



## Utilities Department

July 5, 2013

Colorado Water Conservation Board  
Attn: Ben Wade  
1313 Sherman Street, Room 721  
Denver, CO 80203

Subject: CWCB Water Efficiency Grant for Town of Castle Rock Water Conservation Tour Website

Dear Mr. Wade:

Enclosed you will find the 100% completion report and an invoice payable to the Town of Castle Rock for reimbursement of \$3,187.50. This value represents the remaining value of CWCB's cost share of expenses for the development and launch of the Town of Castle Rock Water Conservation Tour Website. The \$3,187.50 on this invoice is representative of the final 10% remaining on the grant and is associated with the launch of the website, and other activities associated with Task 2 of the scope of work for the project.

In addition, please see the following included items:

Attachment 1 - 100% Completion Report

Attachment 2 - Town of Castle Rock Invoice

Attachment 3 - Estimated costs and cost-sharing presented in the CWCB Application for Water Efficiency along with the final total expenditures

To summarize, the current invoice amount is calculated as follows:

Total CWCB grant amount:	\$31,875
Less amount previously invoiced at 50% completion	\$15,937.50
Less amount previously invoiced at 95% completion	\$12,750.00
<b>Total for Invoice:</b>	<b>\$3,187.50</b>

Please direct any questions to myself at (720) 733-6027 or Becky Dunavant at CDM Smith, (303) 383-2460. We appreciate CWCB's contributions and commitment to water conservation projects and our partnership with you in those efforts.

Sincerely,

  
Rick Schultz  
Water Conservation Specialist

# **Final Completion Report**

## **Colorado Water Conservation Board**

### **Water Efficiency Grant: Town of Castle Rock, Water Conservation Website**

July 5, 2013

**Applicant:** Town of Castle Rock  
175 Kellogg Court  
Castle Rock, Colorado 80109

**Contact:** Rick Schultz  
720-733-6027  
RSchultz@crgov.com

The Town of Castle Rock (Castle Rock) developed a Water Conservation Plan that was approved by the Colorado Water Conservation Board (CWCB) in December 2006. One of the goals set forth in that Plan was to reduce current and future water demands. In an effort to meet this goal and increase water conservation, Castle Rock proposed to develop a Water Conservation Website. This educational tool provides information on Castle Rock's conservation program, local weather data, and specific information on indoor and outdoor water saving products and practices that can directly be used by the website visitor to save water.

This Conservation Website provides several key water conservation benefits to Coloradans, including:

- Castle Rock's conservation goals call for creating a community culture that embraces water conservation as a "way of life." Castle Rock's Conservation Website promotes water conservation and provides detailed information on specific indoor and outdoor water saving products and practices.
- The application of the information provided on the Conservation Website contributes to the reduction in water demands in Castle Rock. This assists Castle Rock in meeting the aggressive water conservation goals outlined in its Water Conservation Plan.
- Castle Rock is located in South Metro area, which has been identified as one of the key "gap" areas in the Statewide Water Supply Initiative (SWSI). By offsetting potable water use, this project directly reduces demands on non-renewable Denver Basin groundwater resources. That, in turn, provides local and regional benefits by better managing the aquifer as a long-term source of supply and drought reserve.
- The Conservation Website not only educates Castle Rock customers on water conservation, but also provides an informational resource to the general public.

People throughout the State of Colorado and elsewhere are able to access the website for specific information on indoor and outdoor water conservation practices and products. Castle Rock encourages other communities and agencies to provide a link to the Conservation Website on other sites and seeks other ways of maximizing the public's exposure to this site.

- The technical coding of the website is easily transferable. Other water providers interested in developing a similar conservation website are able to use the basic coding of Castle Rock's website as a template to develop and customize their own conservation websites. This template greatly enhances website development efficiency and provides an incentive for other water providers to adopt a similar conservation website.

This 100% Completion Report is the final document for fulfillment of CWCB's Water Efficiency Grant Program requirements. This document contains a project overview, and provides a discussion of findings and recommendations for the project. The approved grant application for this project is included as Attachment A for reference and provides information on the town's water demands and supplies, and water conservation program.

