Future	Longmont	58
April 4, 2017	Xeriscape: Add COLOR and LIFE to Your Landscape	Golden	59
April 4, 2017	Low Water Landscaping Tips and Tricks	Brighton	34
April 5, 2017	Beginner's Guide to Water-Wise Landscaping	Lochbuie	26
April 5, 2017	How to Build a Rain Garden	Boulder	27
April 6, 2017	Getting to Know Your Garden In A Box	Lafayette	62
April 10, 2017	Creating a Pollinator Friendly Landscape	Longmont	46
April 11, 2017	Beginner's Guide to Veggie Gardening	Boulder	37
April 11, 2017	The How To's of Irrigating Your Garden Efficiently	SACWSD	7
April 12, 2017	Creating a Lush Landscape: 4 Seasons of Beauty	Louisville	43
April 13, 2017	Water-Wise Landscaping: How to Get Started	Windsor	30
April 13, 2017	Benefits of Xeriscape: Bees, Beauty and Biodiver-	Erie	27
April 15, 2017	Transforming Your Lawn into a Xeriscape Garden	Denver	18
April 20, 2017	Transforming Your Lawn into a Xeriscape Garden	Denver	7
April 27, 2017	Transforming Your Lawn into a Xeriscape Garden	Arvada	80
May 10, 2017	Prepare Your Garden for Heat and Drought	Boulder	49
May 11, 2017	Transforming Your Lawn into a Xeriscape Garden	Arvada	87
May 17, 2017	Transforming Your Lawn into a Xeriscape Garden	Denver	14
May 25, 2017	Transforming Your Lawn into a Xeriscape Garden	Arvada	59
June 17, 2017	Transforming Your Lawn into a Xeriscape Garden	Denver	4
July 27, 2017	H2Overhaul: A Water-Wise Landscape Transformation	Thornton	61
October 25, 2017	Transforming Your Lawn into a Xeriscape Garden	Lafayette	46

“*Conservation is humanity caring for the*
FUTURE.”

*Nancy
Newhall*



SLOW THE *Flow*

OUTDOOR AUDITS Program Overview

One of CRC's flagship water conservation programs, Slow the Flow offers sprinkler inspections for residential and commercial customers with an emphasis on efficiency and water savings. Through partnerships with 23 water providers across the Front Range and the Western Slope, customers are able to participate in the program at no cost. Participants schedule an appointment to meet with a CRC Water Conservation Technician at their home and learn how to save water and money while keeping their lawn healthy and green. The service usually takes a little over an hour and involves a visual inspection, data collection, and an in-depth evaluation. After the inspection, the technician provides the homeowner with a customized watering schedule and a list of suggestions to improve the efficiency of their sprinkler system.

Program IMPACT

- In 2017 CRC completed **1,782 residential inspections** and **42 commercial inspections**.
- Based on an average savings of 5,000 gallons of water per participant in the first season, CRC estimated annual water savings of **8.9 million gallons** in 2017.
- CRC has performed Slow the Flow sprinkler inspections at nearly **22,000 homes** since 2004, helping to conserve almost **110 million gallons** of water in that time.



2017 Summary

In partnership with **23 water providers**, CRC completed **1,782 residential** and **42 commercial** sprinkler inspections in 2017. The residential appointments combined to create **8.9 million gallons** of expected water savings and millions more from commercial properties if top recommendations are applied. CRC also offered retrofit programs for Slow the Flow Indoor and Outdoor participants in participating communities.

OUTDOOR AUDITS

Statistics & Findings

During each Slow the Flow Sprinkler Inspection our technicians test and collect many sets of data. Below are tables illustrating sprinkler system information, indoor/outdoor property information, problems found on the sprinkler system, and watering times. A Glossary of Terms can be found at the end of this report for definitions to unfamiliar terms.

SLOW THE FLOW APPOINTMENTS COMPLETED	
Type of Appointment	Number Completed
Outdoor Residential Inspections	148

Watering Schedules

CRC technicians record the homeowner's existing watering schedule and provide them with a recommended schedule to follow, using the Cycle and Soak method. This recommended watering schedule directly impacts water savings significantly.

