



November 2, 2018

Ben Wade
Office of Water Conservation and Drought Planning Section
Colorado Water Conservation Board
1313 Sherman St, Room 721
Denver, CO 80203

Mr. Wade,

Resource Central is happy to report that we have successfully completed the entirety of the Turf Removal and Replacement Pilot Project. Attached you will find a Final Report that summarizes the goals of the project, each task completed as well as findings and conclusions. Additionally, attached is a final invoice and billing summary for the completion of Task 5 and 6.

We greatly appreciate the opportunity to work on and learn from this project. Not only did our efforts lead to very useful findings around turf removal incentives, but together we impacted the lives of over 50 Colorado residents, saving them water and empowering them to have a beautiful, water-wise landscape they will appreciate for years to come. We look forward to continuing our work based on learnings from this project and sharing our findings with others across the conservation community.

Please contact us with any feedback or questions.

Sincerely,

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FINAL REPORT

Turf Removal and Replacement Project

Resource Central

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Table of Contents

<i>Introduction</i>	<i>3</i>
<i>Project Background</i>	<i>3</i>
<i>Project Goals</i>	<i>4</i>
<i>Task 1: Background Research.....</i>	<i>4</i>
<i>Task 2: Program Design</i>	<i>5</i>
<i>Task 3: Recruitment and Surveys.....</i>	<i>6</i>
<i>Task 4: Program Implementation</i>	<i>8</i>
<i>Task 5: Follow-Up Surveys and Information Gathering</i>	<i>12</i>
<i>Conclusion</i>	<i>16</i>

Introduction

Turf Removal and Replacement programs are increasingly part of the long-term water conservation solution for many water providers in Colorado. As new programs continue to emerge, it is important to assess their desirability, effectiveness, and accessibility to residents. What is the optimal design for a Turf Removal and Replacement program? Are the current programs that exist in Colorado built around solving the right problem for the homeowner, or have they developed more from convenience to the water provider or program implementer? Resource Central set out to answer these questions through an innovative study and implementation pilot that worked with communities and individuals to find the best combination of incentives and program design.

This is the final report for the Turf Removal and Replacement Project, prepared by Resource Central for CWCBC. It details the project background, goals, timeline, and tasks, as well as the major program accomplishments and challenges. Deliverables from the project are included in the report attachments.

Project Background

Resource Central is a nonprofit organization that works across the state of Colorado in partnership with water utilities to put conservation into action. More specifically, we serve over 30 Colorado communities through implementing residential and commercial, indoor and outdoor, water conservation programs. We bring significant expertise in working with municipalities and homeowners around landscape change. For the past 20 years we have run the very popular Garden In A Box program, supplying over 18,000 garden kits to Colorado residents, and converting more than 1 million square feet of landscape to Xeriscape. Through this program we have worked to understand how homeowners make decisions about their landscapes and have successfully provided them resources, products, and services to make the xeric perennial garden a staple of Colorado yards.

In 2016 we worked with the City of Lafayette to design and implement a Turf Removal and Replacement pilot program within the community. The program incentivized individuals to remove at least 200 square feet of turf by offering an equivalent sized professionally designed Garden In A Box kit to replace the turf. During the initial year, we saw 26 individuals remove an average of 600 square feet of turf. Through working on this pilot, we gained hands-on knowledge of the inner workings of turf removal and replacement programs and the associated challenges. In 2017 and 2018, we ran this program again in Lafayette as well as in the City of Thornton and City of Boulder.

With years of experience implementing landscape change programs and working with cities and individuals, Resource Central was well poised to assist the conservation community in solving the mystery of what really motivates homeowners to tackle turf removal projects. With more and more cities and municipalities looking into landscape change programs, we are uniquely prepared to work on behalf of the entire Front Range community to investigate the topic thoroughly, pilot the implementation of potential solutions in multiple areas, and share results and findings.

Project Goals

The main goals of the project include:

- To research turf removal and replacement programs across the country in an effort to identify innovative program models, success rates of given models, and feasibility of implementation in Colorado.
- To implement turf removal and replacement projects at up to 20 homes across the Front Range. Each project will remove a minimum of 200 square feet of turf and will include detailed communication and follow-up with participants.
- To provide data and guidance for the conservation community around which barrier, once removed, spurs homeowner action around landscape change the most. Additionally, provide sample program models and details around costs and a framework of each methodology.

The stated goals of the project were all met.

Project Timeline

The dates below reflect the final timeline used for the project. The project was originally planned to end in early 2018, however due to an increased scope thanks to a funding match from the Walton Family Foundation, the timeline was modified, with approval from CWCB.

- Task 1: Background Research 6/12/2017
- Task 2: Program Design 6/30/2017
- Task 3: Recruitment and Surveys 8/15/2017
- Task 4: Program Implementation 6/15/2018
- Task 5: Follow-up Surveys and Information Gathering 11/1/2018
- Task 6: Report and Recommendations 11/1/2018

Task 1: Background Research

The goal of Task 1 in the Turf Removal and Replacement Pilot Project was to first learn what other efforts or programs exist in Colorado and across the US in order to ensure that our project builds upon existing knowledge or offers a new perspective rather than recreating the wheel. Additionally, we sought to hear directly from homeowners to learn about their impressions of their yard, interest in water conservation and turf removal as well as their preferences on potential incentives that Resource Central could offer as part of this project.

Resource Central staff conducted phone and in-person interviews with a variety of program managers of landscape change programs, notes from these discussions and research summaries can be found as Attachment 1. Key findings from the research indicate that although there are a variety of program models and incentive structures the majority of turf removal programs, at their core, offer a financial incentive in exchange for the homeowner removing turf. Where we saw the most variation was in the educational offerings that accompanied these programs as well as in the way that the financial incentives were earned and administered. An example of this is that some programs offer a simple dollar per square foot regardless of cost, while others rebate only materials. Additionally, differences were seen in how success was defined. Many providers' goal was just to get the high-water landscapes out while others like Aurora, CO only rebated the cost after the homeowner had shown significant water savings.

Following our research with other turf removal programs, Resource Central sought to engage Colorado residents to learn more about their thoughts and motivations around landscape change projects. Resource Central gathered information from 3 surveys sent to Slow the Flow participants, Garden In A Box participants and Garden In A Box newsletter subscribers. In total, we heard from over 1,300 individuals and results can be found in Attachment 3 and 4. Key findings from these surveys include the impression that most homeowners are open to the concept of turf removal projects and given the right incentive could be compelled to take action. When asking them which incentives were the most appealing, help with landscape design was a clear favorite, followed by plant material and irrigation assistance. We found it interesting that a financial incentive was low on the list of preferred options, however, many of the existing turf removal programs are structured to offer reimbursement or payments for turf removal.

Key findings for Resource Central from Task 1 included the overall theme that many of existing programs had many steps, were complicated, and this complexity often was one of the key reason that homeowners did not participate or complete projects. Additionally, based on our research both of existing programs and homeowner preferences we chose not to include financial incentives as one of our program models.

Task 2: Program Design

The goal of Task 2 was to take the research and findings from Task 1 and use it to develop four program models with different incentives for Colorado homeowners to remove turf. An additional deliverable for this task was rules and procedures for how each program model would operate and recruitment guidelines. Task 2 was successful and completed on time. Below is a brief description of the work that was performed.

Resource Central analyzed the findings from the research phase of the project and due to a strong response from the survey participants it was fairly clear to us which of the program models would be most compelling and provide useful information to both Resource Central as well as the water conservation community.

The following are the four incentives/barriers that we will be removing for homeowners:

1. Help with physical removal of lawn (will be left with bare dirt area ready for compost, planting and mulch)
2. Help installing or converting your irrigation system into a drip system
3. A professional landscape design and consultation (will receive a design of your yard including where you will remove your lawn)
4. Plant material (low water perennial plants and shrubs) and a plant-by-number design

Task 3: Recruitment and Surveys

The goal of Task 3 was for Resource Central to select up to 20 homeowners per given program design outlined in Task 2 of the grant. Our original plan was to require all participants to start by receiving a Slow the Flow sprinkler inspection funded by one of Resource Central's water provider partners; however, as the program grew in participants thanks to Walton Family Foundation's additional financial contributions and the timeline was shifted from fall planting to spring planting, it was determined that a different pool of people would need to be used. A key factor in this decision is that Slow the Flow appointments occur during the summer (June-August) and we needed commitments from homeowners prior to the 2018 planting season. Around this same time, Resource Central engaged Patricia A. Aloise-Young, a professor at Colorado State University in the department of Applied Social and Health Psychology, to provide study design guidance and analysis assistance. Based on Patricia's recommendation, Resource Central decided to utilize a list of 10,000 homeowners who have previously engaged in our Garden In A Box pilot and signed up to receive a monthly newsletter about the program.

Once this list was selected it was broken up into 5 customer groups and each one was offered a different incentive: physical turf removal, sprinkler conversion, Garden In A Box, a landscape consultation, and the final option let residents choose between all four. Samples of the initial email that was sent to each group can be viewed as Attachment 4 and 5. Those individuals who viewed the email and expressed interest were sent an intake form which required them to provide details about their proposed project and a site drawing. Metrics on email response rate and final program admittance is below.

Incentive	Emails Sent	Expressed Initial Interest	Response Rate	Returned Intake Form and Accepted into Program
Garden In A Box	1940	49	2.5%	11
Sprinkler Conversion	1940	33	1.7%	11
Physical Turf Removal	1940	59	3.0%	15
Landscape Design & Consultation	1940	43	2.2%	10
All Incentive	500	31	6.2%	15

A Resource Central staff member reviewed each application, including the provided “before” photos and either accepted or rejected participants. A sample of the information that homeowners were required to return can be found as Attachment 6. At the end of the intake process, there were 62 people in total that committed to the program.

