CENTER FOR
ReSource Conservation

WATER PROGRAMS ANNUAL REPORT

TOWN OF ERIE | 2016

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ABOUT CRC

The Center for ReSource Conservation, formerly the Boulder Energy Conservation Center (BECC), was founded in 1976 by a group of community-minded citizens seeking ways to help reduce our dependence on non-renewable resources. The organization has since developed extensive expertise in the areas of green building, renewable energy, energy efficiency, waste reduction and deconstruction, water conservation and sustainable living. The Center for ReSource Conservation's (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. In collaboration with local and regional municipalities, and with support from individual donors and foundations, CRC programs provide impactful and practical ways to conserve natural resources.

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City of Aspen
City of Boulder
Boulder County
City of Brighton
City and County of Broomfield
Castle Pines North Metro District
Town of Castle Rock
Centennial Water & Sanitation District
Denver Water
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Left Hand Water District
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Loveland Water and Power
City of Northglenn
Parker Water and Sanitation District
South Adams County Water and Sanitation District
Town of Superior
City of Thornton
City of Westminster
Willows Water District

CRC WATER PROGRAMS SUMMARY 2016

The Center for ReSource Conservation's (CRC) Water Division coordinates a suite of programs offered in partnership with water municipalities. CRC's water programs provide homeowners and businesses with tools they need to use water more efficiently and are designed to help utilities meet their water conservation goals. In 2016 CRC served over 6,000 residents in 27 different communities.

Water-Wise Landscape Seminars

The Water-Wise Landscape Seminar Series educates residents about best landscaping practices that promote water conservation. This year CRC held 15 seminars in 8 communities across the Front Range, serving a total of 624 people.

Garden In A Box Program

Garden In A Box offers a simple approach to water-wise ("Xeric") gardening. Residents are able to purchase low-cost, professionally designed Xeriscape gardens to replace turf and reduce watering requirements. Each garden kit comes with starter plants, a comprehensive Plant and Care Guide and plant by number maps designed by an expert landscaper. In 2016 CRC partnered with 16 communities to offer Xeriscape and veggie gardens, and sold a total of 3,240 gardens!

Slow the Flow Outdoor Inspections

CRC's 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, Western Slope, and Wyoming. The appointment includes a report with a suggested watering schedule by one of CRC's technicians. In 2016 CRC completed 1,699 residential and 36 commercial appointments, with an estimated 8.5 million gallons of expected water savings from residential properties alone.

Slow the Flow Indoor Inspections

The Slow the Flow Indoor Program offers inspections on residential water usage at no cost to the homeowner. CRC's technician measures 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. In 2016 CRC performed 149 indoor inspections in seven communities.

High-Efficiency Toilet Upgrade Program

CRC's 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 gpf Niagara Stealth Toilet. This toilet model is highly rated by both customers and the plumbing industry and uses half as much water as a standard toilet. In 2016 CRC installed a total of 680 High-Efficiency toilets in Boulder County and the City of Thornton.

PRSV Upgrade Program

Through door-to-door swapping services, CRC technicians replace a single PRSV (pre-rinse spray valve) with WaterSense labeled models at no cost to the business. In 2016 CRC installed a total of 53 PRSVs in four communities to date.

Turf Removal and Replacement

This pilot program encourages residents to remove at least 200 sq. ft. of maintained turf-grass and replace it with water-wise landscaping. Residents that attend the preliminary seminar and complete a full landscape transformation are provided free plant materials and/or a credit on their water bill. In 2016, 23 people completed the program, removing an average of 655 sq. ft. of turf.

GARDEN IN A BOX

One of CRC's most popular water conservation programs, Garden In A Box offers a simple and affordable way 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. These do it yourself garden kits come with 14 to 30 starter plants, a comprehensive Plant and Care Guide, and 1 to 4 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.

Impact

- **Xeric landscapes use up to 60% less water than traditional turf lawns.**
- Through 2016, CRC has helped convert over **1.1 million sq. ft.** of landscape to low water gardens.
- The estimated cumulative lifetime savings of all gardens sold through 2016 is **81 million gallons** of water.

2016 Summary

In partnership with **16 Colorado communities**, CRC offered **7 Xeric Garden In A Box kits** and **2 Vegetable Garden In A Box kits** in 2016. These gardens contained anywhere from 14 to 32 plants, covered 18 to 156 sq. ft, and cost between $74 and $144 each. Residents in participating communities were offered an additional $25 off of all Xeric gardens (excluding the Xeric Greatest Hits).

In 2016, CRC sold **2,823 Xeric gardens** and **417 vegetable gardens** for a grand total of **3,240 gardens**. These gardens provide for the opportunity to convert over **201,000 sq. ft.** of Colorado landscape to Xeriscape, and are expected to save **2.1 million gallons** of water!

Fall 2016 Garden In A Box

With over 500 eager customers already on our 2017 Garden In A Box waitlist in May of this year, CRC decided to offer a Fall Garden In A Box to meet the overwhelming demand. In less than 48 hours CRC sold over 100 gardens to residents across the Front Range!

