



**Home H2O Program**  
**Colorado Water Conservation Board**  
**Final Report**  
**November 10, 2017**

The goal of the HomeH2O Program is to provide residents in the five county region of southwest Colorado; La Plata, Archuleta, Montezuma, Dolores and San Juan Counties, the education, water conservation information and necessary equipment, workshop opportunities and tools for safe, effective rainwater harvesting. The *HomeH2O Program* made rainwater harvesting and rain barrels an affordable and efficient path that can save residents money by offsetting portable water use and provide many benefits for area homeowners and gardeners. Through this program, 4CORE created a replicable model for other regions and entities to promote water conservation education and effective rain water harvesting.

**Progress and Preliminary Accomplishments**

**Task 1:**

**Create marketing plan and outreach materials direct mail campaign that will target 5,000 town, city, county and regional residents.**

We easily reached over 10,000 regional residents through our marketing and outreach efforts. The majority of our marketing occurred in March and April. We designed our [web page](#) specifically for the HomeH2O Program, rack cards, posters, fliers, newspaper ads in four regional newspapers, (the Durango Telegraph, Durango Herald, Pine River Times, and the Cortez Journal), radio announcements, three monthly 4CORE newsletters, Facebook posts and coordinated with other organizations for cross marketing. DurangoTV also conducted an interview about Rain Water Harvesting <https://youtu.be/Kfi8GupkAQI>. The coordinated marketing plan was extremely successful and generated interest as far away as Albuquerque, NM. Durango residents were especially interested in participating and learning about rain water harvesting. Many area residents were unaware that rain water collection was now legal. The immediate findings based on the enthusiasm and popularity of the program indicate that rain water harvesting will continue to be a topic of interest.

**Task 1 is complete.**

**Task 2:**

**Education and outreach with eight (8) presentations in Cortez, Durango, Ignacio and Bayfield for water conservation and program details at which time residents can sign-up for either the Group Purchase of the rain barrel kits or the “DIY Build a Rain Barrel Workshop.”**

We had evening presentations at the Durango Public Library on March 6<sup>th</sup>, Mancos Public Library on March 8<sup>th</sup>, at La Plata County Fairgrounds on April 3<sup>rd</sup>, April 10<sup>th</sup> at the Cortez



Recreation Center, April 11<sup>th</sup> at the Bayfield Library. We presented updates and provided information at the monthly Green Drinks meetings (35-40 attendees per meeting) in Durango on February 23<sup>rd</sup>, March 30<sup>th</sup> and April 27<sup>th</sup>. We also presented information and hand-outs at the monthly Green Business Round Table in March and April (75-100 member attendees).

The evening presentations were not as well attended as projected. The outlying rural areas of Mancos, Bayfield and Cortez didn't have the attendance, however the *"DIY Build a Rain Barrel Workshops"* were popular. The Cortez workshop was the only workshop not sold out. Although there was extensive marketing to reach these outlying areas, if we had more town government participation and local organizations as partners, we might have had greater success. Through the evening presentations, Green Drinks, and Green Business Round Table we estimate we directly reached 475 people.

**Task 2 is complete.**

### **Task 3:**

**Provide five (5) hands on workshops, two in the City of Durango and three in the region in Ignacio, Bayfield and Cortez, *"DIY Build a Rain Barrel Workshop."* At these workshops, the participants will learn how to make their own Rainwater Catchment Systems professional and ARCSA member, Doug Pushard.**

The three *"DIY Build a Rain Barrel Workshops"* as of April 30<sup>th</sup> were sold out and extremely popular. We could have easily provided two or three more workshops in the region. Each workshop for the hands-on construction allowed for 12 participants; however others could join the workshop for a reduced cost that didn't include the construction of a rain barrel. Doug Pushard, the presenter from HarvestH2O was excellent. The comments about the water conservation information, specific to where he presented was appreciated. Some of the comments from the workshops:

- *"Learning so much about how we can save water"*
- *"Great Agenda, learning about Water first and then building the rain barrel"*
- *"Loved it all - the class prior was filled with invaluable info & hands-on rain barrel making was easy & a practical, logical, & progressive activity to teach the community"*

The biggest unforeseen challenge and expense to this portion of the HomeH2O *DIY Build a Rain Barrel Workshops* was sourcing the recycled 55 gallon food-grade barrels. When the project was first proposed in 2016, all the experts were confident the recycled barrels could be sourced locally. We found only one source in the five county region from Ska Brewing Company. They generously donated the recycled barrels for the first two workshops on March 18<sup>th</sup> at Ska Brewing and in Bayfield, and that was all they had available. The next workshops required purchasing and shipping, (then finding storage) for an additional 36 barrels. It was a cost we hadn't projected and the transportation to the individual workshops was also not considered.