This 100% completion report includes the following major sections:

- Section 1: Water Conservation Website Overview
- Section 2: Scope of Work
- Section 3: Final Schedule and Budget
- Section 4: Project Findings and Recommendations

## **1.0 Conservation Website Overview**

Figure 1 illustrates the conceptual design of the Conservation Website showing the general organization and layout. The user has the opportunity to navigate the following five branches of information from the Conservation Website homepage:

- *Local Weather* - Provides local weather data and landscape irrigation recommendations. A link to access current and historical evapotranspiration (ET) & weather data from several weather stations located around Castle Rock. A visitor to the site can select the weather station of choice from a Town map and view current conditions as well as historical information.
- *Castle Rock's Conservation Program* - Describes the conservation measures and programs Castle Rock is implementing to conserve water.
- *Indoor Water Use* - Provides information on indoor water saving practices and products. This informational branch is oriented to the user that prefers to view information in lists and tables.
- *Outdoor Water Use* - Provides information on outdoor water saving practices and detailed information on specific plants and outdoor products. This informational

branch is also oriented to the user that prefers to view information in lists and tables.

- *Water Saving Model Home* – Provides the same conservation information as presented in the indoor and outdoor water use branches, but in a more visual format.

As shown in Figure 1, information is provided in increasing detail as the user progresses through each branch. At the terminus of each branch, the user has the opportunity to develop a customized database to store specific information of interest as denoted by the red box in Figure 1. This information includes local weather data and details on specific indoor appliances and fixtures as well as on outdoor plants and irrigation equipment. Users are able to log onto the website and obtain access to their customized databases at any time to make new additions/changes and to print the information on hardcopy.

