

# Land And Water Challenge

TEACHER NAME: Rebekah Cate

TEAM NAME: Kayak Club

STUDENT NAMES: Kathryn Clark, Eric Bau, Navya Chintaman, Michael Mikhael, Jackson Young

SCHOOL NAME: Lebanon Trail High School

CITY AND STATE: Frisco, Texas

PRINCIPAL NAME: Jacob Duce



**START HERE:**

<http://bit.ly/kayakclubshortfilm>



**LEXUS ECO CHALLENGE  
KAYAK CLUB 2017-2018**

# Part 1-Issue: What's the Environmental Issue?

## Topic



Through our Kayak Club, our mission is to explore, inform and solve for issues that water resources face, both in Texas and abroad.

## Why our Team Chose This Topic



We were inspired by Canadian teacher Maggie MacDonnell, Global Teacher Prize winner, who stated that she wanted to use the million dollar prize money to create a Kayak Club to help her students get back in touch with their cultural heritage as well as become stewards of their environment. This inspired us to explore our North Texas water sources and discover the challenges they face, as well as endeavor to find solutions.

## Issue Addressed In Action Plan



The issues addressed are the critical condition of Lewisville Dam and that the federal lease program was auctioning off property around Lake Lewisville for oil companies to drill under and around for the lake in search of natural gas. Additionally, small private lakes such as Prosper Town Lake are contaminated by runoff from nearby properties. In the process, we felt called to address the water issues faced by communities affected by recent hurricanes, as hurricane survivors flooded into our community, seeking refuge.



# Part 2- What's Your Action Plan?

## How Our Team Measured Success

- \*We were able to raise \$230 through our GoFundMe and \$256 through community donations to purchase enough water filters to send to Puerto Rico through a contact with the United States Air Force, Captain Aaron Green.
- \*These water filters will filter 5.5 million gallons of water.
- \*We were able to inform everyone that we interviewed about the problems Lake Lewisville is facing regarding the critical condition of the dam as well as the desire to drill for natural gas under the lake.
- \*Most of the people being interviewed felt activated to share what they learned.
- \*We received numerous shoutouts, both in our community and abroad.



## Step-by-step Actions Our Team Took To Address The Environmental Issue



1. We started Kayak Club, to become stewards of our environment, and understand the problems the water sources are experiencing.
2. We interviewed and informed people around Prosper Town Lake and Lake Lewisville about the problems the water sources are facing.
3. We created and used numerous outlets to let people know about the information we found, including a grassroots community campaign, our website, social media, our school district, our mayor and a marketing video.
4. We started a GoFundMe to raise money that we used to purchase water filters, to send to Puerto Rico, through the United States Air Force, and St. Thomas.

## How We Quantified Data

- The number of Sawyer water filters sent (4 Bucket Filters and 15 MINI Water Filters)
- The money donated to Kayak Club (\$450+)
- pH levels in the water samples
- The amount of views on the website
- The GoFundMe shares/likes
- Social media shares/likes/shoutouts
- The amount of gallons that can be filtered per filter

Here is the website about our Kayak Club: <http://kayakclub.weebly.com/>  
Here is the link to our Kayak Club Task List: <http://bit.ly/KayakClubPlan>

# Part 2 - Specific Responsibilities Assigned To Each Team Member



We collaborated on every aspect of the project, but we were team leaders in the following areas:

## Kathryn Clark

Interviewer  
Part of Final Video  
Website Design  
Video Editor  
Drilling Research  
Voiceover

## Navya Chintaman

Part of final video  
Videographer  
Voiceover  
Dam Research  
Arranged for Kayaks/life vests

## Eric Bau

Dam Research  
Web Design  
Part of final video  
Interviewer

## Jackson Young

Website Design  
Drilling Research  
Videographer  
Voiceover  
Arranged for life vests/Kayaks  
Part of final video

## Michael Mikhaiel

Drilling Research  
Interviewer  
Web Design

## Part 3: Our Implementation

### Our Plan: In Action

As a team, we acquired kayaks and canoes and traveled to Lake Lewisville and Prosper Town Lake to observe, explore, and take into account issues within the areas. We also carried out research about the lack of access to potable water in hurricane-affected areas.

### Our Plan: Raising Awareness

We created a website to inform others about the issues with Prosper Town Lake and the Lake Lewisville dam infrastructure and threat of drilling for natural gas. Additionally, we made a GoFundMe to raise funds to supply water filters to Puerto Rico and shared the GoFundMe with friends and family.