AVERAGE WATERING DURATION (MINUTES PER WEEK)			
		Current	Recommended
Rotor Zones	Residential	69	79
Spray Zones	Residential	51	49
		Yes	No
Previously Using Cycle & Soak	Residential	35%	65%

Property Information

CRC technicians also ask the homeowner a set of general questions about their property. In addition, they inquire about the presence of five specific outdoor water-saving features and four indoor water-saving features on the property (See "Other Landscape & Property Info"). Finally, technicians measure the size of turf and total landscape to measure approximately how much water each property should be using. All findings are indicated to the right.

HOMEOWNERS' PROPERTY INFORMATION					
		Average	Median		
# of Residents Summer		3	3		
# of Residents Winter		3	3		
How Long at Address (years)		5	3		
Home Built (year)		1992	2005		
System Installed (year)		2007	2006		
Turf Landscape (sq. ft.)		1,950	1,497		
Shrub Landscape (sq. ft.)		975	749		
Total Landscape Size (sq. ft.)		2,925	2,246		
OTHER LANDSCAPE AND PROPERTY INFORMATION					
		Clay	Loam	Sand	
Soil Type	Residential	98%	1%	1%	
		All	Some	None	
Xeriscape	Residential	0%	81%	19%	
MP Rotators	Residential	1%	6%	93%	
Check Valves	Residential	0%	23%	77%	
1.6 Gallon Per Flush Toilets		All	Some	None	Don't Know
	Residential	88%	5%	3%	4%
Dual Flush Toilets	Residential	8%	10%	81%	2%
		Yes	No		
Drip System	Residential	75%	25%		
ET/Soil Moisture	Residential	10%	90%		
		Yes	No	Don't Know	
Efficient Washing Machine		51%	19%	30%	
Efficient Dishwasher		75%	13%	12%	

OUTDOOR AUDITS

Sprinkler Information

CRC technicians performed efficiency tests on a total of 241 zones in Erie in 2017. During these efficiency tests, technicians test the pressure (measured in pounds per square inch, PSI), distribution uniformity (DU), as well as calculate each tested zone's precipitation rate (PR). All findings are indicated to the right.

		Average	Median	Range
Spray PSI	Residential	35	31	12-78
Spray PR	Residential	1.41	1.37	0.45-2.61
Spray DU	Residential	55%	57%	20-81%
Rotor PSI	Residential	35	32	4-80
Rotor PR	Residential	0.89	0.76	0.36-6.31
Rotor DU	Residential	61%	61%	28-84%
All DU		57%	59%	20-84%

Problems Found on Sprinkler Systems

CRC technicians also track the types and severity of problems found during inspections. Technicians classified the most common problems with the scale of none, minor (less than 2 instances), significant (between 2 and 4 instances), and major (indicated by 4 or more instances). Broken or leaking pipes were rated as either yes or no.

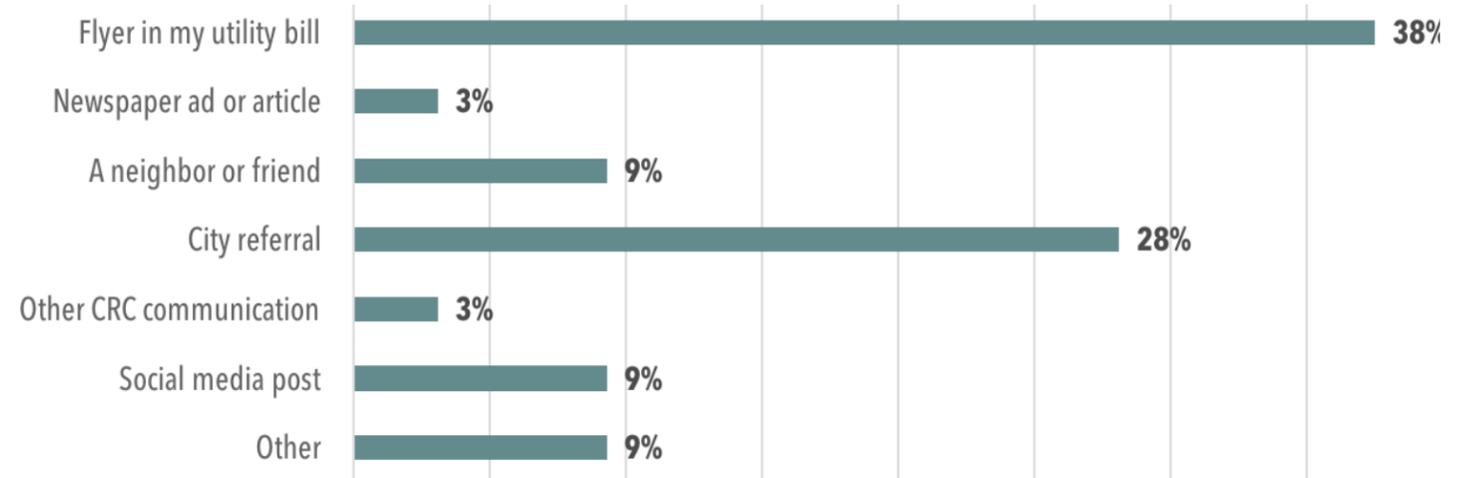
	Major	Significant	Minor	None
Broken Heads	4%	4%	22%	71%
Low Heads	26%	19%	31%	24%
Clogged Heads	0%	1%	9%	90%
Overspray	13%	14%	30%	43%
Unmatched PR	0%	0%	0%	100%
Poor Head Spacing	0%	4%	26%	70%
Inefficient Schedule	0%	0%	5%	95%
Tilted Heads	37%	24%	24%	15%
Blocked Heads	10%	15%	32%	42%
Improper Pressure	0%	1%	11%	88%
Mixed Heads	0%	1%	7%	92%
Incorrect Nozzle	0%	1%	10%	89%
Inappropriate Head Type	0%	1%	7%	92%
	Yes	No		
Broken or Leaking Pipes	5%	95%		