A final goal of Task 3 was to create surveys that assess the participant’s progress, challenges, and successes as program is being implemented. Both internally and externally Resource Central has gathered many data points of what is difficult for participants, our program staff, and vendors. These learnings will be documented in our final report as we evaluate the incentives against each other. Additionally, in an effort to get clear and relevant findings Resource Central has been working with Patricia Aloise-Young. Together we have drafted a final participant survey, Attachment 7, that will be sent out in early August. We also have scheduled two focus groups in August, one with a group of participants that received an incentive and removed turf, and an additional one with individuals that did not participate in the program. Patricia will also assist with post survey analysis in an effort to have the most statistically relevant results as possible.

Key findings for Resource Central from Task 3 include information regarding participants preferences on incentives demined through our marketing efforts. We found that the response rate was higher when people were given a choice of incentives rather than assigned one. Building on this, we did not see a large variation in the actual incentive they selected, it was just the initial response rate. This leads up to believe that people like the appearance of options and there is not a one size fits all turf removal solution for homeowners.

An additional finding is that even when seemingly compelling incentives are offered, the response rate was lower than we expected. At the beginning of the project, we were concerned with having too many interested homeowners, but had to send marketing emails to almost 2,000 individuals per incentive to reach our goal of at least 10 homes participating through each category. While further conclusions will be drawn as we move into the reporting phase of our project, initial thoughts are that there is not a latent demand for turf removal, and while incentives can help spur action, there are still significant challenges and barriers for homeowners including lack of financial resources, time, or physical ability. It would seem that more needs to be done to remove these barriers and in addition marketing or educational campaigns can contribute to creating a culture where change feels more imperative for homeowners.

Task 4: Program Implementation

The goal of Task 4 is to work with homeowners across the Front Range to implement turf removal projects in an effort to learn which incentive is most effective at spurring action. In previous tasks of this grant Resource Central identified four incentives that removed key barriers to landscape change including physical turf removal, sprinkler system conversion, plant material through Garden In A Box, and landscape design.

As outlined in the progress report for Task 3, Resource Central recruited 62 individuals who agreed to remove 200 sq. ft. or more of their lawn and replace it with low-water plants. Below is the breakdown of the incentives, square feet removed, as well as completion rates.

	Garden In A Box	Landscape design session	Turf removal	Irrigation retrofit
Enrolled	11	20	20	11
Completed	10 (93%)	9 (45%)	16 (82%)	7 (69%)
In progress	0	6	0	0
Opted out	1	5	4	4
Total Sq. Ft. Converted	3,850	3,899	6,558	4,852
Potential Water Savings Per Year	40,000 gal	41,000 gal	68,000 gal	50,000 gal
Potential Lifetime Water Savings	281,000 gal	284,000 gal	479,000 gal	354,000 gal
Communication with Customer	Very Easy	Difficult	Easy	Very Difficult
Implementation	Very Easy	Easy	Difficult	Very Difficult

Each incentive provided Resource Central with a unique challenge in implementation. Our staff researched best practices and available resources in an effort to find the most efficient, cost effective way to deliver the product or service to the homeowner. Below is a summary of how each incentive was put into practice.

Physical Turf Removal: In the fall of 2017, Resource Central partnered with two landscape companies to provide this service for 3 homeowners. This was a challenge as there are limited businesses that were willing to take on a project of this size. After evaluating the cost and difficulties of working with these companies, Resource Central staff made the decision to perform this incentive in house by renting a sod cutter for the projects in the spring of 2018.

Pros	Cons
<ul style="list-style-type: none"> • 82% completion rate • In-house implementation • Control over scheduling and deadlines • Motivated participants 	<ul style="list-style-type: none"> • Labor intensive <ul style="list-style-type: none"> – 1 appointment per day – Required 2-3 staff members • Equipment & vehicle expenses • Few compost facilities • Carbon footprint

- ✓ Highest response rate
- ✓ Second highest completion rate
- ✓ Largest area converted
- ✓ Easy communication with customer
- ✓ Difficult to implement

Sprinkler System Conversion: Due to the specialized knowledge and skills required for irrigation systems, Resource Central hired a landscape design and installation firm to perform this work. The landscaper performed an initial inspection of the irrigation system ensuring that the home was a good candidate for the service and that the conversion would take place on an entire irrigation zone(s). The irrigation specialist then scheduled a follow-up in which the work was accomplished.

Pros	Cons
<ul style="list-style-type: none"> • Ensures efficient watering • On-site visit with landscape pro 	<ul style="list-style-type: none"> • 63% completion rate • Limited pool of participants • Confusing timeline & requirements • 2 approvals • 2 site visits • Scheduling challenges • Difficult customer communication • Follow ups

- ✓ Lowest response rate
- ✓ Second largest conversion area
- ✓ Very difficult to communicate with customer
- ✓ Very difficult to implement

Garden In A Box Plant Material: Resource Central's Garden In A Box program provides pre-planned, water-wise garden kits to homeowners throughout the Front Range. In the context of this program, participants received 400 sq. ft. worth of plant material, a plant-by-number design, planting and care instructions. These gardens were provided at a variety of scheduled pick-ups, once the homeowner showed proof that the turf has been removed through submitting an image of their conversion area without any grass to Resource Central staff.

Pros	Cons
<ul style="list-style-type: none"> • Ensures efficient watering • On-site visit with landscape pro 	<ul style="list-style-type: none"> • 63% completion rate • Limited pool of participants • Confusing timeline & requirements • 2 approvals • 2 site visits • Scheduling challenges • Difficult customer communication • Follow ups

- ✓ Second highest response rate
- ✓ Highest completion rate
- ✓ Highest satisfaction rate
- ✓ Smallest conversion area

Landscape Design: This is another highly specialized option, therefore we hired a professional landscape design company to complete all of the projects that fell under this incentive. Each participant received a one hour landscape consultation at their home. During this time, the landscape designer identified the ideal area for conversion and learned about the participants unique landscaping needs and aesthetic. After the consultation, the designer created a custom design and plant list.

Pros	Cons
<ul style="list-style-type: none"> • On-site visit with landscape pro • Large designs • Easy to implement 	<ul style="list-style-type: none"> • 45% completion rate • Incentive provided before turf removed • Difficult customer communication • Scheduling challenges • Short time-frame • Unlikely to DIY

- ✓ Lowest completion rate
- ✓ Second smallest conversion area
- ✓ Difficult to communicate with customer
- ✓ Easy to implement

A sampling of projects is included as Attachment 8.

While Resource Central will have more significant findings after surveying and hosting focus groups, we did learn important information regarding the implementation of these turf removal projects during the work on this task. Each of the incentives had unique difficulties some of which were expected and others were not. A few challenges included the physical strain on staff (physical turf removal) and difficulty working on a set timeline with vendors (sprinkler conversion and landscape design). By far the easiest on the implantation side was the Garden In A Box incentive, as it takes advantage of economies of scale by integrating with an existing and established program.

Participants who received the Garden In A Box and turf removal incentive options seem to have the highest likelihood of a timely project completion. For Garden In A Box, we believe this is due to the fact that the participant must complete the most challenging part of the project *before* receiving their free plant materials. Once the participant receives their garden, there is a short window of time to plant it. For the turf removal incentive, we believe participants are likely to finish the conversion quickly because we take care of the hardest part of the project. Once the turf is removed, the participant simply needs to amend their soil and plant the garden.

Another observation is that the sprinkler conversion and the landscape design options had the highest “opt-out” rate. Sprinkler conversation was the most complicated option to coordinate and complete as it required multiple appointments and multiple check-ins. The participant must meet with the irrigation specialist twice, remove grass from the area specified by the specialist and their irrigation system must be in good working order. These factors require a lot of communication between the participant, program coordinator and irrigation specialist. These added complications could be frustrating and/or discouraging to program participants.

Task 5: Follow-Up Surveys and Information Gathering

The goal of Task 5 was to learn from program participants which program design or incentive was the most effective in motivating residents to remove their turf and replace it with low water landscaping. Additionally, Resource Central set out to learn more about homeowners experience with their given incentive and how it affected the barriers and benefits of turf removal.

To complete this process, Resource Central worked with Patricia Aloise-Young an Associate Professor in Applied Social Health and Psychology at Colorado State University. Pat provided support in designing the surveys, structuring and leading the focus groups, as well as analyzing the results and providing large scale consultations.

Resource Central hosted two focus groups on August 7th and August 8th. One group was comprised of individuals who participated in the pilot study and successfully removed a portion of their lawn. The second group was comprised of individuals who received the offer to participate in the program but did not agree to take part. Both groups had previously participated in Garden In A Box, as that was the list of individuals we pulled from. Below are key findings from the focus groups:

Incentives

- There was a general consensus that physical turf removal was the best incentive
- Many people enjoyed their landscape consultation and said it provided them with needed inspiration
- Was particularly appealing to people who felt at there's a "right way" to change their landscapes and did not want to make mistakes
- Garden In A Box was a very popular option, and solved many of the same issues as landscape design

Motivators for action

- Many of the participants were already bought in to the idea of turf removal, this project gave them a push to do even more
- There was a general consensus that xeric landscapes require less maintenance, and that was a driving factor for many people
- Many felt motivated by general environmentalism, doing the right thing
- Beauty and having an attractive yard was very important to all participants

Barriers to Action

- Did not want to make mistakes, high desire to "get it right"
- While many of our participants had children at home, many also mentioned no longer needing a lawn due to their kids no longer being at home

Other Learnings

- Felt that there is a disconnect between environmentalism and landscape choices

- Xeriscape is seen as a non-traditional landscape choice, need to find ways to adapt turf removal message to appeal to individuals who value traditional landscapes
- People are demotivated by seeing examples for professional projects, they want to see other DIY examples

A full analysis for the Focus Group Findings can be found as Attachment 9

Our final step of the program was to design and send surveys to program participants to learn more about their experience with each incentive and compare results across incentive options. Top-level findings from the surveys are below:

Satisfaction by Incentive

Satisfaction was high for all incentive conditions, but there was some variability.