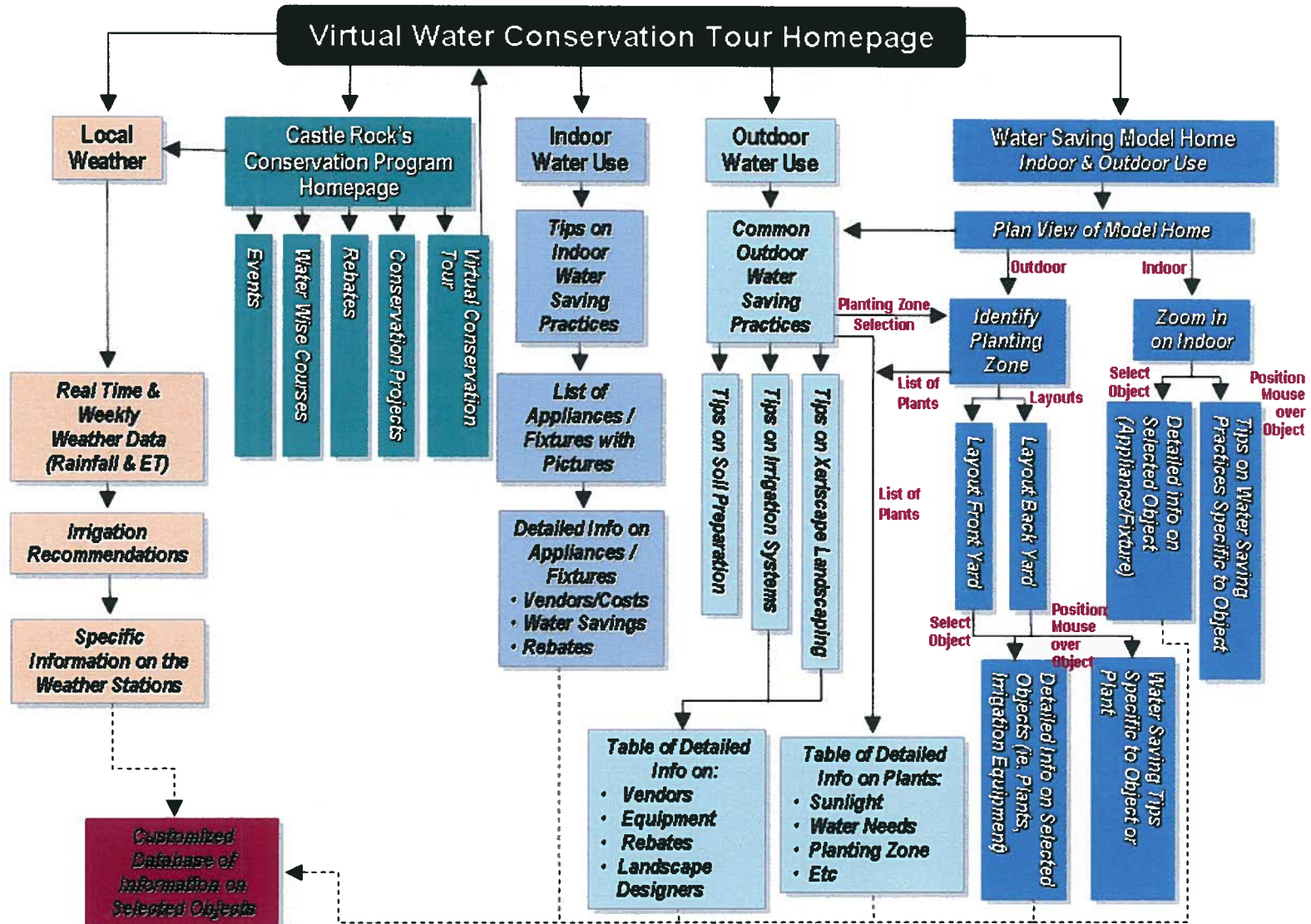


Figure 1: Conceptual Layout of the Virtual Water Conservation Tour Website

## **2.0 Scope of Work**

Castle Rock contracted with Medulla to design and develop the Conservation Website. Medulla's proposal is provided in Attachment B. This scope of work outlines the major tasks, roles, and responsibilities of each party involved and the deliverables. This section also describes any project modifications that were made. Due to the increased technical nature and complexity of programming, the decision was made early in the project to move away from the original "virtual model home" concept. There were no major obstacles encountered during the course of the project.

### **2.1 Project Tasks**

The following tasks outline the major tasks completed to develop the website. The roles and responsibilities of each participant and deliverables for each task are also provided.

#### **Task 1 – Design of the Conservation Website**

##### ***Purpose***

This task involved the design of the Conservation Website.

##### ***Roles and Responsibilities***

Castle Rock worked with Medulla to develop a final design of the Conservation Website. Castle Rock provided the basic conceptual framework of the website and worked with Medulla in refining the technical aspects of the design.

##### ***Deliverables***

Medulla provided a draft design document for Castle Rock's review followed by a final design incorporating Castle Rock's feedback.

#### **Task 2 – Development of the Conservation Website**

##### ***Purpose***

This task involved the development of the Conservation Website.

##### ***Roles and Responsibilities***

Castle Rock contracted with Medulla to develop the Conservation Website. Castle Rock provided pictures and other specific information needed for incorporation into the website. Medulla developed the website in accordance with the final design and with Castle Rock's continued guidance and oversight. This included coding, testing, and any necessary revisions.

##### ***Deliverables***

Medulla provided the final version of the Conservation Website to Castle Rock following testing and any necessary revisions.

### **Task 3 – Public Advertisement Campaign**

#### ***Purpose***

This task involved the implementation of a public advertisement campaign to promote the Conservation Website. Information promoting the Conservation Website was distributed to the public through local television programs, local newspapers and publications, Castle Rock's town homepage, water-wise workshops, and through the distribution of pamphlets and presentations at local Castle Rock sponsored events.

#### ***Roles and Responsibilities***

Castle Rock's community relations department took the lead in coordinating and developing the materials needed for public advertisement of the Conservation Website.