The successful sold-out workshops were supported with marketing and outreach by supporting organizations, Sustainability Alliance of Southwest Colorado, The Garden Project



of Southwest Colorado, and The Growing Partners of the Southwest. 4CORE coordinated our *DIY Build a Rain Barrel Workshop* in Ignacio with The Growing Partners of the Southwest annual Home Grown Food Retreat event on April 8th. This collaborative effort ensured a larger audience and provided interest and sign-up opportunity for the two upcoming workshops in May.

We offered the last two *DIY Build a Rain Barrel Workshops* on Saturday, May 6<sup>th</sup>. One workshop was held in Durango in partnership with the Garden Project at the Community Garden called Ohana Kuleana in the morning and an afternoon workshop in Cortez. The morning workshop was sold out, and the afternoon workshop in Cortez had 6 participants. An unanticipated expense and task was 4CORE needed to rent a truck to haul the rain barrels to both locations. We were hoping that we could get in-kind support with a truck and trailer to help with the delivery, but were unable to secure the vehicle.

The *DIY Build a Rain Barrel Workshops* were very popular. This proved to be the most successful component of the HomeH2O Program with lots of community engagement and superior water conservation education. The conservation education coupled with the hands-on construction was an excellent combination for engaging rain water harvesting advocates.

The next time we offer the HomeH2O Program, we will include costs for purchasing recycled rain barrels, shipping costs of barrels and transportation to the individual workshop sites.

**Task 3 is complete.**



Water Conservation segment of the *DIY Build a Rain Barrel Workshops*



#### **Task 4:**

**Group- buy program at 50% off retail price. The group-purchased rain barrels will be delivered at a Saturday delivery event in three locations in the region- Durango, Bayfield and Cortez.**

The ability to participate in the group purchase for a completed rain barrel kit closed on April 24<sup>th</sup>. We sold 68 of the complete kits from Rain Water Solutions. With this number of completed kits, participants will be able to collect up to 100 gallons at a time. With a 1,000sq.ft. of roof space over the rain water collecting season in this region, it is estimated that 6,000 gallons per resident of water can be harvested. The group-buy of 68 barrels means that there is potential to collect 408,000 gallons of rain water annually.

We had anticipated a greater number of purchases from the group-buy. We continue to get inquiries and we hope that we could create another group buy and predict that the word-of-mouth and continued interest in rain water harvesting will lead to another group-buy.

**Task 4 is complete.**

#### **Task 5:**

**Provide Rain Barrel Rebate of \$25 for the first 60 residents to sign-up for the completed kit purchase in the group buy program.**

We provided 60 of the 68 participants of the rain barrel group buy with a \$25 rebate. This rebate was a creative way to incentivize the group-buy and get participants to sign-up early. The limited time for the group purchase is important to encouraging participants to commit and purchase.

**Task 5 is complete.**

**Task 6: 75% by May 15, 2017: Provide three Saturday Rain Barrel Pick up Day events for group purchase.**

The Rain Barrel Pick up day was held on Sunday, May 7<sup>th</sup> at La Plata County Fairgrounds from 10AM-4PM. We opted to host only one pick-up day at only one location as we sold fewer rain barrels than projected and all the group-buy participants were from either





Durango or Bayfield. Additionally, the cost of shipping would have been greater to ship to different locations. With only two exceptions, everyone picked up on the day of the event. Should we offer this group-purchase in Cortez, for example, we would want to make sure that we had at least 33 barrels (a pallet) and more community engagement than we had for the current program.