Overall satisfaction

- 4.40 Landscape Design
- 4.62 Sprinkler Conversion
- 4.87 Physical Turf Removal
- 5.00 Garden In A Box

Satisfaction with End Product

- 4.5 Landscape Design,
- 4.62 Sprinkler Conversion,
- 4.73 Physical Turf Removal
- 5.00 Garden In A Box

Satisfaction with customer support ranged from 4.25 for sprinkler conversion to 5.00 for physical turf removal.

Challenges to Completing the Work

Program participants were asked about their greatest challenge to completing the program. The options provided are listed below

- Creating a landscape design (deciding which plants to put where)
- Converting the underground irrigation system to a drip system
- Removing the turf-grass
- Disposing the turf-grass
- Preparing the soil for new plants
- Planting the garden
- Installing hardscape
- Finding a professional landscape contractor to complete my project

The most commonly suggested challenge (21% of participants) was removing the turf-grass.

Key Differences Between Incentives in Perceived Challenges

Turf Removal

- **40%** of landscape design participants chose turf removal as their biggest challenge compared to
- **22%** of Garden In A Box participants
- **13%** of turf removal participants
- **11%** of irrigation retrofit participants

Creating Landscape design

- **27%** of turf removal participants chose creating a landscape design as their biggest challenge, compared to;
- **11%** of irrigation retrofit participants
- **10%** of landscape design participants
- **0%** of Garden In A Box participants

Barriers and Benefits Analysis

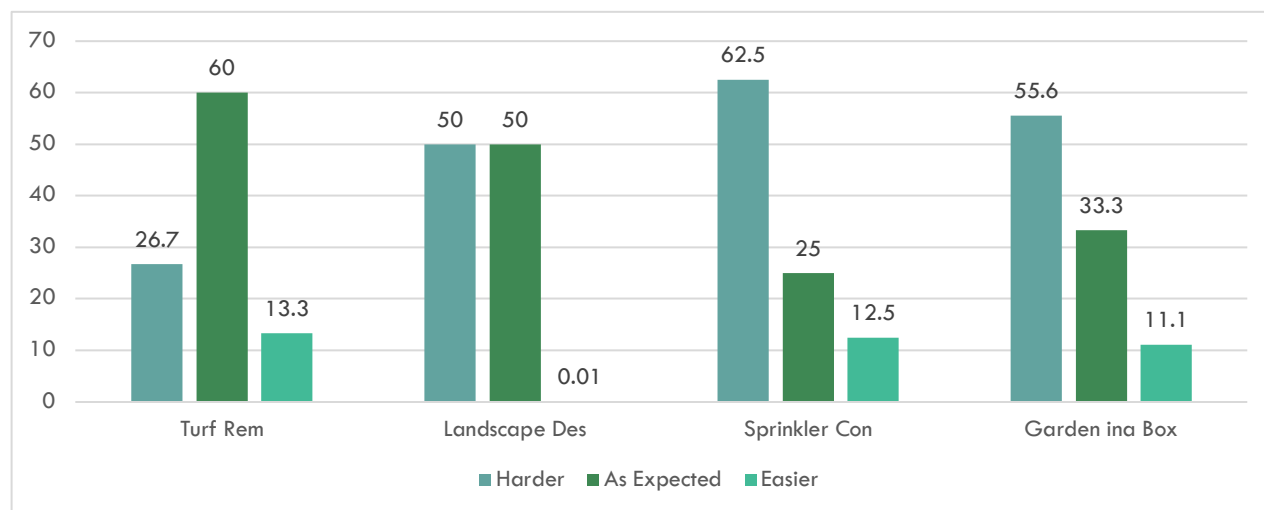
Benefits

Variable name	Question	Top benefit
BENEFITS_TIME	I would spend less time maintaining my yard.	3
BENEFITS_ATTRACTIVE	My home would be more attractive.	3
BENEFITS_VALUE	It could increase the value of my home.	0
BENEFITS_WILD	I would create a habitat for wildlife.	6
BENEFITS_WATER	I would save water.	13
BENEFITS_COMPLIMENT	My neighbors would compliment me on my yard.	0
BENEFITS_ENVIRON	I would help the environment.	12
BENEFITS_MONEY	I would save money on my water bill.	5

Barriers

Variable name	Question	Top barrier
BARRIER_VALUE	It could decrease the value of my home.	0
BARRIER_COST	It is very costly.	9
BARRIER_CONTRACTOR	It is difficult to find a good contractor to do the work.	2
BARRIER_SKILL	I don't have the skills or knowledge to maintain a water-wise landscape.	0
BARRIER_KNOWLEDGE	I don't know what types of plants to use instead.	3
BARRIER_TIME	It takes too much time to remove and replace lawn myself.	19
BARRIER_START	I don't know where to start.	1
BARRIER_PRIORITY	I have other home improvement projects that are more important.	4
BARRIER_PLAY	I need a place for my kids and pets to play.	2
BARRIER_NORMS	My yard would look different from my neighbors'.	2

Living Up to Expectations



Full takeaways and analysis from the participant surveys can be found as Attachment 10.

Conclusion

Overall, we learned as much as we had hoped to from the program and process and accomplished our set out goals. Large scale learnings from the program and process include:

- The incentive that seems to remove the most barriers for customers seems to be **Physical Turf Removal**
- The incentive that was the easiest and lowest cost to implement was **Garden In A Box**
- To overcome dual barriers of turf removal and creating a landscape design, participants could be offered some combination of two incentives
- The Garden In A Box appeared to be more successful at removing the landscape design barrier than the landscape design consultation
- Additionally, Garden In A Box demonstrates extremely high customer satisfaction.

Moving forward Resource Central will be looking more into physical turf removal and seeing if there is a cost effective and scalable way to offer this service to Colorado homeowners through our work with municipalities. Additionally, we would like to continue to build on Garden In A Box's success and customer satisfaction to see how we can further leverage it to accomplish larger scale turf removal. While we feel that there is still much to be learned from homeowners in Colorado and how they interact and make decisions about their landscapes, we feel this project provided us with a unique and exciting opportunity to learn more about what really motivates homeowners, what their barriers are in both choosing to remove turf as well and completing projects.