#### ***Deliverables***

Castle Rock distributed information promoting the Conservation Website using the following media:

- *Local newspapers*
- *Douglas County Channel 8*
- *Castle Rock View*
- *Town's website*
- *Brochure*
- *Water-wise workshop*
- *Other Castle Rock published communications*
- *Other community presentations*

### **Task 4 – Monitoring of Conservation Website Participation**

#### ***Purpose***

The effectiveness of the Conservation Website was evaluated on a quarterly basis. This task involved monitoring the activities needed to measure the participation and educational value of the website. Monitoring data includes the number of users, the bounce rate, the number of return visitors, the pages viewed per visit, and page selection among other items.

#### ***Roles and Responsibilities***

Castle Rock continues to evaluate this information on a quarterly basis to determine how effective the website is in promoting water conservation. Trends among the number of website hits, specific website promotion activities, website modifications,

and other metrics are assessed and used to identify any specific promotion activities/website changes that notably increased public participation. Responses from the questionnaires are also used to further enhance the website's usability and content.

#### ***Deliverables***

Quarterly evaluations were conducted to qualitatively measure the effectiveness of the website for the first 2 years of implementation. Moving forward, Castle Rock will reassess the frequency of evaluations needed and produce a report summarizing the monitoring results.

### **Task 5 – CWCB Grant Development and Status Reports**

#### ***Purpose***

This task involved the development of a 50 percent, 95 percent, and a final completion status report to CWCB per the CWCB Water Efficiency Grant Requirement.

#### ***Roles and Responsibilities***

Castle Rock contracted with CDM Smith to develop the grant application and completion reports.

#### ***Deliverables***

Status reports submitted to the CWCB at 50 percent, 95 percent, and final project completion.

## **3.0 Final Schedule and Budget**

Castle Rock launched the Water Conservation Website in spring 2010. The project schedule identifying key activities and milestones is presented in Table 1.

**Table 1: Project Schedule**

<b>Task</b>	<b>Original Anticipated Completion Date</b>	<b>Revised Completion Date</b>
Project Kickoff	January 2010	February 2010
Final design completed	February 2010	February 2010
Basic coding for the Conservation Tour Website completed	March 2010	March 2010
50% Completion Report is Submitted to CWCB	March 2010	December 2010
Medulla incorporates all data provided by Castle Rock into the website	April 2010	December 2010
Testing and coding completed	April 2010	August 2011
Website is launched	April 2010	August 2011
95% Completion Report is Submitted to CWCB	September 2010	July 2011
Public education campaign is initiated	July 2010	September 2011
Website monitoring is initiated	July 2010	August 2011
Evaluate public education campaign and website monitoring	End of 2012	Through end of April 2013
Final Completion Report is Submitted to CWCB	End of 2012	July 5, 2013

The final budget is provided in Table 2. The total CWCB grant funding requested was \$31,876.



## **4.0 Project Findings and Recommendations**

For a variety of reasons, this project took longer than originally anticipated.

We started the process with a recommended local web designer our Community Relations staff had worked with in the past. A conceptual design was created and we were ready to begin the heavy lifting of development. Before development could begin, there was a funding problem within the CWCB, and all grant work was stopped so they could sort out the funding. Once funding was sorted out and work could begin, we went back to the designer to resume. Unfortunately he had reached a turning point in his life and decided to switch career paths. He was no longer in the web design and development field and was unable to continue with our project. We now had to start over with a new designer, Medulla. Working closely with our Town Community Relations Department, Medulla handled the design of the site. The design was created to very intentionally follow the design of our existing Town website. It was very important that the look and feel of the new website be consistent with the existing Town site. Once the concept was complete, Medulla brought in a developer she had worked with previously to create the back end of the site, and ultimately host the site once complete.

We quickly determined that we had underestimated the amount of staff time needed to complete the project. Timing pushed us into the busy summer landscape and irrigation summer season. During this time we had little or no time to devote to the project and development stopped until fall and things slowed down.

Ultimately the site was completed and launched (see table 1 for complete project schedule).

What we learned:

It took longer than we ever imagined to create, develop, and launch the site.

If you have a communications / public relations department that is concerned about colors, styles, and fonts, let them be creative and do their thing. If you have people who are in charge of content, let them focus on content. The hard part is getting these people to work together. One group is generally very creative and one group is generally very detail oriented, and these groups often don't speak the same language.

