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What's the environmental issue?

Our group has been growing plants in hydroponic systems since 2013. The goal is to research, design, implement and grow vegetation to donate to a local homeless center. As the work progressed, a need arose to conserve the most prominent and important element of our systems: water. This led to the investigation of water conservation and how to promote the idea to a greater audience.

Unfortunately, freshwater is becoming more of a limited resource and rain carries pollutants into and throughout our freshwater systems. This necessitates a change and we have set out to promote and educate people on the topic of water conservation through the use of rain barrels.

Rain barrels are a simple answer to the water conservation problem. Barrels store rainwater for future use reducing public utility consumption. One inch of rainfall on a 1,000 ft² roof yields over 623 gallons of water ([Ref.](#)). Once applied to a large building such as a school over a period of a year, the potential for conservation becomes massive.

Total Rainfall Runoff		
Category	Average Size Home	Saint Ignatius HS
Roof Square Footage (Ft ²)	2,600	77,956
Rainwater Runoff per 1 inch of rainfall (Gallons)	1,619	48,566
Rainwater Runoff per 37 inches of rainfall (Gallons)	59,903	1,796,942
*Note: Average annual Cleveland rainfall = 37 inches		
*Additional Note: Cleveland's annual precipitation is 95 inches. Of that, only 37 inches can be collected as seasonal rainfall.		

Objective

Our objective is to promote the conservation of rainwater at our school as well as the greater community, along with educating the community on the importance of water conservation. Our goal is to get students, community members and leaders interested and involved in the idea of water conservation. We want to get people excited not only about water conservation, but also inspire a drive in the greater public to make a change. We aspire to provide people with the knowledge and tools to be able to truly make a difference in the world. We will track this progress by recording the number of brochures we hand out, how much traffic our website receives, and the number of sign ups for our rain barrel making class.

In order to promote our cause, we want to reach out to schools across the nation. We desire to relay to them not only how important it is to conserve water but that they themselves are an important piece in the mission of water conservation . We hope that our enthusiasm about our project will spark their interest not only to implement rain barrels on their campuses, but also to create various environmental clubs or organizations within their student bodies. We will measure this success by recording the number of schools that commit to installing rain barrels on their campuses.

Action Plan

- **Plan: What is your team's plan to tackle the issue?**

1. **Promote water conservation through the collection of rainwater at our school as well as the larger community.**

- Receive guidance and knowledge from experts within the field.
- Place rain barrels on our campus.
- Get other schools/community centers to agree to place rain barrels on their campus.
- Host a class for the community to make rain barrels for their homes.
- Work toward helping a fellow Jesuit school in Tanzania establish a rain barrel with further hopes to promote a hydroponic garden.

Action Plan cont.

2. Communicate the importance of water conservation to our communities and educate people on strategies to improve the ability to reduce and recycle water.

- Educate the public on water conservation.
 - Utilize our rain barrel class to brief the class on the importance of water conservation.
 - Partner with Ohio City Inc to reach the local community.
- Reach out to other high schools through email.
- Distribute brochures to the local community.
 - Attend a local farmer's market to target environmentally aware members of the community.
 - Pass out brochures to interested students and faculty.
- Establish a website to reach the wider community.
 - Include information regarding our mission, rain barrel tutorials, and a blog keeping people up to date on our progress.
 - Attach a link to the website from our pamphlet.
- Attend the National Jesuit Conference in Cincinnati, Ohio and raise awareness about water conservation.
 - Present to educators from across the country

Implementation

- a. Place rain barrels on our campus.
 - In the beginning, we researched as a team for the optimal rain barrel system and its specific advantages.
 - We presented these ideas to our principal
 - We have permission from the school to install rain barrels on campus to use the water on our grounds and will install as soon as plans are complete and the snow has melted.
 - We are currently working with the head of facilities and maintenance to strategically place these barrels on our campus and to train all involved on how to maintain the equipment.
 - We have made contact with several barrel suppliers (Rain Barrels N' MORE) and a plumbing company (Oatey) to help with the downspout connectors.
- b. Get other schools/community centers to agree to place rain barrels on their campus.
 - After collecting sufficient information, we were able to reach out to other Jesuit High Schools and received responses that they were interested in taking part in our rain barrel initiative.
 - 2 schools responded with commitments to add water collection systems to their schools.
 - St. Xavier in Cincinnati, Ohio
 - University of Detroit Jesuit in Detroit, Michigan

Implementation Cont.

c. Host a class for the community to make rain barrels for their homes.

