

Rain Barrels and Water Conservation

Presented by: The Water Boyz

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Green Entrepreneurial Leadership Institute:

This is a summer youth program
funded by the American Recovery
and Reinvestment Act of 2009.

Green:

This portion of the program encouraged us to learn about environmental issues and find solutions for these problems.

The Problem:

Lack of water conservation



Water conservation

- It is very important for citizens and business owners to recycle and conserve water.
- The earth naturally recycles and replenishes water. But we are using more water than the earth can naturally recycle.
- Due to many different forms of pollution including sewage and fertilizers. Water is being polluted beyond what the earth can recycle.
- Many large cities are experiencing water shortages.

Use of water in Grayson county

- Grayson county uses 3 million gallons of water for public use daily.
- Grayson county's population is 25,497. That's 117 gallons of water per person.
- If every house hold was to install a rain barrel the would cut the water use nearly in half.
- 1,274,850 gallons of water will be saved daily.

In Grayson County: The Problem

- There was a roundtable meeting with city officials and the mayor of Leitchfield, Mayor Thomason.
- In this meeting the issue of using too much water to keep the city plants alive was a problem.
- The citizens of Leitchfield wanted the plants, but costs of keeping them watered was an issue.
- According to city officials, they were spending approximately \$250 monthly using 6-7 thousand gallons of water.

The Solution for the City of Leitchfield

- A solution was found!
- The Water Boyz would design a way to use rainwater to reduce the amount of city water usage.
- The Water Boyz met with city officials and presented their ideas.
- A collaborative effort was made and the Water Boyz were able to install a system large enough to collect rainwater to water the plants and landscaping.

This is our water barrel system we installed at the solid waste transfer station. We also installed an on off valve where a water truck could drive under the pipe and turn the flow of water on.



This is the on/off valve that you will turn to let the water out.



We are lining up the fittings so that the water will be the same in each barrel.



I am really impressed by the work of the water boyz, and the system they designed.” – Keith Jones city official.