"We are extremely satisfied with our garden and the materials provided with the plants. I love that our garden has low water usage plants not as common as other plants frequently used in front range landscaping. The design is thoughtfully done and I learned a lot! Thank you! We have been telling all of our neighbors about the Garden In A Box program for next year."
–Loveland Water and Power Customer

2016 Rocky Mountain Retreat Garden Rendering

2016 GARDEN IN A BOX COLLECTION

	Garden Name	Exposure	Size	# of Plants	# of Maps	Price
Xeric Gardens	Pollinator Combo*	Full Sun	156 sq. ft.	44	1	$248
	Bees 'n Blooms	Full Sun	96 sq. ft.	29	1	$144
	Rocky Mountain Retreat**	Full Sun	96 sq. ft.	28	3	$144
	Shades of Summer	Part Shade	96 sq. ft.	28	3	$144
	Cool Connection	Full Sun	72 sq. ft.	24	4	$129
	Spring Awakening	Full Sun	60 sq. ft.	15	1	$104
	Blooming Butterfly	Full Sun	50 sq. ft.	14	1	$104
	Xeric Greatest Hits	Full Sun	50-60 sq. ft.	14	0***	$74
Vegetable Gardens	Victory Garden	Part-Full Sun	21 sq. ft.	32	1	$74
	Savory Seasonings	Part-Full Sun	18 sq. ft.	30	1	$74

*A combination of the Bees 'n Blooms and Spring Awakening gardens.
**High altitude garden.
***Plant as you wish, no map necessary.

GARDENS PURCHASED: TOWN OF ERIE

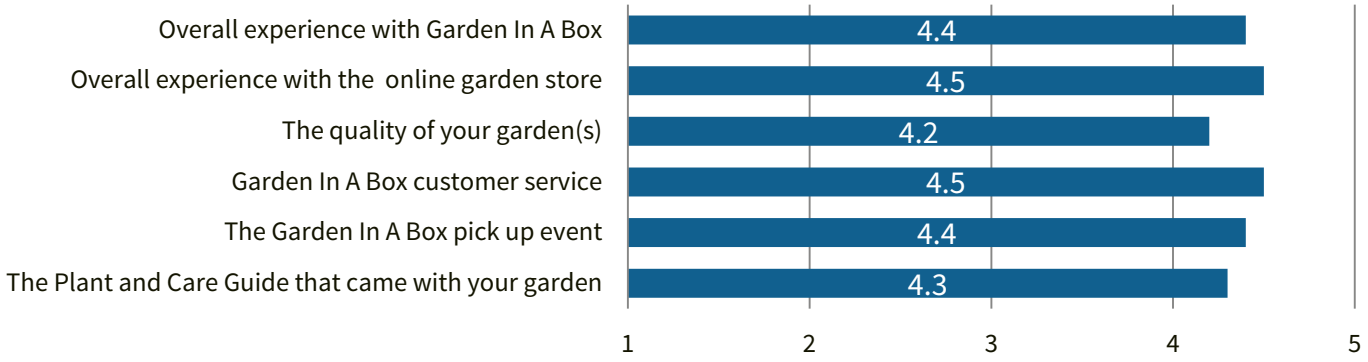
Total Gardens Sold	**105**
Total Contracted $25 Discounts	80
Total Discounts Used	80

CUSTOMER FEEDBACK

In 2016 CRC sent out 1,957 Garden In A Box customer satisfaction surveys to participants, and received **21 responses from Town of Erie participants.** The survey findings from Town of Erie are represented in the graphs below.

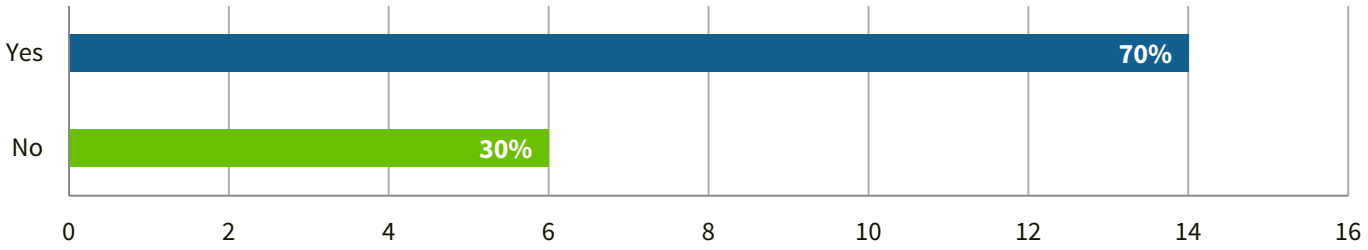
Garden In A Box participants were asked to rate their overall satisfaction with the program. On a scale of 1 to 5, with 5 being "Very Satisfied" and 1 being "Very Dissatisfied", Erie participants rated their experience as follows:

Overall Satisfaction with Garden in a Box

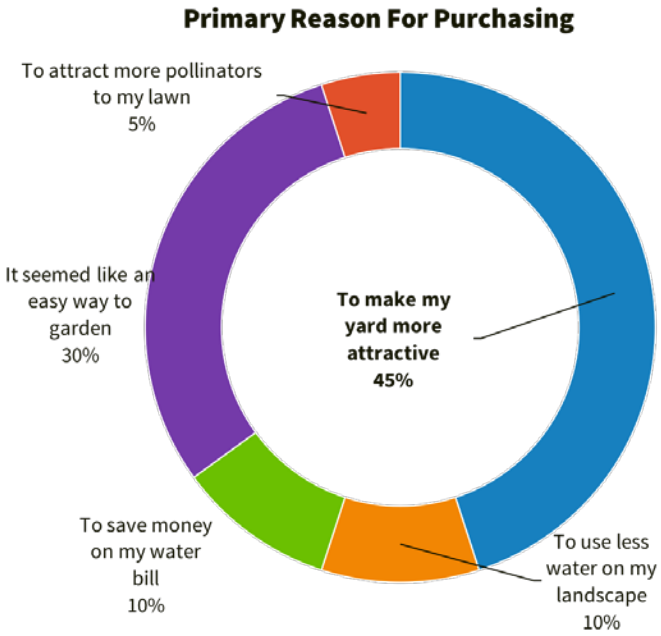


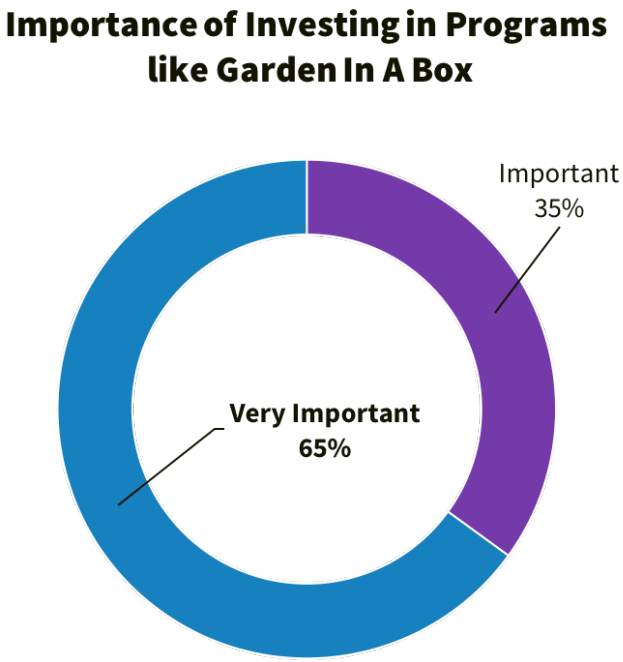
When asked "Do you believe that you will save water as a result of planting your Garden In A Box?" the majority of respondents answered, "Yes." See details below:

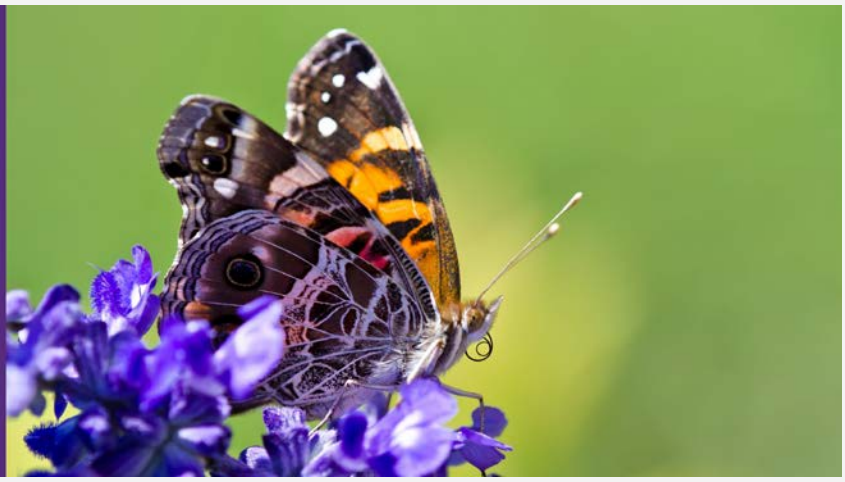
Will I Save Water with Garden In A Box?



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.







Town of Erie Customer Comments

“I am so pleased with my new Garden In A Box! I'm really looking forward to what this garden will look like in years to come.”

“This is my first time with Garden In A Box. The customer service was great. The pickup was perfect. Your communication was great. My plants are doing well. I am happy to pass this program on to my friends and family.”

WATER-WISE LANDSCAPE SEMINAR SERIES

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 expert led, offered at no cost to the community, and are open to everyone. In 2016 CRC offered **15 seminars** in 8 communities across the Front Range. A total of **624 people attended** the seminars with an average of 42 people per seminar.