- Communicating with a licensed rain barrel distributor (Rain Barrels N' MORE) and a plumbing company (Oatey) to obtain the supplies for the classes.
- Coordinated with a community development organization, Ohio City Inc. to establish a community class to make and distribute rain barrels in the Ohio City community.
- We have 79 student signatures pledging to attend our rain barrel class which will teach them how to make and install a rain barrel at their home.

d. Working to establish a rain barrel at a Jesuit High School in Tanzania.

- Working with a team of students and faculty that are traveling to Tanzania this summer. We are working out how to get a rain barrel to them and working to train the mission trip students on how to attach the barrel and how to train people to use it.

Implementation

Implementing Aim 2: Communicate the importance of water conservation to our communities and educate people on strategies to improve the ability to reduce and recycle water.

a. Educate the world on the importance of water conservation

- In order to reach the community, we decided to establish a website to allow easy access to our information regarding water conservation.
- Created a display with a physical rain barrel display in our school hang out space with a lot of foot traffic.
- As a group, we attended the Crocker Park Farmers' market to pass out pamphlets to help raise awareness for water conservation and the impact a rain barrel can have.
- To educate our school community we:
 - Established a website
 - Passed out fliers
 - Setup display

b. Explain how rain barrels are an effective way to conserve water

- Pamphlets were also printed off with QR codes to our websites addressing rain barrels and how they can positively impact the environment.
- Host a class for the Ohio City Community to make rain barrels for their homes

Communication

Communication: How do you plan to educate the greater community nationwide and/or globally about your plan? Who in your community can help you execute your Action Plan successfully (e.g., environmental organizations, local government, local businesses, etc.)? Show specific examples of press releases, newspaper articles, letters of commendation, videos of local news coverage—any PR that supports your Action Plan and outreach efforts.

- **Website**
 - Hydrocats.com - We created an elaborate website to help promote and spread awareness to our cause. The website includes information such as our mission, tutorials, current projects, and a blog tracking our progress.
- **Brochures**
 - We created bright colorful tri-fold brochures that contained information such as why use rain barrels, what is a rain barrel, how does it work, and rain barrel tips.
- **Letter to other schools**
 - We sent out an invitation to 59 (Jesuit) high schools in more than 27 states across the country to explain our cause and ask that they implement a rain collection system on their campuses.
- **School Newspaper**
 - Our mission and goals are going to published in our school newspaper to further our cause.
- **Partnership with Ohio City Inc.**
 - We have partnered with a local organization called Ohio City Inc. to organize and execute a rain barrel making class this summer to provide and opportunity for the community to come and the opportunity to build their own rain barrels and install them on their homes.

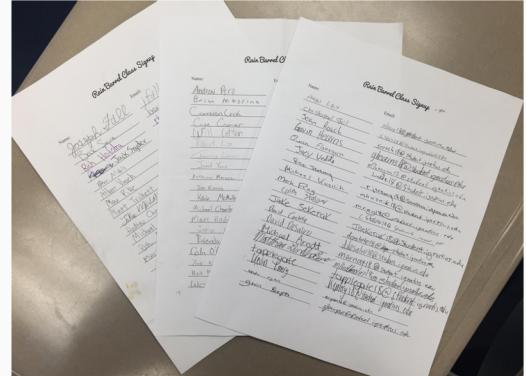
Communication

- **Rain Barrel Display**
 - We created a rain barrel display which included an informative poster explaining our cause and information about rain barrels which was displayed in an area at school with very heavy foot traffic.
- **School's Facebook page**
 - Our team was featured on our school's Facebook page which is viewed by thousands of current and past students all over the world (<https://www.facebook.com/SIHSCleveland/posts/830043477104088>)
- **School's Twitter page**
 - (<https://twitter.com/sihscleveland/status/687330205183160320>)
- **Personal Social Media Posts**
 - Each member posted information regarding our water conservation efforts on their social media pages to help spread awareness.
- **Local Rain Barrel Shop**
 - Our team met with and kept in frequent contact with a local rain barrel expert to gain knowledge about water conservation and learn ideas on how to promote the idea to a large audience.
- **Congratulations from other teachers**
 - 20 fellow school faculty members sent our team letters of congratulations for our project's success

Success

With our mailing campaign contacting over 60 schools, effective 3000-hit site and 400 brochure distribution process, we were able to begin installation of rain barrels on our own campus, in Tanzania and in 2 other Jesuit schools across the nation. Partnering with our local community, we have begun to set up an informational rain barrel class which we hope to host 30+ community members and 79 of our pledged fellow classmates. Finally, we have made multiple business connections with both city groups and private sectors with the hope of creating an ongoing, simpler and financially subsidized method of distributing and teaching about rain barrels.