Attachment 1 - Turf Removal & Replacement Program Matrix

Organization	Location	Program Name	Program Website	Program Contact Info	Brief Description of Program	Incentives	Barriers it helps to Remove	Other relevant Program Notes
Town of Castle Rock	Castle Rock, CO	Smartscape Rebates	http://crconser	Linda Gould	\$1/sq ft rebate to convert high-water use areas to water wise landscape area. Require attendance to water wiser seminar. Up to 1500 sq ft for rebate	\$1/sq ft, water wiser seminar. Stated that people who do the program were going to do this project anyway and just learned about the rebate, so they don't feel that their program necessarily incentivizes the projects.	Helps reduce cost to homeowner of the project, but does not cover the entire cost. May be some educational benefits on water wise landscaping that others would not receive if they did not participate in the program.	
Aurora Water	Aurora, CO	Water-wise Landscape Rebate	https://www.auro	Meghan McCarroll	Rebate for materials only up to \$3,000 for residential properties or \$4,500 if using "z-zone" plants which require no supplemental irrigation. Education is offered but not required.	Pure financial incentive. Rebate for materials only but not tied specifically to square feet removed.	Up-front cost is a hinderance for people. Also found that all the requirements and steps of process were off-putting. Many people started the process but then dropped out.	Offer quite a bit of design assistance and participants have to have a site plan approved. They don't pay the incentive back right away, the participant has to show water savings. Requires 2 inspections (during and after project). Do offer irrigation rebates that can be applied to project.
City of Fort Collins	Fort Collins, CO	Xeriscape Incentive Program (ZIP	http://www.fcgov	Katie Collins	\$.75/sq ft rebate for converting to xeriscape, must complete classes to qualify	\$.75/sq ft, program also includes free educational classes	Helps with both education as well as providing a financial incentive	Participants must attend multiple educational classes both in person and online. Have seen between 20-30 participants per year
SNWA	Las Vegas, CA	Water Smart Landscape Program	https://www.snwg	Patrick Watson (Commercial), Toby Bickmore (residential)	Both residential and commercial turf replacement, \$2/ sq ft., up to first 5000 sq ft, then \$1/sq ft beyond that, up to \$300K per year. Requires that owner sign this amt of land into a permanent "conservation easement" to create permanent low water landscape	\$2/sq ft up to first 5000 sq ft; \$1/sq ft past 5000 sq ft	Helps reduce cost of the project, but only approximately 50% (or less) for residential customers. They intentionally want business/homeowner to have "some skin in the game." - Reduces the barrier of finding a reliable contractor to do the project (WaterSmart Contractors program). -Reduces barrier of figuring out what to plant and possible designs (provide a design series web resource).	- Have kept application form to 1 page - for simplicity and to keep that barrier as low as possible. Use same application for homes and businesses. - Created a "Water Smart Contractors" program to reduce the barrier of finding a reliable contractor - is a certification/labeling program that requires the contractors to take a class with SNWA and then they are listed on SNWA's website. Have about 80 in the program. - Also have a lot of resources for selecting appropriate plants, seeing different designs and example photos. - don't require water savings, but have found avg of 55 gal/sq ft savings whenever analyses have been done.
LADWP	Los Angeles, CA	Cash In Your Lawn	https://www.ladw	NA	\$1.75/sq ft for replacing turf for residential, up to 1500 sq ft. \$1/sq ft for replacing turf for commercial, up to 10,000 sq ft; \$0.50 for next 10,000-43K sq ft.	\$1.75/sq ft, residential, \$1/sq ft, commercial.	Helps reduce the cost of the project. Also provides educational info via "California Friendly" program.	
University of Florida	State of Florida	Floriday Friendly Landscaping Program	http://fyn.ifas.ufl.edu	NA	Education and recognition-based program for getting landscapes professionally certified as "florida friendly".	Free (extensive/comprehensive) educational materials on "how to", free home recognition program with "gold" and "silver" tiers that give a sign to put in the yard if they meet the criteria.	Helps to reduce barrier of "what to plant" and "how to plant".	
Long Beach Water District	Long Beach, CA	Lawn to Garden program	http://lblawnlogar	Krista Reger (Spoke with her 9/28/16)	Basically a cash for grass program, with a lot of requirements and steps. Have to submit a design at the very beginning.	\$2/sq ft up to 1500 sq ft	Extensive info on how to do a project, how to estimate cost of the project, resources for finding plants and designs, the class helps with these too. - online course helps those who don't want to attend a class in person, and these are most "attended" vs in person classes.	- Extremely detailed program checklist of requirements. - Home Garden Tour every year used to promote the program. - both online and in-person classes available and accepted.
City of Austin	Austin, TX	WaterWise Landscape Residential	http://www.austin	NA	Cash for grass, with minimum removal of 500 sq ft (commercial requires a min of 1000 sq ft removal)	\$35/100 sq ft, min of 500 sq ft, max of 5000 sq ft, commercial is \$25/100 sq ft, max of 20,000 sq ft	helps remove cost barrier, but not by much! very few supportive materials or info.	- do track water use of participants - having a minimum conversion amt might help water savings be more assured - allow 25% of grass that is being replaced to not be healthy.
City of San Antonio	San Antonio, TX	WaterSaver Landscape & Hardscape	http://www.garde	NA	Coupon program for removing grass and replacing with landscape or hardscape. Coupons are good at select local stores. Must remove a min of 200 sq ft. Must remove sprinkler system (spray/rotor heads)	\$100 Coupon for plants/200 sq ft of turf removed; \$200 coupon for hardscape materials/200 sq ft of turf removed. Must remove a min of 200 sq ft., get up to 8 coupons (so max of \$1600 sq ft).	- Reduces cost. Gives very specific use for dollars on appropriate plants and hardscape material (so no guesswork on what you're supposed to use). Has online materials for helping design and other parts of the project	Requires that you get a "free" irrigation consultation if you have an in-ground sprinkler system.
Albuquerque Water Authority	Albuquerque, NM	Xeriscape Rebate program	http://www.abcw	NA	Removal of any high water use landscape and replacement with xeriscape. 50% of project must be plants, spray irrigation must be removed, min of 500 sq ft	\$1/sq ft, min of 500 sq ft.	- reduces cost. also a lot of complimentary rebate offers to go along - such as for rainwater harvesting, 25% of cost of renting turf removal equipment, 25% off cost of compost; \$ for planting appropriate trees, to promote additional shade	- Have a Rainwater Harvesting Landscape Rebate that allows those who plan to water the area with rain water only (after establishment) to get \$1.50/sq ft
City of Scottsdale	Scottsdale, AZ	warm-season turf removal rebate	http://www.scotts	NA	Standard rebate, \$0.50/sq ft up to \$1500 (3000 sq ft), just for warm-season turf; for commercial they cover 35% of the cost of removal of warm season turf, up to \$5000.	\$0.50/sq ft, max of 3000 sq ft	- reduces cost. that's about it. They have very little helpful info.	
City of Tempe	Tempe, AZ	Landscape Rebate Program	http://www.tempe	NA	Standard rebate, \$0.25/sq ft	\$0.25/sq ft	- reduces cost a tiny bit - that's also about it. Don't have much helpful info	
City of Chandler	Chandler, AZ	Turf Removal	http://www.chanc	NA	\$0.20/sq ft of turf removed, must remove 1000 sq ft or more; max of 15,000 sq ft; 50% of area must be planted.	\$0.20/sq ft	- minimal financial support, but do have some online support materials (http://www.chandler.watersavingplants.com/)	
SoCal Water\$mart	LA area	Turf Removal Rebate	http://www.socal	NA	\$2/sq ft Rebate for turf removal of a min of 250 sq ft., max of \$6000 (3000 sq ft)	\$2/sq ft	- reduces cost of project. has some materials for what to plant	Just seems to be a rebate portal for whichever water utility wants to participate.
Save Our Water, Department of Water Resources in CA	Available across t	Turf Replacement Rebate	http://www.saveo	Todd Thompson with the state. (spoke with him last yr)	\$2/sq ft rebate for replacing turf, up to \$2000 per property. But if local turf programs contribute \$, this \$ is only available to make up the difference, to \$2/sq ft.	\$2/sq ft up to 1000 ft	Allowed removal of dead turf.	120 day conversion time limit; can convert front or back lawn, no minimum amount; require at least one tree in the conversion area (no new tree required if one already exists); mulch required; 25% of total area has to be plant material when completed; require no watering of zone with sprays/rotors; no synthetic turf allowed

Attachment 2 - Turf Removal Survey 2017

Constant Contact Survey Results

Survey Name: Turf Removal Survey 2017 updated

Response Status: Partial & Completed

Filter: None

Jul 31, 2017 3:29:32 PM

1. Please rate your satisfaction with your current landscape or yard.

Top number is the count of respondents

selecting the option. Bottom % is percent of the total respondents selecting the option.

	Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied
	12	59	54	57	12
	6%	30%	28%	29%	6%

2. How much to do you agree or disagree with the following statements about your lawn? Please rate each statement on a scale of 1 to 5, with 1 indicating you completely disagree and 5 indicating you strongly agree.

Top number is the count of respondents

selecting the option. Bottom % is percent of the total respondents selecting the option.

	1 (completely disagree)	2	3	4	5 (strongly agree)
My lawn is one of my favorite features of my landscape and I don't desire to change it	63 34%	57 31%	43 23%	15 8%	6 3%
I like my lawn, but I wish I had a little less	17 9%	25 14%	42 23%	47 26%	51 28%
I like my lawn, but I am open to alternatives for all/some of it	12 6%	5 3%	26 14%	60 32%	83 45%
I feel pressure to have a lawn from my neighborhood or HOA	93 51%	23 13%	25 14%	19 10%	21 12%
I am actively looking for ways or taking steps to reduce my lawn size	22 12%	17 9%	25 14%	46 25%	74 40%
I don't have strong feelings about my lawn one way or the other	81 45%	41 23%	42 23%	9 5%	8 4%

3. How important to you is sustainable or efficient water use in your daily life and activities?

Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.

	Extremely unimportant	Unimportant	Neutral	Important	Extremely important
	6	1	1	84	102
	3%	1%	1%	43%	53%

4. When you consider doing a landscape project what is your primary concern?

	Number of Response(s)	Response Ratio
Cost of project	125	63.4%
How long it will take	7	3.5%
Having the skill or expertise necessary	39	19.7%
Having the right tools or supplies	2	1.0%
Other	24	12.1%
No Responses	0	0.0%
Total	197	100%
43 Comment(s)		

5. Do you think that an incentive from your water provider or another organization would motivate you to get rid of some of your lawn?

	Number of Response(s)	Response Ratio
Yes, for the right incentive I would be willing to make a change to my	149	75.6%
No, I like my landscape the way it is and an incentive would not change my	10	5.0%

Maybe, I would need more information to decide	35	17.7%
No Responses	3	1.5%
Total	197	100%
27 Comment(s)		

6. Look at the following potential incentives for a lawn conversion program. If offered to you as part of a program, which incentive would be most appealing or would most motivate you to participate?

	Number of Response(s)	Response Ratio
Assistance with converting or installing irrigation for the new plant area at no	41	20.8%
All the plants needed for the given area you removed at no cost (comes with a	35	17.7%
Labor to help physically remove the lawn at no cost (you would be left with an	30	15.2%
Design help from a professional landscape designer at no cost (consultation	56	28.4%
Materials such as mulch, compost, rock, provided to you at no cost (includes	18	9.1%
Financial incentive to do with as you choose - up to \$1 per square foot of lawn	15	7.6%
No Responses	2	1.0%
Total	197	100%
51 Comment(s)		

7. In thinking about a significant landscape change project, rate each incentive in terms of how helpful (removes a significant challenge associated with the project) you find each one.

Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.					
	Very unhelpful	Unhelpful	Neutral	Helpful	Very Helpful
Assistance with converting or installing irrigation for the new plant area at no cost (includes	4 2%	6 3%	22 11%	50 26%	111 58%
All the plants needed for the given area you removed at no cost (comes with a layout/design	2 1%	5 3%	14 7%	60 31%	112 58%
Labor to help physically remove the lawn at no cost (you would be left with an empty, tilled plot)	6 3%	5 3%	29 15%	55 28%	98 51%
Design help from a professional landscape designer at no cost (consultation and drawn	4 2%	5 3%	23 12%	51 26%	110 57%

Materials such as mulch, compost, rock, provided to you at no cost (includes delivery)	1 1%	3 2%	23 12%	50 26%	116 60%
Financial incentive to do with as you choose - up to \$1 per square foot of lawn you remove	13 7%	14 7%	49 25%	45 23%	72 37%
23 Comment(s)					

8. Are there any other incentives or areas of assistance you think would motivate you to take on a project to remove a portion of your lawn?

72 Response(s)

9. Is there anything else you would like us to know?

66 Response(s)





10. Please include your contact information if you would be willing to provide additional information or be contacted regarding this project.