DATE	2016 SEMINARS	PARTNER	# ATTENDEES
March 31	Spring into Seminars: The Fundamentals of Xeriscape	CRC	38
April 4	Low Water Landscaping Tips and Tricks	Golden	29
April 5	Transforming Your Lawn into a Xeriscape Garden	Lafayette	108
April 6	Beginners' Guide to Veggie Gardening	Boulder	48
April 7	Integrating Xeriscape into Your Existing Landscape	SACWSD	20
April 7	Xeriscape: The Basics and Beyond	Longmont	61
April 11	Xeric Design: Planting Strategies to Increase the Vitality of an Ecosystem	Boulder	33
April 12	Creating a Lush Landscape – 4 Seasons of Beauty	Lafayette	38
April 12	Must-Have Xeric Plants	Brighton	25
April 13	**Xeriscape 101**	**Erie**	**39**
April 14	Xeriscape Maintenance: Keeping Your Landscape Happy & Healthy	Longmont	52
April 18	Improving Xeriscape: Raising the Bar for Beauty and Purpose	Boulder	14
April 19	Benefits of Xeriscape: Bees, Beauty, and Biodiversity	Louisville	42
April 23	Building a Rain Garden: The Basics and Beyond	Boulder	26
October 27	Transforming your Lawn into a Xeriscape Garden	Lafayette	51

Feedback

In 2016, CRC sent out over 600 surveys to the Water-Wise Landscape Seminar attendees and received **158 responses**. Overall, the feedback was extremely positive. Based on survey results, **92%** of seminar attendees rated their overall satisfaction with the seminars as "**Very Satisfied"** or **"Somewhat Satisfied"**, and **88%** of attendees said that they would be either **"Likely"** or **"Very Likely" to recommend the seminars to a friend**.

Customer Comments

"I am learning so much and finally think I can actually garden!!" – Boulder

"Very engaging, very informative! I have solid knowledge of xeriscaping practices, but thought this provided much-needed additional information on options for good plant selection and design ideas." – Longmont

"Presenter did an excellent job - he was very knowledgeable and kept the audience engaged and entertained throughout the presentation!" –Erie

SLOW THE FLOW OUTDOOR INSPECTIONS

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 saving water. Through partnerships with 23 water providers across the Front Range and Wyoming, qualified customers are able to participate 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. Post inspection, the technician provides the homeowner with a customized watering schedule and a list of suggestions to reduce water use and waste at their property.

Impact

CRC measured an **average savings of 5,000 gallons** in the first season per participant, with higher water users often saving even more.

- CRC has performed Slow the Flow sprinkler inspections on **over 20,000 homes** since 2004.
- Slow the Flow has helped conserve **over 90 million gallons** of water since 2004.
- In 2016 CRC completed **1,699** residential inspections for an estimated **8,495,000 gallons** in water savings!

2016 Summary

In partnership with **23 water providers**, CRC completed **1,699 residential** and **36 commercial** sprinkler inspections in 2016. The residential appointments combined to create **8.495 million gallons** of expected water savings and millions more from commercial properties, if top recommendations are applied. CRC also offers retrofit programs for Slow the Flow Indoor and Outdoor participants in participating communities.

TOWN OF ERIE 2016 SLOW THE FLOW INSPECTIONS

Type of Appointment	Number Completed
Slow the Flow Outdoor Residential Inspections	133
Slow the Flow Large Property Inspections	1

Statistics & Findings

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

Property Information

Before starting the inspection, CRC technicians first 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 below.

TOWN OF ERIE PROPERTY INFORMATION

Homeowner's Property Information	Average	Median		
# of Residents Summer	2.72	3.00		
# of Residents Winter	2.72	3.00		
How long at Address	4.80	2.00		
Home Built (Year)	2006	2006		
System Installed (Year)	2015	2006		
Turf Landscape (sq. ft.)	1,903	1,518		
Shrub Landscape	952	759		
Total Landscape Size	2,855	2,277		
Other Landscape & Property Information				
Soil Type	**Clay**	**Loam**	**Sand**	
Residential	88%	12%	0%	
Large Properties	100%	0%	0%	
Xeriscape	**All**	**Some**	**None**	
Residential	0%	78%	22%	
Large Properties	0%	100%	0%	
MP Rotators				
Residential	1%	7%	92%	
Large Properties	0%	0%	100%	
Check Valves				
Residential	11%	19%	71%	
Large Properties	0%	0%	100%	
1.6 Gallon Toilets	**All**	**Some**	**None**	**Don't Know**
Residential	74%	9%	14%	2%
Dual Flush Toilets				
Residential	11%	11%	75%	3%
Drip System				
Residential	74%	26%		
Large Properties	100%	0%		
ET/Soil Moisture Sensor				
Residential	13%	87%		
Large Properties	0%	100%		
	Yes	**No**	**Don't Know**	
Efficient Washing Machine	70.99%	16.03%	12.98%	
Efficient Dishwasher	82%	12%	5%	

Sprinkler Information

CRC technicians performed efficiency tests on a total of **245 zones** in the Town of Erie in 2016. Technicians performed **155 efficiency tests on spray zones** and **90 tests on rotor zones**. During these efficiency tests technicians test the pressure (measured in pounds per square inch, PSI), distribution uniformity, as well as calculate each tested zone's precipitation rate.

TOWN OF ERIE SPRINKLER INFORMATION

	Average	Median	Range
Spray PSI			
Residential	28.64	25	1-80
Large Properties	30	30	30-30
Spray PR			
Residential	1.18	1.14	0.28-2.54
Large Properties	1.41	1.37	1.32-1.61
Spray DU			
Residential	49	52	5-77
Large Properties	58	55	48-73
Rotor PSI			
Residential	30.33	30	4-75
Large Properties	38	40	32-40
Rotor PR			
Residential	0.81	0.60	0.11-6.31
Large Properties	0.62	0.62	0.3-1.06
Rotor DU			
Residential	54	56	7-81
Large Properties	48	46	41-62
All DU	**51**	**52**	**41-73%**

Watering Schedules

CRC technicians also 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.