**Task 6 is complete.**



*Task 6- Group Purchase Pick Up Event on Sunday, May 7<sup>th</sup> at La Plata County Fairgrounds*

**Task 7: 85% by June-July : Follow up support for installs and survey to participants.**

We created handouts for tracking water collection for both the DIY Workshops and the group-purchase participants. Additionally, we followed up all the workshops with surveys to the participants during the summer months to gather collection data and satisfaction of the program.

There were requests throughout the summer for purchasing rain barrels and inquiries about running the group purchase again. SKA Brewing donated an additional 20 recycled 55 gallon barrels which we've stored and are offering for sale.

There have been 15 inquiries to 4CORE asking whether we will have more workshops in 2018 and/or selling more rain barrels. We had no calls regarding issues or problems with the rain barrels, indicating that information and workshop presentations provided the answers or addressed questions and concerns.

We visited participants to help with design questions for idea locations and to check on their progress. We emailed participants the information about prepping the rain barrels for winter storage.



*Kathleen Adams was one of the rainwater harvesters from the group-buy. She is purchasing another barrel for next season.*

**Task 7 is complete**

**Task 8: 90% by August 31: Data collection and compilation.**

The final survey was sent later than originally planned as many participants indicated they were still using the collected water for landscaping during the autumn months. We had 20 respondents for the 100 surveys distributed.

The response rate for the final survey was 20% and includes the following data:

- The participants who were part of the Group-Buy for the Ivy Barrel rated their experience 4.76 out of 5, with 1 being unsatisfactory and 5 being exceptional.
- DIY Workshop satisfaction 4.14 out of 5 with 1 being unsatisfactory and 5 being exceptional. There was a mistake in the survey that made the response to this question mandatory, so those that didn't attend the workshop responded with a low number, skewing the rating to a lower number.
- Overall satisfaction collecting rain water 4.3 out of 5- Only one respondent rated it "2" for the reason they painted the house and the gutters were down so they couldn't collect water.
- Total gallons collected from 19 respondents (removed from totals the one respondent who didn't collect during the season) is approx. 5,630 gallons
- With over 100 participants averaging 296 gallons per resident based on the survey respondents we estimate that 29,600 gallons of rainwater were harvested.

**See Addendum A for Final Survey Results**

**Task 8 is complete**

**Task 9: 100% by September 30.** Final reports, website development with results.



The majority of the time for Task 9 included the final compiling the data, writing the final report and updating the website with the results.

[www.fourcore.org/water-conservation](http://www.fourcore.org/water-conservation)

## **Task 9 is complete**

### **Challenges**

- Many of the challenges 4CORE encountered were related to the later start in the year than we had originally planned.
- Marketing, advertising and outreach didn't begin until late February and early March which translated to starting later for the workshops and presentations as well as a later start in the season for rainwater collection. This resulted in lower rainwater collection amounts.
- There were fewer participants than projected in the program, especially in Mancos, Cortez and Bayfield.
- We weren't prepared for a challenge sourcing recycled 55 gallon barrels in our rural area. We checked every bottling company and industry that might have the barrels. We were only able to find one supplier in the region, Ska Brewing, that used the 55 gallon drums and they had a limited supply. As a result of their limited availability we had to order barrels from Denver and have them shipped. The shipping costs and having to purchase the barrels was an unexpected expense for the program.
- Transporting and moving barrels with the right vehicle created additional unplanned logistics to get them to and from workshops.
- 4CORE was hoping to have the City of Durango participate as a government entity. Water conservation is part of their Sustainability Action Plan and part of the requirement for the Star Community Rating, but even the content in the City's sustainability rack card that is distributed widely throughout town doesn't mention water conservation as one of their sustainability programs. Our hope is to engage the City of Durango to participate in water conservation efforts and in particular, to support the HomeH2O program.
- We still encounter resistance to the idea of rainwater collection in the rural areas. With a significant ranching and farming community in the region, rainwater collection is often viewed as taking water from those who own ditch shares. Education and outreach is the key to creating better understanding of rain water collection and its positive contribution to water conservation efforts.