First Name	137
Last Name	137
Home Phone	112
Email Address	137
City	138

Attachment 3 - Additional Survey Results from Program Surveys

Survey Results from Slow the Flow Customers







*Are you satisfied with the amount of turf grass that you currently have in your yard?

Answer	0%	100%	Number of Response(s)	Response Ratio
Yes, I am satisfied.			132	57.6 %
No, I want MORE turf grass.			12	5.2 %
No, I want LESS turf grass.			68	29.6 %
Undecided/Unsure			16	6.9 %
No Response(s)			1	<1 %
Totals			229	100%

If you answered that you want less turf in the previous question, which of the following incentives is most likely to prompt you to remove a portion of your turf and replace it with low water landscaping? Please select the most appealing incentive, the one that makes you feel as if, "I have to do this!"










Answer	0%	100%	Number of Response(s)	Response Ratio
Assistance with irrigation (existing or new)	<div><div></div></div>		4	1.7 %
Assistance with the planning and designing of the project	<div><div></div></div>		30	13.1 %
Assistance with the physical labor of the project	<div><div></div></div>		9	3.9 %
Financial assistance with the project, to be used at the homeowner's discretion	<div><div></div></div>		22	9.6 %
Provided low water plant materials	<div><div></div></div>		3	1.3 %
Provided landscape materials (ie. mulch, rock, compost)	<div><div></div></div>		8	3.4 %
Other	<div><div></div></div>		8	3.4 %
No Response(s)	<div><div></div></div>		145	63.3 %
Totals			229	100%

Excluding the costs associated with your water bill, how much money do
 *you typically spend on your landscape each year? This budget would include
 money spent on landscape materials and services.







Answer	0%	100%	Number of Response(s)	Response Ratio
Less than \$100			26	11.3 %
\$100 to \$500			114	49.7 %
\$500 to \$1000			51	22.2 %
\$1,000 to \$3,000			24	10.4 %
More than \$3,000			1	<1 %
I'd prefer not to answer			5	2.1 %
Other			6	2.6 %
No Response(s)			2	<1 %
Totals			229	100%

Survey Results from Garden In A Box Customers

In considering turf removal, which of the following incentives is most likely to prompt you to remove a
 *portion of your turf and replace it with low water landscaping? Please select the most appealing
 incentive, the one that makes you feel as if, "I have to do this!"

Answer	0%	100%	Number of Response(s)	Response Ratio
Assistance with irrigation (existing or new)			43	4.7 %
Assistance with the planning and designing of the project			220	24.1 %
Assistance with the physical labor of the project			163	17.8 %
Financial assistance with the project, to be used at the homeowner's discretion			88	9.6 %
Provided low water plant materials			101	11.0 %
Provided landscape materials (ie. mulch, rock, compost)			66	7.2 %
None of the above			168	18.4 %
Other			29	3.1 %
No Response(s)			34	3.7 %
Totals			912	100%

*Excluding the costs associated with your water bill, how much money do you typically spend on your landscape each year? This budget would include money spent on landscape materials and services.

Answer	0%	100%	Number of Response(s)	Response Ratio
Less than \$100			80	8.7 %
\$100 to \$500			476	52.1 %
\$500 to \$1000			212	23.2 %
\$1,000 to \$3,000			49	5.3 %
More than \$3,000			2	<1 %
I'd prefer not to answer			33	3.6 %
Other			46	5.0 %
No Response(s)			14	1.5 %
Totals			912	100%



CONSERVATION MADE EASY

Garden In A Box eNews

Special Offer

Greetings!

As a Garden In A Box eNews subscriber, we are inviting you to participate in an exciting new pilot program brought to you by Resource Central.

It's simple; identify 200+ square feet of maintained turf-grass in your yard (about the size of a one car garage) and commit to replacing it with xeric (low water) plants. Resource Central will then remove and dispose of the grass...
For FREE!!!

This project is part of a grant-funded initiative hoping to learn from homeowners about the barriers and benefits of turf-grass removal in the hopes of better serving Colorado residents. Don't worry, all your information will be kept confidential but your experience, will help others save water and money on their landscapes!



Water-Wise Landscape Transformations

The Big Picture



Did You Know? The lawn is your household's biggest water consumer. When watered and maintained effectively, replacing your lawn with Xeriscape can reduce your outdoor water use by up to 60%! Converting even a small portion of your turf to Xeriscape has huge potential for water savings.

Do I Qualify?

Ask Yourself the Following Questions:

1. Do you live in the Front Range region of Colorado?
2. Are you willing to remove 200 - 500 square feet of turf-grass and replace it with xeric (low-water) plants?
3. Is your lawn mostly healthy, green, watered, cared for, and mowed regularly? In other words, is it maintained?
4. Can you commit to finishing this project by June 25th, 2018?

If you answered "YES" to all of these questions, then you are eligible to participate!

Ready to Learn More & Apply?

Follow These Simple Steps:

Remove - Replace - Save

1. Email TurfRemoval@ResourceCentral.org with "Physical Turf Removal" in the subject line.
2. We will respond with an application and program details within the next few business days.
3. Complete and submit the application by or before **Friday, March 23rd**.
4. Once approved, we'll schedule your turf removal appointment!

Projects MUST be completed by June 25th, 2018



Participation is limited to 50 households, apply today!

Questions? Call us at 303-999-3820 ext. 221

More About Resource Central:

This pilot program is brought to you by Resource Central with the support of the Colorado Water Conservation Board and the Walton Family Foundation. Resource Central empowers 65,000 community members annually to protect our non-renewable resources and to live more sustainably. To learn more about the ways Resource Central puts conservation into action, please visit www.ResourceCentral.org.



www.ResourceCentral.org



CONSERVATION MADE EASY

Garden In A Box eNews

Special Offer

Greetings!

As a Garden In A Box eNews subscriber, we are inviting you to participate in an exciting new pilot program brought to you by Resource Central.

It's simple; identify 200+ square feet of maintained turf-grass in your yard (about the size of a one car garage) and commit to replacing it with xeric (low water) plants. Resource Central will provide your choice of one of the following incentive options... For FREE!!!

- * Professional Landscape Consultation and Design
- * Physical Turf Removal
- * Sprinkler Conversion
- * Garden In A Box

This project is part of a grant-funded initiative hoping to learn from homeowners about the barriers and benefits of turf-grass removal in the hopes of better serving Colorado residents. Don't worry, all your information will be kept confidential but your experience, will help others save water and money on their landscapes!



Water-Wise Landscape Transformations

The Big Picture



Did You Know? The lawn is your household's biggest water consumer. When watered and maintained effectively, replacing your lawn with Xeriscape can reduce your outdoor water use by up to 60%! Converting even a small portion of your turf to Xeriscape has huge potential for water savings.

Do I Qualify?

Ask Yourself the Following Questions:

1. Do you live in the Front Range region of Colorado?
2. Are you willing to remove 200 - 500 square feet of turf-grass and replace it with xeric (low-water) plants?
3. Is your lawn mostly healthy, green, watered, cared for, and mowed regularly? In other words, is it maintained?
4. Can you commit to finishing this project by June 25th, 2018?

If you answered "YES" to all of these questions, then you are eligible to participate!

Ready to Learn More & Apply?

Follow These Simple Steps:

Remove - Replace - Save

1. Email TurfRemoval@ResourceCentral.org with "Pilot Program" in the subject line.
2. We will respond with an application and program details within the next few business days.
3. Complete and submit the application by or before **Friday, March 23rd**.
4. Once approved, we'll schedule the incentive option that you selected!

Projects MUST be completed by June 25th, 2018



Participation is limited to 50 households, apply today!

Questions? Call us at 303-999-3820 ext. 221

More About Resource Central:

This pilot program is brought to you by Resource Central with the support of the Colorado Water Conservation Board and the Walton Family Foundation. Resource Central empowers 65,000 community members annually to protect our non-renewable resources and to live more sustainably. To learn more about the ways Resource Central puts conservation into action, please visit www.ResourceCentral.org.



www.ResourceCentral.org

Attachment 6 - Sample Customer Intake Form



TURF REMOVAL & REPLACEMENT Spring 2018 Garden In A Box Intake Form

PURPOSE

Resource Central's Turf Removal and Replacement Pilot Project provides residents with information, tools and resources to incentivize water conservation. Eligible and approved homeowners that remove 200 sq. ft. or more of turf-grass will receive an agreed upon incentive with the understanding that they will be willing and able to perform all other tasks related to the project. The goal of this program is to generate long-term water savings.

INCENTIVE OPTION

Garden In A Box Plant Material – Participants will receive a Garden in a Box, plant by number map and plant and care guide. The largest garden options fills 400 square feet.