TOWN OF ERIE AVERAGE WATERING DURATION

	(minutes per week)	
Rotor Zones	**Current**	**Recommended**
Residential	78	54
Large Properties	90	70
Spray Zones	**Current**	**Recommended**
Residential	53	50
Large Properties	70	55
Properties Previously Using Cycle & Soak	**Yes**	**No**
	44%	56%

Problems Found on Sprinkler Systems

CRC technicians also track the types and severity of problems found during inspections. Technicians classified 14 of 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, (there was a break or a leak) or no.

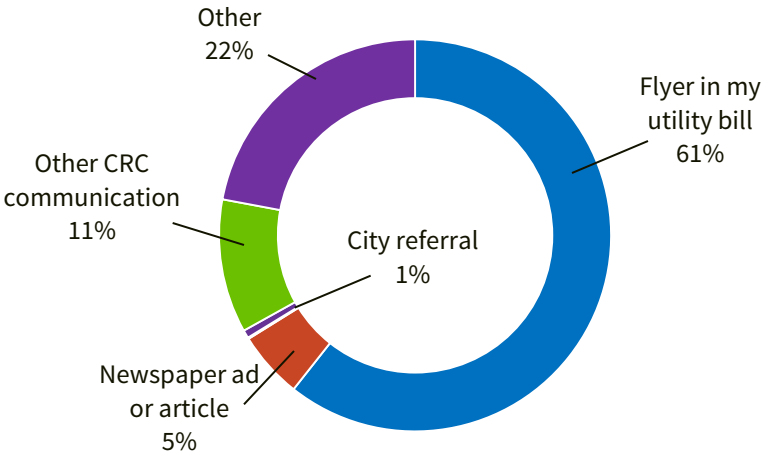
PROBLEMS FOUND – ALL ERIE PROPERTIES

	Major	Significant	Minor	None
Broken Heads	1%	2%	28%	69%
Low Heads	16%	19%	25%	40%
Clogged Heads	0%	1%	7%	92%
Overspray	19%	22%	22%	37%
Unmatched Precipitation Rates	0%	0%	1%	99%
Poor Head Spacing	0%	1%	3%	96%
Inefficient Watering Schedule	0%	1%	1%	98%
Tilted Heads	14%	16%	36%	34%
Blocked Heads	2%	6%	22%	70%
Improper Pressure	0%	1%	7%	92%
Mixed Heads	0%	0%	15%	85%
Incorrect Nozzle	1%	1%	4%	94%
Inappropriate Head Type	1%	0%	1%	98%
	Yes	**No**		
Broken or Leaking Pipes	2%	98%		

"This is really valuable work because it will have an impact on my water usage for as long as I live in the house. It's a great educational program and a terrific investment."

–Centennial Water & Sanitation District Customer

How did you Hear About Slow the Flow?



SLOW THE FLOW CUSTOMER FEEDBACK

CRC asked 2016 program participants to evaluate the Slow the Flow program and received **32 responses from Town of Erie residents.**

How did You Hear About the Program?

61% of all responding participants said they heard about the program through a flyer in their utility bill.

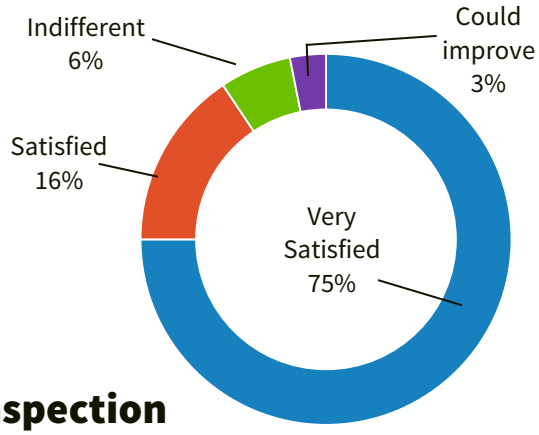
Overall Satisfaction with the Program

When asked "Please rate how satisfied you were overall with your consultation?" **91% of responding Town of Erie participants** said they were either "Very Satisfied" or "Satisfied" with their inspection. Additionally, **91% of Erie participants** felt that the Slow the Flow Program was "A good use of their water provider's resources."

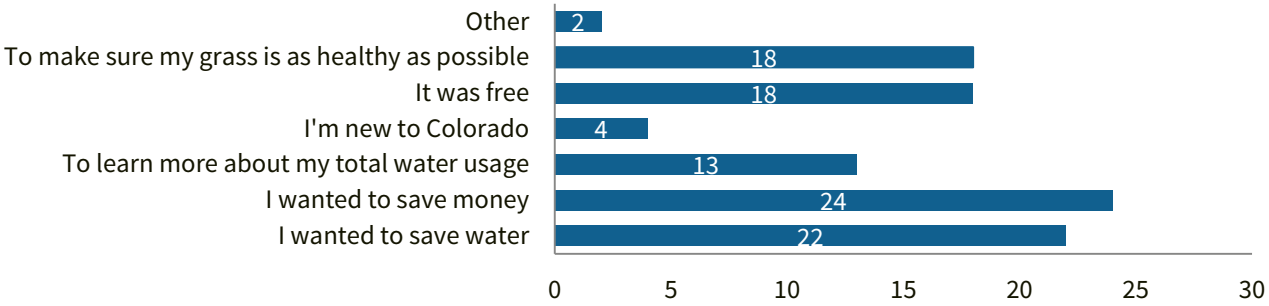
Why did you sign up for Slow the Flow?