It's one thing to create and launch a website, it's another thing entirely to let people know you have a website, and convince them they should visit.

Keeping the website fresh and up to date is not an easy job. Creating and keeping to a set maintenance schedule is important, or time will get away from you and you will not update the site.

The developer we worked with for the back end coding and site hosting has since gone out of business (sold or merged with another company). This new company is providing hosting services, but is very unresponsive. As such, they are difficult to work with.

Moving forward, as we re-design the Town's main website, we are also looking at the possibility of re-designing the conservation website. As stated earlier, it is important to Castle Rock to maintain the same look and feel between the two websites. At that time, we would look at moving the hosting of both sites to the same company.

If we had it to do over again, we would have gone with the same web design company that designed and developed our Town site, but we were trying to go with a smaller local firm for the conservation site.

See below for some analytics showing visitor statistics of the conservation site.

http://www.crconserve.com - http://www.crconserve.com  
www.crconserve.com [DEFAULT]

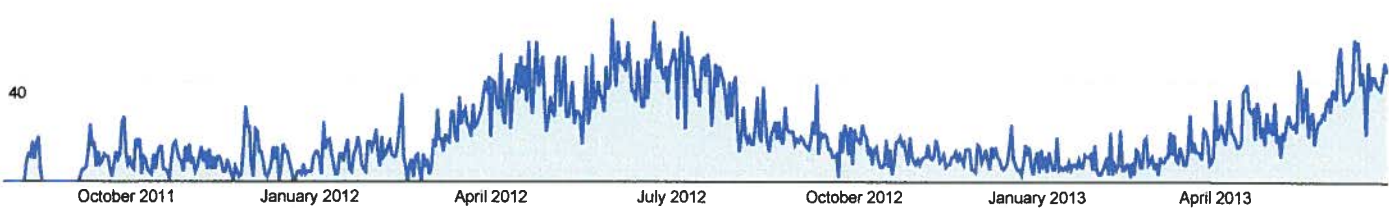
Aug 1, 2011 - Jun 26, 2013

Audience Overview

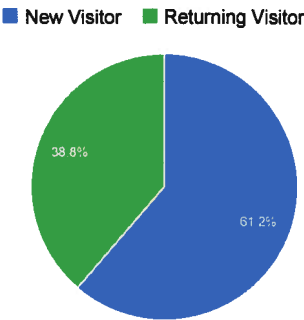
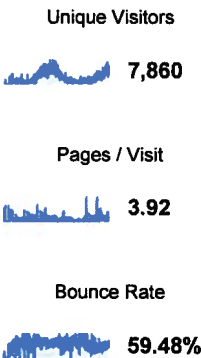
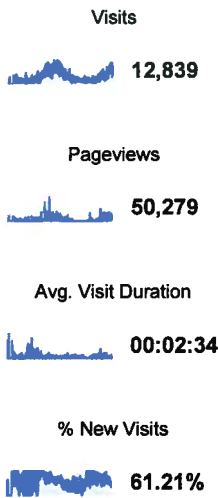
 % of visits: 100.00%

Overview

Visits  
80  
40



7,860 people visited this site



Language		Visits	% Visits
1. en-us		12,205	95.06%
2. en		422	3.29%
3. en-gb		36	0.28%
4. zh-cn		31	0.24%
5. de-de		11	0.09%
6. es		11	0.09%
7. ru		11	0.09%
8. zh-tw		10	0.08%
9. en_us		8	0.06%
10. c		7	0.05%

[view full report](#)