Various Stages of the Process



Finished Commercial System

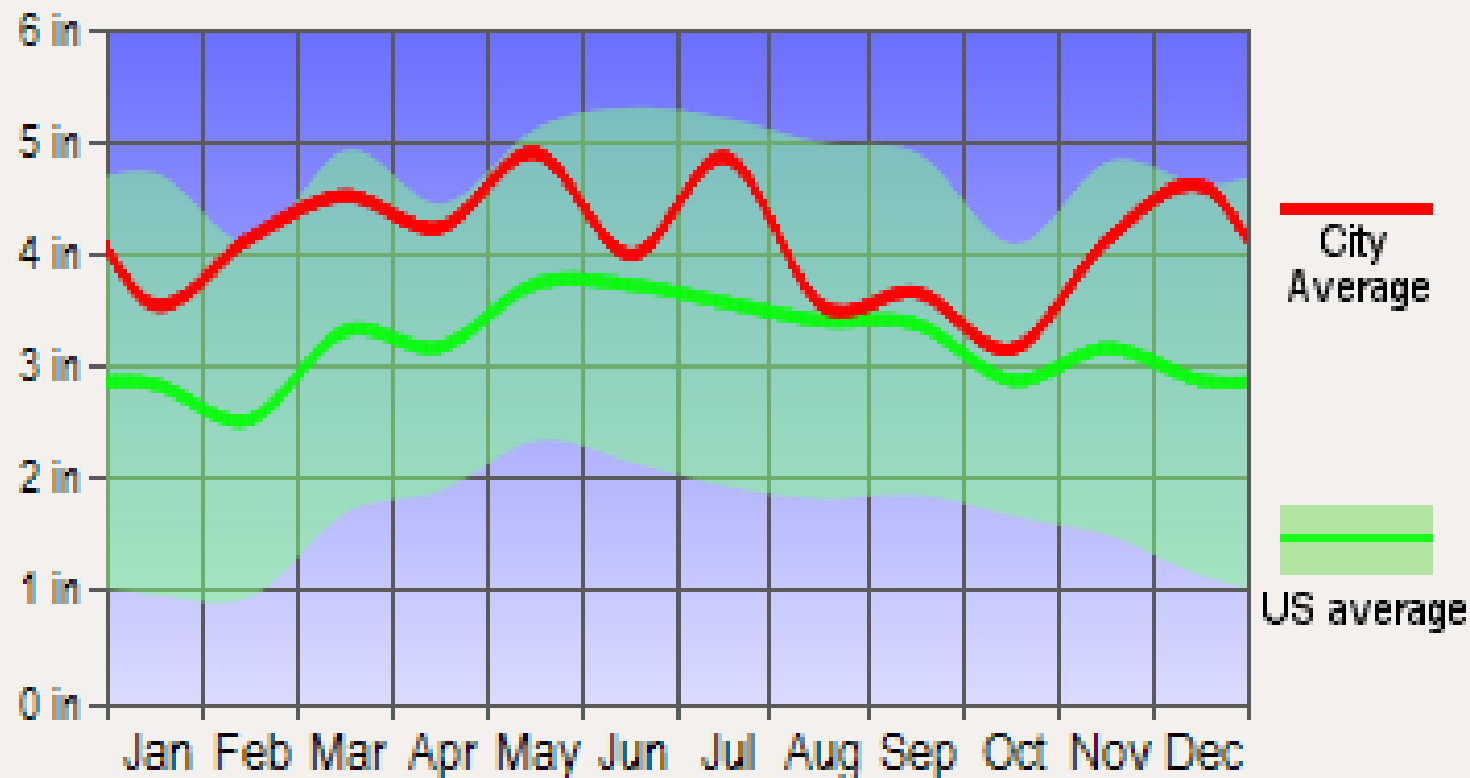


They were filled during the first rainfall event.
Capturing 165 gallons of water to use for the city's landscaping!



- Rain barrels are a very innovative and cost efficient way to conserve water.
- In Kentucky it rains approximately 40 to 50 inches annually.

Precipitation



Entrepreneurial:

The Business Model

The Business Side

- The system installed, excluding manpower, cost about \$50.00.
- This system can collect up to 165 gallons of water from rainfall events.
- We estimate that with the large area of the Solid Waste Transfer Station, that the barrels could be emptied with each rainfall.
- Saving the city approximately \$2500 a year! Not to mention the environmental impact of saving city water (less water to filter).

Our Goal:

- Our goal is that this system will serve as a model.
- Other businesses and citizens will see the benefits, both environmentally and economically and wish to copy the system.
- Saving money and conserving water!

Our Business!

- Due to the success of the city rain barrel system, we have decided to start a business of customizing residential rain barrels.



- If you buy a rain barrel from a hardware store or the internet it will cost on average over \$100

Home made water barrel

\$40



Flat Back Rain Barrel-Green - 50 gal

\$194.23



Forester Rain Barrel - Black - 50 gal.

\$192.00



Our Business Plan

We developed a business plan explaining what we have done with our water barrels and explains our green projects.

Business Plan

The business we are planning to start is Water Boyz Inc. We sell fully customized water barrels nationally and locally. We are a home based corporation based out of Leitchfield Kentucky. Our water barrels are environmentally safe and off because of low costs and its ability to conserve water

Target Market

Our target market here at Water Boyz Inc. is any one interested in the environmentally safe products and people who want quality products at a reasonable price. People who want to conserve water and help the environment are always interested in buying products that will help the cause anytime of the year. Our quality products will insure conservation. We also hope to attract local customers, by using the model we created at the Solid Waste Transfer Station.

Location

Our store will be located at 301 North Main Street Clarkson Kentucky 42754. The location we have chose is because we are located far enough out of town to make the barrels but close enough to town so ~~people~~ ^{people} can buy and purchase our barrels. Our main source of sale will be located on the internet on our EBay store.

products

Our main product here at Water Boyz Inc will be 55 gallon rain barrels for commercial or residential property. We can fully ~~customize~~ ^{customize} barrels with designs and graphics of the customer's choice. We can also adapt the sizes of the barrels to make them larger for companies. The barrels will cost an average of \$20.00 to make and the

Our Product

We have constructed a water barrel and put it on ebay.



We are selling this barrel for no less than \$50. In order to maintain a profit.

Creating our Water Barrel for Residential Use



Leadership:

Our role in the community and
participation in local projects

Our work with the Green Guard



We have done many projects locally in Grayson county.