CRC also asked participants why they signed up for a Sprinkler Inspection, and the results are below:

Overall Satisfaction



Reasons for Sigining up for an Inspection



Erie Customer Comments:

"I already have recommended Slow the Flow to several of my neighbors."

"A lot of great information on how to save water and keep my grass green at the same time."

"Conserving water now is much easier, and ultimately less costly."

SLOW THE FLOW GLOSSARY

Catch Cup Tests – 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) – 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 and does not provide a recommended schedule.

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 Rotors are multi-stream rotor nozzles the size of a spray nozzle. It fits any conventional spray head body or shrub adapter, transforming it 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 – Commonly referred to as "Mixed Zones." Fixed spray heads are designed to emit an average of 50% more water than rotor heads; meaning the areas in a single zone being watered by fixed sprays will be receiving an average of 50% more water than the areas being watered by rotors. Technicians can also mark inappropriate head type when rotor heads are found watering smaller zones where spray heads would be more appropriate and vise-versa.

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

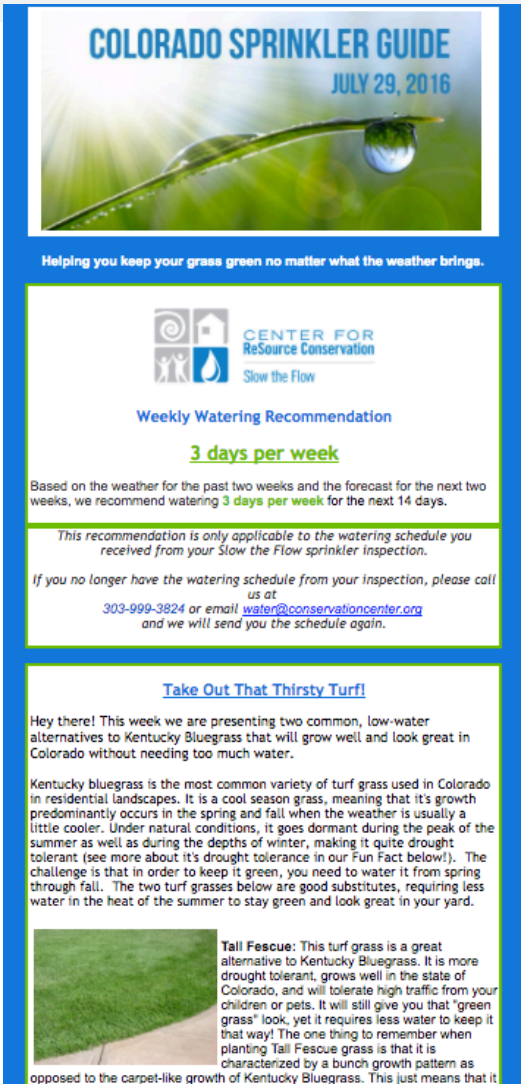
PSI – Pounds per square inch is a unit of pressure resulting from a force of one pound-force applied to an area of one square inch. Unit of measure for pressure tests on sprinkler heads.

Spray Head – Often referred to as a "pop-up" or "fixed spray head," a type of sprinkler that sprays a fixed sheet or stream of water without rotating. Spray heads are used to water small areas because the radius of throw is between 5 and 22 feet. Spray heads have a higher precipitation rate than rotor heads.

Unmatched Precipitation Rates – see "Precipitation Rate." Unmatched precipitation rates occur when all the heads in one zone are not watering the same amount of water at the same time as the rest. This creates uneven wet or dry spots.

COLORADO SPRINKLER GUIDE

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, we piloted a bi-monthly newsletter called the **Colorado Sprinkler Guide.** As shown in the picture below, the primary focus of the guide was an explicit presentation of the number of days per week that each household should be watering, based on their Slow the Flow schedule that they received after their inspection. We used weather data and weather predictions to ensure our "Weekly Watering Recommendation" would keep their yard healthy and reduce overwatering. Also included in the newsletter were two educational sections that provided 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 season, the Colorado Sprinkler guide had **456 subscribers.**



COLORADO SPRINKLER GUIDE

JULY 29, 2016

Helping you keep your grass green no matter what the weather brings.

CENTER FOR ReSource Conservation

Slow the Flow

Weekly Watering Recommendation

3 days per week

Based on the weather for the past two weeks and the forecast for the next two weeks, we recommend watering 3 days per week for the next 14 days.

This recommendation is only applicable to the watering schedule you received from your Slow the Flow sprinkler inspection.

If you no longer have the watering schedule from your inspection, please call us at 303-999-3824 or email water@conservationcenter.org and we will send you the schedule again.