### Our Plan: Out in the Community

We utilized a Grassroots Campaign to inform the community about the impact that the weather and humans have had on the lake. We also asked for their opinions on all the issues addressed and activated them to inform others as well.

### Our Plan: Short Film

We created a social change short film to explain our project, as well as motivate others to help solve the problems found in our local and global water resources.



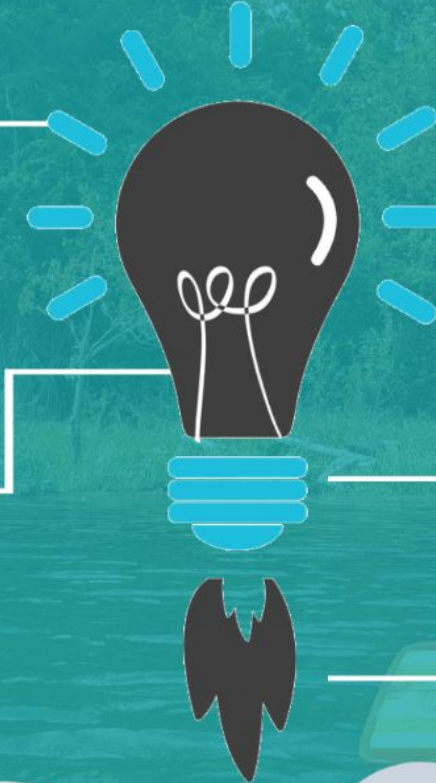
# Part 3: Our Implementation-Continued

## Our Plan: Awareness

Mayor of Frisco, Jeff Cheney, also gave us a shout out on social media to help raise awareness. Frisco Independent School District (which has 17,251 followers on Facebook and 63,100 followers on Twitter), also gave us a shout out to raise awareness on Facebook, which has 255+ reactions and 13+ shares and on Twitter with 43+ likes and 12+ retweets.

## Our Plan: Other Issues

On our Frisco ISD shout out, we had a response from people that used to live in Frisco and now live on the British Virgin Islands. They mentioned that they also do NOT have access to clean water and our sponsor Rebekah Cate got in touch with them and we are working on sending them water filters.



## Our Plan: Donations

Our GoFundMe has now raised \$230 and rising for water filters for Puerto Rico and for the people who live on the British Virgin Islands, as well as \$256 in community donations.

## Our Plan: Interviews

We interviewed local residents who visit Lake Lewisville and Prosper Town Lake, and asked their opinion on the lake and dam issues that threaten to flood South Dallas. Unfortunately, most of them were unaware of the issues that were going on in their own "neighborhood". We wanted to bring awareness to issues happening around them and in their community.

# Part 4 - Results: Spreading the Word

\* We shared links to various sites and articles (website, GoFundMe, YouTube, Puerto Rico relief fund) to a large audience through our school and social media sites.

\* Currently, our website is at 33 views, spreading our message to a multitude of individuals.

\* Our GoFundMe has been shared a total of 58 times.



14+ retweets

47+ likes



16+ shares

253+ reactions



33+ views



<http://bit.ly/kayakclubshortfilm>



58+ shares, trending campaign



This campaign is trending!

\$230 of \$1,000 goal

Raised by 8 people in 6 days

Donate Now

Share on Facebook

Created October 10, 2017

Tonya Clark  
Education  
PLANO, TX

Recent Donations

\$50  
Cassidy Kitten

Water filters to Puerto Rico

Share

Tweet

58 shares

← Frisco ISD  
5,802 Tweets

Official account for Frisco ISD - serving Frisco, Texas and areas of McKinney, Plano and Little Elm. Our mission is to know every student by name and need.

Frisco, Texas friscoisd.org

1,614 Following 63K Followers

Tweets Tweets & replies Media Likes

Frisco ISD @friscoisd · 6h  
Five @LebanonTrailHS students sent enough water filters to clean over 5 million gallons of water to Puerto Rico for the #LexusEcoChallenge



1 6 21



Frisco Independent School District  
Five students from Lebanon Trail High School have sent enough water filters to filtrate more than 5 million gallons of water to the people of Puerto Rico as part of their project for the Lexus Eco Challenge. These students saw the effect Hurricanes Harvey, Irma and Maria had on people's access to clean drinking water, and wanted to make a change on a global scale. What a way to make an impact!