Customer Feedback

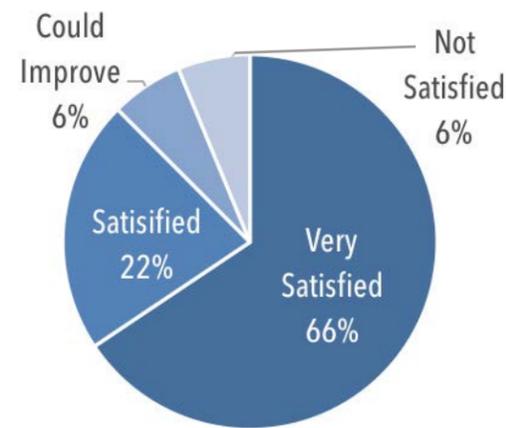
In 2017 CRC sent surveys to all Town of Erie Slow the Flow participants and received **32** responses.

Slow the Flow participants were asked several questions, including how they heard about the program, whether the program is a good use of their water provider's resources, and why they signed up for the program. The answers to these questions are as follows:

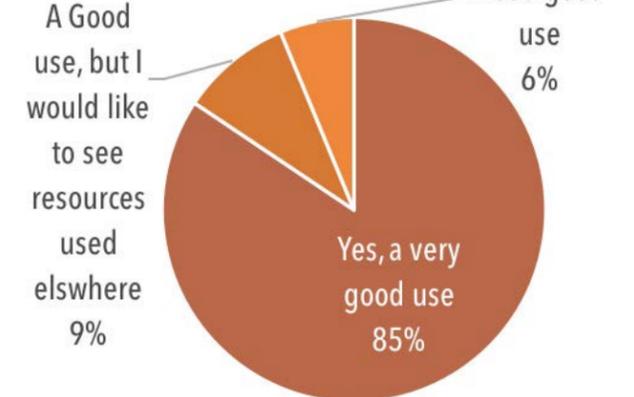
How Did You Hear About Slow the Flow?



Overall Satisfaction



A Good Use of Water Provider's Resources?