Take Out That Thirsty Turf!

Hey there! This week we are presenting two common, low-water alternatives to Kentucky Bluegrass that will grow well and look great in Colorado without needing too much water.

Kentucky bluegrass is the most common variety of turf grass used in Colorado in residential landscapes. It is a cool season grass, meaning that it's growth predominantly occurs in the spring and fall when the weather is usually a little cooler. Under natural conditions, it goes dormant during the peak of the summer as well as during the depths of winter, making it quite drought tolerant (see more about it's drought tolerance in our Fun Fact below!). The challenge is that in order to keep it green, you need to water it from spring through fall. The two turf grasses below are good substitutes, requiring less water in the heat of the summer to stay green and look great in your yard.

Tall Fescue: This turf grass is a great alternative to Kentucky Bluegrass. It is more drought tolerant, grows well in the state of Colorado, and will tolerate high traffic from your children or pets. It will still give you that "green grass" look, yet it requires less water to keep it that way! The one thing to remember when planting Tall Fescue grass is that it is characterized by a bunch growth pattern as opposed to the carpet-like growth of Kentucky Bluegrass. This just means that it

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 whole season! In addition, we recommended that our subscribers taper, and then shutoff their systems completely by the week of October 7th, which, if followed, led to significant water savings this season.

Survey Results

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. 46 respondents, or about 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 the Slow the Flow Inspections has been highly beneficial. We look forward to continuing it for years to come!

- **84%** of survey respondents reported that they either "Often" or "Always" followed the Weekly Watering Recommendation.
- **90%** of survey respondents reported that the Weekly Watering Recommendation matched their understanding of how many days per week they needed to water.
- **97.8%** of respondents found the material in the Colorado Sprinkler Guide to be clear and understandable.

Customer Quotes

"Love the weekly recommendations. No guess work, hear from the experts"

"Well done…keep up the great work, and thanks for the turf help."

"Excellent information I likely would not have found elsewhere."

SLOW THE FLOW INDOOR INSPECTIONS

Slow the Flow Indoor offers inspections on residential water use and suggests simple measures to increase water use efficiency in the home. These appointments are designed to be easily paired with a Slow the Flow Outdoor Inspection to provide the homeowner with a "whole home" conservation appointment and gives a full picture of both indoor and outdoor water usage. Each appointment takes about 45 minutes to take flow measurements, detect leaks, and present the findings.

Impact

- Over **15 million gallons** of water savings identified to date since program began
- Approximately **5 million gallons** of water saved through fixture swaps since program began
- CRC completed **150 Indoor Inspections** to date in 2016.

2016 Summary

In partnership with **7 water providers**, CRC completed **150 Indoor residential inspections** to date in 2016. These inspections have equated to over **415,525 gallons saved** immediately due to fixture swaps on site and a potential of over 1 million gallons of water savings if recommendations are implemented.

Statistics and Findings

During the appointment the technician measures outputs from faucets, toilets, and shower-heads, and performs a cost/benefit analysis on fixture and appliance replacement options. The technician may also install low-flow shower-heads (1.5gpm) and faucet aerators (0.5-1.5gpm) at no cost to the homeowner. Water savings are also achieved as a result of customers making the changes recommended by the auditors.

Below is a chart of how many total inspections were completed in Broomfield, the number of aerators and shower heads retrofitted on site, gallons immediately saved due to the retrofits, potential gallons saved if recommendations are followed and total money the customer saved each year on their water bill.

ERIE INDOOR INSPECTION RESULTS

Number of Inspections	26	
Aerators Retrofitted	47	
Shower Heads Retrofitted	9	
	Average	**Median**
Gallons Saved/Year	2,546	597
Potential Gallons Saved/Year	7,067	4,839
Total Money Saved/Year	$66.65	$6.54