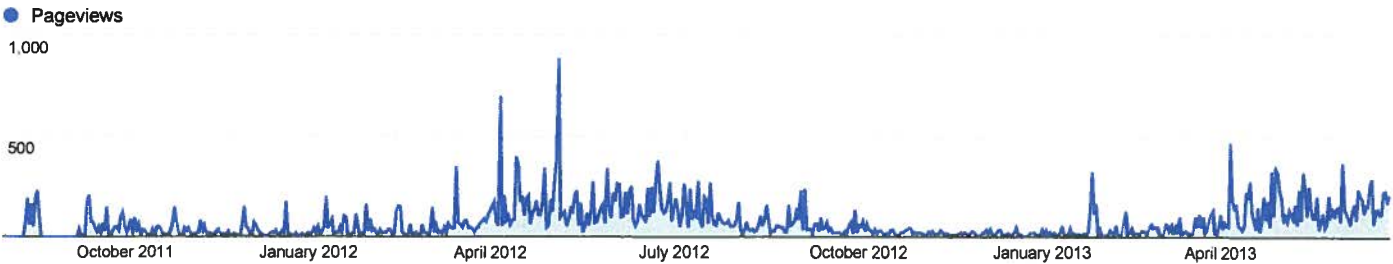
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www.crconserve.com [DEFAULT]

Content Overview

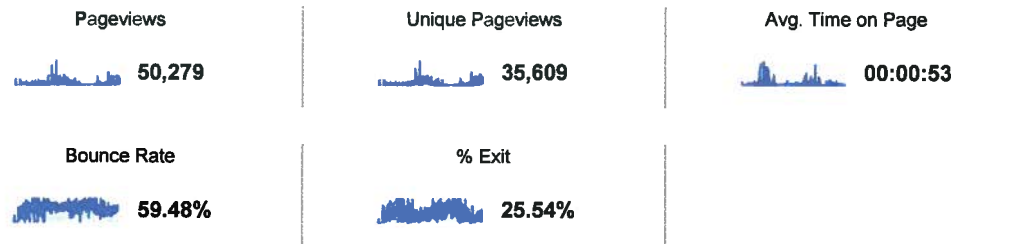
Aug 1, 2011 - Jun 26, 2013

 % of pageviews: 100.00%

Overview



## Pages on this site were viewed a total of 50,279 times



Page	Pageviews	% Pageviews
1. /	7,262	14.44%
2. /weather/the-meadows.html	5,263	10.47%
3. /weather/founders-village.html	2,433	4.84%
4. /watering-schedule.html	2,136	4.25%
5. /xeriscape/xeric-plant-list.html	1,620	3.22%
6. /weather/sapphire-point.html	959	1.91%
7. /users/join-form	956	1.90%
8. /weather/plum-creek.html	862	1.71%
9. /xeriscape/Styles of Xeriscape	835	1.66%
10. /weather/index.html	808	1.61%

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http://www.crconserve.com - http://www.crconserve.com  
www.crconserve.com [DEFAULT]