### **Successes**

#### **Comments from the Final Survey:**

- *Delighted with the whole program and the effectiveness of the one barrel*



- *It would be great to learn how to effectively deal with overflow. I think there are diverters that can channel water through the downspout rather than having it flow down next to the house foundation.*
- *I hope I'll have the option to purchase a 2nd rain barrel at discount next year for the other side of my house! Thanks for providing the opportunity this year!*
- *Looking forward to next year!*
- *We were amazed at how much water was collected. It always had water in it all summer. We have a small garden, maybe 15'x15', so our need was not huge but we were so pleased to be able to water it in full from the barrel and none from the metered water system.*
- The HomeH2O Program created awareness regionally for rainwater harvesting tools and techniques. Some of the first respondents to the marketing and outreach came from the Division of Water Resources hoping that we were complying with the state regulations for harvesting. We invited the participation of the Division of Water Resources and they participated in our first presentations.
- We partnered with two regional garden organizations, Garden Project of Southwest Colorado and Growing Partners of Southwest Colorado. Partnering increased the reach and participation.
- The water conservation presentations were very well received (see comments in the survey). Everyone appreciated the information and most were not aware of the statistics and data presented by Doug Pushard from Santa Fe. His company, HarvestH2O, and his work in water conservation and building water collection systems brought a level of expertise that was unavailable in the area. His information focused on local water statistics and use, landscaping design and practices to reduce water consumption and best practices for rain barrel construction and installation.
- Durango residents were well represented in the workshops and made up the majority of the purchases for the group-buy.
- 4CORE has name recognition throughout the region as the organization with the resources for rainwater collection.

#### **Media Links for the HomeH2O Program**

- <https://youtu.be/Kfi8GupkAQI>
- <https://durangoherald.com/articles/141859-learn-how-to-build-a-rain-barrel-at-4core-workshop>
- <https://www.durangotelegraph.com/second-section/day-in-the-life/let-it-rain/>
- <https://durangoherald.com/articles/176451-some-residents-have-stopped-watering-their-lawns-after-utility-cost-hikes>

#### **Conclusions**





The HomeH2O Program offered the first chance since rainwater collection was legalized for regional residents to learn about rainwater harvesting techniques and provide an affordable group-purchase program.

Water use and consumption has increased in the region. In 2016 Durango water use increased by 40.88 million gallons, according to Durango water utility data, representing a 3.5 % increase from the previous year. The increase in water consumption illustrates the need for water conservation education and providing residents with opportunities to reduce water use, especially outdoor watering during peak summer months. La Plata County residents average approximately 336 million gallons of water per day and rank number nine of the top ten biggest water users of all the counties in Colorado.<sup>1</sup>

In addition to direct impacts on the local water supply, our consumptive practices also affect our energy use. In Colorado, 1.2 gallons of water are consumed per kilowatt-hour (kWh) of energy used and 13% of the nation's energy use is by the water sector. <sup>2</sup>Energy is used to pump water, heat water, and treat wastewater.

Predictions for Colorado project that multiple factors, such as temperature and dust, will increase the rate at which water and snow pack is evaporated, thus resulting in lower runoff volume. The weather patterns of lower elevations are expected to migrate to higher elevations, lower-elevation snowpack is projected to decrease, runoff is expected to decline, and spring runoff is to expected shift earlier with a reduction in late-summer flows.<sup>34</sup>

All these climate indicators point to the need to conserve and protect water. With the effects of warming temperatures and reduction of snowmelt, as well as the predicted increase in population for this high desert region<sup>5</sup>, the need to provide the tools and education for water conservation is essential.

4CORE's overall goal of the HomeH2O Program is to be the information hub for water conservation education programs and projects that support water conservation. As the HomeH2O program grows and additional elements of the program are offered, we anticipate that rainwater collection will become a common practice much like recycling has become a part of our daily lives. Saving water, energy and money are the benefits reaped from rainwater harvesting. Creating smart water conservation practices and providing the tools and programs that support water conservation is essential for a sustainable future.