REQUIREMENTS

- **All participants must be located in the Front Range region of Colorado.**
 - **Remove at least 200 sq. ft. or more of maintained turf** and replace with xeric (low-water) plants.
 - **Maintained Turf IS:** an area that is mostly healthy, green, watered, cared for, and mowed regularly. In general, it is an area that you enjoy and would feel comfortable “showing-off” to your neighbors.
 - **Before, During and After photos required.**
 - **Before photos:** depicting the proposed and maintained replacement area (200 sq. ft. or more). ***Due on or before Friday, March 23rd.***
 - **During photos:** depicting the replacement area (200 sq. ft. or more) that no longer has grass and is ready to be planted. ***Due on or before Monday, May 7th.***
 - **After photos:** depicting the completed replacement area (200 sq. ft. or more) with the new xeric garden installed and mulched. ***Due on or before Monday, June 25th.***
 - **All landscape photos:** must be taken in color, must be current and must be taken from the same point of view.
 - **Landscape Design:** Please sketch your landscape to the best of your abilities and mark the proposed replacement area(s) with the dimensions. Please be as accurate and clear as possible. Refer to the example landscape design for guidance.
 - **Mulch** is required on all exposed soil surfaces.
 - Examples of mulch include: organic material (i.e. cypress mulch, pine & cedar bark) or wood chips.
 - **Homeowners' Association (HOA) Residents**
 - All participants that live within an HOA must receive a letter of approval from their HOA and submit it with this application.
-

APPLICATION CHECKLIST

- ☒ Completed and signed **Intake Form**.
 - ☒ **Landscape design** - Sketch your landscape to the best of your abilities and mark the proposed replacement area(s) with the dimensions. Please be as accurate and clear as possible.
 - ☒ **Current and color photos** of the area(s) where you plan to remove turf.
 - ☒ If applicable, **HOA letter of approval**.
 - ☒ Review **"Turf Removal 101"** and **"How to Remove Turf"** documents sent in follow up email.
-

INTAKE FORM SUBMISSION PROCESS

- Email your intake form, landscape design, and "Before" photos to TurfRemoval@ResourceCentral.org **on or before Friday, March 23rd**.
 - Resource Central will review your intake form and send a status update by or before **Monday, April 2nd**.
 - Do not begin work on your landscape until you've received approval.
-

INTAKE FORM

APPLICANT INFORMATION:

1. Property Owner First Name: Alanna
2. Property Owner Last Name: Brake
3. Primary Phone Number: 970-402-6803
4. Primary Email: alanna.b.riley@gmail.com

APPLICANT ADDRESS:

Address: 111 Roosevelt Ave
City: Loveland ZIP: 80537

DESCRIBE AREA(S) OF PROPOSED WATER-EFFICIENT LANDSCAPE PROJECT:

1. Is the proposed turf replacement area currently being irrigated and maintained? Yes No (circle one)
 2. What is the total area of turf being converted to xeric landscape? 400 sq. ft.
 3. Describe how the turf is currently being irrigated?
Both hand watering and (poorly designed) automated sprinkler system
-

4. Location: (Please check all that apply)

☐ Front Yard

☐ Back Yard

☐ Parkway

☒ Other (please describe): Side yard

5. Type of irrigation system:

☒ In-ground automatic sprinkler system

☒ Manual operation (i.e. hand watering, hose attachment, etc.)

☐ Other (please describe): _____

6. What type of irrigation controller do you use? (Please check all that apply)

☒ Automatic Controller

☐ Smart Controller

☐ None

☐ Other (please describe): _____

7. Do you live in an HOA? Yes/ No (circle one)

PROGRAM REQUIREMENTS


1. Applications will be awarded on a first-come, first-served basis and only if all requirements of the program have been met.
2. Replacement area(s) must be covered with existing, live turf-grass being irrigated with potable water at the time the application is approved. Areas irrigated with well water are not eligible. Bare earth areas are not eligible.
3. Work may not be started until Participant is notified of application approval.
4. All Projects are subject to inspection. Participants will forfeit Program materials and rebates if they do not provide site access to the inspector in a timely manner, or if the Participant fails to resolve any significant compliance issues noted as a result of the inspection.
5. Participant accepts full and exclusive responsibility for any costs related to the Project, without recourse to Resource Central. Participant assumes all risk and liability for their Projects.
6. By participating in the Program, Participant waives and releases Resource Central, its contractors, partners and representatives, from any and all claims and causes of action arising out of the replacement of turf and/or purchase, installation or use of the devices purchased in connection with this Program.
7. The Affidavit of Lawful Presence as set forth in Title 24, Article 76.5 CRS is not required for this program as its purpose is not to provide assistance for personal or family needs i.e. a "public benefit" but to incentivize residents to conserve water by providing water utility bill rebates.

SIGNATURE REQUIRED

I, the undersigned, have read and understand the conditions of eligibility for this program as stated in the Program Requirements. The free material is conditioned upon my compliance with its terms and with the terms required by Resource Central. I understand an inspection may be required by Resource Central to verify proper installation of xeric plants. I also understand by participating in the Program, I waive and release Resource Central, its contractors, partners and representatives from any and all claims and causes of action arising out of the replacement of turf and/or purchase, installation or use of the devices purchased in connection with this Program. Resource Central is not liable or responsible for any act or omission of any contractor whatsoever. The free material is subject to availability of funds and may be changed or discontinued without notice.

HOMEOWNER MUST PRINT NAME, SIGN AND DATE: I have read and agree to the program guidelines and conditions.

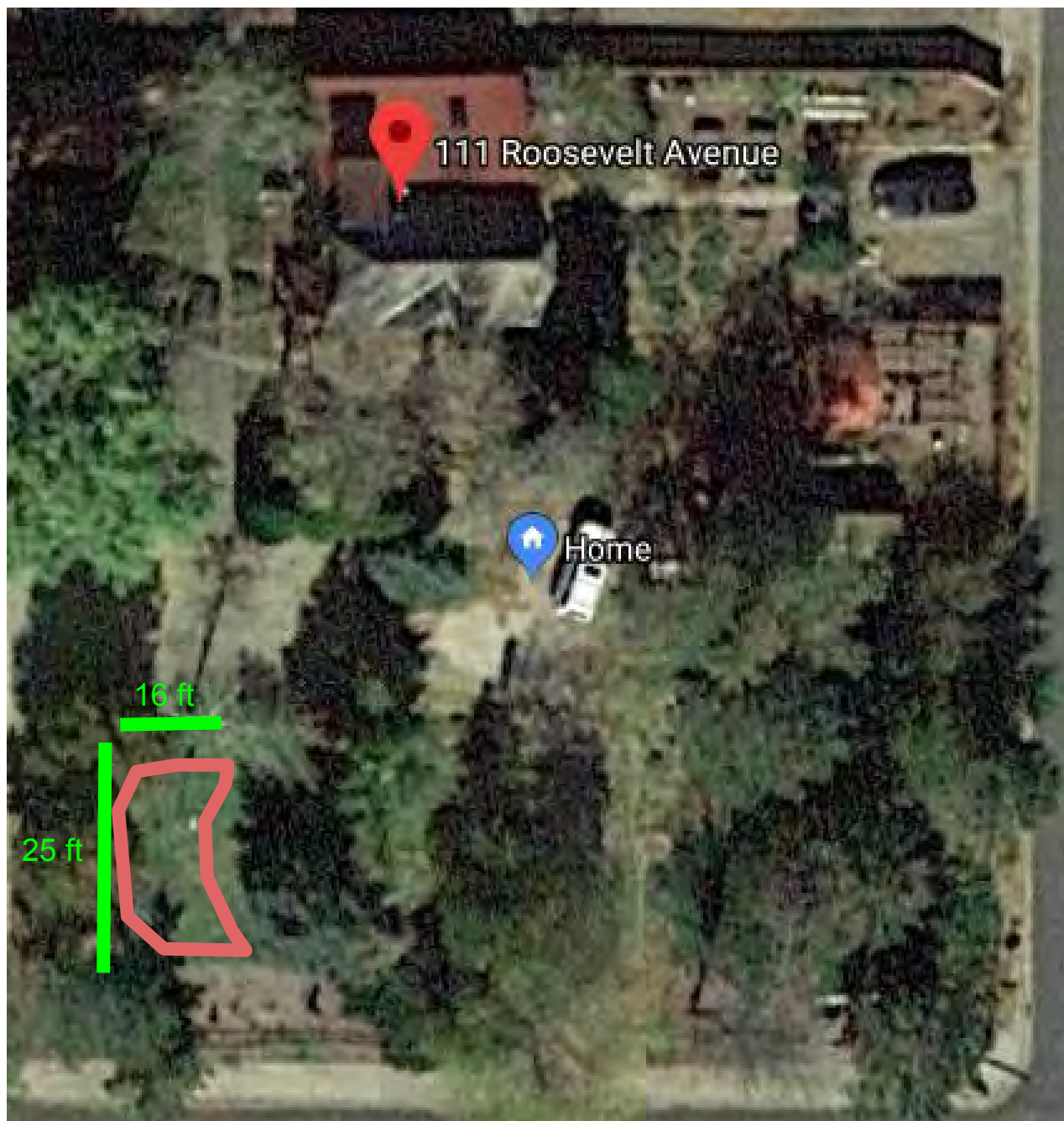
FULL NAME Alanna Brake

SIGNATURE 

DATE 2.4.18

Thank you for your interest in water conservation!

Please be sure to thoroughly read this application. If you have any questions **after fully reviewing this form**, then call 303-999-3820 x221 or email TurfRemoval@ResourceCentral.org











Attachment 7 - Draft Participant Survey



Draft Survey to Program Participants

Please begin by telling us a little about your home.

Does the property where you live have a front yard with a grass lawn?

y/n

Does the property where you live have a back yard with a grass lawn?

y/n

Who has primary responsibility for maintaining your yard?

- Self
- Spouse, partner or other household resident
- Friend/family member not living in the household
- Lawn service or gardener
- Other (text box)

How do you water the grass in your yard? (mark all that apply)

- By hand with a hose
- A manual sprinkler attached to a hose and moved around the yard
- Manual in-ground sprinkler system
- Automatic sprinkler (programmed to turn on/off)
- Automatic sprinkler (not programmed, but turned on/off manually)
- Automatic sprinkler (with a weather-based control that automatically turn off when it rains)
- Drip irrigation system
- Other (text box)

How often do you typically water your grass lawn in the summer?

- Never
- Less than once a week
- Once a week
- Twice a week
- Every other day

- Daily

Next, we have some questions about water-wise landscaping.

When you think of water-wise landscaping, what comes to mind? (mark all that apply)

- Flowers
- Grass lawns
- Trees
- Vegetable gardens
- Cactus
- Native plants
- Gravel/rocks
- Rain barrels
- Mulch
- I'm not sure
- Other (text box)

Water-wise landscapes use less water than traditional grass lawns. They can include native and climate appropriate plants and shrubs, mulched and rocked areas, and hardscaped areas such as patios and walkways.