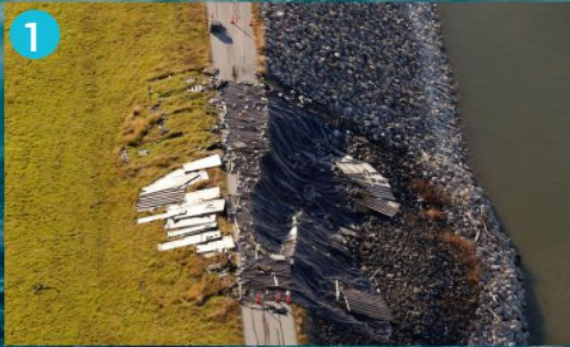
6 hours ago

Report Photo

You, Maddie Culwell Powell and 253 others

16 Shares

# Part 4- Results: Lake Lewisville

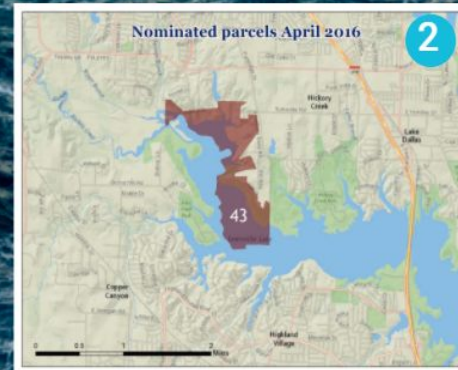


## 1. Lake Lewisville Dam

- \* The Army Corp of Engineers who is responsible for Lake Lewisville identified the dam as the eighth most hazardous dam in the country.
- \* If the dam were to collapse, water from Lake Lewisville would flood most of south dallas and put 431,000 people in harm's way.
- \* In 2015, substantial flooding caused the deterioration of the dam. During that flood event, the water levels reached 537 feet above sea level, 15 feet more the the average.

## 2. The Desire to Drill

- \* Last year, the Bureau of Land Management planned to lease land around Lake Lewisville and allow for exploration companies to drill for oil and gas around the lake
- \* After multiple protests from environmental groups and a lawsuit, the Bureau of Land Management removed the land around Lake Lewisville from the auction

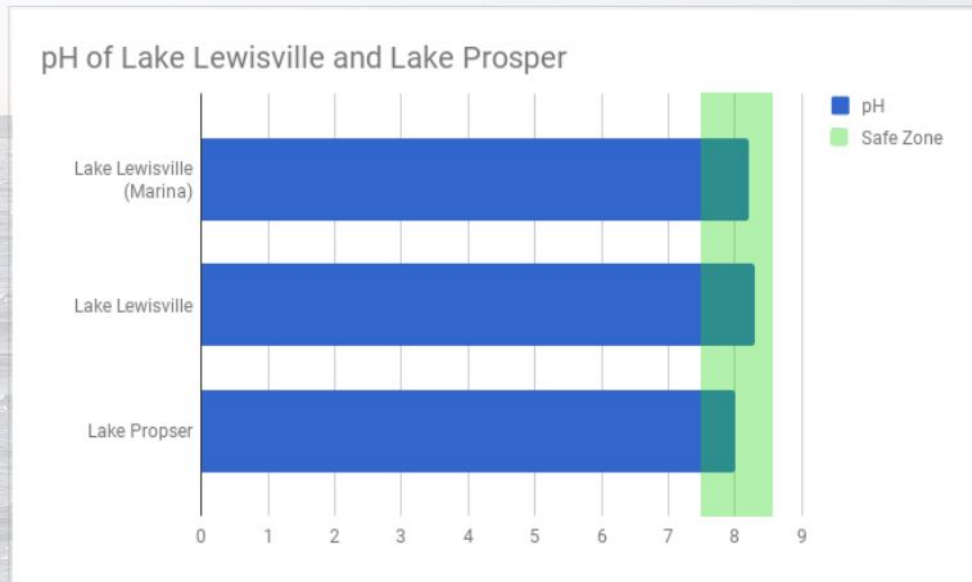




# Part 4 - Results: Prosper Town Lake

- \* The first lake we went to was Prosper Town Lake, a small lake located in Prosper, Texas.
- \* The water in this section of the lake was exceptionally murky and had a film developed on top due to chemical run-off, showing how people were not being careful about their environment.
- \* There were extreme amounts of trash around the shoreline and in the lake which was surprising due to the fact that this lake served one small community.

# Part 4 - Results: Lake pH



## Lake pH

The pH of a water source can be an important indicator of how "healthy" the environment is, as wildlife can only survive in a certain pH range. Generally, the optimum pH for freshwater lakes is 6.5 - 8.5 pH. By measuring the pH of Lake Lewisville and Lake Prosper, we are able to see how "healthy" the lake is.