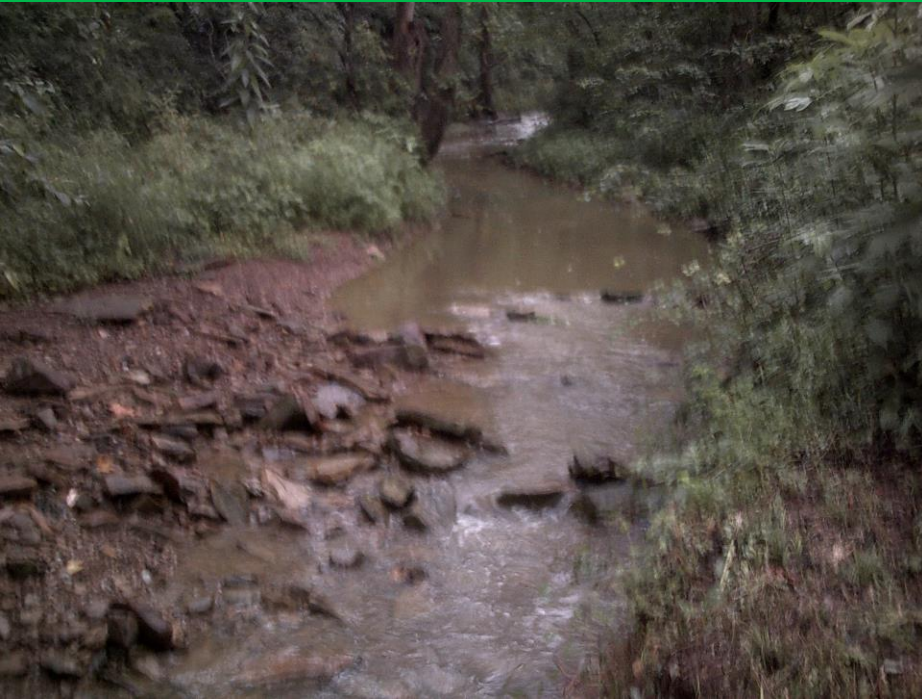
- Including mulching the local play grounds and parks.
- We have cleaned and helped develop hiking trails.
- The mulch, in many cases was recycled debris from the ice storm.
- We also cleaned holding tanks at Clarkson Sewage Plant.



Wildlife and Habitats

We participated in releasing wild ducks back to a natural habitat.

We helped with stream restoration, by moving rocks to slow the flow of water into the city lake.



We met with city officials and conversed on ways to make the city of Leitchfield a greener county. We also worked with the county on the court house.



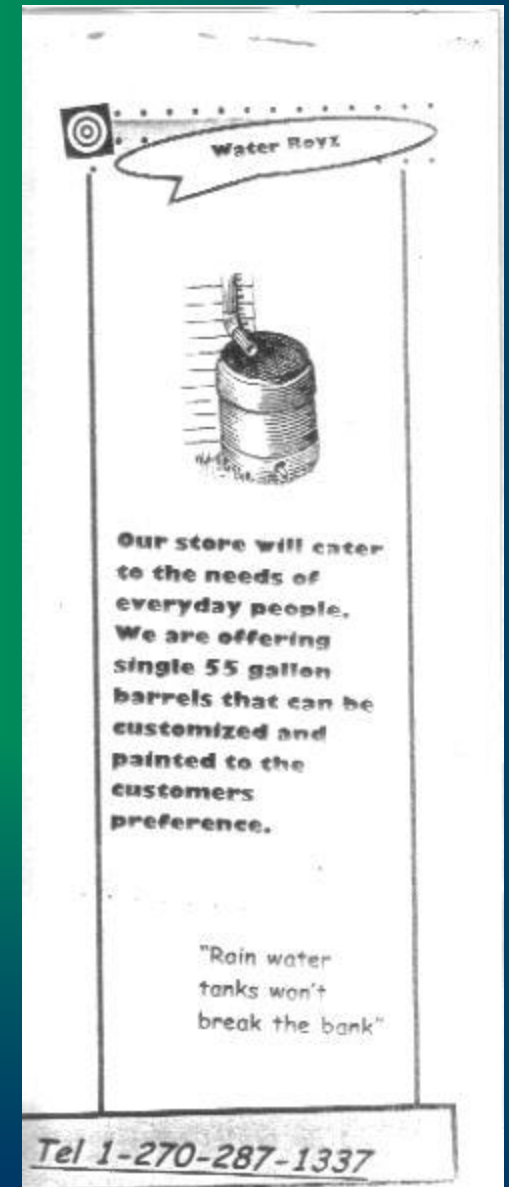
Judicial building

Community visibility

- June: Mayor Thompson presented to the Leitchfield City Council about our program.
- June: We contacted Angie Jones, Community Education Director, to let her know about McConnell Institute's computer class and refurbishing program.
- June: We met with Keith Jones to discuss possibilities of water conservation projects.
- June: GEL-IN was mentioned in the Kentucky Living magazine.
- July: Websites were created to share our activities and projects.
- July: We shared our projects and ideas with members of the Clarkson School staff.
- July: We met with Mayor Henderson.
- July: Mayor Henderson presented our program and activities to the Clarkson City Council and Commissioner.
- July: We met with Missy Mudd from the News Gazette.
- July: The News Gazette printed an article about our projects and activities

Information to the Public:

Other than meeting with city officials, we also created a pamphlet about recycling and conserving water that will also promote our product. We have distributed them to the public at back to school nights and plan on continuing to spread the word.





photo/Missy Mudd

Clarkson teacher Ginger Crain discussed with students this week about their job duties for the Clarkson Community Park.