---

<sup>1</sup> <https://co.water.usgs.gov/infodata/wateruse.html>

<sup>2</sup> <https://westernresourceadvocates.org/publications/water-energy-nexus-colorado/>

<sup>3</sup> A multimodal ensemble approach to assessment of climate change impacts on the hydrology and water resources of the Colorado River Basin, Available: <http://www.hydrol-earth-syst-sci.net/11/1417/2007/hess-11-1417-2007.pdf>

<sup>4</sup> Climate Change in Colorado: A Synthesis to Support Water Resources Management and Adaptation, Available: [http://wwa.colorado.edu/climate\\_change/ClimateChangeReportFull.pdf](http://wwa.colorado.edu/climate_change/ClimateChangeReportFull.pdf)

<sup>5</sup> <https://durangoherald.com/articles/106773>



**Acknowledgments & Sponsors:**

**Colorado Water Conservation Board**  
**La Plata County**  
**Ska Brewing Company**  
**Rain Water Solutions**

**Partners:**  
**Growing Partners of Southwest Colorado**  
**Garden Project of Southwest Colorado**  
**Harvest H2O**



**COLORADO**  
Colorado Water  
Conservation Board  
Department of Natural Resources



*La Plata County*  
Colorado



**RAIN**  
**WATER**  
solutions

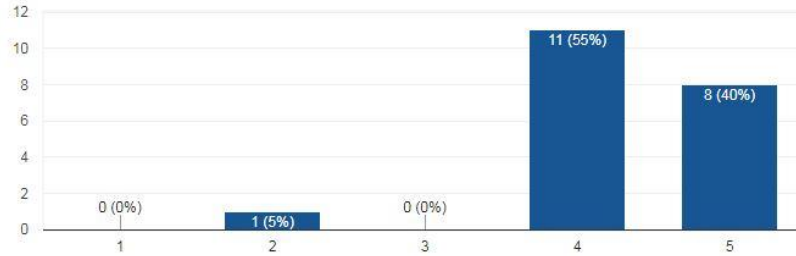


## Addendum A: Final HomeH2O Survey

Goggle Survey: <https://goo.gl/forms/OkxHuiAke3QXdIV43>

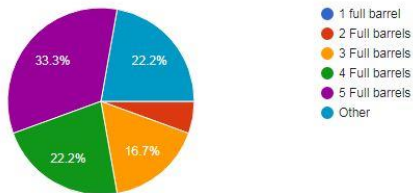
How was your overall experience collecting rainwater this season?

20 responses



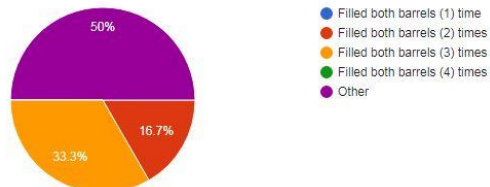
Your best guess, if you have only (1) barrel could you tell us approx. how many times you filled that barrel over the summer?

18 responses



Your best guess, if you have two(2) barrels could you tell us approx. how many times you filled them over the summer?