Rain Barrel class sign up sheet



What will your team, school, and teacher advisor do with their winnings?

- We will use the winnings to further carry out our action plan and expand the water conservation awareness to a larger scale.
- We will purchase additional rain barrel kits in order to distribute to the community.
- We will put more resources into our website and promote more advertising.
- As a team, we will consider putting aside a portion of our funds for traveling in order to meet with experts within the water conservation field.
- We will also utilize the funds to send rain barrels and hydroponic systems to developing countries such as Tanzania or the Dominican Republic.

WHY USE RAIN BARRELS?

RAIN BARRELS CAPTURE AND STORE FREE WATER THAT CAN BE USED IN YOUR YARD, THEREBY LOWERING YOUR WATER BILLS, PARTICULARLY IN THE SUMMER MONTHS. A RAIN BARREL CAN SAVE APPROXIMATELY 1,300 GALLONS OF WATER DURING PEAK SUMMER MONTHS.

BECAUSE RAINWATER COLLECTED IN RAIN BARRELS IS NATURALLY SOFT, OXYGENATED, AND DEVOID OF MINERALS, CHLORINE, FLUORIDE, LIME, CALCIUM, AND OTHER CHEMICALS, IT CAN HELP IMPROVE THE HEALTH OF YOUR GARDENS, LAWNS, AND TREES.

RAIN BARRELS HELP REDUCE WATER POLLUTION BY DECREASING STORMWATER RUNOFF, WHICH PICKS UP DEBRIS, MOTOR OIL, FERTILIZERS, BACTERIA AND MORE ON ITS WAY TO STREAMS CAUSING EROSION, FLOODING, AND HABITAT DEGRADATION.

A RAIN BARREL IS EXTREMELY COST EFFECTIVE, WITH ONE PURCHASE IT LASTS YOU YEARS ON END AND IS APPLICABLE FOR MANY DIFFERENT USES.



St. Ignatius Hydro Cats
hydrocats.com

*Show your
love for our
planet*



USE RAIN BARRELS

An Informative Guide

WHAT IS A RAIN BARREL?

A RAIN BARREL IS A TANK, COMMONLY MADE FROM PLASTIC, WHICH IS USED TO COLLECT RAINWATER THAT CAN BE USED TO WATER LAWNS, GARDENS, AND HOUSE PLANTS. IT CAN BE MADE FOR VERY LITTLE MONEY.

HOW DOES IT WORK?

A RAIN BARREL COLLECTS ROOF WATER FROM A HOME'S DOWNSPOUT. RAIN BARRELS COME IN A NUMBER OF DIFFERENT FORMS; HOWEVER, AT A MINIMUM MOST MODELS COME EQUIPPED WITH A SPIGOT THAT CAN BE ATTACHED TO A REGULAR GARDEN HOSE.



VISIT OUR WEBSITE
FOR MORE INFO
hydrocats.com



RAIN BARREL TIPS

RAIN BARRELS SHOULD BE A SOLID COLOR SINCE TRANSLUCENT BARRELS ENCOURAGE ALGAE GROWTH.

MAKE SURE THE BARREL OPENING IS SCREENED IN ORDER TO ELIMINATE DEBRIS FROM ENTERING. SOLID MATERIALS CAN CLOG THE DRAIN AND HOSE.

DECORATE YOUR BARREL WITH PAINT OR EVEN LIVE PLANTS INCLUDING VINES AND FLOWERS TO MAKE IT YOUR OWN.

IN THE WINTER, EMPTY YOUR RAIN BARREL AND STORE IT UPSIDE DOWN TO KEEP IT CLEAN FOR NEXT YEAR.

Sources:
[www.rainbarrelguide.com](http://rainbarrelguide.com)
<http://gardenwatersaver.com>

Design of tri-fold brochure