The lake pH's are on the basic side, but this is to be expected due to it being a summer month. All in all, the lake pH's are relatively normal, but Lake Lewisville's pH is slightly higher and more basic than Lake Prosper's pH.

# Part 4 - Results: Sawyer Water Filters

## Puerto Rico

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As of 10/15/2017, only 64% of Puerto Ricans have access to clean drinking water after Hurricane Maria struck. When we found out about the disastrous impact of the hurricane, our team attempted to find a way to help. However, we first had to find a way to reach Puerto Rican victims.  
*Data source: [www.status.pr](http://www.status.pr)*

## Water Filters

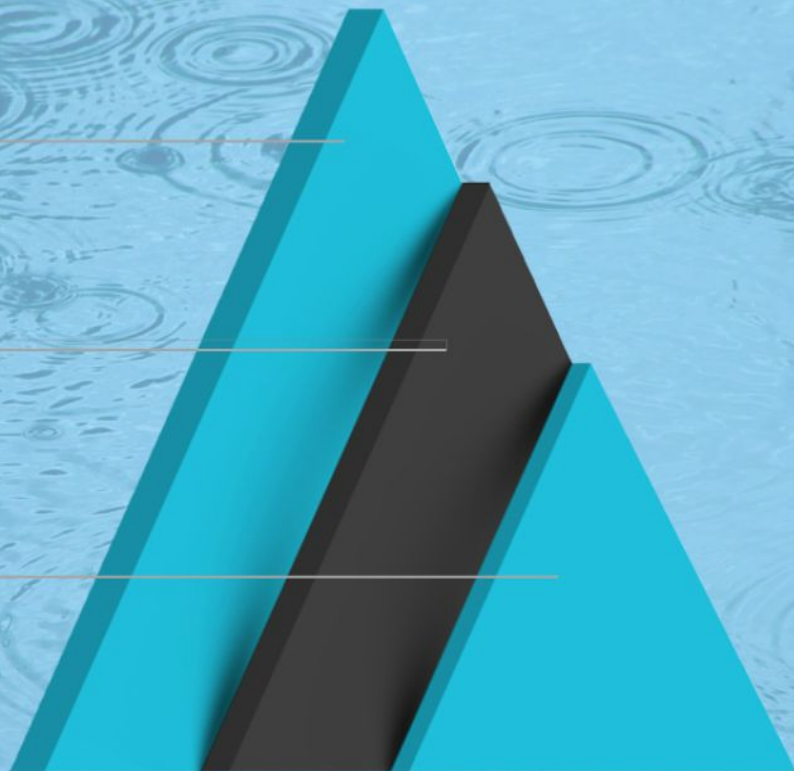
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Thankfully, Capt. Aaron Green of the U.S. Air Force reached out to help us. Presently, our team has shipped 4 bucket filters and 15 individual filters to Aguadilla where he has been stationed. That amounts to approximately 5.5 million gallons of clean water for Puerto Ricans in need. We are also shipping water filters to the British Virgin Islands.

## Continued Fundraising

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19 filters is just a start for our team; through GoFundMe, more than \$230 for more filters has been raised. The GoFundMe has been shared to a large group of people through social media networks, word-of-mouth, email, text, and more.



# Part 5: Project Gallery



1. We arrived at Lake Lewisville and took a candid photo!

2. We interviewed many lake-goers about the critically damaged dam and the desire for drilling under the lake for natural gas. Here, Kat is interviewing two jet-skiers who were astonished to hear of our findings.

3. Dead trees along the shoreline due to an influx of rain more than a year ago causing the whole lake to flood and increase by 300,000 acre feet. This was a continuous sight throughout our kayak trip.



# Part 5: Project Gallery



1. A "paddle-five" after a day of hard work out on Prosper Town Lake!

2. The water in this section of the lake was exceptionally murky and had a film developed on top of it due to chemical runoff throughout the nearby neighborhood.

3. There was a plethora of littering and other water pollution along the shoreline of the lake.

# Part 5: Project Gallery



1. The third person from the left is Captain Aaron Green in the United States Air Force. He was sent to Puerto Rico to help with relief efforts and is working with us to accept the water filters we purchased to give to people in Puerto Rico in need of clean water, struck by Hurricane Maria, which will filter 5.5 million gallons of water!

2. The captain and his team are sent to help the families devastated by the hurricane.

3. This is a photo of the filters shipped off to Captain Green to help with relief efforts in providing clean water to the people.