6 responses





Home H2O\_Survey-Final Results

	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	Name	Address - City or County resident?	How was your overall experience collecting rainwater this season?	What did or didn't work?	Did you attend the DIY Build A Rain barrel workshop?	If you attended the DIY Workshop and constructed a rainbarrel, is your barrel(s) functioning well?	If you purchased a rain barrel through the group-buy, are you happy with the product?	What is the estimated square footage of your roof collecting rain water?	How many barrels are you using?	Your best guess, if you have only (1) barrel could you tell us approx. how many times you filled that barrel over the summer?	If more than 5 barrels, how many total estimated barrels were filled?	Your best guess, if you have two(2) barrels could you tell us approx. how many times you filled them over the summer?	If you filled both barrels more than four (4) times would you estimate how many times you filled both barrels?	Do you have any other comments or suggestions for rain water harvesting and water conservation programs?	Totals
2	Anna	county	4	Figuring out how to get some pressure to fill watering cans was a little hard, but we figured it out. everything worked as said/anticipated, pretty simple system	No	3		4	1- 50 Gallon-Purchased Rainbarrel	3 Full barrels				Thank you!	150
3	John culver	county	5	worked fine	No	5		approx. 1500 sq ft	1- 50 Gallon-Purchased Rainbarrel	4 Full barrels				delighted with the whole program and the effectiveness of the one	200
4	Wendy Pollak	city	5	worked fine	No	4		500	1- 50 Gallon-Purchased Rainbarrel	5 Full barrels					250
5	Susan Atkinson	2208 Creskiew Dr City of Durango	4	it collected rainwater	Yes	4		15'x20'	1-55- Gallon DIY Rain Barrel	5 Full barrels					275
6	Steve Kawell	County	4	Helped water my fruit trees days after the last rain.	No	1		4	1- 50 Gallon-Purchased Rainbarrel	3 Full barrels					150
7	Cynthia Dott	2008 Highland Ave, Durango - city resident	5	Worked great one of the screens was broken out in our last hail storm - hard to avoid that. I have rain chains and the chain diverted the water very efficiently into the barrel	No	4		5 1400 ft2	2- 50 Gallon-Purchased Rainbarrels			Filled both barrels (3) times			300
8	Aline Schwob	340 E Park Ave, city	4	efficiently into the barrel	Yes	5			1- 50 Gallon-Purchased Rainbarrel	2 Full barrels				It would be great to learn how to effectively deal with overflow. I think there are diverters that can channel water through the downspout rather than having it flow down next to the house	100
9	Lynn Mitzi	County	2	We had our house painted this summer, and the rain gutters were down when it rained	Yes	3		800	2-55 Gallon DIY Rain Barrels	Other		Other			
10	Robin Luce	La Plata County	5	We were amazed at how much water was collected. It always had water in it all summer. We have a small garden, maybe 15x15', so our need was not huge but we were so pleased to be able to water it in full from the barrel and none from the metered water system	No	5		5 200 sq ft	1- 50 Gallon-Purchased Rainbarrel	5 Full barrels					250
11	Bill Volz	City	4	It was easy to set up the rain barrel. My only problem was that I couldn't always use the water in the barrel before it rained again.	Yes	5		400	1- 50 Gallon-Purchased Rainbarrel	4 Full barrels					200
12	Ron Bunk	251 E 7th Ave Durango	5	No issues	No	3		5 800	2- 50 Gallon-Purchased Rainbarrels	Other	7	7			700
13	Jessica Wilson	1744 Pine Valley Rd Bayfield Co 81122	4	everything work fine the valve seems fragile	No	1		5 700	1- 50 Gallon-Purchased Rainbarrel	5 Full barrels				I hope I'll have the option to purchase a 2nd rain barrel at discount next year for the other side of my house! Thanks for providing the opportunity this year! FYI, I didn't attend a DIY workshop but that question was mandatory on how well my barrel is working	250
14	Melissa Simmons	Durango	5	Loved being able to water my Aspen trees for free!	No	5		5 800 sf	1- 50 Gallon-Purchased Rainbarrel	Other	14 - gotta love Monsoon season!				700
15	J Burnite	962 E 5th Ave	5	All was good, but thought the presentation, though informative was a bit long.	Yes	4		820	1-55- Gallon DIY Rain Barrel	4 Full barrels					220
16	David Kolb	416 Red Oaks Lane Hesperus	5	informative was a bit long.	Yes	4		820	2- 50 Gallon-Purchased Rainbarrels	4 Full barrels			Filled both barrels (2) times		200
17	Kim Priebe	City	4	getting the right position	No	5		5 500	2- 50 Gallon-Purchased Rainbarrels	3 Full barrels			Filled both barrels (3) times		300
18	Nancy Elliott	city	4	When the barrel is full, it is raining, we don't need to water! We store for the drier times but these don't really come in the fall.	No	3		5 500	1-55- Gallon DIY Rain Barrel	5 Full barrels					275
19	Ronald Stoner	Durango	4	It helps to put it up a bit - like on blocks - to get better pressure/flow.	Yes	4		do not know	1- 50 Gallon-Purchased Rainbarrel	5 Full barrels					250
20	Eric Pierson	city	4	Installed a 10' section of gutter that filled our 1 rain barrel consistently!	No	5		5 200 filling the	1- 50 Gallon-Purchased Rainbarrel	5 Full barrels					200
21	Mary Lynne Herr	County	4	Enjoyed collecting/using rainwater. Barrel needs to be elevated to effectively use ground-level spigot. Let it overflow several times accidentally.	No	5		5 450 sf	1- 50 Gallon-Purchased Rainbarrel	4 Full barrels				Looking forward to next year!	200
22	Totals		86		0 Yes	29		62	2-55 Gallon DIY Rain Barrels	Other		Other	6		5630