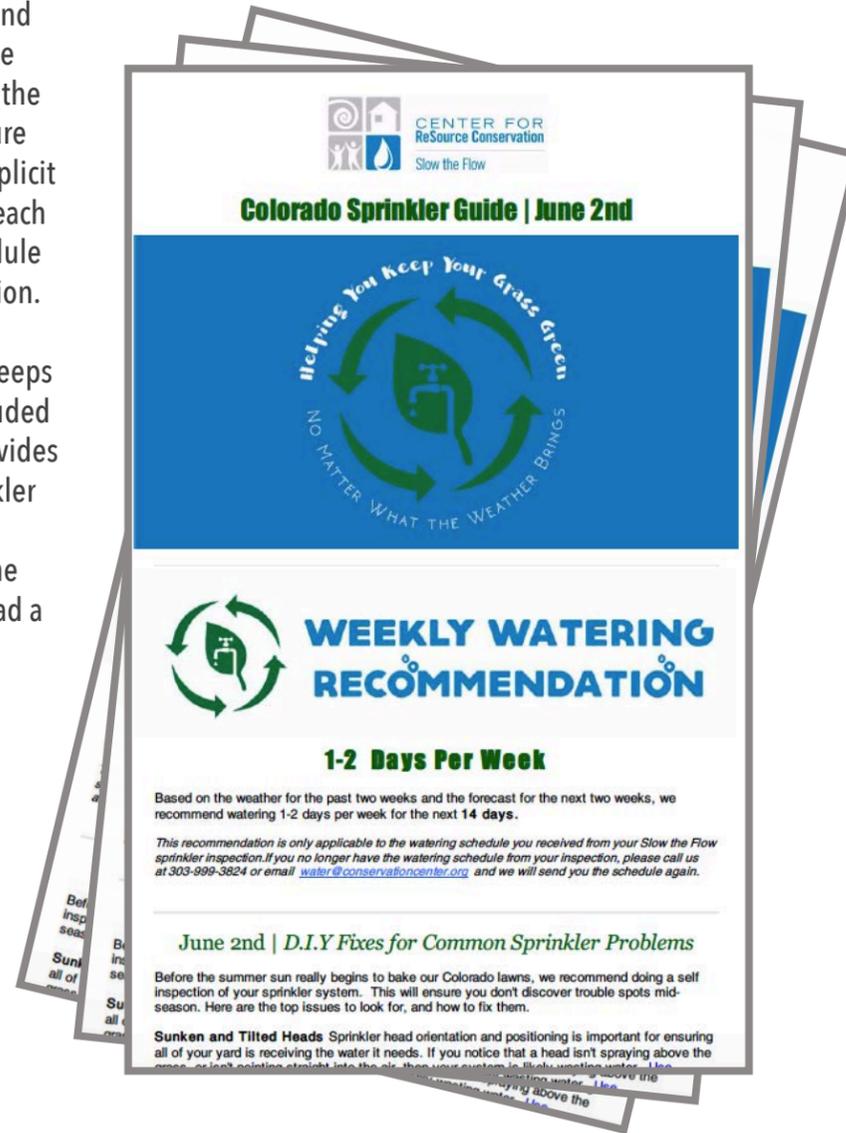
Customer COMMENTS

- ” *“Most impressed with the education I received”* - Erie resident
- ” *“The technician gave me an outstanding explanation of what she was doing and why.”* - Erie resident
- ” *“ Already have recommended this to a friend!”* - Erie resident

COLORADO SPRINKLER GUIDE

Program Overview

In an effort to engage Slow the Flow participants with ongoing management of their outdoor water use and to help continue the educational benefit of Slow the Flow, CRC distributes a bi-weekly newsletter called the **Colorado Sprinkler Guide**. As shown in the picture to the right, the primary focus of the guide is an explicit presentation of the number of days per week that each household should be watering, based on the schedule that they received after their Slow the Flow inspection. CRC uses weather data and weather predictions to ensure our "Weekly Watering Recommendation" keeps yards healthy and reduces overwatering. Also included in the newsletter is an educational section that provides readers with tips and tricks for lawn care and sprinkler maintenance along with "Fun Facts" on interesting residential landscape phenomena. By the end of the 2017 season, the Colorado Sprinkler Guide had a total of **841 subscribers**.



Program IMPACT

We are optimistic that the information we provided helped to curb extraneous water use for a significant number of the newsletter recipients. One indication that this e-news was highly impactful was its incredible open rate, which ranged from **66% to 77%** for the 2017 season! In addition, CRC recommended that our subscribers taper and then shutoff their systems completely by the week of October 9th, which, if followed, led to significant water savings this season.

Customer Feedback

At the end of the sprinkler season, CRC sent a short survey to all recipients of the email to gauge readership engagement and adherence to the Weekly Watering Recommendation. 79 respondents, or nearly 10% of the total readership, took the survey. Results of this survey proved that many subscribers were following the recommendations and that this addition to Slow the Flow Inspections has been highly beneficial. We look forward to continuing it for years to come!

- **95%** of survey respondents reported that they either "Often" or "Always" followed the Weekly Watering Recommendation.
- **50%** of survey respondents reported that they would have watered more frequently than our Weekly Watering Recommendation had it not been for this newsletter.
- **100%** of respondents found the material in the Colorado Sprinkler Guide to be clear and understandable.