Students improve cities, earn money

By Missy Mudd
Reporter

mmudd@gcnnews gazette.com

Grayson County High Students, in partnership with the Hardin County School system, are competing to create a sustainable business model with a "green" focus.

Seven students, age 16-19 year olds, have split into two teams to accomplish improvement projects for Grayson County. The Water Boyz are working with city officials on

water conservation, and The Green Guard is working on creating a backyard habitat for the new judicial center.

Coach Ginger Crain explained there will two competitions, one held countywide and another held on a state level. The teens must present a powerpoint presentation highlighting a problem, come up with a solution, design a financial model that would be financially sound for the busi-

See Leadership On Page 3

Leadership

ness and location and also be able to help the environment.

The Best of Grayson County competition will be held on July 23 at 10 a.m. at the Clarkson Elementary School.

Winners chosen on the county level receive refurbished computers, and winners on the state level will receive new laptops.

The Water Boyz plan to install water barrels at the salt waste transfer station in Leitchfield. Barrels will be buried in the ground with

waterspouts installed in them. A city truck will periodically pump water out of the barrels to water the city's landscaping.

Leitchfield Mayor William H. Thomason and students came up with the idea after a round table discussion on needs for the city.

The Green Guard started this week working on a backyard habitat for the new judicial center.

Grayson County Judge-Executive Gary Logsdon has been working in conjunction

with students on overall grounds center.

On July 6, C Bonnie Hende the group at Community Pa

The teens get hour to overha Run Creek Wal

Crain explain the grant is to p coaches to c work, and also that the comm on energy costs

- This is our interview with the news paper. We were conversing about our future projects.

Clarkson energy inventory

Energy Inventory for Clarkson Elementary School

The Green Guard and The Water Boyz joined together on July 16, 2009 to do a energy inventory for Clarkson Elementary School in Clarkson, Kentucky. They walked through the school, visiting each room and counting the number of large appliances including copiers, printers, computers, refrigerators, televisions, dishwashers, stoves, vending machines, and microwaves. The teams understood that there was new school being built on the premises. They wanted to look at current issues, in order to avoid energy costing mistakes that may occur in the future.

The inventory reflected the following number of large appliances found on the site:

We went
room by room
and counted
all the
appliances.

Copiers	4
Printers	40
Computers	171
Refrigerators	20
Televisions	36
Dishwashers	1
Stoves/fryers	4
Vending machines	1
Microwaves	19
Air conditioners	40

If we were to unplug these appliances while no one was at the school, according to a guest speaker, we would save up to \$10,000

The teams were impressed with the number of computers, however baffled by the number of classrooms who had a refrigerator and/or a microwave for personal use.

In investigation of energy costs, the teams found that Kentucky Utilities provided the general electricity, however the heating costs were from natural gas. They found that at one time the school was even powered by coal! They were truly dumbfounded at the monthly average cost for the school's electricity that totaled over \$5298. They found that the heating cost for natural gas exceeded a monthly average of over \$3166! That is a combined total for heating and electricity of over \$8400 per month!

Ebay

- We have had items donated in order to save them from going into a landfill. We have put these items on ebay.
- Any items that do not sell will be donated to the GCMS football team for a yard sale.
- All items left over, will be donated to the Wilson Youth Church Group.

A large over stuffed angel pillow



www.kystudentventures.org

On the student ventures net work the water boys interacted and conversed with other counties across the bluegrass. We formed groups joined groups and made friends.

We were one of the most active groups on the social net working site.

Thank You!



Working in the school backyard
habitat and walking trail.



sources

- <http://www.extension.org/faq/774-rain> -fall amounts.
- <http://www.easybackgroundchecks.com/ky-kentucky/grayson-county-background-check.htm> Water amounts in Grayson county.
- <http://www.city-data.com/city/Leitchfield-Kentucky.html> Rain fall chart.
- http://www.composters.com/rain-barrels/forester-rain-barrel---black---50-gal_382_10.php Water barrel pictures
- <http://www.thisyounghouse.com/2009/03/how-to-make-a-rain-barrel/> home made water barrel
- <http://www.savephoenix.org/images/air-pollution.jpg> power plant pollution picture.