## Audience Overview

● % of visits: 100.00%

May 4, 2013 - May 18, 2013

### Overview

● Visits

50

25

May 5

May 7

May 9

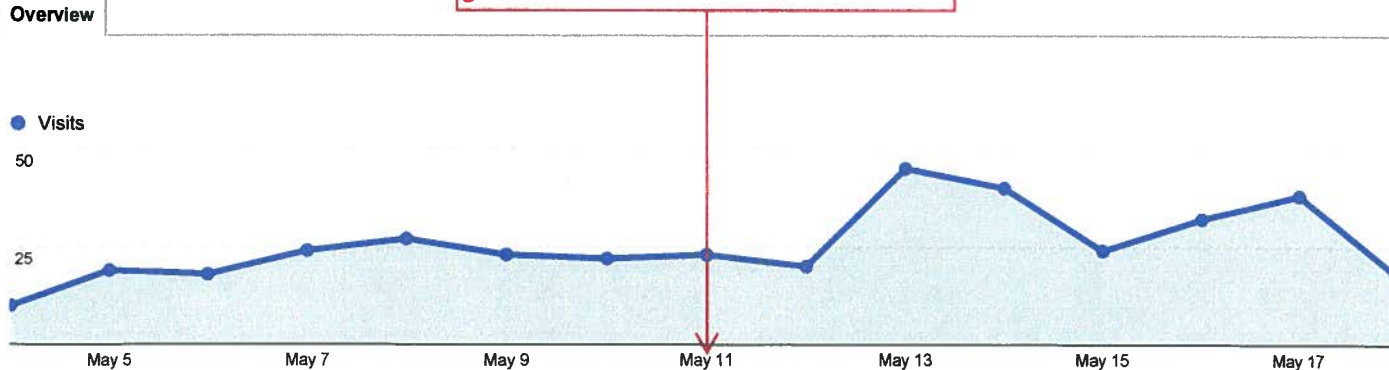
May 11

May 13

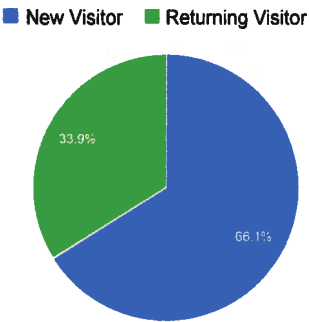
May 15

May 17

Water Wiser Workshop held May 11th. Traffic to website increases after workshop, showing attendees are following up after workshop to gather more information.



281 people visited this site



Language	Visits	% Visits
1. en-us	368	96.08%
2. en	13	3.39%
3. (not set)	1	0.26%
4. c	1	0.26%

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[www.crconserve.com](http://www.crconserve.com) [DEFAULT]

## Audience Overview

May 7, 2013 - May 21, 2013

● % of visits: 100.00%

### Overview

● Visits

50

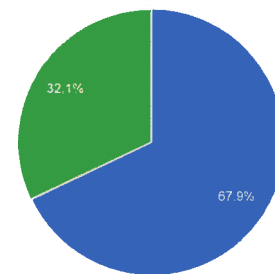
Water Wiser Workshop held May 14th. Traffic to website increases after workshop, showing attendees are following up after workshop to gather more information.



## 305 people visited this site



■ New Visitor ■ Returning Visitor



Language	Visits	% Visits
1. en-us	391	96.54%
2. en	9	2.22%
3. zh-cn	2	0.49%
4. (not set)	1	0.25%
5. c	1	0.25%
6. pt	1	0.25%

[view full report](#)



http://www.crconserve.com - http://www.crconserve.com  
www.crconserve.com [DEFAULT]

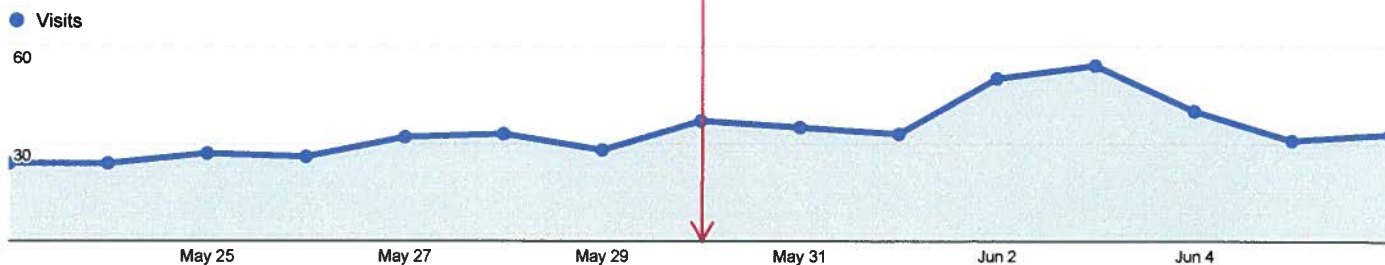
## Audience Overview

● % of visits: 100.00%

May 23, 2013 - Jun 6, 2013

### Overview

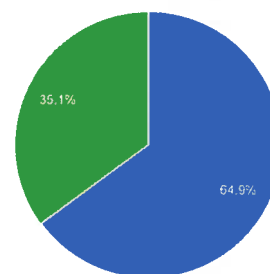
Water Wiser Workshop held May 30th. Traffic to website increases after workshop, showing attendees are following up after workshop to gather more information.



## 373 people visited this site



■ New Visitor ■ Returning Visitor



Language	Visits	% Visits
1. en-us	487	96.06%
2. en	16	3.16%
3. en-gb	1	0.20%
4. es	1	0.20%
5. it	1	0.20%
6. ko	1	0.20%

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