In your front yard would you prefer to have an all grass lawn or some water-wise landscaping?

Slider from all grass lawn ----- some water-wise landscaping

In your back yard would you prefer to have an all grass lawn or some water-wise landscaping?

Slider from all grass lawn ----- some water-wise landscaping

Below is a list of possible benefits to replacing grass lawns with water-wise landscapes. Please tell us how much you agree with each statement about **replacing part of your grass lawn with water-wise landscapes**

[scale is 1 strongly disagree 5 strongly agree]

- I'd spend less time maintaining my yard
- My home would be more attractive
- It could increase the value of my home
- I'd create a habitat for wildlife
- I'd save water
- My neighbors would compliment me on my yard
- I'd help the environment
- I'd save money on my water bill

Which of these is the **most important reason** to you personally for replacing part of your grass lawn with water-wise landscaping?

- I'd spend less time maintaining my yard

- My home would be more attractive
- It could increase the value of my home
- I'd create a habitat for wildlife
- I'd save water
- My neighbors would compliment me on my yard
- I'd help the environment
- I'd save money on my water bill

Below is a list of possible reasons for NOT replacing grass lawns with water-wise landscapes. Please tell us how much you agree with each statement about **replacing part of your grass lawn with water-wise landscapes**

[scale is 1 strongly disagree 5 strongly agree]

- It could decrease the value of my home
- It's very costly
- It's difficult to find a good contractor to do the work
- I don't have the skills or knowledge to maintain a water-wise landscape
- I don't know what types of plants to use instead
- It takes too much time to remove and replace lawn myself
- I don't know where to start
- I have other home improvement projects that are more important
- I need a place for my kids and pets to play
- My yard would look different from my neighbors'

Which of these is the most important reason to you personally for NOT replacing part of your grass lawn with water-wise landscaping?

- It could decrease the value of my home
- It's very costly
- It's difficult to find a good contractor to do the work
- I don't have the skills or knowledge to maintain a water-wise landscape
- I don't know what types of plants to use instead
- It takes too much time to remove and replace lawn myself
- I don't know where to start
- I have other home improvement projects that are more important
- I need a place for my kids and pets to play
- My yard would look different from my neighbors'

In the next six months, how likely is it that you will replace a portion of the grass lawn in your front yard with a water-wise landscape?

[definitely will not; probably will not; probably will; definitely will; I already have]

In the next six months, how likely is it that you will replace a portion of the grass lawn in your back yard with a water-wise landscape?

[definitely will not; probably will not; probably will; definitely will; I already have]

How many of the homes in your neighborhood would you estimate have water-wise landscaping?

[none, a few, about half, most, all]

Does your Home Owner's Association encourage or discourage water-wise landscaping?

[1 to 5 strongly discourage to strongly encourage; not sure]

If you wanted to replace your front grass lawn with water-wise landscaping where would you go for information? (mark all that apply)

- Neighbors
- Friends, family or co-workers who do not live in your neighborhood
- Club members (text box)
- Online resources
- Gardening or landscape professionals
- Water department at my utility or city
- Home Improvement Store (e.g., Home Depot, Lowes)
- Other (text box)

In the past year, has your household participated in an incentive programs related to water-wise landscaping? (mark all that apply)

- Turf removal
- Irrigation upgrades
- Rain barrels
- Landscape design
- Other (text box)

These last questions are for classification purposes only.

Who pays the water bill for your household?

- Self
- Spouse, partner or other household resident
- Landlord
- Home Owner's Association
- Other (text box)

Please tell us about yourself in this last set of questions.

Using your best guess, approximately how many gallons of water does your household use, on average, during summer months? A rough estimate is fine.

(text fill? Drop down?)

Of that total amount, what percentage would you estimate is for outdoor usage?

(text fill? Drop down?)

How important is water conservation to you personally?

[from not at all to extremely important]

Approximately how long have you lived in Colorado?

(text fill? Drop down?)

How long have you lived at your current address?

(text fill? Drop down?)

Including yourself, how many people live in your household?

Drop down

Are there children under 18 living in your home?

y/n

Do you rent or own the home where you live?

Rent/own

In what year were you born?

Drop down

What is your gender?

- Female
- Male
- Prefer not to answer
- Prefer to self-describe (text box)

Is your annual household income more or less than \$50,000?

More/less

If you're interested in receiving information about rebates and other programs to support water-wise landscapes, please provide your preferred contact information.

Postal address

Email

Phone

Attachment 8 - CWCBC Before & After Photos



Physical Turf Removal

- Turf Removed: 500 sq. ft.
- Potential Water Saved per Year: 5,000 gal.
- Potential Lifetime Water Savings: 37,000 gal.



Physical Turf Removal

- Turf Removed: 700 sq. ft.
- Potential Water Saved per Year: 7,000 gal.
- Potential Lifetime Water Savings: 51,000 gal.



Sprinkler Conversion

- Turf Removed: 480 sq. ft.
- Potential Water Saved per Year: 5,000 gal.
- Potential Lifetime Water Savings: 35,000 gal.



Sprinkler Conversion

- Turf Removed: 1,500 sq. ft.
- Potential Water Saved per Year: 15,000 gal.
- Potential Lifetime Water Savings: 109,000 gal.





Landscape Consultation & Design

- Turf Removed: 400 sq. ft.
- Potential Water Saved per Year: 4,000 gal.
- Potential Lifetime Water Savings: 29,000 gal.



Landscape Consultation & Design

- Turf Removed: 300 sq. ft.
- Potential Water Saved per Year: 3,000 gal.
- Potential Lifetime Water Savings: 22,000 gal.



Garden In A Box

- Turf Removed: 400 sq. ft.
- Potential Water Saved per Year: 4,000 gal.
- Potential Lifetime Water Savings: 29,000 gal.



Garden In A Box

- Turf Removed: 250 sq. ft.
- Potential Water Saved per Year: 2,500 gal.
- Potential Lifetime Water Savings: 18,000 gal.



Attachment 9 - Focus Group Analysis

Focus group results summary

Respondents

Two focus groups were held, one with program participants and one with non-participants. It should be noted that the non-participant group was not as different from the participants as had been expected:

- Many non-participants have replaced as much (in some cases, more) turf than the program participants.
- Both groups perceived that water use outside the home was greater than inside the home, and some of the participants' estimates of outdoor water use were actually smaller than non-participants'.
- Knowledge about water issues in Colorado was as high or higher in the non-participant group.

Attractiveness of different 'incentives'

The sprinkler conversion was clearly the least attractive option. This is due, in part, to the fact that irrigation systems are not ubiquitous. In addition, even though participants noted that lack of knowledge about sprinkler parts/watering rates was a frustrating part of the project, in the end they were able to overcome it.

The consultation with a landscape designer was an attractive option for some participants. This option is particularly attractive to people who feel like there's a 'right way' to change their landscape and they don't want to make mistakes. This option does not seem essential to getting people to take action.

Given that the email list for this project was drawn from previous garden-in-a-box participants, it is not surprising that participants and non-participants alike were enthusiastic about the garden-in-the-box. This option provides a viable alternative to the consultation for many participants because of the diagram included. In addition, having received their garden-in-a-box, participants are motivated to act in order to not let the plants die.

The turf removal was also a very attractive option for many of the respondents. The physical effort involved in turf removal is an obstacle that is likely to deter many potential participants. Moreover, poor quality turf removal reduces participant satisfaction with the final product. Importantly, having removed the turf, participants then feel compelled to complete the project.

Based on these findings, it is recommended that program participants be offered free turf removal. If funding allows, supplementing this service with a choice between \$25 off either a garden in a box or landscape consultation (rebate) is likely to produce positive results.

In the future, the program should test out different terms (e.g., incentive, assistance) to describe the offer.

Motivators for action

Water conservation is not the driving force behind most participants' choice to remove turf. Rather, there appear to be three primary motivations:

- Beauty
- Maintenance

- General pro-environmentalism (includes water conservation and supporting wildlife)

The relative ranking of these motivators was not consistent, however, it was clear that having an attractive yard was very important to all respondents. Most participants report that the garden will require less maintenance (once it is established) than a turf lawn. Program messaging should highlight all three motivators.

Barriers

Participants and non-participants mentioned 'meeting the criteria' of the program as a barrier to participation.

The unique or non-traditional aspect of turf removal was seen as a benefit, not a barrier, to acting. Moreover, the majority of feedback participants reported receiving from their neighbors was positive. Neighborhoods that a) do not have an HOA, and b) include a diversity of homes (e.g., custom builds) were mentioned as the types of neighborhoods where participants are least likely to experience resistance to turf removal.

Very few respondents had children at home. One couple specifically made reference to no longer needing a turf lawn because their kids had left home. Families with children may be more reticent about turf removal, particularly in the back yard.

A number of respondents made reference to 'poorly done' xeriscaping, and/or the desire to 'get it right.' It was mentioned that people and neighbors want yards to look nice and that a turf lawn is the default no one objects to, so if you want to tear out your turf, you have to make your yard look nice.

Messaging and recruitment

Respondents agreed that when people think of Xeriscaping they think of rocks and cacti. Consequently, program staff should test out different phrases to convey the environmental benefits of turf removal.