Customer COMMENTS

- ” *“I like reading the newsletter because it keeps me tuned into my watering schedule. I’m the kind of person who will turn off the clock when necessary and turn it on following the Guides recommendations.”*
- ” *“I find all of the information valuable and interesting! Thank you and I look forward to learning even more next season.”*
- ” *“It has been very helpful for us to have had the sprinkler system inspection and newsletter emails. In the first month alone following the inspection we reduced our water usage by one third and no doubt did a better job watering. Thanks for your help!”*
- ” *“I get many emails--too many. I am always culling, but I don’t plan to ever cut this one out. Great info, timely, interesting. Thank you!”*



GLOSSARY

Slow the Flow

Catch Cup Test – A catch cup test measures the distribution uniformity (DU) and precipitation rate (PR) of each zone. Due to the different characteristics of rotors and sprays, technicians try to conduct at least one catch cup test on a rotor zone area and at least one on a spray area.

Cycle and Soak Technique – Specifically used on clay soils, the Cycle and Soak Technique is suggested to almost every Slow the Flow customer in the Front Range. Due to high precipitation rates of sprinklers and low absorption rates of clay soil, sprinklers often apply more water than the soil can absorb in a given amount of time, causing runoff and erosion. To allow water to soak into clay soils, CRC recommends three short watering cycles spaced out as much as needed to allow all zones to run. This promotes deeper roots and healthier turf that is more resilient in times of drought or disease.

Distribution Uniformity (DU) – DU is a measure of how evenly an irrigation system waters a certain area, reported as a percentage. The Irrigation Association considers a DU value of over 70% as acceptable for rotor zones, and 55% as acceptable for spray zones. CRC, however, holds both head types accountable to the higher standard of 70% DU and only considers zones acceptable if they meet that level. CRC considers values between 40% and 70% as substandard and less than 40% as unacceptable; in order to discourage overwatering, CRC does not provide a recommended schedule for zones with less than 40% DU.

Evapotranspiration Rates (ET) – ET is the sum of evaporation and plant transpiration for the Earth's land and ocean surface to the atmosphere. This is important to Slow the Flow so technicians can determine how much natural precipitation the turf receives and how much supplemental watering should be suggested.

High-Efficiency Rotary Nozzles (MP Rotators) – Matched Precipitation Rotators are multi-stream rotor nozzles the size of a spray nozzle. They fit most conventional spray head bodies, transforming them into a high uniformity, low application rate sprinkler with matched precipitation, even after arc and radius adjustment. The MP Rotator's low application rate helps to significantly control runoff on slopes and dense soils.

Inappropriate Head Type – This is a less than ideal head type being used to water an area. Rotor heads are designed to cover larger areas, while spray heads are used to water smaller areas of turf. Technicians mark inappropriate head type when rotor heads are found watering smaller zones where spray heads would be more appropriate and vice versa.

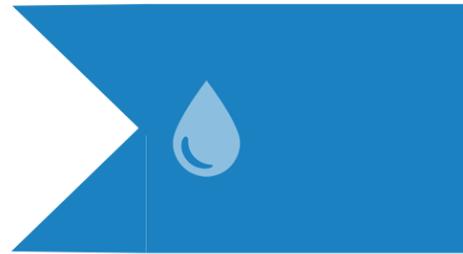
Precipitation Rate (PR) – PR is a measurement of the amount of water applied to the soil, measured in inches per hour. This is also considered to be the depth that the water would accumulate if it didn't run-off or soak into the soil.

PSI – Pounds per square inch is a unit of pressure resulting from a force of one pound-force applied to an area of one square inch. This is the unit of measure for pressure tests on sprinkler heads.

Rotor Head – A rotor head is a type of sprinkler that rotates to water an area of turf. Due to the rotation of these heads, rotors have a lower precipitation rate than spray heads.

Spray Head – Often referred to as a "pop-up" or "fixed spray head," this is a type of sprinkler that sprays a fixed sheet or stream of water without rotating. Because of this fixed stream, spray heads have a higher precipitation rate than rotor heads.

Unmatched Precipitation Rates – See "Precipitation Rate." Unmatched precipitation rates occur when all of the heads in one zone are emitting different amounts of water at the same time. This creates uneven watering, resulting in overly wet or dry spots.



WATER
CONSERVATION

“Small acts, when multiplied by MILLIONS of people, can transform the



—Howard
Zinn



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