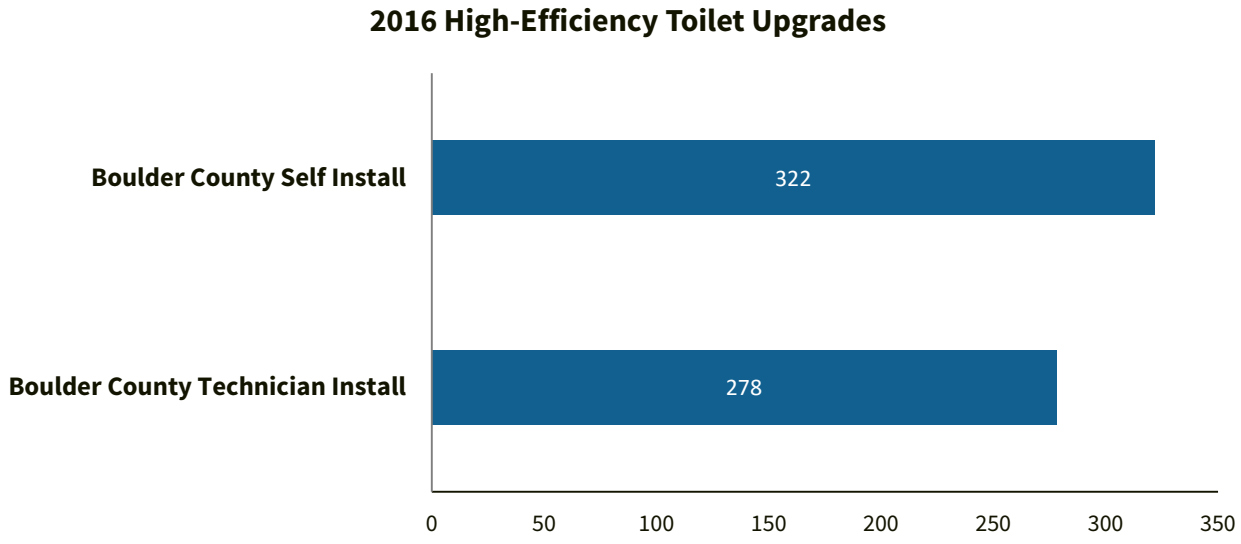
HIGH-EFFICIENCY TOILET UPGRADES

Through CRC's High-Efficiency Toilet Upgrade Program, residents save thousands of gallons of water per year by retrofitting their current toilet with the 0.8 gallon per flush (gpf) Niagara Stealth Toilet. High-Efficiency Toilet Upgrades take the hassle out of the traditional rebate process and ensure that a quality toilet is installed at every participating household. Through a cost-share between Boulder County and the customer, CRC offers **two easy and affordable install options**: a direct installation by a CRC technician or a self-install and visual inspection. The Niagara Stealth toilet that was chosen for this program is highly rated by the plumbing industry and users, while using **37.5% less than even most WaterSense toilets**!

2016 Summary

In 2016 all citizens within Boulder County benefited from the County's support of this program. In the County, 395 high-efficiency toilets were made available to households in every municipality and unincorporated County areas from County funding. With additional funding from the City of Boulder and City of Lafayette, a total of 600 toilets were available in Boulder County in 2016. Of these, **CRC installed a total of 6 toilets for Erie residents and Erie residents installed 15 toilets.**

Below is a graph showing the number of toilets that were installed either by Technician Install or Self Install in Boulder County.



Impact

Water savings from this program are estimated via comparison to a 1.6 gpf toilet to the new flush rate of 0.8 gpf, assuming some basic usage values. For our calculation, we assume that each household has 3 full-time residents who each flush the toilet 5 times per day, 350 days per year. The savings in Boulder are summarized in the table below.

BOULDER COUNTY TOILET INSTALLS BY COMMUNITY

	No. of Toilets	Annual Savings (Gallons)	Lifetime Savings (Gallons)
Boulder County (Total)	**600**	**2,520,000**	**75,600,000**
Allenspark	6	25,200	756,000
Boulder (City)*	214	898,000	126,000
Eldorado Springs	1	4,200	0.95-2.33
Erie	**21**	**88,200**	**2,646,000**
Jamestown	4	16,800	504,000
Lafayette*	150	630,000	18,900,000
Longmont	93	390,600	11,718,000
Louisville	31	130,200	3,906,000
Lyons	11	46,200	1,386,000
Nederland	10	42,000	1,260,000
Niwot	11	46,200	1,386,000
Superior	18	75,600	2,268,000
Unincorporated Boulder County	30	126,000	3,780,000

*Boulder County provided funding for 395 toilets. City of Boulder provided an additional 80 toilets and City of Lafayette provided an additional 125 toilets each for their residents.

"[The p]rogram was awesome - customer service was friendly and [the] tech was knowledgeable and very efficient."

HB10-1051 DATA

In 2010, the Colorado General Assembly adopted HB10-1051 which requires covered entities (retail water providers who sell 2,000 acre feet or more of water annually) to report, on an annual basis, water use and conservation data to be used for statewide water supply planning. The bill directed the Colorado Water Conservation Board, (CWCB) to adopt guidelines regarding the reporting of water use and conservation data by covered entities (Guidelines), and to report to the legislature regarding the Guidelines.

http://cwcb.state.co.us/water-management/waterEfficiency/Pages/ReportingWaterUseWaterConservationData.aspx

Goals

Statewide water supply planning efforts, such as the Statewide Water Supply Initiative (SWSI), which utilizes future statewide water demand projections with-and-without various levels of municipal and industrial water conservation, rely on statewide water use and water conservation data.

Data reported under HB10-1051 will further support statewide water supply planning efforts by improving the quantity and quality of data available and improving consistency in the data reporting.

CRC's Water Programs Data

After studying the HB10-1051 and layering it with the information our water programs at the CRC collect, we have narrowed down five categories that we can help provide data for: Residential Irrigated Areas (Turf landscape size), Application Rates (PR for spray and rotor heads), Education (One-way, One-way with feedback, and Two-way), Total Annual Costs – Utility, and Total Annual Costs – Customer.

TOWN OF ERIE HOUSE BILL 10-1051 DATA

Average Irrigated Turf (sq. ft.)	1,903
Average PR - Spray (in./hr.)	1.19
Average PR - Rotor (in./hr.)	0.79
1-Way Education with Feedback	144
2-Way Education	159
Total Annual Cost - Utility	$25,105.40
Total Annual Cost – Customer	$10,395.00
CRC Staff Hours	386.5

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