Participants and non-participants made a number of messaging suggestions that should be considered by the program including:

- Recruit new participants from other pro-environmental groups (e.g., botanical gardens, Audubon society, Colorado native plants society)
- Include a variety of pictures including small and large projects, and pictures of the process
- Sponsor a parade of homes to showcase case studies
- Record presentations/classes and make available on the website
- Tips to make the process easier and/or more affordable (e.g., free mulch, use cardboard to discourage weed/lawn growth)
- Provide links to helpful organizations (e.g., CSU extension) on website
- Improve instructions for garden-in-a-box

Attachment 10 - Survey Results Analysis

Characteristics of survey respondents

Forty-two program participants completed the survey. The typical respondent was a female (85%) homeowner (100%) with no children living at home (63%). Respondents were approximately equally divided among households with annual incomes in excess (44%) and below (56%) \$50,000. Participants did range in age, but approximately half (47%) were between 40 and 60 years of age.

The 42 respondents were spread across the four incentive conditions as follows: 8 in the sprinkler conversion condition, 9 received a Garden In A Box, 10 consulted with a professional landscape designer, and 15 had their turf removed through the program.

Comparisons across incentive conditions

Satisfaction

Satisfaction was high for all incentive conditions, but there was some variability.

Overall satisfaction was lower for the landscape design (4.40) and sprinkler conversion (4.62) conditions, compared to 4.87 for physical turf removal and 5.00 for Garden In A Box.

This pattern in satisfaction is mirrored by satisfaction with the end product: 4.5/5 for landscape design, 4.62/5 for sprinkler conversion, 4.73/5 for physical turf removal and 5.00/5 for Garden In A Box.

Satisfaction with customer support ranged from 4.25 for sprinkler conversion to 5.00 for physical turf removal.

These findings suggest that Garden In A Box and physical turf removal had the highest level of customer satisfaction.

Challenges to completing the program

Program participants were asked about their greatest challenge to completing the program.

When choosing from the following:

1. Creating a landscape design (deciding which plants to put where)
2. Converting the underground irrigation system to a drip system
3. Removing the turf-grass
4. Disposing the turf-grass
5. Preparing the soil for new plants
6. Planting the garden
7. Installing hardscape
8. Finding a professional landscape contractor to complete my project

The most commonly suggested challenge (21% of participants) was removing the turf-grass.

A key difference in perceived challenges between the landscape design and turf removal conditions demonstrates the effectiveness of each program in removing a major obstacle:

40% of landscape design participants chose turf removal as their biggest challenge compared to 13% of turf removal participations.

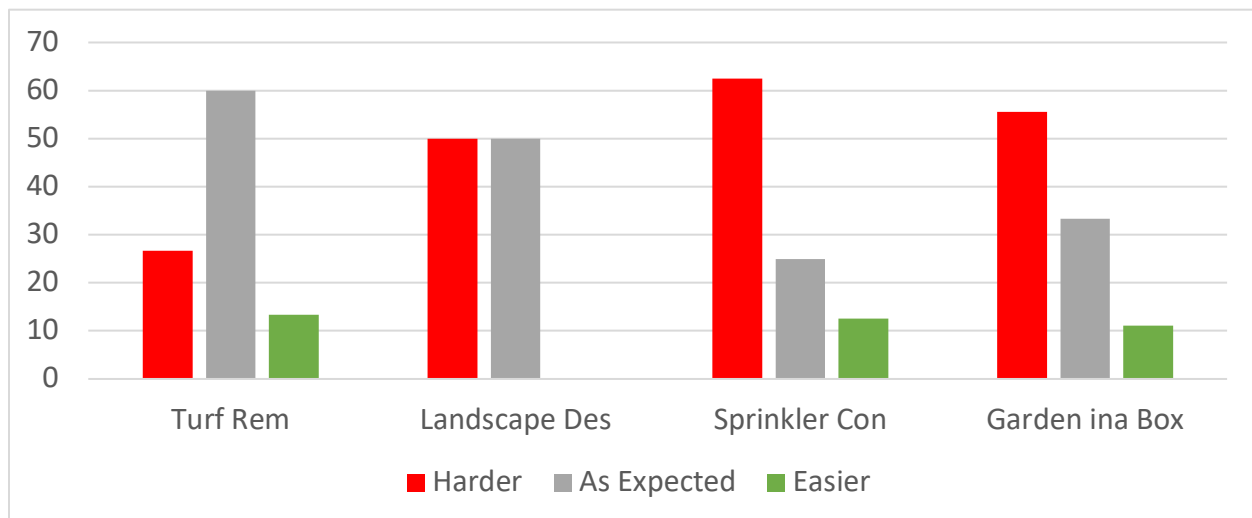
27% of turf removal participants chose creating a landscape design as their biggest challenge, compared to 10% of landscape design participants.

Living up to expectations

Participants were asked whether the process of replacing turf was harder than expected, as expected, or easier than expected. Two notable differences emerged between the incentive conditions (see figure).

First, in 3 of the 4 incentive conditions 50%+ of participants reported that the process of replacing turf was harder than expected. In the physical turf removal condition, however, that figure was substantially lower (27%).

Second, the landscape design incentive group was the only condition where NO participants reported that the process was easier than expected.



Time to Completion

The results showing how the programs compared to participants' expectations are consistent with reports of how much time it took participants (and/or contractors) to complete the project. In total, almost 2/3 of participants reported that they spent 7 or more days working on the project. However, 80% of the landscape design participants endorsed this response compared to 47% of the turf removal participants.

Replacing more turf

Intentions to replace more turf in the upcoming year were low, in the ‘probably will not’ to ‘probably will’ range. Among the four incentive conditions, the landscape design participants had the highest likelihood of future turf removal (2.80/4). This finding, together with completion times, suggests that projects may take longer to complete when the incentive offered is a landscape design consultation.

Summary and recommendations

These results suggest that physical turf removal is the most promising of the new incentive conditions. Landscape design appears to be the least promising, although it may take longer for its benefits to be fully realized.

In order to overcome the dual barriers of turf removal and creating a landscape design, participants could be offered turf removal for free and a Garden In A Box for a small fee. The Garden In A Box was even more successful at removing the landscape design barrier than was the landscape design consultation. Moreover, Garden In A Box demonstrates extremely high customer satisfaction.

Barriers and Benefits of turf removal

Program participants were asked to indicate their level of agreement with 8 possible benefits and 10 possible barriers to turf replacement (see tables). The means, ranges and standard deviations for each barrier and benefit are shown below in tables X and Y.

Benefits

As Table X shows, nearly all of the benefits had means between 4 and 5 (agree and strongly agree). The only exception was the perception that turf removal would add value to one’s home. Water conservation and environmental impact were the benefits with the highest means, and were selected by the greatest number of participants as their top benefit.

Variable name	Question	Top benefit
BENEFITS_TIME	I would spend less time maintaining my yard.	3
BENEFITS_ATTRACTIVE	My home would be more attractive.	3
BENEFITS_VALUE	It could increase the value of my home.	0
BENEFITS_WILD	I would create a habitat for wildlife.	6
BENEFITS_WATER	I would save water.	13
BENEFITS_COMPLIMENT	My neighbors would compliment me on my yard.	0
BENEFITS_ENVIRON	I would help the environment.	12
BENEFITS_MONEY	I would save money on my water bill.	5

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
BENEFIT_TIME	42	2	5	4.33	.846
BENEFIT_ATTRACTIVE	42	3	5	4.48	.594
BENEFIT_VALUE	42	2	5	3.88	.772
BENEFIT_WILD	42	2	5	4.43	.737
BENEFIT_WATER	42	4	5	4.74	.445
BENEFIT_COMPLIMENT	42	2	5	4.10	.790
BENEFIT_ENVIRON	42	3	5	4.76	.484
BENEFIT_MONEY	42	3	5	4.55	.593
Valid N (listwise)	42				

Barriers

As Table X shows, there was greater variability in perceptions of barriers. The barriers with the highest means were finding a contractor and time commitment. However, when participants were asked to select their top barrier, time emerged as the dominant barrier. The barriers of lack of knowledge and skill were fairly low, however, this may differ for 'naïve' homeowners (who have not yet interacted with Resource Central).

Variable name	Question	Top barrier
BARRIER_VALUE	It could decrease the value of my home.	0
BARRIER_COST	It is very costly.	9
BARRIER_CONTRACTOR	It is difficult to find a good contractor to do the work.	2
BARRIER_SKILL	I don't have the skills or knowledge to maintain a water-wise landscape.	0
BARRIER_KNOWLEDGE	I don't know what types of plants to use instead.	3
BARRIER_TIME	It takes too much time to remove and replace lawn myself.	19
BARRIER_START	I don't know where to start.	1
BARRIER_PRIORITY	I have other home improvement projects that are more important.	4
BARRIER_PLAY	I need a place for my kids and pets to play.	2
BARRIER_NORMS	My yard would look different from my neighbors'.	2

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
BARRIER_VALUE	42	1	3	1.74	.767
BARRIER_COST	42	1	5	3.21	1.001
BARRIER_CONTRACTOR	42	1	5	3.33	1.028
BARRIER_SKILL	42	1	5	2.17	1.080
BARRIER_KNOWLEDGE	42	1	5	2.81	1.234
BARRIER_TIME	42	1	5	3.62	1.287
BARRIER_START	42	1	5	2.81	1.311
BARRIER_PRIORITY	42	1	5	3.14	.751
BARRIER_PLAY	42	1	5	3.00	1.082
BARRIER_NORMS	42	1	5	1.98	1.115
Valid N (listwise)	42				

Summary and implications

Participants' perceptions of barriers and benefits provide insights into avenues for recruitment, messaging, and incentive structure. First, the perceived benefit of environmental impact generally was just as strong as the benefit of water conservation. Consequentially, Resource Central should work to broaden their messaging and recruitment strategies to encapsulate all of the environmental benefits of turf removal rather than focusing on water.

Second, the barrier of time emerged as the top barrier to turf removal, with finding a contractor also rated highly. Consequently, it is noteworthy that the physical turf removal program participants reported needing less time to complete the project, and that participants in this program would not need to find a contractor to remove their turf.